VELOCITY VIEWS

Volume 15

Prudhomme's XL Wins "Outstanding Homebuilt" at Sun N Fun

Photos by Jeff Barnes

Imagine bringing your newly built Velocity to Sun N Fun and winning a top award! Well that's exactly what happened to Jean Prudhomme! N140JP won a top Sun N Fun award for the "Outstanding Homebuilt". As you can imagine, Jean was just glowing with pride and satisfaction. Well done, Jean!

In this issue

Sun N Fun 1998

This will serve as a thank you to all of you who flew your Velocity, flew your spam can, flew the airlines, or drove to Sun-N-Fun. Of special note were our Canadian pilots Tim England, who flew his V6 powered Velocity down from eastern Canada, Mike Hillyer who flew 2300 miles from western Canada, and our good friend Jean Prudhomme who flew the showcase and many other flights throughout the week. Jean also took home a top award for his Velocity XL RG. Thanks also for Wes Rose who brought his beautiful Elite down from Michigan and had it on display in our exhibit most of the week, and also Rick Lavoie who also had his Standard RG on display and filled in for Scott and me when we got busy.

Our Monday night dinner was attended by 114 builders with a few wannabes thrown in for good measure. Dinner was excellent and we will be using this same country club for future Sun-N-Fun get-togethers. Doug Dours was present to give us an update on his Delta Hawk diesel engine program. He utilized our tent VCR to show the engine running in the Velocity. We will keep our fingers crossed for a flying Delta Hawk at Oshkosh. We also heard from an aggressive engineering team with a three rotor, direct drive turbo or PRU turbo Mazda engine. Horsepower ranges from 200 to 500 depending on size and configuration. They plan on a unique monitor system that will compare a base line healthy engine to your engine and provide an instant indication to the pilot of anything that is not proper. This would include things like bearing temperatures, seal temperatures, water and oil temperatures, spark plug condition, and some 20 additional probes placed in critical locations throughout the engine. With this system, the pilot could use a telephone link to the manufacturer and down load all the information on the engine condition and get an instant reply as to what is wrong with it. Another unique program is the use of a multi-bladed highly curved propeller of relatively small diameter directly driven, (no reduction units) turbo boosted, intercooled, turning in the 3500 RPM range producing 300 or more horsepower. The projected weight of this unit, with cooling system is in the 350 lb. range. Don't call me on this unit as there is a lot more to producing an aircraft engine than talk. Just ask Doug.

I must admit that I am writing this news letter on American Airlines enroute to Puerto Vallarta Mexico. Bonnie and I are taking a few days rest after Sun-N-Fun to be with some friends. As some of you know, our daughter, Kelly, works for American and the cost for the round trip for two is about $50.00. (Eat your heart out) Our first stop in Mexico is at a Taco Bell for some real American food.

Duane

Jean Prudhomme's award winning paint job includes this mural painting of a bird smashing into his wing. Only Jean would think of this idea. It looks just great in color!

Velocitites Boycott Sun N Fun Portable Toilets

Photos by Jeff Barnes

By an anonymous writer who absolutely hates using those portable toilets!

I have some very good memories of Sun N Fun. Prior to finishing my Velocity RG, I used to spend the entire week camping out at Sun N Fun with my Long EZ friends. There are only two things about this experience that I remember as "not so pleasant": rainy weather and using the portable toilets!

This year when the Swings invited me to display my Velocity at their booth, my immediate reaction was "Do I have to use those portable toilets?" At that point, Martin Hadley suggested "No, we'll boycott!" We all agreed that we would not eat or drink anything all morning long, thus allowing us to stay in a holding pattern until we got back to the motel rooms. Well, you can see by the photos that we failed!

Continued on next page

"I especially enjoy using the Portable toilets around 2:00 pm. during the heat of the day", explains Martin Hadley. Hadley, leader of the great boycott, finally breaks down after 6 days of successfully avoiding the portables. "If Lavoie and Barnes hadn't taken me out for lunch that day, I could have made it."

Above photo shows Jeff Barnes checking out the big "Explorer". "This is the only plane here that has more stuff in it than Jean Prudhomme's XL. It even has a flushing toilet!", exclaims Barnes. This may explain why Bonnie was often seen sneaking over to the Explorer!

Speaking of the Prudhomme XL, towards the end of the week, Duane made the mistake of turning over the PA announcing for the daily "aircraft showcase fly-bys" to Scott and me. While walking over, Scott explained that I could say anything I wanted to because nobody would be listening anyhow. So when Jean flew by, I announced the stuff about the plane, and added that the new XL was so big that Jean had a TV, VCR, 16 CD stereo changer, and a hot tub behind the rear seat! Well I guess that some people (besides Duane) did hear this, because when Jean landed, people went to his plane to see all this stuff! Jean delivered on everything except the hot tub. He explained that the Sun N Fun officials made him remove it for the fly-bys.

Lavoie breaks down and finally uses the portable toilets! "I tried to hold out til we reached our motel rooms," says Lavoie

FACTORY NEWS

by Duane Swing

AVEMCO INSURANCE CHANGES

We received a call from Avemco Insurance the other day complaining about the high cost of repair of the Velocitys that have been damaged and/or destroyed. As a result, Avemco has issued a statement to all the Avemco offices to not insure any more Velocitys until some sort of conditions regarding training or minimum flight times have been established.

I have long pleaded with Avemco to not insure any Velocity unless the pilot has had a check out by a Velocity factory pilot within 60 days of his first flight. Avemco did not, at the time, think this was necessary as long as the pilot met the standards needed for insurance in a like airplane. To Avemco, a Cessna 172 was the same as our fixed gear airplane and a Cherokee Arrow was OK for a Velocity RG. This has now all changed.

Avemco acknowledged the problem, in part, was due to the average FBO not having a clue as how to repair a Velocity and charging extremely high amounts for seemingly light repair. One of Avemco policies is to allow $15.00 an hour for the builder of the airplane to do his own repairs. This has opened the door to some very high repair bills as the owner/builder can charge just about anything he wants under this policy. We were told of one builder (no name) that charged Avemco almost 700 hours to repair the damage caused in a gear up landing, plus another $2000.00 in parts. It may be accurate, but not what I would expect in a gear up landing. I personally know of a Velocity owner (not builder) who had a repair bill prepared by a friend for almost $2500.00 and then had the actual work done by one of our more professional builders for under $100.00. He didn't give the money back to Avemco I can assure you. I know of another case of a pilot who accidentally got his Velocity airborne on the first high speed taxi (no check out) and lost control resulting in damages that no one wants to repair. The owner had most of the work done by someone else and couldn't fix it if he wanted to. One of our more professional builders looked at the airplane and refused to accept the responsibility for repairs as there were so many other things wrong with the airplane that made the airplane unairworthy even before the crash. Avemco had no choice but to consider it a total loss and paid the claim.

I don't know just what Avemco will ultimately decide to do, but I can assure you that it will cost all of us a lot more money from now on. I also look for a much higher deductible and probably more pilot in command time needed to qualify for insurance.

I will still promote the Velocity or Velocity West check out and I am sure Avemco will too. Expect check-outs to be at least 10 hours for an RG and perhaps 5 hours in a FG. This is only a guess on my part. There may also be more detailed inspections necessary for insurance. Look for Avemco to insist on the EAA Tech Advisor inspections and log entries for these inspections.

My honest take on all this is that it was bound to happen sooner or later. We have heard of many of the accidents that not only didn't have to happen, but that were easily preventable with only common sense applied. Those of you who read this and can claim partial responsibility for what has happened, shame on you. We will all suffer as a result.

