

HawkWorks

The Honda Hawk Owners' Network

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Jan / Feb 1995

Another Year?

The original form of the motorcycle of today was a steam driven tricycle invented in 1868 by S. H. Roper. The boiler was suspended behind the seat in the center of the machine, and the piston rods were directly connected with cranks on the real wheel. The machine was demonstrated at fairs and circuses throughout New England.

In 1884, L.D. Copeland of Philadelphia built several hundred steam powered tricycles, which made history as the first mass-produced, mechanically operated, self powered vehicles. That's right, bikes were built before cars. That same year, German, Gottlieb Daimler patented a small internal combustion engine which he fitted to a bicycle (the first motorcycle).

These crude designs have given life to the specialized motorcycles of today. From 50cc dirt bikes to 1500cc luxu-tourers, we are free to choose any type of riding that fits our style, or are we?

I don't plan to use HawkWorks as a forum to express my own personal views of what motorcyclists should or should not do. However, with the recent uprising of discrimination against motorcyclists, (continued on page 2)



Sam Wagenseller on his way to a National Championship

Congratulations Sam

Late last year AHRMA (the American Historic Racing Motorcycle Association) announced the addition of a modern national twins class to it's existing vintage program.

The class was designed along the lines of the popular European B.O.T.T. and singles S.O.S. classes. The rules for Formula III were perfect for the Hawk. Up to 650cc overhead cams, 750cc pushrods, and stock bore and stroke 883cc Harley sportsters.

Sam Wagenseller, Hawk racer and HawkWorks member, enlisted the help of

Ed Abdo, of AMA PRO Twins fame. Ed put together a motor using all the usual tricks, except the bigger pistons. Sam found an F2 front end, a set of bodywork, and he was off to the races.

He was involved in a stiff three way battle for the championship, when one of his competitors protested him as well as another front running Hawk. Sam's bike was legal, the other Hawk wasn't. The protestee suffered a burst appendix and Sam was left holding the points lead.

If your interested in AHRMA, you can call their offices at (715)842-9699, or call Sam at (602)464-9437.

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HawkWorks is not affiliated with The American Honda Motor Corp., or any of it's subsidiaries. HawkWorks is an independent organization of Honda Hawk NT650 owners, riders, and racers.

Rumor Mill

(Another Year) I thought I might throw in a plug for the American Motorcyclist Association. In the past few months for example, health care has been withheld from employees of Sturm, Ruger and Company in New Hampshire who ride without helmets, even though New Hampshire has no helmet law. 500 motorcyclists were harassed during a Red Cross fund raising ride in Spartanburg, SC, by the local sheriff who claimed these riders were secretly members of an outlaw biker gang. Each motorcycle was searched, saddle bags opened, tank bags checked, and the riders videotaped for identification purposes. The cars were not searched. In addition, motorcyclists in some private communities have actually been banned from riding their bikes on the streets in front of their own houses. You may not think this could effect you, but these events set dangerous precedents for others to follow.

The AMA is made up of more than 205,000 motorcyclists. In addition to all it's other benefits, the AMA with it's full-time staff monitoring legislation, is committed to upholding our rights as motorcyclists. So, if you want to make protecting your right to ride your New Years Resolution, take a look at the nifty picture of Doug Polen on the next page and call the number. Oh yeah, dues are \$29, their are lots of benefits, and you'll also get another great magazine. Gary Orr

It's a Date!

As you see, there is a date on the mailing labels. This was a recent suggestion and I think this will help everyone keep track. This is the date your membership began. If your date is over a year old, you should have received six issues of HawkWorks. If this is not the case, please let me know which issues you have received and I will send out copies of the missing newsletters. Gary Orr

The Rumor Mill article was suggested by several members, and the suggestions listed here, are also submitted by members. Therefore, HawkWorks cannot guarantee the results of every modification, or the ease with which they can be performed. I will however attempt to provide as much information as possible on each suggestion. Case in point: Last month I reported that the f2 front wheel can be used with two Hawk rotors, and a CB-1 fork leg. This is true, but as it turns out, isn't quite that easy. To use this setup, you must use a CB-1 right fork leg and caliper. Due to the Hawk's 315mm rotor, the caliper will not fit properly unless you have a hanger bracket made (your local machine shop should be able to handle this).

