

The Broken Spoke

The Newsletter of 'The Hartsburg Cycle Depot' & 'Jeff Riders Cycle Club'

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Happy Holidays.

We figured that this years Halloween picture would serve as a Happy Thanksgiving picture as well seeing as we look like a couple of turkeys...

Anyway, we hope you all had a good Halloween, as you can see from the above, we did. In our defense some wine had been consumed. As it turns out, a 6 feet 2 Winnie the Pooh speaking with a funny English accent puts the frighteners on the kids pretty good!!! Although what really got the kids running was when the pumpkin rode the neighborhood on a Schwinn cruiser.

Apologies are in order for the lateness of this issue. I would like to have a good excuse but sadly, there are none; Just not enough hours in the day. Workshop has been swamped, which is a good thing, and Pam has been cracking the whip pretty hard. Also have been doing some frame building and those of you that have been in recently will have seen a 29er on the jig. Well, miracles, a strict boss and blowing this newsletter off till the next day, and the next, we finally finished the



thing. It is out to paint at the moment. Pam designed a paint scheme for it and let's just say that it is the opposite of low key...

Not sure if you will be reading this before or after Thanksgiving but, either way, Pam and I both wish you a happy one. When sitting down before the turkey this Thanksgiving we shall certainly be giving thanks to all the wonderful customers and friends that have made our little store a success and who make our days fun. Thank you one and all.

This Months Featured Customer is... John Steinmeyer



John Steinmeyer taking delivery of a new custom build

John is an avid runner and covers more miles a week on foot than most of us drive. Supremely fit and with way too much excess energy he figured he would do a few triathlons next year. We regularly see John on his new bike and, more importantly, he is enjoying riding.

The Surly 'Cross Check' frame was built using the new Sram double crankset and Shimano STI's and derailleur's. Ritchey bar and stem to fine tune the fit and, of course, the build was finished off with a set of custom wheels hand built by Mark. We used Velocity Deep V rims in a titanium grey finish. Since using

this new color for Johns bike we have had a lot of requests for it. It is a nice change from the usual black but not too much of a culture shock for those of you that are anti color...

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Finding Your Bearings In The World Of, Well Bearings...

A lot has been going on over the last few years with bearing technology. First we had bottom bracket cups growing in size and being mounted externally. Then the focus shifted to headsets where the bearings started to be mounted internally. I always remember a conversation with a rep. a few years ago. I shall not reveal the company. This guy gave me a twenty minute lecture on why, in the future, all bearings would be bigger and mounted externally and then spent another 20 minutes telling me the benefits of mounting smaller bearings internally. To his credit he kept a straight face the whole time, which is more than I did. In his defense he did have a few points correct. The first internal headsets were ill thought out, basically just regular bearings made to fit in a flared out head tube. Suffice to say internal headsets are now working thanks to changes in the bearings that are being put in there. Forks, and the unique forces that they are subjected to, benefit from bearings that are able to function well on all planes which is a tall order for a bearing. Pull apart a headset today and you will find all sorts of cartridge bearings and races set at a multitude of angles.

The latest thing in bearings, now that the whole where to mount them has been exhausted, is the material that they are made from. The bicycle industry, despite having more marketing and spin guys than your average presidential candidate, is always a little late in embracing new materials. For years now you could pull apart any Formula 1 or Indy car and not find a single steel ball bearing anywhere in there. Instead you will see lots of Si₃N₄ or Silicon Nitride, the holy grail of bearing material more commonly called ceramic.

All of the big players in hubs and bottom brackets are producing models with ceramic bearings but it is also possible to upgrade your existing components to ceramic. And this can be done in one of three ways:

- 1 Full Ceramic Cartridge
- 2 Hybrid Ceramic Cartridge
- 3 Ceramic Loose Ball in Traditional Cup and Cone System

Most of the higher end components nowadays are using cartridge bearings instead of the cup, cone and loose ball setup. Nothing wrong with cup and cone systems, I'm a big fan and would put a well serviced cup and cone wheel up against a cartridge wheel any day, it's just the way the industry is moving and with ceramic systems a cartridge will exploit all the benefits of Si₃N₄.

