



FISHTAIL WEST
Velocette Owners Club of
North America Newsletter
June & July 2021 no.244

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Club dues \$30 a year. Membership runs from January thru December. Notices go out by email in December to be paid by January. U.S. funds only. All new member and renewal information can be found on the VOCNA website: velocette.org.

2021 Summer Rally

July 18-24, Ferndale CA

Register at www.Velocette.org

Reminder:

If you have one of the Perpetual Awards bring it to the Rally!

The views, opinions and technical tips expressed in this newsletter are those of the authors and do not necessarily reflect the position or policy of the editor or of any of the other VOCNA officers.

**Submissions for
Fishtail West due
last day of ODD Numbered
Months.**

Next Deadline: July 31

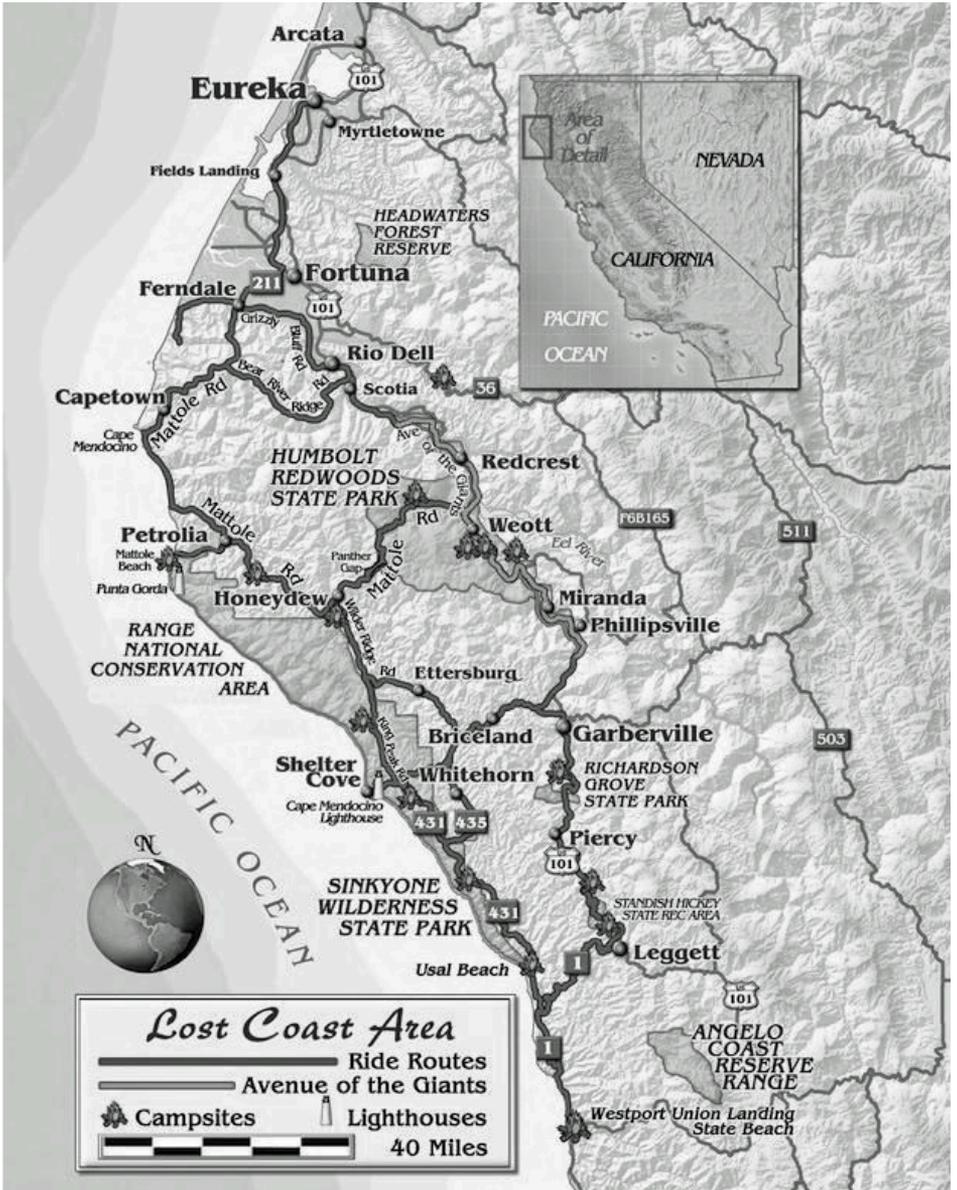
Front cover: On the road around Lake Berryessa, Spring Opener 2021. photo by Jeff Scott.

Back Cover: Pete Young's annual photo, Napa, California on the Spring Opener 2021.

This newsletter often features items from older motorcycle magazines, including photographs, drawings, cartoons etc. Where possible I acknowledge their source. Often these items are often from "MotorCycle" and "MotorCycling", and the current copyright holders are Mortons Motor Cycle Media. I thank them for their use.

2021 Summer Rally
July 18-24, Ferndale CA
Registration is ONLINE ONLY.
Please go to www.Velocette.org.

Editor's note: The excellent map below is from a 2013 post on eatsleeppride.com. This map was chosen for showing the location of Ferndale below Eureka and the tricky inset showing the location on the California coast.





Blast from your Past - Rally Pics

Photographer Gil Loe has been cleaning and organizing his photos!

Left: Dana Shatts and George Shoblo finish a day on the 2002 Rally with a little maintenance.



Below: Another VOCNA Rally Tradition. At the end of the week we vote on the best bikes in various categories. Here we are in 1996 trying to find the best Sports Velo.

Reminder: If you took home one of the Perpetual Awards in 2019, bring it to Ferndale.



Eastern News
by Andrew Harris

Greetings from the East, where things remain quiet in Ontario. We are hoping to a gradual end to some restrictions in early June but restaurants remain closed, the Sunday get-together has not happened for a few months now. The southern border is closed to non-essential travel and looks likely to remain so for a while.

While preparing the Velo for the new year I noticed the numbers had worn off one of my sets of feeler gauges. That's a little worrying as I remember buying those gauges.....Either I'm getting old or the gauges are not what the used to be. (Option 2 is the correct answer).

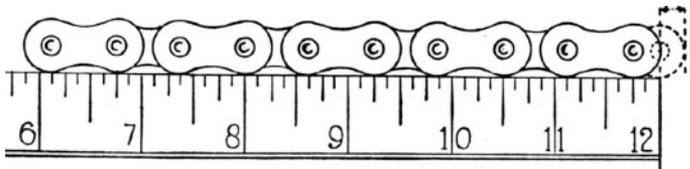
Having fitted the new tyres I barely had time to appreciate the better profile before I noticed the bolt holding the toolbox bracket to the rear mudguard needed tightening. Of course the rear wheel has to come out to get at the bolt. Drat. But wait, quickly detachable wheel to the rescue! In only slightly longer than it takes to type this (I'm a slow typist) the wheel is out, bolt tightened and the wheel is back. What a pity the qd wheel does not feature on too many modern machines. I know it is difficult to put a disc brake next to a chain but the manufacturers employ a lot of smart people so something may be possible.

I was not impressed to read about the oil tank non-return Viton ball in the last FTW. What are the UK owners club thinking to sell something with such a disastrous failure mode? The steel ball has an annoying failure mode but it is irresponsible to make an "improved" part which is not. Actually I thought of a few more adjectives but the editor probably won't like them. This is just poor material selection and a boiler-plate disclaimer on the website doesn't cut it. ("not responsible for anything we say or sell....")

I tried to imagine how one would go about checking oil flow by loosening the screw in the timing case quill. Start the bike, hold throttle with left hand, lean over with screwdriver, loosen screw, watch oil squirt, tighten screw. Find rag to wipe hand, put rag and screwdriver away while keeping engine running – madness. Need at least one extra hand.

