

# VELOCITY VIEWS

Volume 29

## Rhonda and Nate Gutwein's XL RG

by Judy Lavoie



*Rhonda and Nate Gutwein gloating over their new baby, an XL RG*

Who would think a grandfather of twenty-three children would build an airplane? That's just what 72-year old Nate Gutwein has done, with the invaluable help and support of his wife Rhonda.

Nate first started flying back in Francisville, Indiana, when he was about 16 years old. He always loved flying and owned a Piper, but his demanding position as the third generation running the family agricultural feed business kept him as a low time pilot. When thoughts of retirement drew near, Nate considered the process of building a plane as an exciting project, and hoped to enlist

his son and grandsons' interest. As he explains, he was "not totally ignorant" of building with his own hands, having worked on antique cars over the years.

So Nate and Rhonda toured Osh Kosh for a couple of years, pondering how to make such a building project work for them. During that time, Rhonda took early retirement from her career as a bank cashier and trust officer, and the two began to spend winters in Sarasota, Florida.

After deciding they wanted to build a Velocity, Nate and Rhonda

*Continued on next page*

## In this issue

<b>Gutweins' XL RG</b> .....	1
<b>Open House Photos</b> .....	3
<b>Factory News</b> .....	4
<i>Q&amp;A with wannabees, engine management, insurance update, personnel changes, VGs</i>	
<b>Safety Corner</b> .....	8
<i>Accident &amp; Incident Reports and Maintenance Service Difficulties</i>	
<b>Events Calendar</b> .....	9
<i>Branson fly-in, Sun 'N Fun, and 2002 Calendar of Events</i>	
<b>Factory KPCs</b> .....	10
<i>Kit plans changes to keep your manual up-to-date</i>	
<b>Builder Hints &amp; Info</b> .....	10
<i>Aileron &amp; rudder hinging</i>	
<b>Time for a Change</b> .....	11
<i>Duane wants to retire, looking for investor</i>	
<b>A&amp;P Talk</b> .....	12
<i>Brendan talks about proper aileron rigging</i>	
<b>Electric Buzz</b> .....	14
<i>Avionics &amp; Electrical Tips from Wayne Lanza</i>	
<b>Production News</b> .....	15
<i>Latest from Scott Baker</i>	
<b>Builder Forum</b> .....	17
<i>Tips, information &amp; letters</i>	
<b>Buy Sell or Trade</b> .....	18
<b>Marketplace</b> .....	19

## Gutwein's XL RG

*continued from page 1*



thought of building in his son's large shed in Indiana. They also explored the option of using a hangar in the Sarasota area but found nothing available. They just couldn't pull together the right place and the right time to make it work. It wasn't until they learned of the Builder Program at Velocity's Service Center in Florida that Nate and Rhonda became convinced they could build their own airplane. From Duane Swing's explanation, they knew that this was exactly the workspace they needed. They'd have access to professional assistance, a realistic schedule and a beautiful airplane as the end result. It was just the set-up they had been searching for.

Nate and Rhonda began their Velocity XL RG on January 2, 2001. They worked 10 to 12 hour days at the Service Center in Sebastian, staying at the nearby Davis House during the week and returning to their home in Sarasota every weekend. Although their work days were long, they enjoyed the opportunity to concentrate on the plane in such big blocks of time. A few times other members of the large, close family came by and pitched in. The couple took time off for vacations, family weddings, and other personal interests. Throughout the building, Nate and Rhonda didn't feel like they were stressing themselves or rushing to complete the project.

"We started at ground zero," Nate explains, "and early-on we

*Both Duane & Scott Swing were quick to point out the quality craftsmanship and unique custom features of the Gutweins' Velocity XL RG*



*Nate & Rhonda built their Velocity side by side, with Rhonda excelling at the fiberglass work. Nate is trying to convince Rhonda to get her pilot's license!*

found out what we each were good at." Rhonda excelled at the fiberglass work. "I just tried to imagine this as a big craft project," she reveals, "bigger than I ever thought!" As any builder will admit, there were ups and downs along the way, but in hearing Nate and Rhonda talk about their building process you are convinced it was a very positive experience for both. And, as every participant in the Builder Program says, the help, support and cooperation with fellow builders at the Service Center was

one of the top advantages of building there. After months of work, the fine workmanship, attention to detail, and successful partnership are obvious to all who examine Nate and Rhonda's new airplane.

What to do now that the Gutwein's Velocity is flying? For Nate, it's finally his chance to log some hours. As for Rhonda... she just needs to be convinced to take flying lessons!

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# November 3rd Factory Open House

by Scott Baker

Bob Wood smilingly suggested that we feature the first flight of "Bob 2" at the Open House. "Ahhh... I believe we'll pass on that!" Bob's XL-FG "Silver Eagle" was successfully test flown before the Open House and was on display at the program along with Nate and Rhonda Gutwein's recently painted XL-RG. About 30 guests from as far away as Chicago visited the Velocity factory and Velocity Service Center in Sebastian, Florida. Many elected to take demonstration rides in the various Velocity models, which kept pilots Brendan O'Riordan and

Nathan Rigaud busy throughout the morning. Scott Baker (2nd photo below) conducted three tours of the factory in the morning; a Velocity hosted lunch was offered at noon; and the afternoon was devoted to speakers and a workshop on wheel and brake maintenance. Special

thanks are extended to Rick Lavoie for speaking at the program. Giving insight to prospective builders in the audience, Rick shared some of the "fun times and not so fun times" while building his Velocity-RG.

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*Above: Rhonda Simmons, Tonya Hiscott, and Bonnie Swing take a quick break for a photo pose.*



*Below: Mike Snyder and Brendan O'Riordan run a workshop on proper wheel & brake maintenance. Both are A&P mechanics.*





by Duane Swing

## Q & A with Velocity Wannabees

*"I'm a low time (120 hour) private pilot with Cessna 150 and 172 time. I have never built an airplane and have no experience in anything like fiberglass or composites. Is it possible for me to build a safe Velocity and when it is done do I have the skill to fly it and can it be insured reasonably?"*

Boy is this ever a loaded question. As all of you know, what might be easy for one might be impossible for another. Lets open the door to these questions and see what can be learned.

*"Is it possible for me to build a safe Velocity?"*

The answer is a guarded yes, assuming certain understanding of what is involved in the building of any airplane and specifically a composite one. I say a guarded "yes" because we have seen many examples of unsafe Velocities that have come through our shop for maintenance and pre-buy inspections. I would suggest for anyone thinking of building a Velocity to visit someone who is building one and if possible get some hands on experience. If this isn't possible, attend one of the Velocity specific workshops being conducted by EAA's Sportair workshops. Perhaps both might be something you would want to do. Another possibility is to come to the Velocity Service Center for a few days and get some hands on experience with one of our experienced technicians or work with one of those builders who are working full time on their airplanes and give them a helping hand. There is no charge here for this service and it might just make the difference between building a Velocity or not.

One might also consider a one or two week "helping hand" in our Service Center prior to delivery. You would be working on your own airplane with one of our technicians and the skills learned along with the confidence built would be extremely valuable. Building a "safe" Velocity, or any airplane for that matter, is more of following printed procedures and have your work inspected by someone who knows the difference between good and bad. There are various books written on the subject and are sold by Aircraft Spruce and others. Is this enough? I would say no. I don't think one can gain any skills in working with fiberglass by reading about it in a book. Also, most of the written information is too general in nature to be of much value.

*"Do I have the skills necessary to fly the airplane?"*

I often use the analogy of the 20 year old with 200 hours total time flying P51's in combat during WW II. Proper pilot training makes a big difference. There is no way for us to know if you're a "natural" pilot or just an airplane driver. You may be able to fly the Velocity with only verbal instructions. On the other hand, you may require several hours of dual to accomplish what only an hour may be necessary for another pilot. In the nine years we have been doing this, only once have we had to suggest to the owner/builder that he sell the airplane for his own good. He was just not able to learn, given the time restraints given us. Perhaps this is why many "washed out" of pilot training school in WW II.

