



# Velocity News

Summer 2013

Editor's Desk

## Back by Popular Demand

by Stephen Lewis

**Attention Velocity enthusiasts!** If you've missed the wildly popular Velocity Views newsletter of old, let me extend you a warm welcome to the debut issue of **VOBA's Velocity News**. After nearly a decade since Velocity Views ceased publication and more than five years after the Factory produced its final online issue, you can once again look forward to a quarterly publication (both in print and online) tailored to the specific interests, needs, and news of the Velocity community.

If this sounds like good news to you, please join me in extending a heartfelt thank you to the Board of Advisors (Brett Ferrell, Reiff Lorenz, Brian Michalk, Andy Millin, and Ken Mishler) of the newly formed Velocity Owners and Builders Association (VOBA).

These guys have done an outstanding job of putting together an organization to promote knowledge, safety, and fellowship amongst Velocity owners & builders. Without their stalwart efforts, production of this newsletter would not be possible. Bravo, gentlemen.

Of course, no expression of gratitude would be complete without a nod to Danny Maher, the Swing family, and the fantastic employees of Velocity Aircraft. You built it, the people came. Without your ongoing efforts and innovation, the general aviation community would be at a serious loss. You have truly built a better mousetrap.

### In the Left Seat

At this time of new beginnings, I'd like to take a moment to introduce myself to those of you in the Velocity community. My name is Steve Lewis

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Velocity Owners and Builders Association

VOBA

## From the Factory

by Duane Swing

*Welcome to the new Velocity Owners & Builders Association (VOBA)*

*We here at Velocity applaud the efforts of Reiff Lorenz and the Board of Advisors for their renewed effort to provide a sounding board for our builders and owners. It's important for all of you to reflect on your projects and problems/solutions that make an organization like this survive. The small cost of membership should encourage everyone who is building one of our aircraft, along with those who are flying, to join in the fun. As most of you already know, we run a very cost-conscious ship here in Sebastian in an effort to financially support our Velocity family. As a result, it is encouraging to see others take the reins in providing a service that is not only informative, but also vital to the safety and well-being of our customers.*

*We encourage all our readers and callers to check out the new web site at [www.VelocityOwners.com](http://www.VelocityOwners.com), join with your financial contribution and provide as much positive feedback to this organization as possible. This is the only way VOBA will be able to continue.*

*I wish VOBA all the success possible and we at Velocity will do our part to help.*

*Duane Swing  
CEO, Velocity Inc.*



### **Editor's Desk: Continued from page 1**

– pilot, aviation writer, and hangar flyer extraordinaire – and I'll be serving as Velocity News' editor. Although the aviation world is a familiar place to me, I'm new to Velocity airplanes and this wonderful community of yours. In the short time I've been preparing this premier issue, I've been excited by the enthusiasm I've encountered among

all the Velocity owners and builders out there. I look forward to meeting many of you and sharing in this incredible hobby of yours.

### **Lend us your Voices**

In order to take Velocity News to its full potential, we want to hear from you – the owners & builders of Velocity aircraft. This newsletter is produced especially for you, so don't hesitate to

send us your comments, suggestions, ideas, experiences, photos, and any other nuggets of information you think would resonate with your fellow Velocity enthusiasts. Over time, you'll see changes to the newsletter as it evolves to incorporate your input. Help us to deliver a truly top-notch publication.

### **How to Contribute**

Got a great idea that will take the newsletter to the next level? Drop us a line. Feel free to email me directly ([Editor@VelocityOwners.com](mailto:Editor@VelocityOwners.com)), or fill out the contact form available on VOBA's website ([www.VelocityOwners.com/contact](http://www.VelocityOwners.com/contact)). In addition, keep an eye on the VOBA website's Community section for forum posts and surveys ([www.VelocityOwners.com/forum](http://www.VelocityOwners.com/forum)). As always, we look forward to your comments.

In closing, I'd like to encourage each of you to spread the word about VOBA and the new Velocity News publication. Encourage your fellow Velocity builders & owners to join the association. Introduce non-pilots and production-only aviators to the joys of the homebuilt/kitbuilt hobby. There really is strength in numbers, so a larger audience can help us ensure that Velocity News sticks around for the long haul.

Wishing you blue skies, strong tailwinds, and cheap fuel prices,

-Steve





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## Abbreviated Briefings

The **Velocity Wiki** has moved from the VelocityXL.com site. Founder/administrator Brett Ferrell has put in a lot of work to upgrade and migrate the site. It's new home is:

<http://Wiki.VelocityOBA.com>



The **Oshkosh Velocity Cookout** will be on Wednesday July 31<sup>st</sup> in Camp Scholler at 10<sup>th</sup> and Elm. RSVP on the Reflector if you want to join us!



Note from the publisher: We have attempted to retain the full resolution of photos, even when scaled down. This allows e-readers to zoom in and still see detail that is not visible at 100%.

Charticle

# Our fleet, in numbers

by Reiff Lorenz

### Just how many Velocities are there?

There is not an easy or 100% accurate answer. We can get pretty close, though, by combining data from public records with information from the active Velocity community.

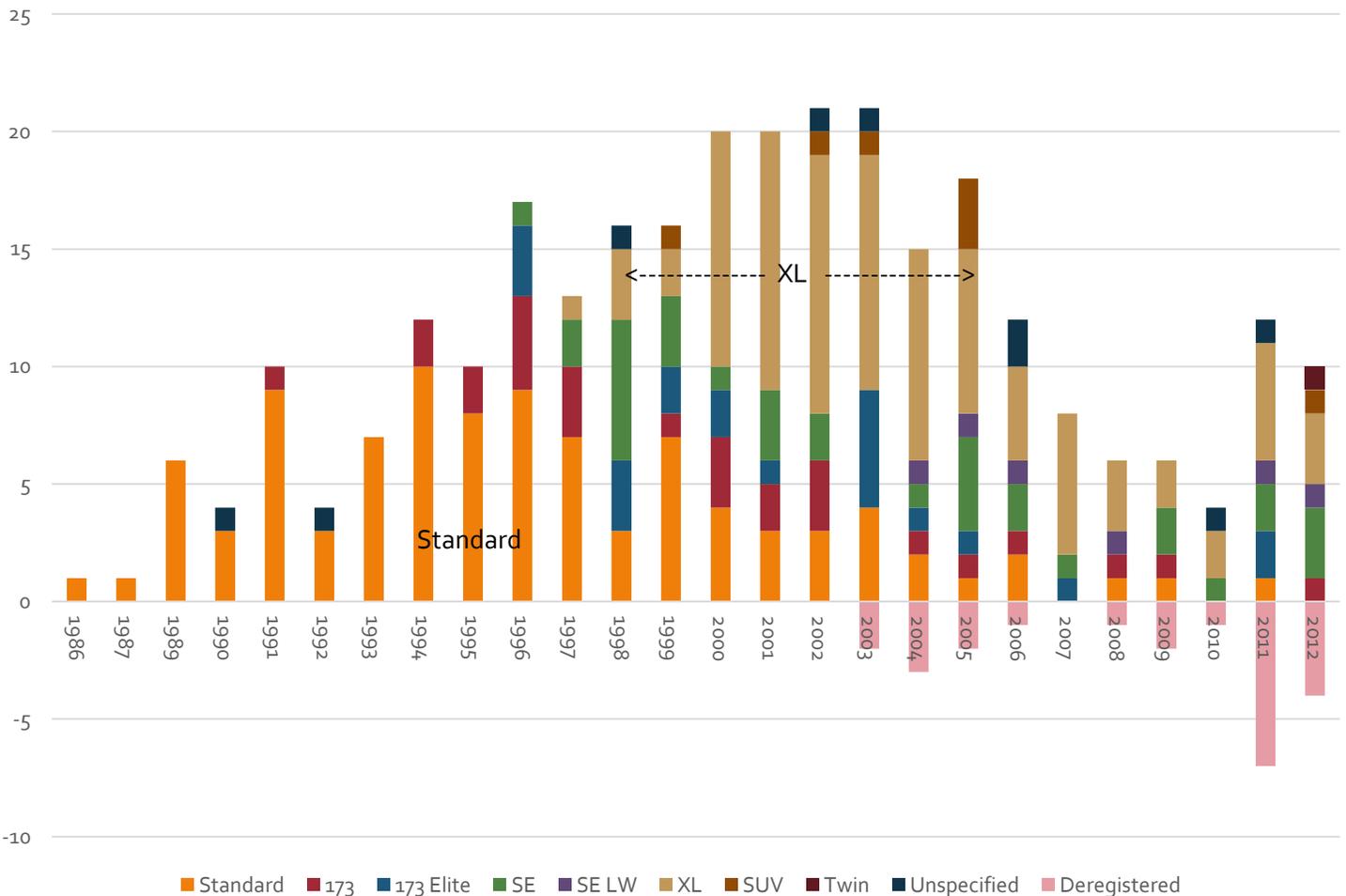
There are currently 267 complete-and-legal-to-fly Velocities in the FAA database, plus 6 more in the Canadian TCCA registry, and at least 17 flying beyond those borders. 23 have been deregistered. The jump in deregistrations in the past 2 years is almost certainly a result of the FAA's

