

# VELOCITY VIEWS

Volume 17

## Dan Cunningham's First Flight



*N418DC, a Velocity FG Elite built by Dan Cunningham, of Bismarck Illinois.*

Starting from the beginning, we drove to Sebastian to pick my kit up the last of August 1995. I remember getting it home and looking at all those parts & pieces and thinking what have I got myself into, can I ever finish a project of this magnitude? Then I rationalized that if I spent 1000 hrs. a year I should finish in two years. Well 3 years and 3300 hrs. later I thought I was finally finished, but to my surprise when I attempted my first runup, the IO 360 did not develop full power. This is one problem I had not planned on since I had purchased this certified engine with 150 hrs. and log book. We finally decided to pull a jug to see what kind of shape the engine was in. It was pretty well worn out. To make matters worse I had to drive 700 miles to pick it up, paid \$10000 for the engine and now the guy was nowhere to be found plus I had to come up with another \$13,500 for the rebuild. This setback cost me another

3 months before the engine was back in the plane and ready for certification. There is a lesson here that maybe will save somebody else some money, grief and maybe their life. I know I am glad I found out about this engine on the ground and not on my first flight.

Now for the trials and tribulations of building your own airplane. When I started building my Elite, I was between manuals using some of the old practices on most of the project, then finding out later that some things were a little different and had to be changed. Then at one point early in the project my hands broke out in blisters all over. I have never had allergies to anything so I figured it had to be the epoxy. Well to my surprise, the doctor said it was a reaction to the powder in the latex gloves I was using, and he must have been right because I switched to a

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## Cunningham's First Flight

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unpowdered nitrel rubber glove and had no other problems.

With all the little problems and questions that come up I don't know if I could have finished my project with out the help of the Swing's and Velocity personnel. They have always been very patient and helpful and when I think about how many times they most likely answer the same questions, it must get very trying.

About my plane, it's a Velocity, fixed gear, Elite, DMO331, N418DC. I built everything except the upholstery on the seats. I also had the radios pre-wired but did my own instrument panel and wiring. Most of the frustrations of the building process began to fade as paint and upholstery took shape. The painting process was no small job. Before we were finished we had spent 2 months working 10 hr days 7 days a week. We sanded, filled, primed, sanded, filled pinholes, primed, sanded, before the paint went on. We decided on a base coat clear coat epoxy system. The paint was laid on by Chuck Johnson, who professionally paints custom designs on new pickups, and I must say he has done a fantastic job on my plane. He also has commented that he didn't want to do another darn airplane. Seems there's a lot more surface area on a airplane than meets the eye.

As for training, I am very glad I went to the factory for a check out with Jeff. At the time I had about 100 hrs. and half of those were in an ultralight. So needless to say 90 kt. approaches looked very, very fast. The amazing thing about the Velocity was I found it lands a lot like the ultralight except for the speed, I fly it to the runway without much of a flare and let it settle on. The training gave me the needed confidence that I could fly my own plane.

As for first flight I still felt I needed a professional. Velocity recommended Sam DaSilva who flew up from Tampa Fl. to fly first flight. I tried to make sure I had everything ready for him but we found the



brakes had air in the lines and had to be bled. Finally late in the day he taxied out for a high speed taxi, which went well, then he taxied back for first flight. It was August 26th; as he rolled down the runway and lifted off, it hit me that I had built this machine and it was actually flying, oh what a feeling. He was up for about 20 minutes before oil temps started to rise, when they hit 230 he decided to bring it in.

Sam gave the plane a good bill of health and had to be taken back to the airport to catch his plane, the rest was up to me.

The oil temps were corrected by cutting more out of the exit scoop and I hadn't siliconed around the oil cooler – seems air was going around it. My first flight came on Sept. 2. I took it up to 4500 feet at full throttle, since the engine had been rebuilt they wanted the engine run wide open for at least an hour at a time. The oil temps stabilized at 215 so I stayed up for over an hour everything went great, I just couldn't believe how well the Velocity flies,

it's a dream to fly. I am still tweaking things such as wheel pants, which I built too close to the top of the wheel and burnt a hole through the top of the pant. Had to add ram air, mixture was running too rich. What a difference; it added another 150 rpm. Rudder cables pulled out of clamps and had to be re-crimped only this time I threw the swaging tool I got from Aircraft Spruce away and used my fence crimpers that look like boltcutters. I have 16.3 hrs on my Velocity and still tweaking....can't wait to get the 40 hrs. flown off so I can go somewhere.

Bottom line, was it worth it? You bet. I can't describe the feeling of pride that happens when people stop by the hanger and they just are amazed that someone can build a plane this nice. Or you're taxiing out to take off and someone stops you to take a picture. Or the feeling that overwhelms you as you fly over your hometown in something that you have built, especially when it flies so great. Keep up the good work.

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# WHITES LIGHTNING "66" N19DW

*From Don White*



*"White's Lightning", N19DW, owned, built and piloted by Don White of Orchard Park, New York.*

The pictured WHITES LIGHTNING is a Velocity XL/RG, built to replace the original aircraft that first flew in July 1991. My original Velocity FG kit #13 was destroyed in a hangar arson fire on May 31st, 1997, at Buffalo Airfield NY. The "66" refers to the 6 months and 6 days required from time kit was received, Feb 2, 1998, 'til the first flight on Aug 8, 1998. Jean Prudhomme working 5 days a week and I working 7 days a week built the aircraft at his hangar at North Perry Airport (Hollywood) FL. Each of us put in about 1000 work hours to get it in the air. This time did not include exterior paint or interior finishing. Jean feels he could reproduce the same aircraft in about 1500 hours since his production is about twice as fast as mine. The fast build kit was delivered to our hangar at 9am Feb 2nd by Travis and 12 hours later a tornado ripped through the airport destroying 40 airplanes and damaging 40 more. Fortunately there was no damage to our hangar or kit and tornado was not a bad omen for us. Jean flew the first few flights and they went well except aircraft was very light on the nose. Original empty weight was 1660# prior to adding a second battery (27#) plus a

25# weight under right side brake pedals when flying alone. Now the plane flies very straight and smooth with the 260 HP IO-540 Lycoming engine and MT hydraulic prop. My airspeed reads considerably high at cruise but GPS speed appears to be right at 200mph (176knots) cruising 2400rpm, 24"mp and burning about 12.7 gph. Fuel capacity is about 67 gallons. 100 knots gear down, 90 knots on final and 80 knots over end of runway works beautifully for landings. A few notable changes from factory plans were:

- 1) RBH: Really Big Access Hatch in the nose makes for much easier maintenance
- 2) added lower winglets (now recommended by factory)
- 3) changed engine cowling attach flanges as Jean had done on his first XL
- 4) used only one extra large oil cooler up in the nose (15 cooling sections)
- 5) only aluminum oil cooler lines run thru left side tunnel plus air scoops at front and rear of tunnel for cooling of lines.

Note: I have seldom seen over 200 degrees oil temp even on 95 degrees Florida temps so oil cooler setup is

working well. The major temp problems are CHT with the down draft plenum cooling. However new piston rings or timing a little off could have been the cause as temps are improving. The Jeff Rose Electroair solid state ignition on 6 bottom plugs and the Navaid Auto Pilot both work great. So far the Nat Calvin short door cylinders work fine except do not appear to hold doors up to top in windy conditions as well as old long cylinders. I have the RiteAngle of Attach indicator kit but have not had a chance to install it yet. It is less than \$400 with a mechanical angle measuring arm. I plan to mount 7 light indicator just below windshield so will reflect off windshield as a heads up display. So red and green lights should be easily seen while looking out windshield for landing. Will report results later. The only problem in flight was it flew left wing low in order to maintain a straight course. We discovered that the left rudder had to be moved outboard 5/8" at its bottom trailing edge in order to correct the problem. In other words the right rudder was reflexed outboard about 5/8" from the outboard surface of the winglet, as it should be, to provide a little airload on the rudder, but left one was not. This was due to the way we jiggered it during construction. Anyhow airplane flies perfectly straight now with autopilot trim control in dead center. This apparently small error made a huge difference in the flying characteristics. Landings were much harder in beginning because plane continuously yawed to the right. A really big thank you goes to Jean for the speedy and excellent construction of my airplane. Jean is probably the fastest builder of composite aircraft in this country, maybe in the world, and the results confirmed that reputation. We made many other small changes and improvements which we hope to report on later. In the meantime I will be out flying this great, very comfortable, x-country flying machine. I have been to New York and back so it has some long distance legs already. Will be happy to try and answer any questions.

