The BMW Club

Vintage & Classic News

Issue 19/2007

In this issue – 'More on Timing Gears', 'Veterama 2007', 'A tuned 250', 'Riding the 'Ring' on a 69S' etc, etc.



Richard Wyles 'Magni' BMW

EDITORIAL

I've been asked by a number of members whether there are any back issues of the 'News'. Well, I'm afraid that apart from a few of the more recent issues, there are none. However, I am going to put the back issues on disc. The 'News' was A4 size in the early days - that's when Wendy did the collating, stapling and licking 600 stamps etc. - and when the print quality was not so good. Another contributing factor is that a computer crash wiped a number of issues, so all I have is poor photo-copies to work from. Nevertheless, give me time and I'll get a disc together.

I must thank Robert Freeman, 'The Amateur Mechanic', Mike Silverwood, Bob Porecha and Greg Powell for their contributions to this newsletter. More articles are needed for the next issue especially on the later machines, 1969 – 1980'ish.

In the next issue, ' A look inside a Rennsport Engine' and 'Some reverse tuning on an R60/5'.



REGISTER DIARY FOR 2008

26th/27th April
The Classic Motorcycle Show Stafford.
(Register Stand)

May
The Classic Bike Clubs' Show, Stanford Hall, Nr. Lutterworth, Leics.
(Register Stand)

12th – 15th June
7th Vintage & Classic Register Rally, Newport, Nr. Fishguard, S.Wales

12th/13th July
Festival of a 1000 Bikes, Mallory Park Race Circuit.
(Register Stand)

July
Founders Day Rally Stanford Hall, Nr. Lutterworth, Leics

Please check that these events are going ahead before travelling

"The Little Horror" (MXA 247)

by Robert Freeman (The Jolly Jester)

We are talking about 1965 / 66. I had owned my BMW for 2 years, and was actively involved in the local Motor Cycle Club, the St. Albans & District. A 'sporting club' grass track, trials, scrambles, couple of road racers, and sprinters. I was asked one day by a member known as 'Steptoe' you can guess why, would I like to buy an old BMW he had acquired. It turned out to be an early '50s, R25/2.

This was 250 cc single, 4 speed box, coil ignition, shaft, and top speed something over 60 mph. The machine was at Elstree so a visit to 'the yard' to inspect the bike. It was a runner. Steptoe asked if I would like another bike he had, as I remember it may well have been a Moto Guzzi' horizontal single, with a huge flywheel on the outside, in red, with small tool box type fittings on the rear mudguard. In retrospect, this might have been the better buy, as it must have been 'rare' even then. But the BM it was for about £ 7/10/0. and he delivered it.

All the paperwork was in order, so I thought perhaps a rebuild, for fun, using the book 'Tuning For Speed' by Phil Irving, as my guide on the engine. I felt I would try and turn the engine into ½ an R50S. Not an engineer myself, with only 'home mechanics' tools available, but I had several friends in the club who were, and they carried out for me some of the machining requirements.

Stripped down the cycle parts were mostly serviceable, no bent frame or forks. all the electric's worked, but I went through everything. The frame I resprayed, using a home made paint gun. This consisted of some 20 feet of rubber tubing, attached to a foot pump. The spray jar at one end, and a inner tube valve the other. Worked very well, the tubing holding a reservoir of air, giving a constant jet. Suitable thinned, I put on maybe a dozen coats. Same with the forks, headlight etc. Having seen the bike last year, the paint was still good, like 40 years on!



The gearbox rather hampered things, as there is such a large gap between the 1st & 2nd ratios, when up and running, it was easier to pull away in second. However I went through renewing seals and a couple of bearings.

Engine: Stripped down it was not bad considering it was circa 15 years old. Hadn't been re-bored. The crank was sound, so polished the con rod a little, prior to fitting the 50s type piston. These have a 20 mm. gudgeon pin, the 25/2, 18 mm. However there was enough metal in the small end to open it up for the larger bush. Set up on the bench, the 'new piston' giving something like 9 / 1 compression ration, as opposed the 6 / 1 prior, did not pose any problems with valve clearance, or the cylinder head. The bore was unchanged at 68 mm I made sure the piston was a 'right hand' one, because of the crank rotation, and the twin pistons are, as I understand, slightly off centre at the gudgeon pin, to off set gravity? At that time there were light weight aluminium flywheels for the twins, from America. Said to help the motor rev quicker, but I suppose something must have been lost in torque. So I had the flywheel drilled and turned, reducing the weight somewhat, but cannot remember by how much now. It seemed a good idea at the time.

The camshaft went to be reground, cost was about £ 6.00, taking metal from the rear lobe, thus altering the timings, and to those similar to the 50S. The camshaft is chain driven from the crank on a 2 - 1 ratio, so I lighted the sprocket by carefully spaced drilling, polished, and fitted a chain tensioner, from an R27. A rev counter was fitted, picking up the drive from the end of the camshaft, by drilling and fitting a Triumph motorcycle part to the timing chest. The actual rev counter came from a Triumph TR2 car. It was quite large! almost Vincent proportions.

Cylinder Head. The inlet port was opened out and polished, and the carb replaced with an inch & one eigth Amal Monobloc, on a lengthened inlet stub. Valves were unchanged, this was after all, a pocket money fun project, the cost of altering these being beyond my pocket, but attention was paid to their suitability. Rockers were lightened, polished, and balanced, its amazing how much extra metal BMW had put into manufacture.