The bracket will bolt to the fork leg where the caliper normally would, and the caliper will bolt to the other side of the bracket positioning the caliper on the rotor. Make sure the bracket positions the caliper correctly, the pads should ride completely on the rotor, and no other part of the caliper should come in contact with the rotor. In order to position the caliper correctly, the hanger will have to be made wide enough to countersink the mounting tabs of the fork and the caliper. This will ensure the side to side position of the caliper is centered on the rotor. In addition the holes will have to be drilled and tapped within close tolerances. I would recommend using locking nuts behind the bracket, or safety wiring the bolts for extra protection. I use a hanger bracket similar to this on my race bike to allow my caliper to line up with my thirteen inch rotor. They are quite common around racetracks. Mine is made of approximately 1/2 inch thick aluminum, and is quite simple. You'll also need a right side F2 axle spacer to allow the f2 wheel

to fit between the forks.

In order to help clear up future confusion, I will print the phone number of the submitting member if they are willing to answer their fellow members questions about the modification. If you don't wish to have your number printed, please tell me when submitting suggestions. I will not print any numbers against your wishes, and I don't have phone numbers on file, so you'll need to send it along with your suggestions.

Many of you know the standard fork improvements, but just in case you missed it, you can replace the fork caps with the caps off a CBR600f2. This will provide you with an adjustment for pre-load. Also, from the f2, use the adjustable front brake lever.

Time for new steering head bearings? You can replace the stock ball type bearings with tapered roller bearings from the VFR-750, VT-1100c Shadow, or ST-1100, they are all the same.

Many members have asked about f2 footpegs, however I suggest using the passenger pegs from the Hawk. They require no drilling and look exactly like the f2 footpegs.

HawkWorks, the official newsletter of the Honda Hawk GT Owners' Network, is published bimonthly. Membership fees in the U.S. and territories are \$20.00, Canadian members please add \$5.00, all other countries please add \$10.00. Please remit in U.S. funds by money order or draft on U.S. bank. Comments, inquiries, etc. should be directed to: HawkWorks 130 Bomber Blvd. Mountain Home, AR 72653. If you prefer, Fax at (501) 424-7214.

Publisher & Managing Editor...Gary Orr
Contributing Editor.....John Plott
Contributing Editor.....Brian Heaven

Legal Stuff: The information published in HawkWorks is submitted by your fellow members, and Hawk enthusiasts. I cannot guarantee the accuracy of each suggestion. When performing any modification, please do so within the boundaries of your mechanical ability and under the supervision of a qualified mechanic.



CYBORG RACING

MAN+MACHINE=SPEED

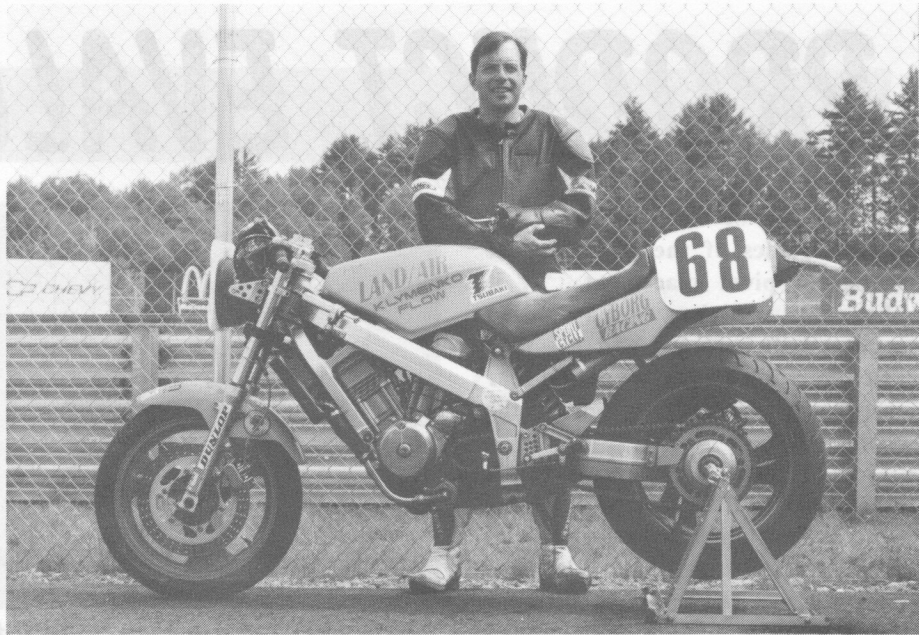
Mark Sotiriou is Cyborg Racing. In fact, since many of his fellow racers in the Northeast couldn't pronounce his last name, they called him Mark Cyborg. I thought that was his last mane for quite a while.

