

FISH-

TAIL

WEST

Velocette

Owners

Club of

North

America

News-

letter

April

May

2022 no.

249

VOCNA CLUB OFFICERS

Chairman: chairman@velocette.org
Olav E. Hassel velomadness@aol.com
818 577-9533
419 Dartmouth Rd. Santa Paula CA 93060

President: lordjohn@ix.netcom.com
John Sims 650 704 8090
PO Box 522 Belmont, CA 94002

Treasurer: stanco@gorge.net
John Stanley 541 490-1293
PO Box 238, Hood River, OR 97031

Membership Secretary: membership@velocette.org
Debbie Macdonald PO Box 518 Boulder Creek CA 95006

Webmaster: webmaster@velocette.org
J.P. Defaut jpdefaut@gmail.com
965 Martin Ln, Sebastopol, CA 95472

Rally Purser: skolterman@gmail.com
Sarah Kolterman 619-248-4724
612 East Avenue, Hayward, CA 94541

East. Canada VP: andrewhar2004@gmail.com
Andrew Harris 905 666-4041
48 Calais St. Whitby, Ontario, L1N 5M2

Editor of Fishtail West Lanoras@gmail.com
Lanora Cox 707 553-2909
1731 Alabama St. Vallejo, CA 94590

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. To pay go to velocette.org

Front Cover: Measuring Lumps by Jeffrey Shadetree for more info see page 12.

Back Cover: On the road, Sacramento River Delta, by Jeff Scott.

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 to the Editor
last day of ODD Numbered Months.**
Next Deadline: May 31, 2022

**Spring Opener!
May 21, 2022
see page 19 for more info**

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.

Prez Sez

The Little Bastard Rally 2022

The Velocette Club of America – Annual 1000 Mile Ride and AGM

Good News:– The Little Bastard Rally is only 3 ½ months away, and we get to ride our Velocettes for 1000 miles, through some of the best roads in California.

Tuesday July 19, 2022 is going to be an interesting day when we travel from Morro Bay to Carmel Valley. It is a 185 mile day and takes us up highway #1 past Hearst Castle to Monterey, where we loop around the city and past the Monterey Aquarium, before riding around the North side of Fort Ord, Laguna Seca race track and Carmel Valley. JP has been arranging a Private Tour of the Talbot Motorcycle Museum and a Barbeque or sandwiches from 5 pm to 8 pm.

Anyone wishing to Visit Hearst Castle should make reservations early in the morning of Tuesday July 19, 2022, and anyone wishing to go into the Monterey Aquarium should book tickets around Lunch time on Tuesday July 19, 2022. Anyone visiting these attractions can make a beeline to Carmel Valley which knocks off about 45 miles.

For tent campers and the club members wanting to camp at Carmel Village, I have booked 7 sites at Saddle Back Mountain. The campsite is at the top of a mountain overlooking the valley just a couple of miles from Carmel Valley. Each site should hold two or three bikes with small tents. For all those that are camping at Morro Bay bring a small pup tent for Saddle Back Mountain with your tooth brush and swimming trunks. For all the hoteliers wanting to camp at Carmel Village (1 night) just bring a small tent and sleeping bag and leave your stuff at the hotel.

Thursday July 21, 2022 will be a long day with a night ride (late afternoon/early evening) to the Market Town of San Louis Obispo for a no host supper. The day will start with a ride over to Camp Roberts to visit the Tank and Army Museum. There is a short stretch of freeway to get to the East Gate to enter the camp. Make sure you take your insurance and registration for your bike on Federal property. It's a short ride (4 miles on the freeway). We will than go North on Hare Canyon, Indian Valley & Peach Tree Road, and South on Hwy #198 and go over fabulous Parkfield Grade. An all inspiring 2000-foot climb on paved roads over to the Parkfield Tavern for lunch. (Small amount of hard packed gravel on the way down). After lunch a group Picture at James Dean's Memorial, and the loss of his beloved Porsche Spider lovingly named the Little Bastard. Back on 41 to Morro Bay and out in the evening to San Louis Obispo.

AGENDA

Sunday July 17, 2022	Welcoming Dinner – at the Inn at Morro Bay.
Monday July 18, 2022	Ride South over Avila Mountain and South by Twitchell Reservoir. Around Santa Maria and to Pismo Beach and Morro Bay.
Tuesday July 19, 2022	Ride North to Carmel Village via the back roads to Cambria and North on the Hwy #1 the Pacific Highway.
Wed July 20, 2022	Back to Morro Bay via Lockwood and Chimney Rock.
Thursday July 21, 2022	The Tank Museum at Camp Roberts, Parkfield Grade, Parkfield Café, + Evening ride to San Louis Obispo for market day and entertainment.
Friday July 22, 2022	Pozo and the local mountain roads around to the Paso Robles WWII Fighter plane and Aircraft Museum.
Saturday July 23, 2022	Shine and Show – At the Inn on Morro Bay, 10.00 till 1.00 Food and drinks available in the hotel. AGM at the Inn at Morro Bay.

Accommodation:

For the Hoteliers, the excellent room rates at the Inn at Morro Bay have been selling out pretty quickly.

The Inn at Morro Bay – 7 nights July 17, 2022 and leaving on July 24, 2022.

Reservations call 1 (805) 772 5651

Velocette Vintage Motorcycle Rally

Room Type	Room rate per night
Standard 1 Queen	\$103.20
Standard King	\$111.20
Standard Double	\$119.20
Bay View King Bed	\$127.20
Bay View Double Bed	\$135.20

The above rates are for single or double occupancy and there is a \$10.00 charge for additional people, plus tax. Book as early as possible for the full 7 days.

If you are unable to book at the Inn, there are plenty of other hotels in town. A small inexpensive one that I have stayed in is:

Overflow Hotel The Coastal Breeze Inn
 1098 Main Street,
 Morro Bay, CA. 93442
 805 772 1235

Carmel Valley Hotels (1-Night July 19, 2022)

CONTENTA INN
 20 Via Contenta,
 Carmel Valley, CA,
 Tel: 831-659-2298, Email:
 reservations@contentainn.com

Hidden Valley Inn
 3-star hotel
 102 W Carmel Valley Rd,
 Carmel Valley, CA 93924
 (831) 659-5361

For the **Campers**, I have 6 tent sites in Morro Bay State Campground, 5-Sites at El Chorro for (RV, tent or overload parking). El Chorro is 4 miles from town at the Botanical Gardens. I have 7 Sites at Saddle Back Mountain in Carmel Valley (1 night only). For Hoteliers wanting to camp in Carmel Valley just follow the instructions in the sign-up sheet.

At the Morro Bay State Campground each campsite will only hold 2 vehicles (Not including motorcycles). There is no overflow parking for vehicles and the Chase truck and trailer will take one camp site. A trailer counts as one vehicle. To accommodate everyone, please sign up as early as possible. Let us know if you are riding in, driving in a pick-up, or driving with a pick up and trailer (See Entry Form).

It has been interesting trying to make arrangements for the rally, what with full employment for many industries including the Hospitality business and mass inflation throughout the Country, arrangements have been difficult and prices have gone up, up, up!

All Entries for the Rally will be made on line through the Velocette Club of North America.

You must be a member to sign up for the Rally.

The attached sign-up sheet illustrates what you will see when you go on line.



**LITTLE BASTARD RALLY (MORRO BAY) CA.
Velocette Club of North America
July 17, 2022 through July 24, 2022
ENTRANCE FEE'S**

Registration Form On-Line at Velocette.org

All participants must be a club member

Rally Fee Includes welcoming dinner, entrance & supper at Tallbot Museum, AGM dinner, chase truck costs, awards, misc. provisions, etc.

Welcoming Dinner will be at The Inn at Morro Bay

AGM Meeting, Dinner and Awards at The Inn at Morro Bay

Rider Entrance Fee	\$250.00
Pillion Rider Entrance Fee	\$150.00
Non Riding Adult	\$125.00
Children Under 18 (Non Riding)	\$100.00
AGM Business Meeting, Dinner and Awards	\$65.00

Tent Camping at Morro Bay & Carmel Valley \$165.00 (Plus Entrance Fee)

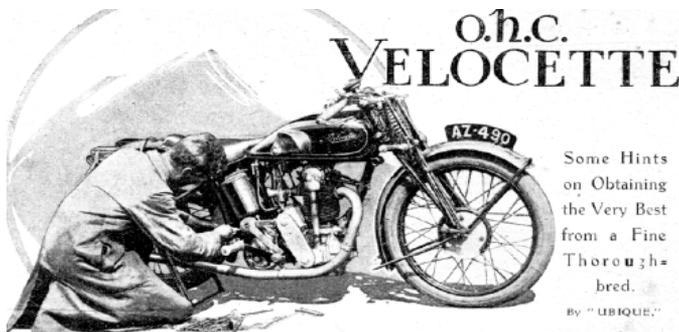
Camping costs include tent camping at Morro Bay for 7 nights
Plus one (1) night at Saddle Back Mountain, Carmel Village.
There will be overflow camping and parking at El Chorro Campsite.
There is limited parking at Morro Bay, trailers are an additional vehicle.