Before we explore the above methods lets look at why ceramic works better than steel. Here is a basic list of qualities of ceramic as it relates to bicycle applications. This list is by no means complete as nearly every industry specific bearing will have a completely different set of reasons for using ceramic in its bearings, from resisting electrical current to lessening the load on balls under high rpm.

Compared to steel Si₃N₄ is lighter, harder, stiffer. It is non corrosive and the surface is much smoother compared to steel. The all important friction is reduced as is heat. Whereas steel systems require copious amounts of lubrication ceramic systems require minimum lube. This is good news for us at the bike shop as Pam buys regular grease in a 2 pound tub and I guess it costs her around 20 bucks, a similar quantity of lube for ceramic systems would cost closer to a grand! The last time the tornado siren went off Pam ran down stairs and grabbed the 2oz bottle of the stuff and cradled it like a baby till the all clear sounded...

If you have a hub or bottom bracket that is currently running steel cartridge bearings, you can upgrade to either a full or hybrid ceramic cartridge. A lot of the initial performance of ceramics can be lost quite quickly to poor seals and badly designed retainers (the devices that keep the bearings evenly spaced in the race). The lower friction gains can be almost wiped out by these two factors, so quality is hugely important when considering manufacturers. We have seen some pitiful examples in the workshop suitable only for grandma's hove round...

A "Full" ceramic cartridge bearing is one in which the balls, along with the inner and outer races are all made of ceramic. A "Hybrid" bearing is one which has ceramic balls but the inner and outer races are steel. Some bearings are designed to be sealed units and not to be lubed again for the life of the unit. These are equipped with excellent seals, are lubed at the time of manufacture and should not be messed with. Other companies design frictionless seals that are designed to be removed, so cleaning and re-lubing can be performed on the unit.

In our experience both these styles work well, however, each has benefits and drawbacks. In bicycle applications this is a relatively new technology and long term data really is non-existent . We have to rely on company blurbs and press releases, which is never a good thing. That being said we see more and more ceramics

in the shop and it is becoming more and more popular to upgrade existing equipment. We have seen enough to start seeing some patterns emerge.

If you are riding a road bike full ceramic is definitely an option, if you spend a lot of time in dirt and crap then a hybrid is probably a better option. The seals on even the best are not infallible and contamination will eventually happen and we have found that it seems to work out of a hybrid bearing better. Whether dirt gets chewed up and embedded in the steel races or works back out of the system, I don't know, but from what we have seen full ceramics seem to have more problems dealing with seal failure. Obviously bearings with removable seals would seem to be the answer but, if you are the type that bolts something new and shiny on your bike and takes a solemn pledge never to touch it again, probably best to stick with a no maintenance option and go with the best seals out there. If you are the type that realizes the benefits of regular maintenance, performed by your friendly Hartsburg Cycle Depot mechanic then a removable seal is a cool option, and here's why. You can jack with it. A bearing running clean and with new lube is a wonderful thing, ceramic or steel, cartridge or cup and cone. I have always been an advocate of pulling hubs apart and servicing them. The performance gains are well worth the time. If you are running in the woods then I would stick with a hybrid with a removable seal. Ceramics will not seize in a bicycle application. I'm not saying it is impossible but if you seize one of these bearings on a bike you will be orbiting pretty close to the sun and wishing lycra came with an asbestos top layer.

If you are running a cup and cone system you can still jump on the ceramic bandwagon. We have manufacturers that make ceramic loose bearings in all the sizes used in front and rear hubs and bottom bracket systems. It is only worth doing this on good quality cups and cones. If you have pits and uneven wear tracks, brinelling and the like, then upgrade the races first. This is only worthwhile on top quality hubs. Also do not keep using the heavy grease as this will negate the benefits, instead switch to a light ceramic lube. Also you will need to step up your maintenance schedule. The seals on cup and cone hubs are just not as good as cartridge seals and you won't have the added barrier of a wall of thick grease. So crack those bad boys open often and clean and rebuild. If you do they will perform as good as hybrids.