mandate that all aircraft be reregistered every 3 years. (Detailed deregistration data are only available for the last 10 years. If anyone has historical copies of any of the FAA databases, please contact Reiff@Lorenz.com.)

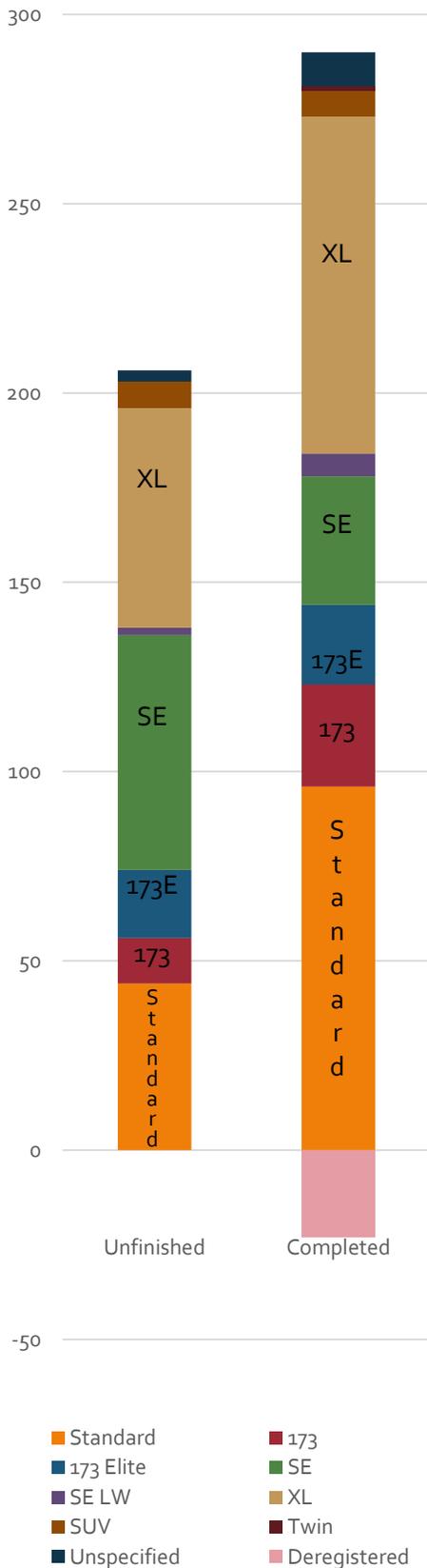
The first chart shows the number of Velocities completed, categorized by model and year. Completion date was taken from the "Year Manufactured" or "Airworthiness Certificate Issued" date associated with each plane. The aircraft model was determined by a combination of the serial number and model name assigned by the builder.

There are more Standard Velocities flying today than XLs, SEs or 173s.

VELOCITIES COMPLETED, BY TYPE AND YEAR



## CURRENT POPULATION OF VELOCITY AIRCRAFT



The total number of flying Velocities increased rapidly in the early years. By 1993 there were 33 kits completed. That number doubled by 1996, and doubled again by 2000. It would take 12 more years for a third doubling, to the current total of 267. Completions peaked between 1995 and 2005. Over 60% of the aircraft that are now flying were finished between those years.

The XL (tan bar) was introduced in 1997 and within 3 years was adding to the fleet faster than any other model. Even today, though, there are still more Standard (or Original) Velocities flying than XLs, SEs or 173s.

The distinctions between aircraft are sometimes fuzzy. What's the difference between a 173 Elite and a SE Long Wing? If you put yokes in your SE does it become an SUV? Should a 173XL be its own category or should it be grouped with the 173s or XLs? (We've grouped them into the XL category.) In preparing this data we've relied heavily on the model description builders provide to the FAA, making



Sometimes it's hard to tell if a kit is actively being built or just sitting.

unfinished projects that are not logged with the FAA.

These unfinished kits are depicted in the second chart, next to data on the planes that have been completed. These numbers are the best approximations that we can create from the data available. Kit buyers don't always register their ownership with the FAA or the Velocity Community. Some kits have been sold

The distinctions between aircraft are sometimes fuzzy. What's the difference between a 173 Elite and a SE Long Wing? If you put yokes in your SE does it become an SUV? Should a 173XL be its own category?

changes only when a kit serial number clearly indicates a "Velocity" is actually an XL or SUV.

Another 123 Velocities are listed by the FAA without a year-of-manufacture or airworthiness certificate. Most of these are probably unfinished kits that were registered so the builder could get aircraft insurance that covered his project. The VelocityXL.com data indicate that there may be as many as 66 additional

and reregistered and show up twice in the statistics. It seems plausible, though, that there could be 2 uncompleted kits for every 3 planes flown.

The best news in these charts is the up-swing in completed planes in the last few years. As the recession recedes, more Velocities are flying!



## Velocity Views

## Ten Years Ago

by Stephen Lewis

## Here is what the Velocity community was talking about a decade ago.

### Volume 34, 2<sup>nd</sup> Quarter 2003

- **Debut of the Dash 5:** At Sun 'n Fun 2003, GA was introduced to the latest model in the Velocity arsenal – the XL-5. This variant expanded upon the host of *x-tras* that had captivated the Velocity market by introducing additional amenities; most notably the rear seat bench capable of accommodating three. Other extras included a lower center keel, toe brake pedals, and robust Cleveland brakes.
- **Williamsburg Fun Time Gathering:** Velocity Flyers prepared to gather in Williamsburg, Virginia September 18-21 for fellowship, fun,

and BBQ. Planes, pilots, and food – does life get any better?