# Photos & Tales: The River Ranch Fly-In

**T**HE VELOCITY RIVER RANCH FLY-IN was held the weekend of November 14, 1998. Forty six of you signed up for Velocity factory's annual Florida fly in and what a great couple of days we had. Unfortunately, only five Velocities (excluding the factory) flew in. Outdoor BBQ at the airport, great meals in the Branding Iron Restaurant, a rodeo, air boat and ultralight rides, spot landing contest and peoples choice aircraft judging, plus much more, made this a very relaxing and enjoyable fly-in.

We had a three way tie for the spot landing contest. The judging consisted of award points for the closest of the two landing tries and an average of the two. Closest to the spot was our own Brendan O'Riordan at 35 feet, best consistent average was Mark Teeter, and overall with spot and average was Rick Lavoie. Aircraft judging winner was the beautiful Elite RG of Mark and Ken Teeter and Joe Fine, all of Chattanooga, Tennessee. Second place went to Rick Lavoie, and third place went to Jack Fehling.

Those in attendance have all indicated that perhaps an annual fly-in at River Ranch would be in order. More on this later.

Mark and Ken Teeter have indicated their willingness to have a Chattanooga fly-in in the spring. What do you think? Let us know if you would be interested in being a part of this fly-in. It is a lot of work to do this and it isn't fair to the Teeters unless a goodly amount of you are interested in attending. This is especially true of those of you who are flying. We are just not getting enough of you to attend these fly-ins to make it worth the large amount of effort needed.

For those of you out in the Western US. Why not contact Mark and Nancy and give them your will-



*Left to right: Ken Teeter, Joe Fine, Lindsey & Mark Teeter from Ringold, Georgia & Chattanooga, Tennessee flew down in their Velocity LW RG Elite. This plane has a beautiful finish. I'm predicting it to be a trophy winner at Sun'N Fun & Oshkosh!*



*Don White flew "White's Lightning" all the way from Orchard Park, New York. Don's new Velocity XL RG is his second Velocity!*

ingness to set one up out there or volunteer your time to help Mark and Nancy set one up in Lincoln. An all day bus trip to the wine country would be a great way to start. They are a lot of work and Mark and Nancy do not have the manpower

we have in Sebastian to do everything themselves. A Velocity fly-in is really a lot of fun and you will get the chance of meeting a lot of great Velocity people.

*Duane*

*Continued on the next page*

# More on the River Ranch Fly-in

by Rick Lavoie

Something is wrong. Checking back at participation for previous annual fly-ins, we should have had about 90+ show up for the River Ranch fly-in! For example, on Nov 2, 1996, we held the annual Velocity fly-in at St. Augustine and had 68 Velocitites attend, with 17 aircraft. Since 1996, the flying fleet of Velocitys has doubled, plus the Velocity family is much larger. Thus, I figured that with such growth, we'd have 90+ sign up for River Ranch. Instead we had only 46 sign up, with 37 Velocitites attending. If you subtract the the Swings and Lavoies, that leaves just 28 attendees!

Duane and I need to learn from this experience. We need your direct and honest input on future "fly-in" activity. An informal survey if you will. Please send your input to either me or Duane via mail, fax or E-mail. We are interested in any input you may have as to why only 28 people

showed up at River Ranch. Here are some thoughts from our notes for you to consider:

- Was it because we held it at River Ranch? Country theme?
- Was it the time of the year?

The Factory is willing to sponsor up to 2 fly-ins per year. Our thinking

is that one would always be in Florida, and the other one would be moved around from region to region (example; the Teters have volunteered to host one in Chattanooga).

The ball is in your court. Let us know what you'd like us to do for future fly-in events.



Left to right: Jack, Joni, and Matt Fehling flew their standard Velocity RG up from Jupiter Florida. N49JF is still in primer pending some final oil cooling mods that Jack just completed. Jack also flies "Yellowbird", a Vari EZ... one for fun and one for trips!



Darla (Lavoie's Springer Spaniel), enjoyed all the attention she received from her new best friends Riley & Whitney!



Riley and Whitney Swing had a great time! River Ranch has lots to do for kids (pony rides, petting zoo, etc.), but the thing they liked best (besides Darla of course), was when the irrigation water system went on during our campfire storytime!



by Duane & Scott Swing

## INSURANCE COMMENTS

Some of you wonder why my hair is turning white and my patience is running thin. The letter that follows is from one of our builders in response to my last Views editorial on Insurance. Some of the things that he said make sense, other things are less than kind and just flatly make me mad. Am I overreacting? You be the judge.

10-03-98

Dear Duane,

I have just finished reading your "Insurance Update" in the latest Velocity Views (V16) and my only comment is it is the most ludicrous collection of obtuse comments I've seen in a long time.

Let's examine the comments starting with "Avemco will require a minimum of 500 hours..." That is five to ten years of flying for the average private pilot. Is the Velocity such a difficult plane to fly that it requires this much experience? Is it that high time pilots become more conservative and demand higher quality construction and components? Let's face it, there are a lot of homebuilts out there with shoddy construction and sub standard components (e.g., lamp cord wiring, worn out or poorly rebuilt engines, etc.). Many home built manufacturers promote this construction by use of their construction cost handouts that show low ball construction costs. Additionally, the construction manuals require the builder to apply common sense and in many cases make design decisions that the individual may not have the background to make correctly. Remember, everyone's "good enough" & "close enough" is not the same and may exceed the limits of safety. I have almost 600 pages of builders log that might surprise you how many times I found the instructions confusing, missing, or conflict-

ing.

"I will expect other insurance companies to propose similar plans..." Why not, we both know that Avemco is part of a conglomerate that assures that each member gives like quotes and has like policies. "...Conducted by a factory authorized CFI." OK, so where is the list of factory authorized CFI's? "...either in Sebastian or Lincoln." Do you expect Velocity builders from around the world to come to your locations to get their sign off? Why can't a "factory authorized CFI" perform this training anywhere?

My favorite is "One of the problems... the amount of insurance our builders are putting on their airplanes ... equal to replacing a totaled airplane". The last I knew that was the reason a person insured something. Somewhere in my business experience I must have missed something, the last I knew, at least with the major insurance companies supported, they loved to have things over insured since it meant higher premiums and they only paid replacement costs. In fact, a number of insurance companies were taken to court for over valuing houses to boost their income. The only reason I knew for increasing rates or disallowing insurance was based on claims not over insuring.

"I always felt that my labor was worthless and therefore did not include it as part of the airplane value". And why should you, it's your business and I'm sure that you are well compensated for your work so we the builders pay for your labor! Your labor may be "worthless", however, your builders' is not. There are many of us who could make considerable sums of money for the time we have invested in our aircraft, so to say that our time is worthless is an insult. Further, there are many of us that don't have another three years of our life to give up to build another aircraft.

How about "we insure our XL for \$80,000". Oh sure, you get everything at cost, don't pay sales tax, I'm sure that you have a number of items donated, you get to depreciate the costs, you tend to use cheaper engines (180 hp vs. 200) in the Elite & 260 hp vs. 300) in the XL), don't pay rent for building space or hanger, need to buy tools, and I bet that you don't keep accurate records of your real glass & epoxy usage, bolts, clamps, wire, etc. I can tell you that of four people that I know that built 173 Elites with pre built wings every one of us ran out of epoxy and glass at the same point. I have serious doubts that the schedule of materials have been updated in years.

My plane isn't finished yet and is currently insured for \$85K. That is less than my actual costs and Gail keeps very accurate records. It also doesn't include my labor so maybe you should reevaluate your real costs.

Before you accuse the builders of overvaluing their aircraft, I challenge you to take an XL kit, Dynamic Wings completed wings, and all of your additional components like install kits etc., take the selling price and add the sales tax as a start, add a good rebuilt 10-540300 hp at about \$25K minimum, open up an AS&S catalog and add up all of the remaining items like avionics, auto pilot, flight instruments, nuts, bolts, washers, wire, everything you need to build the XL and you better throw in sales tax for good measure since many of us have paid a lot of it! I think you might be surprised at the real cost.

Don't try and blame the builders for the cost of the insurance, blame the builders that have cost the insurance companies a lot of money because of their claims.

I feel that it is an insult for you to presume that you have a right to value my time or labor and you surely have not the slightest idea of what I have invested in my airplane. You owe the builders an apology.

