

# VELOCITY VIEWS

Volume 21

## Machados Join Swings at Factory



*Pictured from left to right: Scott, Bonnie, and Duane Swing, Mark and Nancy Machado*

Mark and Nancy Machado joined Velocity this fall as company shareholders and the newest members of the team. Many of you know this aviation couple from Velocity West, the California sales and service center which they established and operated for the last few years. Relocation in Florida is a big move for these West Coast natives, but they arrived with a spirit of commitment and excitement toward their new roles at the Velocity headquarters.

Mark became a private pilot in 1982 and bought a Cessna 172. Being mechanically inclined, he never felt fully comfortable with the Cessna, so his conversion to experimental was easy. After buying plans for the Long EZ in the mid '80s, Mark located a

Long EZ and a Very EZ in Nova Scotia. Both planes had been highly modified to be part of a Lindbergh-commemorative expedition across the Atlantic. Mark ended up taking the Long EZ apart (with a chainsaw, among other tools!), leaving basically just the spar and shell. After 1500 hours, and while working dual careers as a mechanical engineer and a general contractor, Mark got both experimentals in the air. Flying his own homebuilt made Mark much more comfortable and it wasn't long before he was ready for a step up. Mark bought his Velocity kit in 1990 and today has logged over 800 hours in Velocitys and has built 5 planes! Needless to say, these experiences – coupled with operating the Velocity

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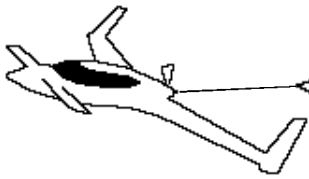
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## FACTORY NEWS

by Duane Swing

### SUV UPDATE

Since its introduction at Oshkosh '99, the Velocity "SUV" has cemented itself as the perfect option for many first time kit buyers. Value priced at just \$22,000, the SUV offers an entry-level four-place aircraft kit priced thousands below anything comparable.

With much of the same state-of-the-art technology incorporated in Velocity's other aircraft kits, the SUV's flight statistics attest to its fine design. Using the easy-to-find Lycoming 160 HP engine and a constant speed prop, the SUV boasts these specs without the addition of vortex generators:

|                   |          |
|-------------------|----------|
| Take Off Distance | 1200 ft. |
| Rate of Climb:    | 1000 fpm |
| Landing Distance  | 1200 ft. |
| Cruise (8000 ft.) | 155 kts  |
| Maximum Speed:    | 165 kts  |
| Ceiling           | 16K      |
| Range at 75% (NM) | 968      |
| Minimum Speed     | 60 kts   |
| Landing Speed     | 70 kts   |

The SUV is also approved for the

Lycoming 180 and 200 and the Franklin 220 engines. Velocity designed the SUV with dual yokes, gearing it for the entry-level pilot who Velocity designed the SUV for. The yoke concept allows a single large gull-wing door for easy entry and exit into any of the SUV's four seats. Using a reduced center keel, compared with other Velocity models, added an additional 4" of usable interior space. The Velocity SUV can be built, ready for flight, for under \$50,000.

All the testing is now complete on the SUV and shipments have already begun. The airplane has been to Oshkosh, Phoenix, and Texas on the airshow circuit and has now over 60 hours of flight time. The most important factors are the NACA cooling ducts and the Vortex Generators (VGs). The NACA cooling ducts have been working perfectly and no changes are necessary. We will soon be putting them on a 200 horse airplane and checking for proper cooling. This is also true of the XL that we are building to replace our existing

XL demo N97XL. The VG's were installed and moved around with additional VG's added as necessary to achieve the best results. We can report that the average Velocity will see at least an 8 knot decrease in indicated speeds on the low end. We actually got the SUV down to 50 knot indicated with about 430 lbs. in the front seats and mid fuel. This is 10 knots less than with the same weight before. We will be doing some side by side flying with our long wing fixed gear to see if the SUV (much lighter airplane) can fly as slow as the long wing version. The cruise speeds are probably down by a couple knots. So far, the VG's have been installed on the standard wing SUV, the long wing XL and the long wing Elite. Results vary somewhat but the net results are all positive. Better low speed control. Better canard/elevator control on landing. Lower canard stall speed which results in a safer off field landing should one be necessary.

We have been searching for a supplier of the VG's that will reduce the cost for our customers. The ones we purchased cost \$398.00 for the set. We have now gotten the cost down to \$200.00 for the set with instructions and a placement template. They are held in place with a thin coating of silicon. We are probably 30 to 60 days away from getting production parts and if interested, call Brendan for current information.

### Machados

*Continued from page 1*

center on the West Coast – make Mark a great resource for current and future Velocity builders...and a sure asset for Velocity, Inc.

As Mark's partner in marriage and in Velocity West, Nancy Machado has been submerged in aviation since she met Mark. Nancy soloed after just 7 hours, showing the benefit of logging 700-800 hours in the right seat while flying with Mark. Professionally, Nancy's years of work in the legal and insurance fields honed her natural people skills

while building strengths in marketing and communications. At Velocity West, Nancy wore many hats, including assisting Mark with his plane building projects and helping to answer builder questions. Now in the office at Velocity in Sebastian, Nancy enjoys working with new buyers and is quick to volunteer to lead a factory tour. You are likely to encounter Nancy first on your next phone call or visit to Velocity. Once she and Mark and their happy dog Otti get better settled in their new environment, Nancy looks forward to completing her private pilot training.

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As a further test, we removed one of the vortilons and tufted the wing behind all the VG's. The result was that we can see no difference in the air flow behind the VG's even where we had removed the vortilon. These tests were done from minimum speed all the way to high speed cruise with the same results. It is our decision, therefore, to not require the vortilons if the VG's are used. As a result of all this, I have contacted Avemco with a strongly worded letter indicating that if they really want to seek an honest appraisal of the Velocity, they should come down to us or we will come to them and do a flight test. Our goal is to get some reduction in insurance or a reduction

in flight time needed to qualify for insurance. My intention is to establish different flight times and rates based on the airplane of choice and even better rates with the use of the VG's. That is, the SUV fixed gear with VG's would have the absolute lowest rates and times needed to qualify for insurance, with the XL RG representing the upper end of the scale. We have already demonstrated that an 80 hour (total time) pilot, on his first take off and landing, can do so successfully in the SUV using the yokes and with the VG's. It took another two hours of dual before he could do the same in N81VA. As many of you have found out, Avemco (and others) make no distinction between different models. They treat our 160 horsepower SUV with a fixed gear and yokes the same as the XL RG with 300 horsepower. This must change.

## DAREN'S CONDITION

Daren has been back to work for the past couple months but is somewhat limited as to what he can do. No more heavy lifting or high stress

work allowed. He is also on a special diet while he awaits a proper heart donor. As his work family, we are holding Daren and his family up in prayer while they go through these trying times.