Duane

Update on the Newest "Low Cost" Velocity The SUV "Sports Utility Velocity"

FYI

The guys in the shop continue to work on our newest airplane N101VA. Its filling and sanding time here with all the glass work completed. For those of you who don't remember, N101VA is going to be a low budget, low weight, low power, single gull wing door, no frills version of our standard fixed gear (1/2 Elite) aircraft. We are using a light weight version of the popular Lycoming O 320 engine modified for fuel injection and producing about 170 horsepower at 2800 rpm. The lightweight Subaru Stratus 180 horsepower auto conversion was also considered but we stuck with the Lycoming for this airplane. We will be using a light weight M-T electric constant speed prop so we can get a full 170 horsepower for takeoff, (160 horsepower continuous at 2700 rpm.) Remember, a 200 horsepower Lycoming at 2400 rpm at takeoff is only producing about 170 horsepower. By keeping the weight to an absolute minimum (about 1240 lbs. empty wt.) we hope to produce a good performance airplane with great economy. The IO 320 engine will use about 8.3 gph at 75% cruise power, and 7 gph at 65%. The panel will be a VFR set-up with a single com/gps and xpounder/encoder. Our greatest departure from our present airplanes will be the elimination of most of the center console. This will allow entry into the right seats. In order to do this, we must convert our beloved center stick control to a standard yoke. I know, I can hear you now. Have they all lost their minds! This is, however, the easiest solution to the problem.

Why the push for a down size airplane, you ask? It is simple, we have molds stuck all over this place that are not being used because of the XL. I know there are a lot of people out there who just can't justify spending what it takes to build an XL. This airplane should be capable of taking to the air, even with a constant speed prop, for under $40,000. One way to recapture this segment of the market is to force our way back in. With the elimination of the center console, we can reposition the seats for maximum rear end room. Remember, the Velocity Standard is already 2" wider than a Cessna 172. The main problem in the past is the center console. This is keeping the pilot almost 4" away from the front seat passenger giving the impression of a narrow fuselage. This is especially true of the Elite because of the strake being pulled back by about a foot.

We had hoped to be flying the airplane to Oshkosh, but it just can't be done. Since we will be sending Travis up with the fast build fuselage and wings of the XL, we may load the new model in the trailer and send it too. Time will tell.

More Factory News

Builder Phone Line

We are still getting a lot of calls on the weekends and after hours using our regular number. NOTICE, I will no longer answer the -1860 number on the weekends and after 5:00 PM. Call on weekends or after 5:00 PM using our special builders number: 561-589-0309. *REMEMBER THE -0309*, that's the only difference.

Avionics Questions

As you will read later in this newsletter, Martin Hadley will be leaving us for greener pastures. Martin will still be available for panel work and Velocity will keep our dealerships for the various items normal for an instrument panel. There is, however, going to be a difference. Namely follow-up work and questions you may have regarding your instrument panel or wiring in general. We just don't have the personnel here to give you much help in this regard. Martin will be available to answer questions on panels he has wired but those questions must first be addressed to Velocity. Remember, Martin no longer will be getting a paycheck from Velocity and he can't afford to spend a lot of time trying to figure out a problem that may not pertain to what he has done. If you need for Martin to quote a panel for you, or you have questions for him that only he can answer, call us with what you have in mind and we will have Martin call you back to go over your needs. We hope this will not create any problems with our customers.

Duane

Calling All Flying Velocitys! I Want You!

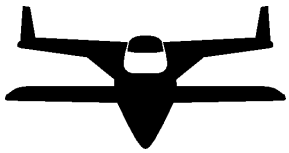
Looking for Photos and Stories of:

- **First Flights**
- **Flying Adventures**
- **Photos of your Velocity**

Send to Rick Lavoie
Velocity Views Newsletter

How about it? Send me some nice photos of your Velocity today. Keep in touch with your Velocity family. Share your experiences and we all benefit. Thanks!

August 8th Factory Open House Workshop Schedule



Saturday August 8, 1998 - Factory's quarterly open house in Sebastian Florida (X26)

9:00am	Coffee and donuts
10:00am	Workshop: ADVANCE COMPOSITE TIPS (How to make a mold for glassing parts) Scott Swing
11:00am	Workshop: PAINTING AND SPOT PAINTING TIPS (How to prime, sand, and paint your Velocity) Scott Swing & Rick Lavoie
Noon	Lunch
1:00pm	Workshop: FRANKLIN ENGINE INSTALLATION TIPS (Lavoie's N570 will be uncowled) Duane Swing and Rick Lavoie
1:00pm	Workshop: HARDWARE (understanding AN & MS hardware) Martin Hadley
2:00pm	General Q&A with the Swings
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 Drift Hotel (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.

Note: Workshops for the November open house will be:

- Hands on Electrical (soldering, crimping wire & coax connections, terminals, AWG wire, switches, panel harness, tools, etc.) Martin Hadley
- Pre-first flight inspection check list (Swings)
- Lycoming engine installation tips (Swings)

Please Renew Your 1999 Subscription to VV Early

Please consider renewing your subscription for the 1999 Calendar year today! If possible, please pay by check versus credit card. You can prepay as many years in advance as you like too! If all your info in my data base is still correct, then just drop a check in the mail to Rick Lavoie. Thanks!

Sign up for the 1998 Velocity Oshkosh Banquet

FRIDAY, July 31, 1998 - The 1998 Velocity Oshkosh Banquet is all lined up for July 31st to be held at the Hilton Convention Center's LaSalle Ballroom. Social time starts at 6:30pm, with dinner served at 7:00pm. Cost per adult is $18.00, three entrees to choose, cost per child (age 4-10) is $9.00.

Call the Velocity office to be put on a sign up list, or stop by the Velocity booth prior to noon on July 31st (Friday). Thanks.

Bonnie

Our Oshkosh Display Area has Moved

Please make note that the Velocity booth at Oshkosh will be back in the old "North" aircraft display area. This is the same place that we used to be in two years ago. Look for display areas #419 and 420! This is just facing "Stone Road".

Bonnie

Your World Wide Velocity Family

by Rick Lavoie

Chances are good that no matter where you fly to, you have family there. Velocity family!

Case in point. Judy and I had planned a flying adventure from Florida to New Mexico in our Velocity. I had mentioned in one of my Franklin e-mail messages on the reflector that I'd be off for a trip to Santa Fe. The next day, I had a return e-mail from Lino Moya explaining that we needed to first come visit with them in Albuquerque! I e-mailed back that we really had no plans to go to Albuquerque. He wrote back that we *had to* go to Albuquerque! So Judy and I thought it over and adjusted our plans...and we are glad that we did.

We left St. Augustine, Florida, early Saturday morning on April 4th with our English springer spaniel Darla in the back seat. With the time changes, we figured we would be in Albuquerque in time for margaritas and dinner. We landed in Jackson, Mississippi, for our first leg fuel and early lunch stop. I discovered oil leaking from my starter. It appeared that Pat Goodman used some silicone to seal a bearing on a starter that was not made to be exposed to oil (external fly-wheel vs. internal drive). We ended up spending the night in Jackson, while a friend back home put my spare starter on a commercial flight to Jackson. I ended up making a temporary repair to stop the oil leak, and, after a 24 hour delay, we were off again for New Mexico. I hate when things don't go as planned, and Judy knows how close we were to heading back to Florida. Knowing that I had some Velocity family members at the other end of my trip made all the difference. It gave me the confidence to continue, knowing they had a hangar I could work at and I could borrow tools to change out the starter.