Tent Camping at Saddle Back Mountain Only \$45.00
For Rally Entrants Only - 1 Night on top of the Mountain

Cut-Off for Entry Forms June 15, 2022

By paying the Entrance Fees the Rider agrees to the Release of Liability, Indemnification and Hold Harmless Agreement.

Any Questions or Help with signing up for the Rally should be addressed to
"Sarah Kolterman" <skolterman@gmail.com>,
"JP Defaut" <jpdefaut@gmail.com>



WANTED:

Trade or Cash. Poster "Triumph Wins 36th Annual Big Bear Run". This old race win promotional advertisement from 1957 of Bud Ekins winning. Other similar posters wanted. Good copies OK. Anything on Big Bear, Catalina or Greenhorn races. Also "Motorcyclist" mags of 50's and 60s.

R.E. Rogers Rogersr.e.65@gmail.com

Velocette
Service

*Spares, Repairs and
Accessories for
Proper Motor-Cycles*

Ed Gilkison

PO Box 226 Lakebay WA 98349-0226

Phone: 253-884-2319

E-mail:

Fax: 786-549-0795

velocette@nocharge.zzn.com

Voice mail: 781-644-7338

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



Note: If you have one of the Perpetual Awards, remember to bring it to the 2022 Rally or contact John Sims.

Paper Rally Registration Forms available by request. Contact one of the Club Officers. Info inside front cover.



Online Velocette parts store -
www.velocetteclassics.com

- Restoration of Velocettes
 - 'Clubmanised' Venom bikes
 - Vapour Blasting
 - Magneto/dynamo repair
 - Alloy petrol tanks and seats
 - Wheel building and parts
- mark@velocetteclassics.com



Contact:



Mark Newsome
Tanks Classics Ltd
Cumbria
07870 762442



Eastern News

by Andrew Harris

Greetings from the East, where the price of gas makes me glad I have motorcycles to ride. Interestingly a litre of water still costs more at the gas station than a litre of fuel. No doubt there is scope here for a sidebar about supply vs demand, cost vs price and value vs need.

Fortunately the weather is now more amenable to riding, it might even feel like Spring soon.

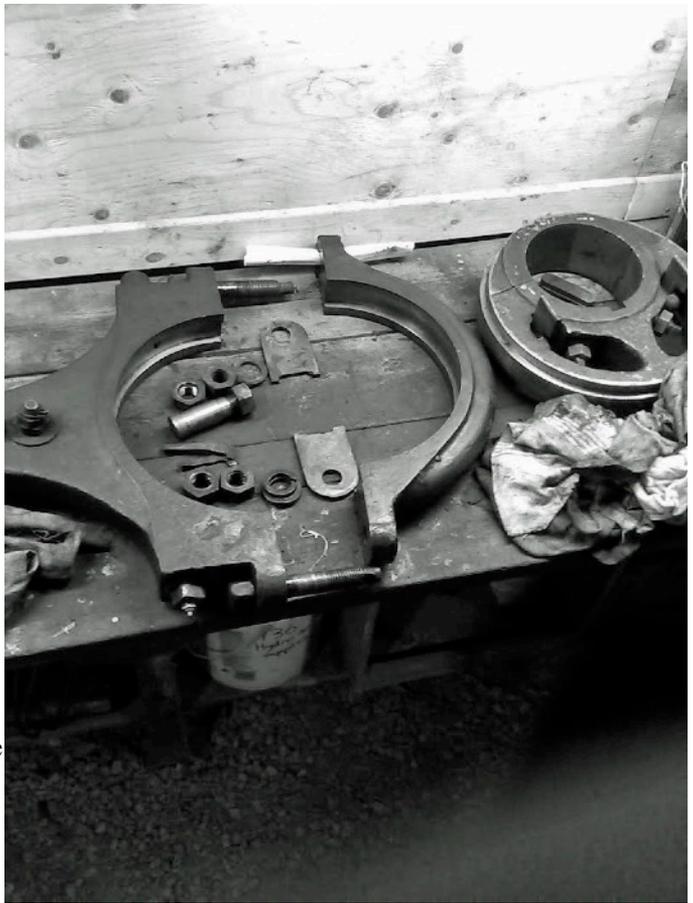
At the height of the winter when I was getting my fresh air and exercise with a snow shovel, my friend in Bristol sent me a picture of his Thruxton. A good picture, a pretty bike and I have no doubt the irony was unintentional as the picture shows the machine basking in the sunshine outside Lens' house.

Things are slowly returning to normal in Ontario, the Sunday morning breakfast gathering is happening again. Not too many bikes yet but lots of tall tales and rash claims.

I have not had to do much work on the Velo this winter but the pictures in FTW of parts laid out on workbenches leads me to submit a picture of another bench with bigger parts. I have been busy with the steam locomotive again, the picture shows part of the valve gear, one of the four eccentrics and the eccentric strap which drive the valves. The eccentric is approx. 12" in diameter and weighs about 40 lbs. Having taken it apart and made new tapered locking keys it all has to be wrestled back between the frames and placed on the axle where it is keyed into position. Naturally this requires lots of bending, much sweat and a spot or two of blood but it's all worth it in the end.

Visitors to the TT this year will have more choices of accommodation as Duke Enterprises have obtained permission to expand their pop-up village near the grandstand in Douglas. 168 cabins will be available on the site of an old prison. Seems like a good idea as places to stay are like gold dust in TT week. The accommodation certainly looks like little boxes but considering some people book years in advance to have somewhere to stay it can only be a step in the right direction.

ride safely and stay healthy,
Andrew





THE EDITOR'S CORRESPONDENCE

Worst is the problem of sending me original photos - especially if they don't arrive. Make copies first! Digitize your pictures!

Despite a lot of effort, there were many errors in the last issue. Fortunately there's always someone who will point out the mistakes so we can learn from them. Morro Bay does not have a

"w" in its name. The Ariel motorcycle has an "e" instead of two "a"s."

The first correction regarding Paul d'Orleans article, The 'Squish' Thruxton (pg 10-14 in FTW 248) to arrive in my email box was from Geoff Blanthorn who did extensive research to verify his own personal memory. Then Gary McCaw sent a note.

Geoff Blanthorn wrote, "Arthur (Lavington) did ride in the 1967 Production TT, but on a standard Thruxton owned by a Club member. It was shod with Dunlop TT100 tyres which Arthur found ruined the handling. He did one lap and retired. That was the only Production TT he rode in. He rode his Mk.VIII in the Junior, and as I said, that was what he was riding in 1969 when he crashed."

Tragically this crash was fatal.

Gary McCaw wrote: "I received my latest Fishtail news letter and enjoyed reading Paul's write upon on Neil Kelly winning the '67 Production TT. Paul mentioned that it was the last time a Velo raced in a TT. That's not quite true because I believe I was the last one to race a Velo in a TT. In 1984 they held a Historic 3 lap TT. That's the one that Dave Roper won on a G50. I was also in that race on a Velo Thruxton. It sounds like Neil's race was full of drama but mine was a bit different as well .

I rode the bike to the airport , flew to Scotland , rode it to the ferry at Hayshem, ferried across to the island, changed the muffler to a megaphone and raced it. When it was all over, I reversed the trip and rode it home .

Attached is a picture of me in Parliament Square racing to an 11th place finish .
Cheers , Gary McCaw"





Hi

I'm looking for some information on a unique Velocette and would like to see if the Fishtail readership knows anything about it. Could you please publish this in an upcoming issue?

I recently acquired this Velocette engined speedway bike out of Oregon. I'm on the hunt for any information about the bike's history.

The engine stamping is Viper, but it could very well have a 500cc top end. The engine has very high compression and is lubricated with castor bean oil. I suspect it is set up to burn methanol due to the high compression, but have not yet disassembled the carburetor to examine jetting.

There is very little information online about Velocette powered speedway machines. I've read a bit about Ernie Pico built "5 minute" Velo engines making 50 hp.

If anyone recognizes this bike, or has suggestions where to find more information, please contact me. 99cyclone05@gmail.com
Thanks! Joe





Flow and Eddy Explore Sun Salutations by Jeffry Shadetree

When we talk about the possibility of getting our Velocettes to start and run with the reliability and vigor we have come to expect of our sterling mounts Mac or Venom, KSS or Thrupton there are some subtleties beyond a French electric starter and GP 5 carby. Although no doubt they help immensely. Being a step beyond shadetree methods there has been little need to talk about the viability of good breathing in the engine largely due to the limits of hammer and tongs techniques normally employed in the backyard dirt patch. So in a move unprecedented, the decision was made to enlist the assistance of our Yoga instructor and a man with a soft touch with a lathe and valve grinding gear willing to create optimal conditions for gas flow in a Viper head squish conversion. Pictured is the head that has been machined to fit a 86 x 86 barrel with the various improvements for optimal gas flow.

0 breath in and 0 breath out, control is the key to opening the chakras to optimal flow. Getting the ram effect through the velocity stack, over the emulsion tube and under the slide down the inlet ramp and past the tulip into the chamber, add some swirl and BOOM a controlled burn, then out under the exhaust valve, along the pipe and through the baffle to resound out of the ubiquitous fishtail, pulse tuned to help the scavenge and get the next lot in. Any one of the steps in the staircase of air flow can work to enhance or detract from getting the maximum fuel and air mixture packed into the combustion chamber for our roll on loft the front wheel exploits.

