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# *The Sport Flyer*

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*The Official Newsletter of the Georgia Sport Flyers Association, Inc.*

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October 2007

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**St. George's Expedition Members**

- **Our Next Meeting is October 13<sup>th</sup> at Etowah Bend  
10:30 am for flight talk, 11:00 meeting starts.**

# Adventures in Flying

by Martha Fech

Flying is a great sport full of highs, lows, numerous expected and sometimes unexpected thrills in a clear blue sky high above the rat race below! My experience with flying is relative new and habitually in a Flightstar with the doors removed. It is similar to riding a Harley with the wind blowing your hair however with flying you have the freedom of the sky. I enjoy reading and assisting (when needed) with the newsletter, learning much from your knowledge and experiences. Now I will relate to you my adventure in the land of the blue sky.

My story begins in the year 2000 the year I took a step and entered my first airplane. What an airplane it was, a small yellow Cessna used for parachute jumps. As I boarded I noticed that the cargo door was duct taped to the walls of the plane and there were no seats except the pilots'. Besides the pilot, there were two other passengers, two jumpers! Up into the sky we went, it was so beautiful, blue, clear and a bit chilly. I was huddled on the floor of the plane next to the pilot told to hold on and when the door opened to release the jumpers the wind blew into my face and I was lost to that special one of a kind feeling of freedom that only flying can give. Yes, you know that feeling! I held on tighter when the pilot made a maneuver that banked the Cessna to the right so that I could watch the jumpers' freefall.

A few months later I was given the opportunity to fly in a Twin Otter. Never being this close to such a large airplane, it looked gigantic and I was going onboard! There were 19 passengers that included members of a freefall team, several solo jumpers, the pilot, a tandem master and me. As we walked toward the plane I heard Black Sabbath's "Paranoid" playing in my mind. I could not believe I was getting aboard that monster of a plane and jump! Yes, shy, quiet, scared of airplanes Martha was going to board and 'possibly' jump out of that airplane! Prior to boarding the plane I was equipped with training, a jumpsuit, goggles and wrist altimeter. Once we were all onboard and fastened our seat belts the turbine engines came to life. We taxied down the runway, lifting off and began soaring into the sky. Jumps are made from 12,500 feet MSL, sometimes up to 14,500 depending on the altitude of the drop zone, type of aircraft and type of jump. Freefall formations require more time to build, these jumps start at a higher altitude thus we soared up to 14,000 feet before we leveled off. The tandem master and I were connected like Siamese twins and I wondered if he felt my knees begin to quiver. Umm... was this a good idea? In the hour of training I received before boarding the plane I learned the correct jump stance, freefall position and numerous safety factors however being in training and almost ready to jump out of a perfectly good airplane are two different matters! The freefall team jumped first, than the solo jumpers. One of the solo jumpers is a videographer who captured my jump and landing on film. The videographer jumped and we were next, the tandem master asked if I was ready and before I could say "NO" we were doing a forward roll out the door. Although it is lost in my sub-consciousness I believe the tandem master said something about saying "orange peel" as we made our exit from the Otters' door. After a few seconds of 'freedom' floating, my fear dissolved, the training kicked in and the realization hit...we were freefalling. Than I realized what "orange peel" means...it is what your face feels and looks like during the first few seconds of the freefall. In a tandem jump you freefall for slightly more than 60 seconds and accelerate to a speed of 120 mph. At about 5000 feet, the tandem master opened the parachute and we continued our 8-minute descent to the ground. I was allowed to help with the steering, which is similar to the steering of a stick and rudder airplane, your body is the stick and your arms the rudder. We floated, turning right, left and drifted through a rain cloud. That was like a wet and foggy morning drive to work only we were one with the elements feeling the air, cloud and water touch our skin. After awhile the drop-zone came into view and we

prepared for our landing. If you do this correctly your feet are your landing gear, you hit the ground in a jog and end in a walk. The position is one of sitting in a swing, imagine being a child again and swinging, you jump out of the swing and land on your feet ready to run off to your next adventure. That is how easy it is and we did land feet first, which was later mentioned to be unusual as most first-timers land on their bottom.