Mark's one of those guys who seem to make their bikes run well without spending a whole lot of money, so I was glad to receive the photo and hear a little about his Hawk.

The last three years have been a period of slow evolution for Mark's Hawk. First he tried to make it a competitive LightWeight Supersport bike, and later tried his hand in the LightWeight Superbike class. His main goal in the engine building process was to make it reliable and semi-affordable, but his main goal in the riding department was to have FUN.

The Hawk is just that, FUN. It is a great motorcycle to race because it is quite forgiving. Mark reminded me of a race we had one day in the rain, slip and slide, slip and slide, what fun. We were both lucky we didn't lock talons and go down in the a pile of wet Hawk feathers.

Most of the modifications he has made to his Hawk are in keeping with the rules of LightWeight Supersport. No after market fairings or tail sections, no 700cc kits. His changes are also in keeping with a strict budget.



TEAM CYBORG RACING

The ignition switch is out and a simple toggle switch is mounted to the headlight shell to control the flowing electrons. Chafong clip-ons with a 1/4 turn Magura throttle and a Dale Walker electric power shifter round out the controls.

He uses the stock tank, uni-filters, and a mongrel jet kit (currently with 165 mains) in stock carbs with intake side bell-mouthed. Exhaust is Supertrapp, cams are drop in Megacycle (mildest grind; designed for use with stock pistons).

DCM Services (508) 620-9914 slotted the cam sprockets, and provided other machining work, porting and valve work designed with this setup in mind by Eugene Klymenko of Klymemko Flow (201) 773-8455 was

first rate, and Tim Harrington of Land/Air Honda Suzuki (802) 878-5052 helped build the motor.

Using stock pistons and rods, this motor makes good torque and 57 rear wheel horsepower at 8,000 rpm. Power delivery is smooth and progressive through a Tsubaki Omega 520 chain, and excellent Dunlop Sportmax GP compound radials provided by Jack Smith's Sport Cycle Products (800) 356-4230 (Jack's always there to answer tire questions).

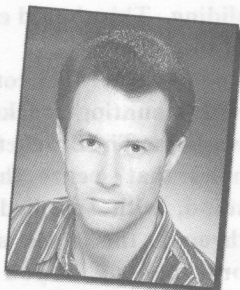
Progressive springs up front and a Fox shock in the rear help keep the tires firmly planted on the pavement.

One of Mark's "tricks" is to put a PVC valve (available from any auto parts store, for a couple dollars) in-line in his crankcase breather tube. This allows air out of the crankcase but not back in. Mark claims the pistons rings seal better, and less energy is wasted pushing this air out every stroke.

Mark has several of these kinds of suggestions, and will be submitting some technical articles in the future. In addition to the sponsors listed above, Mark recommends Barnett Tool and Engineering (310) 941-1284 and Yankee Medical (802) 442-3093, who he says make the best prosthetics in the U.S.A. Mark can be reached at P.O. Box 241, Roslyn NY 11576.

"If you want to have anything to do with motorcycling, and you're serious about it, you should join the AMA."