From left to right: Judy and Rick Lavoie, Gary and Cheryl Simpson, Lino Moya and his wife Jeannine Cde Baca, pictured in front of Velocity N570 at New Mexico's Angel Fire airport. This airport is at 8,382 ft, surrounded by mountain tops, including Wheeler Peak at 13, 161 ft. Density altitude for take off that day was just under 11,000

We finally landed at Albuquerque's Double Eagle airport to find our new friends all waiting for us (Gary and Cheryl Simpson, Lino Moya and his wife Jeannine Cde Baca). It was a very nice feeling! After getting settled into our motel room, we all went out for dinner to El Pintos for some great margaritas and New Mexican food!

We ended up using Albuquerque as our base, and took some side trips to Santa Fe, Taos, and Angle Fire. We did Santa Fe by plane and car, spending two nights in that picturesque and very artistic city. Judy, being an artist, was in heaven in Santa Fe. She is already wondering when we will be going back to New Mexico to continue visiting her list of museums, galleries and historic sites.

We loved New Mexico, but truly the best part of the trip was making new friends. Everyone got along just great. It helps when you all have a common interest, and we quickly discovered we shared many. It was one of the good *unplanned* parts of the vacation: we did not know each other before the trip, except through the newsletter and e-mail. It just happened! We all know the value of sharing knowledge between Velocity builders, but our new friendships go beyond just our flying interests. And any of you who travel know what a great advantage it is to get pointed in the best direction by people who live where you are visiting.

In fact, Lino and Jeannine recently visited us for a week here in St. Augustine. They flew over in their Cherokee 180, for Jeannine's first visit to the East Coast. Lino made the most of his time here, getting a factory checkout in Velocity's N81VA. They were kind enough to make our vacation to New Mexico very enjoyable, and we happily reciprocated when we learned that they planned to visit Florida. We did a day trip together in our Velocity to Key West and both our visitors had thrilling rides over St. Augustine in our friend's open cockpit Stampe. And they ate almost as much shrimp as we ate chiles in New Mexico!

So if you are planning a flying adventure or vacation, think about getting together with some of our growing Velocity family members that you have yet to even meet! You most likely will make some lifelong friends, and have new contacts and resources in your Velocity building and flying experiences.

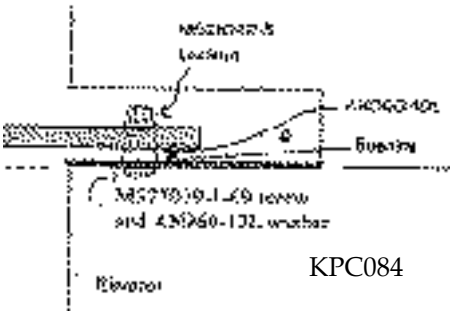
Kit Plans Changes "KPCs"

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 084
Affects: All Velocitys
Manual Section: 4.4.6 Hinge Arm Installation
Date of Change: 15 April, 1998

We have made a change to the hardware attaching the elevator to the canard. Use a MS27039-1-09 screw, (2) AN960-10L washers, and a MS21042-3 locknut. See the figure below:

The factory is supplying the new screws at no charge. Call to order.



KPC084

KPC 085
Affects: All RG's
Manual Section: 9.4.2
Date of Change: 10 May, 1998

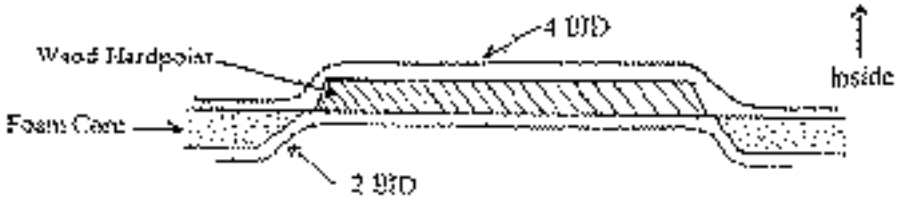
The plans fail to clearly mention installing two SF1216-8 Oilite bushings into the gear tops. Install these flanged bushings into the front and aft sides of each gear leg with microglass.

KPC 086
Affects: All XL's only
Manual Section: 10.1.5 (FG) and 10.2.2 (RG)
Date of change: 10 May, 1998

To strengthen the attachments of the aileron control bracket, the over-center linkage (RG), and the gas spring(RG), the foam on the keel will need to be removed. Proceed as follows:

Remove the outer skin and foam along the premarked lines on the outside of the previously installed hardpoints. Sand the outer skin off another 3/8" and transition the foam down to the inner skin. Round the edges, microslurry the foam, and glass two BID over the whole inner skin area and extending 1" onto the keel outer skin.

See the Figure below:



KPC086

KPC 087
Affects: All Velocitys
Manual Section: 10.5.1 Mount Master Cylinders (10.4.1 for non-Elites)
Date of Change: 10 April, 1998

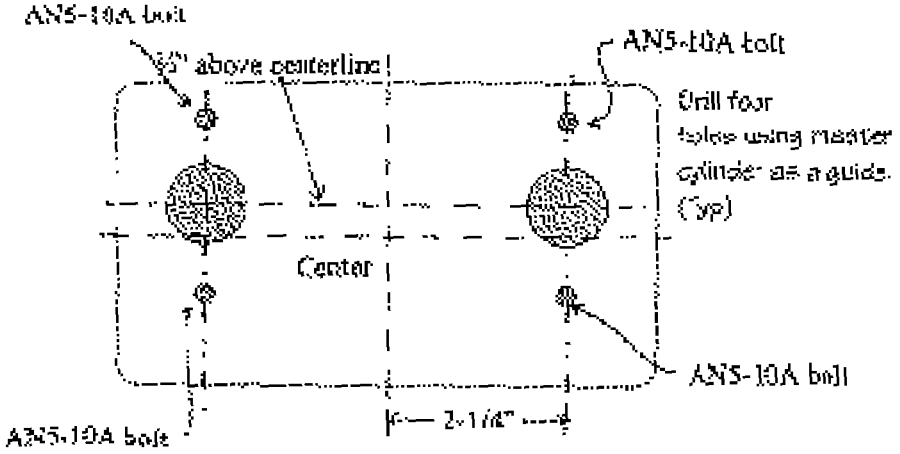
Change the directions to read as follows:

Measure and mark horizontal and vertical reference centerlines on the molded brake box on the front face of the canard bulkhead. (When finding the vertical centerline, do not include the portion that is angled in your measurements - just use the portion that is parallel to the bulkhead face).

Drill two 1-1/2" holes, centered 1/2" above the horizontal centerline and 2-1/4" out from the vertical centerline. Using the master cylinders as a guide, drill four 5/16" holes for mounting.

See the figure below:

KPCs continued on next page



KPC087

Safety Corner

Accident & Incident Reports, Maintenance & Service Difficulties

Fatal Accident Report

A friend of mine decided to learn how to fly in spite of his wife's concern about his safety and sanity. His wife refused to fly with him as long as the airplane had only one engine and it wasn't long before he purchased a used Piper Seneca and got his multi engine rating. There first cross country together was from Sebastian to Houston Texas to visit friends. As the weather began to deteriorate he radioed his intentions to deviate to the south out over the Gulf of Mexico, something he would never have done in his Cessna. At some point he lost reference to the horizon and crashed in the Gulf never to be found. This is an accident that didn't have to happen. Call it poor judgement, the desire to "get there", his security of knowing he had a "twin", whatever, it just didn't have to happen, but it did.

The point of this story is that most accidents just don't have to happen. Case in point is the recent accident that took the life of Marlin Howe. Marlin and Cory had built their Velocity with a Franklin engine modified to burn auto fuel. From early on, they had reported problems with the fuel system and at one point reported that they had experienced what Marlin called fuel vapor lock. Other problems were reported with the engine driven fuel pump failing to allow fuel to flow through when the electric pump was turned on. Parallel fuel lines with dual electric pumps were installed along with a solenoid by-pass valve to re-circulate the fuel back to the header tank to correct this problem. After modifications were done, many flights were made to confirm that their dedicated efforts were paying off with a fail safe system. Then it happened.