For several years I did not have a chance to fly, my employment and education taking up all my time. Although in times of stress and/or tension I would drive to Briscoe Field to watch the planes come and go. One day while talking with a group of co-workers about riding motorcycles a deep male voice said “if you like the wind blowing your hair, I have a sport for you.” Three months later I was introduced to ultralights and ultralight flying.

I love flying in the ultralights and the wondrous feeling of freedom that flying gives. You also know that feeling, however I know the magnificent feeling of flying with the Eagles, unrestrained, drifting through the sky, the clouds and a feeling of freedom like none other. Leonardo da Vinci said “when once you have tasted flight you will always walk the earth with your eyes turned skyward; for there you have been and there you will long to return.” Amen!



DeHavilland DHC-6 Twin Otter



# The Transponder Question Is Answered

The question was asked whether E-SLA's required a transponder or not, to fly within the 30 nautical mile "Veil" encompasses Atlanta's Hartsfield-Jackson Class B airport. This question has been answered by both the FAA and EAA. Below is an email answer from Mr. Charlie Becker, EAA Aviation Services.

Mike,

If your aircraft was "certificated" (meaning you hold an airworthiness certificate) as an E-LSA, then basically, the Q & A below covers your question.

If you are only going to enter the mode C every once in a while, you can try to work something out with ATC for ATL. I have done that with STL ATC so that I can fly my Super Cub without a transponder into the mode C when I visit my parents.

## **Do I have to install a transponder in my amateur-built aircraft?**

In general, no, a transponder is not required equipment. However, if you wish to operate in class A, B, or C airspace, or at an altitude of over 10,000' MSL, or within a 30 nautical mile radius of the primary airport in class B airspace, you will need a transponder and altitude encoder (commonly referred to as "mode C"). The regulations regarding transponder and altitude-reporting requirements are found in 14 CFR 91.215.

There is an exception to the regulations as they apply to the 30 nm Mode C "veil" around the Class B airports. This exception is found in § 91.215(b)(3), which states that if the aircraft is a glider or balloon, or was not certificated with an engine-driven electrical system, it can be operated within the "veil" without a Mode C transponder. This is allowed so long as these operations are below the upper limit of the Class B airspace (or 10,000 MSL, whichever is lower) and not actually within Class A, B, or C airspace.

The key to this exception is whether or not your aircraft has an "engine-driven electrical system". A good way to look at this is, if your aircraft does not have generator or alternator that is turned by the engine, and that recharges a battery in flight, you probably do not have an "engine driven electrical system".

Best regards,

Charlie Becker  
EAA Aviation Services

Phone: 920/426-6530  
Fax: 920/426-6560

Well, there you have it. So, it looks as if most of us will have to break into the piggy bank and break out another \$ grand or so, just to get/stay legal (again)...Bummer.

Sorry about that.

Michael "Budman" Prosser

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## Interesting Aviation Words

Submitted by the Safety Officer

I find it interesting how powerful and yet, confusing our language can be. I believe that "understanding" is the most important aspect of this process. We, as pilots, learn specific phrases in an attempt to properly convey our intentions. We "learn" this process/phrases or words, verses memorizing them only. Circumstances, the message and/or the situation changes with every flight, but the essential elements of our speech remain the same; it's just that we either have a lot of information to relay or a minor amount of information. We do try to be brief and concise, don't we? Yes, we should.

We have proper "phraseology and techniques" that utilizes certain key words or phrases that are agreed upon as meaning specific things. Therefore, an agreed upon meaning is conveyed; received and understood by all parties. The Pilot/Controller Glossary is a very helpful place to go to brush up on this topic. When I worked in the nuclear field, certain "key words" potentially carried much responsibility, therefore, one had to be very careful what one said (or you could get into big trouble!). I find this to also be true in being a pilot.

A few of these "key words" are: **Shall, May & Can**. Let's look at these powerful words individually. "**Shall**" is used in the imperative sense, as in an order to complete something or a commitment that something will be performed or completed. It is command or obligatory. You're locked in with this word- it must be done.

"**May**" is used in the permissive sense to state or grant authority and/or permission to do something. It is not an "order", nor does it require action or demand that something be completed.

"**Can**" simply means that you are able to do something, but neither grants permission, requires nor commands action to do so. Did you ever find yourself in a quandary when you were a child in this Catch 22 concerning can & may? You can, but no, you may not ????? What's up with that? Live and learn.