*James Agnew  
Tampa, Florida*

## DUANE'S REPLY:

Just for the record, we kept accurate records of the cost in the building of our Velocity XL. We built our own wings and everything else. The price of the completed XL was \$90,880. This included pricing of the kit at \$38,000 and items directly out of our options catalog. Nothing was donated, the engine cost us \$20,000, and the M-T prop cost us \$9000. (This was the selling price when the XL was built). We used an overhauled 260 horsepower Lycoming because it WAS cheaper. I could afford to put in a new 300 horsepower if I wanted but that is not typical of an owner built airplane. The \$90,880 price (before depreciation) was taken directly from our price list on the airplane and from the options catalog and included such things as the interior kit, engine install kit, retract pre-wire kit, Whelen strobe kit, flight instrument package, pre-wire switch panel, a \$10,000 radio allowance, \$1,000 painting allowance (yes, we painted it ourselves) and even included a \$600 crating cost. Just like everything else we own, we have depreciated the airplane over the past two years and now value it (for insurance reasons) at \$80,000. I personally, don't like to pay any more premiums than what I feel comfortable with. As to those of you who want to insure your Velocity for the "book" value. I have no problem with this either. Most of you already know what your airplane is worth on the used market.

I still have a problem with Velocity builders over insuring their airplanes. I'm not likely to want to fix anything on my \$80,000 (market value) Velocity if I have it insured for \$180,000 with a \$250 deductible. FBOs don't know enough about composite airplanes to be of much help either. Their attitude is jack the repair price up super high because the insurance company is going to pay for it anyway. Keep in mind that these comments, for the most part, came from Avemco, not me. I suggested several years ago that Avemco revise their deductible policy to prevent this type of thing from

happening. I suggested a 5% to 10% deductible which would force the builder to "fix it himself" for some of the smaller claims. Avemco said all this would do would be to force the repair bills up even higher so that the deductible would be covered by the FBOs doing the work. They couldn't imagine that the builder might have the knowledge and skill level to fix it himself. I also suggested that a good factory checkout should take precedence over a fixed number of pilot hours. In our experience there were many 75 hour private pilots who were much better and easier to train than 5000 hour ATP's. Avemco rejected this idea also stating that historically the greater number of hours logged, the less chance of an accident. Avemco is not the kind of company that cares what you or I think.

As to a factory check out with our CFI. Yes, I do expect our builders to either come to Sebastian or Lincoln for a check out even if the insurance company does not require it. I have preached this to our builders long before the insurance companies decided to make it an issue. We want our pilots to know the flying characteristics and emergency procedures of the Velocity before a problem comes up in their own airplane and the pilot hasn't a clue as to what to do. It may be an inconvenience to some of our pilots but let's look at the brighter side. The Glassairs and Lancairs have training in only one location.

As to an apology to you, our builders. If this editorial offended you in any way then I do apologize. My comment about my time being worthless was not to imply that your time is worthless. Building an experimental airplane is supposed to be for education and recreation, in the same way that playing golf is for education and recreation. How much is your time worth when your on the golf course? It wasn't written to offend, just to offer some reasons for the problem we face and some solutions that was suggested to me by Avemco that might help.

Remember, Avemco is not likely to listen to our side of this issue.

## NOVEMBER 7th OPEN HOUSE

Over 40 of our builders, and those who wish they were, attended the Nov. 7th workshop. Martin Hadley gave a very good presentation of some of the things he is proposing for the Velocity. He will have a pre-wire package ready soon that will give the builder the chance of wiring his airframe in a fraction of the time normally required. In addition, all the wire and terminals will be aircraft quality and bundled properly. Our new Options Catalog will have the prices on this package.

We also talked about first flight preparations, Lycoming engine installation and Scott provided a fiberglass workshop. The food was great and I believe everyone went home satisfied.

We look forward to our next "Open House" on Saturday **February 6th**. The following workshops are planned:

- Don George engine (FAA repair station) will run a workshop on engine operation and maintenance.
- Upholstery & interior installation workshop
- Hands on fiberglass workshop

## NEW FACES AT VELOCITY

**Shirley Nigro** is our new receptionist and girl Friday here at the factory. Shirley is new to the airplane game so be patient with her when you call.

**Brendan O'Riordan** joins us as a replacement for Jeff and also as our flight instructor. Brendan will wear many hats in the coming months including doing our demo flights, instructing, selling and spending time at some of the air shows. For now he is our purchasing agent and has studied the manual and is working on the SUV for help in answering builders questions.

# Kit Plans Changes "KPCs"



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 091

Affects: All Standard retract Velocities  
Manual Section: 8.2  
Date of Change: 30 November, 1998

Change paragraph 3 to read:  
"Make sure you haven't forgotten the 7" x 33" one ply triax reinforcement on the fuselage floor between the firewall and gear bulkhead. See Chapter 5 section 5.3.3"

## KPC 092

Affects: All XL Velocities  
Manual Section: 3 (2 new pages at the end of the chapter)  
Date of Change: 17 September, 1998  
Mentioned in Newsletter Vol 16, page 6. Has to do with pre-molded winglet bottoms and how they are installed.

## KPC 093

Affects: All Velocities with Elite Doors  
Manual Section: 11.3.3 (2 new pages 11-16a, 11-16b)  
Date of Change: 17 September, 1998  
Mentioned in Newsletter Vol 16, page 9. Has to do with a safety latch on the pilot side and is now incorporated as part of the plans.

## KPC 094

Affects: All XL Velocities  
Manual Section: 17.6, 17.7 (3 new pages 17-15, 17-16, 17-17)  
Date of Change: 14 January, 1998 (Incorporated into plans form 17 September, 1998)  
Information referring to firewall mounted oil coolers.

Contact the factory if you need any of these new pages.

# Builder Construction Notes

By Scott Swing

## RG Aircraft:

With your main gear legs retracted (gear up), if one of your legs hangs just a bit, there is a way to take up the slack. The rod end that is at the end of the main gear cylinder allows for some movement to accommodate a slight difference in the up travel of the gear legs. However, if this does not give you enough adjustment, there is another method that will give you plenty. This method involves making two steel plates (bracket) as shown in the drawing at the bottom of this page.

These plates make a sandwich out of the rod ends. With all three rod ends lying flat instead of vertical, you get much more movement. This will require 3 AN 3-6A bolts, 3 MS 21042-3 nuts, 2 AN 960-10 washers (5) optional. The center rod end is fatter than the two outer ones and washers will make up the difference. You have just enough bolt length to add washers to the bottom but that is not necessary for the loads it will see.

## RG Over-Center Linkage:

Many newsletters ago we mentioned a change in the over-center linkage that applied to the new style of linkage. The new linkage being the one with the bent tabs welded to the ends of the link to make up the fork as compared to the old style with the u shaped ends welded on. This new linkage was found to be inferior in strength in the fork end area and gussets were added. This change actually made it stronger than the old style. Since the gusset

went on the inside of the fork, the top of the gear leg had to be rounded slight in some cases to clear the gusset. At the time, we told everyone that they could send the linkage back for modification at our cost or we would send the gussets out for them to weld on. Most all of you did just that. Recently we had one come back all bent up and it took much longer to do the mod. Please, if you still have one without the gussets, send it in.

## RG Spacer Adjustment:

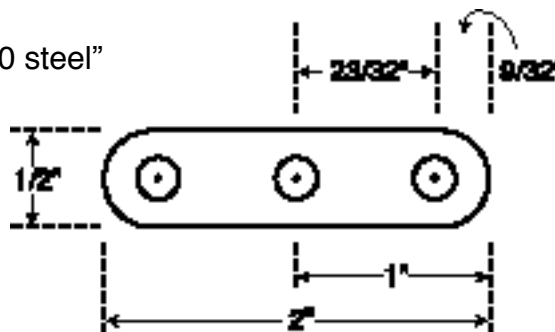
We have had some planes come into the shop that still have not got their gear adjusted correctly. They seem to have the same thing in common. The spacer length is not correct. Remember that the adjustments on the cables are only done when the gear is down and locked. Do not try adjusting the up travel of the gear with the cables. The spacer length determines the up position of the gear. On the nose gear the rod end adjusts the down position and the spacer adjusts the up position.