## VELOCITY V-SPEEDS

The following are the V-Speeds that apply to all our airplanes. Many of you have asked what they are: for airspeed markings and for just general knowledge. The airspeed markings are:

- Vs: Stall Speed (minimum speed) 60 kts This will vary with load (red line)
- Vfe: Max flap extension (speed brake) 110 kts White arc from Vs to Vfe
- Vno: Max Structural Cruise speed 170 kts. Green arc from Vs to Vno
- Vne: Never exceed 200 kts Yellow arc from Vno to Vne
- Vx: Best Angle speed 80 kts Not an airspeed marking
- Vy: Best Rate speed 100 kts Not an airspeed marking
- Vlo: Max landing gear operating speed 120 kts Not an airspeed

marking

- Va: Maneuvering speed 140 kts Not an airspeed marking

All the above are indicated air speed and not true air speed. Common sense should apply to speeds when rough air is encountered and a reduction to Va might be appropriate. Va (maneuvering speed) is also defined as rough air penetration speed.

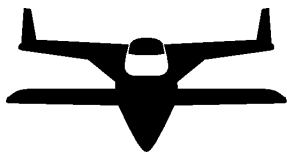
You will note that the airspeed indicators we have sold in the past are incorrectly marked with the Vno at 140 knots. This should have been 170 knots.

## HIGH PERFORMANCE AND COMPLEX ENDORSEMENT

Some of you have asked me if a High Performance or Complex endorsement is required to fly a Velocity. From a legal point of view, it is not required. From an insurance point of view it might be. According to FAR 61.31 (k) (2) (iii) under Exceptions. "The rating limitations of this section (high performance and complex) do not apply to (iii). The holder of a pilot certificate when operating an aircraft under the authority of an experimental - type certificate".

The insurance companies may not care if you are legal. If they say

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## Feb 5th Factory Open House Workshop Schedule

**Saturday February 5, 2000** - Factory's quarterly open house in Sebastian Florida (X26)

- |         |   |
|---------|---|
| 9:00am  | Coffee and donuts   |
| 10:00am | Workshop: To be announced - check our web site or call us |
| 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 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.

## If Distance is a Problem...

With the closing of our West Coast Service Center, we want to make a special offer for those of you that will need to travel a long distance for a factory demo ride and tour.

Here's our deal: Velocity Inc. will cover your airfare, up to \$500, provided that you purchase a Velocity kit within 7 days of your demo ride.

you must have the ratings, what choice do you have?

## **SWITCH PANELS (not the XL)**

One of our builders just pointed out to us that there has been a change in the type circuit breakers used in these panels. By popular demand, the manufacturer changed from non disconnect type to the rocker disconnect type. The major problem is that the rocker disconnect switches can be easily switched off by bumping the switch. The panel maker was not aware that the manufacturer of these switches does not recommend them being used in high vibration applications. The question is, is this a high vibration application? We really don't know the answer and there are several panels out there (they are also sold through Spruce) and no one has had a problem in actual flight. If you get one of the new panels and feel this is a problem, contact the panel maker (his phone number is in the instructions) and he will replace the rocker type with the non rocker type circuit breakers.

## **NOVEMBER 6 OPEN HOUSE**

Our November 6 open house was the largest yet with just under 70 people in attendance. Most of those in attendance were not presently Velocity builders and several indicated that a purchase would be made in the near future. We had one man who flew down from Chicago, another from Atlanta, one from New Mexico, a couple from Texas, two from Germany and three from Denmark, along with a spattering from other states. Our workshop was broken down into the Lycoming engine installation, and a hands on fiberglass workshop. In the workshop, the attendees built a pair of wheel chocks from foam and glass using the West system so they could complete them and take them home with them.

My only regret is that more of you flying Velocity owner/builders didn't attend. We had Sam DaSilva

and Chuck Ufkes fly their Velocitys in and Chuck and Sam both spent a lot of their time talking about their projects. At one time I counted 12 people gathered around Chuck as he explained some of the finer details about his airplane. Chuck was the first to try the upper fuselage cooling scoops on his airplane, and, as on our SUV, they are working fine.

Our next open house (workshop) is set for February 5th 2000. I have no schedule for what we will be doing but, if I can get at least 6 Velocitys to fly in, we will spend most of the day letting those in attendance talk to the owners. If you think you might be one of those, I promise good food and a lot of hangar flying. We will also schedule a low level formation fly-by if you think you're up to it. As an added bonus, everyone who flies in will receive a Velocity jacket. Let me know if you are interested in attending with your airplane. If you're not yet flying and have a thought for these workshops, let us know so we can work it in.

## **LYCOMING IO 540 G1D5 ENGINES**

Westair International of Monument CO is offering a limited number of low time to "0" SMOH 290 horsepower engines. Prices from \$15,000 (low time) to \$19,750 ("0" time) with no core needed. They are also offering a Hartzell prop at no charge. We can't use the prop but there might be some negotiating room as a result. These engines are 290 horse at 2575 RPM. Running them at 2700 rpm produces 300 horse. This engine is almost identical to those used in the Piper 600 Aerostars. If interested, call 719-481-2286.

## **GAP SEAL**

While flying the SUV, we noticed there was a lot of heat coming from the gap between the aft portion of the fuel strake and the wing. This is the gap that we usually fill with silicon after our testing is over. In this case, with no silicon in this gap, there is a rather large low pressure area created in this area and it will suck

the heated air from the engine compartment out through the small gap that exists between the main wing spar and the carry through spar. This gap can be seen with the top cowl removed and is where the inboard upper wing attach bolt is found.

We feel it is important to seal this gap with some high temperature barrier like the Stainless/Nomex firewall protection to prevent the hot air from being sucked into this area. It would also be a good idea to seal the gap between the aft part of the fuel strake and the wing to prevent the low pressure air from pulling the hot air into this area. In the event of an engine fire, stopping this fire from propagating into the area where the two spars are bolted together would be of utmost importance.

## **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. We are working on an additional revolving number for this hot line to eliminate the busy signals you get on certain days.

## **THOUGHT FOR THE DAY**

The only way to reach your long-range goals is through surviving your short-range objectives.

### **Be Safe!**

**Get a Factory Check Out prior to your first flight!**  
Flight training is available from:

- Brendan O'Riordan (factory's CFII)
  - Scott Baker on the West Coast (Sierra Bravo).
- Don't take a chance, get checked out prior to your first flight. Please note that you should be current prior to your Velocity check out.

# New Velocity Service Center Opens

Working on your own kit aircraft at the manufacturer's service hangar ...an excellent way to accelerate the early construction phase of a home-built aircraft. Couple this with a shop dedicated to working on flying aircraft, and you have the new Velocity Service Center. Velocity has now opened its Service Center at company headquarters in Sebastian, Florida.

Our Builders' Head Start Program for Velocity kit buyers allows builders to start work on their own aircraft here at our Service Center. Based on the reaction to this program so far, we anticipate that a majority of our new kit buyers will spend from one week to one month at our Service Center prior to kit shipment to their own home base. Builders in the Head Start program can rent hangar space in the Service Center on a daily, weekly, or monthly basis. Each builder will be using his/her own kit components – such as epoxy, cloth, fillers, brushes – during Service Center construction. The long-term advantages of participating in the Head Start program, especially for the first-time builder, are amazing. Not only does it allow the builder to focus on the project without many of the usual distractions, it also allows him or her to get organized and develop better working habits right from the start. For added convenience to the builder, the Velocity Service Center can handle a limited number of RV's on site.

The Velocity Service Center also caters to service work on flying Velocity's. Composite repairs, pre-buy inspections, final assembly, interiors, painting, and other services are offered. Annual conditional inspections ("annuals") are performed for fixed gear and retract gear Velocity's. Our Service Center provides Velocity specialists for these jobs, and is also a great resource for Velocity owners who did not build their own planes.