I have never had a problem with the steel ball, remember just because it is called a dry sump engine does not mean the sump is dry (!) Usually expect at least ¼ pint of oil in the sump.

ride safely and stay
healthy,
Andrew



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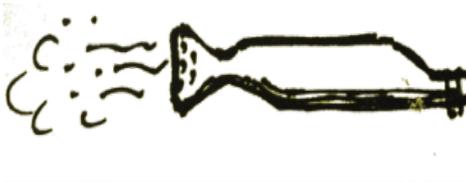
velocette@nocharge.zzn.com

Voice mail: 781-644-7338

Web: <http://velogb.tripod.com>



The box, the bike and the number. This is, at least, one of the last Thruxtons. Read on for the story of lost dreams and conflicting information set in the early 1970s.



'NOT THE END FOR VELOCETTE' SAYS ACCOUNTS EXECUTIVE

HOPE OF a future Velocette revival was given by an official of the Hall Green, Birmingham, factory, following the recent dismissal of 80 employees engaged on motor cycle production, including chief designer Charles Udall.

Tom Chivers, the accounts executive who has been with the company since 1928, said last week: "We are phasing out the production of motor cycles but this is not to say we will not make motor cycles again." Intimating at negotiations for the expansion of the general engineering side of the Velocette business, he added: "They may not be made at the Hall Green works."

Confirming he was expressing the wishes of Bertie Goodman, managing director, and Peter Goodman, works director, Mr. Chivers concluded: "We will concentrate our motor cycle efforts on the sale of Velocette and Royal Enfield spares and we shall offer an even better service than we have in the past."

Velocette, founded by the Goodman family in 1905, scored many racing successes. Alec Bennett, winner of the 1924 Junior TT, was the first of a famous line of works riders.

The climax was Freddie Frith's 1949 350 cc world championship. In 1961, a 500 cc Velocette Clubman became the first machine to average 100 mph for 24 hours, gaining 12 and 24 world records at Montlhéry, France. Surprisingly there has been

a great demand for Velocettes in recent years and dealers specialising in Velos, such as Geoff Dodkin, of East Sheen, London, have been able to sell as many as they can get.

Production at the Velocette factory is being stopped, he thinks, because it has become uneconomical to build bikes and general engineering is more profitable. "The firm realised you can't just live on tradition," he said.

But Dodkin is confident of the future. "The factory will still make spare parts and Velocettes have a strong following, like Vincents. They don't die out," he says. "Most of the money is in selling spares anyway."

Peter Archer, manager of Stevens, Velocette dealers of Shepherds Bush, commented:

Sam a success in New Zealand

SAMMY MILLER'S brief visit to New Zealand was a resounding success enjoyed by enthusiasts from all over the country.

At Whitemans Valley, near Wellington, on Sunday Sam laid out what many considered to be the most difficult sections ever seen in New Zealand. But with careful tutoring from Super Sam the riders took the challenge and realised that the sections were feasible after all.

"It won't affect our business much, other than that we won't sell new bikes, which were difficult to get hold of anyway. There may be a scare at first and people might stop buying them. But then they'll realise that Velocettes aren't going to suddenly disappear."

Finnish round

THE FINNISH round of the European trials championship, in which Mick Andrews (Ossa) hopes to displace Gordon Farley (Montesa) behind Sammy Miller (Bultaco), will be at Solvalla, near Helsinki, on Sunday, August 16. Regulations and entry forms: Brian Bonny, c/o Butler Mouldings Ltd., Victoria Road, Gowerton, Glimorglan.

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Motorcycle New 1 July 1970

The Adventures of a Would-Be Velocette Distributor By Bill Martin

It was 50 years ago. I t was the age of peace and love. I had survived a difficult divorce and had recently met the woman I would soon marry. Unlike today, optimism and hope were everywhere. Except, that is, for the railroad industry. My employer, the Penn Central railroad, had declared bankruptcy a few months earlier. I loved my job as motor vehicle fleet manager, but my authority to replace failed cars and trucks when needed was drastically curtailed by the need for bankruptcy court approval for each purchase - a lengthy process that left supervisory personnel and maintenance gangs without transportation for extended periods. My previous high level of job satisfaction became frustration and despair. It was time for a career change.

I had bought my first Velocette after reading an article in the August 1967 issue of Cycle magazine about these lovable, cantankerous, "instant antiques." I was hooked even before seeing one, let alone riding one. A few months later a 3 month old Venom Clubman appeared in the Philadelphia Inquirer classifieds. I took a brief test ride and bought it for the asking price. I soon met the legendary Gene Aucott, who had become a Velocette dealer some time after Vincent ceased manufacturing. And through Gene, I met Tom Crawford. Tom had recently bought a new Thruxton. We immediately became friends.

By 1970, Tom was also thinking about making a change from his career as a stock broker. He suggested to me that we open a motorcycle dealership. The US Velocette distributor, Dave McCready of Altoona PA was looking for someone to take over the distributorship. We would also become a dealer for one of the big Japanese brands as our major revenue source. Tom was very good at sales, while I would handle service and parts. It seemed like a dream job, and I quickly agreed.

**MANUFACTURER'S
STATEMENT OF ORIGIN
TO A MOTOR VEHICLE**

The undersigned COMPANY hereby certifies that the new motor vehicle described below, the property of said COMPANY, has been transferred this 1 day of Feb., 1971 on Invoice No. X to Thomas K Crawford (Distributor, Dealer, Etc.) whose address is 272 Easton Rd. (Street, City and State) Warrington, Penna., 18976 Trade Name Velocette Series or Model Thruxtton Year 71 Body Type motorcycle No. Cylinders one Manufacturer's Motor Vehicle Identification No. X (To be given when available if its use is approved by the State) Engine No. VMT 1226 Serial No. RS/ 20111 (To be given until Mfr's Motor Vehicle Ident. No. is available, and its use is approved by State) H.P. (SAE) 41 hp. Shipping Weight 450 If Truck or Commercial Car, give capacity 2 pass. (To be given in terms as required by the State)

The COMPANY further certifies that this was the first transfer of such new motor vehicle in ordinary trade and commerce. - consideration \$1125.00
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 (Company) Altoona, Pa. 16602
 Phone (814) 943-6485
 By: Barbara J. McCready (Sign Name) Title or Position
 BARBARA J. MCCREADY, Notary Public (City and State)
 LOGAN TOWNSHIP, HARRIS COUNTY
 MY COMMISSION EXPIRES ON APRIL 1 1972
 Member of the State of Pennsylvania Notaries
 Approved by Registrar—6-55

KEYSTONE PRINTING CO.

It wasn't long before Tom had reached a verbal agreement with Dave McCready and also secured a commitment for a Yamaha franchise. We met with an attorney and started looking into financing. I gave informal notice to my boss at the railroad, but without a firm termination date. You may notice that one necessary item had not been prepared at this point – a business plan. We had worked out a verbal agreement but had not even estimated what revenues and expenses might be, let alone the capital needed to build inventory and equip a showroom and shop. But we committed to Dave McCready for six new Thruxttons.

VELOCE CHOOSE LIQUIDATION

VELOCE LTD, the makers of Velocette motor cycles, is going into voluntary liquidation. A voluntary creditors' meeting will be held on February 3.

The weekly production of two or three Velocettes will continue until trading ceases. The present 86 employees — many of them long-serving members of the Hall Green, Birmingham, company — will receive notices soon.

Said Velocette executive Mr Tom Chivers: "Production has been phased out since July."

So the 66-year history of one of the world's leading motor cycle factories draws to a close. Velocette can look back on eight TT wins plus a 1-2 by Neil Kelly and Keith Heckles on Thruxton Venoms in the 500cc class of the 1967 Production TT.

There was the eight-man Anglo French team—including factory chief Mr Bertie Goodman—which, on a 500cc Venom Clubman at Montlhery, near Paris, broke six world records and became the first bike to average 100mph for 24 hours.

In 1928, a Velocette was the first 350 to exceed 100mph. Almost 400 employees were with the firm in the early 1950s. Best seller from the Velo range? The 200cc LE model, which has now been in production for 21 years.