Following the Tuning for Speed text, everything that could be, within limits was polished, lightened, and finally, carefully assembled. Ignition remained with the coil set up, but I did experiment with advancing the spark. Setting the jets took some while. At that time I still lived with my parents, and testing was done, illegally, on Tollgate Road, Near Hatfield, Hertfordshire, between Colney Heath & North Mimms War Memorial, my parents living just by. With the aid of the rev counter, I could, in my own amateurish way, work out and record speed and revs over a measured distance. By trial and error, altering jets, timing, and needle position I found the best results were:

Jet 280 Needle Position 3
Ignition Advance 38 deg.
Plug Champion L5
Points 15 thou.
Revs max. 7200.

These settings I used thereafter. I would usually pull away in 2nd, with its light weight, quite nippy. However brakes did not match the performance, so a Norton Dominator 19 inch wheel fitted fine. Much improved.

I ran the bike for several years, no problems as such, one time the carb inlet snapped, my poor brazing, a couple of bracing strips were added. Once when thrashing down the M1 motorway, I felt the piston tighten, but a swift clutch disengagement, throttle back, and all was well. I didn't lift the cylinder head after, and experienced no further trouble.

The 'Little Horror' title came from my late Mother, and it stuck. The bike was fun to ride, anywhere, cheap to run. I hung on to it till mid 1985, we were moving house, so it went to the local motor cycle dealer in St Albans, Clarkes.

Tony Clark bought it for his museum, an empty shop next to the premises in London Road. There it sat until Clarkes stopped trading. They had been stanch supporters of local motorcyclist, the St Albans M.C.C. and sporting riders in the area. Ron Clark, & his wife, were 'old school', well respected by enthusiasts. Tony still has MXA 247, 22 years on, and I have 1st refusal, if and when he decides to sell it. Just to rub salt in the wound, he has never ridden it! Did I 'butcher' the bike?, well some 38000 were built, so its not really rare. Thinking back on the other bikes I had, but nearly 50 years later, there was a '38 Stump Speed Twin. Solid frame & girder forks, a BSA V twin, model J 12, broken up on my Fathers orders. The engine went to my cousin, the cycle parts buried in a nearby wood! So what bike now or in the last ten years will be a 'classic' circa 2050. It's a long time to wait and find out you were wrong. May not even be any fuel to run it on.

The 'golden age' is yesterday and today.

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It really doesn't seem 12 months since I sat at this keyboard relating Veterama 2006!

Mannheim 2007

by 'The Amateur Mechanic'

Once again the second weekend in October arrived and we were on our way for three days at the Maimarkt in Mannheim. As related last year the event is open 'officially' on Saturday but like many others, we bought 'insider' tickets again to get in by 12.00 on Friday whilst many stalls were still setting up. In previous years this has paid off handsomely and we have ended up with a bargain or two, however this year no such luck!

My very first stop was to visit Ekrem Pala who trades as Linieren.de and leave with him the plunger tank I had taken to be hand lined. He now lines all the tanks for Mobile Tradition. I understand he was formally employed by BMW in Berlin as a liner and when hand lining on BMW's ceased he set up in business on his own. A lucrative business for him at Mannheim, the flow of tanks, mudguards and (pressed steel) frames seemed endless! I discussed the position and type of lines I wanted and left my tank. Within a couple of hours it was ready for collection at a cost of 50 Euros. He made a superb job, the best non-factory lining I've seen and at a reasonable cost. Mind you by my calculations he was lining 4 or 5 an hour…a pretty good hourly rate for his undoubted skills!

The prices being asked (but perhaps not obtained?) for second hand parts were, on the whole, unbelievable. We saw a bare R69S cylinder head at 595 Euros, Hoske tanks for 1000, but requiring restoration and rear single seats (again for restoration) at 180! Last year I bought two rear seats to restore, one for 14 Euros and another (in much better condition) for 35! There was an early R90S in Silver Smoke for £10,865 (15000 Euros) To be absolutely fair it *looked* as if it had just left BMW but, of course, may have covered 2 or 3 hundred thousand kilometres in its life. There were a couple more R90S' at 10,000 Euros….

Once again it was talk with the various 'oldtimer' dealers that made the event for me. I have recently been involved in drilling an extra oilway in an R51/3 and an R50 crankcase, a modification done by the factory on later crankcases. (I intend to include details of this mod in a later piece) It was an article by Hans Dieter Petersmeier that gave the detail required to easily undertake this task and I used Mannheim as an opportunity to discuss this and other issues with him. In the middle of the display of items he manufactures there was an RS54 cylinder head and barrel (Rennsport). He had just finished machining a batch of these heads and had made a magnificent job of them. When asked about complete replica engines he said he hadn't made all the parts but that he had machined new crankcase castings. According to him there are now around 70 RS54's in running order…. The BMW factory made just 24!

Mark Huggett spent a large part of the weekend on the stand of Hermann Rabenbauer. I still haven't worked out the tie-up between them but it almost appears as if they have a joint business. New products from them this year include re-manufactured clutch arms (gearbox end) for R5, R51 R51/2 and R51/3 (and, of course the 600cc models of the same era). Also available were chromium plated brass headlamp rims complete with original 'Bosch' logo. Apparently, according to Mark, these were made in steel from sometime in the late 50's. I seem to recall the original rim on my 1971 R75/5 was made from brass so perhaps using steel to manufacture rims was short-lived?
Wandering around the furthest reaches of the site, in an area we have come to call the 'tundra' and one that, so far, we have always emerged from with both our money and our lives (!) we came across three brand new R42/47 rolling chassis. These were complete down to the speedometer, lights, shaft and transmission brake, originating from either the Czech Republic

or Poland. The last one actually had an unrestored R42 engine installed, possibly bought from a vendor at the autojumble. All should heed Malcolm's recent warning in the journal! After two and a half days walking and talking our way round Vetarama it was a pleasant relief to spend our final evening eating and drinking Bavarian style (the beer festival also takes place at this time) at the Bauhaus in Schwetzingen!