On takeoff from their home airport with Marlin flying and a relative in the airplane, the engine began running rough and surging and ultimately quit. Marlin was unable to get the plane back to the airport and struck trees about a mile from the airport where the airplane nosed over and impacted the ground killing both Marlin and his passenger. Rather than my speculation, let me quote the initial NTSB interview with witnesses.

"A witness, standing on the ramp area parallel to the runway, observed the airplane proceeding down the runway 17, abort the takeoff and taxi back to the end of the runway. The aircraft then successfully took off and when it was about 500 feet off the ground the airplane turned right on course and headed over Camp Robinson. I then heard the engine sputter and attempt to restart. Subsequently, this witness observed the airplane (as if it was attempting to make it back to the airport.) The airplane was "very low", just above the trees." A mechanic at the airport observed the airplane abort a takeoff and taxi back to runway 17. During the taxi, he noted that the engine was running "rough and sputtering." Another mechanic heard the airplane 3 to 4 seconds after takeoff when the engine cut out "like the throttle was pulled back, then increase and decrease and then backfire once and quit." Another witness/pilot at the airport observed the aircraft's departure and after a few seconds heard the motor "start to surge high to low RPM (maybe 5 times)" and then stop. Another witness from the FBO reported that the airplane spent a lot of time on the run-up area, possibly 20 to 30 minutes, prior to his first take-off attempt. A call on Unicom was made to ask if Marlin was having any trouble with the airplane. His response was that he was having a radio problem and was trying to sort it out.

Did Marlin have a repeat of his previous fuel vapor lock problem? Was there something wrong with his modified Franklin engine? The NTSB was not sure if they could get the engine in a condition for a test run as the crash had done considerable damage to the accessories. A tear down inspection will probably be done if the NTSB will take the time to do one. We have been asked to participate if this is done.

I will not attempt to speculate as to Marlin's decision to "go ahead" with this flight. I do, however, believe that many of you would probably say that he should have aborted the flight after his first attempt. It is impossible for any of us to assume we would have done anything differently unless we were in Marlin's shoes. He made a decision to continue with the flight and that's where it ends.

Marlin was a very giving person who spent a lot of his life in Christian family counseling, and other Christian work. He was one of the few who understood the Swing family's heartbreak when one of our

KPCs

Continued from previous page

KPC 088
Affects: All Velocitys
Manual Section: 20.2.1
Canard/Elevators

The two diagrams in Figure 20-1 contradict previous chapters concerning how to attach the canard. The torsion tab hardware should be listed as an AN4-7A bolt, and a MS21042-4 nutplate, with two AN970-4 washers. The canard lift tabs are attached to the canard bulkhead with an AN6-16A bolt, one AN960-616 washer on the front side, one AN970-6 washer on the aft side, and one AN363-624 locknut.

flock doesn't return to the nest, and had called me to express his condolences at Mark Ewart's death. He said to me that God has an ultimate plan for all of us and that any attempt we may make to alter His plan or any guilt feelings we may have as a result of what has happened just isn't part of what God would want. Those words ring loudly in my ear as I write this story.

To Patricia Ann, Cory and the rest of the family, my heart goes out to you. You have suffered more than we will probably ever know. God surely has some great things in store for someone like Marlin and it is my prayer that you will be able to see beyond the moment.

Duane

Safety Caution: Why all the Velocity Accidents?

One of our Velocity builders called me after the Marlin Howe accident and ask me: "What's going on with all these accidents? Why couldn't Marlin land someplace other than in the trees? Is there something amiss in the gliding characteristics of the Velocity? What should we know that your not telling us?

One of our Velocity family probably answered this question best at a conversation I had with him at Sun-N-Fun. His name is Ray Watkins and he has probably put more hours on his Velocity than any other builder. Ray is an aircraft controller out of Jacksonville, Florida, and regularly travels back and forth to his parents' home somewhere west of Florida. I didn't ask him how many hours he has on his Velocity, however I'm sure he is getting close to 1500 or more. He told me that when he first started flying his Velocity, he spent many hours finding just how far he could glide in a simulated engine out condition. Many simulated engine out landings were made so that if it ever happened in real life, panic would not set in and result in a catastrophic ending. He also said that he is always looking for an emergency landing spot on all his cross countries just in case something happens. These are words most of us heard when we first started flying. Practicing things that could go wrong will prepare us for the day when they do. I can tell you first hand that they will.

Why do we continue flying when we know something is wrong? Why do we even take off when we know something is wrong? These are questions I have a hard time answering. Doug Doers summed it up pretty good for those of us at our Sun-N-Fun dinner. He related an incident when prior to take off in his Velocity, he smelled gas. His passenger, who was a Cessna pilot, convinced him that that smell is quite common in a Cessna and not to worry. After departing the airport area, the smell got worse, but Doug didn't react fast enough and the engine just quit. He had departed the airport area and had no choice but to land off airport. There was no damage to the airplane and a check of the fuel system discovered a broken fuel fitting. Doug had this to say. "If you see something that doesn't look right; if you hear something that doesn't sound right; if you feel something that doesn't feel right; and if you smell something that doesn't smell right, DON'T FLY". This sounds like good advice for all of us.

Duane

Service Warning: Franklin Fuel Pump

I have disassembled-assembled and tested the automotive fuel pump that Pat Goodman installed on the Franklin engine and can answer some questions that have been of great concern to me. First of all, the pump does have an internal flapper valve that will allow fuel flow with the electric Faucet pump that we use. It does take some pressure to unseat-seat the valve but it is possible by just blowing into the "in" port. I would guess about 3 to 4 lbs. of pressure is enough. Does this mean that I would endorse the auto version of this pump. No, I would not. The pump has another flaw that is important to the safety of an airplane. In the event the main diaphragm should rupture, there appears to be a straight path of fuel into the oil system of the engine, or oil under pressure would be forced into the fuel system. A pin hole would probably not be noticed as to how the engine was running, however, you would ultimately fill the sump of the engine with fuel, or be running the engine with some oil mixed with the fuel until the sump goes dry. Not a good thing. This can be demonstrated by putting your finger over the allen set screw hole and blowing into the shaft end of the pump. You will notice air spewing out of a mouse hole just above the lower gasket seal. If this hole is not plugged, engine oil under pressure will flow out of this hole. Pat Goodman seals this hole with some JB Weld. This certainly stops the oil from exiting out the hole but would not prevent oil/gas from mixing in the event of a diaphragm failure. The modified Franklin pump prevents this from happening by installing an additional seal in the base of the pump, thus preventing the fuel from getting into the oil system and vice versa. I am sure that the PZL Franklin factory pump also uses the same internal flapper valve. We ask the Franklin people if they used a "check valve". They said no. If we ask them if they had an internal flapper valve to allow fuel to flow in the event of pump failure, they would have probably said yes. I'm sure the Franklin pump has the same internals as the auto pump.

It is, therefore, my recommendation that all the Pat Goodman Franklin engines have the Goodman supplied auto pump removed and install instead the PZL Franklin factory modified aviation fuel pump.

Duane

Short Circuit

by Martin Hadley

Departures

For those of you that have not heard, and those of you that thought it was a rumor, I must admit that I am leaving Velocity.

Four wonderful and long years ago I was approached by Duane to join the Velocity family. It has been quite an opportunity and experience for me. I have never worked for a more enthusiastic, encouraging, and generous group of people than the Swings.