Biggest flop in the Velo range? Most of the ever-keen Velocette fans would agree it was the Viceroy scooter, which failed after considerable financial outlay at the factory. Viceroy engines have also been used in hovercrafts and LE units in ice cream vans.

Recently, a hoped-for take-over by E and H P Smith, the Midlands engineering company, fell through.

Now, at the 31-acre Velo factory, they are open to offers for spares, jigs, tools and dies.

'We keep up spares service' say dealers

IN A BID to avert any panic over Velocette spares, three of the world's leading Velo agents—L. Stevens and Geoff Dodkin of London and BMG of Ilford, Essex—are to co-operate with each other in making spares available.

They said: "We have every intention of continuing to service and supply spares as long as there is a call. We assure the Velocette owner that all means possible will be used to keep his machine on the road.

"The combined stocks held at the present time should be more than adequate for the current range of machines.

"Whilst co-operation as

regards the supply of spares is proposed, each firm will be operating, as before, completely independently."

In London on Friday, the three dealers—Mr. Rag Orpin, managing director of Stevens, Mr. Bill Woods of BMG and Mr. Dodkin—met to discuss plans and to hold re-queem on the Velo saga.

Their aim is to keep Velocettes on the road till someone steps in to take over the factory.

All three agreed. "The end seems to have been on the way for a long time. But we never thought it would come — we all thought they would continue to muddle their way through . . ."

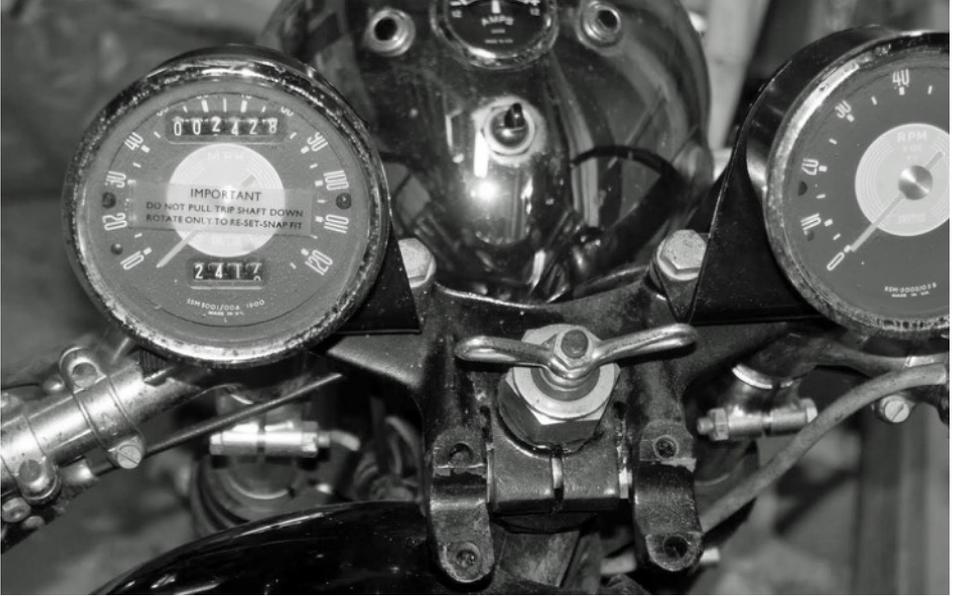
Motorcycle News 27 Jan 1971

Then one day Tom called me up with bad news: Veloce Ltd. was shutting down. At first we still wanted to go ahead with our dealership plans, and considered substituting one or more other obscure brands of bikes such as Scott. Tom proposed selling snowmobiles. But financial reality slowly began to become unavoidable. Tom and I independently realized that our dream was not going to work. I decided to leave the railroad for a job selling Ford trucks at a newly opened Ford-owned truck dealership to gain selling experience. Once I built that career, I would chase a different dream: graduate school. We agreed that we would sell the 6 Thruxtons and go our separate ways.

In late January 1971, Dave McCready called to tell us that we were getting only 4 of the 6 Thruxtons. They were already shipped and would soon be arriving by ship in Philadelphia. He wanted to be paid. We sent payment and he sent us 4 Manufacturer's Statements of Origin (MSOs) purportedly for those bikes. (Registered dealers submit an MSO and bill of sale to the state to obtain a title for the new owner.) But when the bikes arrived we found that the engine and serial numbers on the MSOs were somewhat higher than those on the Thruxtons we received. Dave then confessed that Veloce had not given him the numbers so he made some up. He sent us 4 blank MSOs for us to fill out as the new US distributors.

Another problem was that all four bikes were missing tachometers. The drive cables and mounting brackets were in place but no tachs. I ordered 4 new Smiths tachometers that matched the bikes' speedometers from the dealer in London that I had been using for parts for my 1967 Clubman. Years later I read in The Velocette Saga by Titch Allen that production was delayed for the last 6 bikes by late delivery of Spanish carburetors for them — Amal GPs being unavailable. When they finally arrived and were installed late one day, they vanished from the engines overnight. The apparent

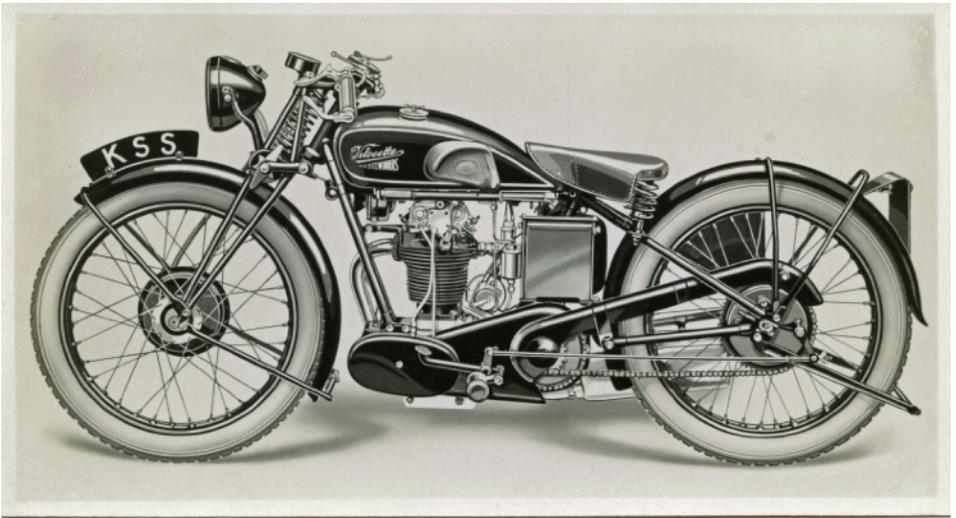
employee theft was what finally motivated Peter and Bertie Goodman to seek voluntary liquidation. However I recall having earlier read somewhere that it was “special” tachometers that were stolen. I have been unable to locate a source for that recollection so it may well be faulty. Perhaps the tachometers were stolen by whoever crated the bikes for shipment.



I decided to keep the last Thruxton for myself, with the hope that it would end up in a museum. But which one was “last”? One had the highest serial number; another had the highest engine number. All were equipped with clip-on bars, but only three had the brackets to hold flat bars instead. The bike that could only have clip-ons was VMT-1197c; the others were VMT-1200c to VMT-1202c. Presumably the additional two bikes we had ordered were VMT-1198c and VMT-1199c. So it seemed that VMT-1202c was truly the last one, and thus was the one for me to keep. But then an ad appeared in Motor Cycle News from English dealer Geoff Dodkin offering “positively the last” Thruxton. I wrote and asked what its engine number was, and was told that the bike was built for an American order. Its engine number was VMT-1204c. I also wrote L. Stevens, Ltd asking if they knew the last number and they replied that it was VMT-1197. Finally Rod Burris’s 1982 book *Velocette* states that the last was VMT-1208 but the last ones were assembled after the end of production. Clearly I have the last regular production Thruxton sent to North America; beyond that it’s anyone’s guess.