*Velocity's new Service Center is located just to the south of the factory building*



*The Service Center is set up to accommodate 4 different projects at a time*

## **BUILDERS HEAD START SERVICE CENTER**

We got possession of the service center building on November 8th and have been spending time getting it ready for work. First order of business was a thorough cleaning and painting the floor with the epoxy gray paint. The office comes next with new carpet and tile. As you can see from the above photo, we will also be resurfacing the pavement.

Our main goal is to provide a "Head Start" for those who want to

work at the factory on their airplane with the help of a professional. We have established the terms and conditions of this service center. The pricing schedule is as follows:

Hangar rental rate:

Per day: \$17

Per week: \$100

Per month \$ 350

Shop rate when assistance is needed.  
Per hour \$40

Hangar access after 5:00, holidays and week ends by request.

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## New Service Center

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Special tools, shop equipment, shop rags, sandpaper, clean-up materials, gloves, drinking water, and coffee shall be made available for use at no extra cost. Builder is expected to use his/her own kit components for the construction of the project (ie. epoxy, cloth, fillers, brushes, mixing sticks/cups, etc.). Each builder will set up his/her own epoxy station and pump area and organize kit inventory for easy access. Each builder is responsible for keeping their work area clean on a daily basis. Also, each builder is responsible for insuring their own projects (fire, theft, flood, hurricanes, etc.).

## Service Center for Flying Velocitys

### Annual Conditional Inspections

Conditional inspections (annuals) will be billed at \$500 for fixed gear and \$600 for retract gear. This excludes work needed to make airworthy. The aircraft owner will be given a squak list broken down into two categories; first will be items mandatory for safety, and second will be items recommended. Repairs will be billed at our shop rate of \$40 per hour, for items that you have us repair or service.

### Other Services

Composite repairs, pre-buy inspections, and other service projects for flying Velocitys can now be accomplished at our new service center. Our shop rate is billed at \$40 per hour.

### RV Parking

We can handle a limited number of RV's but at present no sewer connections available. A dump station is just across the street.

If interested, let us know so we can send you a contract and get you on our list.

♦ ♦ ♦ ♦

## The New Velocity Service Center at a Glance



- Builder's Head Start Program... Rent space in our new service center to work on your project with factory help nearby.
- Conditional Inspections (Annuals) for flying Velocitys
- Pre-buy Inspections for flying Velocitys
- Composite repairs, interiors, painting, and other services on flying Velocitys
- Monthly billing for rental space plus labor rate (as used)

## Sign up for Velocity's April 10th Sun-n-Fun 2000 Dinner Lakeland, Florida

Sun-n-Fun is April 9-15. Our annual banquet will be held on Monday evening April 10, starting at 6:00pm. The banquet will be at the Imperial Lakes Country Club (same place and set up as last few years). Check our web site (calendar of events) for details (menu, cost, etc.). Please sign up in advance with the factory, or at our booth during Sun N Fun. For a map to Imperial Lakes Country Club, refer to *VELOCITY VIEWS* Vol 17 page 12.

Thanks,  
Bonnie



*A look at one of the four work areas set up for a builder to work on his/her kit. Factory help is available at an hourly charge, which will assist the builder in developing the proper skills and good work habits.*



# Safety Corner

Accident & Incident Reports,  
Maintenance & Service Difficulties

## Fatal Accident Report Ken Swertfeger / LW FG

A sad day for the Velocity family. We just learned that Ken Swertfeger died as a result of an accident in his fixed gear Velocity LW. Ken passed away on Saturday, December 18th. Our thoughts and prayers extend out to Ken's family and many friends.

As of this writing (Dec 21), there are several conflicting stories that have been reported to us. Rather than speculate or report conflicting stories, we will wait until we have the facts. We will report all that we know in the next issue of this newsletter.

Our condolences to Ken's wife Barb and his entire family.

## EXHAUST SYSTEM RECOMMENDATIONS

We decided to fly a customer's airplane to the AOPA convention as it was a brand new, well equipped XL RG and we thought it would make a better showing than our 3 year old XL. We never made it, as Brendan had an exhaust pipe break at the end of the last cylinder and the last 10" of the pipe was hanging in the cowl, flopping around. The only thing that prevented it from exiting the airplane was some fiber-fax wrap that was placed all around the exhaust. We had advised previously that this was not a very good idea for three reasons. First is that the exhaust will retain a lot more heat and there is a possibility that it will start a crystallizing process and become brittle. The second reason is that there is no way to inspect the exhaust for cracks. The third reason is that the wrap is quite heavy and this added weight will cause the

pipes to fail much quicker than if left unwrapped. If you need to protect some fiberglass or control cables, it is best to insulate these items rather than the pipes. We also found that the tabs that are to be used to safety wire the lower end of the pipe to the upper end to prevent the exhaust from exiting the airplane were not installed.

## EMERGENCY PROCEDURES

We are seeing a lot of our airplanes now flying with either hydraulic or electric constant speed props and the proper emergency procedures need to be addressed. It is common knowledge that the rather large flat plate area of the M-T constant speed propellers provide a huge amount of breaking with the power pulled all the way back to idle. This breaking effect is not good if you're trying to extend your glide to maximize the distance covered in an engine out emergency.

The proper procedure to extend your glide is to pull the prop control all the way out to give you the coarsest pitch possible. This will minimize the prop drag and give you the second best glide ratio. The best glide would be with the engine shut down and the windmilling prop stopped. This can be done by pulling the nose up until minimum speed is reached. This is usually enough to get the prop to stop.

If you have an M-T electric constant speed prop, the procedure would be to switch the prop into the manual mode (left switch) and hold the right switch down until the prop has achieved the coarsest pitch possible. This will again give you the second best glide ratio possible. Shutting the engine down will be the best.

Shutting down the engine down will also give you the best glide ratio if you have a fixed pitch prop.

## SLICK MAG SERVICE BULLETIN SB1-98

If you are using the Lycoming IO 540 K series engine (300 horse) in your XL, there is a mandatory inspection required on the impulse mag. It requires an inspection every 250 hours of operation.

## LYCOMING SERVICE BULLETIN AND AD NOTES

Lycoming constantly issues mandatory service bulletins on their engines that should be looked at. One is SB 388B. This has to do with valve sticking on almost all Lycoming engines and spells out the procedure to check valve guide to valve stem clearances.

SB 342B outlines the proper procedure for clamping the stainless steel fuel lines from the spider valve to the cylinders. This one affects all IO 360 and all IO 540 engines.

SI 1492A outlines procedures in determining excessive piston pin plug wear. There have been signs of a large amount of aluminum showing up in oil filters that has been traced to these plugs. The service instructions outline the method of checking and correcting this problem.

AD note 98-23-01 is an Airworthiness Directive pertaining to failure of the flexible coupling on Airborne dry vacuum pumps.

AD note 98-18-12 is an Airworthiness Directive pertaining to the rotary fuel pumps used on various fuel injected Lycoming engines. For the most part, this AD note would only apply to the IO540 series (300 horse) engines. This rotary pump could also be used on any fuel injected turbocharged Lycoming engine.