Doug Polen



AMERICAN MOTORCYCLIST ASSOCIATION

800-AMA-JOIN

PRODUCT EVALUATION

One of the unique design characteristics of the Hawk is the swingarm pivot placement. It is physically higher than the countershaft sprocket and the rear axle. For this reason, when the rear suspension compresses it tightens the chain.

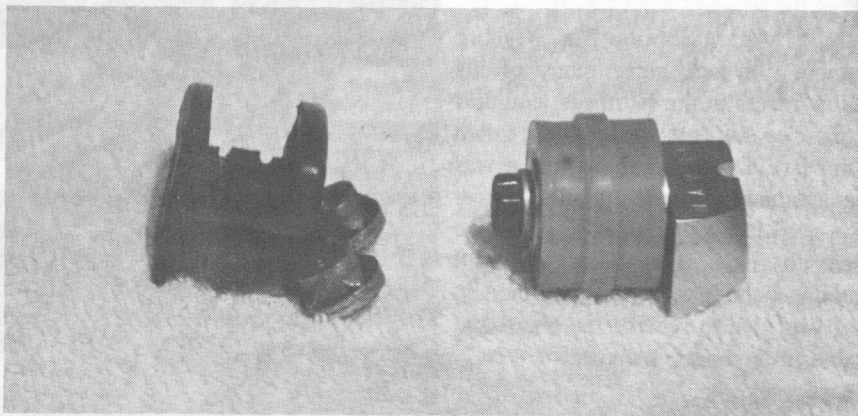
I have seen several Hawk racers new to the sport, or the bike, with their chains tight enough to severely effect handling. What this does is limits the travel of the rear shock. This problem is compounded when running a higher than stock ride height. You must then run what seems like a very loose chain.

I have found that in order to check your chain tension, it is helpful to lean across your bike from the right side putting your chest on the seat, and allowing your weight to rest on the bike. At the same time I pull up on the footpeg with my right hand to further compress the shock. I then check the tension of the chain with my left hand.

If the chain is tight you are not allowing the shock to travel freely. Loosen the chain and check again. I recommend using a very stable rear stand when doing this as you wouldn't want to knock your bike over.

When the chain is run loose to make up for the ride height, it will quickly wear out the lower chain slider and if run without a lower slider the chain will begin to cut through the lower portion of the frame. The guys from Service Honda / N'Sayn Racing have built a replacement for the stock slider. They also make a replacement chain slider for the top of the swingarm which is designed to last much longer than stock.

HawkWorks Member and Racer Brian Heaven of Heaven Racing has prepared the following evaluation of the chain roller.



Left: used stock slider. Right: New N'Sayn Racing roller

New from N'Sayn Racing

With my SuperHawk having a tall rear ride height, there was a lot of chain slack when the suspension was unloaded. So much so that the chain was starting to "chain saw" its way through the lower frame. Some would say that this leads to less weight and is good, however I believe that rigidity is a good thing and I wanted to end the frame cutting.

I purchased an N'Sayn Racing Chain Roller from Service Honda for \$76.00 including freight. It resembles a roller skate wheel shaped to support the chain. It uses roller blade bearings to allow the chain to roll over the surface of the wheel instead of sliding. This should extend the life of the roller.

The roller comes complete with mounting bracket, bolts, and washers. The bracket uses the bolt holes that secure the stock side stand, with supplied bolts going through the holes and into the bracket body. If you still have the side stand I believe that you can use the side stand mounting bolts to secure the roller bracket.

Installation took about an

hour. It is much easier if you remove the chain, then use some kerosene to remove the half inch of chain goo accumulated where the roller bracket will mount.

Spacer washers are supplied which go between the frame and the bracket. Getting the bolts, washers, and bracket aligned takes some time. However, once they are, just install the chain and your done.

The roller works nicely, reducing chain slack and bounce along with saving my frame. After three race weekends the roller has a mild groove worn in it, but should last most of next season. Replacement rollers are available for around \$20.00. If you have a mild ride height and the stock slider is in place, then it may not be necessary, but if you experience the same problems I did, it's worth it.