While I will not be an employee of Velocity, it does not mean that I am leaving the Velocity "family". I will still be sub-contracting instrument panel work for Velocity, I have made arrangements with Rick Lavoie to continue this feature, and I am still an active participant of the Reflector, the E-mail 'chat room' if you will, for Velocity builders. I am also considering developing some future electrical options for the factory such as ready to install electrical systems. Note I say "considering"! Nothing is certain at this point with regards to such developments. Maybe with enough input from you all it may be found to be a worth while endeavor.

I will remain in the Palm Bay / Sebastian area for a yet undetermined amount of time. My wife's on again, off again move with the FAA is currently in the "Off" mode, but we are expecting to hear some "BIG" (boy, have I heard that time and again the last two years!) news around October. We'll see!?!

If you have any current unfinished business with Velocity in the area of electrical, instrument, and avionics, please call me as soon as possible so that we can close it before I leave. Velocity will still provide avionics, electrical, and instrument sales. For the moment, anyway, they just will not have me around!

This is not a goodbye, just a note to let you all know what is going on.

Grounded!

The other day I was asked to check an aircraft that had been recently finished. It seemed there were already some gremlins moving into the electrical system. Sure enough, upon inspection, some very weird things were happening.

It just so happened that we were in the process of installing a fuel pressure gauge. The gauge was in, the pressure sensor was hooked up, but the sensor was not plumbed into the fuel system yet. When power was applied to the aircraft, the fuel pressure gauge read "O" PSI. That part worked fine. But when we went to start the airplane to check on a malfunctioning tachometer, we noticed the fuel pressure gauge read full scale, or 30 PSI and it wasn't even plumbed in!

I knew right then and there what I was looking for. Poor grounds! Even in a newly completed aircraft, grounding was giving us problems. I'll tell you what I found and hopefully you can NOT do what this builder did.

The engine was freshly overhauled and had an extremely good paint job. The biggest cause to almost all of our systems was the fact that virtually none of the grounds on the engine had the paint removed from between the ring terminals and the engine case. The battery cable grounding point (right behind the alternator bracket on the bottom of a Lycoming) had a thick coat of paint on it. While the builder didn't have to worry about his engine corroding, he certainly set himself up for electrical problems.

The next thing that I found was in the hardware that he had chosen to use. While steel hardware is OK to use, do not use the chrome plated stuff! In the scheme of things, electrons tolerate passing from copper through tin plating (the plating on your copper ring terminals) to aluminum fairly well if it is compressed tight enough.. If you want to absolutely make sure you have a good ground connection, you may use a star lockwasher between the terminal and the body to be grounded. Properly secured, the washer will 'bite' into both metals and provide a good ground.

If you add chrome to the mix, you set yourself up for what is called "dissimilar metal corrosion". This is one of those things that takes some time to develop, but it acts like termites in wood. It'll eat and pit both metal materials, usually destroying the softer material completely. Chrome, while nice and pretty, it isn't a good electrical connect compared to a lot of metals. The rule is, don't use chromed bolts or washers when hooking up grounds (or power connections for that matter!).

One source for proper grounding techniques is in the AC 43.13-1A & 2A that Velocity and most aviation book stores sells. If you are unsure about what you are doing, check the book. Velocity will sell the book at cost to a Velocity builder, plus S&H.

Once we removed the paint at the ground points and changed the hardware, the engine gauges started working a lot better! In areas of extreme temperature fluctuations, stick with steel hardware. In areas where the temperature range is not much different than the outside ambient temperature, use brass hardware where possible and practical.

Grounds can cause more "gremlins" that most any other installation error. Remember, metal to metal, soft materials next to each other, and don't let them get loose!

Safe and Speedy Construction!

Views from the West

Greetings once again to all of you from us here at Velocity West, Velocity Inc's representative for sales, service and builders support on the West Coast. Admittedly the text of this column may be a bit short this time around, hopefully leaving a little more room for some pictures. Something about "a picture is worth a thousand words" comes to mind! Plus, we thought you simply might enjoy them as much as we do. Now for the meat.....

3RD "BUBBA" FLYS!!: On May 15th, I had the great opportunity of performing the first flight on the 3rd Velocity XL "to come off the line". It's tough work, but somebody's gotta do it!! Needless to say, the flight went very smooth. I've been fortunate enough in my flying experience to have done this a time or two in the past, but I must admit, this particular "first flight" was probably the most uneventful (and most relaxing) of them all. I stayed up for most of an hour, retracted the gear and explored much of the flight envelope. This particular XL is owned by Mr. Rodney Brim and was built as a joint project, with his total involvement (both physical and mental), here at Velocity West. Although a few minor changes were made during the construction of this airplane, essentially this Velocity XL-RG is stock. One significant change was the powerplant. Rodney opted for the biggest and lightest he could find. No argument here! Ly-Con Aircraft Engines of Visalia, California started with a stock 260 hp, parallel valve'd engine, did their magic to it and ended up with a 325 hp, dyno proven, monster! Did I mention I had no problem with this! Love that horsepower!

The other interesting thing about this airplane was the propeller that was used on the first flight. Although currently configured with an MT constant speed prop, the first flight was accomplished with a 76" IVO in-flight adjustable prop. Warning: Kids, don't try this at home! The ground clearance at the propeller tip was something less than 4 inches! Why you ask?....because Ivo asked me to and I like the guy. Basically Ivo wanted to get some data on his propeller's performance at high horsepower and high speed, so I volunteered. The reason for the 76" was simply that this was the longest prop he makes. Needless to say, both the takeoff and landing were very flat! Managed to do it without any damage to the prop or airplane. Only once though! After that flight we reduced the prop diameter to 72", flew a few more times, generated the data Ivo wanted, and sent it off to him. Although we have since removed the prop and replaced it with the aforementioned MT propeller, the IVO worked very well. Certainly something to consider in the future as Ivo refines a prop for this particular application. Hopefully more about that in the future.

FIRST ANNUAL VELOCITY WEST FLY-IN: If you missed it, the consensus is you missed a good time! We had it all....great speakers, lots of airplanes, good food, plenty of smiles and even a little rain. If you missed it, not to worry, we plan to do it next year. I really want to thank everyone who attended, especially those who volunteered to speak at our forums, flew their Velocity's in and/or stuck around to the bitter

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The Velocity West Fly-in, held on May 16th, featured many seminars

The row of Velocitys included Mark's first creation... looking as good as the day it was sold!

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end and helped us clean-up! A special thanks goes to Mr. Bruce Shively, who not only took the pictures that you see here, but also gave Nancy and I a pair of T-Shirts with our names air-brushed on the front and an absolutely beautiful Velocity air-brushed on the back. Nice touch Bruce!

CHECK-OUT'S AVAILABLE AT VELOCITY WEST: Velocity West is proud to announce the addition of Scott Baker CFII, to the staff. Scott has been fully trained in flying the various Velocity models and is available to you for Velocity proficiency training and check-out services. For more deatils on cost and his availability, feel free to contact Scott or Nancy directly here at Velocity West. The airplane currently being used for this work is the company demonstrator model, N94VA, which is a Velocity Elite LW (fixed gear).

NEW RG CONSTRUCTION VIDEO: As I write this article, we are just finishing up the rough filming of an updated RG construction video. Assuming all goes well with the editing, this new tape series (it will be labeled Tape Series #7) should be available by mid July. Naturally it will go out with any new RG kit purchase, but if you already have an RG kit in your garage and want the most up-to-date flick, give the factory or us here at Velocity West a call and place an order. We'll get it out to you as soon as possible.

AUTOMOTIVE ENGINE UPDATE: John Kiss is still working on the V-6 and I'm still working on the V-8. The V-8 should go on the airframe about mid-July. Currently the V-8 is running on the test stand with an AirFlow Performance fuel injection system and I love it! Nuff said until we fly it!