SAIB (Special Airworthiness Information Bulletin): Lycoming has issued this SAIB for new Lycoming engines (all types) or new cylinder

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# 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 110

Affects: All Large wing aircraft including the XL.  
Manual Section 12.3.1  
Date of Change: 12-6-99  
Figure 12-8 shows 50” length. Remove that dimension from the plans.

## KPC 111

Affects: All XL RG aircraft  
Manual Section 12.3.1  
Date of Change: 12-6-99  
Under the “VERY IMPORTANT” note on page 12-12, it reads “at the side of the fuselage and flange position.” It needs to read, “approximately 3” from the side of the fuselage just below the bend.”

## KPC 112

Affects: All RG aircraft  
Manual Section 6.1.1

Date of Change: 12-6-99

Figure 6-6, top drawing show the outside edge of the swing arms at the edge of the gear doors when in reality they are about 1/4” from the edge. If the flange on the fuselage was cut to 3/8” then the swing arms would be right up against the flange. This assumes between 1/16” and 1/8” gap in the fit of the gear door to the fuselage. The flange is then cut in the area of the hinge for clearance.

## KPC 113

Affects: All RG aircraft  
Manual Section 6.2.1  
Date of Change: 12-6-99  
Figure 6-12 should show the over-center stop just as it is shown in Section 9.6.5 - Figure 9-42.

## KPC 114

Affects: All Elite RG and XL RG aircraft  
Manual Section 6.2.1  
Date of Change: 12-6-99  
Change the Aluminum Plate (.25”X2”X5”) shown in Figure 6-12 and 6-14 to a couple of washers (AN 970-6). The reason is that it is not needed and the springs interfere with plate.

## KPC 115

Affects: All aircraft  
Manual Section 4.4.4  
Date of Change: 12-6-99

Change to read - “Trim the trailing edge of the canard from the leading edge.”

## KPC 116

Affects: All XL aircraft  
Manual Section 4.5.2  
Date of Change: 12-6-99  
Change to read - “Measure and mark both elevator torque tubes 20-3/4” out from the center of the canard. The total distance between the marks should be 41-1/2”.”

## KPC 117

Affects all XL RG aircraft  
Manual Section 9.4.2  
Date of Change: 12-6-99  
Remove the bumps in the Socket as shown in figure 9-21.

## KPC 118

Affects all Elite RG and XL RG aircraft  
Manual Section 6.2.1  
Date of Change: 12-6-99  
In addition to the microglass holding the knurled nose gear bushings in place, if there is any bushing protruding out either end, you should add some microglass or floc around the protrusion smoothing out the transition from bushing to keel. Then, add 3 layers of BID over the bushing and onto the keel about 1”. After cure, on the inside surfaces you will need to grind or sand the glass off the steel insert to allow the gear to slide back into position.

## KPC 119

Affects All SUV or any dual yoke set up.  
Manual Section 5.1.2  
Date of Change: 12-6-99  
The instrument panel should be located at the edge of the Keel cut. This dimension should be approximately 21” from the rear face of the canard bulkhead just inboard of the wood stiffener and near the top. This should be approx. 1” further aft on the dimensions listed in this section. This gives the control system room to work.

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## Safety Corner

*Continued from previous page*

replacements. The SAIB is in regards to valve seats dropping into the engines. It seems that Lycoming has installed undersized valve seats in new engines or new cylinder assemblies and they simply fall out. Once the engine has accumulated over 10 hours and they have not fallen out, they assume they are the right size. (kind of makes you, wonder doesn’t it?) This SAIB was issued due to this happening with a total of 3.3 hours on the tach on one engine and the other didn’t even get into an airframe before it self destructed on the test stand. The SAIB spells out the procedure of determining if you have an engine or cylinder assembly that

might be effected.

## PZL FRANKLIN SERVICE BULLETIN PZL-F/62/99

Applies to the 6A-350-C1R & 6A-350-C1L  
PZL has created a special oil drainage pipe PN 26.08.0700 that will facilitate the draining of engine oil. Their concern was that without the new pipe PN 26.08.0700, damage may occur to the drain valve head (by using another tool to keep it open). Velocity builders with Franklin engines should order this part from a US distributor and obtain a copy of both the service bulletin and the updated pages for the manuals (no 26.0.197)

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# 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.

## GETTING BACK THE ELBOW ROOM

*From Al Gietzen; Vista, CA*

Back in the early '90's I was convinced that I wanted to build a Lancair 320. Then at Oshkosh 1994 I wandered by the Velocity booth and decided to climb into the cockpit and check it out. Settling into the pilot's seat I immediately had the sense that this was my airplane. The visibility was good; there was a sense of security sitting below, and looking over, the wing. And most of all there was the sense of space because my left arm could rest comfortably out into the strake. I quickly began to lose interest in the Lancair.

That was, of course, before the Elite doors. One of the main drawbacks of that earlier design was that people who were smaller (and/or heavier) than my 6' 4" frame had a serious gymnastic challenge getting up on the strake, over the sill and into the airplane. So when the Elite doors became an option it was a definite improvement.

Before buying my kit in 1996 I went to Florida to take a flight in the new model, and was disappointed that my sense of comfort in the cockpit just wasn't there. That left elbow room and armrest were gone. A later mod included opening the tip of the moved-back strake to the inside of the door, but being too low and too far back it didn't much for help us tall folks who were the ones that needed that room.

Wanting the best of both worlds, I bought the Elite option and decided to make a design modification which would give a strake opening to the



inside very much like the original strake, while maintaining a strake piece on the door that didn't stick out any further than, and weighed about the same, as with the normal Elite design.

The shape of this strake extension (see photo) has a profile on the door that is the same as if the strake were slid forward to about 2" from the front of the door. There is a break in the line of the leading edge right at the door cut, and the strake extension blends smoothly to the strake. From the door back, the all aspects of the strake installation are stock.



This mod required determining the proper profiles and building molds (one for each side) to make the new parts for on the doors. The strake extension part is strong and lightweight, made with 1/4" foam core sandwich. Additional reinforcing plies are placed along the leading edge. The weight of the new part is comparable to the normal portion of the strake that would be attached to the door, plus the weight of the piece cut out of the door; so the door weight is not increased. The distance out from the door at the door cut is the same as the normal Elite (about 10"). See Photo 2 (attractive woman not included).



The inside view (photo 3) shows the considerable arm and elbow room. It definitely gives the feeling of a wider cockpit. The latch rods need to be modified as shown. The additional hardware includes the intermediate bellcrank and its pivot mount, some 5/16" aluminum rod, and a few more clevis pins. The two front rods can be made by cutting and modifying the existing front rod. A new rod is made for the lower rear corner latch pin, and the lower latch pin tube alignment and location is slightly different. I find the door latching to be smooth and not noticeably different than the standard latch arrangement. Of course this modification also requires rework on the inner door panel to accommodate the opening.

Based on similar extension on Long-eze and Berkut, I expect no noticeable change in flight characteristics. Although high speed jets use leading edge extension to enhance low speed lift and handling by generating low-pressure vortex over the wing, affect is likely not noticeable here. I can provide parts for anyone interested, and you can get more info at <http://home.utm.net/alventur/strakext.htm> or contact me at my e-mail address: [Alventures@msn.com](mailto:Alventures@msn.com), or phone me at 760-630-5555.

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## Update on the Rose's Second Velocity project

*From Wes and Becky Rose, Michigan*

I thought I would stop work on the new XL long enough to let everyone know what's going on up here in Michigan.