All things being equal we'll be back again next year!

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BARRY WILSON

Toolmaker with 40 plus years experience, offers Precision workshop services to:-

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Contact Barry Wilson Tel/ Fax 01202 822755
Email bewtoolmaker76@btinternet.com
50 Ringwood Road, Verwood, Dorset, BH31 7AJ

Ian Clark's Open Day

As reported in the Journal this year, Ian Clark held an open day for all riders of older BM's. It was a great success with many riders of later machines also putting in an appearance. On display was an example of the machining skills of Barry Wilson, whose advert appears on this page. The technical details of the operation read as follows –

'Early R51/3 and R67's had the rear main bearing running directly in the crankcase casting. The crankcase on display has covered around 300,000 miles and had worn very badly due to the rear bearing spinning in the crankcase. It has been machined (by Barry Wilson) to take a 'long' rear main bearing carrier from a later engine.

At the same time the opportunity was taken to drill the additional oil-way in the crankcase to feed oil to the offside cylinder. This is a modification introduced by BMW to all twin crankcases from around 1962.

A further modification is still to be completed, namely the fitting of a restrictor in the new oil feed to reduce the hole size from 3mm to 1mm. '

The standard of work that I saw was superb and I only wish this had been available when my R67 was being rebuilt. More information when available.



The machined crankcase is shown along with the later bearing carrier.



Captured for posterity a rare appearance of Bob Porecha and….. riding an R67/R68

Advertising feature from Bikesure

Great Deals On Vintage and Classic Bike Insurance - and more

Recently the BMW Club set up a link with specialist motorcycle insurance company Bikesure to support us, by providing members with a discount as a reward for their loyalty to the club.

Bikesure is part of the Adrian Flux Insurance Group, which has over 30 years of experience in providing niche, bespoke and specialist insurance needs. As one of the leading specialist national brokers, Bikesure covers all sorts of bikes, classic and modern, standard and modified, cruisers and tourers, as well as trikes and quads.

Steve Beveridge, the clubs liaison manager at Bikesure, has put together a short summary of what Bikesure can offer members of the Vintage & Classic Register.

- Agreed value policies. Because Bikesure staff know the market, they'll quickly be able to agree a valuation. (They offer this on modified bikes, too)
- Unlimited mileage for pre-1970 bikes
- Young classic? Pre-1990 bikes can qualify for cheaper classic insurance
- FREE breakdown cover for classic bikes
- FREE legal expenses cover
- Provisional licence holders can get cover on classic bikes

- Ride your mate's bike: fully comp cover when riding other people's bikes available on certain policies (subject to a qualifying criteria)
- Multi bike policies
- Euro cover included
- Add a Classic for £46.75: if you insure your modern bike with Bikesure, you can add a classic, up to £5k in value, for a flat fee of £46.75

"Our slogan is 'freethinking insurance' and we reckon we can offer the best price to insure just about any rider and any bike," says Steve. "If members have any insurance problems or questions, on classics, vintage or any other sort of bike, give us a call, we'll be happy to do our best to sort them out."

Meanwhile, don't forget that if you're about to insure a car, home, motorhome or caravan it's worth chatting to Bikesure, too. They're offering members discounts on these and other insurance products through their parent company, Adrian Flux Insurance Services. So you can save money on all sorts of things!

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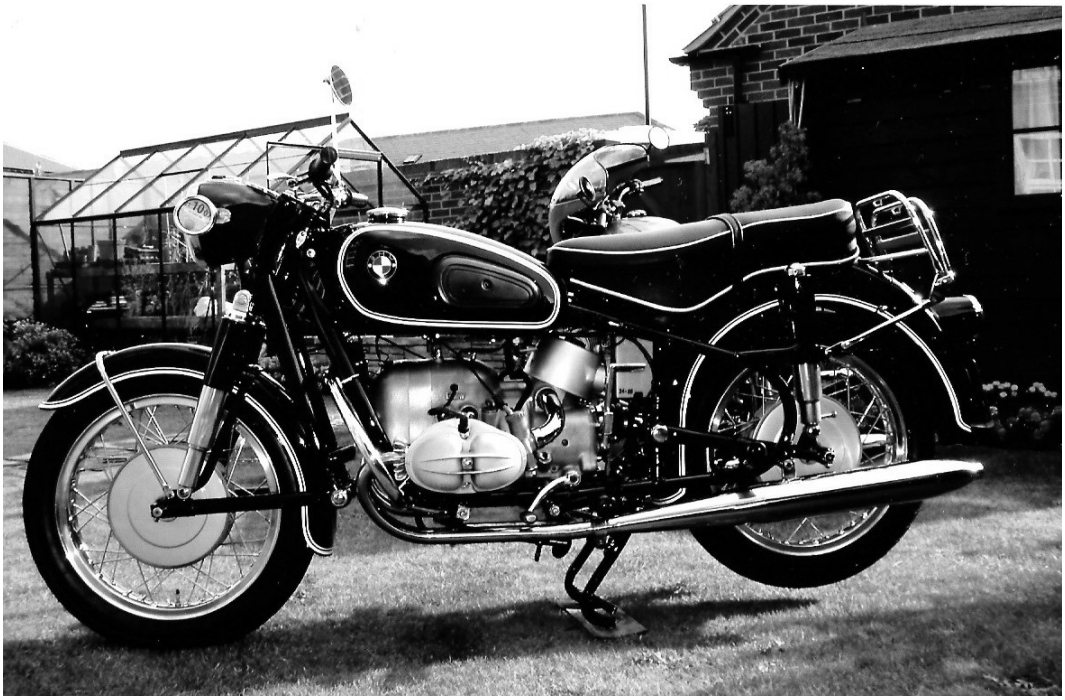
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When asking for a quote, just tell them you're a member of the BMW Club (you'll be asked for your membership number to confirm this) and they'll apply the appropriate discount.