FLY-IN'S AND WHERE WE'LL BE: As of today, we expect to be attending OSHKOSH, Arlington, the Golden West Regional Fly-in in Atwater, California and the AOPA Convention in Palm Springs. We've talked Duane into bringing the prototype XL out for Arlington. The Arlington EAA Regional Fly-in is July 8-12. Hope to see you there!

Until later, as always, take care.

More photos from Velocity West's Fly-in

About 90 people feasted at the "Texas B-B-Q dinner

Dessert anyone? Nancy, Mom & daughter had a good time cooking these sweets!

Nancy & Mark Machado
All that work and still smiling

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.

Painting and Spot touch up

From Rick Lavoie, St. Augustine Florida

Not wanting to repeat things on painting and finishing, I thought I'd better first list past articles for your reference:

• V1 p12 "Finishing Tips" by yours truly, covers sanding, priming, pin holes, painting, etc. I have learned a lot since then, but it is a good platform to start with.

• V2 p8 "Q&A" by Scott Swing covers pin holes, primer, finish coats.

• v3 p21 "Finishing Your Velocity" by John Harvey, is a 7 page how-to article that covers a complete system for finishing your Velocity (soup to nuts) as recommended by a professional. This is a two part article that finishes on page 13 of vol 4.

• v10 p17 "Pin Hole & Primer Tips" by yours truly, covers a better and faster way to fill in pin holes.

I'd suggest that you read the above four articles first.

Since my first article on painting, I have changed to a new system. My Velocity was painted using Dupont's Chromasystem, which is a base color covered with a clear coat. The clear coat is comparable to an Imron type paint. One of the reasons that I choose this system, is that it allows you to spot paint.

I'll cover what I do to spot paint (touch up paint) an area, as this will kill two birds with one stone.

Suppose that I accidentally dropped a wrench on my wing. I now have an ugly ding about the size of a penny. Do I have to paint the entire wing over? No, not with this system. I can spot repair this area, and when I'm finished, you will be hard pressed to locate this defect.

Let's say that this "ding" has penetrated the surface right down to the glass, without damaging the glass. Here is what I'd do step by step. First off you need good equipment if you want good results. For spot painting, I have a DeVilbiss model EGA Series 502 touch up gun.

• Sand the damaged area with about 150 dry sandpaper. Prime the exposed area with a two part epozy primer (US Paint is what I use, D8001 base & D3001 Converter mix ratio 1:1). Let the primer totally cure. You will have a bit of overspray from the primer. That is ok, as you need to sand out a much larger area than that original ding anyway. Wet sand the area with 220, then 320, and finish up with 600 wet. When done sanding, this area should look dull, but very smooth, and free of any pin holes or surface defects. The original ding (size of a penny) is now primed, and you have also wet sanded into the surrounding clear top coat area, which has removed the primer overspray, and dulled the top coat surface around the original area of the "ding". Dry this area, and tack it clean.

• Dupont 222S Mid-Coat Adhesion Promoter - spray one coat at 30-45psi at the gun.

• Dupont ChromaBase (with 7175S Activator) - mix at 1:1 ratio and spray at 45psi until primed area matches original base color. In my case that is white and since the primer is white too, it only takes two coats to cover.

• Dupont ChromaClear (with 7575S Activator) - mix at 4:1 ratio and spray about 2 coats at 35-45psi

• Dupont ChromaClear Blender 7601S - spray one coat at 20psi. This is your last step involving spraying. Clean up and get away from your plane for several days. Let it cure prior to completing the next step.

• Let's talk about the spray area. In theory, my damaged area (now primed) represents 1 square inch of area (100%). When you wet sanded that area, you sanded out beyond by an area at least 3 times larger (300%). You sprayed your adhesion coat over this 300% area. You then sprayed the base color coat only where you needed it (probably about 150%). You then sprayed the clear coats over the 300% area that was wet sanded. Finally, you sprayed the blender coat at about 350% (a bit larger area than where you clear coated).

• Ok, the paint has cured and looks pretty good, except that you can tell where you did the touch up. We can fix that! Get out your small sanding block again and use 1500 wet paper. Wet sand out this entire area, including any overspray.

• Get out your big buffer/polisher. Apply some "DRX 25" compound with a paint brush, then buff it clean. Repeat this if needed until it looks real good. Be sure to get the correct type pad for DRX 25 for your buffer.

• Let's bring out that shine by polishing with "Liquid Ebony". Again be sure to get the correct polishing pad (different from the pad used for DRX 25). Squirt some on, then buff it clean.

• Stand back and admire your work. Invite someone that did not see your original "ding" to look your bird over. Bet they won't find anything wrong!

Additional notes:

- Be sure that you clean out your spray gun between steps. I use a "wash grade" lacquer thinner to clean out my gun.
- Buy and wear a quality painting mask.
- Read the painting directions on each can.
- Pre-mix the base and clear so that

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the activator has time to activate prior to spraying! You can use small cups if you are just doing a small area.
- Moisture from your air compressor? Be sure that you have a good quality air compressor (2 stage), otherwise you will be fighting moisture coming out of your spray gun. To be safe, I put a moisture remover (big round thing that holds what looks like a brown roll of toilet paper inside) between the compressor and my hose. I also put a small moisture remover between my gun and the hose (in case there is any moisture in the line).

Painting your entire plane?
If I were painting the entire airplane, the only thing (from above touch up steps) I would not use is the "blender". Plus, of course, I'd use my bigger spray gun. A good tip if you are painting your entire plane is to paint it one component at a time! Pros can get by painting an entire plane, but give yourself a break and do one component at a time. I'd recommend the following:
- Left wing (make a stand to act as your main spar and bolt it on)
- Right Wing
- Fuselage
- Canard, cowls, ailerons, and other loose parts

That's four days instead of one, but you'll get better results for sure!

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Installing an ELT antenna

From Jim Agnew, Tampa Florida

I wanted an internal ELT antenna for my 173 Elite FG to eliminate drag and to be placed in the strongest area of the aircraft to give me the best chance that the antenna would survive a crash.

I decided to use the Jim Weir ELT antenna as described in the May 1997 issue of KITPLANES page 72. After several rounds of correspondence with Jim I settled on the place to place the antenna with the least compromises. The antenna (please refer to the picture) is glassed on the back side of the main spar and is between the main and wing spars. This is the strongest place with the length to accommodate the antenna elements and would normally end up in a vertical position. The antenna consists of four pieces of copper foil tape, two are 22.5" and two 10.5". As you can see in the picture the antenna consists of two Vs with one long & one short leg. the Vs are placed within 1/2" of each other and the normal three ferrite beads are placed on the coax. when you make the Vs make sure that the proper length of both pieces is preserved and that you cut the ends at a slight angle so the coax shield and center conductor are soldered to BOTH pieces of foil on their respective foil Vs. I then glassed over the elements & ferrite balun with one fine bid. The two pieces of 1/2" foam covered with fine bid on each side of the balun are to protect the beads from breakage while installing the wing. The only place the coax is glassed down is between these foam blocks. The coax that runs along the lower strake edge is held in place with silicone glue. Don't use tight clamps or tie the coax down too tightly since you want things to move in a crash and not break the coax. Run the coax to your ELT, test for function and you are done

If you refer to the picture to you can see how this is done. Many thanks to Jim Weir for all of his help.