Tom was able to sell the other three and somehow managed to get them titled and licensed. To my regret I never titled mine. I kept it in my front hall for several years, but when I moved and downsized 17 years ago it took up carefully covered residence in my attached garage.

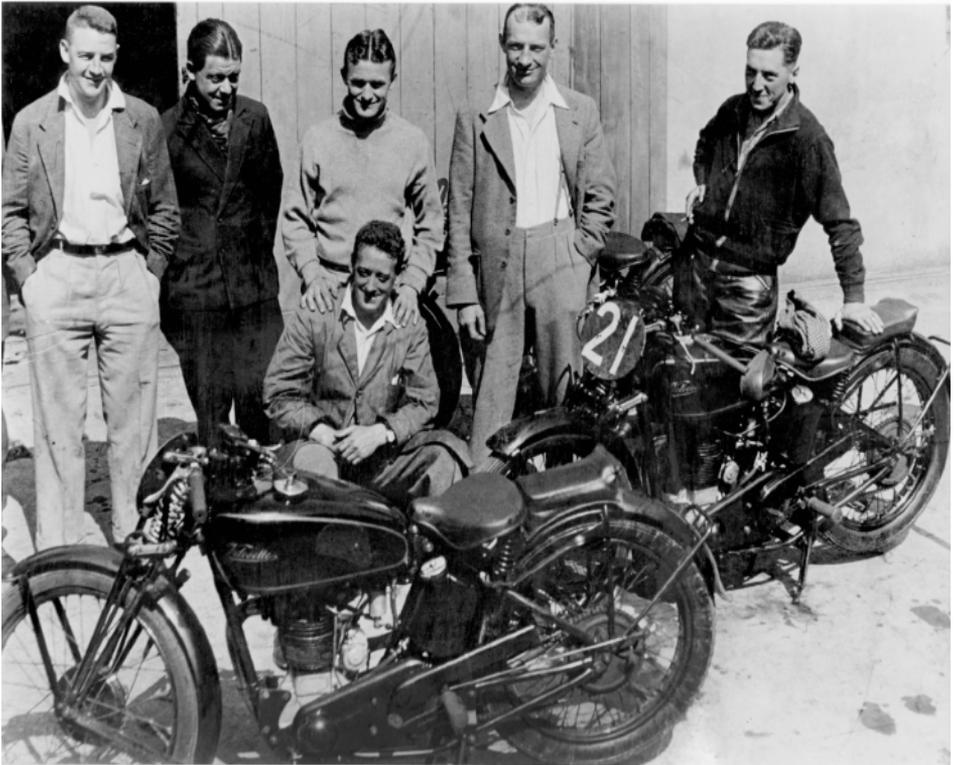
I soon discovered that salesmanship was not one of my strengths, nor was it something I enjoyed. But my commissions, together with my bride’s income, somehow paid the mortgage (\$126/month) and kept food on the table until I completed my graduate degree and rejoined the railroad industry, where I stayed until my retirement.



Above: 1930 Velocette KSS from the Hockenheim Archive. photo submitted by Paul d'Orleans.

At the Isle of Man in 1933, Stanley Woods won both the Senior TT (500cc) and the Junior TT (350) on a Norton, but Velocette placed well. In the Senior TT, A.G. Mitchell rode a Velocette to sixth place. In the Junior TT, Velocettes took the 4th, 5th, 6th, 7th, 8th, 9th and 10th places!

Below: 1933 Velocette Race Team, Isle of Man. photo submitted by Paul d'Orleans.





Above: Olav Hassel looks at the offerings
Hanford Cycle Swap and Show
May 14-15, 2021

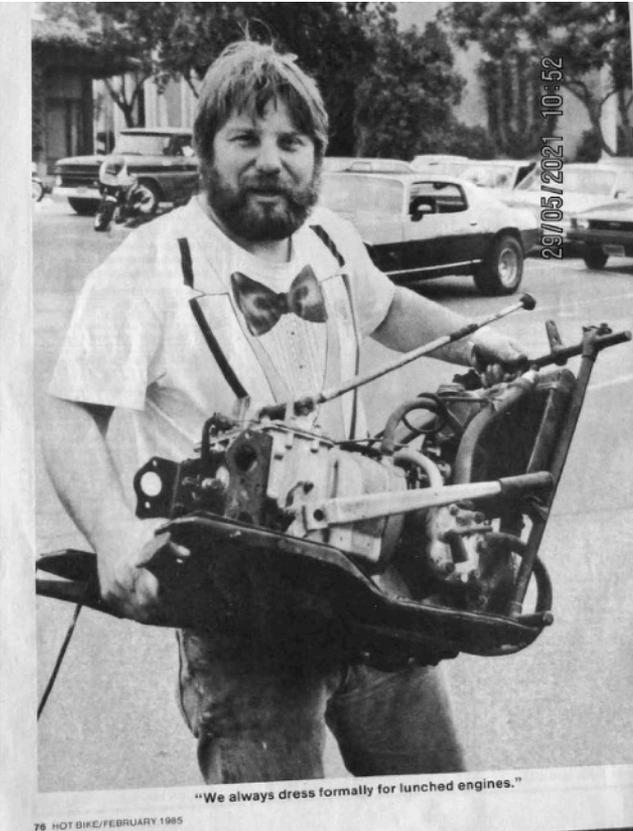
Velocettes were seriously underrepresented at the Hanford show and swap meet. The only representation of Velocettes was on the t-shirts that Jeff and I wore. That does not mean we did not have fun, or get to see some incredible machines, or talk with other club members. Seeing people was perhaps the best part of going to this meet.

Chairman Olav Hassel and Roland Badertscher, and Margie Siegal were three familiar faces. Olav and Roland were busy in the swap meet area. Margie rode in, hopefully to do her journalism art. In the swap meet area I also met Gary Vallquist, and as we were talking, discovered he was a good friend of Dave Jorgenson who is active in VOCNA. What a small world!

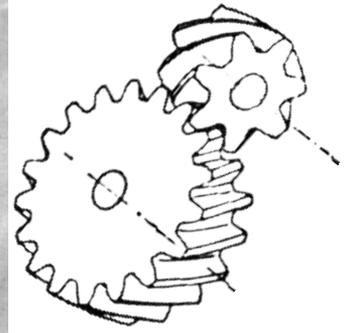
Aside from the mini-reunion, it was fun to see smiling faces and happy hands as people carried out the treasures they'd found at the swap meet. The motorcycle show featured amazing choppers as well as one of the most impressive barn finds ever, "F" model Harley complete with a jar full of the rust that came out of the tank, and a beautiful red and white, 1967 Harley-Davidson with a double-wide sidecar. Outside the motorcycle area there was also the area's weekly swap meet and farmer's market, as well as a sprint car event. A lot was going on at the King's County Fairgrounds.

This being 2021, there was some confusion. Although a big sign stated, "Masks are required," no one wore masks. We were outside and it was easy to keep social distancing. The weather was sunny with a cool wind, and many people told me, "it's never cold in Hanford."

The person who ran this annual event, Marshall Baker, stepped down in 2019, after running the event for eleven years. Any plans for 2020 were cancelled due to the pandemic. This year it was put on by the people who host lots of other events in many states (check out lighteningcustoms.com.)



Left: It didn't take long to find the one person who had the one Velocette part in all of the swap meet. This was Gary Vallquist. He went home and spoke with Dave Jorgenson who sent me this photo of Gary carrying a part of an LE back in 1988. And he's dressed for the Gentlemen's Ride. What a small world!



Below: There was an All American theme with choppers, cowboy hats and tie dye shirts.



2021 Spring Opener

Yes! The 2021 VOCNA Spring Opener happened. This was a great accomplishment in a year when planning is so challenging. There were some modifications... and improvements. One thing that remained the same was the starting point, the big red barn in Napa, California, and another was the weather. We had perfect riding weather, dry, not too hot and not too cold.