If you want to find out more, call the Bikesure BMW Club quote line **free** on 0800 089 0048 or visit www.bikesure.co.uk

TO RESTORE OR NOT TO RESTORE THAT IS THE QUESTION.....

MIKE SILVERWOOD ASKS THE QUESTION



Mike's R69S as it is now, but after the purchase it left him with a dilemma

About this time last year, I was faced with a problem that many of you have probably already faced: that of whether or not to restore your motorcycle?

My problem was that the bike that I had bought four years earlier, a 1965 R69S, was definitely looking it's age. The previous owner, a wonderful old gentleman called George had even described it to me over the phone prior to purchase as "cosmetically challenged".

The bike performed faultlessly, started easily, never broke down and lived up to all my expectations, but, the nuts and bolts were all rusty, the alloy was oxidising and the paint was showing where the tank bag had been used on those trips to the Isle of Man. Plus, I was getting a lot of leg pulling from two of my friends who rode immaculate R75/5's stating that if I left it much longer, I would have to scrap it!

Now this is where the problem started, because I actually like to see a bike that is forty odd years old that actually looks it. That word, "patina" that sums it up; when a bike has been places and done things, taken part in adventures that create a look that is impossible to recreate. It makes that bike unique.

However, the idea had been planted. Would it be better to restore it now before it was too late, could it be partly restored or should I go the whole way? Or should I simply enjoy it as it was and carry on?

In favour of leaving it as it was where the following points. I could ride it in any weather or leave it out if I wished, it wouldn't look much worse. I could ride it as far and as fast as I wished, not worrying about stones and chippings being thrown up. I could ride it on the local "White Knuckle" run, sorry, the "White Peak" run organised by the VMCC and not worry about it. Plus it passed the MOT every year without difficulty. I had a lot of pride in the bike, it was and always had been well maintained. It was unique. To sum it up, too many old bikes look "brand new", right?

Then again, it had been George's intention to restore the bike and when I bought it, it came with a massive box full of new spares. That would obviously make the cost of restoration considerably cheaper. I started day-dreaming: who would be able to do the jobs that I couldn't, how much would it all cost? Where would I get any parts from that were needed?

Seven months later and the job was complete. According to George, on seeing the bike, he told me that it didn't look that good when it was new! The praise received from the original owner was greatly appreciated. Two good friends had done me proud; Frank with the mechanical work and Craig with the paintwork.

Yet my enjoyment in the bike has totally changed. I now drive it steady, on days when it is unlikely to rain. I have to carefully consider where I can leave it and it now needs a huge amount of polishing to maintain the pristine appearance. It now gets entered in ‘concours’ competitions and stands alongside other immaculate examples and the insurance has had to be upgraded. The pleasure I get from the bike has changed.

What have I learned from the process? That the cost of a high quality restoration is likely to be at least three times that originally anticipated and that pride in ownership changes from all riding, to showing and less riding.

Would I do it again? Yes I would personally, but only on a bike that is in danger of "going too far". I hope my findings help you in making up your mind.

(A difficult decision this one but, personally, I couldn’t ride around on a machine that looked too scruffy. The decision on my R67 was made for me, like a rusty exhaust system etc, etc that fell to pieces when removed and the engine so solid that even after 6 months of soaking in various release agents the pistons had to be drilled out! Ed.)

'How to turn an R60 into a Credible Tourer' by Greg Powell





(In issue 17/06 of 'The News' I made mention of the availability of screens for the earlier BM's. Included was a suggestion that the Ural products should not be dismissed. I must admit to having more than a passing interest when it comes to the Russian products as Wendy and I formed the Ural Club (now the Cossack Club) way back in the early 70's. Greg Powell decided to check out what was available and here are his findings. Ed)

All the items shown, screen, legshields, rack and toolkit were bought from F2 Motorcycles in Banbury. For full details go to http://www.f2motorcycles.ltd.uk or phone 01295 712900
David Angel, F2 Motorcycles Ltd, Unit 6, Burgess Farm, Middleton Cheney, Banbury, OX17 2NE,

My observations on receiving the items was as follows-

1. No plastic packaging hear just plenty of wax paper.

2. Fairing and fittings are of very high quality. The fairing is made of pressed steel and comes ready assembled; fittings are of good quality deep chrome.

3. No instructions but easy enough to fit, attachment points are headlamp bolts and handle bars.



4. Leg shields are moulded plastic; fittings are again top draw quality. It even comes with half inch strips of rubber to protect frame. No fitting instructions but simple job.

5. Beautifully made pressed steel rack bolts straight on to the mudguard, or
one can make up a metal base plate with bayonet fitting and attach it by using the mudguard/ suspension bolts.

6. Title: All ready to tour.
This alternative to a full fairing is lighter and easier to fit and remove, also looks good and probably 80%



as efficient.

7. One can also obtain a full tool kit which is almost identical to an R60 tool roll. Prices are very reasonable as below:
Tool kit -£57.42
Rack -£60.00
Leg shields -£27.00
Fairing -£121.80
Unfortunately price of a new tool kit is now £57.42 but the one shown was £28.00, for your extra £30 you get a set of good quality pliers .It seems that the Russian prices are slowly catching up with the decadent west.

8. In between the deluge/showers we've had this summer I managed to take a few photos. I did send out a dove but it is yet to return with an olive branch.
Fittings were precise to the millimetre, no modifications to the fairing or bike were necessary.



There was a slight problem with the ignition key in that it won't fit with the fairing in place. On the Ural the ignition switch sits further back on the headlamp.