*"Can I get reasonable insurance once completed?"*

I suppose the real question here is

what is "reasonable"? Based on the insurance inspection and pilot training required by almost all insurance companies, the insurance is certainly available. Is 5% of the insured hull value reasonable? There was a time when 2% of hull value was the norm. Low rates are still possible for higher time pilots with an instrument rating. Also to be considered is the complexity of the Velocity you want to build. Our 300 horse XL Retract Gear will certainly require more pilot time and higher ratings, including an instrument ticket, if you want to get proper insurance. The present requirement from Avemco (this may change later) requires at least 100 hours flight time for our lower powered fixed gear airplane and 150 hours for the lower horsepower retract. This will go up to 200 hours minimum for the XL retract. These are minimums and high premiums are associated with these minimums. Keep this in mind when considering which Velocity you may want to build.

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## Engine Management

We receive calls all the time from customers who are flying their airplanes for the first time and want to know why the engine isn't running like it should. Keep in mind that we are airframe kit makers, not engine makers and we really don't know any more than your local mechanic. I can give you some things to look for during your initial flying and see if your engine is acting "normal."

First lets assume you can make a full power run-up on the ground and all seems to be OK. That is the engine will take throttle without hesitation, no backfiring, full static RPM etc.

Now with a full throttle take off (don't baby the engine here) you should see your RPM showing about 2400 with a fixed pitch propeller and 2700 with the M-T constant speed. After power reduction to about 85% cruise climb, look at your EGT's.

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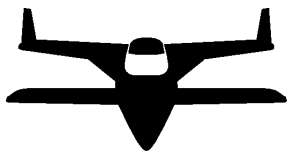
## Factory News

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They should read about 1250 degrees F and the engine should be running smoothly. As you climb, you will need to add more throttle to keep the power up to the 85% level until passing about 4500 feet MSL at which time full throttle will yield no more than about 24" of manifold pressure. Above this altitude, your power will constantly be decreasing until at about 7500 density altitude, your engine will be running about 75% power. That is at full throttle and with the RPM set (on a constant speed prop) to about 2400. At this point, your EGT's will be somewhat less than in the power climb, perhaps about 1200 if no leaning was done. If your engine is set too lean from the beginning, you can expect much higher EGT's from the get-go and difficulty leaning without the engine miss-firing. If you find this to be a problem, you will probably find an air leak someplace in the intake system between the fuel servo (fuel injected system) and the cylinders. Sometime this is difficult to find but

inspect things very carefully if this is a problem. You may also have an injector with something plugging the normal fuel flow. This will be showing up on one of your EGT's as abnormally higher than the rest. Having a good 4 cylinder or 6 cylinder EGT / CHT system sure helps here. If all is OK you can start leaning to see which cylinder peaks first. Remember, this may not be the cylinder showing the highest reading. Probe placement, plus other factors, will often cause this to happen. Once you have found the peak EGT on the first cylinder to reach this level, make note of the reading. This should be around 1400 to 1500 degrees. The number itself isn't all that important as peak is peak and you can't make a cylinder to go higher than peak regardless of the number you may be seeing. If you lean even more than this peak, you should see your manifold pressure on a constant speed propeller airplane start to decrease. On a fixed pitch prop you will see an RPM reduction. At someplace around 100 degrees on the lean side of peak, you

will normally encounter the beginning of roughness in how the engine sounds. Lycoming recommends their engines be run up to peak EGT at 75% power or less. I have followed this recommendation and will often lean to 50 to 75 degrees on the lean side of peak when flying at power settings of 65% or below. It is important to monitor your CHT's throughout your flying. Don't be alarmed to see 450 degrees in the early stages of engine "brake in". Lycoming engines have a red line of 500 degrees so monitor your temperatures accordingly and use a rich mixture until the engine break-in is complete. Peak cylinder head temperatures (CHT's) will be noted at about 50 to 75 degrees on the rich side of peak EGT. This is the best power range for the Lycoming engine. If you have accurate digital gauges, you will actually see a drop in CHT's if you operate at peak or lean of peak. I see as much as a 20 degree drop in CHT's at 50 degrees lean of peak. Once your engine has broken in, try to keep your cylinder temperatures at the 420 degree mark, or lower, for maximum engine life.



## February 2, 2002 Factory Open House Workshop Schedule

**Saturday February 2, 2002** - Factory's quarterly open house in Sebastian Florida (X26)

9:00am	Coffee and donuts
10:00am	Workshop: TBA
Noon	Lunch
1:00pm	Workshop: Building Q&A
3:00pm	Demo rides in the XL

Please be sure to call the factory and RSVP! Friday arrivals can book a room at the Key West Inn at Captain Hiram's here in Sebastian. Call 800-833-0555 and mention Velocity to get a corporate rate. When you call the factory to RSVP, let us know when you plan on arriving so we can make arrangements for transportation, etc.

Check [velocityaircraft.com](http://velocityaircraft.com) for up-to-date details

Oil temperatures are also important for longevity of your engine. Check with the engine manufacturers recommendations and follow them. On the Lycoming, the maximum oil temp is 245 degrees F. Don't be alarmed if your oil temperatures run in the 220 to 245 during the early stages of the brake in phase of your engine. After break-in, oil temperatures should come down to the low 200 degree range. Don't expect 160 degrees or anything like that. If someone tells you this they just don't know anything about the Lycoming engines. This engine uses a device called a vernatherm valve to set internal oil temperatures. Once the oil reaches 186 degrees F, this valve closes off forcing oil to the oil cooler to maintain as close to possible 186 degrees. Oil coolers often do not have the capacity to hold to this temperature and it is normal to see the oil temperatures elevating to 200 to

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## Factory News

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220 degrees. Even 245 degrees on a very hot day is not a disaster as some would believe. I purchased a brand new Lycoming powered Bellanca turbo charged airplane in 1978 and was bothered by a constant 245 degree reading on the oil temperature. On most turbo installations, the turbo is lubricated and cooled by engine oil and high oil temperatures are a natural result. After repeated calls to Lycoming for their recommendation, I was ask by one of their engineers to tell him what the yellow (caution) arc was on my oil temperature gauge. I told him that there was no yellow arc only a green arc from 180 degrees to 245 degrees. He was less than polite in pointing out that green is green regardless of the number so just forget it. If you think your oil temperature is too high, let us know and we can give you some hints on how to correct this. Also, keep in mind that your vernatherm is an important part of the oil temperature system and if this valve is leaking, it will result in higher oil temperatures. You can check this valve to see if it has a "smile" showing on the face. This is a good sign that it is leaking and will cause higher than normal oil temperatures. The location of this valve is just below the oil filter on the 540 engines and on the end of the oil screen on the 360's. Lycoming has published a Service Bulletin on this valve and instructions on how to measure the expansion of the valve as the oil temperature increases. Unfortunately, this valve is not something normally replaced on an overhaul so keep it in mind.

## Insurance Problems - Page Two

As anyone around here can verify, I don't want to hear about a problem without knowing what you might suggest as a possible solution. Some have suggested that the EAA form an insurance program for the experimental fleet. Others have suggested

we forget about hull insurance and only insure for liability. Others have suggested lining up all the insurance company executives and shooting them. All might be a possible solution but at the moment not workable.

All this stems from the constant increase in insurance premiums that affect the experimental aircraft as well as your average GA aircraft. I had hoped that with the aircraft inspection and flight training, we might be able to see a reduction in premiums rather than an increase. Today I talked to Jim Lauerman of Avemco and he gave me his assessment of what is going on and why. As it turns out, the claims on high performance experimental and GA airplanes have risen drastically over the past year. He mentioned that the Lancair IV claims were \$1,600,000 in a short two-month period. And then we have the \$480,000,000 (boy that's a lot of zeros) that Cessna, along with their insurance carrier, lost on the 185 accident. A turbo Baron owner recently told me that his premium went up \$6,000 over what he paid last year. Add to this the losses suffered in the 9-11 WTC crash that have already put some insurance companies out of business with more to follow. One insurance company alone was hit by a five billion dollar claim. As he said to me, "someone has to pay the bills." My major concern when I talked to Jim was, will Avemco continue to provide insurance? He said that they have already dropped all hull and most liability insurance on the Lancair IV series with possible more to follow depending on how the claims come in. As of our conversation, no Velocity claims had been filed since the beginning of our inspection/pilot training requirement. This will certainly help in our case.