## RG Horizontal Bulkhead Trimming:

Some have found it hard to figure out what the up position will be so they can trim those horizontal bulkheads. The plans mention the kink in the gear for the small wing RGs and also for the XL. It even shows where the kink is. Make sure you use this for your guide so you don't remove more of the bulkhead or gear than

*Continued on the next page*

Make 2  
.063 "4130 steel"





## Builder Construction Notes

*Continued from previous page*

you have to. Remember that when your wheels and tires are installed, they don't go through the strake top.

### All Aircraft with Down Draft Cooling/Plenums:

1. It is best to temporarily install the exhaust system before installing the intake runners to the plenum so you can get clearance. Let us know if there is a problem with your installation since they are all slightly different.

2. Make sure you silicon or somehow fasten the Plenum to the cylinders front and back. If you don't do this, the plenum will open up and let the air out. This will cause high CHTs. Also, the tubes that run into the plenum go right at the top rear of the plenum. The entire inlet is in the back end of the plenum. They are also at the outer edges of the plenum.

3. As you know we offer the exhaust system that go toward the firewall then down and back slightly. This gets the exhaust away from the prop and makes it easy to install the cowling. We recently tried an exhaust system for a Berkut that works its way back through the air outlets. This is neat because they are not visible. We had a problem with it getting the prop hot but we were told that if we index it properly, the exhaust would miss it. We never tried this but based on the speed data, it didn't justify pulling the prop and changing the position. We may try it again or if one of our builders would like to try it or buy it we may be able to work something out.

### Pre-molded Gear Boxes

RE: All planes with pre-molded gear boxes.

Note: When leveling your aircraft from side to side use the tops of the gear boxes and the top of the canard bulkhead to level your plane. Do not use the flanges on the airplane.

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## Safety Corner

Accident & Incident Reports,  
Maintenance & Service Difficulties

### Service Notice

Lynn Gallup called me the other day and related the story about his door (older style) had slammed shut and the stops on the locator pins (they look like wide area washers) went past the Hartwell latch claws and he spent several hours getting the door open. Lynn ask if this had ever happened before and what could be done to prevent it in the future. The answer is yes, and the cure is quite simple. Machine, or grind, the stops off the locator pins so they will no longer be a factor.

### Service Caution

Bob Hunt also called to relate a problem he had with his oil lines that run through the ducts. This is an older airplane that did not have the shrink tubing over the lines and the fiberglass rubbed a hole in the aluminum lines and resulted in a serious oil leak. On N81VA (the factory airplane) we removed the non insulated oil lines at the 2000 hour mark to check for any possible problem and found none. We installed new lines with the shrink tubing as a safety measure. It would be a good idea for any of you flying with out the insulation to immediately remove the old lines and install new ones with the shrink tubing.

### Service Caution

Jim White called several times regarding high oil temperatures on his Lycoming 200 hp engine. We had done just about everything we knew to solve the problem but nothing was working. We have suspected the Lycoming vernatherm valve could be a cause of some of the high oil temperatures and suggested he check it out. What Jim did was to remove the rather thick gasket and install the

vernatherm with a liquid gasket. This put the valve closer to the seat and lowered his oil temperature by 20 degrees. I would suggest that it might be better to machine the head of the vernatherm down where the gasket would normally set and use the gasket instead of liquid gasket. It would seem the best direction would be to replace the vernatherm with a new one but I know they are very expensive and if a simple fix can make it work, then why not.

### Service Notice

We also had a call from one of the Franklin Velocities who lost his engine driven fuel pump when the set screws that holds it in place worked out and allowed the fuel pump housing to move up to where the pump plunger no longer was engaged. He restored power with the electric pump. It would be a good idea to put this set screw in with removable Loctite and secure it with another set screw on top of the first one also using Loctite. Don't use silicon as it will deteriorate in time with the lubricating oil.

### MORE PROP CONCERNS

We have all heard the bad mouthing toward IVO and his Magnum propellers. Constant torquing is a necessity. But what about a wood fixed pitch prop? Here is a true story of how important proper torque is on any prop. A 5 laminate (deMuth) prop was installed on a Velocity to be delivered from Florida to California. The prop had been setting on a shelf at Velocity for a couple of months and no doubt had a higher moisture constant than normal. It was properly torqued and safety wired prior to the flight. By the time the airplane

*Continued on next page*

## Safety Corner

*Continued from previous page*

reached the Phoenix AZ area, the engine heat and much dryer climate had shrunk the prop enough that all torque values were lost and the airplane started to shake. An emergency landing disclosed that a complete prop separation from the engine was only minutes away. The hub area of the prop was badly burned and wide cracks radiated from the hub caused by the friction of movement. The drive lug recesses on the prop were elongated at least twice their normal size and at least two of the prop bolts had broken their safety wire and were completely backed out of their holes. The prop was trash. It should be noted that the 50 laminate props (Performance) will not exhibit these same shrinking problems but constant checking of the torque should be completed anytime one flies from a high moisture area to one of low moisture.

### EXHAUST CAUTION

We have had a couple reports of the steel exhaust pipes rusting through and departing the airplane. This is one reason we no longer make the mild steel exhaust (now stainless steel). An exhaust pipe going through a propeller could be a disaster and it is important that you provide some sort of safety to prevent the broken pieces from departing the airplane. Either put a stainless steel hose clamp on the end of the exhaust and safety wire the clamp to another part of the engine, or drill a hole in the exhaust near the exit and safety wire to the engine. We weld a couple of tabs on all the new exhaust to allow for this safety wire.

### WARNING ON AIR TEC ENGINES

We have had some very bad reports on engines overhauled by Dick Waters of Air Tec of Orlando Florida. It appears that Dick is very content in using parts that cannot be certified for a Piper or Cessna and using them in engines for air boats and experimental airplanes. In an air boat this isn't a serious problem but in an airplane it is. Rather than go into a lot of



Greetings once again from all of us here at Velocity West. Needless to say we have been quite busy lately. With the "fly-in" season essentially over for the year, November and December become big "check-up" months.

Our Chevy engine project for the XL has slowed a bit, not for any other reason than just priority decisions, although progress these last few weeks has been promising. If all goes well, we'll be showing (and flying) the XL during next year's show season.

One of the projects that has been high priority around here lately is our new building construction. Due

details let me just say that one of our customers had to overhaul one of Air Tec engines that had a total of 75 hours SMOH and the cost was in excess of \$15,000. Air Tec would do nothing about it even though the repair work estimate came from one of the most reputable overhaul shops in the country. Think about that when you buy an Air Tec engine that is advertised at \$3,000 below the price of a good overhaul.

### AD NOTES

Check on AD 98-23-01 that pertains to the Airborne dry vacuum pumps using a flexible coupling manufactured between 12/97 and 6/98. If you happen to have one, night and IFR flights are not allowed.

Also AD 98-18-12 on rotary fuel pumps used on Lycoming engines. This AD note pertains to pumps used primarily on the turbo engines and also the 300 HP 540's. Most other Lycomings use the pulse type pump and is not a part of this AD note.

•••••

# Views from the West

*By Mark & Nancy Machado*

to space and use limitations, we decided earlier this year that we needed to move. Looking around at what kind of facilities were available, at a good airport, we came to the quick conclusion if we wanted something exactly right for our situation, we had to do it ourselves. The end result is that by February 28th, Velocity West will be operating out of a new 6400 sq.ft. hangar/office right here at Lincoln Regional Airport. Our new address will be 1850 Flightline Drive, Lincoln, California. All phone, fax and e-mail numbers will remain the same.

We are all quite excited about this move, although it has been anything but hassle-free! The new facility will give us a much better location and capability to properly represent Velocity, Inc., as the only West Coast representatives for Velocity.

Once we're in and settled, we'll be throwing a big party. More about that in the next issue.

With this issue and for the next year, I have asked Scott Baker, our resident CFI here at Velocity West, to write a series of articles about actually flying Velocities. The series will concentrate on the use and function of the "infamous" Velocity rudder. I hope you enjoy the writings....I know I have so far!

**Sign Up For  
Velocity's  
February 6th  
Factory  
Open House**

**See Next Page for Details**

# Short Circuit



by Martin Hadley



Well! The holidays are upon us! I hope you all will have had a good one!

I have had (on several occasions) a chance to inspect some of your flying projects after installing a Velocity built panel. I must say that I can only hope that the rest of you do as well as the ones that I have been able to see.