Brian Heaven

To order, or for more information, call Gregg Service Honda at: (219) 932-3588 or write N'Sayn Racing 5634 Hohman Ave. Hammond, IN 46320.

On Turning, Tires, and Teachers

I have been spending considerable time reading member mail lately, and I'm glad to see that interest in the network is not waning. One of the letters I read was from Mr. Plott. I was very interested to learn that we have an MSF instructor among our ranks. For those of you who aren't familiar with it, the Motorcycle Safety Foundation sets up guidelines and curriculum for Motorcycle safety courses throughout the country. There are basic and advanced courses which teach very important tactics and tips.

Some insurance companies offer discounts to graduates, and in some states (CA for one) you can get out of your first traffic ticket (if it's minor) by taking one. The statistics show that licensed riders who have taken an MSF course are the least likely to be involved in an accident, and are more likely to survive one if they are. For more info on MSF call: (800) 447-4700.

I asked if John would be willing to share a few secrets with us, and as it turns out, he was. Here he explains how a motorcycle turns:

Over the years I have been requested to speak to many different motorcycle groups and participate in short courses for many motorcycle rallies. During these speeches, I have discovered that the shared ignorance among the "old timers" seems to be unlimited. That in its self is bad enough, but these same "old timers" pass on this misinformation to younger riders and the cycle becomes self perpetuating.

The nearly constant controversy and denial associated with counter steering is a case in point. It is referred to in nearly every publication that has even tangential association with motorcycles. It (counter steering) is very easy to understand without getting technical.

Roll a piece of typing paper into a cone, (place a piece of tape on the cone to keep it from unrolling) and put the cone on a flat surface. Now roll the cone along the surface and see which way it turns. At any speed above 15 to 20 miles an hour, that is how a motorcycle turns. It would do the same thing at any speed except that you do not have the vector

forces of gyroscopic stability, centrifugal force, and gravity providing the stability found in processional physics. Consequently at slow speeds you are over powering the designed steering physics with your own body strength.

At higher speeds you tip the motorcycle in the direction of the turn in order to have the larger section of the cone (remember the paper) at the center of the tire and the smaller section of the cone on the side you are turning to. You tip the motorcycle by deliberately throwing it off balance

Push Left Go Left Push Right Go Right

and starting to make it fall down towards the direction of your turn. This is when processional physics steps in to provide the stability.

Now go back to the paper and re-roll it, making the large end larger. Notice the turn becomes sharper. This is what you are doing when you make adjustments during a turn, adjusting the size of the cone to speed up or slow down the rate, or sharpness, of your turn.

Up to a point, (where you fall down and go ouch) the more you lean the faster you turn, right up to the edge of the tread. This is why side loading is so important to be aware of when your tire is working. The cone shape in conjunction with side loading is causing the tire to push the motorcycle in the direction of the turn.

Now for the fun part. A motorcycle is an "All Wheel" turning machine. This is why it's important to know how the front and rear tires work together, and to choose tires that work well together. The profile of the rear is such that it should not cause the rear to turn as fast as the front, but the "cone" is still there and still working. Fortunately, most tire companies engineer their tires to work as a pair. This is why it is always smart to use only tires which were designed to work together, eliminating the possibility of non-compatible front and rear profiles.

John Plott

Many motorcyclists are obsessed with wide tires. The more rubber the better, right? Well, not exactly. If you squeeze a 170mm wide tire onto a wheel designed for a 150mm tire you will change the tire profile, and more than likely end up with a smaller contact patch, especially when at steep lean angles. This can cause several different problems, steering may be too quick which makes the bike feel like it's "falling" into the turns, the smaller contact patch will make small adjustments feel jerky and erratic. Of course, you can't forget about the reduction in traction.

Luckily, it's easy to figure out which front and rear tire combination are the best for our bikes. How? Ask the tire manufacturers. Tire companies spend megabucks to figure out which tire will fit which size rim on what kind of bike, and for what type of rider. In many cases the tire manufacturer will design a tire specially for a particular model. And they want you to use the correct tires. Why? So you'll like them and use them again. They have even gone so far as to man the phones to answer your questions. Here are some customer-service phone numbers to use.