If your not getting what you want out of Avemco, why not try one of the other insurance companies that are still insuring experimental airplanes. They are AUA at 1-800-727-3823 (ask for Pam) and Falcon Insurance at 1-800-880-4545 (ask for John Allen)

## One Last Thought

We have had some suggestions that the Velocity builders form our own Hull insurance program and purchase only Liability insurance from the insurance companies. This would work something like this: Assuming we could get at least 50 of our flying Velocities to work together we would provide initial hull insurance based on our present program for training and inspections and insure the hull for, perhaps, 3% of the requested hull value. Deductibles would be based on maybe 10% of the hull insurance. If the average hull insurance were \$100,000, the initial "bank" would be (50 x \$3,000 = \$150,000). This amount would grow each year to provide a cushion in the event there were several claims in a given year. If no claims were made for a period of time, then the insurance premiums could be reduced. All monies would be held in a secure account with a governing body made up of five or so insured individuals. Got any thoughts on this? Perhaps re-currency training? Perhaps maintenance training for second, or non-builder owners so they know how to "fix" whatever needs fixing? Let us know what you think and we will combine your thoughts and publish them in the next Views. If you think you would want to participate, let us know so we can get some numbers together.

## Personnel Changes

We have lost two of our key people in the last few weeks. Nathan, our flight instructor, has decided to pursue his future in aerobatic instruction by joining with a flight team that specializes in using WWII AT-6 training aircraft for aerial combat simulation and transition training. Mike, our IA, has had a burning desire to return to the restoration of older aircraft and has joined a firm that specializes in restoration and maintenance of vintage and WWII warbirds. Both Nathan and Mike will

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## Factory News

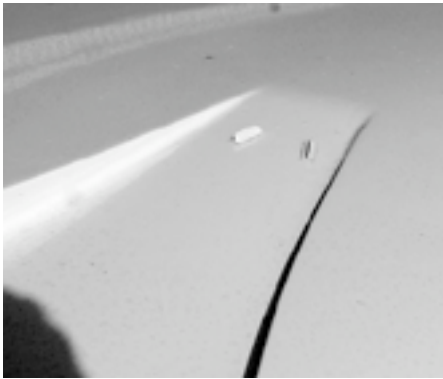
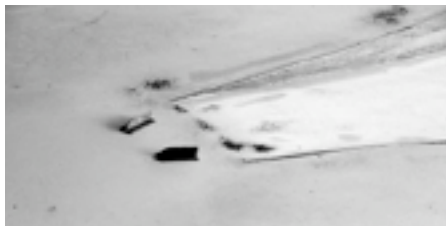
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be missed by those of you have gotten to know them and especially by those of us here who must proceed without these two very valuable people. We wish them both a great future in their chosen fields. Brendan has expressed a desire to move into the maintenance area and will be continuing with the Conditional Inspections, pre-buy inspection and general maintenance work. Brendan already holds an airframe and power plant mechanic license so the transition should be easy for him.

We have already hired a replacement for Nathan. Chris Babb, CFII will be onboard by the time you receive this newsletter and ready to continue instruction and demo flights. We'll do an introductory story on Chris in the next issue.

## More Things To Do With VG's

We, along with a couple of our customers, have been testing VG's to see if we could provide better cylinder cooling on the NACA type cooling ducts. Even though all three of the airplanes we have here have the NACA ducts and have had normal cylinder temperatures, (410 degrees F max.) some of our customers have seen 450 degrees or more. What we done was to place a couple VG's about 1" in front of each of the NACA inlets at the proper angle and the results have been amazing (see photo below). One can expect about a 40 to 50 degree reduction in cylinder temperatures with the VG's. Our first Service Center customer, Dick Affenit, had to run his mixture at 150 degrees rich of peak to keep his cylinder temperatures at 400 degrees or below. He said if he leaned to



peak EGT, the CHT temperatures would go to 450 degrees and this was just not acceptable to him. We put on the VG's (with a dab of silicone) and he now reports that at peak EGT, his cylinder temperatures max out at 395 degrees F. For Dick, this results in a fuel saving of over three gallons per hour.

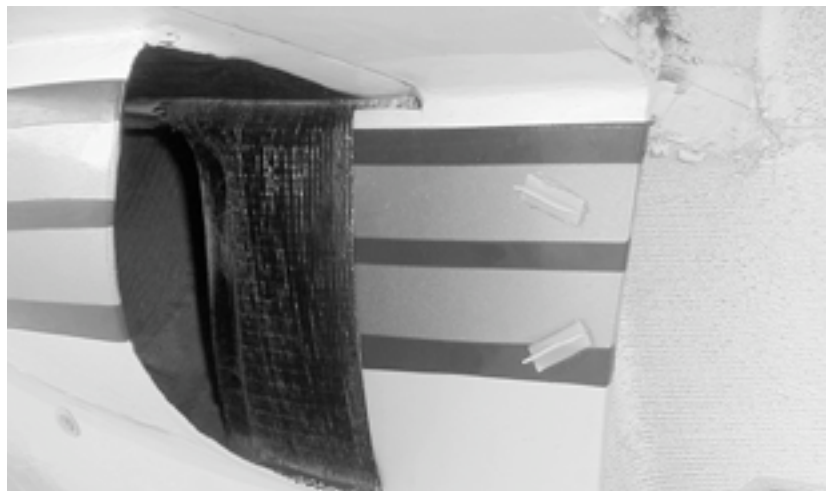
The next test was to install two VG's down the throat of the NACA inlet about 2" from the front (see photo above). Max CHT's prior to the VG's was 408 degrees when leaned to peak EGT. After installation the max CHT's was 387 degrees, this gave us a reduction of 20 degrees.

I have a theory about the success of the NACA cooling scoops when comparing a fixed gear with a retract. On every fixed gear XL we have flown, the max CHT's tend to be a good 30 to 40 degrees less than with the RG. I think the faster we go the air is separating away from the NACA scoops allowing less air to cool the engine. On one of the RG's here, we flew at 150 knots and found

the CHT's running about 400 degrees. Speeding up to 180 knots the temperatures went up to 440 degrees. At first I just figured this was due to the additional power needed, however, now I am not so sure. Installation of the VG's reduced this back to less than 400 degrees.

With this success in mind, it was decided to try the VG's on the armpit scoops of our XLRG demo airplane (see photo below). In this installation, we plumb the air from the armpit scoops up to the plenum chamber and then down through the cylinders. Placing two VG's about 4" in front of the armpit scoop entrance has resulted in a 40 degree reduction in cylinder temperature. I would have never guessed we could achieve this much reduction but the numbers don't lie. If you're having a difficult time getting your cylinder temperatures down, this might be your answer. Keep in mind that if your using the updraft type cooling through the arm pit scoops you need to add about 40 degrees to what your indicating. This is due to the fact your CHT probes are installed on the bottom of the cylinders and the fresh air coming from the scoops are cooling the probes. If you want to try it on your airplane, let us know and we will send you 4 VG's and you pay only a shipping and handling charge. In our installation the leading edge of the VG fins are 1.5 inches apart and the trailing edges of the fins are 2.25 inches apart. This

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## Factory News

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results in a total difference of .75 inches and will provide the proper "kick out." If you are trying this on a standard fuselage NACA installation, you will need to move them closer together. The important measurement is the .75 inch that provides the proper angle. (see picture # 3)

Also, keep in mind that the attach surface of the VG should be sanded prior to the silicone installation. The VG's are made of a plastic material and if used where the sun will get to them, they should be sanded and painted to reflect the UV's.