9. Road test.
No noticeable increase in noise or difference in weight, good protection all round.

<u>Conclusion</u>



I must admit, I was rather cavalier in ordering the accessories, after all they are made for another bike. But as a modern Ural looks like a fifty year old BMW, so I took the gamble. Actually it was not such a gamble because previously I had bought the tool kit and found that many of the spanners fitted the R60. High quality low prices in my book equals good value to use another cliché. Modifying the ignition key is the only fly in the ointment.

So all in all I am very pleased with my purchases.

KRAUSER FOUR-VALVE HEADS.

Designed by Willi Roth, developed and sold by Mike Krauser, these 4-valve heads were first seen in the late 70's. The heads feature a central 10mm plug to give more rapid flame spread, coupled with the lower inertia of the 4 valves to allow a more rapid rise in revs, a higher safe rev limit with a greater valve area, better heat dissipation and improved swirl.

Krauser claimed 82bhp (Din) @ 7300rpm and 83Nm of torque @ 4000rpm. (Using 40mm Bing carburettors) BMW claimed 70bhp for the R100RS although sources suggest this was about 2bhp up on the actual figure. So, simply fitting these heads with no other modifications should give a power increase of between 17% & 20%.

The heads are narrower than standard and give an engine width reduction of 35mm (approx 1.5in). Low-pressure die-castings in aluminium alloy, they feature shrunk in valve seats (BMW favour cast in seats) and bronze valve guides. The rocker arms are made from chrome molybdenum, their hardened spindles running on needle roller bearings. Valve clearance for the 37mm diameter inlet valves and the 31mm exhausts is by means of an eccentric adjuster whilst the valves are actuated by a roll tip to reduce wear. Double valve springs are used, valve spring pressure being 164lb (very high!) that could be the major factor for causing the reported camshaft wear when these heads are used. Overall head weight is reduced by 0.5Kg (1.1lb) per head.

Special Mahle flat top pistons with 4 valve cut outs raise the standard 1000cc (70.6 x 94) compression ratio to 10.2:1. Each piston has 2 compression rings and 1 oil control (scraper) ring. Piston to bore clearance remains unchanged.

Cost of Krauser Kit; £760 (1985)



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More on Timing Gears and Breathing (1951 – 1969) by 'The Amateur Mechanic'

Following on from my previous article on timing gears published in this newsletter (Issue No. 12/2004) this article re-visits timing gears and looks at the crankcase breathing system on 1951 – 1969 engines.

One of the reasons (apart from the excellent quality of the machining) this series of engines are so oil tight is that they used a timed engine breather. For those amongst you who have never had the pleasure (?) of stripping one of these engines the following may be of interest:

In order to relieve the pressure in the crankcase when two two-fifty (or three hundred) cc pistons descend (causing increased crankcase pressure), BMW engineers incorporated a simple but effective timed breather driven at half engine speed from the camshaft timing gear. This breather consists of a flat plate with two slots in it, driven by the camshaft gear and spring loaded to seal it against the timing cover. The timing cover has a machined face with a single opening to match the slot in the breather and a cast in tube that ultimately ends with the small rearward facing tube on the front near side of the engine. The breather plate is "pegged" to the camshaft gear in such a position as to ensure it only opens when the pistons descend.

Now we come to the gist of the article, the "pegging" and my current interest in it.

It started for me when the big ends in my 1957 R50 cried enough last year. I was fortunate enough to have a spare (untried) R50 engine that I had bought at an Auto-jumble a few years ago. After removing the heads, noting that the barrels were standard bore with brand new Mahle pistons, (it had been re-sleeved) that obviously hadn't been run, I changed the heads to those of my (now defunct) R50 as the valves had known mileage, and proceeded to installed the engine.
When I started it a few seconds running revealed that all was not quite as it should be. Instead of the regular air pulses from the crankcase breather there were strange irregular pulses. Although I'd never heard the noise before I somehow knew instinctively that the pin driving the breather had either sheared or fallen out. Taking the timing cover off confirmed this; fortunately the falling driving pin had missed everything and came out when I drained the oil!

From 1951 to the introduction of the /2 in 1960 all engine breathers were driven by a single 5mm diameter pin. The camshaft timing gears for these engines all (originally) had the early (shallow) tooth angle of 20deg. 21min 51sec (see earlier article) and are easily identified by having four drilled holes, to facilitate removal of the camshaft front bearing carrier screws, plus a single 5mm hole to drive the breather.

In 1960 BMW not only introduced the new (steeper) 30deg 24min 51sec angled tooth form, giving greater tooth area, but also changed the "pegging" of the breather. In place of the single 5 mm pin there were now two 6 mm pins and the four holes drilled to enable removal of the camshaft screws had been reduced to two. BMW have always had a policy of evolution not revolution and we can assume therefore that the changes were as a result of either the problems incurred with the earlier system or anticipated problems caused by increased engine speed of the R50S and R69S. I suspect the former. The "new" system incorporating 6 mm pins was also designed to prevent a loose pin "falling" through the timing gear by drilling 5 mm holes and counter boring to 6 mm, effectively leaving a "back" in the hole.

Sometime afterwards (I suspect late 1961) R50S and R69S, from engine numbers 565635 and 657099 respectively, were fitted with the final modification to the breather plate. This last series of plates had two 12 mm drive "lugs" cast into the back of the plate and drove through the two holes

drilled in the timing gear used to gain access to the camshaft front bearing retaining screws. These timing wheels can be quickly identified as they only have two 12 mm drilled holes. Until production ceased in 1969 BMW used this arrangement on all R50S and R69S engines whilst retaining the 6 mm pin breather on the R50/2 and R60/2. I believe towards the end of production (1967 on?) the cast-in lug breather was fitted to all models but have been unable, to date, to find the engine numbers when (or if) this change took place.