As a lot of you know, Becky and I sold our 173 FG last April and Travis delivered us a new XL kit the end of June. Again, like the 173, the kit was not a fast build. By Oshkosh time the wings and winglets were glassed, all the bulkheads and main gear legs were installed. By Thanksgiving, everything on the



lower half was ready and the glass was installed in the upper half. The two halves were mated on Thanksgiving weekend.

Building a Velocity the second time goes much easier. I have noticed a lot of improvements in the kit over the 173 that have eliminated questions and time taken from the build-

ing process. In talking with Duane and Scott, we have made a couple of changes.

One is Naca Scoops in the top of the fuselage for engine cooling. Templates are available from Velocity. The other is to split the fuel sump into two separate tanks by adding a partition in the middle and putting in a fuel selector valve. I have also run heat ducts along both sides of the keel and added an electric heater in the section behind the keel fins in addition to the oil cooler heat source. It gets really cold here in Michigan!!

One other thing I would like to mention, while testing the retract system, I found that I placed the nose wheel guides back a little too far and

when bringing the nose gear up with the wheel cocked a little, it would come up okay, but the fork would catch on the sides of the opening for the wheel and would not let it come down. I lengthened the guides out to cover the arch of the nose wheel fork as it travels up and that took care of the binding. It's just something else to check as you test your gear.

Hope to see a lot of you at Sun N Fun. We will have to fly the Seneca there, but we are planning to have the new XL at Oshkosh.

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## Letter from Europe

*From Denis E Wood,  
West Essex, England*

As this is our first letter to Velocity Views, we must begin by saying how very lucky we think you builders are to be construction your Velocitys in the USA, where you can easily communicate with each other and attend forums and workshops to help you on your way.

We are working very hard to build our Velocity 173 RG in a rented hangar in Cannes in the south of France. As far as we are aware, the only other constructor in France is Dr. Frederic Villard, who is working away in his garage near Geneva on the French/Swiss border some 400 miles away.

We follow the views expressed in *Velocity Views* with great interest and have adopted a number of "good ideas" put forward by builders – but we are very much alone with no one in easy reach to see how they solved a particular problem, therefore the time taken to complete the various stages is twice as long.

Duane and Scott are always helpful and supportive, and, together with Malcolm at Hangar 18, have saved us many hours of "head-scratching," but there is no substitute for actually seeing how a fellow

builder has done something. Our visits to Sun 'n' Fun and Oshkosh help, but by the time we return home we have forgotten the details!

In spite of all these logistical problems, our Velocity has much of the composite work completed – we are in the process of completing the fuel strakes. These have proved very time-consuming as we chose to fit the larger XL wheels and this has involved re-designing the layout of the baffles and bulkheads, not to mention changes in the nose wheel bay.

During the past three years, we have been in close contact with Marane Renault, who are developing a family of General Aviation turbo diesel engines, ensuring no drop-off in performance below 15,000 feet. Renault, who are the largest manufacturers of cars and trucks in Europe, were approached by Socata Aircraft Co. back in 1995 with a request to design a completely new family of small diesel engines. Renault Sport Division – based near Paris – having completed six years preparing Formula 1 racing engines, culminating in six consecutive world championship wins, now had spare capacity.

The intention is to produce four engines in the 180HP to 300HP range – all with a high degree of commonality. The 200HP version has completed 2000 hours on the test bed and approximately 200 hours in the air in a Socata Trinidad, and is expected to be fully certified in the spring of 2000.

It is our intention to use this engine in our Velocity RG. It will, however, be necessary for Duane and his team to install the first of what we feel sure will be many Renault engine installations by Velocity owners.

The rewards are considerable – consider just some of the advantages:

Simple design  
Fewer moving parts

No magneto or spark plugs  
Direct injection  
Quiet operation due to lower rotating speed  
Air and oil cooling system  
Single power lever control and integrated engine monitoring  
35% lower fuel consumption than a comparable petrol engine  
Greater protection for the environment with lead free jet A fuel (kerosene)

We feel the Velocity is the shape of things to come – to marry it to this truly remarkable diesel engine, with the back-up Renault will provide, really must be the way forward in the new millennium.

Any reader who wishes to know more about this exciting engine, please contact me or Jack at: jack.berkin@virgin.net. We wish all Velocity owners many happy and safe flying hours in the future.

Denis E. Wood  
British Airways, Retired

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## Many Many Mods

*From Bill Mulrooney,  
West Bloomfield, Mi.*

My partner, Dan Horvath, and I took delivery of a 173E RG about 3.5 yrs ago. Since then we have learned a lot about building the plane and I think a lot of you might be interested in some of our modifications. First I would like to say how great the Swings have been and how nice it is to have a company that is willing to talk to you about any idea without being negative. Thanks.

Backgrounds: Dan is a Chemical Engineer with 3M and knows just about everything there is to know about adhesives and I have a machine shop background, studied Mechanical Engineering, and built custom cars from the ground up. Now to the good stuff.

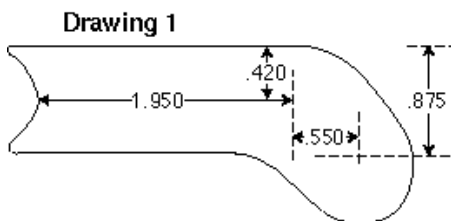
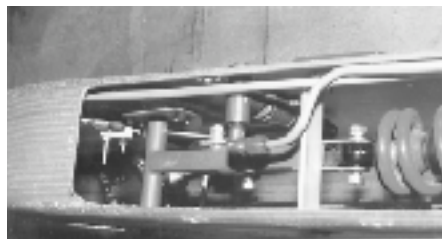
1. First idea when buying a kit-plane was to form a Limited liability Corporation (L.L.C.) hence OFFROAD FREEDOM L.L.C. was



born and the kit was purchased under that name. As the lawyers say, you have to limit your liability. God forbid the day the our plane crashes and hurts someone on the ground, but if it happens we did not want to see our wives and children stripped of everything.

2. Glassing, living in a northern climate a heat gun is a necessity. Sand, vacuum area, acetone wipe bond area, paint area w/ resin, wetout glass on plastic, use heat gun carefully to promote cure till almost tacky, stick glass in place, stipple with brush and heatgun and all difficult lay-ups become easy with no runs drips or errors.

3. There has been a lot said about RG nose gear door sequence valve location and the best solution to me was in V.V. a while ago and it works great. The plumbing is a little harder, if you pre make all your lines right before you mount your console it's not too bad. Our valve is bolted to the pilot side of the console on the bottom of the wooden pad for the forward control stick bearing and activated by the arm that the over center gas strut bolts to. (See photos) Also you can extend the arm that the gas strut bolts to, to increase its mechanical advantage. (See drawing 1)



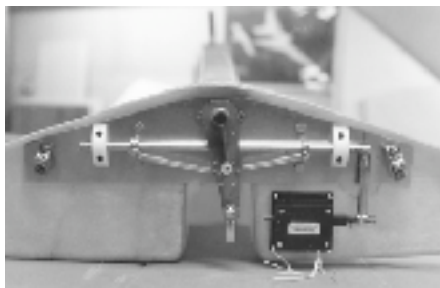
4. We relocated the gear dump valve to pilot side and plumbed in tees above and below valve for hi and low pressure taps.