About thirteen Velocettes and five other marques gathered at the big red barn. There were lots of familiar faces and some new ones. For instance Paul Adams was present with a friend named Shane who rode a Ron Thomas bike. Then there was Chuck who plays in John Ray's band (or John Ray plays in Chuck's band). He rode a blue modern machine while John Ray test rode a red Moto Guzzi. Another new member of the club, Phil showed up with photos of his bike on his phone. He recently purchased a stunningly beautiful green Valiant. He needs a wiring harness if anyone has one, his contact information is on the website, velocette.org.

Other riders included Frank Brennan, Don Danmeier, JP Defaut on a BMW, Howard Johnston, Kim Lohstroh-Young, Fred Meyer, Frank Recoder, Jim Romain, Jeff Scott, Jeff Ward, Pete Young, and an energetic rider on a 193X racer BSA. A great turn-out.

Even better, there were no breakdowns on this ride. Chase truck driver, Niel Macdonald deserves all our thanks – even more because he had a boring ride.

Once John performed the duties of the ride leader and maps were handed out, we headed down the hill and immediately split up. Some people knowingly or not took Mt. Veeder road while others negotiated the corners on Dry Creek road. The first part flew off the Moto Guzzi on Dry Creek. Luckily Chuck was able to stop and collect it.

Kim was on the oldest bike. It was quite amazing to watch her skill in handling the potholes. And it made me miss my MAC even more.

Everyone made it to the first stop at Pope Valley. Navigation was even simpler around Lake Berryessa to the lunch stop at Turtle Rock. The landscape was dramatic with stark contrasts between what was destroyed in last year's fires and the new growth. The water levels in the lake were shockingly low, but all the day use areas were full.

Every portion of the way we saw Porsche's. Fortunately they were always going in the opposite direction. Other groups of modern bikes were also out – it was perfect weather to be riding.

Back at the big red barn, beer was consumed, stories told and finally bikes loaded up.

There were no awards and no big feed, but there were also no breakdowns. Great success.



John Sims rode to the event. He's preparing to do the 2021 Motorcycle Cross Country Chase



A couple views of the Big Red Barn. Bikes, mostly Velocettes, wrapped around two sides of the barn.





Above: The Pope Valley Market offers a large parking lot, snacks, a port-a-potty and shade, if that's needed. A welcome oasis twenty minutes from Lake Berryessa. Below: More substantial snacks were available at the Turtle Rock Bar and Cafe. The egg rolls were recommended. Here Kim performs the starting process. Don't we know by now, that the bike won't start if people are watching?





Left: Frank Recoder and John Sims discuss the ride.

Winner
of the
JUNIOR TT



1926-8-9.

The BSA was a joy to watch. Here the rider talks with Jeff Scott.



Right: 1988 Spring Opener line up. Photo by Gil Loe



Below: 1998 Spring Opener- participants posed with the club banner. photo by Gil Loe



Balance Factors

by David Gibbison

Little official information is published on crankshaft balance factors, a fact that leads to confusion whenever there is a requirement to rebalance a crank. Fortunately, data does exist in a number of publications. Unfortunately some of the sources of information conflict with each other. As well as looking at Iron MSS balance factors, which was my primary interest, I have extended the article to cover all Velo four-stroke singles.

It is worthwhile to try to clarify what information exists and where possible come to some conclusions on probable balance factors.

The sources of information are:

1. Official Velocette publications.
2. An article in The Motor Cycle by Charles Udall, p252-6, 4th March 1954
3. Technical Topics, by the then Technical Editor and Velocette dealer Arthur Lavington in Fishtail 36, dated February 1963.
4. Comment by Phil Irving p279, Motorcycle Engineering also Tuning for Speed 5th edition P86
5. Comment by Geoff Dodkin in Classic Racer, p72 Autumn 1983 where he recommends a 70% BF for short circuit racing
6. An in depth article on balance factors in Fishtail Down Under 333, by the VOCA Technical Editor Norm Trigg. In this excellent article Norm details a number of experiments on various cranks, rods, and pistons etc. to arrive at average balance factors for various Velocette engines.

In summary the data shows:

Reference	1	2	3	4	5	6	Consensus
MkII KSS	70%		70%			80%	70%
MOV				85%			85%
Iron MAC						81%	75%
Alloy MAC			75%			81%	75%
Iron MSS – parallel roller			70%			64%	70%
Iron MSS – taper roller		70%	70%			70%	70%
Early Alloy MSS		55%					55%
Later Alloy MSS			65%			68%	65%
Venom / VMT			65%		70%	68%	65%
Viper			65%			80%	80%
KTT			70%				70%

Conclusions

MkII KSS: As the factory quoted 70%, which was confirmed by Arthur Lavington, we can therefore confidently conclude that the balance factor is 70%. However numerous measurements carried out by Norm Trigg on engines indicate that the balance factors of these engines was somewhere around 80% - so while I feel we should go with the factory published figure of 70%, this may not necessarily reflect reality.

MOV: Even though we have no corroborating evidence, I am inclined to go with 85% as historically data quoted by Irving has, over the years, proven to be accurate. Even though the MOV and MAC share the same frame and cycle parts, the difference in balance factors between the MOV and MAC may be attributed to the MOV making its power at a higher RPM than the MAC.

Alloy and Iron MAC: - It's difficult to come to any firm conclusions, though I'm inclined to go with Lavington's 75% as generally his overall data is collaborated by other sources. Additionally, as the factory was still in operation, we can be confident someone would have corrected him if his information was incorrect. However, it is interesting to note that the Alloy MSS uses the same frame and cycle parts as the Alloy MAC, but the MSS has a balance factor of either 55% early or 65% later engines.

Iron MSS: 70% seems to be the balance factor for both parallel and taper roller MSS's. This conclusion is drawn from the facts that Lavington's data is on the whole supported by experimental observation by Norm Trigg.

Alloy MSS/ VR / VM / VMT: The factory balance factors of these engines are probably the most difficult to accurately identify. Therefore I am grateful for the contributions of, and correspondence with David Childs and Norm Trigg in helping to come to any meaning full conclusions for these models.

The earlier alloy MSS used 8.25" OD flywheels (MAS 21/2 and MAS 22/2). Although physically heavier, these wheels had a smaller balance weight than the later 7.75" OD VM, VR and MSS flywheels, so they must have used a lighter 'plug' to balance the wheels (explained later). When 8.25" balance wheels were used on early Venoms and Vipers, many holes were drilled in the rim adjacent to the big end and the part number changed to MAS21/3 and MAS 22/3. Presumably this changed the balance factor from 55% to 65%.

The 7.75" flywheels started at VM1115, VR1145 and MSS12304 - these later engines all used the same flywheels, big ends and con rods, but of course, different pistons. Measurements on these flywheels carried out by Norm Trigg confirmed that Venom and Viper assemblies were identical with in each case the balance weight being 333grams and the little ends 241 gram. Measurements of standard Wellworthy pistons by Norm and David indicated that these items weighed 447 grams / 15.75 oz and 16.5 oz. / 470 grams. grams respectively giving a balance factor of approximately 80%. Other figures mentioned for the Viper is 78% A standard Wellworthy Venom piston weighing 600gm / 20.25 oz, gives a balance factor of 68% - close to the 65% quoted. Despite sharing the same cycle parts, it is possible that the different balance factors were devised to reflect the different rev ranges of the two engines. It also explains why you can convert a Viper to Venom and vice versa without any apparent vibration problems.

The Alloy MSS piston being lighter than a Venom piston will give a marginally higher balance factor, although we have no accurate figures for the weight of this piston.

KTT: It is probable that the balance factor for the KTT is 70%. This is based on the fact that the factory in its article on adapting a MkII KSS for racing, recommend keeping the KSS at 70% from which we can hypothesise that Lavington's assertion that the BF is 70% would be correct.

Calculating Balance Factors

To balance a crank, rod, pin and pistons its good practice to first measure the relevant weight of the existing components. There are three key weights required:

The weight of the piston, pin, rings and clips; measured using an accurate set of scales. Accurate electronic kitchen scales are ideal for this.