In this case the valve seats remain standard size and only a slight removal of material on the back side in the combustion chamber to help eliminate shadowing where eddy currents can create slowdown areas around the valve tulip. The quintessential three cut valve seat shape gives a radiused surface for the gasses to flow over for less turbulence and the back of the valve and face of the valve has been shaped to aid in this area. Now you might be asking is there a theory that turbulence in the inlet

tract can be helpful to maximize fuel mixing with the air to which we offer the advantage of a squish configuration in the combustion chamber to maximize mixture emulsion evaporation, liquids will not burn, whilst creating optimal flow into and out of the operation theater, for this is where life is created by heat and pressure.

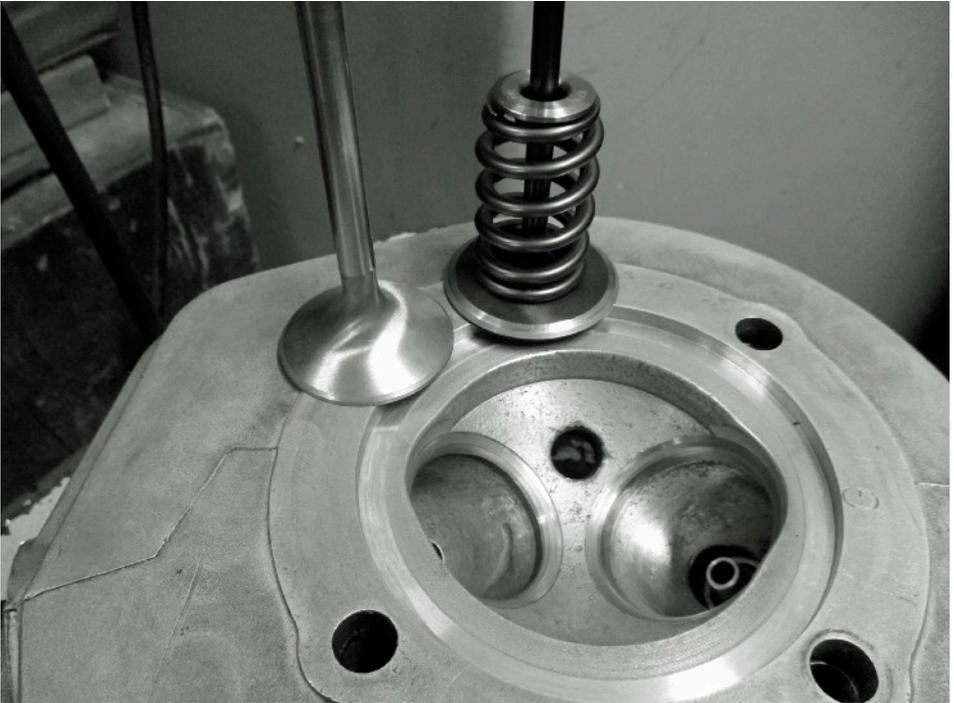
To enhance free flow through the passages the custom valve guides of bronze are shaped and held up out of the way with the slightest shaping around the guide, the valves have been selected for shape and light weight with beehive valve springs and lightened keepers to help the cam keep up and still maintain the proper seat pressure for heat transfer through the seats into the head, although this motor will rarely if ever see redline as a street touring machine.

The inlet size is limited in this case to 1 3/16" to maintain velocity at lower rpm, more for torque than high rpm horsepower and the exhaust port and outlet flange remain as the Veloce works intended unchanged except the use of a mk 1 clubman Viper head pipe and a free breathing fishtail baffle set up.

Powering all this can be the ignition of your choice, in this case a Lucas competition style unit with manual advance, but it must be observed the swirl effect of the squish set up requires far less spark advance than the std set up due to the inherent flammability of the mixture, often requiring somewhere in the neighborhood of 28-30 degrees.

With the modest inlet opening any smoothbore carburetor with work if well fettled and fitted. Often an advantage is gained by adding length to the air run with a spacer between the carb and the head. The length limited usually by the gas tank and the oil tank. The Thruyton has a five inch run for a very good reason.

Even with all the bolt on goodies for go fast we can buy, the best performance up grade for reliability and run well rests on the subtle art of breath in, breath out. Namaste.



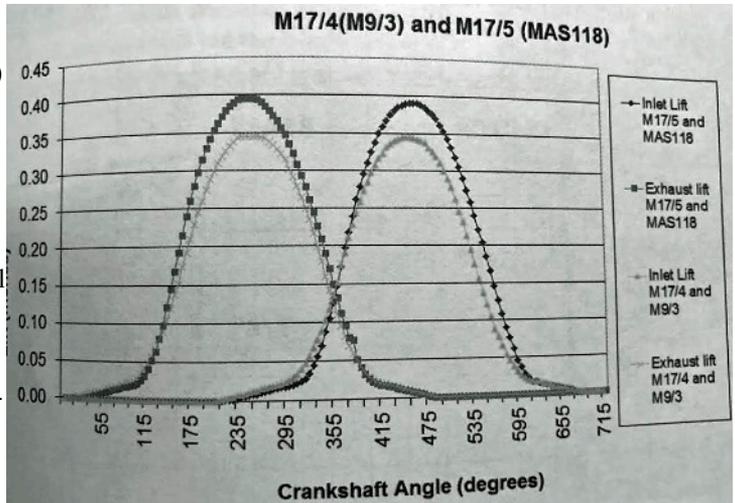


The custom piston for the Viper squish conversion. Had to order four at a time, two standard and two for an over bore, twenty years ago. Had the cylinder sleeved and sized to the standard size. Glad that I saved the extras rather than sell them off to cover the cost. Jeffrey Shadetree

Re: Front Cover: Measuring Lumps

Measure twice cut once, you can save a lot of material that way, were the sage words of advice from Fred Mork. Having owned and operated a sheet metal shop successfully, this third generation tin knocker knows what he is talking about. So when I had to measure the cam lift for the new custom valves and head I made sure to measure three times. That way

I was able to average out the error. I came up with .380 and .390 for the exhaust and intake lift. And just in time for confirmation the Fishtail with Dai Gibbons article on cam profiles showed up in the mail box with the lift graph for a /5 cam. And his graph readings match mine pretty closely. All in an effort to get that glide.





OVERNIGHT...



Featured above is the
MAC 350 © H.V.

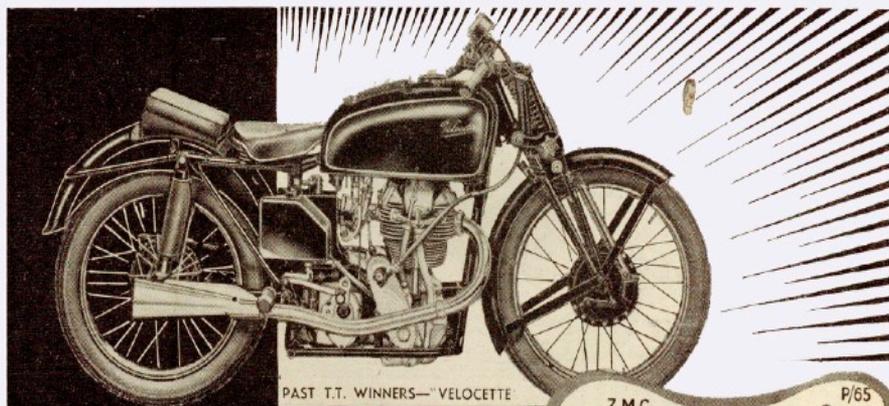
Unlike mushrooms, Velocette motor cycles did not grow overnight.

Many years of research, plus experience gained from those grinding tests of stamina—the T.T. Races—have contributed to the sparkling performance and reliability of the post-war Velocette.

A machine you will be proud to own.



VELOCE LIMITED • HALL GREEN • BIRMINGHAM • ENGLAND



PAST T.T. WINNERS—VELOCETTE

TECALEMIT

M.C. TYPE GREASE GUNS & NIPPLES ARE STANDARD EQUIPMENT ON ALL BRITISH MOTOR CYCLES

7 MC



P/65



Illustration of the Tecalemit Type 7MC Gun and P6 Straight and P65 Angle Nipples threaded 1" B.S.F. which is standardized equipment.



P/6

TECALEMIT
LIMITED

GREAT WEST ROAD, Phone: EALing 6661
BRENTFORD, MIDD. (16 lines)

HYDRAULIC & MECHANICAL
DESIGNING & MANUFACTURING ENGINEERS.

2022 BSAOCNC Delta Ride Fish Tales

From the start at the fishing pier in Rio Vista (yes you can see the river from there) our band of bikers looked like it was 45 degrees out and it was.

Undaunted by taking an embarrassingly long time to get the bike started, off we went with a slightly truncated route due to the vagaries of the California ferry system deciding to only run one ferry, plan for extra time, twenty or so fashionistas in their hot vests and warmer gloves trundle out of the fish pier parking lot for a very relaxing tootle along the dikes and levees rimming the Sacramento Stockton slough system. Speed limit is 45 or 50 in case you are thinking of changing your gearing for next year.