So what is the point? Is this ceramic thing worth the hassle and the walletectomy? Most of you know me by now and know that I don't buy into new ideas and tech-

nology just because it is new. Pam doesn't let me. Read the blurb by any of the plethora of companies producing these bearings and they will have you believe in average speeds in triple digits. On paper you can make any idea sound like a winner it is how it performs for the average Joe and Jolene that counts. Using ceramic bearings can reduce friction in the system significantly. It is a combination of hardness of material, the surface accuracy of the balls, the ability to handle load. Another big factor is the elimination of heavy greases, being able to use minimal light weight lubes and non touch seals that are around 25 times less friction inducing than the regular grease that is used in steel cup and cone systems is a huge benefit. All these little gains end up giving you an increase in performance that you can feel and see while riding, not just on paper.

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Smoothie Recipe of The Month



Orange Smoothie Recipe

Now that winter is upon us it is important to keep the summer goodness in your system. Try this taste of summer, orange smoothie. Full of vitamin C and with yogurt to fight off bacterial allergies, this smoothie will keep you cold and flu free and pedaling along.

- Ingredients; Serves 2
2 oranges, peeled & sectioned
1 frozen banana, chunked
1/4 c. orange juice
2 T. yogurt
1 tsp. vanilla

Blend until smooth. Enjoy...

Wheel Of The Month

Had an interesting project come into the shop recently via another store. A Zipp wheel. Apparently a guy had a crash with another bike on the MS150 and the resulting impact busted every spoke on the non drive side and bent every one on the drive side. Amazingly the carbon rim survived as did the hub. Mark rebuilt the wheel and all was well. We have dealt with Zipp for a number of years and Mark has rebuilt many of their wheels and dealt with warranty issues but never has he seen a wheel undergo such a beating and still build back up. Needless to say we have a newfound respect for them.

Below is a before and after shot of the aforementioned wheel.

Before



After



A Plea...

Okay, the end of the season is upon us and people are starting to think about locking the bikes away until next year. As we do each year, Pam and I would like to encourage you to think about the end of the year servicing now, instead of hitting us on the first good weekend in 09.

This worked well for all concerned last year and nobody was left waiting for a bike to be finished come Spring. More importantly, I did not have to work in the workshop until 5am...

While on the subject of servicing I would also like to remind everybody running suspension systems that those things need servicing regularly. Over the last week we have seen numerous sets of forks come through the door in dire need of TLC, a Fox, a Manitou and a few Rockshox Reba's. If you are running anything with oil bath or air oil mix, then those things need stripping down and the oil replaced minimum every nine months. If you ride the rough stuff a lot then every six months. I know this sounds excessive but, here's the thing. If you have a decent fork running the latest oil dampers etc then you probably plunked down 4 or 5 hundred bucks for it, hell maybe 6 or 7. Now you dropped all those Bennie's so you could glide through your worst trail nightmare and at least raise a smile at the thought of Miss July. Back in the day we used to judge a ride successful if, when we changed out of our ride shorts nothing fell on the floor... But I digress. The bottom line is that a 700 dollar fork will bounce as good as a fifty dollar one if you don't give it regular maintenance. On the other hand a fifty dollar one will always act like a fifty dollar fork. Go figure.

And The Winner Is...

Steve Vanderlinde was the winner of last issue's crossword competition and became the proud owner of a sparkling new Polar water bottle, in yellow. The crossword will be back next issue.



Industry & Product News

Belt Up...