- **Going Digital:** The Factory was in the process of transitioning to a new version of Kit Plan Changes (KPCs) that, among other improvements, included online availability. Thanks, Brendan! Paper is so 2003.
- **The “i” Word:** No, not the coolest new gadget coming from Apple. Instead, Duane lamented the intricacies of trying to deal with the iNsurance iNdustry and his quest to secure an acceptable alternative to annual training at The Factory. He got it done (plus made sure pilot qualifications remained reasonable). A classic example of persistence paying off.

**On the Level:** The Answer Man, Scott Swing, shared tips to properly rig and level the canard, main spar, strakes, wings, and everything else to achieve the desired alignment. Loads of details and builder advice to help you get the perfect fit.

**The Ten Year (+) Plan:** Also in this issue, Duane mentions his plans to retire – once the sale of Velocity and an appropriate transition period have taken place. He’s still here, but to his credit, he did say he’d hang around for “at least a year” after the sale. To be honest, I think everybody’s happy he’s still going strong. Just look at how great the V-Twin turned out!

➤ **All Wired Up:** Scott Baker offers advice on bringing all-weather capability (well not quite, but he helps you avoid the really bad stuff) to your panel, while Wayne summits a soapbox to clarify the line in the sand regarding his qualifications.

In each edition of *Velocity News*, we’ll spend a little time looking back at how Velocity aircraft, kitbuilding, and aviation in general have changed over the years. We’ll also give a nod to the greatness of *Velocity Views* by examining what was going on in the newsletter 10 (and before long, 20) years ago in each quarter’s issue. For interested readers, the complete archive of *Velocity Views* newsletters is available online at [www.VelocityXL.com](http://www.VelocityXL.com) (Menu item: Downloads. Section: Articles.) and on Velocity Aircraft’s website at [www.velocityaircraft.com/velocity-online.html](http://www.velocityaircraft.com/velocity-online.html)



**Early in my aviation career, all my flying took place in a tailwheel Cessna 140,** a Citabria, and later in my first homebuilt; a Skybolt aerobatic aircraft. Having the nosewheel in back makes all takeoffs and landings more difficult than in tricycle planes. If the aircraft is not properly aligned, front to back, with the runway heading, it's possible to swap ends and wind up in a

License to Learn

## Tips for Better Landings

by Duane Swing

at normal touchdown speeds, a different plan of action is necessary.

The most common conventional gear, crosswind landing technique is the wheel landing. This maneuver involves the main wheels contacting the

full-stall landing. Obviously, a higher touchdown speed is necessary to perform a wheel landing. To do this smoothly and consistently requires a lot of practice and concentration. Guess what? **THIS SAME PROCEDURE WORKS EQUALLY WELL IN THE VELOCITY!**

The only notable difference between conventional wheel landings and the Velocity equivalent is the need for slight aft control pressure (in the Velocity) to keep the nose from falling abruptly – since the canard has not stalled and elevator control remains effective. This type of landing should be the norm in the Velocity rather than the exception. Remember, good speed control, concentration, and practice are key to successfully achieving smooth landings. If you're not using this technique, you're probably doing it wrong!



The most common crosswind-landing technique in tailwheel aircraft is the wheel landing . . .

**This same procedure works equally well in the Velocity.**

ground loop. Such blunders are best avoided; as they are often damaging to the airplane and always embarrassing for the pilot.

With winds down the runway, easy 3-point, full-stall landings are possible. Such landings involve the two main tires and the tailwheel contacting the surface at about the same time. However, once the crosswind component exceeds the rudder's ability to maintain runway alignment

runway while the tail is still up – with slight forward pressure on the controls keeping the airplane from ballooning. Good speed control on final is very important; as this isn't your typical



Builder/pilot Mark Riley demonstrates perfect landing technique



# Magic in the Air

Featured Aircraft

## Shazam!

by Stephen Lewis

### While bouncing Velocity News ideas back and forth

with Andy Millin, VOBA advisory board member and all-around Velocity aficionado, Andy threw out the idea of having a centerfold or featured aircraft for each newsletter. His suggestion instantly struck a chord with me, so I

set about surfing the web for aesthetically pleasing Velocities.

There are several. In fact, one could argue that being a Velocity is in and of itself enough to make an aircraft alluring. While that's undoubtedly true, a number of builders have taken additional steps to make their aircraft even more visually appealing. With

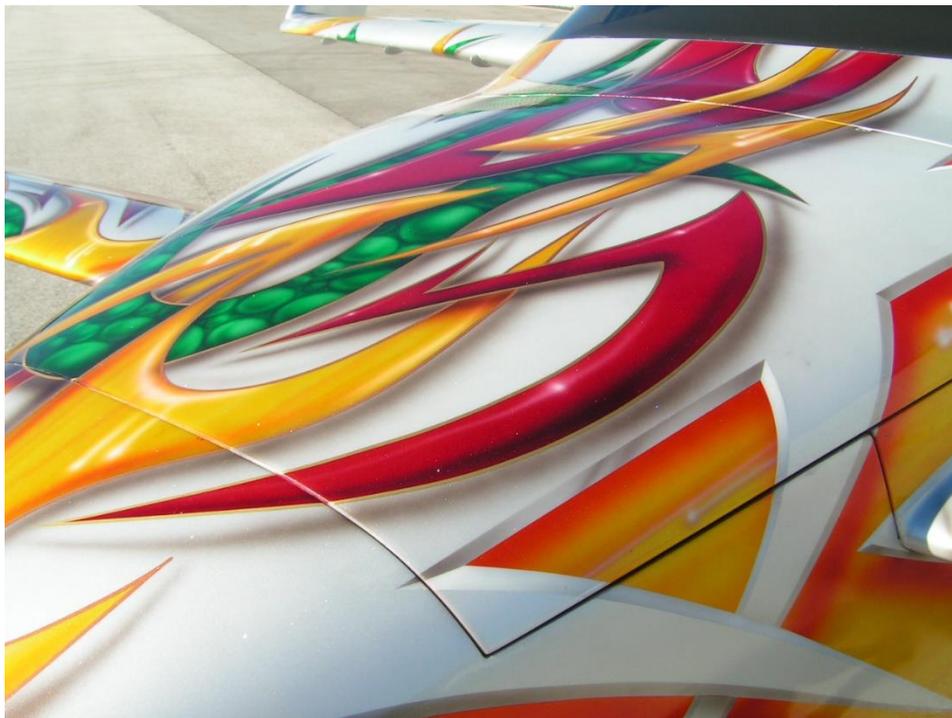
this column, our goal is to recognize these good-looking birds and congratulate their builders on a job well done.

### An Executive Decision

At the time of this writing, the Velocity News publication was still a closely guarded secret. In the interest of confidentiality, I decided not to solicit member input for the first issue's featured aircraft. Instead, I took a totalitarian approach; making my vote the only one that mattered (or, more accurately, to be cast). For future selections, VOBA members will have the opportunity to nominate aircraft for their paint schemes, panels, and/or interiors. Keep an eye on the VOBA website, <http://velocityowners.com/survey> for upcoming polls and your chance to vote. Until then, allow me to present my choice for the 2nd Quarter 2013 Centerfold...