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### Return Policy

Velocity builders occasionally ask to return parts for credit. To avoid problems, please note the following policy guidelines with respect to returning goods:

1. Velocity, Inc. will happily replace fiberglass parts that might have defects in workmanship.
2. Kit parts may not be returned for credit.
3. Parts that were purchased as options (an exhaust system for instance) may be returned for credit, less a 10% restocking fee, providing the parts are in new (unused) condition.
4. Obsolete parts and parts that are no longer carried in our current inventory may not be returned for credit.
5. Credits are issued at the time of return – Please don't ask us to send the new part at "no charge" while you wait to return the old part.

**Sign up  
Sun 'N Fun 2002  
Velocity Dinner  
April 8, 2002  
See page 9**



# Safety Corner

**Accident & Incident Reports,  
Maintenance & Service Difficulties**

## Service Notice RG System Inspection

On inspection of an XL that came to the shop for a conditional inspection, we found that most of the **welds around the nose gear pivot tube and gussets were cracked.** These cracks were a result of not enough weld, not from abuse. Please inspect your RG nose gear at the pivot location. If the welds look very thin and small please contact us for more verification. If they are cracked, we will fix yours or send you another depending on availability and timing.

We have come up with some simple **pulley guards** for the RG system. Even though we have not had a problem with cables coming off of the pulleys, it makes good sense to include them with the pulley holders. All new pulley holders will incorporate a guard. These pulley guards are available for those who would like them. This is not a mandatory addition but it does make it safer.

## Incident Report Inflight Engine Fire

On November 7th, Jack Fehling and fellow pilot Skip Barnes took off from Fort Pierce Florida heading for the Fehling's home (Tailwinds, an airport community in Jupiter Florida). About 15 minutes after take-off, both pilots new something was wrong with the engine. Besides a loss of power they noticed rising engine temps. Jack had been flying over I-95 to avoid restricted airspace. Knowing time was of the essence, Jack made a successful emergency landing on I-95, taxied into a rest area, and truckers with fire extinguishers doused the fire. Jack and fellow pilot Skip Barnes are both fine, thanks to what witnesses called amazing piloting skills.

This story ended up on CNN and

many newspapers too. Jack's beautiful Velocity RG was on the front page of Vol 25 and also page 9 of Vol 3. Jack is a commercial pilot with Delta Airlines. He, his wife Joni, & son Matt, live in Jupiter. We are all thankful that Jack is alive and well.

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*Notes from Scott Swing:*

This is preliminary but it looks like Jack had detonation on at least one cylinder and blew a spark plug out along with some of the head. Since he still had one spark plug and fuel flowing into the cylinder there was fire. He noticed loss of power as well as rising temps. These rising oil temps caused the prop to start losing pitch and therefore Jack decided he couldn't make it to the airport. I am not sure he realized that he had a fire at this point and what he did have was mostly going out the back. He lined up into the wind over I-95 over an overpass and just over a car and onto the highway. Once onto the highway, the co-pilot saw an off ramp, they took the ramp which happened to be a rest area. Once into the rest area and into a parking spot, they came to a stop. Now the fire and smoke was noticed by Jack and his passenger and some truckers also saw the fire. The truckers proceeded to put out the fire with their extinguishers. There was some damage to the shear web of the main spar and the wing roots as well as the a need for a new cowling. The propeller and engine were the main problem areas and where most of the expense will be. The plane is already being repaired.

Note that Jack's engine was not standard. Jack had high compression pistons as well as dual electronic ignition. The jury is still out as to exactly what happened.

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## October 11-13, 2002 Velocity Branson Fly-in

Lynn Elsner is putting together a Velocity Fly In at Branson Missouri on October 11-13 2002. Its going to involve the things we all lve to do, flying,meeting with old friends and making new friends.

Branson is located on beautiful Table Rock lake. It is becoming one of the leading entertainment centers of the United States. There's plenty for everyone with great names in the entertainment from the Passion Play to Silver Dollar City The airport is Point Look Out PLK, which is just a few miles from everything. More will be detailed out in upcoming issues, but lets make this the biggest Velocity Fly in ever. The weather is great this time of the year, so mark your calendars now.

**Volunteers** will be needed for things like:

- \* ground transportation (for those flying in) i.e. driving vans/cars between airport, hotel, & events...
- \* welcoming attendees at airport
- \* cookout setup/cleanup

You can contact Lynn Elsner at 25834 So. Cedarcrest Sunlakes AZ.,85248  
Phone: 4808959680  
e-mail: [lynsuelsner@webtv.net](mailto:lynsuelsner@webtv.net)

### About Branson:

Branson is a unique combination of neon and nature where the stars in the theaters are as luminescent as the stars in the expansive night sky. Entertainment in Branson means enjoying a world-class show and landing a trophy sized catch, sinking a birdie putt and viewing the bald eagles that come to nest on the towering bluffs.

Screaming in delight while racing along a roller coaster track and biking through the rolling hills of the Ozarks. This remarkable vacation destination is truly an American original. A place where kids, parents and grandparents can all enjoy vaca-

tioning together. Forty magnificent theaters, three spectacular lakes, twelve championship golf courses, three remarkable theme parks, dozens of family entertainment centers, hundreds of restaurants and lodging facilities ... all conveniently located in America's heartland.

Go to the Velocity Web Site for details to come:  
[velocityaircraft.com](http://velocityaircraft.com)

### Sun 'N Fun 2002 Velocity Dinner Monday, April 8th

Sign Up for Velocity's Sun'N Fun Dinner – 6:00PM, Monday, April 8, 2002

The Velocity Buffet Dinner will be held on Monday evening, with a social hour starting at 6:00pm (no-host bar), followed by dinner at 6:30pm. Please call Velocity at (561)589-1860 to make your reservation. Advance reservations (paid before March 31) are on sale for \$21 per adult; \$14 for children ages 4 to 12; children under age 4 are free. Dinner reservations received after March 31 and placed up until the time of the banquet cost \$23/ adult; and \$15/child ages 4 to 12.

For those who have yet to attend a Velocity dinner, this is a wonderful time to socialize amongst friends, meet new Velocity buyers, talk with Velocity staff, and listen to interesting guest speakers (no politics, we promise!).

Velocitites from all areas of the country will be in attendance. We know you will have a great time!

The dinner will be hosted in the Ballroom of the Imperial Lakes Country Club located on Shepard Road in Lakeland, FL. (See map in vol 17, page 12 or online on our web site: [velocityaircraft.com](http://velocityaircraft.com) – click on "News & Events").

Please RSVP to the factory as soon as possible, so we can give a head count for dinner. A drawing will be held of the early registrants for a special prize to be given away at the dinner. We hope to see you all there!

### Velocity Calendar

February 2, 2002 - Factory Open House and Workshop

April 7-13, 2002 EAA Sun 'n Fun, Lakeland, Florida

April 8, 2002 Sun 'N Fun Velocity Dinner, Lakeland, FL

May 4, 2002 - Factory Open House and Workshop

July 10-14, 2002 Northwest EAA Fly-In, Arlington, Washington

July 23-29, 2002 EAA Oshkosh 2002, Oshkosh, Wisconsin

July 23, 2002 Velocity Dinner, Oshkosh, Wisconsin

August 3, 2002 - Factory Open House and Workshop

Sept. 6-8, 2002 EAA - Golden West Fly-In, Sacramento, CA

Sept 27-29, 2002 - CSA Rough River Fly-in, Kentucky

October 11-13, 2002 - Velocity Branson MI Fly-in (see article on page 9)

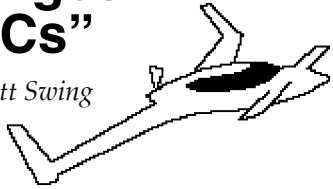
October 24-26, 2002 - AOPA Expo, Palm Springs CA

November 2, 2002 - Factory Open House and Workshop

Go to [velocityaircraft.com](http://velocityaircraft.com) for the latest details

# Kit Plans Changes "KPCs"

by Scott Swing



*Note: Check the date at the bottom of your page. If it matches the "Date of Change" shown in the KPC, your manual has already been corrected.*

## KPC 147

Affects all fixed gear aircraft with pre-molded gear boxes (between the gear bulkhead and firewall).  
Manual section 5.2.2 Gear box area  
Date of change 12-01-01

It should read:

We will now bond the firewall, gear pockets, and gear bulkhead to each other then bond the whole assembly into the fuselage. Sand all flanges on the firewall and gear bulkhead. Sand the entire outside of the gear pockets. Sand the front of the firewall and back of the gear bulkhead where the gear pockets sit.