Installing a real air filter

From Jim Agnew, Tampa, Florida

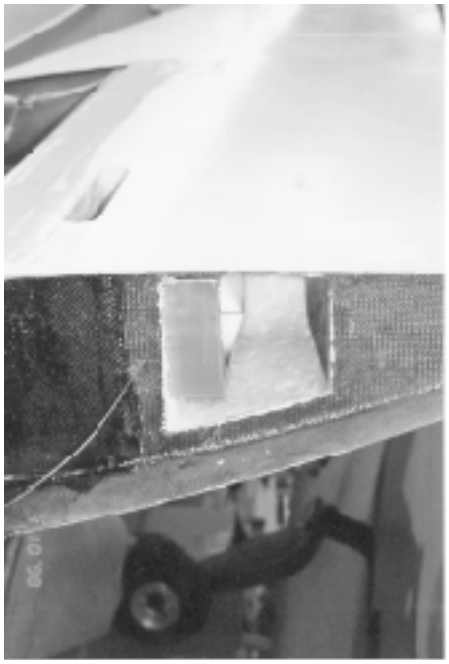
I wanted a real air filter in my 173 that would provide well filtered air and easy maintenance. I decided to use a Brackett model 6210 foam filter based on its high filtration and easy maintenance. The #6210 is the aluminum housing, a filter (2" thick) bolts and the cover screens. This is the same filter used on Mooney's with IO-360 engines and provides about 40 sq. in. of filter area. This was also the area recommended by Brackett in their literature for 360 ci. 200 HP engines. Solving the place to put it was more of a challenge. Since I have the 173 wing and after reading Alan Shaw's notes on wing mounted oil coolers I decided that this was a good place to put it.

I started 1" behind the rudder conduit and cut our an opening in the web leaving 1" all around for a flange. Lay-up a 2 bid flange on this cutout out piece. The opening is about 6" front to back and the wing surfaces determine the height. Since the filter housing is about 8" long I tunneled into the wing 9" and left a consistent 1" of foam on the upper and lower wing surfaces. I next measured back 3 1/2" from the wing spar and cut a round end slot parallel to the spar 1 1/4" high x 8" long. This size is based on the injector total intake area and is a little larger. You then cut and form a sloping and curving plenum back toward the front face of the foam cutout to form the intake plenum. The air filter assembly stands upright against the front of the wing cutout. After filling the foam with microballoon and glassing (I used one Kevlar BID for stiffness) you are ready to install the filter (do it backwards for maintenance purposes and remember to reverse the element). Add some nut plates to the wing flange to mount the cutout piece. On the cutout piece add an appropriate flange for a piece of Scat duct to the fuel injector and I suggest that you construct a pop door with a light spring in case the filter plugs then the door will open by suction and the engine will keep running.

You will note that I did not add an external lip or scoop since Alan said that this is a very high pressure area I will try it without the lip scoop. If it works as expected you will have less drag and when in ground effect on takeoff & landing you should get a little additional

boost pressure and additional power. Maybe not much but at high density altitude every little bit helps.

If you refer to the picture to you can see how this is done. Many thanks to Alan Shaw for all of his help.



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Installing a Copper-Pipe duct

From Bill Schweitzer of San Jose CA

I have heard that composite planes are notoriously electrically noisy due to difficult shielding of the main power wiring. This is particularly true in canard pusher designs where the long run between battery and starter/alternator is required for balance. Some Velocity builders have had bad luck installing sensitive equipment such as strike finders because of this.

Bob Nuckolls suggested in "The AeroElectric Connection" (http://www.aeroelectric.com/) that the ground strap for a canard might be a copper pipe with noisy wires running inside it. I did some simple calculations based on the cross section of #2AWG wire to find out what size pipe I would like to use for this experiment. I wanted the lightest pipe possible with the largest internal diameter so that I could get whatever wires were yet unplanned and unthought of into the duct. I settled on a 1 1/2" id DWV copper pipe that was available from a plumbing wholesale shop, I used 10 feet. With a wall diameter of only .042 inches it gave a total copper cross section nearly equivalent to #2 AWG. I got a ground-wire that is actually lighter than #3AWG because there is no insulation on it.

The first thing needed was to anneal the pipe. This was spectacular, unfortunately I didn't get pictures! Do this at dusk to get the full pyrotechnic effects. Also, don't do this in your own home, go outside. Clamp the center of the pipe in a vise, fill it with flame from a large torch. When the entire pipe is glowing red, and flame is shooting out of the far end it's ready to quench. Quickly douse the entire pipe in very cold water. Look out, this baby will move a lot as the molecules change character. Amazingly, after all the movement is done there's a straight soft pipe left over.

The center section of the pipe, that was clamped, needs to be separately annealed because the vise absorbs too much heat. I missed this step and it made a little difference which I'll talk about later. If you're going to cut the pipe into two pieces, as I did, do it before annealing. It makes a much cleaner (rounder) cut.

The fuselage of a Velocity is a compound shape that defies easy pipe bending, and an annealed 1 1/2" pipe is not that soft. I needed to produce a pattern for the pipe bending.

* Outline the original duct line on the fuselage with a marker.
* Mark the centerline of the duct as the target for the pipe.
* Use 1/4" foamboard to transfer a curve pattern from the fuselage to a wooden form.

The wooden form was laminated out of plywood to about 1 1/2" at one end and almost 8 inches at the end which formed the inboard curve behind the keel extension. A 1 1/2' PVC was cut in half to support the pipe while bending, this was attached to the form with wood screws. Nine inch pieces of the PVC were attached to short pieces of wood with the opposite curve as the form, these fit over the top of the pipe while clamping. The clamps were started at the forward end of the pipe (the simplest curve) and the pipe stuck straight out from the first curve. A second clamp was used to slowly bend the pipe along the curve. It took about 10 iterations of clamping to pull it down to the form. The picture shows the bend that was done for the small pipe that was used between the firewall and the keel extension. I had to do this because there was no way to get the whole ten foot length through from one side or the other.

After the shape was close to fitting as I wanted in the fuselage I used a separate, slightly tighter-curve form to make adjustment to various portions of the pipe. The two pieces were aligned just behind the keel for a slip joint. The long pipe still had a circular cross section, and I wanted it to be flatter so I could fit the original duct over the top. To make this adjustment I built a spindle roller and forced the pipe through it. Since there is a twist to the pipe as it follows the fuselage I needed to track the top centerline of the pipe while rolling it. I marked that with a marker before starting. The base is shaped like the fuselage, the roller matches the opening of the fiberglass duct. This is where the missed annealing made a difference. The roller could not flatten the center 8" of the pipe and got stretched a bit going over that section. Fortunately, the piece of the duct in front of the copilot's seat is just right. The pipe needs to remain perfectly circular where the joint is soldered.

A 1 1/2" straight copper sleeve joint was used just behind the keel to join the two pipes. This was soldered onto the long pipe outside the plane. The final joint was soldered in place, very carefully. The picture shows the

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layers of aluminum foil and ceramic tile that surrounded the entire heated area during the operation. This was no time to burn a hole in the fuselage for a NACA scoop or a speed brake. Notice how the pipe curves around the keel extension and goes through a hole in the gear bulkhead more inboard than the normal duct. This is done because the circular pipe is taller than the fiberglass duct. To make room for the retractable gear, the alignment had to be changed.

The entire pipe is now attached to the fuselage floor with strips of microglass at about 18" intervals. That is just enough to hold everything in place. The annealed pipe is not expected to provide any structural integrity. I've not decided how much of the original fiberglass duct I will install over the copper pipe. I'm going to run the return oil line on this side of the cockpit. The heat transfer to the copper pipe should make an interesting extension to the Velocity factory experiments.