### Shazam!

If a picture is worth a thousand words, I can't imagine what it would take to



The detail work in the paint job is impressive. A really-big hatch provides easy access to the nose.

do a beautiful aircraft paint job justice. If I had to choose just one to describe N173EX, it would be "Wow!"

Perhaps owner Ken Mishler hit the nail on the head when he nicknamed the aircraft Shazam! One look at this colorful fusion of artful designs and even Captain Marvel would probably kneel in deference to the commanding presence of this 173RG. Even amongst a sea of beautiful birds at Oshkosh or Sun 'n Fun, Shazam isn't a plane you'd soon forget.

If, as the saying goes, true beauty is indeed on the inside, N173EX reigns supreme in that department as well. The panel's clean layout and 21st Century furnishings make it as exquisite within as it is on the exterior. This model is truly a stunner from tip to tail.

To make things better, Shazam! is also on the market. Yes, you heard right. Mishler, a serial Velocity builder, is offering N173EX for sale. If you're interested in calling Shazam! your own or just want to learn more about this fancy aircraft, head over to Ken's website ([www.dreamaero.com](http://www.dreamaero.com)) for additional info.

### **Calling all Members!**

Know of a Velocity that's just as elegant as Shazam!? Are you familiar with a Sebastian-born plane that features a unique interior or unbelievable panel? How about one that incorporates owner-designed & -built components to make operations more pilot/passenger friendly? If so, VOBA wants to know about it. Send us a message ([Editor@VelocityOwners.com](mailto:Editor@VelocityOwners.com)) and



The intricate pattern of shapes and colors extends across the full length of the wings.

keep an eye out for upcoming nominations. As time goes on, technologies improve and Velocity builders push the ingenuity envelope; so it's anybody's guess as to what we'll

see next. Let's help these builders get the recognition they deserve.



A blazing nose implies this bird loves hot re-entries!

The Best of Our Builders

## An Engine from Scratch: Part II

by Andy Millin



The FAA doesn't require building your own engine, but "Mayor" Andy Millin decided to do it anyway.

done. The Lycoming parts manual breaks the engine down into subassemblies. I just copied their structure and had a worksheet for every subassembly. Each worksheet had the part number, description,

### Where's part I?

*The final Velocity newsletter, published online by The Factory in November 2007, included an article on the engine-building project Andy Millin was undertaking for his XL/FG. In the article, both Andy and The Factory note that the piece is the first in a series of posts on Andy's powerplant construction odyssey; to be continued in the upcoming Velocity Online newsletter. Sadly, that subsequent issue never came.*

*Fortunately, with the launch of VOBA's Velocity News, I'm thrilled to announce we'll be picking up where the Velocity Online newsletter left off. Millin thoroughly documented his entire engine assembly process, and has graciously agreed to share his experiences with VOBA's readers. Below is Part II of his story – and yes, we will be continuing this serial in future Velocity News issues. The first article is available on the Velocity Aircraft website (<http://www.velocityaircraft.com/newsV5/engine.html>) and on Andy's personal site (<http://www.kal-soft.com/velocity>*

- Editor

### The education begins when the parts start showing up.

A couple of good questions come to mind: When will I have all the parts I need to make an engine? Are these good parts? Hmmmm....

#### When will I have all the parts I need?

When taking on any sizeable endeavor, organization is the only way to keep you sane. At some point, I had what I thought was a sizeable pile of engine parts. I invited Terry over to take a look.

As he inspected the parts, it became apparent that I had no way of telling what we had, what was missing, or what action, if any, was needed. I felt I

See the Lycoming IO-540 parts spreadsheet at:  
[http://www.kal-soft.com/velocity/resources/IO-540\\_Inventory.xls](http://www.kal-soft.com/velocity/resources/IO-540_Inventory.xls)

was wasting Terry's time – and mine. I was never going to have an engine unless I could make sense of all this stuff.

Terry had graciously provided me with a CD containing .pdf versions of the Lycoming parts catalog for my engine; along with all the ADs. I can be a little slow at times, and I really didn't understand the significance of what he had given me. The light bulb eventually came on: I need to create a parts inventory!

I converted the .pdf into an Excel Spreadsheet. This turned out to be one of the best things I could have



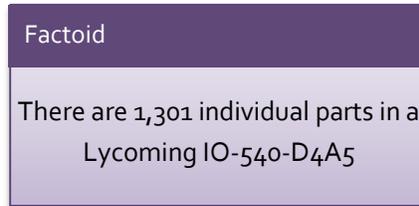
There's an engine in those boxes!

quantity that I would need, and the quantity that I had on hand.

Excel has some nice features that allowed me to color code my "on hand" inventory. I colored the cells green when the quantity needed equaled the quantity on hand. I used yellow for items with zero on hand, and chose red to note that I had at least one, but not ALL, required parts. This kept me from just looking at a column of numbers and assuming that everything was there just because I had a number for each item. When an inventory page was complete, I turned the color of the worksheet tab to green as well. It took a few hours to set up, and it brought order to the chaos.

With the spreadsheet, I could finally take inventory. I rounded up a bunch of boxes; one to correspond to each

worksheet page. I labeled them to match. As I took inventory, I was able to put each part in its logical box.



After the first real inventory, I was able to break the inventory down even further. I created a worksheet of missing items, as well as a worksheet for the common hardware (nuts, bolts, and washers).

The spreadsheet became the main document for organizing and tracking the project. When something came in, I updated the list. I carried it on my

thumb drive, so I always had it with me. If anyone asked for a part number, I could reply, "just give me a sec."

I bought a box of zip lock bags for small, loose parts. I wrote a label with the part number & quantity, stuck it on the bag, put the part(s) in the bag, and placed each bag in the correct box. Later, when it came time for engine assembly, I showed Terry my inventory system. He replied with a smile, "Your organization makes me sick."

*Are the parts Andy has collected good enough to use in his engine? Find out in the upcoming issue of Velocity News.*



# Canard Comics



**Visibility Unlimited**

# The Wild Blue Yonder - Demystified

by Stephen Lewis

Despite the years I've spent immersed in aviation-specific subject matter, I've never even come close to running out of new things to learn. In fact, every time I conquer a new subject, it seems I feel more ignorant about the overall science of aviation. However, rather than deter me, this renewed humility fuels me to further explore the endless breadth of the aviation world.

## The Clear Blue Sky

I've yet to meet a pilot who claims to have lost the feeling of awe that comes from slipping the surly bonds. There's just something magical about defying gravity's pull to go bore holes in the sky. While I understand very well the aerodynamics that allow us to cheat gravity, I recently realized that I've long neglected another question I should doubtless understand: What is it that makes the wild blue yonder, well, blue?

At some point in my formative school years, I know this question has been covered at least once. However, like

many (i.e. most) youngsters in mandatory science courses, I failed to store away this information in my long-term memory. Surprisingly, in spite of the numerous pilot checkrides I've undergone (Private through ATP, plus CFII/MEI, Part 141 stage checks, and Part 121 airline initial/recurrent/upgrade/proficiency training), the question of "Why is the sky blue?" has never come up. In fact, I've never even heard of a checkride applicant being asked this question.