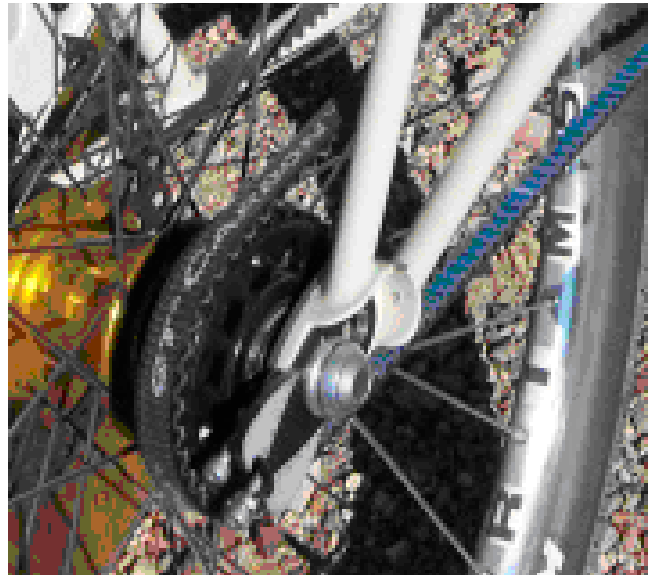
Some news hitting the headlines in the bike world recently involves the use of carbon poly belt drives. The marketing guys are already in overdrive and predicting the death of the chain but don't panic just yet. Some U.K. companies, Orange, Spot, and Nicolai have used them for some time and others such as Delta and even Raleigh have dabbled with belt drive to varying degrees.

Belt drive definitely will become more and more popular and makes a lot of sense for certain applications. Benefits are obvious; it needs almost zero maintenance. This alone makes it ideal for commuter bikes and kids bikes. Another benefit is its ability to handle dirt which is one reason Orange and Spot have been developing bikes using poly-belts.

The thing that has actually impeded the belt drives development is not the belt itself but a reliable internally geared hub. While we have had 3 speed Sturmey Archer and Shimano and Sram 7s for some time these hubs have not been up to the challenge of mountain biking. In fact they have sucked at it. I know; I have ridden one of these abominations in the past. I have the somewhat dubious record of turning a new Shimano Inter7 hub into a paperweight within an hour on a favorite trail back in England. Now I'm not saying that internally geared hubs are bad, far from it. I am a big fan of them. They make a lot of sense. It's just that they have not been up to the abuse of hardcore mountain biking or touring, that is until fairly recently. Enter Rohloff, a German hub manufacturer that makes a 14 speed hub that is bullet proof.

Rohloff has been around for some time and has been popular with tourers but only in the last year or so have they stopped being a secret known only to a few. These hubs are phenomenal and paired with a belt make a completely worry free mountain bike. Down side is, Rohloff's ain't cheap, around a grand...But when you think about it you lose the front and rear derailleur's, shifters and cassette. If you usually run XTR then you're up on the deal!!! Anyhooo more on Rohloff's another day.

The thing is that now some of the big players are getting all of a twitter over the poly-belt and next year we are going to see some belt drives on the mass produced mid range comfort and hybrid bikes. It will be a slow



process but now that there is the possibility of big number sales, the hub manufacturers will be all jazzed up to develop more robust units for more applications and eventually the price will come down some. Another form of internal hub is a planetary drive which has a constantly variable gear. More on that another time. The same technology that holds up your pants can now power your bike...

Eddy Merckx is retiring

The end of an era. Eddy Merckx is retiring. The cycling icon announced last week that he was selling his bike brand to a Belgian holding company 'Sobradis'. Apparently he will keep a minority share as an investment only and bow out of the business. Merckx, who was nicknamed "The Cannibal" started his bike company in 1980 after retiring from racing in 1978. Regarded by many as the most successful racer of all time for his many race wins and world records, some of which remain unbeaten to this day. He includes in his career 11 Grand Tour victories; 5 x Tour de France, 5x Giro d'Italia and a Vuelta a España.

Born in 1945 the 63 year old said: "If you've built something yourself, it's always painful to say goodbye to it. But I had no other choice because I do not have a successor who can take over the plant. I've been working since I was 17 - first as a cyclist, then in 1980 in the bicycle factory. The daily management gradually began to weigh on me."

We wish the Cannibal well.

“The Tailor” – The History of ‘Masi’

The history of the bicycle is rich with larger than life figures and companies. Some of them short lived and others which have stood the test of time, all of them having shaped the industry, the sport and the bicycle into what it is today. It is difficult, and a little unfair, to rank any of these players as more important than others, but, it is hard not to emphasize the influence of one man, Faliero Masi.