As well as changing the breather "pegging" the method of spring loading the breather against the timing cover was also changed. The pre-1960 breather had (from the aluminium gear outwards) a large thin steel shim with a 5mm hole and a wire wound spring located over the boss on the gear, followed by the breather plate itself, the whole assembly being retained by a wire circlip. On /2 on engines the arrangement consisted of (from the aluminium gear outwards) a steel shim over the boss to protect the aluminium wheel, a wavy spring washer (similar to that used behind an Earles wheel trim but smaller) and the breather plate itself all retained, once again, by the wire circlip

Given that neither pin type breather is as reliable as the cast in type, how easy is it to update to the latest type? Well, in the case of a pre 1960 5 mm pin type, very easy! Two of the four holes used to gain access to the camshaft bearing housing screws are in the correct relationship to the timing marks, but which two? (See photos)

Unfortunately on the /2 timing gear the two holes in the gear are in completely the wrong place and the wheel would need to be re-drilled to use the cast lug type breather plate. I was fortunate to have to hand an R69S timing wheel to use as a template when I modified a gear recently, but it would be possible to get the correct location from a 6 mm pin breather and drill the wheel accordingly. Possible but very fiddly!

Is it worth the trouble? Well, given my own recent experiences plus those of others who have had 5 mm pins drop out and 6 mm pins come loose… but then again its possibly related to the use of your right hand! I'll leave you to decide. I believe the new gears available from BMW Mobile Tradition are only designed for the later cast lug type breather.



The timing wheel pictured adjacent is from an R69S, easily identifiable by having two 12 mm holes only. Designed to take a breather plate with two cast in lugs.



The timing wheel pictured adjacent was used from 1951 to 1960 and fitted to all twins of this period including R68 and R69. This uses the single pin breather with a 5mm pin. Two of the four 12mm holes in the timing gear *can* be used to update to the R69S cast lug breather. Comparison of the photos, both taken with the valve timing mark at '12 o'clock' will enable the breather to be fitted in the correct two holes.



The timing wheel pictured adjacent was fitted to all /2 models and to very early examples of the R69S. This uses the breather plate with two 6 mm pins. The locating holes in the timing gear are 6 mm reduced to 5 mm at the back face of the gear to prevent any pin that comes 'adrift' passing through the gear. Note the position of the 12 mm holes.
Once again the photo is taken with the valve timing mark at '12 o'clock'.
It is clear when comparing this photo to that of the R69S wheel that the cast lug breather *cannot* be fitted to these timing gears in the correct position without drilling additional holes.

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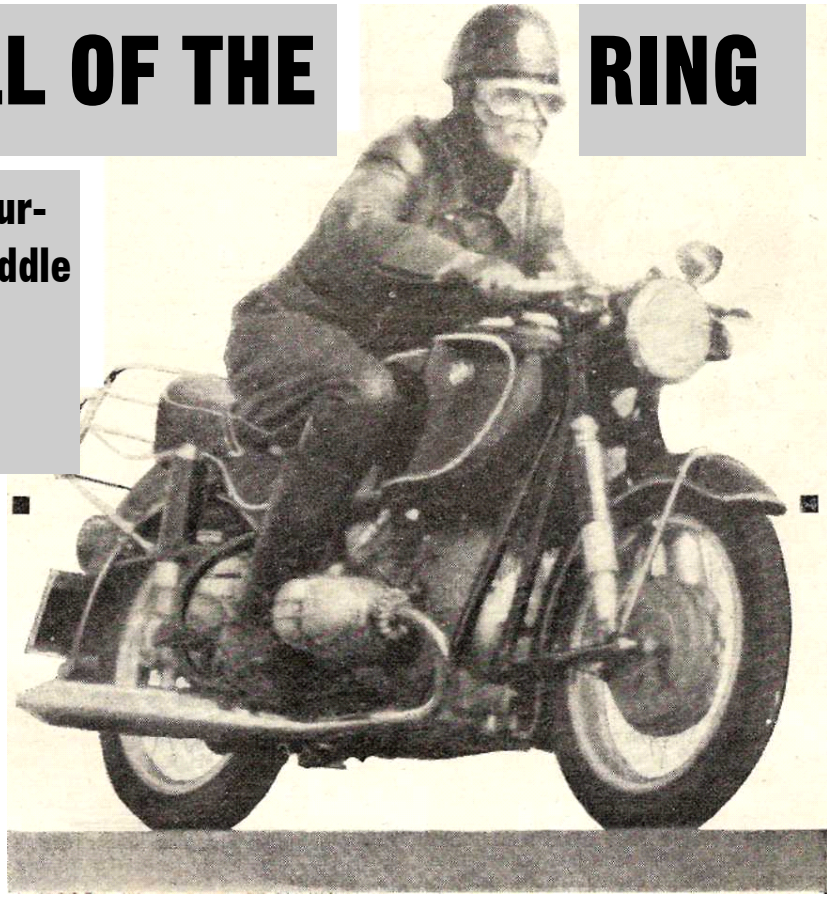
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THE CALL OF THE RING