Personally, I decided to follow the lead of the average toddler and seek out the reason for the sky's azure appearance. As a result of this pursuit, I'm happy to report that I've uncovered the basic reasons behind the sky's cerulean shade (hint: it's not because boys are supposed to be pilots). Below are the basics I've found, which further my appreciation for the wild blue yonder we all enjoy.

## The Visible Light Spectrum

The sky's blue hue can be traced to light; more specifically, the narrow range of the electromagnetic spectrum known as visible light. That's the band that we humans are able to detect without the aid of artificial equipment. Like sound, light travels in waves –albeit much faster (186,282 miles/second, the speed of light). Within the visible spectrum, light consists of a variety of energy levels; with these differing degrees of radiation possessing individual wavelengths and frequencies.

... the feeling of awe that comes from slipping the surly bonds. There's just something magical about defying gravity's pull . . .

In terms of color variety, we need look no further than the most distinct natural representation of visible light: a rainbow. This colorful arch always displays the same seven colors in the same, consistent pattern. An easy mnemonic to remember the colors and their order (from outside to inside) is ROY G. BIV; which stands for Red, Orange, Yellow, Green, Blue, Indigo, and Violet. As we'll see below, these colors and their properties speak volumes as to their frequencies and wavelengths; as well as the reasons we





see different colors at different times and in different places.

### **Wavelength, Frequency, and Energy**

The outermost color, red, has the longest wavelength, lowest frequency, and least energy of the visible light spectrum. At the opposite end of the

more readily absorbed (and later, radiated) by atmospheric gases – a phenomenon known as Rayleigh scattering. Most of the longer frequency colors (red, orange, yellow) tend to pass on through; largely unaffected by the atmospheric molecules.

Violet and indigo have shorter wavelengths than blue; why is it that we don't look up to a violet sky?

range, violet is characterized by the shortest wavelength, highest frequency, and the most energy of the rainbow colors. The intervening colors possess progressively varying degrees of frequency, wavelength, and energy as we move from one end of the spectrum to the other.

### **The Importance of Atmosphere**

All the colors we see throughout the sky are attributable to the gaseous composition of the earth's atmosphere. These atmospheric molecules (78% nitrogen; 21% oxygen; and 1% composed of argon, CO<sub>2</sub>, and other trace gases) absorb some of the light energy from the sun's rays; energy which is subsequently released. Due to the higher energy content of shorter wavelengths (violet, indigo, and blue), these higher frequencies are

### **Eye of the Beholder**

With violet and indigo possessing shorter wavelengths than blue, why is it that we don't look up to a violet sky? This has to do with the characteristics of the human eye – namely the color-perceiving components known as cones. Different types of cones are best suited to detecting specific color wavelengths, though these discernible spectra tend to overlap between the cone types (most notably in the blue-green bands); resulting in our brains perceiving certain combinations as a single hue. In the case of the sky, our eye/brain interaction processes the sky's shades as a fusion of blue (from the violet, indigo, and blue wavelengths) and white (the color of all, unseparated, visible light frequencies), which makes the sky appear light blue.

### **Lighten Up**

Have you paid much attention to the fact that the portion of the sky nearest the horizon looks much paler (almost white) compared to the overhead sky? This too can be attributed to the absorption/scattering of high frequency visible light. To reach the lower levels of the atmosphere, light rays must pass through more air (which means more scattering) – essentially diluting the blue (as perceived by the eyes) particles that are radiated near the surface. This additional absorption and scattering results in the sky's much paler appearance as we look toward the horizon.

### **A Colorful World**

While the blue-sky phenomenon is relatively easy to understand, it's just one of several intriguing color spectacles we can observe from both the surface and the air. While researching for this article, I came across several other colorful occurrences that, although incredible to behold, are fairly simple concepts to grasp. In future pieces, I plan on exploring some of these natural occurrences (great for your next conversation with a four-year-old), including the Red Sky at Night, Sailor's Delight adage – and whether this proverb holds any truth. Until then, have fun boring holes in the sky and be sure to appreciate the wild blue (or violet-indigo-blue mixed with white) yonder in all its splendor.



## Builder Updates

# Progress Reports

by Stephen Lewis

*Below is a brief look at what Velocity builders have been working on recently. We're always interested to hear how the building process is going, as well as Phase I and Phase II flight progress. If you'd like to share your progress with VOBA, send a few photos and a brief description to [Editor@VelocityOwners.com](mailto:Editor@VelocityOwners.com) for inclusion in an upcoming issue of Velocity News.*

### Patrick Sieders (XL-5 FG)

Back in January, Patrick reported that an engine borescope revealed dark spots and

scratch marks on his cylinders; requiring three to be

pulled (with the fourth listed as suspect). On a positive note, he did claim to kind of

expect these results. Oh well, it's a patience-



and character-building process.

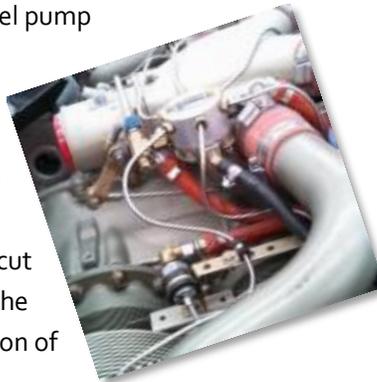
Around this time, Patrick noted that fitting the elevators and canard to the fuselage was going much more smoothly – though the elevator bottoms would require a bit more finessing. For more info on Patrick's building process, as well as several great photos, visit his website at <http://siedersvelocity.wordpress.com>.

### Don Johnston (XL-RG)

In late March, Don described the process of installing the fuel distributor (or, if you prefer, "the spider") to his IO-550N. He also mentioned tying the mechanical and electric fuel pump

drains together into a single line – a task meant to cut down on the proliferation of drains

protruding from the belly. Don journals his building experience online at <http://www.velocity-xl.com/blog> (complete with photos).



### Clay Chase (XL-RG)

Builder Clay Chase spent some time this spring working on auxiliary Velocity items – handy little accessories to make his XL-RG construction process a

little more comfortable and efficient. Among his homemade contraptions are an epoxy table, an insulated cabinet to keep his epoxy warm, a fiberglass roll holder, and, of all things, a chair to use while constructing his Velocity. He succeeded on all fronts, including procuring his workshop chair for FREE!!! Hey, whoever said you had



to drop money on useful items? Watch Clay's plane come together at <http://velocity.claychase.com>.

### Geoff Gerhardt (SE-RG-LW)

Builder Geoff Gerhardt achieved a major milestone – Phase I Completion – on Thanksgiving Day 2012. Just prior to finishing out Phase I, he recounts problems with the pilot side gear wheel. After tackling this issue and racking up his 40 hours, he indeed kept N173VS busy. Read about Geoff's story and see his videos at <http://thegerhardts.com/velocity>.



On Thursday, June 20, I returned from a long trip in N173VS; my Velocity SE-RG-LW. Below is a brief synopsis of my journey:

On Thursday, June 6, I departed early from my home base; Worcester, MA (KORH); en route to Minneapolis to attend a conference that began that Saturday. A storm front was moving southwest to northeast, and I wanted to see if I could skirt the northern tip of the system at Buffalo. A glance at

radar before I left showed it would be close. By the time I was approaching Buffalo, ATC warned me I was heading toward thunderstorms.