The weight of the small end when fixed in the crank: this can be measured by supporting the crank on the bench with the pin at its highest point. Support the scales so the small end rests on the platen of the scales with the rod in a perfectly horizontal position. The scales should be carefully leveled and zeroed..

The weight required to perfectly balance the crank assembly: support the crank in a set of knife edged rollers or in your lathe if it is big enough and affix something akin to a large jam jar top so that it hangs like a basket from the small end. Add weight to the "basket" until the crank is perfectly balanced in any position i.e. it comes to rest at any random point when rotated. When this state of balance has been reached, weigh the basket, weights and any wires you may have used to support it.

The normal method for balancing cranks is by drilling holes in the flywheels. These holes must be in line with the mainshaft and pin or multiple holes can be drilled either side of this line. However if so, each hole must be balanced with an identical hole the other side of the line. Similarly, each hole needs to be balanced by having an identical hole in the other flywheel.



Example of a set of flywheels which have been balanced by drilling. Notice the holes are symmetrical about a diametric line through the crank pin and crankshaft centres.

Having calculated the weight of the various elements you can then calculate the amount of material that requires removal to balance the crank. To help follow the process, I have used actual figures required to balance my MSS race engine. The formula is as follows:

Calculate:

Small end + complete piston assembly = total reciprocating weight

$$160\text{g} + 370\text{g} = 530\text{g}$$

Therefore if we are balancing 70% of the total reciprocating weight, the amount to be balanced is:

Total reciprocating weight x 70% = Balanced reciprocating weight

$$530 \times 70\% = 371\text{g}$$

For a 70% BF the weight of the small end needs to be taken away from the amount to be balanced i.e.

Balanced reciprocating weight – weight of small end

$$371\text{g} - 160\text{g} = 211\text{g}$$

Consequently, if we add 211g to the small end and allow the crank to spin freely either between centres (or on knife edges) and the crank comes to rest in no set position we can deduce that the static balance factor will be 70%. Of course, odds on this will not be the case and the crank will need to be balanced to 70% by removing metal from the flywheels. The steps required are:

Step 1 - The first check is to verify that the balance is symmetrical about the crankpin / main shaft diameter. With no weight on the small end, set the crank between centres or on knife edges and gently tap the crank to set it swinging. The crank should come to rest with the centre of the crankpin directly above the main shaft. If not, the wheels are asymmetrically balanced and metal will have to be removed from the heavy side. To calculate the amount of metal requiring removal, add lumps of Plasticine or Blu Tac to the light side until symmetrical balance is achieved. In really bad cases, you may need to fix steel weights to the Plasticine to achieve the desired balance. Weigh the Plasticine and you can calculate the weight of metal to be removed by calculation as shown later.

Incidentally, the factory used a simpler method, by balancing each 86mm wheel separately by fitting a steel plug that weighed 25.25 oz. into the crank pin hole.

Step 2 – Attach the pan to the small end and spin gently between centres as outlined earlier adding weights to the pan until the crank consistently comes to rest in no set position. When this point has been reached, weigh the pan and its contents. In this example, the weight is 455g.

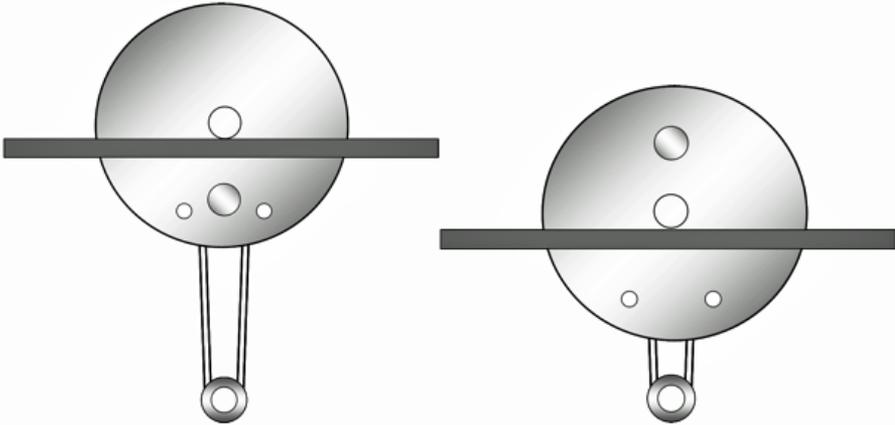
To work out the amount of material to be removed, calculate as follows:

Existing flywheel balance weight – 70% BF

$$455\text{g} - 211\text{g} = 244\text{g}$$

Therefore, 244g of metal needs to be removed from the crank diametrically opposite the pin at the same radius as the pin i.e. half the stroke – in this case 48mm.

Obviously it is possible for this figure to be negative. If so, any holes drilled in the crank should be on the other side.



Position of holes: If with the required weight attached, the flywheels come to rest with the crankpin at the bottom the holes must be drilled as in the left hand diagram. If the crankpin rises to the top they must be drilled as in the right hand diagram.

If we were to consider using four 3/4” holes (i.e. two in each flywheel) with steel weighing 129g/cubic inch, the calculations are as follows:

Weight of metal =

$$\frac{\pi \times \text{hole diameter}^2 \times \text{width of crank} \times \text{specific density of steel} \times \text{No. holes}}{4}$$

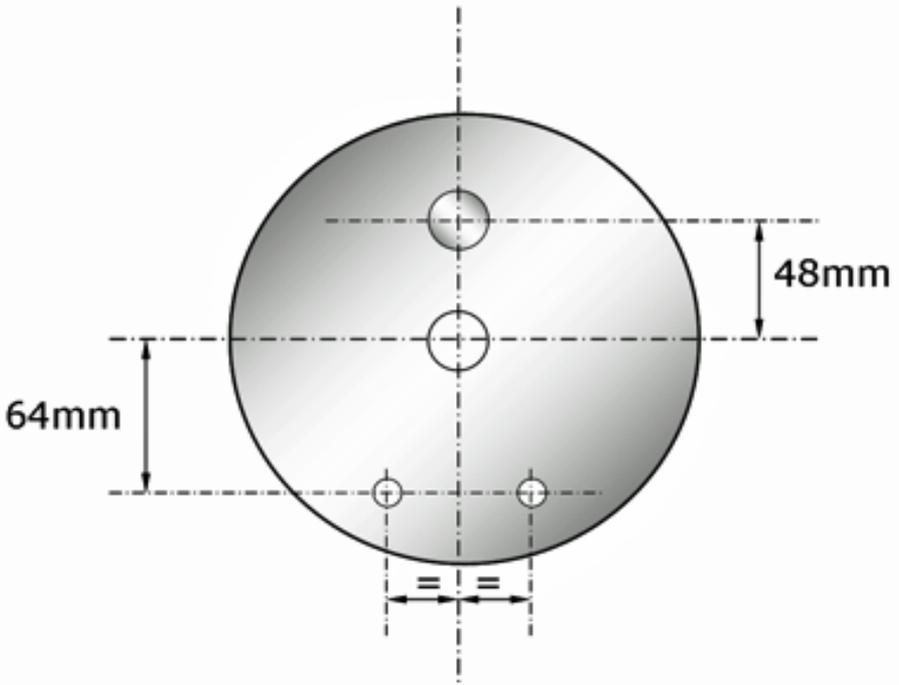
$$\text{Weight of metal} = \frac{\pi \times 0.75''^2 \times 0.804'' \times 129 \times 4}{4} = 183\text{g}$$

This figure is obviously less than the required amount (244g), so we can either drill bigger holes or more holes. Alternatively, we can increase the distance of the centreline of the holes from the centre of the flywheels. This can be simply calculated, by the following formulae:

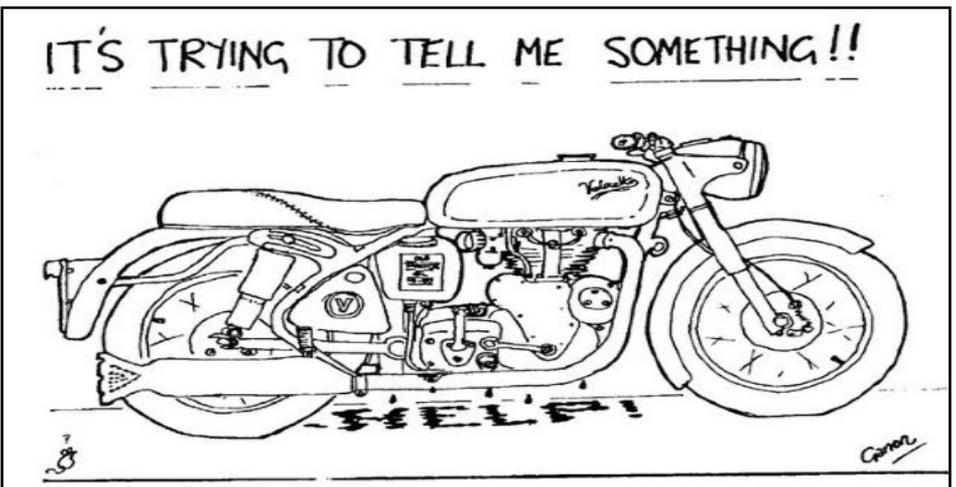
$$\text{Distance of holes away from the main shaft centre} = \frac{\text{Required weight} \times \text{half stroke}}{\text{Weight of metal to be removed}}$$

$$\text{Distance of holes away from the main shaft centre} = \frac{244\text{g} \times 48\text{mm}}{183\text{g}} = 64\text{mm}$$

Therefore two 0.75" holes are required to be drilled at a radius of 64mm in each fly-wheel either side of the line directly opposite the crankpin. After drilling, the crank was one again checked on the knife edges and the weight required to perfectly balance the crank was found to be 211g!

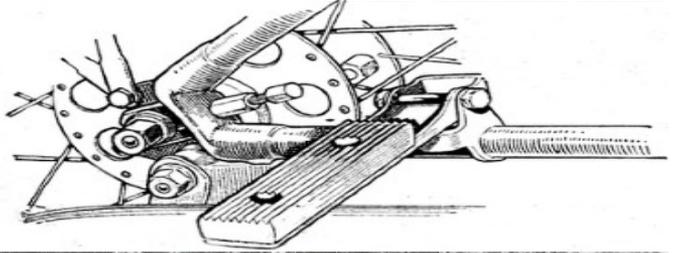


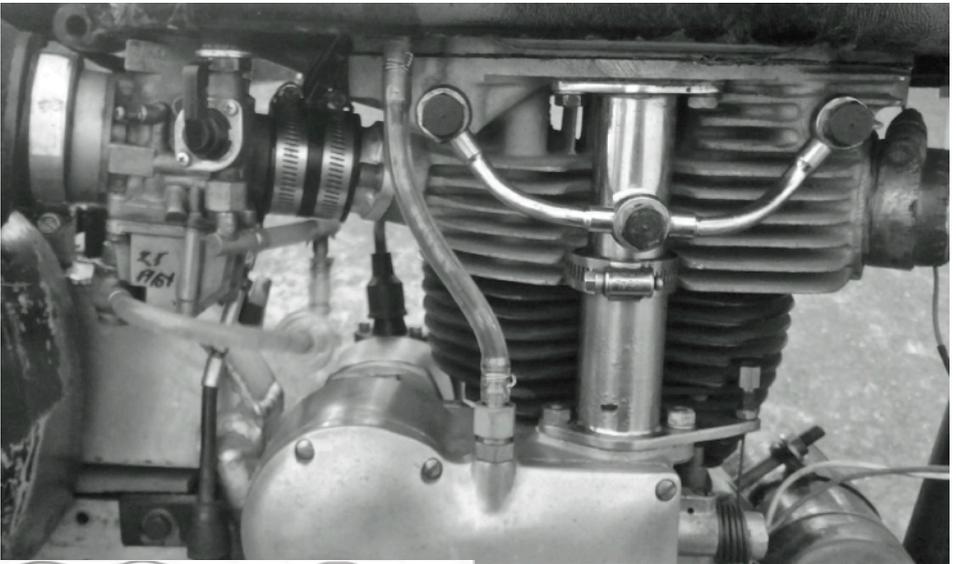
Thanks to David Childs and Norm Trigg for their contributions and review of this article. Any additional information or feedback from others would be appreciated.





More Blast From the Past! Rally photos by Gil Loe
Above 1998 Sierra to the Sea Rally, Dardanelle store
Below: 2008 Eel River Rally -





Above: Air bubbles coming from pressure side of pump are indicative of cross flow from the internal pump passage.

Below: That has to get up to the boiling water temperature to get the iron to move inside the aluminum.

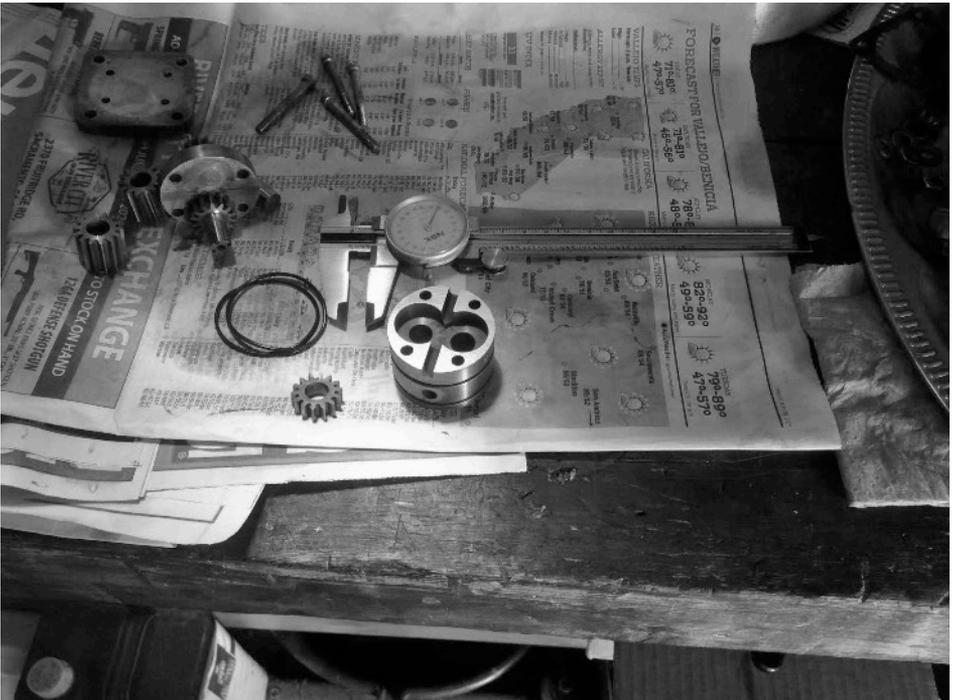


All Along the Froth Tower Pump Adventures of a Tool Fool

The life blood of our motors, the cooling medium and lubricating film of oil predestined to mark our parking places. But first it must circulate through the motor and oil tank, filter and in some cases, the oil cooler. In order to circulate it must be pumped first in then out in a constant motion as long as the motor is running.

After the last big end went south in the Venom, the oil ways were inspected but the pump was undisturbed in the case so of course when the first run on the new motor came to pass the oil going up the supply tube to the rockers was observed to have a few air bubbles in the oil as the oil went by. (I installed a clear hose in the supply tube to fix a broken bottom fitting and now it has come in handy) I had checked the usual suspects before assembly, make sure the check valve unit was clean and in working order, pressure test the hose and fitting to ensure no air could be sucked up through a faulty line. Back to the run in, a short ride of a few miles to check operation of all the working bits and just enough to warm the oil up a few degrees. Now the air bubbles in the feed to the rockers was more air than oil. Bad. A quick check of the return showed a sluggish froth oozing from the filter chamber so some oil was getting around but not enough.