Be safe out there.

Michael "Budman" Prosser

## From The Safety Officer More Simple Maintenance

I just finished another change to my JetWing UL trike project, which involved replacing and fabricating the entire nose gear assembly and included the replacement of the nosewheel, tire and tube assembly. Of course it is more complicated than that; I had to manufacture the complete nosewheel fork & steering bar assembly, new axle, spacers, bearings, etc. All of this was done to reduce weight and also to increase the diameter of the nosewheel tire assembly, yet without compromising strength and safety of the nosegear.

This gave me an excellent opportunity to inspect the fit, form & function of the original wheel bearings, axle and spacers. When was the last time that you gave thought to the condition of your wheel bearings or axles? Nothing lasts forever, you know. I had hoped to be able to re-use as many parts as possible, of course. I knew that the existing tire & tube were in very good condition, so my focus was on the bearings themselves, because they are the more serious of the “moving parts” that you can’t see unless you disassemble the wheel. This wheel, which is typical of most UL, uses two 5/8” precision sealed bearings per wheel. I did find them to be in excellent condition, as well as the other associated parts.

When was the last time that you inspected your wheel bearings? Most people only inspect a wheel bearing when they have a flat tire and have to remove the wheel. I inspect mine yearly, because of my “annual inspection” requirement for my HummelBird. I have always done that even for my ULs. Just think of the number of RPM’s that your wheels turn and think of the stresses and forces they experience every time your plane turns or lands. What to look for? Do you know what you are looking at, when you see it? These bearings are a real marvel of engineering. Read on.

As I said previously, most UL type vehicles (many now Experimental-LSA) use the precision 5/8” sealed bearings (3/4” bearings are also used, but not a common for the UL, E-LSA). Hmm-m-m-m...the word “precision” relates to precise measurements and is also the ability of an item to be manufactured to repeatable, very close tolerances. Before I became retired, I worked in the nuclear power plant maintenance field, both in technical, supervisory and Quality duties, so I became very conscious of critical tolerances and “fits” of components & parts. Therefore, I can appreciate the design, engineering and machine work necessary to create these bearings. The simple bearing is an absolute marvel of today’s engineering and manufacturing.

What makes up a precision bearing? It has an outer race, which is ground to specific diameter & tolerances and polished to a fine finish. Resistance (friction) should require the bearing to be pressed-in or gently tapped into the bearing recess of the wheel hub, until it lands solidly against the wheel/bearing wall. Inside the outer race is lubricant and special hardened ball bearings, also ground to a specific tolerance & polished to a fine finish. A seal encapsulates the ball bearing cavity and prevents loss of lubricant and prevents contaminants from entering the bearing assembly. The ball bearings are captured by an inner race, also precision ground to a specific inside diameter & tolerance and polished to a fine finish. These bearings are “sealed” for the “service life” of the bearing. What “service life” you say? It is whatever the service environment/conditions that it is subjected to, creates. The more harsh the service environment/conditions, the shorter the service life. The better the service environment, then the service life should be much longer. The service life is also affected by the temperature environment, as well as “G” forces and “side loads” that it may be subjected to. How many times have you bounced that thing in on landing or

drifted sideways upon touchdown or upon take-off. How many high speed turns have you subjected those wheels to this year??? Service life is also dependent upon proper installation – it's "fit" into the recess and tightening; that outer race better not "spin" inside the recess of the wheel/hub; the outer race rotates with the wheel/hub. Also, the inner race should not spin on the axle either. Yep, the ball bearings should turn smoothly against each race. The outer race is fixed against the wheel/recess and the inside race is captured by the spacers or axle nut; therefore, the lubricated ball bearings allow the wheel to turn smoothly without binding. Your wheels should spin freely when rotated. Excessive axle nut torque can induce a side load that mis-aligns the ball bearings to the races and "binds" them up. This is bad, bad, bad! This will definitely reduce the service life of the bearing, creates heat and requires more horsepower to overcome that friction. Can you say bearing failure!!!! Tighten axle nuts sufficiently to take-up the axial clearance(s). An easy way to prevent the application of bearing side load, when the axle nut is tightened, is to install a precision spacer between both bearings (inner races). Typically, since our wheels have brakes, your axles also have some type of anti-rotation device to ensure that the axle will not rotate. The axle nut should be adequately tight or torque, as required.