### **A Test of Patience**

I have ADS-B weather (Dynon Skyview) in the plane and could see the convective activity, which initially had me thinking I might be able to squeak thru. In the end, however, I decided to divert to Syracuse to wait out the nastiest weather. Unfortunately, that turned out to be a very long, frustrating wait. I was holed up in Syracuse for two days watching and waiting. While the thunderstorms passed, lingering low-level clouds remained; keeping the field shrouded in IMC obscurity.

On Saturday, with ceilings west of KSYR lifting, I decided to contact

## Phase II

# My Big Canadian Trip

by Geoff Gerhardt

departure and request an SVFR to get out of there. I pulled out my plane, taxied, and called departure with my request. Departure responded that the field had just gone VFR – I was finally free to leave! Departing initially required a little scud running to get out of the terminal area, though ceilings

Thunderbird Aviation provided free hangar space since I bought fuel. I remained in Minneapolis at the conference from that Saturday (June 8) to the following Wednesday (June 12). Before leaving KMIC, I visited with Albert Khasky (who's building a screaming fast Velocity at a hangar there). Nice-looking engine install – just get started on that finishing, Albert!

### **Aerial Border Crossing**

On Wednesday, June 12, I headed up to Canada to visit my sister in Kenora, ON. This leg required complying with the multistep process necessary to leave the US/enter Canada: create & submit an eAPIS manifest, file a flight plan, and call CanPass to let them know I'm coming. There were low clouds and rain around Minneapolis as I left, as well as a few radar returns to

began to lift as I proceeded west. By Buffalo, I was up to 2000', then 3500' by London, ON. Pretty soon, clear skies allowed me to climb to 10,000'.

I fueled up in Fremont, MI (KFFX), then continued to Minneapolis where I hangared at KMIC. The kind folks at



Geoff Gerhardt has documented his long-wing SE RG's adventures on YouTube

circumnavigate on my way north, though nothing serious. About 100 miles out of Minneapolis, I was finally able to climb.

everyone to check in. Anyway, I got into Kenora just fine – a little over two hours after departing Minneapolis. I spent the night with my sister and her family before continuing west to visit

use flight following very much – at least that's what the pilots in Virden told me. However, I was able to get on with Winnipeg Approach just fine, and they held my hand thru their airspace and all the way to Virden. I stayed with my parents for two days before continuing further west.



### N173VS on a prior trip past manhattan

I felt much safer flying over Northern Ontario at 10,000' – not many places to land there; mainly just lakes and forest. Approaching Kenora, I learned that things are done a bit differently at smaller airports. ATC told me to contact Kenora Radio when I got close. Thinking it was like a Class E CTAF, I contacted them and stated my intentions, but got a response telling me of traffic in the area and which

my parents in Saskatchewan.

On Thursday, June 13, I flew from Kenora, ON to Virden, MB. Virden is the closest decent airport to where my parents live in Moosomin, SK. I'd been able to arrange a hangar there through one of my Dad's friends. After departing Kenora, I contacted Winnipeg Approach; as I needed to transit their airspace. I can't remember

### Destination Saskatoon

On Saturday, June 15, I headed to Regina, SK to visit friends. My final destination was Saskatoon, where I would be giving a talk that Monday, but the weather in Saskatoon was poor, so I decided to hole up in Regina until I saw a break.

By air, it's only about an hour from Virden to Regina. Upon approaching Regina, I dialed in the ATIS to hear reports of 30-knot winds...could that be right? Thirty knots gusting to 35? Yikes! Well, it was right down the runway, so despite a bumpy ride in, everything was fine once I entered ground effect. When I got to the ramp though, I could feel my plane being jostled around just sitting there. Fortunately, I was able to get a hangar at the FBO.

I stayed in Regina for the weekend, hoping to get out Monday morning to make the hour flight up to Saskatoon. The poor weather persisted, so I rented a car and drove up for the lecture. I remained in Saskatoon until Wednesday (June 19) before driving back to Regina to begin my trek home.

### Homeward Bound

Steady rain and thunderstorms surrounded Regina when I left, but they were clearly visible and easily

**Steady rain and thunderstorms surrounded me when I left, but they were clearly visible and easily avoidable.**

runway was in use. These smaller airports have someone in a "tower" giving advisories, although they don't direct you in. It's called an MR (Mandatory Reporting) Area, a 5-mile radius around the airport that requires

if it's Class B or C, but typically their airspace goes up much higher than in the US. I think KBOS goes up to 7000', whereas Toronto extends to 11 or 12k'; ditto with Winnipeg. Anyway, it seems that most VFR pilots in Canada don't

avoidable. Besides, my route of flight and destination (southeast to Fargo) were clear. Initially, I had a bumpy ride while navigating between the rain showers and thunderstorms, but once I got past them it was smooth sailing.

11.5k' and leaned the mixture; which yielded ~7.5gph, 155ktas, and ~200kts groundspeed thanks to a nice tailwind. Funny, flying through the Midwest, you can go an hour without being handed off between ATC centers.

the longest flight I've ever made – although I've sat on commercial flights for much longer!

### **A Memorable Excursion**

Overall, this trip was a fantastic experience. I logged about 20 hours and significantly increased my cross-country skills. At home, I never fly in weather, so it was nice to make decisions about weather and to fly in less-than-perfect conditions. Learning about flying in Canada was also a valuable benefit of the trip. While I'd crossed the border once before, it's not at all intimidating now. The plane performed almost flawlessly; no significant problems whatsoever. However, I did make one noteworthy

**I climbed to 11.5k' and leaned the mixture; which yielded ~7.5gph, 155ktas, and ~200kts groundspeed thanks to a nice tailwind.**

Again, I completed the ritualistic border crossing routine (filed an eAPIS Notice of Entry, called ahead to the Fargo CBP to make sure an agent would be available, called CanPass to say goodbye to Canada, and filed a flight plan) before heading out.

Sometimes I would call in just to make sure they hadn't forgotten me. "No, Three Victor Sierra, you're still with us!" Things picked up once I reached NY Center, and I was handed off every 15 minutes or so. Once I was over the

Following a 2.5-hour (mostly uneventful) flight from Regina, I touched down in Fargo. The only real issue on this leg was some attitude from the CBP agent over a miscommunication in my arrival time (I screwed up and gave him Regina time instead of the local Fargo time). Otherwise, everything went well. I had intended to do just a short hop to pick up some cheap fuel at a small airport near Fargo, but instead decided to continue to a little airport just outside Green Bay – Shawano (KEZS). It was another 2.5-hour leg, so I'd burned roughly five hours' worth of fuel since Regina; landing with about 10 gallons in the tanks. I decided to stay in Shawano that night to rest up for the final stretch home. KEZS is a nice little airport – friendly people, good fuel prices.

The following morning I fueled up and launched into clear skies. I climbed to



### **The world becomes a little smaller when Phase II starts.**

Finger Lakes, it was nice to begin seeing familiar landmarks of home. It took about four hours from Shawano to arrive back at Worcester. I made great time while just sipping fuel. I had thought I'd need to stop for fuel or to stretch my legs, but the four hours actually went by pretty quick. That's

discovery – I found out the main doors leak when it sits on the ramp in pouring rain (which soaked the carpet in Syracuse)!