Assemble the firewall, gear pockets and gear bulkhead together with structural adhesive off of the airplane. Spread structural adhesive on the area in the fuselage bottom where this assembly goes. Place the firewall/gear bulkhead assembly into the fuselage bottom. Using a level make sure the gear pockets are level left to right so that they match the top of the canard bulkhead. This is important so you don't have to fill under your main spar.

To hold the firewall and gear bulkhead tightly against the gear pockets, install 3 large rivets on the front and back sides of the pockets. You can also use some screws and nuts. Install them spaced 2" apart horizontally. They should be centered approximately 11-1/2" below the fuselage flange.

## KPC 148

Affects all standard wing aircraft (non 173, non XL)  
Manual section 2.3.3  
Date of change 12-01-01  
Dimensions between hinge centers should be 31" not 30" for a 72" aileron.

## KPC 149

Affects all aircraft  
Manual section 2.3.5  
Date of addition 12-01-01  
For those who have fast build wings, they may overlook section 2.3.3 so add this note where the drawing that shows the wing with hinge notching. Note: For dimensions refer to section 2.3.3

## KPC 150

Affects XLRG  
Manual section 12.3.1  
Date of addition 12-01-01  
Ignore the reference to 10 degrees forward as the belcrank will seek its proper position.  
The hole positions in the firewall and gear bulkhead for the 60" aileron cables are as follows.  
Firewall - 3.5" down from the top of the spar and 3.5" inboard of the center of the inboard hard point bolt hole.  
Gear bulkhead - 2" down from the start of the slanted bulkhead (at the bend) and 2.25" in from the side of the fuselage.

Note: We have noticed that the top leading edge of the cable bracket ends up just about flush with the top of wing when everything is lined up. You may want to change the bend in the bracket to get everything to line up. Also, the belcrank usually ends up about 3" to 3.5" inboard of the cowling flange. That leaves plenty of room for the engine.

....

Visit  
the Factory's  
Official Web Site:  
**velocityaircraft.com**



# Builder Hints & Information

by Scott Swing

## Hinging the Ailerons and Rudders

Rick had mentioned that I should take a section of the airplane and talk a little about it. I have done this before but not as a regular article. This issue, I would like to discuss hinging the ailerons and rudders.

### Aileron hinging

Working in the service center we have come up with a new way of hinging the ailerons that may be of interest to those outside the center. Basically we locate the positions for the hinge on the aileron itself. We then sand the hinge and mating surface. We make sure that the three mounting spots on the aileron are in line with each other and that the cut line is straight. We then line up the hinge so it is flush with the top surface of the aileron. We use something flat the can extend from the top surface of the aileron and hang over the edge a little to catch the hinge. Lock into position with a couple of cecos. I have been able to get everything jiggled into position without gluing anything but if you can't, you can rivet and glue them into position before you move onto the next phase.

Now slide the aileron into position and mark the wing at the hinge locations. Notch these about 3/16" just as it says in the plans. Chamfer the underside of hinge location to match the hinge shape. If the flange is too thick you may have to chamfer further back to bring the hinge up. Mark and drill 1/8" holes in the wing where the hinges will be screwed on. Slide the aileron into

*Continued on next page*

## Builder Hints and Information

*Continued from previous page*

position and check for fit. You may have to make a notch deeper or something to get everything to line up. When satisfied get some help to hold the aileron in position with the trailing edge up enough to fit something in to hold the hinge up against the wing. Drill through the hole into the aluminum hinge. Cleco into position and lower the aileron down to the trail position to check alignment. If the trailing edge of the aileron doesn't line up with the wing, elongate the hole in the aluminum to shift the aileron to the proper position. Move on to another hinge until you are attached with clecos. Drill the rest of the holes and finish the job. The key here is to drill the preliminary holes, one per hinge and adjust before finishing and drilling to 3/16".

If the ailerons are not flush or slightly higher than the upper surface of the wing, you may have to chamfer the under side of the wing to raise them or fill in with a layer of glass to space them down. Another way to adjust the aileron up is to bend the hinge slightly.

### Rudder hinging

Rudder hinging is much easier but there are a few things I do differently. First we make sure the outboard rudder/winglet butt lines are straight since this makes mounting the hinges easier. Notch the winglet as you did the wing and as it mentions in the plans. Remember the chamfering you did on the ailerons as you will do the same here. Adjust the slots so that when the hinge is bent 90 degrees, it is flush with the butt line. What I mean is you could put a straight edge across the slot with the hinge in place. Drill and cleco each hinge into position with only one cleco. Put your straight edge against all the hinges to ensure that they are all lined up together then drill the other holes. Remember that the hinge will be permanently

mounted to the rudder and screwed to the winglet with two screws per hinge. Once all the hinges are clecoed into position on the winglet, put the rudder into position to mark where the hinges will go on the rudder. These areas will need some chamfering as well but not much since you will need some gap between the rudder and the winglet. When all is well, put rudder into position, rotated out to hold hinge to rudder, and drill hole. Since there will be several rivets holding the hinge to the rudder, check to see how things are lining up before drilling the rest of the holes. If there is a problem, you can elongate a hole slightly to get things lined up and then drill the rest. The hinges are then glued and riveted to the rudder.

If the rudder doesn't line up with the winglet, you can use the same methods mention above to get

them to line up.

IF THERE IS A TOPIC YOU WOULD LIKE ME TO DISCUSS, PLEASE LET ME KNOW THROUGH E-MAIL AND I WOULD BE GLAD TO WRITE ABOUT IT.

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### A Request from the Parts Department

Please submit your parts orders early in the day so that we can meet UPS shipping deadlines. Our cutoff time is 12 o'clock noon for same-day shipments. Please confirm payment arrangements at the time of order. While our database may hold your credit card information, sometimes the card's expiration date has passed – which will cause us to hold shipment until this important information is updated. Thanks!

## Time For A Change (Business Offer)

One of the greatest thrills in my life was to watch the growth of Velocity over the past several years. Scott and I started with Velocity in the late 1980's and built seven Velocities and engineered several major changes, including the retract gear system, before purchasing the company in 1992. It is now time for a change. Even though this has been a labor of love, there is a time that we must give in to age. Therefore, I have decided that if Bonnie and I ever want to do the traveling we desire to do, we must make plans now. Scott and I have been a very close team through the years and have found that neither one of us wants to take on the financial responsibility of owning and running this company without the other. Our plans are to maintain the current management team, including Scott Swing, Scott Baker and all other key people for the years to come. With this in mind we have decided to investigate the possibilities of an investor or investors willing to purchase this company outright or provide the necessary funds to purchase a majority interest in it. Before looking at outside investors, I first wanted you to know what is going on and also provide an opportunity for you to consider this offer. It is also possible that several of you may want to get together and form a group to make the purchase. In this regard my initial thought was to limit the investors to a maximum of 8. Scott Swing and Scott Baker would own one share each making the total 10. We could expand this if there are enough of you interested in forming such a group.

Financially, the company is profitable and debt free, with a steady sales record. Financial data will be shared with those seriously interested.

Let me know your thoughts.