Many of you reading this will be familiar with the gorgeous frames flaunting the Masi name, but what some of you may not know is, before Faliero began hand crafting bicycle frames for the best racers of the era, he was a member of the peloton himself. At the age of 18 Masi began road racing as an amateur and eventually turned professional.

During the years of 1931 and ‘32 he placed respectably in the Giro d’Italia. In 1934 he raced in the legendary Milan, San Remo and placed 55 out of 125 riders.

After his racing career ended he turned his passion from racing to design. With a unique insight into what makes a racing bicycle design work gained from his years of being in the saddle Masi became very much sought after by racers keen to have him build them a custom frame; one of the first truly custom frame builders.

Faliero’s skill and craftsmanship was of such high quality that he became affectionately referred to as “The Tailor”, a nickname that stuck with him until his death in 2000.

In 1949 he moved his operations to Milan, Italy, more specifically the famous Vigorelli Velodrome [Which interestingly still exists today and recently acted as a venue for a Led Zeppelin concert].

Looking at a list of names who rode Masi frames during the 50s, 60s, and 70s is like looking at three decades of bicycling’ royalty:

Aldo Bini, Fausto Coppi, Fiorenzo Magni, Alfredo Martini, Luisson Bobet, Jacques Anquetil, Roger Riviere, Antonio Maspes, Ferdinand Bracke, Eddi Merckx, Rick van Looy, Felice Gimondi, Vittorio Adorni, Mark Gorski, Dmitri Nelyubin. The list could fill another dozen pages.

Masi’s success came in part from the fact that having raced himself he knew what attributes a bike needed to be a winner. He knew how a rider wanted a bike to handle but, more importantly, he knew how and why the angles and geometry of a bike design made a difference. Another factor that placed Masi above others was

his quality control. He only used the best tubing and did not care where it came from; if that meant using materials from outside Italy, then so be it. As a frame builder myself I can tell you that even today continuity of quality in steel tubing is still a concern. I have definite favorites and some companies with which



I say a small prayer to the God of steel that the tube I am about to weld came from a good batch...

A huge move took place in 1972. Roland Sahn, a businessman from San Diego, asked Faliero to build a line of European style road bikes in America. Masi jumped at the offer and moved his shop to California and with the help of his best builder, Maro Confente, and a longtime associate and California native ‘Ted Kirkbride, started the “Masi California Project”.

The passion that Faliero had for designing and building bikes was not lost in the move and ‘California Masi’ bikes are regarded as some of the most spectacular bikes ever built. Masi became a household name in America during the late seventies especially after featuring in the movie ‘Breaking Away’ in which a Masi ‘Gran Criterium’ was ridden by the lead actor, Denis Christopher.

In the 80s Masi seemed to be way ahead of the rest and was pushing the envelope of design and materials to new heights. The 3VS Volumetrica employed the use of internal lugs and oversized tubing techniques which are still used today.

Although Faliero Masi is no longer with us, his passion for cycling, his craftsmanship and innovation still lives on in the company. If you ever have the chance to ride a Masi from the 50s jump at it and if anyone has one to sell I’ve got a pretty good kidney I’m willing to trade.

News In The Sport of Cycling

Well I guess that we should not be surprised. Apparently the 2008 Tour de France doping scandal has not ended yet. Two more riders have just been disqualified from the event. Germany's Stefan Schumacher (Gerolsteiner) and Italy's Leonardo Piepoli (Saunier Duval) were named on Monday the 6th October for testing positive for EPO.

The final results will have to be re-written, yet again, as Schumacher won both individual time trials and wore the yellow jersey more than once. Piepoli also had some success by winning a mountain stage in the Pyrenees.

Why, I hear you cry, are we just hearing about this now. Well it seems that there is a new kid on the block in the world of cycling performance enhancing drugs (it's a pity we cannot get some of these chemists to use their talents working on drugs to cure cancer and Aids). Rumors started circulating about a new form of EPO called 'Continuous Erythropoiesis Receptor Activator', or CERA. These rumors prompted testing labs to revisit some urine samples that had previously tested negative; Schumacher and Piepoli are the first casualties. I say first because more samples are scheduled to be re-tested. I hope the guy re-writing the results is using a pencil with a big eraser... Oh yeah, because of the lab success in the Tour, the International Olympic Committee is sending 1000 samples to be re-tested. Watch this space.