Avon (800) 624-7470
Continental (404) 887-7051
Dunlop (800) 845-8378
Metzeler (800) 722-3336
Pirelli (610) 458-9662

Many of you have asked which tires work the best on the Hawk? While there are many other options, here are my opinions.

If you just have to have radials? Metzeler's Z-series radials are good on the Hawk. If your riding style is serious sport riding this may be an option.

However, if you enjoy the twisties, but would also like to get a few miles out of your investment, I like the ME33 front and ME55 rear. (No kidding, they work great in the rain, stick fine for all us mortals, and last for more than two months.)

Going racing? Soft compound Dunlop Radial Slicks, (3.5in. ft wheel) They're almost like cheating!
Gary Orr

Member Mailbag



James Dominique is looking to buy a close ratio transmission for his Hawk. He knows the gears are stock Honda Parts, and he would like to know which bike they come from, and the Honda part numbers, so he can purchase them through a regular dealer.

Well, I know the gears are third, fourth, and fifth, from a Japanese 400. I checked with a couple of Honda dealers I know who have Hawks, and they say they think the gears come from the Honda "BROS" (The 400cc version of the Hawk sold in Japan). Since this version isn't exported, they felt it would be difficult to get the gears even with the part numbers. They suggested it would be better to get them from Two Brothers, who already import the gears as a set. This would eliminate the possibility of getting the wrong parts.

However, if any of our members are privy to this kind of knowledge, (and wish to share it) please let us know the part numbers, and we will check it out. Gary Orr

Swap Shop

For Sale: 1993 VFR 750f Perfect, Cosmetic improvements, seat cowl, braided lines front and rear (through swingarm). 4k mi. \$6200 O.B.O. Rochester MN (507)252-1361 Leave message.

Wanted: Aftermarket Hawk rear wheel. Call Sam (602)464-9437.

For Sale: Hawk with fresh 750cc engine, Ti. Rods and valves, Oil cooler, Stabilized crankshaft, Fox rear shock, Internally reinforced frame and swingarm, 94' f2 front end. \$9500 call Gregg at (219) 932-3588.

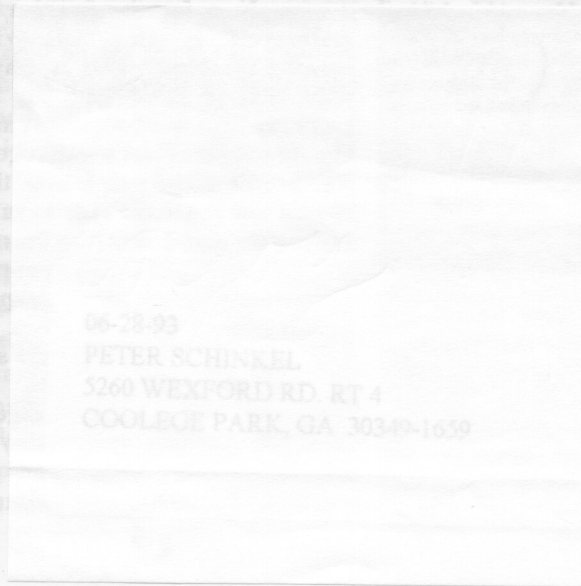
For Sale: 88 Hawk, Gray, 20k, Clean & Sharp, Targa Tsunami fairing and side covers, Dynojet, Kerker White Tip, Corbin Gunfighter, Progressive fork springs., \$3000. call Roger after 6pm EST at (615) 694-4635.

For Sale: Vanson leathers, two-piece, size 36, like new, blk/red/wht, call Chris: (805) 239-8615.

HawkWorks

The Honda Hawk Owners' Network

130 Bomber Blvd., Mtn Home, AR 72653



06-28-93
PETER SCHINKEL
5260 WEXFORD RD. RT 4
COOLEGE PARK, GA 30349-1659