*Duane*

## A&P Talk

by Brendan O'Riordan, CFII, A&P



### Proper Rigging of Ailerons

One common question we get concerning the ailerons is "how do I get the maximum amount of aileron travel." The manual tells us we should be able to get 2 1/2 inches of aileron travel. This can be achieved if the aileron system is rigged properly. First thing to do is to make sure we are using the full travel of our cables.

Disconnect your cables from your aileron bellcranks and from your bellcrank at the back of the keel. You need to find the center of travel on each cable. Push the end of the cable by one of your aileron bellcranks all the way in. Put a mark on the cable end where it meets the outer sheath. Pull the cable all the way out and put another mark. Measure the distance from mark to mark and put a third mark directly in the middle. This middle mark is where your cable needs to be when it is connected to your aileron bellcrank at the ailerons neutral position. You may need to change the position of your aileron cable clamps in order to get this. If you move your cable clamps make sure you keep the proper approach angle. The threaded rod ends need to be in the middle of their travel when they are installed as well. Start off at one aileron bellcrank doing this, then go to the other side of the same cable at the back of the keel and repeat. Do the same to the other cable. Hook the

cable ends up to their bellcranks as you finish centering each one. When all the cables and cable ends are adjusted you should be able to work the system and see that at both ends of both cables you are moving the system from mark to mark. Now you are getting the full range of motion out of the cables. This is something that I have had trouble with myself until we came up with this procedure.

Next common error when it comes to rigging ailerons properly is having the proper approach angle. The approach angle I am talking about is the angle between the aileron bellcrank at its neutral point and the push/pull cable. According to the manual this angle should be between 90 degrees and 105 degrees. If your approach angle is 90 degrees you will get equal up and down movement of your aileron. If you have your approach angle greater than 90 degrees you get differential ailerons in which the aileron coming up moves farther than the aileron moving down. This is found in most airplanes where it is beneficial in combating adverse yaw. In a Velocity however our ailerons are so far behind our Center of Gravity that if you have too much differential you will induce a pitch change every time you roll your airplane. This would make the Velocity a little more of a handful because you would have to push forward on the stick every time you rolled to keep

the airplane from pitching nose up

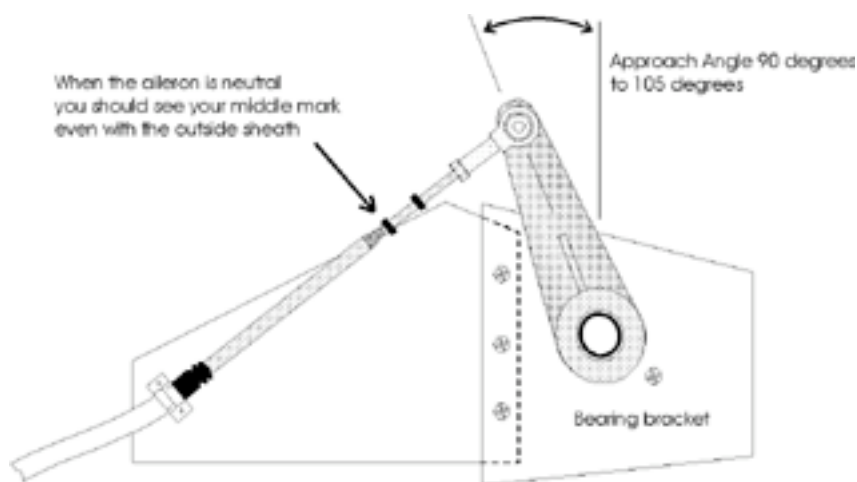
. Unfortunately most of the aileron setups we see are rigged with differential in the opposite direction. It is not uncommon for us to see flying airplanes with approach angles of 60 degrees. This gives much more down than up aileron, which is by far less effective. While at cruise this may be ok when the airplane gets slow this does not give you much aileron response.

If all this is done you should without a doubt be able to get 2 1/2" of aileron travel. If you have done everything above and still cannot get 2 1/2 inches you can put another hole in your aileron bellcranks. If you move your holes in the bellcranks towards the center of the bellcrank this will give you more aileron travel for the same stick/yoke movement. This, however, should be a last resort. Doing this creates much stiffer ailerons and takes away from the nice light feeling on the controls a Velocity should have.

Last but not least we need to talk about cable routing. Felsted push pull cables are great to work with. They will allow you to rig a control system with out it being in a straight line. There are a few things that you should know about them when used in an application like ours.

1. Any bends in the cable need to be smooth with large radiuses.

*Continued on next page*



At the back of the keel the cables need to start making a gentle curve towards the firewall starting at the center of the airplane. This means that you loose a little baggage area in the rear. If you route your cables to the side of the fuselage first and then make a sharp 90 degree turn they will be very stiff.

2. With a felsted cable the more bends you put in them the more slop the cable will have.

3. The ends of the cable need to be kept as straight as possible in order to avoid binding the cable.

When the cable meets a bellcrank at its neutral position the cable needs to be perfectly straight. If you were to disconnect the bellcrank you should not see the cable move into a relaxed position away from the bellcrank.

When rigging the control system on your airplane take your time and make sure you get the travel called out in the book. If you don't your airplane will not fly like our demo plane that you liked so much and you may be disappointed.

Remember we are just a phone call away so there are no excuses.

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**Expiration Date for Demo Deposits**

This is a friendly notice for those of you who have paid for a demonstration ride in a Velocity, and have yet to commit to the purchase of a Velocity kit. The monies you paid at the time of your demonstration ride are considered a non-refundable initial deposit towards the purchase of a Velocity kit. Velocity would like to clarify that the deposit is good for 365 days, whereupon the deposit is forfeited if a kit has not been purchased within that time period. In other words, your demo-deposit is good towards the purchase of a Velocity kit for a period of one year.

**Be Safe! Get a Flight Check prior to your First Flight!**

**Flight Check!  
Be Safe!**

Velocity Service Center Inc. offers flight training for builders/pilots to safely learn how to transition into flying a Velocity. Get a **Flight Check Out** prior to your first flight!

Flight training is available from:

- Chris Babb, CFII
- Brendan O’Riordan, CFII
- Scott Baker,CFII

The following Flight Instructors have also been approved by Avemco Insurance:

- Sam DaSilva - Seminole FL 727-595-6384
- Mike Gunvordahl - Burke SD 605-775-2952
- Mack Murphree - Dayton NV 775-246-9364
- Jim Olivi - Chicago IL 847-808-1188 (has Velocity for training)

Don't take a chance, get checked out prior to your first flight. Please note that you should be current in some other type of aircraft prior to your Velocity check out. The purpose of the "flight check" program is to transition you from flying other aircraft types (like a Cessna) to a canard pusher (Velocity).

**Factory Authorized Insurance Inspectors**

Please make note of these individuals:

Name - Location Home Phone / Work Phone

- Brian Gallagher - Murrieta CA 909-461-9990 / 909-696-0160
  - Barry Gibbons - Colorado Spr CO 719-683-8659 / 719-572-8627
  - Don Pearsall - Owasso OK 918-272-5551 / 918-474-2610
  - Mike Pollock - Sachse TX 972-530-8400 / 972-728-2725
  - Glenn Babcock - Tampa FL 813-677-2543 / 813-604-2637
  - Wes Rose - Grand Rapids MI 616-772-7235 / 616-530-0255
  - Jean Prudhomme - Boca Raton FL 954-559-4988
  - Mack Murphree - Dayton NV 775-246-9364
  - Gary Stull - Tampa FL 813-949-1297
- (Gary is an airline employee and can travel inexpensively)

# Electric Buzz...

by Wayne Lanza



## Instrument Panels

This time I'd like to share some experience that you might find useful when designing and building your instrument panel. The following content has been assembled from a compilation of tried and true practices, notable things that you don't want to do, and a short list of dumb things that we have already done so that you don't have to.