There is another ball bearing assembly that you may find called the Standard, Economy ball bearing, which is not a "sealed" bearing. Yes, these are much cheaper to buy and are also are not "precision" bearings. These bearings have a shorter service life and require more maintenance & in-service inspection; I do not recommend them. Further, these ball bearings make more noise than precision bearings. Also, from personal experience, I recommend that you replace them, if you have/find them.

Yes, there are other types of bearings that you may encounter, which will be another topic for another newsletter article.

Be safe out there.

Michael "Budman" Prosser

Good News from DoD via AvWeb.com

## No More Dumbing Down GPS

The Department of Defense says its next generation of GPS satellites won't come with an on/off switch for civilian users. Because the system was originally deployed as a military system, the military wanted the ability to degrade the accuracy of the signal or eliminate it entirely to prevent it from being used against them. But with GPS in everything from cellphones to tracking chips in store merchandise, the DoD long ago gave up any hope of keeping it a discretionary asset and effectively turned off the "selective ability" function in 2000.

However, beginning with satellites deployed in 2013, even that capability won't be included in the system, something that should calm the fears of some that their moving map could suddenly disappear without warning. "This action to permanently remove SA eliminates a source of uncertainty in GPS performance that has been of concern to civil GPS users worldwide for some time," DoD said in a news release. That undoubtedly means the military has something even better than GPS to run its own systems and it will be interesting to see what trickles down to the civilian market. (Thanks DoD – W. Evans)

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## The Veil: Did You Know

Submitted by the Safety Officer

The Atlanta Class B Airspace extends 35 nautical mile radius, in concentric rings from ATL at varying altitudes, as depicted on the sectional charts. This is not new, but the "Veil" is not depicted by the "blue" rings!!! **The "Veil" is depicted by the Magenta circle, which is a 30 nautical miles radius from ATL.** For us at VPC, that puts it at or near Acworth, Ga., as a general reference.

I just wanted to clarify that, in case that last "blue circle" of Class B Airspace confused anyone.

Be Safe out There.

Michael "Budman" Prosser

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## Safety Tip for the Month

**Buy & use products that you can trust. Support our Sponsor(s).**

*Buy Pennzoil Products*

Submitted by Michael "Budman" Prosser



## Radio Communications\* for Cartersville (VPC) Airport – *Example Only*

Prepared by: Hajo Eschholz

<b>Flying the Flightstar N453DY in the Ultralight Pattern and Using Runway 19; Self Announce Position and/or Intentions.</b>	
Radio check prior to taxiing.....	<a href="#">Cartersville Unicom</a> – Flightstar N453DY requesting a radio check, please
Prior to taxiing out.....	<a href="#">Cartersville Unicom</a> – Flightstar N453DY requesting airport advisory - <a href="#">Cartersville</a>
Preparing to taxiing out.....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY taxiing from the north hangars for runway 19 - <a href="#">Cartersville</a>
Preparing to take-off.....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY taxiing onto runway 19 for take-off – <a href="#">Cartersville</a>
Preparing to turn crosswind....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY turning crosswind for runway 19 – <a href="#">Cartersville</a>
Preparing to turn downwind.....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY turning downwind for runway 19 – <a href="#">Cartersville</a>
Preparing to turn base.....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY turning base for runway 19 – <a href="#">Cartersville</a>
Preparing to turn final.....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY turning final for 19, full stop (or touch-and-go, etc.) – <a href="#">Cartersville</a>
After exiting the active runway	<a href="#">Cartersville Traffic</a> – Flightstar N453DY clear of active runway 19; back-taxiing to the north hangars – <a href="#">Cartersville</a>
<b>Departing the Ultralight Pattern:</b>	
Departing the pattern....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY departing the pattern to the...(say direction) - <a href="#">Cartersville</a>

**Flying the Flightstar N453DY in the Ultralight Pattern and Using Runway 19; Self Announce Position and/or Intentions.**