The VOBA Page

# The Unavoidable Question

by Reiff Lorenz

I've been asked the same question 50 times in the last 2 months . . .

In launching the Velocity Owners and Builders Association (VOBA) this year, there were a few simple goals:

- Create an official organization that gives Velocity enthusiasts a way to communicate with the EAA, FAA, AOPA, or other aviation-related organizations.
- Provide resources, such as blogs, photo albums, and a technical library, that our community can use to share information and stay in touch.
- Ensure that we can reach the whole Velocity community, even those who are not members of the Reflector, when necessary.
- Provide general liability insurance for Velocity-related events like cookouts and fly-ins.

These ideas were embraced wholeheartedly by the Velocity community! In the first 2 weeks, over 80 people signed up. Many offered to help. Throughout the process, though, everyone kept asking the same question . . .

In the first 2 weeks, over 80 people signed up. Many offered to help. Throughout the process, though, everyone kept asking the same question . . .

Right after we launched VOBA, Brett Ferrell was looking for a way to host

the Velocity Wiki independently from his VelocityXL.com website. Some of the integration modifications that he had done a number of years ago were preventing an upgrade to the wiki software. We found a way to provide a new home for the upgraded wiki on a VOBA-sponsored server. This was a long-term solution for one of the Velocity community's greatest resources, but I didn't hear any comments on the move. I just kept getting the same question . . .

## "When are we going to get back the Velocity Views?"

It was clear that, while people liked what our new organization was doing, what they REALLY wanted was a newsletter. It's good to have a website; it's helpful for there to be an official organization; but what folks would really look forward to are newsletters!

Creating a high-quality, consistent newsletter is no small feat. Anyone who's done it for an EAA chapter or pilots club knows that it takes a lot of time to write, edit, lay out, and distribute a publication that is worthy of the organization it represents. The Velocity Views had a professional: Rick Lavoie owned Lavoie Graphics and published the original newsletter.

If we were going to do it right, we would need professional help.  
(Continued, next page)

## VOBA FAQ

### What's in it for me?

The Velocity Owners and Builders Association provides a number of resources for members at no additional charge. Contact us at [Admin@VelocityOwners.com](mailto:Admin@VelocityOwners.com) if you want your own:

- Builder blog
- Photo album
- Specialty Forum

### Where do my dues go?

VOBA uses the funds it collects to help cover these expenses:

- Hosting the VOBA site
- Hosting the Wiki site
- Legal expenses for the corporation (hopefully minimal after the first year!)
- Liability insurance for our fly-ins and cookouts
- Newsletter writing/editing
- Mailings to non-members
- Donation to Oshkosh cookout
- Participation in EAA's Type Club Coalition

### How can I help?

Write something! Send us photos. Tell us what you're working on. We'll use it in the newsletter, on the web site, or add it to the technical library. Email your submission to: [Editor@VelocityOwners.com](mailto:Editor@VelocityOwners.com)

Continued from Page 18

### **Meet Stephen Lewis**

Steve Lewis has a degree in Aviation Management and holds ATP and CFII/MEI ratings. He is a professional writer specializing in aviation content. His clientele includes a multitude of aviation magazines, newspapers, and websites. Steve has agreed to be the editor and a writer for our newsletter, *Velocity News*.

However, Steve can't do it alone. For the newsletter to really work, we need others to pitch in. The Velocity Factory has agreed to contribute newsletter content. A number of owners and builders have volunteered to send photos and articles. We don't need a lot. We don't need it very often, but when Steve contacts you with a request, PLEASE help out. Take an

hour, sit down, and write one page that your fellow Velocity owners or builders would find interesting. Got a maintenance tip? Found a great building technique? Modified something recently? Write a few paragraphs, attach a photo, and send it to [editor@VelocityOwners.com](mailto:editor@VelocityOwners.com). The community will thank you for it.

### **Why not keep the Velocity Views name?**

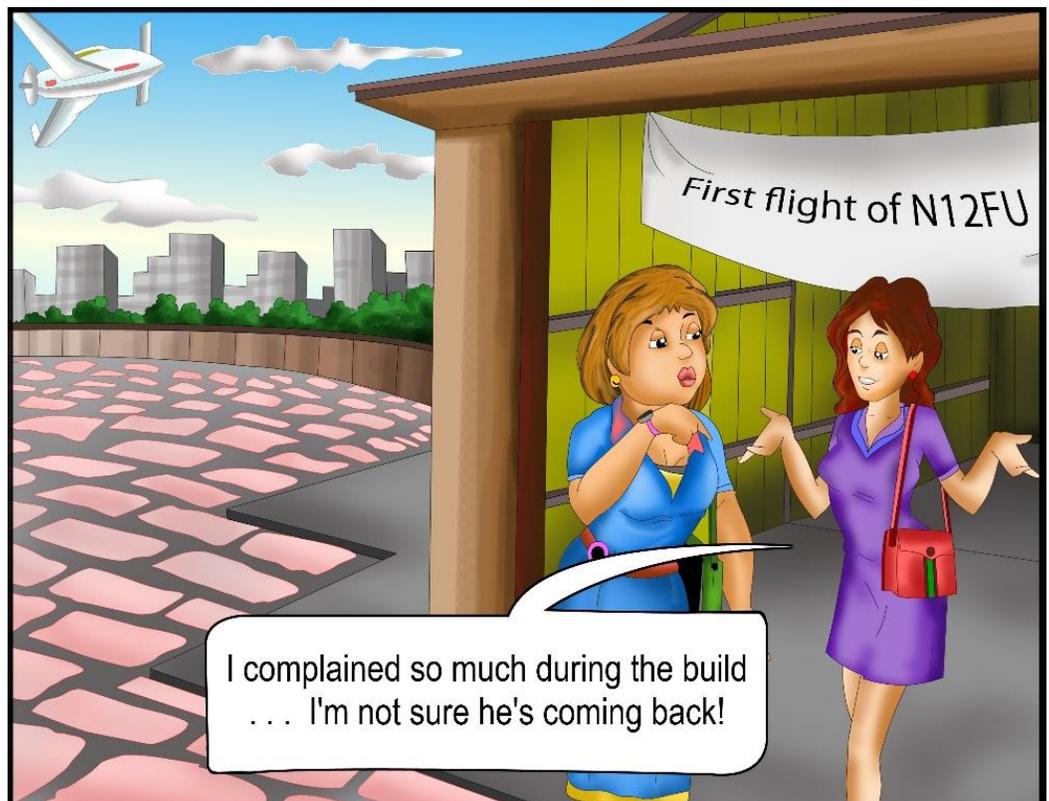
I mentioned earlier that we started with 4 simple goals. There was a 5<sup>th</sup> goal: Don't step on the toes of the folks who are already contributing to the Velocity community. We have a number of members who spend a lot of time, effort, and money providing services to the rest of us. There was no reason to duplicate these efforts. In fact, VOBA should celebrate and support what others have done, not try to displace them.