5. We added a second oilite bearing to the outside of the control stick. (See photos) This idea I got from Tim



England. It's not that the old system was unsafe, we were just trying to eliminate future control system slop. It was made of 1 X 6 X .125 alum. plate that was bent so stick has full motion, then drilled for bearing to press in. Jamnut/inner bearing race was made from 1/2-13 bolt w/ threads turned off down to ID of bearing pressed into alum., then drilled threw center and tapped to act also as jamnut for bolt threw control stick. Alum. welded to tube using assemble as fixture.

6. The roll trim system seemed prone to maintenance and lacked a position indicator plus Dave Blacks mod. got me thinking. Our system uses a Mac 8a servo, some 3/8 stainless tube I had, and 2" delron rod I had. (See photo) You move hose clamps on rod to adjust system



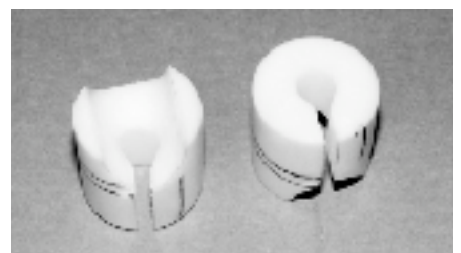
preload. Other reason for this design was to keep servo low for interior finishing ease.

7. Our EAA tech advisor is Jim Price, the guy who holds an altitude record in his Long Eze, and he gave us this advise. Use soda straws over brake lines on gear legs before slurrying and glassing, then your lines can be slid in and out easily w/ out increasing the bump in your gear leg by much. He also recommended



using elect. gyros for a couple of reasons - At higher altitudes vacuum gyros can lag. don't have to worry about foreign object damage (elect units are sealed). In our case don't have to try to mount a vacuum pump on our V-8 auto engine and if engine fails gyros will still work.

8. Sealing all gear openings on RG. Why, because Duane once told me that the RG is actually louder than a FG due to poorly sealed gear openings on RG. Well, to seal the nose gear opening is fairly easy. I used 2" dia. delron rod, machined it to same length as gear throw bolt tube 4.225", then drilled a 5/8" hole threw center, now a perpendicular hole threw the center using a 1.250" hole saw, now cut rod in two threw 1.250" hole, now in order to get them to fit over gear throw bolt hole you must cut slots for gusset plates (look at photos to better understand). What we have done is increase the throw bolt tube OD size from 5/8 to 2". This allows opening to be sealed



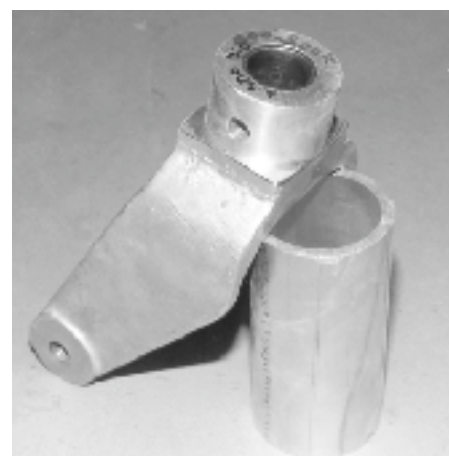
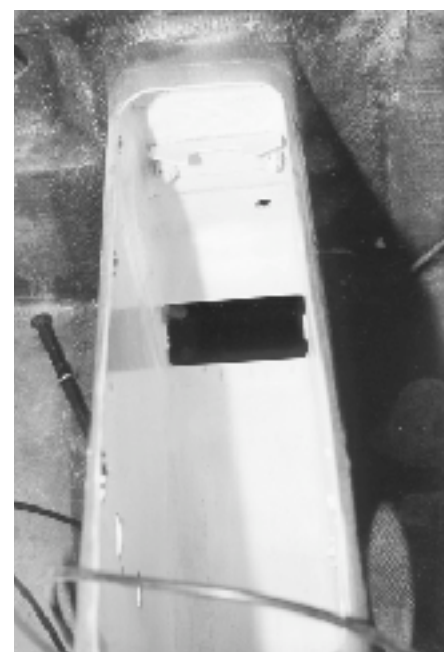


on both sides of gear leg, centered on bolt hole. Disk dia depends on distance from bolt center to transverse bulkhead above. ours was 2.75 radius. Then duct tape disks and bolt to gear legs and fill semicircle w/micro balloon slurry. File slurry after cure down to disks the remove disks. Then do the same for the lower side. (See photos)



taxiing in and out of the hangar or wherever. So first I had the top square part of the nose wheel caster turned down to 2.5", then I bought a 3" dia. alum. tube w/a .250 wall, giving a 2.5" ID. I made a spring loaded pin system that when the pin is pulled out 1/4-20 threads are cut on end so turning pin when pulled out locks pin out allowing hand taxiing. 3" tube rotates on nose fork. When released pin engages into hole drilled into fork. Tube is rotated by 1/16 cable (rudder cable) that wraps tube in a slot and is anchored to tube in front cable then make a sweeping turn to top of gear through a bike cable sleeve through my 2" delron blocks and then over the top of the blocks inside the plane so that when the gear retracts the springs that react rudder pedal movement into wheel movement are relaxed so in flight the pedal effort is normal. With this mod nose wheel guides inside the nose are Mandatory. (See photo 8) I really do not want to be more specific until it's tested but I thought maybe some of you are like me in that sometimes the original idea might escape me but once shown the light I can think of many ways to possibly improve it and really enjoy brainstorming it with others.

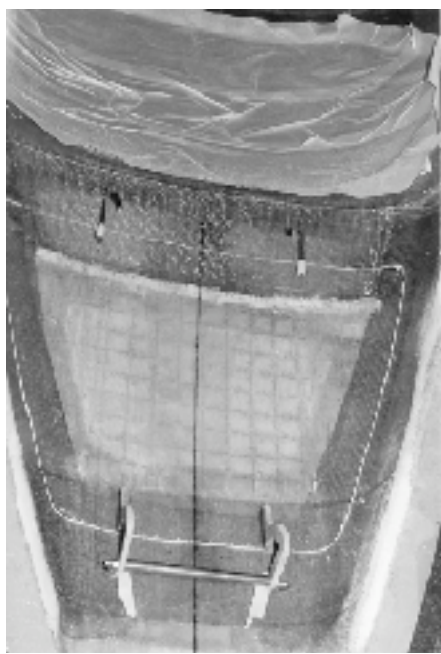
off squarely by adding glass in console to come out to delron then cover glass w/smooth side of velcro to act as sealing media. Simple, right? Inside of console was painted white to better identify hydraulic leaks if they occur.