After the ferry crossing and a few miles of fresh pea gravel over washboard, single track whoopties are another ride,



brought us into Clarksburg. Home of all you can eat crawdad chowder bread bowls. In June. Which it ain't.

Lovely place to warm your tootsies with a view of the river. We met one modern bike rider with whom we traded stories of 'My dad rode one of those in the war' type of thing. Surprisingly we were bereft of new badged bikes from BSA or Royal Enfield, Norton and Brough although we did have one Hinky twin.

Enough jaw jacking for now, roll em out and over the bridge onto the next levee and south for a bit of curvy bitumen along the old river route.

Sugar cane and the old sugar mill, now another roadside attraction.

On a sandwich board just being displayed, outside one waterfront levee house, fresh crawdads. Hard to carry enough for dinner on the bike.

A cruise through Locke main st. A famous Chinese community from the 1800s still serving up local hooch at Al the Cops establishment down town. A short roll on sprint just to see what the old girl can do finds the group in front of the lunch counter, Peters Steak house in Isleton. Prix fixe menu choice of fish chicken or prime rib with salad and fries. Non alcoholic beverage and banter with the owner, on the house, Honey.

Special thanks to David James for making sure the ferry would be there even though he was not there for lunch, something about family.

That's a good start for the renewed revised reallocated ride list for the new year.

Put a tiger in your tank. Gung Hey Fat Choi
Right: Showing respect to the BSA club



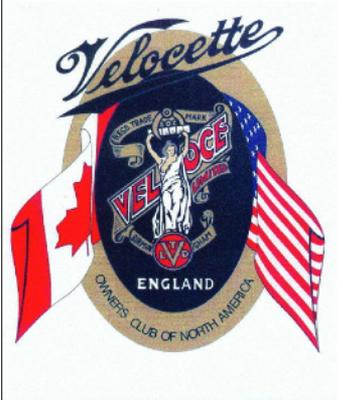


Above: the meet and greet
2022 DELTA RIDE

The BSAOCNC organizes many day rides throughout the year. Best of all they let anyone on two wheels with a good attitude join them. Check out their calendar on their website for more info.

This year the February Delta ride began in Rio Vista and meandered up one side of the Sacramento River and down the other. The ride included one interlude on a ferry (see below), a stretch of gravel road (see back cover), one break and a lunch stop. There were zero breakdowns and lots of laughs.

Below: the ferry ride





Above: the Delta ride takes a break at this welcoming spot in Clarksburg.
Below: The line up at lunch in Isleton.



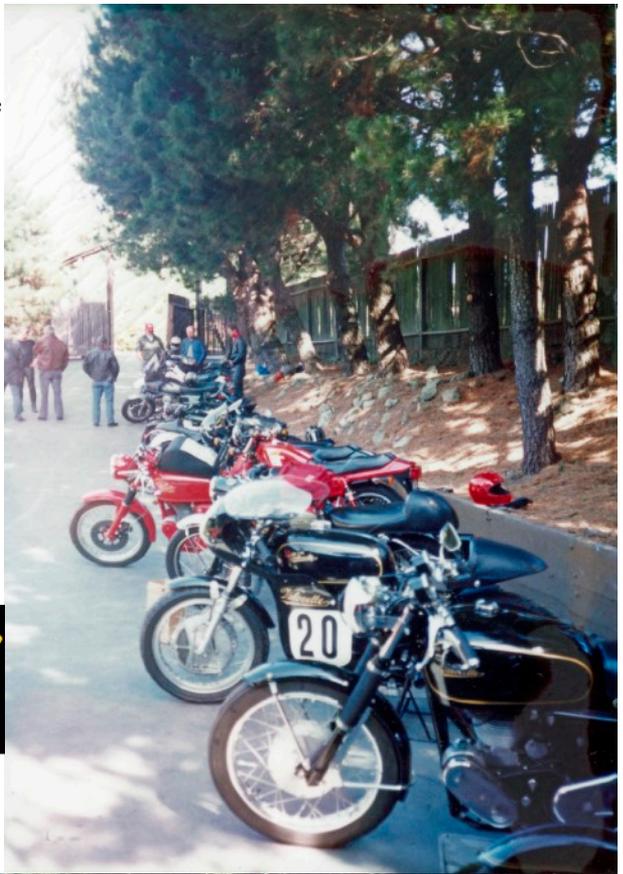
Randomly Selected Photos
from VOCNA Spring Openers
through the years.

Thanks to John and Sue
Ray for hosting this great
event!

All photos by Gil Loe.
left: line up of participating
Velocettes in 1988



Below: Spring Opener partic-
ipants with the club banner in
1998





Above: the gathering at the Big Red Barn in 2011

Below: the gathering at the Big Red Barn in 2018 with a green Metisse in view.

VELOCE LIMITED
HALL GREEN WORKS • YORK RD
HALL GREEN • BIRMINGHAM



John & Sue Ray Most Cordially Invite You to Celebrate

***The THIRTY SIXTH Annual
Velocette Owners Club of North America's***

Spring Opener

Saturday, the 21st of May, 2022

Rancho Veloce

1681 Partrick Road, Napa, California 94558

Schedule of Gala Activities:

9:30 am-ish: Gather at the Red Barn for the start of the 100 mile Napa Valley Reliability Trial.

No breakfast stop this year. Arrive with fuel tanks topped up.

Beverage/snack stops at Pope Valley and Turtle Rock.

1 pm-ish: Spanner show, beers & soft drinks at the Red Barn.

2:30 pm-ish: Libations and Pub Grub at the Hop Creek with Silly Awards.

www.hopcreeknapa.com

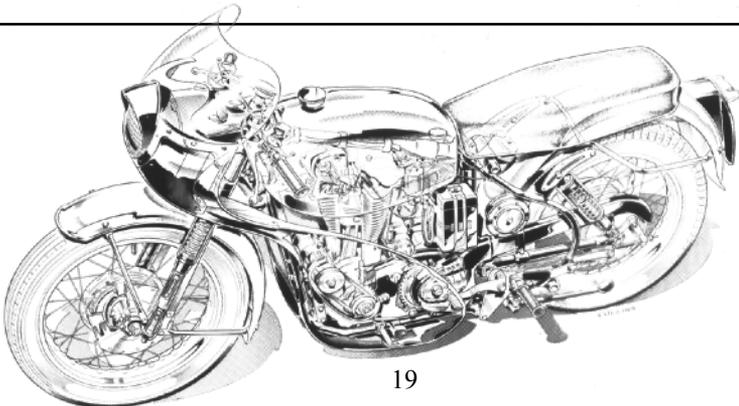
Order from menu, payment individually directly to the pub.

RSVP

Let us know if you are coming, and if you plan to eat at the Pub.

(707) 344-2221 e-mail: clubman@velocette.org

Directions: Google Maps (will get you close) or email Us. Look for the cardboard house number sign "1681" and traffic cones marking the driveway to the Red Barn.



All About Magnetos from The Classic MotorCycle

(note: Jeffry Shadetree does not agree with some of the procedures presented here)

HIGH TENSION PICK-UP

About every 6000 miles, remove the high tension pick-up, secured by means of a clip or two screws. Wipe the moulding with a clean dry cloth. Check that the carbon brush moves freely in its holder, but take care not to stretch the brush spring unduly. If the brush is dirty, clean it with a cloth moistened with petrol. If the brush is worn to within 1/4in of the shoulder it must be renewed.

Before re-fitting the high tension pick-up, clean the slip-ring track and flanges by pressing a soft dry cloth on the ring with a suitably shaped piece of wood, while the engine is slowly turned.

RENEWING HIGH TENSION CABLES

When high tension cables show signs of cracking or perishing, they must be replaced, using 7mm neoprene covered rubber ignition cable. To replace a high tension cable proceed as follows:

Remove the metal washer and moulded terminal from the defective cable. Thread the new cable through the moulded terminal and cut back the insulation for about 1/4in. Pass the exposed strands through the metal washer and bend them back radially. Screw the terminal into the pick-up moulding.

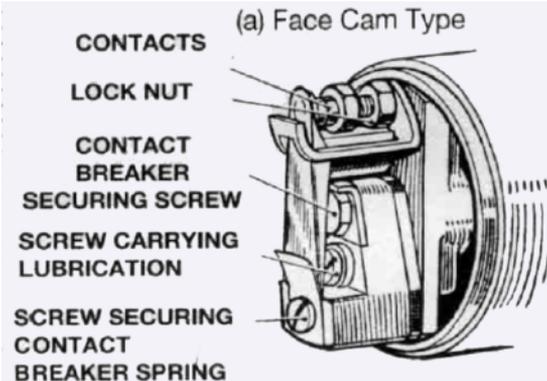
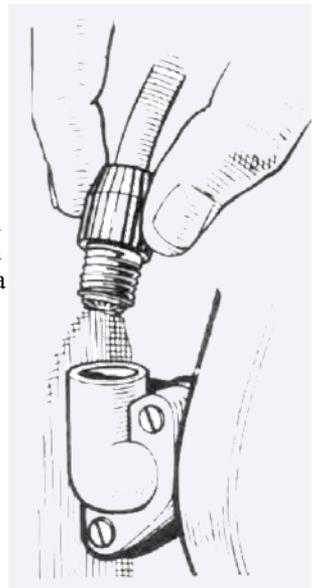
MANUAL IGNITION TIMING CONTROL

With manual advance and retard, retard the hand ignition control for starting but advance it as soon as the engine is running at speed. For normal running, the control should be kept in the advance position, and should be retarded only when the engine is laboring on full throttle.