I have not attached any straps to the pipe for ground wire connections. Instead, I soldered half of a 1 1/2" straight copper sleeve joint on each end of the copper pipe. These tabs extend about 1 inch beyond the pipe. The corners are flattened and rounded. Both tabs were attached to the pipes outside of the plane. A 3/8" hole is drilled on one corner and a 1/4" hole in the other. #2AWG wires to the engine block and the battery will connect here. Also a #8 AWG wire (or as needed) will connect at the end of the pipe and go through the nearest bulkhead to connect to grounding busses for panel equipment and wing area wiring. Eventually I will need to drill 3/4" holes in the pipe for access to the wires inside. This will be done about six inches behind the canard bulkhead and just in front of the firewall.

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Right Seat Date

By Judy Lavoie

WARNING: This article is not written by a pilot (although I have lots of right seat time) or a builder (just an assistant at moving wings, cutting fiberglass, interior stuff, etc.). It is strictly intended for your entertainment.

As someone who likes to fly for where it gets me, rather than just for the sake of flying, I have a flying adventure to share with you. Last year I started a new tradition which I call "Mystery Date" (borrowed from a board game from the '60s). For my birthday, my husband Rick is responsible for planning and executing a special date for me. The less I know about it, the better...for me, the surprise is half the fun. Psychiatrists would say I started this as a way of getting some attention – after all, Rick was an intense 2 months away from his first flight in N570 Velocity RG when we had our first Mystery Date last year. But he pulled off a good time and promised it would be even better the next time, "...since by then the plane will be done...".

Anyway, my birthday rolled around again this May and I gently reminded Rick of our tradition, with plenty of advance notice (I didn't want him to have to rush his planning!). As the day got closer, he let it slip that he had several choices in mind, and, since they all involved flying, he'd let the weather help him choose. Our schedule didn't allow an overnight trip, so we'd be going just for the day. All I was told was not to plan any work for the day, and to be ready to take off at 8:30am, in casual clothes.

While returning from my sunrise walk with our dog Darla on my birthday morning, I had a suspicion we'd be heading west: the wind was strong from the west, and I have a strange knack for attracting a head wind, no matter what direction we fly (would you expect a headwind while heading to Florida from New Mexico?)! Otherwise the weather was fine, with a broken layer at about 1000'.

As we taxied to the run-up area for Runway 24 in St. Augustine, Rick isolated the radio transmission so I wouldn't hear his flight plan info. I relaxed to the music of Yanni in my stereo headset and put my nose into a magazine I had packed. I resisted looking at the maps on Rick's lap. After take-off we seemed to stay close to the runway heading, and the clouds soon obscured any ground

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landmarks I might recognize. Rick switched me on the radio to ask if I knew where we were going yet and I told him that I didn't want to, so he put me back on music. My reading kept me from peeking at the instruments for clues.

After about an hour's flight, we seemed to be descending. I looked out to see a heavily settled area through the breaks in the clouds. Judging from the direction and time, I wondered if this was Tampa. I was hoping now that maybe our destination was St. Petersburg, since Rick knew there was an art museum exhibit there which I had posted an article about on our refrigerator many weeks before. We got below the ceiling and we were undoubtedly on Florida's Gulf Coast. I had put away my magazine, and was now searching for sites to confirm my guess, but none of the tall bank buildings we could now see revealed the name of a city. Rick's landing pattern took us out over the water. It was beautiful! In the distance I could see a helicopter hovering over a boat, and as we made our turn for final we passed right over a sailboat with all the passengers waving at us. This airport was something like landing on an aircraft carrier. The numbers for Runway 24 were practically at the edge of the water! And the whole airport was squeezed onto a peninsula right in the city. I could see the windsock was directly in line with the runway, so I knew Rick would like his landing – especially since the runway didn't look too long. The name "Albert Whitted Airport" didn't help me to know it was St. Petersburg, but when we opened the door and the lineman asked if we'd need transportation Rick finally spilled the beans and said "We'll be going to the art museum." I was delighted! It was special for me, since Rick is no museum buff.

My Mystery Date turned out to be an enjoyable time for both of us, with the art museum in the morning, a great lunch in a café on the marina, a stop in a wonderful gallery, and an afternoon visit to another museum for an excellent feature exhibition on the Titanic. Everything was in walking distance and the weather was terrific.

Our journey ended back in St. Augustine at about 4:30, where winds gusting from 18 to 28 knots gave us some bounces in hazy visibility. We didn't learn until we landed that there was a tornado warning posted!

So for those of you who are deeply devoted to building your plane, take a break for a Mystery Date with your special someone. If you're really lucky, you'll get one planned for you!

Mike Watson First Flight

N104MW parked just after her maiden voyage. Mike Watson's Velocity 173 RG is powered by a Franklin engine with an Ivo Prop

Instrument panel for N104MW, built by Mike Watson of Mt. Vernon New York

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CHECK-OUT'S AVAILABLE AT VELOCITY WEST

Velocity West is proud to announce the addition of Scott Baker CFII, to the staff. Scott has been fully trained in flying the various Velocity models and is available to you for Velocity proficiency training and check-out services. For more deatils on cost and his availability, feel free to contact Scott or Nancy directly here at Velocity West. The airplane currently being used for this work is the company demonstrator model, N94VA, which is a Velocity Elite LW (fixed gear).

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

Velocity West (Sales & Service)
1410-B Flightline Dr
Lincoln CA 95648
Ph: 916-645-6866
Fax: 916-645-6944
E-mail address:
vwest@psyber.com

VELOCITY VIEWS

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Velocity Fly-ins??? Looking for Input

With a flying fleet of about 100 Velocitys, we should be able to plan some decent fly-ins. We want your input and help!

We want you to let us know what you would like to see for factory sponsored fly-ins. It takes about 4-6 months advance lead time for planning.

Contact Duane Swing or Rick Lavoie with your input by e-mail or phone:
duane@velocityaircraft.com
rick@lavoiegraphics.com

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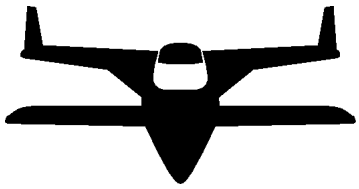

Avionics/Instruments For Sale

One only Terra TX-760D Com Transceiver and TN-200D Nav receiver with Glide Slope and Tri-Nav C indicator. Side by side tray and connectors. Best price I could find advertised was $2959.00 Special price on this unit only $2500.00

2 each Electric Turn Coordinators (E.G.C.) with plugs. Used with tags $295.00 each

Sigma Tek Vacuum Attitude Gyro, can't tell from new with tags $350.00

Call Velocity Inc.

V-6 Engine For Sale

Chev. V-6 4.3L engine with all aluminum block and heads. Oil pump and water pump driven piggy back from accessory case. Was installed on my Velocity, but I ran out of time. Includes Northwest Aero of Auburn, WA reduction drive, engine mount, custom radiator, top & bottom cowl assembled and ready to mount on Velocity. $13,000 located in Sebastian, Florida.

Call Byron McKean, Payson, AZ 520-474-7097

Delivery Dates	
Quarter:	**Mailed by:**
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2nd	April 15th
3rd	July 15th
4th	October 15th

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2nd	March 1st
3rd	June 1st
4th	September 1st

Submitting Articles

Listed below are **4 options** for submitting your text. Please send us **photos** and drawings too!

1) Send it on a **3-1/2" computer disk** (Mac or DOS). This saves us from retyping all that text. Don't format your text, just give us raw text, with no underlining, bold, or any other type of formats. We also can take Zip100.

2) **E-Mail** your text file to me: rick@lavoiegraphics.com

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Lavoie Graphics
26 Marshview Dr
St. Augustine, FL 32084-5873
Rick Lavoie,Editor
904-461-3146 (fax)
e-mail: rick@lavoiegraphics.com

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