9. Since Dan and I intend to fly into the mountains to sSki often, one way I thought to reduce take off distance in cases of a cross wind and to add safety in case of a brake failure was to make the nose wheel steerable so on takeoffs you do not have to tap the brakes. One thing I always try to remember is that all of us building a Velocity are doing so because we think pretty highly of the plane and so when doing any modification you always have to ask yourself am I doing it to make the plane truly better or just to make it unique or personalized. So in design I did not want to loose the ability to have the nose wheel free spin for ease of hand

Main gear was sealed by cutting 3/4 plywood into disks w/hole in center for main gear bolt to go threw to allow bolt to used to clamp disks





10. Dave Black's article on the RBH came just in time for us, but, like I said, he showed the light but I did not want any screws showing like Duane brought up, so our answer was to hinge it in front by making hinges the same as with the nose gear doors – but larger – and to lock it down by using 2 door pins and tubes under windshield that spring out into nylon tubes glassed to RBH. Pull a rod at the top of the dash and a gas strut opens hatch. We plan on storing O2 bottles there, Duane told me how to just rotate trim spring rearward, flip it over and



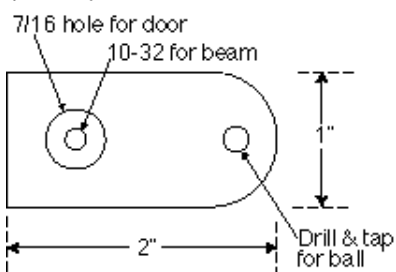
run actuator parallel to canard bulkhead so that area under RBH could be used for storage. Area is sealed using door weather stripping. (See photos Thanks Dave for writing in *Velocity Views*; it's made our plane better.

11. The Elite doors. The Swings created one of the easiest planes to get into and out of with this door system, and their factory plane doors work pretty well. But after creating the openings, seal lips, and attaching the hinges our doors opened well. So we bonded all the latch tubes in place and the doors latched and unlatched beautifully, almost no

effort. Then we attached the door gas spring and everything went to hell. The gas spring, due to poor mechanical advantage on the door (too close to hinge point), flexes the tabs the hinges are attached to, and bows the roof up enough to place the latch pins out of alignment and rotate the door back to the point that it would rub on the rear of the opening. After talking to Scott we reinforced our doors with carbon fiber, and created a 1/2" foam/carbon fiber beam across top of fuselage just outboard of hinge attachment. After all this it was latching but not right. So I bit the bullet and started playing with different gas springs and different points of attachment and what I came up with works great and I am sure with this location we would not have to reinforce anything. The idea came from pictures of a Lancair 300 in AOPA. The gas spring now mounts high on the carbon beam (see photos) to a 1" x 1/4" x 2" long piece of aluminum (see drawing) that slides into a slot cut in beam so



## Door and Beam Mounts (make 4)



aluminum can be screwed with countersunk screw to forward face of beam. It could also be bonded but so far it seems very strong. You want center of threaded hole for mounting ball  $3/4$ " off side face of beam. Height of slot in beam is determined after mounting tab in door, attaching gas spring to door, then open door so that outer door lip to sill dimension is  $52\ 3/4$ " (look at fig.11-25 in manual). Rotate cyl. past beam and cut slot to place ball  $3/4$ " inboard of beam on this radius. The door mounting point is a slot centered  $8\ 1/2$ " above upper latch pin and  $11\ 1/2$ " down from upper door stiffener. It is about a  $1/2$ " higher than ball mounted in the beam on the old system. This slot runs parallel to stiffener but rear edge of slot should be at least  $1/4$ " forward from edge, otherwise cyl. will hit seal edge. This alum. tab is  $1" \times 1/4" \times 2"$  long also, but instead of being screwed in it is potted in with micro-balloon. I drilled a  $7/16$  hole through tab at end bedded in slurry and it also appears to be very strong. On door, mount tab so threads on mounting ball just clear stiffener; this lessens overcenter problems. With this system gas spring is closer to beam when the door is closed, and out of the way completely when the door is open. When closing, the last 2-4" are over-center meaning the door gas

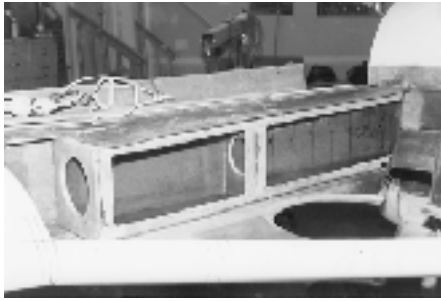
spring just starts to push the door closed. This could lessen chances of doors opening in flight. When opening, after about 15-20" the door opens itself with a 60# gas spring. Scott sent me 30# gas springs and they just hold the door open, and when using the 60# gas springs the door latches great and this system counteracts the weight of the door that is forward of the hinges. Some of the pictures show the factory system and mine to show the different angles and the better mechanical advantage. I also changed the door hinge screws so that they screw in from inside the plane, no screws through the outside of the roof. Cut hinge pockets the same then slurry foam and apply only 2 plys fine bid lapping recess and surrounding inner skin, then glue door in place, hot glue  $3/16$ " spacers in recesses, then glue loose hinge end to spacer, be sure spacer does not cover holes in hinge, cover lower side of hinge with clear release tape (hinge should already have #21 holes drilled but not tapped), then glass 5 plys  $7 \times 7$  triax over hinge lapping onto fuselage. When cured shine a light from above and mark hole locations and drill carefully. Break door open and remove tap hinges with 10-32 and drill triax with about .200" drill. Reinstall door using stainless 10-32 screws. After fitting remove door and glass over both with  $7 \times 36$  triax, this reinforces dripedge/seal area also. Again shine light and drill and your done. You now have a water/air tight hinge attachment that can allow minor adjustment of door, uses stronger screws, and has no screws to look bad on the outside of your airplane.

12. Installing fuel bulkheads and baffles. I used pieces of wood ( $2 \times 4 \times 3$ ) hot glued to strake bottom, two per bulkhead/baffle, so that for fitting they could be slid in and out easily always going back in the same spot. This made fitting the top strake easy because I was able to slide almost all in and out through wheel well opening without removing top strake. (See photo) We also installed the rear fuel bulkhead (I) and the out-



board (B) and center (D) strake ribs differently. First we hot glued the rear bulkhead in place with duct tape on lower edge, then we laid up the lower 2 fine bid onto lower strake and tape on rear fuel bulkhead. After cure remove bulkhead, next draw a line on upper strake where rear fuel bulkhead runs along it, then apply duct tape to upper strake  $1\ 1/2$ " forward of line and all the way to rear of upper strake. Now cut 2 fine bid the length of your rear bulkhead and wide enough so it can lap onto center section spar and about an inch forward of rear bulkhead. Ours was  $5 \times 10 \times 44$  long. Paint top of spar, wet out glass, when tacky apply lay-up to spar, install strake top, then threw gear hole or threw side of fuselage apply drooping lay-up to top of taped strake and let cure. Remove upper strake, fit rear bulkhead in place under last layup and trace forward edge onto upper layup. Now I used foam trimmings from bulkhead material but strips of wood would also work, just tape the rear side and hot glue to upper lay-up to simulate top of rear bulkhead. You have to support end of foam or wood out at wing end other wise it will droop. Now fill gap between bottom of spar and lay-up with thick micro-glass and cab-o mixture and glass over with 2 fine bid from the bottom of the upper surface of the spar across fill, then out and down on tape surface forming upper surface for rear bulkhead to bond to. Now after cure fit in outboard and center strake ribs behind upper and lower formed edges and glass in place. Use wood with tape on rear face hot glued to upper and lower edges to form lay-ups that will bond later to rear fuel bulkhead. Last step is to mix up micro-glass and epoxy, spread onto all edges, and press rear bulkhead in



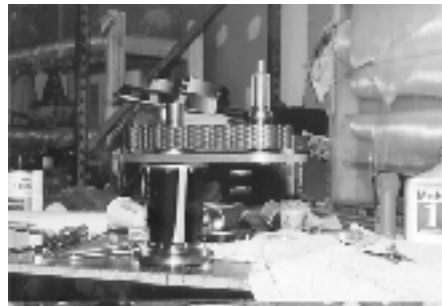


place and let cure. Apply bid tapes to upper and lower forward surfaces of rear bulkhead and you're done. You now have a very strong box structure that has a large bond area for top strake installation that should not leak and there is no need to flip over the plane and to try to do those lay-ups from the ends.