For this reason, when we first started thinking of a newsletter we were determined to call it anything BUT *Velocity Views*. A few months into this process we heard from Rick Lavoie, the founder, publisher, and owner of *Velocity Views*. He graciously granted us permission to reprint articles from the *Views* (as long as the original authors didn't mind). He even gave us permission to continue to use the *VelocityViews* name. In the end, we decided that *Velocity Views* should remain the original newsletter series.

With all of this in mind, we're now setting a 6<sup>th</sup> goal for VOBA: create a *Velocity News* that lives up to the high standards and continues the legacy of its predecessor. With your help, we will succeed.



# Canard Comics



FAA Data

# Aircraft Updates

by Otto Mattic

## Airworthiness Certificate Issued



N956M 3/28/2013 (XL) Owned by BAKER ROBERT S of SEBASTIAN, FL. Built by R K BAKER.



N916TC 3/28/2013 (XL) Owned by NASR LLC of WILMINGTON, DE. Built by FRANK WARE.

## Registration Cancelled - Expired

N21BV 6/4/2013 (SE) Owned by WRIGHT GARY N II of PORT CHARLOTTE, FL. Built by VUKOS JOHN P.

N120AS 5/23/2013 (Standard) Owned by MITCHELL ALLEN B of SAPULPA, OK. Built by MITCHELL ALLEN B.



N127DH 4/18/2013 (173) Owned by LIEBRECHT DENNIS L DBA of OCALA, FL. Built by HUISMAN WIM J. (Aircraft may previously have been registered as N59WH built by HUISMAN WILLEM JOHANNES)

N1711X 5/21/2013 (Standard) Owned by HYMEL CHRIS M of ROSHARON, TX. Built by COX WILLIAM C.



N216MR 5/16/2013 (Standard) Owned by ROCKET RACING INC of ORLANDO, FL. Built by RANGAN SRIRANGAM.

N173JR 3/25/2013 (Standard) Owned by GEMINI DREAM CORP of WILMINGTON, DE. Built by GEMINI DREAM CORP.

N218XL 5/9/2013 (XL) Owned by DUNCAN MARK L of MIDDLETOWN, CA. Built by Henry Gary.

N98X 4/2/2013 (Standard) Owned by BAKER KEVIN V of FLOWER MOUND, TX. Built by BAKER KEVIN V.

N45PW 6/12/2013 (Standard) Owned by MUNCY SAMUEL L of COLUMBUS, OH. Built by MUNCY SAMUEL L.

N6KA 6/5/2013 (SE) Owned by BOXER AARON I of PALMDALE, CA. Built by BOXER AARON I. (Aircraft may previously have been registered as N2980W built by HOLUB DOUGLAS R)



N216MR 5/16/2013 (Standard) Owned by ROCKET RACING INC of ORLANDO, FL. Built by RANGAN SRIRANGAM.

**Registration Cancelled - Sale Reported - Pending**  
N532PK 4/11/2013 (SE LW) Owned by SALE REPORTED of OKC, OK. Built by WURZEL PARSONS-KEIR.

N6VV 3/18/2013 (Standard) Owned by SALE REPORTED of OKLAHOMA CITY, OK. Built by MITCHELL DONALD H.

**Registration Cancelled - Sale Reported - Canceled**  
N528FS 6/14/2013 (SE) Owned by SALE REPORTED of KANSAS CITY, MO. Built by MOCK ARLAN D.

**Registration Cancelled - Registration Pending**



N32XL 5/10/2013 (XL) Owned by REGISTRATION PENDING of LIVERMORE, CA. Built by VELOCITY.

**Registration Cancelled - Exported to: BRAZIL.**



N27BK 4/22/2013 (173) Owned by SALE REPORTED of BRASILIA, . (Previously KELLERMAN HERBERT O of OSPREY, FL.) Built by KELLERMAN HERBERT O.

## Where does this report come from?

Every month the FAA releases an updated database on aircraft registrations. An automatic process is run that uses VOBA's data and the FAA info in order to:

- Find any new Velocities in the FAA registry.
- Flag any changes in airworthiness, registration, ownership, or location.
- Match the registration number against 5,000+ photos in the Velocity Wiki and VOBA archives and select a high-res image of the plane.
- Compile the changes and photos into this report.

The information represented here has not been checked for accuracy. The images may not faithfully depict the aircraft mentioned. The FAA data is in ALL CAPS. This was all compiled by a robot. You may be the first human that has read it. If you find an error please email it to us at:

[Editor@VelocityOwners.com](mailto:Editor@VelocityOwners.com)



# Publication Notes

## About Velocity News

VOBA's Velocity News is a publication of the Velocity Owners and Builders Association (VOBA). It is published quarterly and distributed to VOBA members as part of their membership.

Currently, Velocity News is only available in digital form. If you would be interested in receiving a full-color, printed, physical copy in the mail, and would be willing to pay \$20 per year to cover printing and postage costs, please email VOBA. If there is enough interest, we'll find a way to make it happen. [Admin@VelocityOwners.com](mailto:Admin@VelocityOwners.com)

## Colophon

VOBA's Velocity News is written and edited in Microsoft Word on Windows PCs. Photos edited in Paint.net. Personnel management by Elance. File management by Dropbox. Typesetting and layout in Microsoft Word. Body text is Corbel 10.5 point. Final distribution in Adobe Acrobat Portable Document Format through a ClubExpress-hosted forum and web site.

No Apple products were used in the production of this issue.  
[Sorry René! –Ed.]

## On the cover

Andy Millin's XL FG N114MV photographed from Mark Riley's XL RG by Nancy Riley.

## This issue

Publisher: VOBA  
 Editor: Stephen Lewis  
 Contributors: Stephen Lewis  
 Duane Swing  
 Reiff Lorenz  
 Geoff Gerhardt  
 Andy Millin  
 Cartoons: Concepts by Reiff Lorenz  
 Art by DesignoDream Studio

A special thank you to Brett Ferrell for providing a database of aircraft and a wiki full of well-labeled, indexable images.

Report any distribution, display, or other usability problems to:  
[Admin@VelocityOwners.com](mailto:Admin@VelocityOwners.com)



## More info

A note to new builders and those becoming interested in Velocity Aircraft. There are many resources available to help you research, get started, and stay motivated throughout the construction process.

The primary venue for Velocity builders to interact is the **Velocity Reflector**:

<http://www.tvbf.org/>

This is an email-based group of Velocity enthusiasts run by builder Brian Michalk. It requires an administrator's permission to join, but it's free.

There is an **archive** of the Reflector messages in the form of a web-forum mirror at builder Brett Ferrell's site:

<http://www.velocityxl.com/forum>

Old Reflector posts appear here and are sorted by topic after the conversation has concluded.

There is also a search feature. Membership is required, but free.

There is a **wiki** of Velocity-related information (also run by Brett Ferrell) at:

<http://wiki.velocityoba.com>

It has the most information of any single website. Again, membership is required for some sections, but it's free.

We also have a **Facebook group** started and administrated by builder Larry Epstein. To join, search Facebook for:  
*Velocity Builders and Pilots.*

# VOBA's Velocity News



N62J, an XL RG built by Spurgeon Duncan

Velocity Owners and Builders Association  
6510 Halberd Court  
Dayton, OH 45459

[www.VelocityOwners.com](http://www.VelocityOwners.com)

[Admin@VelocityOwners.com](mailto:Admin@VelocityOwners.com)