Specifically, Mike Watson from New York and Jay Yu from Chicago have had their planes down to the Melbourne airport and I was able to 'peek' under the panel(s)! I have also made a trip to a friend of mine in Naples, FL, Dave Lincoln, to finish up some wiring for him. All of these planes should be trouble free for a long, long time.

Dave gave me a good chuckle while I was down at his place. Keep in mind Dave has an original clam shell door Velocity. He claimed to have perfected an entry into the plane....just dive in! Now he's working on the stop!

I have been busy getting everything into place so that I can start shipping electrical installation supplies, tools, and reference materials to any experimental builder that wishes to buy same from me. I have several orders already for the 'drop-in harness' for the Velocity. I hope to be on the Internet by the first of the year and advertise prefabricated harnesses for KitFox, Glasair, and RV's too. I think I am definitely working myself

into a hole. Oh, well, time to start hiring!

Now down to purpose of this issue's "Short Circuit!"

The easiest way to route your harnesses in a Velocity, as far as I have been able to figure out, is to drill 4 holes. Three 1" and one 1/2" holes should be all that you need. Locate a 1" hole just above the rudder pedal carry-through tube on the Co-pilot's side as close to the fuselage as possible. Another 1" hole should be centered where the right hand front door post touches the duct. This hole, too, should be located as close to the fuselage as possible. The last of the 1" holes should be drilled immediately in front of the right hand main gear bulkhead in the top of the duct.

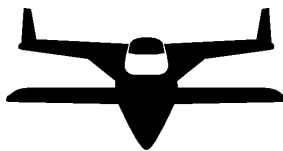
The 1/2" hole should be drilled in the top right hand side of the keel an 1" or so forward of where the instrument panel will rest. This particular hole is for the wiring that goes into the keel for the stick grip and roll trim motor.

The routing of your harnesses

should be very simple now. Everything that goes from the panel to some remote location in the aircraft should go to the right hand side of the panel, forward and through the canard bulkhead, down, and the back through the duct. The only exception might be the Pitot Heat wiring if it (the pitot tube) is located just aft of the canard bulkhead on the pilot's side. All overhead wiring should be routed through the right hand side door post through a 3/8" thick wall vinyl tube installed at the time the door post is glassed into place. All wing and rear cabin wiring should exit the duct in front of the main gear bulkhead, and the remaining engine associated wiring out the end of the duct, aft of the firewall.

There should be plenty of room for wires. If there appears to not be room, give me a call and we will evaluate your situation.

Safe and Speedy Construction  
Martin Hadley  
Hadley Aircraft Services  
407-952-0254



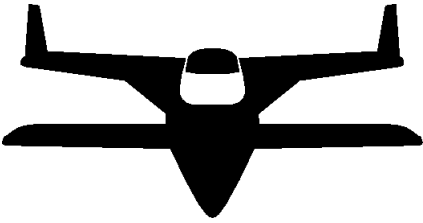
## February 6th Factory Open House Workshop Schedule

**Saturday February 6, 1999** - Factory's quarterly open house in Sebastian Florida (X26)

9:00am	Coffee and donuts
10:00am	Workshop: Don George Engine workshop on maintenance and operation of your engine.
Noon	Lunch
1:00pm	Workshop: Interior and upholstery tips
2:00pm	Workshop: Hands on fiberglass
3:00pm	Demo rides in the XL

Please be sure to call the factory and **RSVP!** Friday arrivals can book a room at the Sand Dollar Motel (800-226-4546) here in Sebastian. When you call us to RSVP, let us know when you plan on arriving so we can make arrangements for transportation, etc.

# SUN 'N FUN '99



## Special Canard Aircraft Parking at Oshkosh '99

EAA is trying to establish a special parking area for canard type airplanes for our next Oshkosh. The proposed area is not far from Velocity's display tent area on the north end of the aircraft display area and will use a hard surface for taxi. EAA is asking Velocity Inc. to give them some idea of the number of Velocity's that will be coming to Oshkosh '99. If you are planning on flying your Velocity to Oshkosh for 1999, let me know so I can give EAA an estimated number.

*Duane*

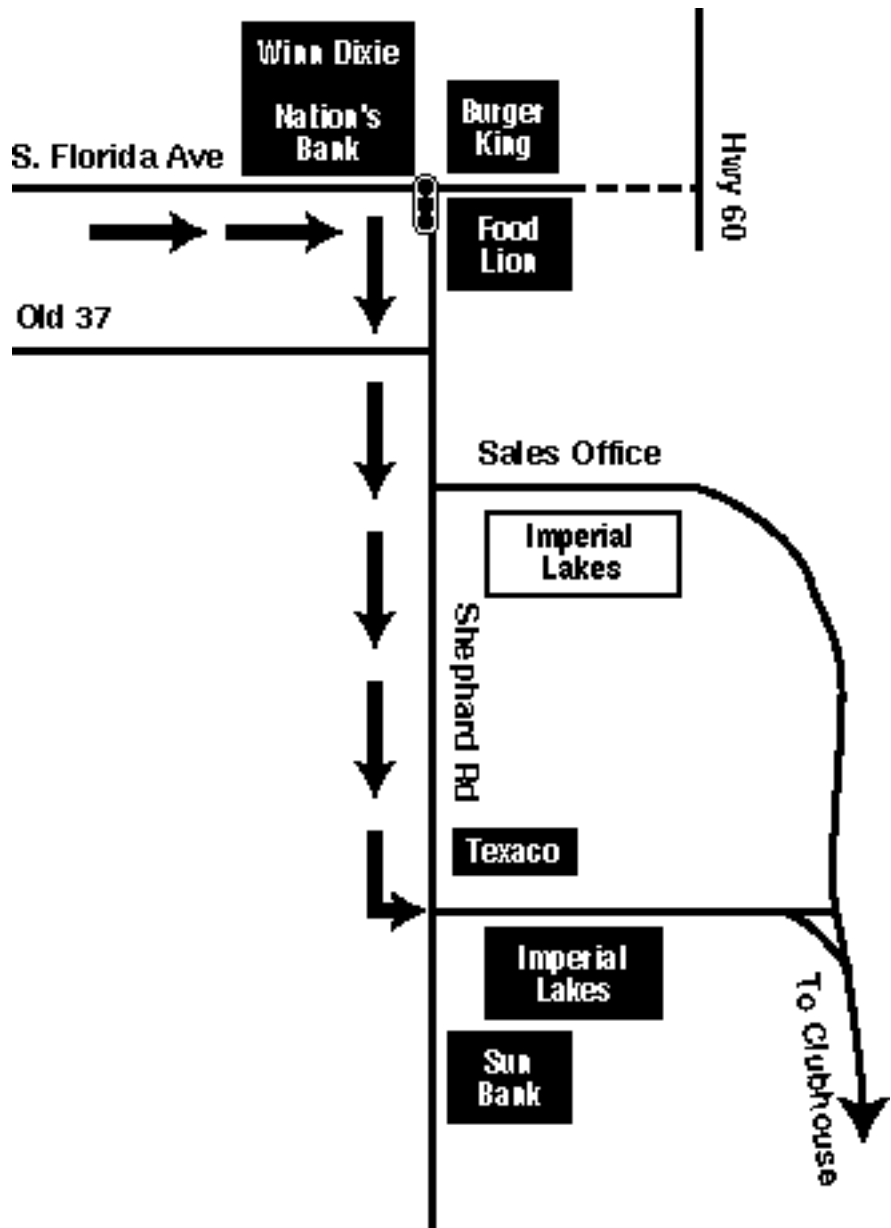
### Sign Up for Velocity's Sun 'N Fun Dinner April 12th

The Velocity Buffet Dinner will be held on Monday evening, with a social hour starting at 6:00pm, followed by dinner at 7:00pm. Please call Velocity at (561) 589-1860 to make your reservation. Cost is \$20 per person. Children 3 and under are free; ages 4 to 12 are \$10.00 each.

The banquet is once again held at the Ballroom of the Imperial Lakes Country Club, Shepherd Road, Lakeland, Florida. (See the map to the right for directions.)

The Buffet Dinner includes: Chef Carved Prime Rib, Fried Chicken, Parsley Potatoes, Glazed Carrots, Tossed Salad, Pasta Salad, Marinated Vegetables, Rolls, Strawberry Shortcake.

Please RSVP to the factory as soon as possible, so we can give a head count for dinner.