Any slackness in the cable can be taken up by sliding the waterproofing rubber shroud up the cable and turning the exposed hexagon adjuster. After adjusting, return the rubber shroud to its original position.

ROTATING ARMATURE MAGNETOS

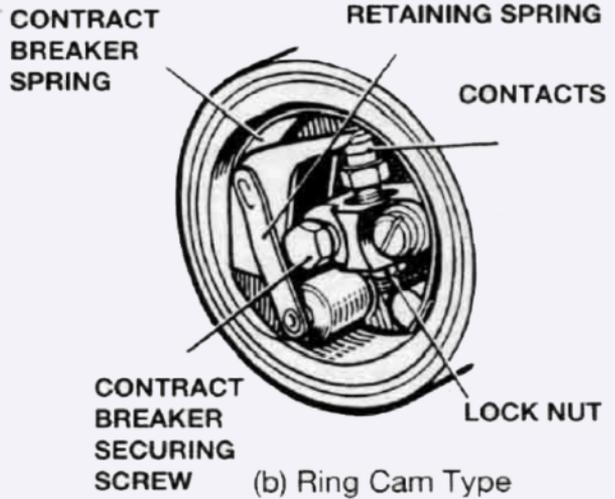
These magnetos have the magnet cast in the body and the armature and contact breaker rotate within the casting. Two designs of contact breaker are in common use. Single cylinder magnetos usually employ the face cam type (a), while magnetos for twin cylinder engines have the ring cam type shown in (b).



Lubrication – every 3000 Miles
Face Cam Type.

The cam is lubricated from a wick contained in the contact breaker base. To reach the wick, take out the screw which secures the spring arm carrying the moving contact and lift off the backing spring and spring arm. The screw carrying the wick can then be withdrawn. At the same time, unscrew the contact breaker securing screw, take the

tappet which operates the contact spring from its housing and lightly smear with thin machine oil. Extract the spring circlip and remove the face cam. Lightly smear both sides of the cam with light grease. When refitting take care that the stop peg in the housing and the plunger of the timing control engage with their respective slots. A recess is provided for the eye of the circlip. When refitting the spring arm see that the backing spring is fitted on top with its bent portion facing outwards (see Fig. page 2)



Ring Cam Type. The cam is supplied with lubricant from a felt pad contained in a pocket in the contact breaker housing. A small hole in the cam, fitted with a wick, enables the oil to find its way to the surface of the cam. Remove the contact breaker cover, turn the engine over until the hole in the cam can be clearly seen and then carefully add a few drops of thin machine oil. Do not allow any oil to get on or near the contacts. If the cam ring is removed, the wick should be taken out and soaked in thin machine oil. Wipe the wick to remove surplus oil, before replacing.

The contact breaker rocker arm pivot also requires lubrication and the complete contact breaker must be removed for this purpose. Take out the hexagon-headed screw from the centre of the contact breaker and carefully lever the contact breaker off the tapered shaft on which it fits. Push aside the rocker arm retaining spring, lift off the rocker arm and lightly smear the pivot with light grease. Remove the cam ring, which is a sliding fit in its housing, and lightly smear inside and outside surfaces with light grease.

Removal and refitting of the cam can be made easier if the handle control lever is half retarded, thus taking the cam away from its stop pin. Apply one or two droops of thin machine oil to the felt cam lubricator in the housing. Refit the cam, taking care that the stop peg in the housing and the timing control plunger engage with their respective housing and the timing control plunger engage with their respective slots.

If an earthing brush is fitted at the back of the contact breaker base, see that it is clean and can move freely in its holder, before refitting the contact breaker.

When re-fitting the contact breaker, see that the projecting key on the tapered portion of the contact breaker base engages with the keyway cut in the magneto spindle, otherwise the timing of the magneto will be effected. Replace the contact breaker securing screw and tighten with care.

CLEANING CONTACTS

Every 6000 miles, take off the contact breaker cover and examine the contact breaker. Dirty or pitted contacts can be cleaned with a fine carborundum stone, or, if this is not available, very fine emery cloth may be used. Wipe away any dirt or metal dust with a cloth moistened with petrol. Contact breaker springs should be examined and any rust removed. The contacts can be removed for cleaning as described under Lubrication.

After cleaning, check the contact breaker setting.

HINTS & TIPS

Twin Cylinder Magnetos

Check that the two cams on the contact breakers have not worn to an unequal height, otherwise it won't be possible to adjust the points gaps accurately. One way to counter wear is to remove the cams from the timing ring and pack them with paper washers.

Intermittent Misfiring

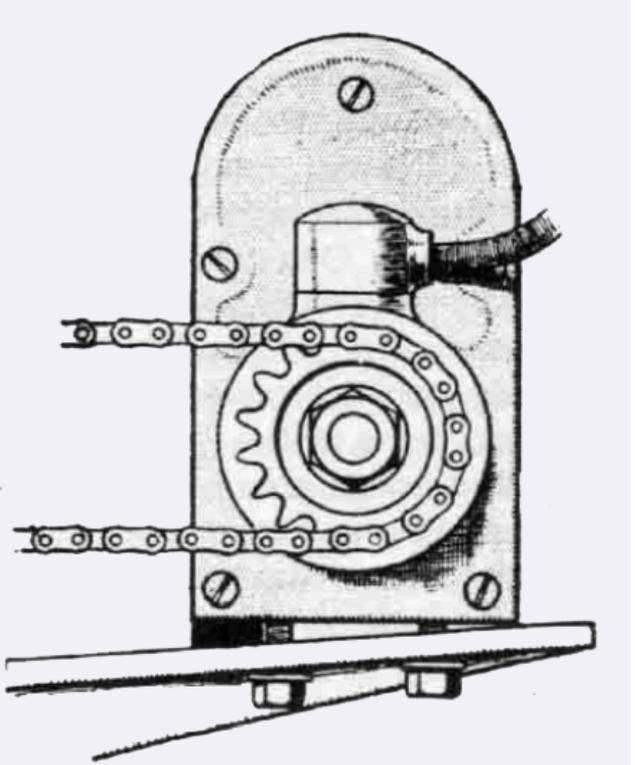
Intermittent misfiring on magneto contact breaker points may be caused by dampness of the bush of the rocking arm, or even swelling of the fibre pad at its end. This will prevent the points from closing completely, and can be checked by sliding a piece of white paper behind the points and examining them squarely with a strong light.

Slipped Magneto Timing

On many engines with chain driven magnetos, the sprockets are not keyed onto the magneto shaft but held by means of a taper and lock-nut. Unless this locknut is kept dead tight, the timing may slip due to the power put through the chain drive. Excessive stretching of the magneto chain will have a similar effect. An easy check is to retard the ignition control a touch while fully underway. If the engine slows dramatically the ignition needs advancing, because, correctly adjusted, slightly retarding the ignition should not affect the running of the engine.

Magneto Chain Adjustment

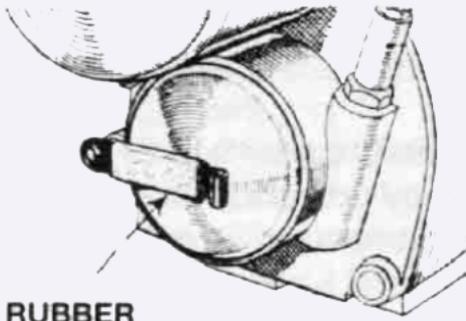
The minimum slack in a magneto chain, as recommended by Renolds, should not exceed 1/4in (6mm). one way of adjusting a slack magneto chain is to insert packers under one side of the magneto body. Indeed, this was recommended practice on post-war AJS machines. An alternative would be to elongate the magneto fixing holes into the more usual slots. In this original tip of 1921, it was suggested as a way of extending chain life beyond the natural length of the slots in the magneto platform. In this case a replacement chain would be preferable.



Magneto Pick-up

On many models it is awkward to undo the screws of the magneto pick-up because of lack of space for a screwdriver. If they are replaced by socket head screws, there is usually enough room for an Allen key.

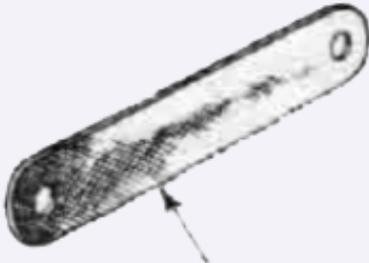
Magneto Spring Clip



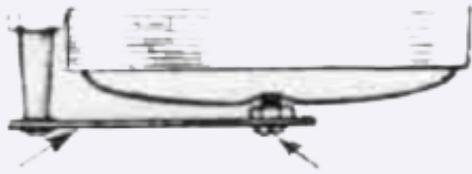
RUBBER TUBING

Loose spring clips on magneto covers can be packed out with a short piece of rubber tubing. Broken clips can be replaced by a short length of hacksaw blade, cleaned up and drilled at either end. One end is rivetted to the existing stub, the other fitted with a tiny nut and screw to locate into the indentation in the cover.