Finding Your Bearings continued

There are a lot of bearings on a bicycle and upgrading to ceramics is an expensive undertaking. Often people will have a budget to only upgrade one system and will ask me which will give them the greatest gain. My plan of attack for the best order in which to upgrade is;

1. Hubs
2. Bottom Bracket
3. Jockey Wheels on Rear Derailleur

There is an argument that the jockey wheels should be the first to be changed as they spin at a higher rpm than anything else on the bike. My reason for doing the hubs first is that anybody will see the benefit from a faster running set of wheels and you don't even have to be pedaling. There is no better feeling than blitzing past someone on the run out of a hill without turning a crank. The bottom bracket benefits from the added durability of ceramic but looking at it from the point of reduced friction then the jockey wheels are as important and should be upgraded at the same time. I will say this though, if you go to the expense of upgrading the drive train bearings and neglect the chain then all is lost. Adopt a strict cleaning regimen for your chain. Get it running clean and smooth. If your chain gets clogged and stiff you may as well run wooden bearings.

I know there are bearings in the headset, but putting ceramic here is pointless. Yes ceramic bearings would arguably take a bigger hit without breaking but if you hit hard enough to implode a steel set, trust me, you have bigger problems, probably involving some form of body traction for you and a burial for your frame.

So, what is my verdict? Well, I am for ceramic. Do not expect miracles after all this expense. Be realistic in your expectations. On a bike with good components that has been perfectly adjusted 3 or 4% seems to be attainable. Wheels are key. If you put good bearings in a bad set of wheels you will still have a bad set of wheels. Tight wheels with a good spoke count under full tension will exploit all the benefits that Si₃N₄ has to offer. Invest in a hand built set of wheels designed for your riding style first before putting in ceramic bearings. Now, where is there a Master Wheel Builder in town!!!



THE JEFF RIDERS

Since the last issue the 'Jeff Rider' group has seen a healthy increase in membership and has been enjoying some nicely attended regular rides. Thanks to a few key members the VeloCal ride board has not had a week without at least a couple of organized rides. We can also be thankful for almost perfect riding weather this season, which always helps in the motivation department.

We still have some people interested in the whole group ride thing but are a little intimidated by the Velo-Cal system and worried about the pace and if they will be able to keep up. There is nothing quite as disturbing, I'm sure, as turning up to a parking lot in sweatpants and a tee shirt with the comfort bike and be surrounded by multi-colored lycra and drop bars... So, with that vision in mind, we would like to ask if any of you would like to consider doing a ride and route suitable for comfort bikers new to the whole group riding thing. Maybe a little loop of around 10 miles or so and we will supply the coffee and doughnuts après ride. If anyone is interested contact Pam or Mark directly at Cycle Depot, call or pop in to the shop and we can thrash out some ideas. It would be great if we could get something ready for next season.

We know that some of the group are riding in the rough stuff regularly this time of the year and if anyone

wants to give the Binder trails a go, contact us and we can get you some trail buddies to ride with. Mountain biking is a bit like Scuba diving it pays to use the buddy system.

What's cool about mountain biking is you get to develop your language skills. Spend anytime at all in the woods and you will hear the dulcet tones of fellow sufferers, err sorry, riders, yelling. Getmethehell-outahere, or Whointhehellsidewasthis. Ohfortheloveof..... and sonofa..... are always group favorites. Common utterances of mine Wherethef**kamI !!! And WhydoIdothiss**t are perennial questions that I have never yet managed to fathom...

I would like to remind you to send me your mileage totals for the months too. I have made this request before but it seems to have fallen on deaf ears. Lets get some names on the board and let the bragging begin. Of course for the right bribe, a missed keystroke here a 5 instead of a 2 here. You get the idea... Send mileage to me at the store or drop by with the bribes.

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