The selection of stuff available to us today is fantastic, look at the full UPS stack and think back just five years ago! How things have changed... This causes what is best described as "Trophy Case" syndrome. Some times you just can't fit all that stuff in the panel. So let's get practical and stop rationalizing why you need three coms, dual transponders, etc... Are you going to fly this airplane IFR? most, immediately, say YES. Realistically many don't fly IFR or even have the rating. You can easily spend an extra \$10k for things that you don't need or won't use, but remember that you will have to maintain it all!

First and foremost is diligence with component placement, a lot of parts make up the typical panel and make it really busy. Instruments and

radios need to be oriented in a logical format but remember that there is less room behind the panel than in front. There are several areas behind the panel that need clearance. The main areas of concern here are the edges of the panel, fuselage curvature especially across the top and on the sides, plus interference issues with the pitch spring and yoke assemblies (SUV). Most panels have the molded angle area for the radio stack and in the case of the Elite the right side of the panel is also angled. When deep parts are mounted in these angled areas you might run into a few problems where the angled parts hit other non-angled parts. If you mount a CD player in an XL just to the right of the radio stack, it might not slide all the way in. A CD player on the right side of an Elite panel could run into the side of the fuselage if not carefully installed.

The left side of the panel with the throttle/mixture cables needs attention too, don't put those cables too close to the edge! You'll need room for your hand to comfortably operate the controls and you should test fit the cable assemblies before you make any holes, the cable assemblies extend pretty far back.

Another area that will cause some real fits is along the top of the panel especially with the radio stack. The fuselage and canopy get pretty tight here and you can run out of room fast. Don't mount deep parts in this area and remember that you must allow for any connectors. If you have an XL you should add a brace from the top center of the panel to the fuselage.

If you will be installing radio trays here are a few tips to help you proceed. The trays need to be mounted to rails via #6-32 flat head screws and the rails are mounted to the back side of the instrument panel, again with #6-32 flat heads, and if possible, glue. A good way to approach this is to pre assemble the trays to the rails on your work bench, this is an easy way to work. Mount radios in their trays, stack and shim them to insure

proper spacing, then tape the trays together, mark the rails from the inside the trays, then drill & tap the holes. Next, spot a few holes for mounting the rails to the back of the panel. Don't assume that all trays have similar outside dimensions or use a common format for their mounting screws. Use 1/4"x3/4" aluminum bar for tray rails, the 3/4" depth will give you enough material to mount any tray and the 1/4" is just right for the #6-32 tray-to-panel mounting screws. Screws larger than #6-32's will have a head diameter greater than 1/4" which is wider than the rail, so they will protrude past the opening for the radios and will interfere with everything! If you've just gotta use larger screws, then go to wider stock, i.e. 3/8"x3/4" bar. After the smoke has cleared, secure the rails to the back of the panel with some 5 minute and blue thread lock. Recess the screws just below the panel surface, you'll be able to fill, sand and paint over them for a nice finish.

For parts that are mounted to the front of the instrument panel, you'll need to install nut plates to accept the mounting screws. Nut plates are easily made from small pieces of 1/8" aluminum. Secure the plates with 5 minute epoxy and a 3/32" flush pop rivets, drill and tap the plates only after they are secured for proper alignment.

When planning the panel give some thought to adding a 1/4"x1/2" aluminum stiffener along the bottom of the panel. Glue and screw it behind the panel along the molded flange all the way across the panel. This will add a lot of strength especially if the panel gets used as a grab handle for sliding a front seat...

### Do's (BEFORE LAYOUT)

- Cut, fit and mount the instrument panel to fuselage first
- Mark mounting flange outlines on front of panel so that you know what's behind
- Get complete dimensional data from your equipment manufacturers, especially with

## Electric Buzz

*Continued from previous page*

regards to radio trays. It's best to have this on hand FIRST.

Don'ts (BEFORE YOU'VE DONE THE Do's)

- Cut any holes until depths behind panel and interference measurements have been checked.
- Do not buy equipment until you know that it will all fit

Keep-in-mind's (WHILE YOU'RE DOING THE Do's)

- Pitch trim spring clearance to instruments and radio trays
- Yoke assembly and mechanical interference behind panel of SUV or as yoke equipped
- Elevator push rod and elevator counter weight locations
- Curvature of fuselage near edges and along top of the panel
- Not all radio trays are the same width and can vary by as much as 0.050". This doesn't sound like much but might cause some nasty fitting problems after you've installed the mounting rails
- Remember that all of this stuff has associated wire and/or plumbing, allow plenty of room here
- After all of that wiring and plumbing leaves the instruments, it has to go some where...

The above does by no means cover everything but it should be, at least, food for thought.

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### New Addition

The friendly voice you hear on the telephone is **Melanie Francis**, who recently joined Velocity, Inc. to help handle the front desk duties. Melanie will also be handling merchandise sales and will be working as a major behind the scenes coordinator with respects to Velocity, Inc. participation in air show events.

## Production News

*by Scott Baker*



As we near the year-end it is natural to reflect on the developments involving our business during the last twelve months. January was filled with anticipation of the upcoming first flight of the Brazil wings, to be followed by the crushing (literally) reality further design work and testing was needed on the winglets. The shocking news of Brendan O'Riordan riding "Bob 1" to a nearly uncontrolled off-airport landing affected all of us who were at the Velocity Open House in February. Many prayers were answered when Brendan was released from the medical center and then smilingly walked into work the next day. While we went "back to the drawing board" on the winglets, foam core fastbuild wing production was accelerated in earnest. Velocity production foreman, Daren Johnson set up a dedicated in-house fastbuild wing production program to compliment the fastbuild wings that were contracted to Danny Maher. Danny Maher, as you all know, developed the Velocity design and founded the company in 1984. Additional outside help was found in the form of "schmooie" expert John Fleming (formerly with Dynamic Wing) to work on wing finishing. Foam setting jig tables were constructed and make for quick, easy, and consistently accurate placement of not just the foam cores, but the winglets as well. Guests attending the "Helping Hand" program in the wing building area are able to "skin" their wings, top and bottom, within a week. This includes the installation of the navigation and communications antennas, and the



*Lambert Kneifel working on new mold of center section keel*

"skinning" of the canard and winglets. Jim Parrott (see photo above) is our in-house expert on the placement of the foam cores, seen here working on "buttering" a section of canard foam.

Throughout the year Daren and our team of people have been making improvements to the kit building process. Some things go unseen and are done to improve the way we go about making parts – things such as refurbishing molds, and designing new tools to accomplish work more quickly and accurately. Some improvements are in the form of new parts to make things easier for you the builder – parts such as wing



*Jim Parrott working on canard foam*

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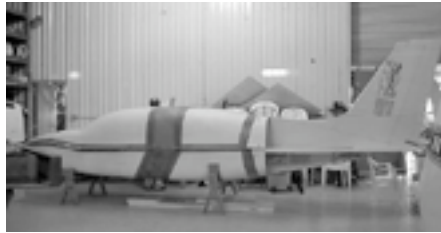
## Production News

*Continued from previous page*

root ribs (forward and trailing edge) and molded canard wing tips, which save hours and hours of building time. A recent note on the Reflector reminded me of a WWII story about General Patton, who's troops were advancing so rapidly that they were "off the map". When told about this the General reported, "To H\_\_\_ with the map! Our boys are gaining ground!" Our manufacturing people are also gaining ground, producing parts that aren't in the manual. This is a lot like putting the cart before the horse, but if – in the long run – this helps the builder, than why not? We "office types" are working to catch up with manual updates – which I pledge will be a priority in 2002.

I have noted a steady change in the character of homebuilt aviation from one of experimental hobbyist to that of customers who are willing to ...how shall I word this ...endure participation in the construction of their aircraft. Interestingly, just about every builder who "endures" turns out to love the experience of building his or her own aircraft. Most of you are professionals. About 50% are purchasing fastbuild options (up from about 33% a year ago). Velocity XL models outsell all other models on about a 4:1 ratio. Just about everyone is planning on full IFR instrumentation, including the latest in moving maps and GPS technology. Most are discriminating with their choice of paint schemes and interior appointments. Today's "homebuilt" Velocity is easily mistaken as an exotic, production aircraft on par with a luxury Mercedes. A growing number of folks (about 40%) are selecting fixed landing gear models. This is due mostly to changes in the insurance industry, which favor fixed gear aircraft.