Stop your contact breaker cover rattling about with these useful dodges. (below)



HACK SAW BLADE



SMALL BOLT

Armature Bearing Removal

To remove tight armature bearings, grip them in the vice by bending into a U a piece of 2mm rod. Drive the haft out of the bearing using a soft copper drift, making sure that the body of the armature is supported at all times.

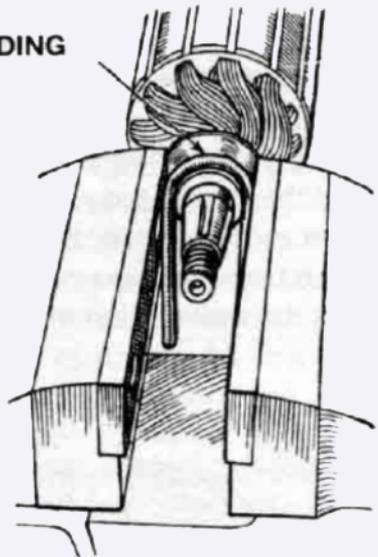
Contact Breaker Gap Settings

Correctly set contact breaker gaps are important for the efficient and economical running of any engine. The correct gap settings for Lucas magnetos and distributors are as follows: rotating armature magnetos, 0.012-0.015in; rotating magnet magnetos, 0.010-0.012in; coil ignition contact breakers, 0.014-0.016in.

When setting the contact breaker gap of a twin cylinder magneto, measure the gap at both positions of the opening cam. The measurements may vary, and the smaller of the two gaps should be set to 0.012in; the greater gap should then be between 0.012 and 0.015in.

By setting the gaps in this manner the magnetic timing for the magneto is preserved.

WELDING ROD



Cleaning Contact Breaker Points

If emery cloth is used to clean contact breaker points, always wipe the points over carefully afterwards with some petrol on a clean rag.

Contact Breaker Removal

When dismantling the contact breaker the unit is often still tight on the taper after the stud has been removed. The taper seal can be broken without damage by pushing the fixing stud back in and wiggling it from side to side.

When removing the contact breaker of the ring cam type, remove the spring before prising off the rocker arm. Otherwise the spring will be twisted and, on reassembly, the points will not line up. Make sure the rocker arm does not stick on the pinion.

Adjusting points gap

When making any adjustments to point gap or ignition timing, always check the settings after the final tightening up, in case the last twist of the spanner altered the adjustment.

ARMATURE & CONDENSER TEST

Armature windings and the condenser of the magneto or Magdyno can be tested by temporarily replacing the contact breaker screw in the threaded end of the shaft and running a cable from it to the positive terminal of a test battery, with an ammeter in series. Another cable should be run from the negative side of the battery to the armature earthing track. A reading of some 4 amp should be shown if the primary winding is sound. To test the secondary circuit leave the battery positive connection as it is; twist a piece of bare wire around the slip ring and lead it to within 1/4in of the armature body. The lead from the negative side of the battery, flicked against the opposite end of the armature shaft, should produce a healthy spark. If none is forthcoming, then condenser trouble is possible; alternatively there may be a fault in the HT windings.

Withdrawing the armature impairs the quality of the permanent magnet and it is desirable to place a keeper, a bar of soft iron or a spanner will do, across the pole pieces. Nifal, an alloy containing nickel, iron and aluminium, has been used for magneto magnets since the mid Thirties and is less susceptible to this trouble than was previously-used cobalt steel which, if a keeper was not put in position at once, deteriorated considerably.

Before reassembling the magneto, check that the pick-up segment in the slip-ring is flush; a sharp edge will result in a rapidly worn carbon brush and a harmful coating of dust on the pick-up and earthing contact points. The armature, reassembled in the magneto body and, if necessary, properly shimmed, should spin freely on its two bearings.

CONDENSER FAULT FINDING

The condenser, sometimes called a capacitor, absorbs current which might otherwise arc across the contact breaker points at the moment of separation. Such an occurrence would not only impair induction, but quickly burn away the hard contact points. Slight, spasmodic sparking can sometimes be detected, particularly if, as a test, the contact breaker cover is removed with the engine running at night. It does not usually indicate a condenser fault, however. If, on the other hand, the flash-over is constant, taking the form of a flame rather than a spark, and starting and slow-running are noticeably poor, then condenser trouble may well be suspected.

An open-circuited condenser is betrayed by a white deposit of tungsten around the contact breaker points, as well as by arcing. A short-circuited condenser cuts out the contact breaker and stops the engine altogether.

EARTHING BRUSH

Check the condition of the earthing brush. If it is not doing its job, ie that of a last-link contact in the earthed return route of the HT ignition circuit, either the spark at

the plug points will be bad, or earthed current will tend to find a return path through the bearings. That means pitted races, a trouble which can occur in the event of the paper bearing cups having been faultily assembled, or having deteriorated over a period.

LUCAS & BTH MAGNETOS

The K2F Lucas magneto is fitted to a large number of vertical twin cylinder engines. In working on this instrument important items to note are the insulating paper cup and bearing assembly, and the use of shims to give armature end clearance.

The main parts of a BTH magneto are, as shown on the opposite page: (1) the contact breaker cover; (2) the contact breaker assembly; (3) the cam ring; note the slot for the eccentric timing peg; (4) the contact breaker housing; note the eccentric peg on the left-hand side; (5) shims to adjust armature end float; (6) the fibre washer which insulates the ball-race; (7) the armature; (8) the magneto body, pick-up brush and holder.

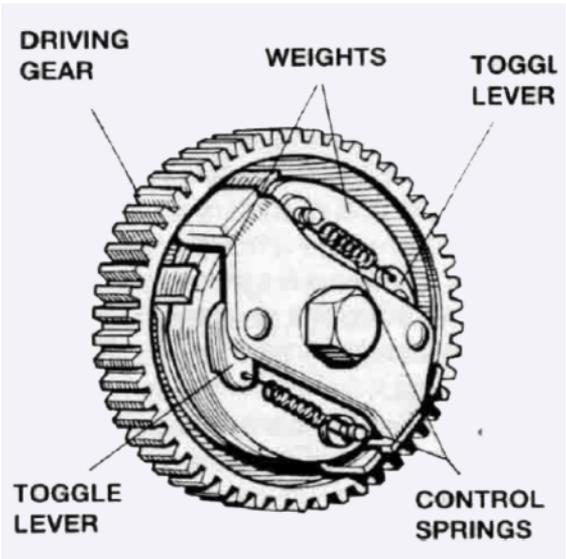
LUCAS AUTOMATIC ADVANCE & RETARD

The magnetos fitted to some motorcycles are provided with an automatic timing control. This mechanism automatically varies the firing point according to the speed of the engine thus relieving the rider of the necessity for adjusting the timing. Its advantages are particularly evident when accelerating and during hill climbing, the danger of pre-ignition, knocking or pinking being very much reduced.

The control consists of a driving gear carrying a plate fitted with two pins. A weight is pivoted on each pin and the movement of the weight is controlled by a spring connected between the pivot end of the weight and a toggle lever pivoted at approximately the centre of the weight. Holes are provided in each toggle lever, in which locate pegs on the underside of a driving plate secured to the magneto spindle. This plate is also provided with stops which limit the range of the control.

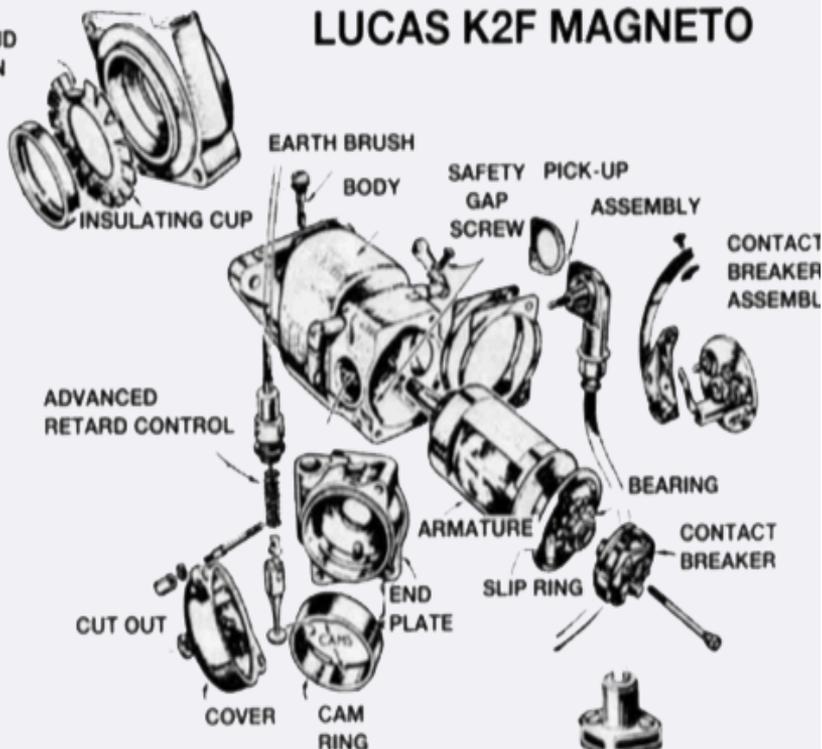
When the magneto is stationary the weights are in the closed position, and the magneto timing is retarded for starting purposes. As the speed is increased, centrifugal force acting on the weights overcomes the restraining influence of the springs and the weights move outwards, causing relative movement to take place between the driving gear and the magneto spindle, so advancing the timing.