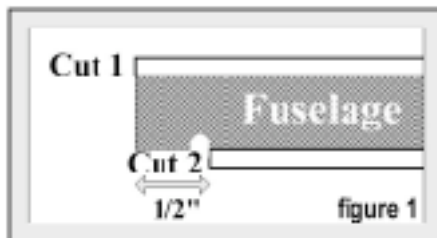
# Builders Forum

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.

## Windows, the Western Way *From Bill Schweitzer, San Jose, CA*

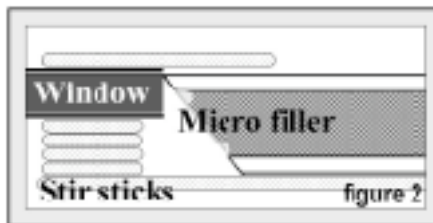
During the winter of '97/'98 I was lucky enough to spend 6 weeks starting my Standard Elite RG at the Lincoln, Ca. hanger of Velocity West. Someday I can write about the great help I got and how quickly my project came together. I could also write about the Lincoln Hilton, the rain of an El Nino winter and the tule fog on the non-rainy days. But for now I'd like to tell you how the folks at Velocity West install windows. It's strong, it doesn't require grinding the plexiglass and it comes out flush to the outside of the fuselage. All of these are desirable traits. Mark Machado shows some of this in the construction video, but he doesn't detail the whole story. Windows, especially the 1/8" thick side windows are difficult to get "just right". I used this approach with my windows, both at Lincoln and back home in San Jose, and they have come out nicely.

First, cut the window opening through the fuselage (figure 1).



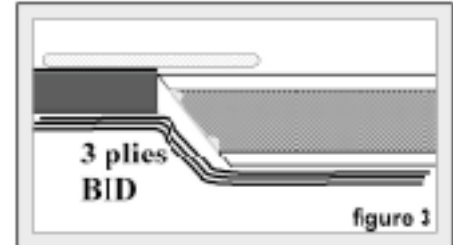
Don't worry too much about getting the lines perfect, this cut is very preliminary. Just don't go more than 1/8" off outside the lines, and it's easy to sand out any places you have not quite reached the lines. Make sure both side windows are pretty close to the same. You can probably get a few extra square inches of window by checking the fit of your plexiglass pieces before you start cutting. The second cut is just through the

inside skin. You can use a small cut-off blade, or like I did, a Rotozip 1/8" spiral saw 'n set the depth to about 3/16". This cut should be 1/2" beyond the first cut. As you can see from figure 2, a 45 degree angle is sanded inside the window opening. Cover the exposed foam with micro slurry.

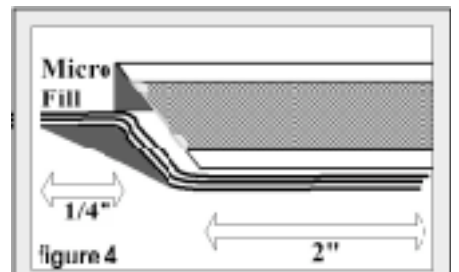


Cover the window with duct tape, without overlapping the tape too much, especially near the edges. Lay the window against the outside of the opening. Hold it firmly while marking the location of the edge from the inside. This is the plexiglass cut line, get it right. Cut the plexi on a band saw, right through the duct tape. You will probably have to sand the window a little to get the proper gap. Plan for a 1/16" gap around this edge for side windows and about 3/16" around the windshield. The windshield will be particularly tricky near the bottom corners, just keep grinding away at it. A little less glass in that corner is not going to ruin the view. Hold the window in place with stir sticks, placed at 5" intervals around the inside and outside. Use hot glue to secure them to the fuselage. You can use Clecos thru the fuselage if you want because the holes will be covered during later steps. This is the first chance to get the window flush, don't let it get outside the outer skin. If it is slightly recessed, that's ok, because you can recover later when you silicone the window.

Build a flange to hold the window in place (figure 3). This is the



primary strength of the construction, so sand the inside of the fuselage very well before doing this. The 3 plies of coarse BID are 3" wide. Fit them around the corners and use butt-joints between pieces. Don't put two joints at the same place on separate plies. You don't want to get high points in this layout. Peel ply everything with a very wet brush. After cure, remove the window by pushing a putty knife gently between the flange and the window. Trim the inside of the flange to 1/4" or 3/16", closer to 1/2" on the windshield. This is a final surface so sneak up on it. Cut near where you want, then sand it exact. Be especially careful to get the corners right, it is easy to see bad curves. Figure 4 shows how the gaps around the flange are reinforced with a dry mixture of micro



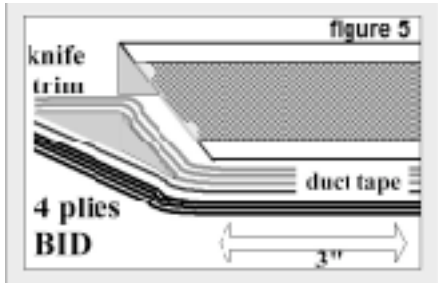
bubbles. Make sure the fill that is outside the flange does not impinge on the space needed for the window. This needs to preserve the 1/16" gap.

The kit provides upholstery strips, premade in two parts. At Velocity West they custom make an upholstery strip that fits each window exactly. Figure 5 shows that.

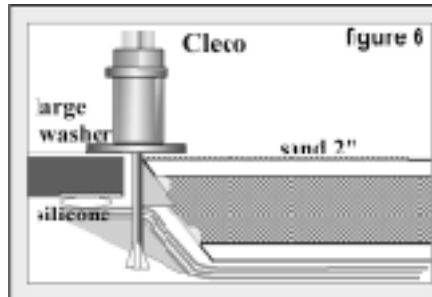
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## Builders Forum

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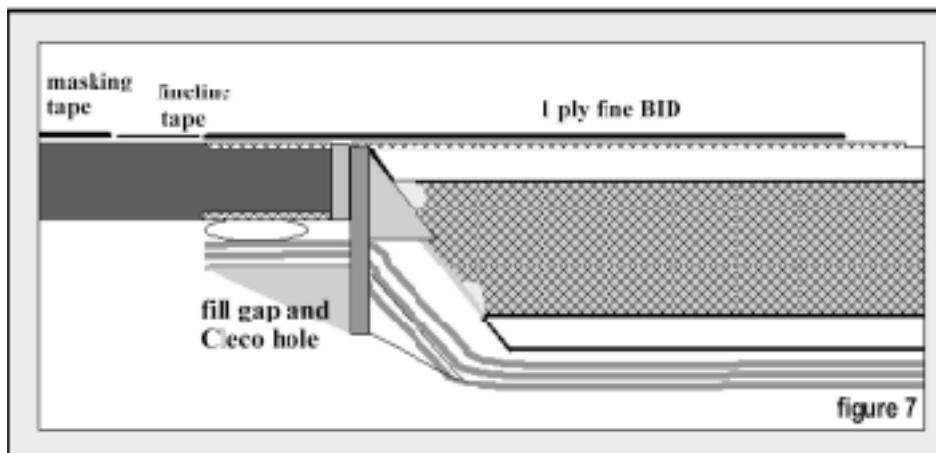
Duct tape the inside of the flange, all the way around and a couple of inches onto the fuselage. Again, don't make too many bumps with overlapped tape. Put 4 plies of coarse BID, 4" wide, around the entire window. Apply peel ply for a smooth surface. After it has cured, but before it is completely hard, knife trim the inside edge to the inside edge of the flange. The outside of the strip can be left rough until you decide how wide you want it while upholstering. Now you are ready for the big step: gluing the window into place. Remove some, or all of the duct tape on the inside of the window. Sand a tiny strip of the window, less than 1/4" wide, with 80 grit paper. Sand two inches of the outer skin around the window. It is easier to do while the window is not installed. Dry fit the window to make sure there is NO binding on any edge. You do not want to introduce any tension on the plexi-glas by clamping it between two edges. When it fits, lay a 1/16" bead of clear silicone caulk around the edge of the flange. Figure 6 shows how Clecos and large washers are used to clamp the window in place.



Space them about every 6 inches, watch for the curve of the window and fuselage.