13. Oil cooler. We are using an all alum. small block chevy engine and auto engine. I would recommend using the factory oil cooler system. Oil can easily account for 50% and more of your cooling on autos so this way you get cabin heat and can shift useful wt. to the nose and use less



radiator and water in the rear, plus I have a clean way to draw air through the oil cooler on the ground using a 3" bilge blower that in flight leaves the exit duct open. The side of the duct with the short turn radius has to be squared off so that a new flapper door can be installed that can completely close off the exit so the blower can draw a negative pressure in the exit duct when on the ground. The blower is used as ducting from exit duct through canard bulkhead then into the keel, that is used as a heating plenum.



14. Propeller speed reduction unit. We worked with Aero Kinetics in Wa. (360-458-8775) for our Morse chain reduction unit. He makes the housings and you supply chain and bearings, and, in our case, the input shaft. We wanted a torsion isolator and he said if we supplied the input shaft and the torsion plate he would build the rest. The assembled unit turned out nice after I did quite a bit of sanding and some painting. The

shaft offset seems perfect at 6.9". This is almost 3" shorter than Northwest Aero's belt reduction. This will help get the oil pan out of the lower cowl along with raising the prop center line 2" like Scott recommended, similar to the XL. We are also using a 12 3/4 dia. flywheel instead of a 14". Everything to clean up the lower cowl counts. (See photo) Engine is only for mockup.

That's all for now, if you have trouble understanding any of this you can E-mail me at majomlry@aol.com or call me at home at (248)366-7951. Just remember this is EST time zone.

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## Newsletter... Please Help!

Publishing a newsletter with such a small subscriber base is quite a challenge. Keeping cost (and hours spent) down are important. Here are two things that you can do to help Velocity Views:

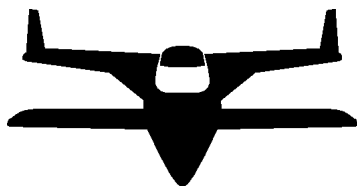
### • **Renew on time!**

When you renew late, you cause me all sorts of extra work, as I now need to process each late renewal by hand. There is now a **\$5 late charge fee** for renewals that come in after December 31, 1999.

• **Pay by check...** Credit card option is **only** for international subscribers (to make currency exchange easy). The time it takes to process credit cards is very very inefficient and costly.

# Buy Sell or Trade

Velocity parts, tools, kits, flying Velocitys: **Free** and exclusive to *Velocity Views* Subscribers.



## Velocity 173 RG-XL Kit For sale

About one-third to one-half completed. Excellent workmanship by my deceased husband, Bill. All parts except engine, prop and instruments.

\$42,000.00 OBO

Call Elaine Luedke in Arizona at 520-684-9137

## For Sale

### 340 HP "Performance Aero" IO540 Engine

Complete engine, competition winner, a "zero" tolerance engine on all dimensions. Critical to performance and reliability. In works now - available March 1st 2000 \$5,000 deposit, \$28,000 + shipping - more details, call or fax Lynn Swann, San Dimas, CA 909-592-2700

## For Sale: Chevy 4.3 Aluminum Block & Heads.

Block is 4" bore, 2 piece rear main seal, wet sump, about 78 lbs compared to Iron at 160 lbs, never been used. Also V-6 alum. heads, older small port, large valve 2.02 & 1.60, part#14044802. Perfect for high torque at low RPM. \$2400 Call Bill at (248)366-7951 or E-mail at majomlry@aol Bloomfield Mi.

## For Sale

### Experienced Tip-Over Cradle



173 Fixed or RG

\$50.00 at Osprey, FL

Call Burt Kellerman at 941-966-9575 or burtvelo@home.com

## FOR SALE

### Velocity Standard RG Kit

(Fully upgradable to Elite)

Serial number DMO-202

Kit purchased April 1993

Canard /elevators completed to primer

Wings /winglets /rudders /antennas glassed; ailerons not started

Fuselage /strakes /gear untouched (fully upgradable to Elite with factory-available components)

Meticulous engineer workmanship Epoxy pump & aircraft tools included

Detailed photo documentation

New manuals; All issues of VV

This is the most inexpensive quasi "fast-build" kit you'll find. Price fully negotiable; you'll save enough to pay for your engine. Let's make a deal.

Gary Clark

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gary.clark@viclink.com

PRINCE PROPELLER, 68 X 72 for 180H PUSHER, 70 HOURS, REPAINTED, \$500.

AMAR DEMUTH PROP 66 X 75 FOR 180H PUSHER, 100 HR, REPAINTED, \$500.

Contact Tim Troyer at ph (309) 264-9480 or SKYRI10397@aol.com

## For Sale

### M-T prop (hydraulic) for Velocity XL

MTV-9-B/LD178-102 3 blade prop, p-622 spinner assembly brand new from MT and still in the original form received from the MT assembly factory in Orlando

\$9495 plus shipping from FL

Contact Frank Brock

frankb@eapi.com or 513.794.1970, Cincinnati OH

Place **your ad** here... FREE to all current subscribers selling parts, tools, kits, & flying Velocitys. Your ad will run once per submission. See last page for deadlines. Please do not type text in all caps!

## Factory Information

### Velocity Inc.

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Builders Hot Line:

561-589-0309

Fax: 561-589-1893

Internet web site:

<http://www.velocityaircraft.com>

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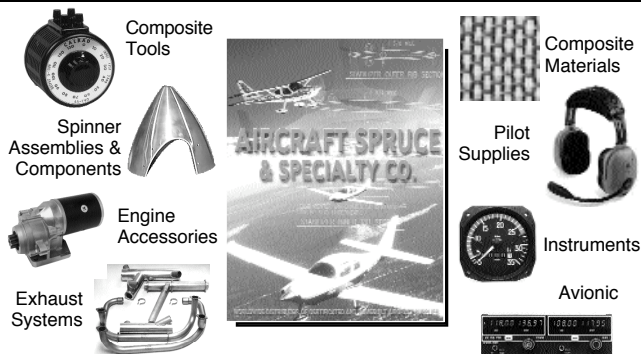
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## Builders HOT LINE

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. We are working on an additional revolving number for this hot line to eliminate the busy signals you get on certain days.

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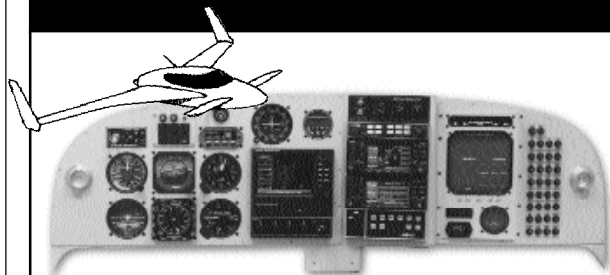
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