By careful design of the control springs, the control is arranged to conform closely to the engine requirements. When setting ignition timing on machines fitted with units, they should be wedged gently in the fully advanced position. If the design of the machine disallows this, the manual should give a separate static ignition setting.

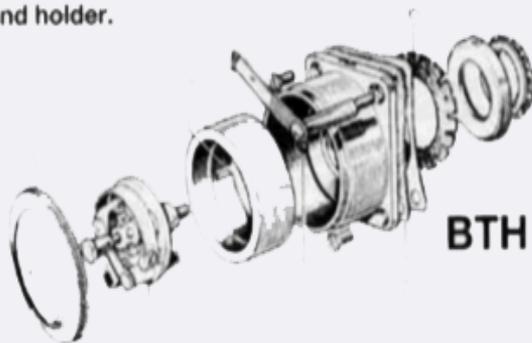
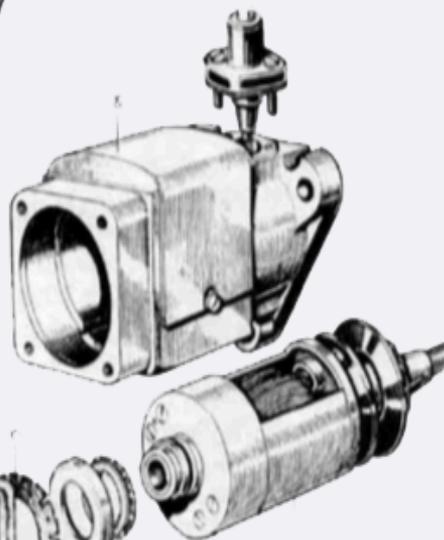


SEGMENTS
FOLD ROUND
RACE WHEN
FITTED

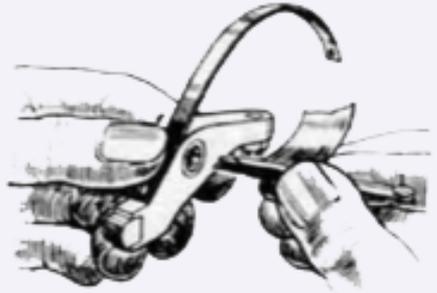
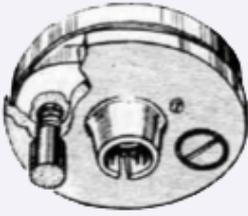
LUCAS K2F MAGNETO



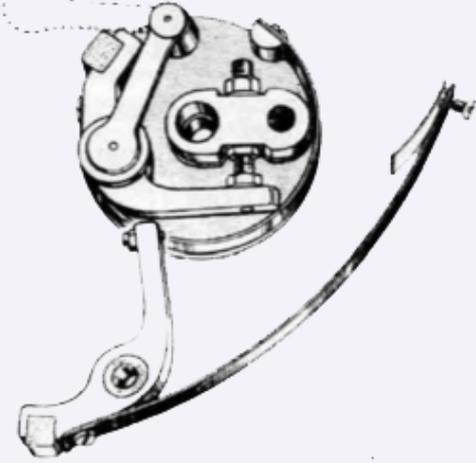
1. Contact breaker cover
2. Contact breaker assembly
3. Camring with slot for eccentric timing peg
4. Contact breaker housing
5. Shims to adjust end float
6. Fibre insulating washer
- 7 Armature
8. Magneto body, pick-up brush and holder.



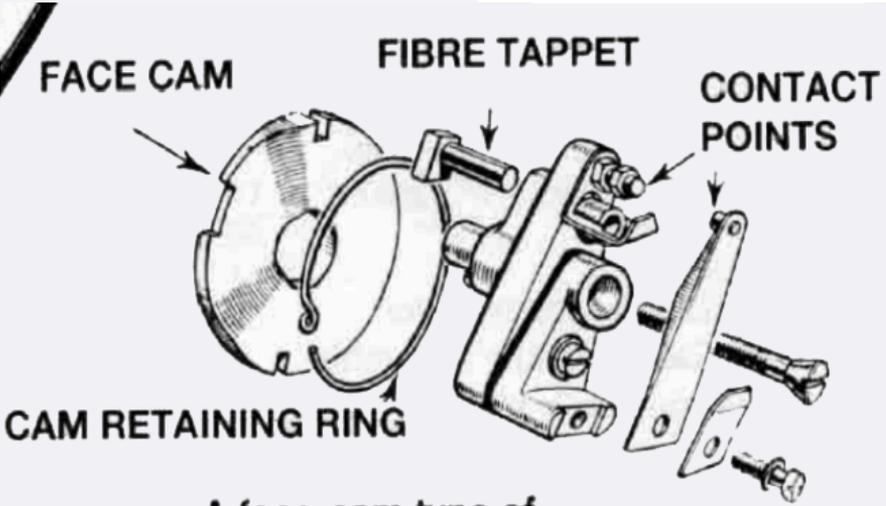
BTH MAGNETO



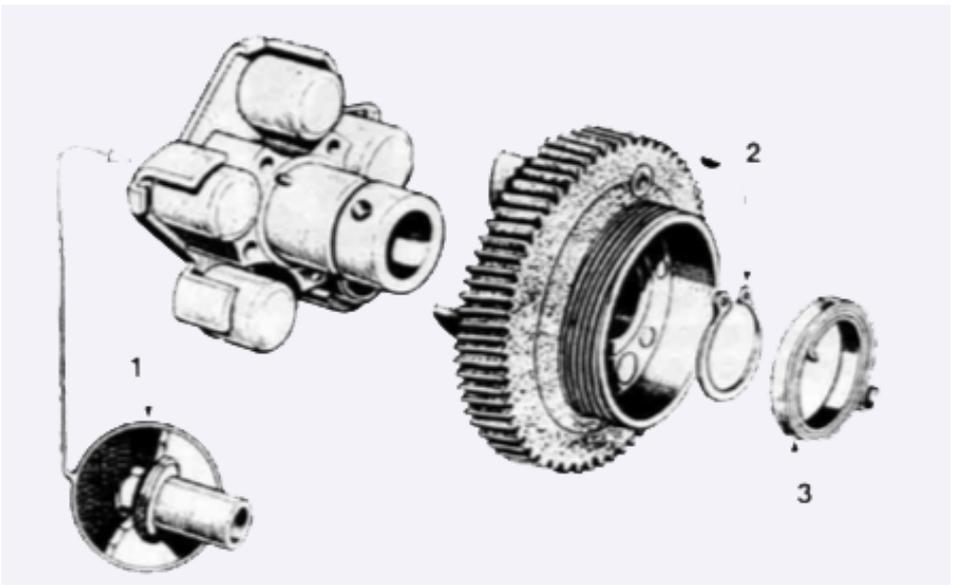
When the rocker-arm bush is being eased by the sandpaper-and-matchstick method, care must be taken not to re-



A typical contact breaker of the rocker arm type.



A face-cam type of contact breaker partially dismantled.



BTH AUTOMATIC ADVANCE AND RETARD

The automatic retarding mechanism: (1) the self-withdrawing nut with shoulder against moving cage plate; (2) the circlip to locate the oscillating hub relative to the gear wheel and (3) the spring to ensure that the moving cage returns to the full retard position.

The BTH unit was popular with Triumph, Velocette and Vincent. This is how it works. A cage, free to oscillate relative to the timing gear wheel, is attached to the armature shaft. Five rollers are interposed between five curved ears on the outer edge of this cage, and five corresponding ears on a cage riveted to the gear wheel. A spring inside the oil slinger pulls the oscillating cage, and, therefore, the armature shaft, backwards when the engine is stationary or running slowly.

When the engine speed reaches 1000rpm, the rollers, or bob wrights, are flung outwards, causing a wedging action between the ears of the two cages, and moving the armature shaft forward relative to the driving gear, until the fully advanced position is reached at 2000 engine rpm. Replacements are supplied as complete units. However, the outer cage and roller assembly can be separated from the timing wheel, if by any chance the latter becomes damaged, by removing the coil spring and circlip inside the oil from the hub of the oscillating cage.