Use extra clamps if there is any question about holding it well. The holes for the Clecos can be very close to the window or back onto the skin a little, depending upon the size of the gap. The silicone cures slowly, so let it rest for a couple of days. When cured, remove the Clecos. Fill the holes and the 1/16" gap with a medium mixture of micro bubbles. The finish on the outside is a single ply of fine BID (2") on the side windows (figure 7) and two plies on the windshield. Again, use butt joints where pieces meet and try to fit them around the corners. The outside of the window is protected with masking tape to within 1/4" of the flange line (shine a light thru the window to see it well). Use "fine line" painter's tape around the edges, quarter inch on gentle curves, 1/16" on the tight curves. Press the fine BID right up against the fine line tape. Carefully cut any frayed edges of the BID with a very sharp razor. Peel ply the outside edges of the fine BID. On the windshield make sure the two plies overlap without having a common edge.

When this has cured remove the



fine line tape and retape the edge with a new 1/32" gap. Now you can spray a finish filler, such as an acrylic-urethane high-build primer filler, over the entire area where the fine BID has been used. Feather sand this back into the fuselage and you are done.

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## Removing Franklin Engine Cylinders

*From Lloyd L. Garner,  
Collinsville, Oklahoma*

At Oshkosh I purchased the engine from the Detroit drug crash for future use in my 173 Elite RG and came home in a twin engine Honda. Most of the damage to the engine was minor and cosmetic, but the #5 cylinder had been hit hard enough to bend and crack several fins with the major crack extending across a corner under the rocker arm cover. It may be repairable, but I needed to remove it to take in to Divco (a Tulsa repair station) for them to inspect and perhaps repair.

Needless to say, there were no wrenches in my tool box that would remove the hold down nuts on the cylinder, and the cap screws for the intake manifold couldn't be accessed with any known wrench. PZL's overhaul manual referenced two (2) special tools for removing the cylinder, so after reading Rick's correspondence with them, I faxed a request for info to PZL. My fax of 19 Oct 0740 CDT was answered on 30 Oct 1320 PZL local time. Not bad turnaround is it?

I asked for a list of tools needed, prices, manual costs, and a description of the tools. Their reply listed three wrenches and included sections of the overhaul manual detailing procedures. The price for special fabrication and delivery within 4 weeks after order was \$398. WOW!! On checking Rick's data I found that two of the wrenches had been priced to him at \$60.22 and \$28.62 (special made at this price). Being a tightfisted old geezer, I wondered if the third wrench was worth \$300, and just what a cap wrench looked like.

I found a local mechanic who

does maintenance on Bell 47's, and after explaining my needs, I went over to his shop to look at the special wrench he had made for manifold removal. Today, with 3 modified box wrenches, and two specials concocted yesterday, I removed the cylinder in less than an hour. The wrenches (shown in the photo) cost me about \$12 and four hours work. Pretty good savings, right? I'd be willing to duplicate the set for anyone who wants or needs them for a



\$50 bill.

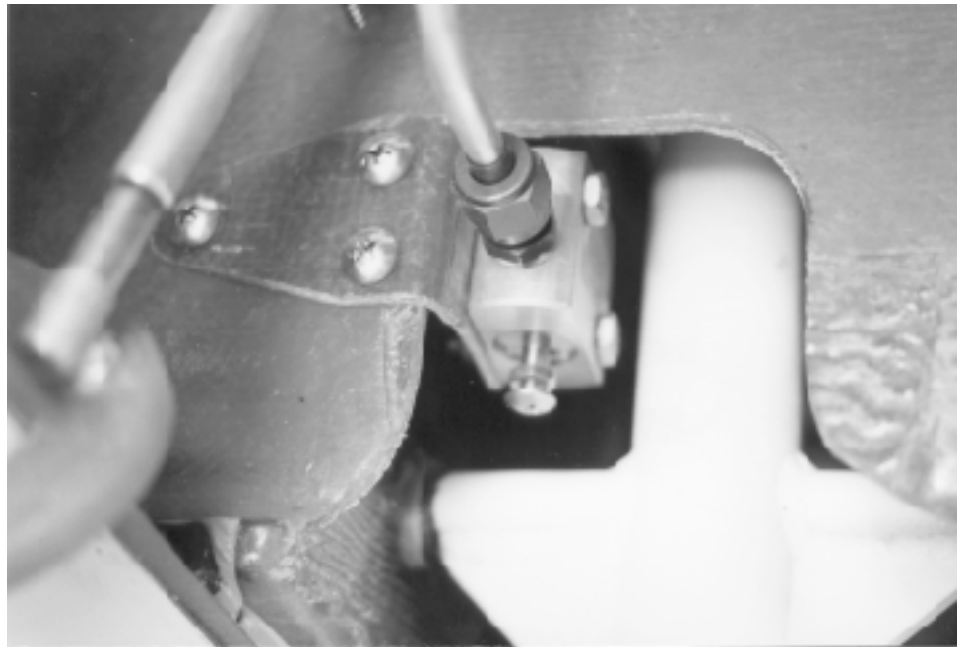
I guess the moral of this story, if there is one, is take a second or third look at special tools and their prices before you break the bank with an order to a supplier. Often a local mechanic will have had the same problem and have come up with a solution that is usually cheaper if not better. This is not intended to bad-mouth PZL but just to transfer information to the builder group for our mutual edification. I've learned a lot from you guys, now it's my turn to contribute.

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## Sequence Valve

*From Al Gietzen, Vista California*

Placement of the sequence valve per the manual appeared somewhat difficult; and after hearing of the tendency of the nose gear doors to close part way as the nose gear came up and bumped the sequence valve, and then to slam shut after the main gear came up, I looked for a better way. Dave Black, Doug Doers (and probably others) had mounted the valve such that it would be actuated by the top of the gas strut. Placing the valve near a pivot point in this manner allowed "slower" opening of the valve and eliminated the bounce problem; but just as the design per the manual, this was a difficult place for installation and



adjustment.

The key feature of the placement at the gas strut is the shorter lever arm relative to the over-center linkage pivot, giving a slower opening of the valve, and more precise adjustment so the sequence valve could also act as a "throttling" valve. After looking things over, I decided that the same effect could be achieved by using the reinforcing gusset on the gear leg at the gear pivot to actuate the valve.

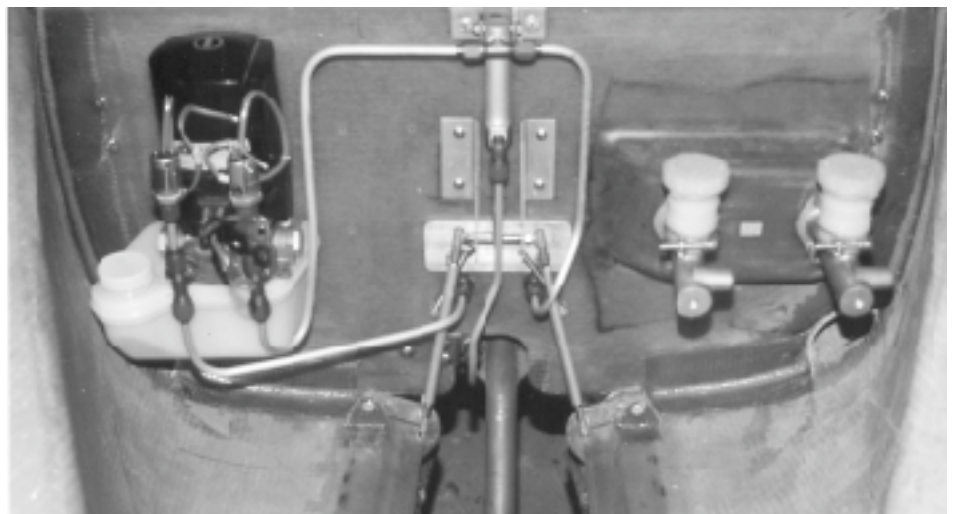
This location has a number of advantages: easy mounting, easy plumbing, easy access from the bottom (through the gear doors) for adjustment, and gives good control of the gear door motion. The mounting is with a simple right-angle bracket that attaches to the canard

bulkhead at the gear leg opening (see photo above). I chose to make a bracket using a couple ply of triax sandwiched between a couple ply of BID, attached with three screws and butterfly nuts. You could also use the aluminum strap supplied for the usual bracket.

The exit of the valve is at the face of the bulkhead at the gear leg opening so you can eliminate a bulkhead feedthrough. Just plumb from the valve up to the gear door cylinder (see photo below).

The operational results are fine. This placement reduces, but does not eliminate the effect of the "bounce" in the gear leg at the top of strake as well as that achieved by the actua-

*Continued on next page*



## Builder Forum

*Continued from the previous page*

tion by the arm at the gas strut. The bounce results from the linkage design which has the gear leg and the shock absorber pulled into an almost straight line at the top of the stroke, so the movement is somewhat uncontrolled. Nonetheless, with careful adjustment of the valve stem (using it to throttle the flow) the slamming problem can be avoided.