Having determined the feed path to the pump was sound that leaves only the internal fitting and tolerances to check. The bad news is the motor gets to come down to its component parts to get the oil pump out to take a look. Take it apart, put it together. And three hours later we leave the case to off-gas the solvent fumes overnight so the lower explosive level leaves the Aga in one piece when we heat it up.



Above: Pump body and the offending measuring device.

The next day, open the windows set the case on a soft surface and wait till we have the temp of boiling water for the aluminum to expand around the pump body before we ease it out and set them aside to cool. Needless to say the oven did survive the

ordeal.

At once I noticed the O-ring mod I had made once before to try to get the return side to provide a better pressure thinking that there might be some leakage around the pump body. Although the case is smooth along the cavity it seemed like a good idea at the time. Needless to say the pressure stayed the same.

The next step was to check the gear lash and fit inside the supply and return cavities. There was what seemed to be very little wear in the radial pump face or in the gear teeth but that was simply observation as I have no way to measure that. The measurement I could and did take was the height of the gears or thickness and the cavity height.

And that is where this story starts to go sideways. I used a dial caliper to measure the gears and then used the depth gauge feature on there to measure the depth of the cavity. Little did I suspect the depth gauge feature was calibrated about .017 off from the jaws so it seemed as if I needed to take quite a bit off the pump case to get the .001 clearance between the gear face and the body.

There should be an alarm going off about now. Danger. Double check before cutting.

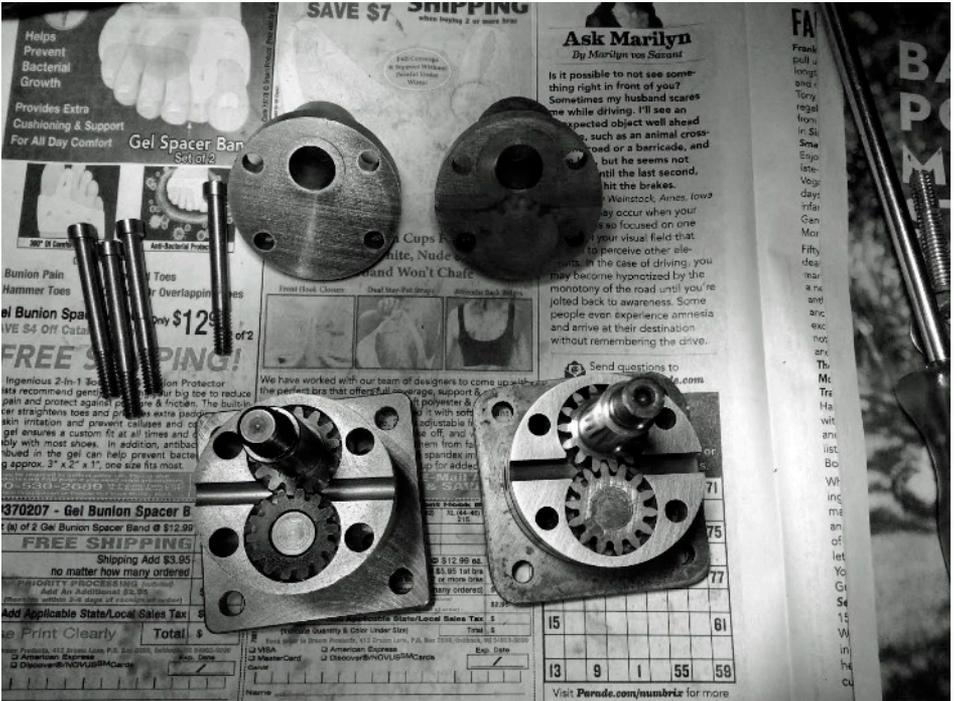
I only had a flat plate with a piece of 180 grit but I managed to figure eight my way to the point where I had about .004 worth of gear standing proud out of the pump body before a few discrete hints from the Velocette Facebook page caused me to double check and find that I had over shot the mark. Thank You.

Well needless to say a new pump is now a reality and is also an option that has become a reality. I know this will fix the problem and truly it is long overdue so no worries, If it fits.

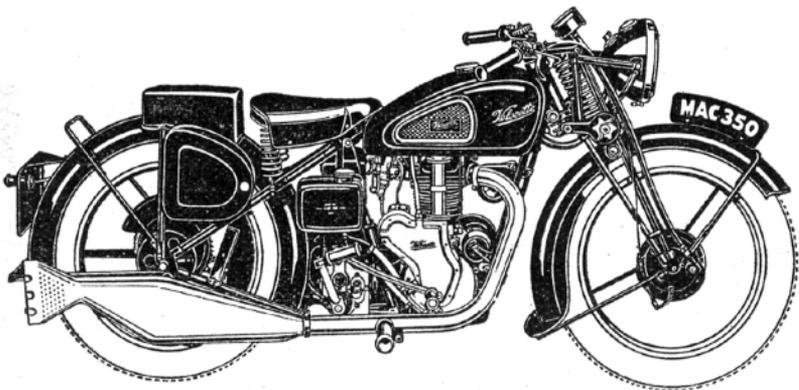


I would have liked to done the clearance close up to the correct tolerance just to satisfy my curiosity of what needs to be done to improve the oil flow on both sides of the pump and if the face clearance would make a significant improvement.

In the first place this type of machining requires a micrometer and micrometer depth gauge for accuracy so that was #1 and I should have checked the calibration of the tool, however inadequate, before making alterations on the work piece. Guess I was just a tool foole.



Update: The new pump arrived and it has a much tighter fit overall. Most notably the lash clearance on the gear teeth is much reduced and the end clearance of the gear in the pump body is within the specified tolerance. There was a small amount of panic when I attempted to align the body for installation. The pieces were not marked from the Works as per the original devise. Flipping the top 180 degrees allowed the pump body to come into alignment and solved the problem. So now we just need to install it and run it.





Dear Kami,

I used to be jealous of all the time my man spent in the garage with his motorcycle. We had numerous conversations about how he should show up to eat breakfast before the eggs congealed or come in for dinner before the beer got to room temperature. Well the last suggestion backfired; he just demanded that I serve the beer out to him and whoever else was in the garage. I continued to express how I felt neglected and he promised he'd change.

Well, change he did. Now instead of being in the garage which is attached to the house, he's off riding a bicycle all over creation. He rides dirt roads that he'd never take a motorcycle on. He tours city streets that he'd never have the patience for on a motorcycle. The most love I get is an occasional squished bag of pastries from the bakeries he visited.

Now the motorcycle sits in the garage, as lonely and neglected as I am. What can I do? Bette

Dear Bette - It's time to go for a ride.

All the guys have their girlfriends in bondage on their handlebars, the Little Mermaid, Olive Oyl, Bessie the cow. You might as well chain Popeye up there. When people ask you about it you can say, "I yam what I yam."

Don't be content to just stand around and kick tires. Get a clubman pipe. Put on them rear-sets. Scrub them chicken strips off the sidewall. Get used to the smell of Castrol oil underneath your fingernails.

It's time to go for a ride.

It's not you against the boys.

It's not the boys against the world.

It's just the wind in your hair.

So take the breeze as you please and ride it as the makers intended.

Just go for a ride. Kami

WANTED: Venom. Something pretty complete and roadworthy or close to it. Anywhere within 750 mile of San Francisco. Thanks!
Pete and Kim Young
pyoung@614engineering.com 415.794.4692



Online Velocette parts store -
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WANTED: Fredericksburg, Virginia-based member seeks others in mid-Atlantic to share info, spares, tall tales. Contact Preston Thayer at pthayer@umw.edu.
For more ads, both wanted and for sale see the club website: velocette.org



**Welcome to New Member:
David Hill!**

David an American, taught in London in late 1960's and for years his sole means of transport there was a Thruxton. He has acquired a very fine, original machine, a 1966 Venom and he's joined the club! O

OAKVILLE GROCERY

DRINK
Coca-Cola



PRODUCE

STING
★ COFFEE



NO PARKING