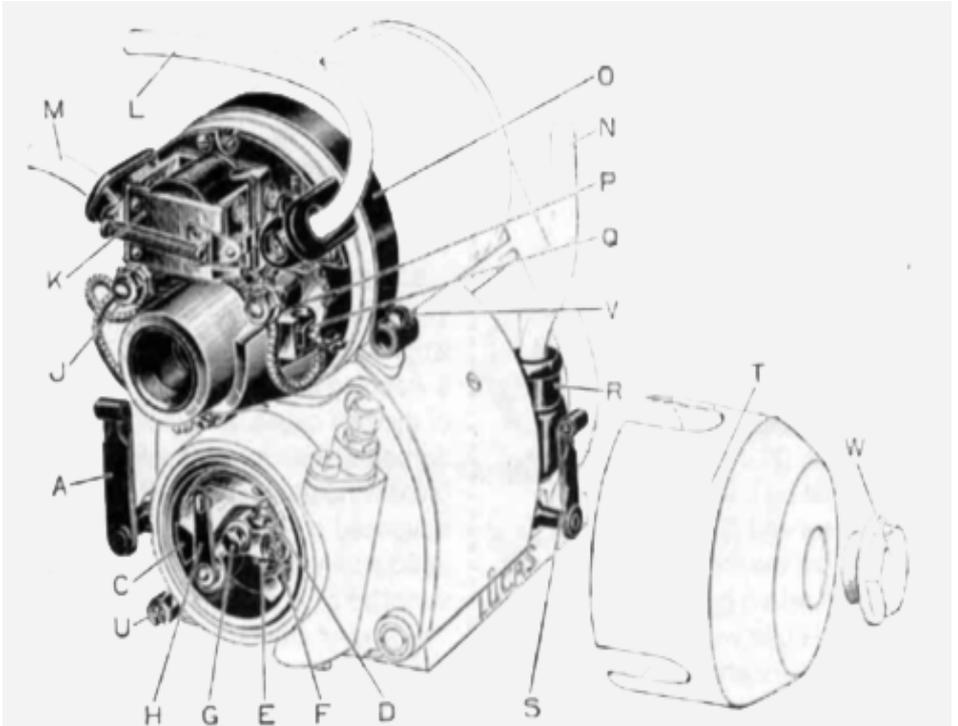
The timing wheel is riveted to the oil slinger and one half of the roller cage, and no attempt should be made to dismantle this sub-unit. A pair of circlip expanders are highly desirable for removing the circlip, which is too strong for the successful application of electrical screw-drivers.

On reassembling, the oscillating cage must have a little end float, likewise the rollers must also have end clearance. Great care should be taken of the cage ears, which, if bent, will upset the amount of advance and retard automatically provided.



LUCAS MAGDYNO

Our illustration shows a machine arranged for driving in an anti-clockwise direction. With a clock-wise machine the positions of the terminals marked+ and F1 are interchanged, and the control brush box is situated on the opposite side of the contact breaker housing.



MAGDYNO TIPS

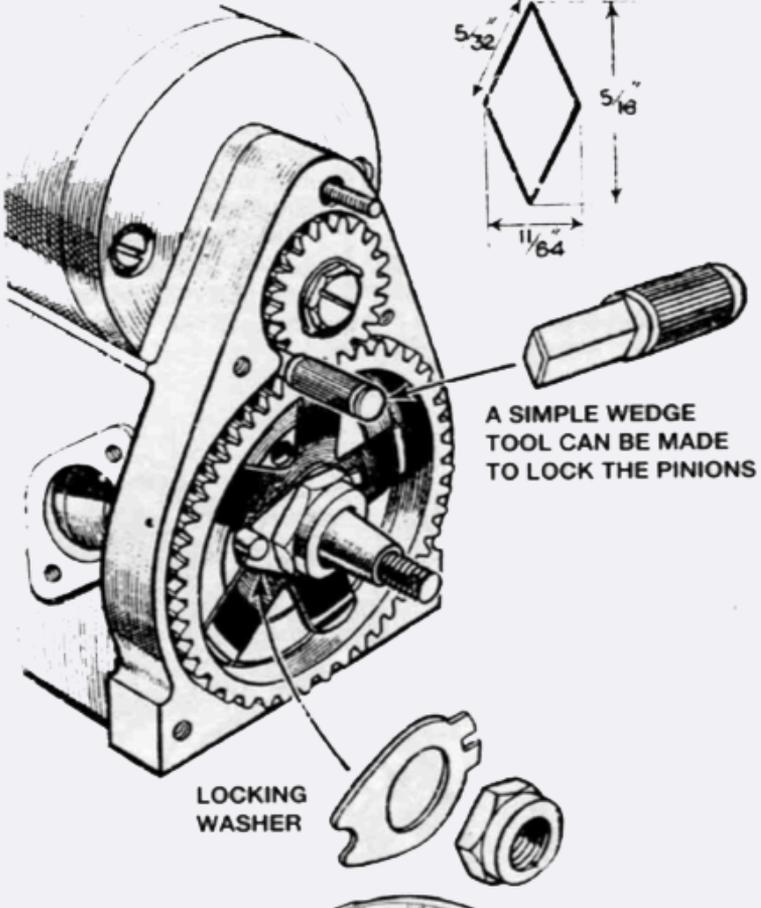
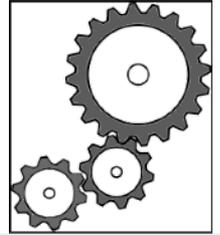
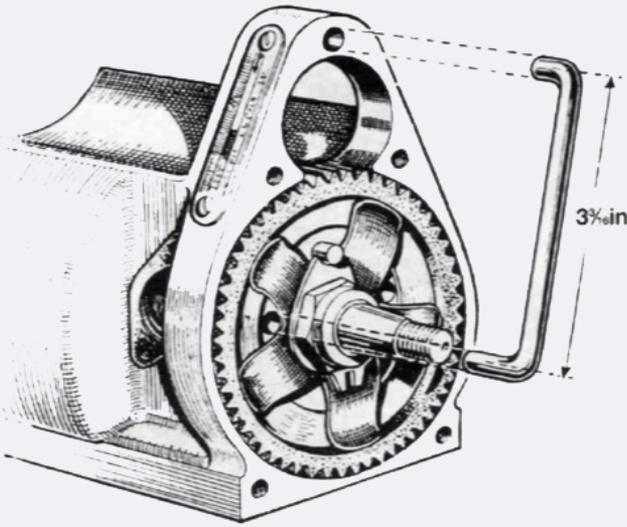
Many suggest it is easier to set Magdyno ignition timing by removing the idler gear instead of Magdyno gear. The Royal Enfield factory admitted it was quicker but: "In general it will be found necessary to move the Magdyno gear slightly before the idler gear teeth drop into mesh; as there are 40 teeth on the Magdyno gear the movement necessary (plus or minus half a pitch) could be 4 ½ degrees, which is equal to 9 degrees of crankshaft rotation."

When fitting a new fibre pinion, clean the teeth of adjacent pinions of any fibre dust, or that too will soon be ruined.

A. Securing spring for contact breaker cover. B. Contact breaker cover. C. Fibre heel. D. Contact Points. E. Locking nut. F. Adjustable contact. G. Contact breaker fixing screw. H. Locating spring. J. Nut securing brush eyelet. K. Cut-out. L. Cable to headlamp switch terminal F1. M. Cable to headlamp with terminal +. N. High tension cable to spark plug. O. Dynamo strap. P. Brush spring lever. Q. Carbon brush. R. Pick-up. S. Spring for pick-up. T. End cover. U. Earthing terminal. V. Dynamo strap screw. W. End cover fixing screw.

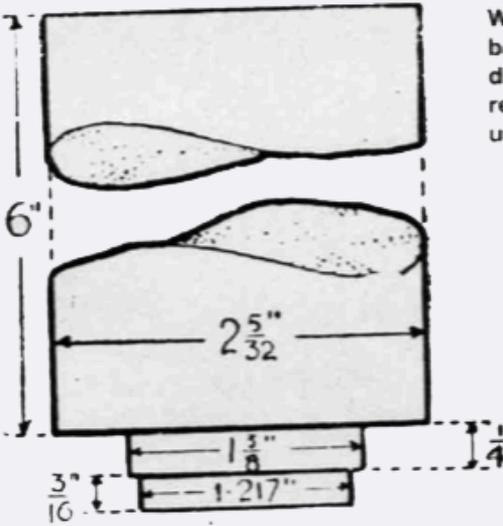
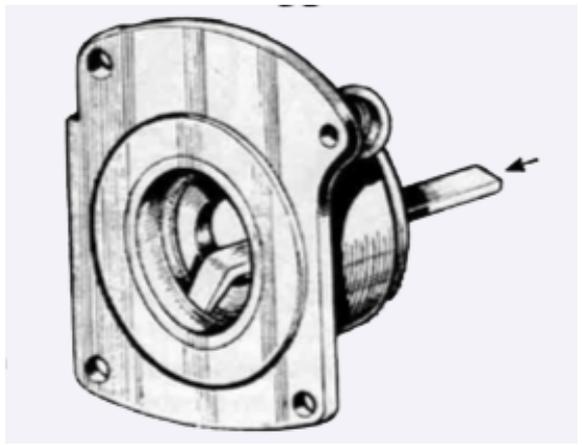


When dismantling the slipping clutch on the Lucas Magdyno a U-shaped tool will prove invaluable. Use 1/4in mild steel rod. When removing the ball bearings which carry the armature, this tool (right) makes a tricky job quite easy.



Avoid constant blipping of the throttle on Magdyno machines when the engine is in neutral. The dynamo portion of the instrument has considerable inertia, and rapid changes in engine revs will destroy the teeth on the fibre pinions.

Later Magdynos are fitted with a dynamo-driven clutch to prevent this. When reassembling the central locknut should be tightened to 10ft lbs to avoid clutch slip.



When replacing armature ball bearings a tool to these dimensions is recommended. It is best used in a hand press.