Further review has led me to believe that the key to avoiding the slam may be to have the sequence valve open more fully so it stays open during the bounce. This allows the doors fully close while the main gear is still in its travel and the hydraulic pressure is lower. Haven't tested this yet as my pump is currently on the shelf waiting to be sure I don't have to turn my plane upside-down.

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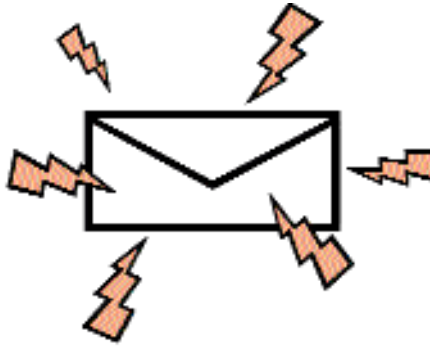
## We need your input for this newsletter!

- **Builder Forum Input**
- **First Flight Photos**
- **First Flight Stories**
- **Velocity Flying Adventures**
- **Velocity Fly-in Suggestions**

Send your photos / stories to Rick Lavoie for the next newsletter!



## Velocity Reflector Mail List Procedures



*From Brian K. Michalk, Austin Texas, michalk@awpi.com*

Ever wondered how much you don't know about what you don't know?

There is a tool for Velocity builders to find out what they don't know. It's called the reflector. The reflector will hopefully keep you informed about the things pertaining to your Velocity. The reflector is an email list, hosted by Brian Michalk (michalk@awpi.com) on his server at Austin Web Publishing, Inc.

The list currently has 160 members and is quite healthy. We talk about all sorts of topics related to the Velocity: politics, business, and lots of building experience too. The list is only open to Velocity builders, owners and employees of the Velocity factory. Of course we allow those who have dropped their hard earned cash on a deposit as well.

To subscribe to the list, do not email me. I have my plate full with trying to keep up with around seventy emails per day. Instead, I have set up some nifty software called majordomo. To subscribe to the list, send email to: reflector-request@awpi.com with the body, "subscribe reflector", and your kit serial number, or your builders status, or reason why you want on the list. This last part is so I can verify that you are entitled to the list. Here is your example email:

To: reflector-request@awpi.com

```
Subject: subscribe
<body>
subscribe
I have kit number 123.
```

That gets the ball rolling. Majordomo will send you a reply saying that it got your message. It will also ask you to reply. This is so that people don't get added to the list that don't want to be on the list. Just follow the instructions that are emailed back to you. Majordomo will send me a copy of your email, and then I tell it to activate your account. Once you have been added to the list, you can simply send email to reflector@awpi.com and it goes to all of the members on the list.

I also maintain archives of the list. The archives are available to anyone on the internet. I take the list email and throw out all of the messages that is not fit for public consumption and make them available at: <http://www.newaviation.com/archive/velocity/maillist.html>.

There are two other lists that may be of interest to Velocity builders. One is called reflectorbites. That list is open to everyone and is a place for Velocity builders to talk about non-Velocity related subjects. You may subscribe to this list by sending email to reflectorbites-request@awpi.com with the body, "subscribe". The other list is a Franklin engine list. You may subscribe to this list by sending email to franklin-request@awpi.com with the body, "subscribe".

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## FAA Identifier for Homebuilt Experimental type Aircraft

*From Alex Becker, Long-Ez N57AM  
(FAA ATC Controller)*

The idents for many aircraft underwent two major revisions in 1999. Unfortunately experimental aircraft were not addressed. The VZ10 type (for Long EZ canard type) identifiers were dropped years ago.

*Continued on the next page*



## Soundproofing Insulation For Sale

Purchased from Wicks catalog (p.169) - closed cell vinyl/nitrile insulating foam:  
#SP-250 1/4" thick foam  
#SP-500 1/2" thick foam  
Have 10 linear feet of both, paid \$210, will sell for \$125 plus shipping.  
Call Rick Lavoie 904-461-6912 or E-mail: lavoie@aug.com

## FAA Identifier for Velocity

*Continued from previous page*

The current method for describing our aircraft is:

- HXA=Normal cruise speed up to 99 knots
- HXB=Normal cruise speed 100 to 199 knots
- HXC=Normal cruise speed 200 knots or greater

The best procedure is to describe your actual aircraft type in the remarks section of a flight plan. (i.e. Type=Velocity) If you file IFR, the remarks section is always forwarded to the controller. When you fly VFR we do not see the flight plan unless you ask for NAS VFR flight following. Since NAS VFR flight following requires many key strokes by the controller, it's not used much unless you specifically ask for it. At Detroit Metro, I installed a software patch to reduce the number of required entries so you should have no problems if you fly through our airspace.

By the way don't forget to mention VFR GPS units in the remarks section when flying IFR. The FAA recently ruled that a VFR GPS may be used as an aid to pilotage for enroute IFR navigation in a RADAR environment. They're not approving the VFR GPS for sole source navigation but are instead allowing you to use the GPS like an E6-B as an aid to an approved IFR navigation procedure (dead reckoning and pilotage).

•••••

## 96' Velocity Std RG N61VB For Sale

75TT, 890 IO360A1A, Performance 3 blade prop, Garmin GPS/Com, Terra TXP w/mode C, Day/night VFR, Intercom, Strobes, ELT, EGT, CHT, OAT, Full gyro panel, new lightweight starter & alternator, grey interior. Flying in primer but prepping for paint at this time. Must sell to build another one. Located near New Orleans (MSY) \$89,000  
Call Brent Bourgeois at 504-785-8299 (home)

## FOR SALE 6A350C1R Franklin Engine

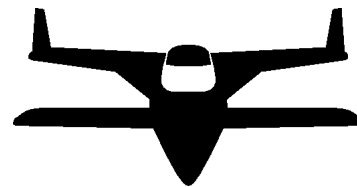
Removed from crashed Velocity with 100 hours total time since new. All cylinders removed, all components cleaned and inspected with new pistons and rings installed. New Slick magnetos and harness installed. Complete with lightweight starter, carburetor, vacuum pump, alternator. All work done by Don George Engine and test cell run. US\$16,000 FOB Velocity Factory. Call Duane at 561-589-1860

## Check-Out's Available at Velocity Factory & Velocity West

Brendan O'Riordan (Velocity factory) and Scott Baker (Velocity West) are available and ready to assist you in flight training and factory check-outs in the various Velocity models. Contact either Velocity, Inc (Factory in Sebastian) or Velocity West for details.

## Buy Sell or Trade

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## Magnum IVO Prop For Sale

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Compuserve 72012,1563

## Factory Information

### Velocity Inc.

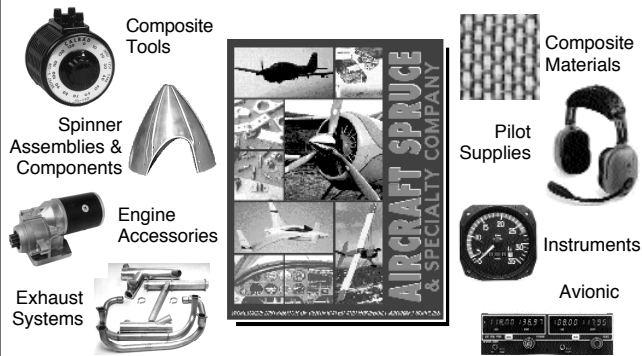
#### Factory & Home Office:

200 W Airport Rd  
Sebastian FL 32958  
Ph: 561-589-1860  
Builder Assist Ph: 561-589-0309  
Fax: 561-589-1893  
Internet web site:  
<http://www.velocityaircraft.com>  
E-mail address:  
[anyone@velocityaircraft.com](mailto:anyone@velocityaircraft.com)

### Velocity West (Sales & Service)

1410-B Flightline Dr  
Lincoln CA 95648  
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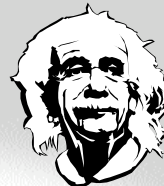
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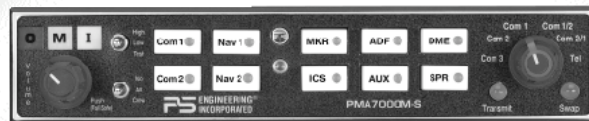
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