A Rider's-Eye View of the Nurburgring Racing Circuit from the saddle of an R69S

Written in 1961 by ANKE-EVE GOLDMANN

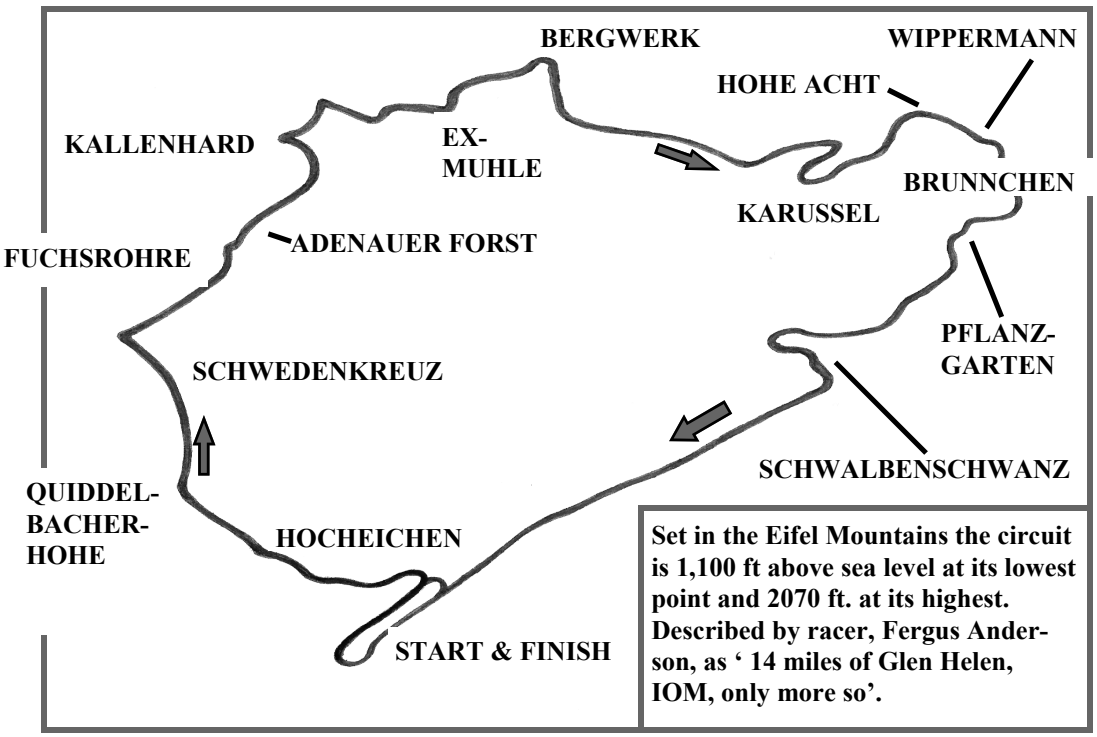


Thursday morning and an indefinable restlessness seizes me. I grow vague when anyone suggests a date or invitation for the coming weekend. I go around tapping on barometers, casting anxious glances at the sky. Friday noon; and the children at the school where I teach wonder even more at my seeming lack of patience. But the Nurburgring is calling and tomorrow is Saturday.

The Ring! That's the most wonderful circuit in the world. You ride to it through fairy woods, through the volcanic landscape of the Eifel mountains and then – a slender tower rising above the tree clad slopes – you see the Nurburg itself, a medieval castle from which the circuit takes its name. At the foot of the castle mound lie the start and finish area, the pits, grandstand and hotel.

The circuit is privately owned and was built between 1925 and 1927. It came into prominence in the 1930's (Nuvolari, Caracciola, Rosemeyer……. Remember?) and it is today the mecca for all German motorcycle and car racing enthusiasts.

`Originally the Nurburgring comprised one long circuit; but it proved to be a little too long, so now it is split into the classic 22.81km (14.2-mile) northern loop, and the 7.74km (4.8-mile) southern circuit used mainly for less important events.



Set in the Eifel Mountains the circuit is 1,100 ft above sea level at its lowest point and 2070 ft. at its highest. Described by racer, Fergus Anderson, as ' 14 miles of Glen Helen, IOM, only more so'.

But it's Saturday at last and there is sunshine and crisp air; real Ring weather. My heart is pounding as I kick the BMW into life and move up to the starting line where an attendant, in olive green uniform, is waiting to collect my fee for using the course. Any repair work going on out on the track? The clerk shakes his head.

I mentally check over the BMW. Tyre

pressures, brakes, fuel…...all ok. I feel the throbbing of the flat-twin's heart; she seems just as keen to get going as I am. Time to settle my goggles in place – and now we are ready. Ahead is a wide straight, almost a kilometre long, which disappears in the distance around the equally wide south turn, Already I have forgotten the world around me and my thoughts are occupied with the turn itself – in fact, with the 89 left-handers and 85 right-handers which constitute the circuit.

The man with the stop-watch nods just once and I feed in the clutch. As the engine roars its song the butterflies are chasing around inside me, but there is work to be done and, by the time third gear is engaged, I'm calm again. Still in third as the needle approaches 80mph. I cut the throttle for the south turn. It starts as a left-hander then swings to the right, so it's down into second as I take it at about 45 on the inside.

As the curve opens up a gradual opening of the throttle carries me over to the left and into the long straight running back towards the starting line, rearwards of the pits. For a while I can use top gear but the following left turn is difficult to judge. It calls for second again. The radius is camouflaged by the immense width of road. Moreover it is interrupted by a short straight with a couple of bumps. There are 200 wrong ways of taking it and only one right line – and I still haven't found it!

There follows a cadence of quick right-left swervery, descending through the woods. Everything depends on acceleration, lightning braking and the knowledge of when to use second, when to snick into third. Then, just over 3km from the start, we catapult out of the wood through a descending left-hander, and into a sudden dip where my ribs are thrust against the tank. Next there is a short rise and as the machine heaves itself up on its rear suspension legs I fly clear of the saddle. This spot is known as Hocheichen.

Down again, then up to the right and, though you cannot see far ahead, if you know the circuit you can accelerate hard in third around Quiddelbacher-Hohe. A full-throttle left bend is next and here the BMW touches 100mph in top. But it's a bumpy road and unless the model steers well it is best to be prudent.