September 11th had a devastating effect on the aircraft industry. The number of people who purchased Information and Video Packages and those who visited the Velocity website ([www.velocityaircraft.com](http://www.velocityaircraft.com)) were markedly down, but



*Side view of development of twin-Velocity*

kit sales continued without interruption. Looking at the news of Mooney Aircraft and Micco Aircraft closing their doors, and Piper undergoing large lay-offs – we at Velocity, Inc. feel sincerely blessed with our current orders and a great outlook for 2002!

What's in store for the coming year? Perhaps the above photo will offer a clue! Velocity, Inc. is moving ahead with the development of a twin-Velocity, shown here being "fitted" for its vertical stabilizer. Stay tuned for more developments!

## AOPA Expo at Ft. Lauderdale

This years AOPA Expo was held in sunny Fort Lauderdale, Florida – home of 10,000 yachts and for a few days at least, 80 or so aircraft at the Ft. Lauderdale Convention Center. Velocity joined the parade of aircraft, which made headlines by taxiing the approximately 4-mile journey down city streets from the airport to the convention center. City officials temporarily removed street signs and trees to allow the safe passage of the aircraft moving to and from the convention center. A special thank-you is given to Nate and Rhonda Gutwein for the loan of their recently completed and beautifully built XL-RG, which features dual control yokes in lieu of single control stick.

Attending AOPA is always a pleasure, and this year was no exception. The weather for this early November event was absolutely beautiful. Most AOPA members are unfamiliar with the kit-built aircraft industry – and are surprised to learn that the Velocity is a homebuilt. Velocity has for years been the only kit-built company in attendance –

and so it was great to see 3 other kit-built manufacturers at the Ft. Lauderdale program. Slowly but surely the AOPA public is being introduced to the concept of Experimental-Amateur Built aircraft, which means that we aren't having to fight as many "up hill battles" in explaining to folks, "Yes, you can do this!"

## Velocity Service Center Expands

We've done it! Run out of space, that is! With the Velocity Service Center beginning to look like a rat's maze, we have begun work on a 40x60 aircraft storage building that is being parallel parked next to the existing Service Center building. The framework for the modified Quonset (shown below with "iron workers" Brendan O'Riordan and Allen King) is up, and by the time you read this edition of Velocity Views, the building will be complete. The building will be large enough to store four fully assembled Velocity aircraft. This is going to offer welcome relief to guests in the Service Center who have been complaining about doing "duck walks and low crawl" under adjacent aircraft wings.

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*Brendan and Allen King working on Quonset building*



# Builders Forum

Builders Forum is full of tips, information and letters ("material") supplied to *Velocity Views* Newsletter from individuals that are Velocity builders (or want to be builders). It is provided as "USE AT YOUR OWN RISK" material. Neither Velocity Inc. (The Velocity Factory) nor *Velocity Views* Newsletter (Lavoie Graphics & Rick Lavoie) have endorsed this material, and disclaim any liability for the use of this material. Individuals who use this material for the operation, maintenance, or construction of their homebuilt aircraft do so at their own discretion and at their own risk. Any variance from the builders manual is high risk.



## First Flight for Velocity N913GS

by Gary Stull

I purchased a kit in '95, a pre Elite kit. Being an A&P for Delta Airlines for over 20 years now I always have been involved in general aviation even though I work the "heavy iron". In September 2001 I moved 913GS to the airport. The weekend after 9/11 I had it signed off for flight, but as we all know I couldn't fly. After about 1 week I called the EAA to ask what the deal was, I was inside an enhanced TCA. They informed me that there was an exception for manufacturer's test flights, which I qualified for. After a discussion with St. Petersburg flight service station, they informed that yes I could fly! On a Saturday morning I arrived at the airport waiting for the morning fog to clear with my parachute. Although numerous friends and family wanted to witness the first flight, I didn't want the pressure of an audience watching me. In the event it didn't feel right I didn't want to feel compelled to take off. About 10:00 AM I lined up on runway 26 at Tampa Bay Executive airport. Throttle up, a few taps on the brake for alignment, airspeed 65 kts, slight back pressure and WOW I'm flying! It performed exactly like the factory model (thanks Nathan!).

A little air time (pictures included) and I'm back ready to land. A little apprehension about landing, but again no surprises. Touch down, rollout, turn off at the second taxiway. Actually anti-climactic! Now a little plug. I'm one of the designated inspectors for insurance requirements. Being employed with Delta allows me to fly for free, so if someone needs an inspection in an area not covered by one of the other inspectors I'm available. I only request a little flexibility in scheduling an inspection, since I only fly if there are seats available. Another comment about Performance Propellers. After 11 hrs. flying time I noticed a large (approx 6 in.) crack in one of the blades. There also was a

small crack in another blade in the same area. After Clark received the prop he informed me he would replace it no charge. I bought the prop over 18 months ago, so this was definitely above and beyond! He was surely entitled to pro-rate the prop, but he elected not to. 'Nuff said. I still would recommend them. I still have a few bugs to work out with cyl head and oil temps, but it's minor stuff. I really can't express how easy the construction was. I'm sure it was easier for me than someone not involved with aviation, but it really was straight forward. Thanks Duane & Scott for the assistance!

••••

### Factory Information



#### Velocity Inc. Factory & Home Office:

200 W Airport Rd  
Sebastian FL 32958 USA  
Ph: 561-589-1860  
Builders Hot Line:  
561-589-0309  
Fax: 561-589-1893

#### Builders HOT LINE

Please remember that on weekends and after hours, we do not answer the 561-589-1860 phone number. Our unlisted builders hot line is 561-589-0309 and, if we are here, this is the only number we will answer.

#### Internet web site:

<http://velocityaircraft.com>

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#### Builder assistance:

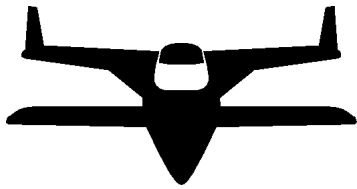
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John Ewins  
925 820 3136  
sniwe@earthlink.net

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**For Sale: DG Directional Gyro,** model DG02V-3 New, still in box, \$325.00 Contact Dean Norris (512) 868-2912 or deannorris@mail.ev1.net

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<http://lavoiegraphics.com/velocityrg/n570.html>

e-mail: lavoie@aug.com  
Rick Lavoie 904-461-6912

## Classified ads

*Continued on next page*

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 e-mail: [jiann@adelphia.net](mailto:jiann@adelphia.net)

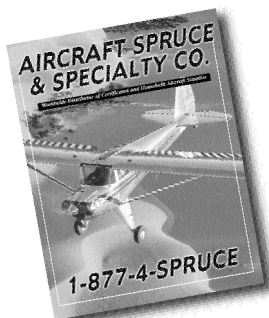
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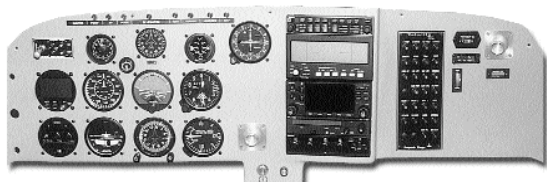
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*Velocity Views*  
is published **Quarterly** by:

**Lavoie Graphics**  
26 Marshview Dr  
St. Augustine, FL 32080-5873  
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904-461-3146 (fax)  
e-mail: rick@lavoiegraphics.com

*Velocity Views* newsletter is published by Rick Lavoie / Lavoie Graphics as an agent for Velocity Inc. (the factory). Prior to printing, the factory reviews each volume published for accuracy.

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