**Returning to Cartersville Airport from the West for Runway 19:**

At approx. 10 miles to the West...	<a href="#">Cartersville Traffic</a> – Flightstar N453DY is approx. 10 miles to the West at about 2500 feet, intending to decent to 1300 feet and to enter the traffic pattern - <a href="#">Cartersville</a>
Courtesy call at about 2 miles to the West....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY is approximately 2 miles to the West – intending to cross midfield at 1300 feet for runway 19 – <a href="#">Cartersville</a>
Crossing Mid-field....	<a href="#">Cartersville Traffic</a> – Flightstar N453DY crossing mid-field at 1300 feet for runway 19 - <a href="#">Cartersville</a>

**\*Note: The purpose of *this* phraseology is to alert other pilots well ahead of your intentions in a [clear](#) and [concise](#) way with emphasis on [consistency](#). It is based on AIM Paragraph 4-1-9 and is meant to be an aid for those pilots starting out flying the pattern.**

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## Your Flight Instructors:

**Ben Methvin** - BFI, AFI,  
BFI-SP, DPE (770) 509-6753  
Training Field - Cartersville (KVPC)

**Bob Smedberg** - BFI (706) 235-2147  
Training Field - Cartersville (KVPC)

**Kim Arrowood** – BFI, CFI (770) 547-3622  
Training Field - Cartersville (KVPC)

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**Gleim Sport Pilot Starter Kits available from Kim Arrowood (770) 547-3622**

**Another New Sport Pilot FAQ site:** <http://www.all-about-sport-pilot.com/faq.htm>  
You might want to Check It Out.

### **Super Training Tips: Worth Repeating**

AOPA Cross Country Introduction.

[http://flightraining.aopa.org/members/get\\_help/articles/3535.cfm](http://flightraining.aopa.org/members/get_help/articles/3535.cfm)

### **Sport Pilot Check Ride Guide: (courtesy of AOPA) Worth Repeating**

One of the key elements that FAA Inspectors and Designated Pilot Examiners (DPE), such as Ben Methvin, uses for Sport Pilot flight Instruction and Practical Test is the FAA Practical Test Standards (PTS) FAA -S-8081-29 effective December 2004.

This PTS can be downloaded from the FAA web site:

[http://www.faa.gov/licenses\\_certificates/airmen\\_certification/sport\\_pilot/](http://www.faa.gov/licenses_certificates/airmen_certification/sport_pilot/)

After taking many inputs from its members and others, the AOPA has also created a 31-page document covering the PTS in a more straightforward form called the "Sport Pilot Checkride Guide". This guide can be downloaded from the following AOPA web site link:

[http://www.aopa.org/asf/publications/sport\\_pilot\\_check.html](http://www.aopa.org/asf/publications/sport_pilot_check.html)

Good Luck with your Flight Test Preparation- Ed

Any Accidental Oversights

Anything you Don't Like

Anything you would like more of

Suggestions for Improvements

Email to [mailto:ra\\_johnston@yahoo.com](mailto:ra_johnston@yahoo.com)

Use "Club Member Feedback" on the Title Line

### **Hot Web Links:**

Georgia Sport Flyers: [www.georgiasportflyers.com](http://www.georgiasportflyers.com)

Atlanta Ultralights - <http://atlantaultralights.com/>

USUA - <http://usua.org/>

EAA - <http://eaa.org/>

AOPA - <http://aopa.org/>

AOPA Flight Training - <http://flightraining.aopa.org/>

FAA Written Test Questions: [http://www.faa.gov/education\\_research/](http://www.faa.gov/education_research/)

FAA Test Question Answers from Ed. Send Request to [mailto:ra\\_johnston@yahoo.com](mailto:ra_johnston@yahoo.com)

See Preceding "Note from Wayne Evans" or [Adobe Reader Download - All versions](#)

## **More Hot Web Links From Our Members:**

### **Airport Information and Maps -**

<http://www.ultraflightradio.com ./>

<http://www.mapmuse.com/>

<http://www.airnav.com/>

### **Title 14: Aeronautics and Space -**

PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS:

<http://www.aopa.org/members/files/fars/far-61.html - 14:2.0.1.1.2.3.1.4> (Tons of Info)

\*\*\*\*\*FAA NOTAMS - [http://www.faa.gov/pilots/flt\\_plan/notams/](http://www.faa.gov/pilots/flt_plan/notams/) (Read, Read, Read)