At Schwedenkreuz I have to stamp on everything, and sit up so that my body acts as an air brake. Down to third, down to second…. For here is Aremberg a tricky right turn well cambered on the inside but with a flat surface on the outside of the bend. It can be taken at 45mph they say; but I wouldn't care to try it!

A narrow, slightly twisty road descends into the deep hole of Fuchsrohre and, for some of the real heroes, this is the fastest part of the circuit. They take it at a 100 or more; but I'd need more courage than I have. At the bottom of the dip the machine has to be cranked over to the left until the rocker box is scraping the road-way. Gravity presses me down on the tank again as I hit the following rise – and scarcely have I recovered than full attention is needed for the double S-bend of Adenauer Forst. There the road switches suddenly from uphill to the horizontal bang in the middle of a left-hander; and, from the saddle, it seems that the course ends in the sky.

Still, if you learn to take Adenauer Forst at speed you can attain 78mph before reaching the gentle left-hander leading to Kallenhard. There, a narrow right-hand bend opens a sequence of rights and lefts on a steeply descending gradient. If you are an ace, all these can be taken in third – but your brakes must be first class to do so.

Briedscheid is the lowest point on the circuit. The track leaps across a bride then falls into a sharp dip and, again, I feel the force of gravity as I whip the BMW from left to right, lining up for the steep right-hander.

The BMW howls in second, passes Ex-Muhle and I prepare for Bergwek, a right turn where a big rock obscures forward vision. If you know the bend you can take it at a higher speed than at first may be possible. Now begins the climb to Hohe Acht and I can unleash all the horses of the twin as we sweep through the wide bends.

Between Kesselchen and the 13th kilometre post is an S-bend which looks quite frighten-

ing; but it can be taken with the throttle wide open. Down to second again, with the engine screaming, for the left-hander leading to the Karussel and the most spectacular part of the Ring.

The Karussel (call it the Carousel, for it can be likened to a fairground roundabout) is a very narrow, 200-degree left turn. On the outside of the bend the track is flat and you would hesitate to tackle it at more than 25. But on the inside there is a fantastic camber of perhaps 45 degrees. Heart in mouth you fling the machine into the pit in second gear and, lying almost horizontal, whip round like a wall-of-death rider. But woe betide those who fly over the top of the banking!

Just before the end of the turn I grab a fistful of throttle and shoot out of the camber and back to level ground. A steep left-hander leads to Hohe Acht, highest point on the course, and within 5km we have climbed nearly 1000 feet. Now the swervery of Wippermann, famous for bumps, then down through the wide left-hander of Eschbach. On a short straight the BMW really flies high, but immediately afterwards it crashes down on its suspension at the foot of the deep drop into Brunnchen. The breath is crushed out of my lungs and Fuchsrohre, in retrospect, seems but child's play.

But there is no time for comparisons for the road ahead climbs into a right hander then seems to end abruptly. The twin is airborne; and to add to the difficulties I am riding straight out of deep shadow into the afternoon sun.

Through the wide bends of Pflanzgarten there is time to regain composure. Good riders get up to 90 through the bends; I am content with 75. Immediately before Schwalbenschwanz, when banked over to the right, I tear across a very bumpy bridge, and goose-pimples start to rise again for more than once I have been in trouble at this very point.

Now Schwalbenschwanz itself, a less frightening version of the Karussel but still demanding a drop into second. While on the banking I yank the BMW into third and hoist it on to the flat. Another right and I plunge back into the woods. Watching ahead to the right as I glimpse the first sunny patch of greenery through the trees I open up to full bore and we roar out of the woodland and into the long straight. Top gear engaged, I settle down on the tank; if the carburation is right this is where I can reach my maximum speed.

Directly under the bridge at the 22 kilometre mark the roadway edges to the left. To take that turn on full throttle I must bank well over to the left, crossing from the extreme right edge of the road immediately under one of the letters of the inscription on the bridge.

The road drops away again and speed falls to about 80, for there is an easy right-hander then a final ascent to the finishing line. As the timekeepers' box comes into view I snap the throttle shut, change down, sit up, brake and roll to a stop.

It feels odd to feel the ground under my feet again and, though the angry roar of the BMW has subsided into a peaceful burbling, the wild chorus of a thousand wind goblins is still in my ears.

The ride has been one of the most enchanting, most breathtaking experience of my life. In a few minutes I shall repeat it – and I know it will have lost nothing of its fascination.

Should you ever get the chance to ride the Nurburgring, then be patient. Cover perhaps 20 laps at a gentle pace, then do another 20, experimenting with gears and lines. Only after that can you let yourself go.

Come on a weekday if you can, for then you will have the Ring almost to yourself. But come if you can. And don't forget to leave your machine for a while, walk through the woods and climb to the Nurburg castle. And, when you return home you will have some understanding of why, when a German motorcyclist talks of the Ring; there is a touch of pride in his, or her, voice.

MISCELLANEOUS – FROM THE VINTAGE & CLASSIC SECRETARY

I've mentioned in my Journal report about my R67 restoration and the problem of getting the right hand cylinder running smoothly and my decision to buy an ultra-sonic cleaner. Well, the cleaner duly arrived and it was time to try and deep clean the carb body. Although the fuel ways had been blown through with a high pressure air-line it is not possible to be totally sure they are clear. The ultra-sonic cleaner works on the principle of high frequency vibration and the item to be cleaned has to be immersed in water. The small bath on my machine will not cover the whole carburettor – a machine large enough is very pricey - so it was a case of doing it in two sessions. The result just looking at the debris in the bottom of the bath and the colour of the water convinced me that it was a good move buying the cleaner. I would not think it worth purchasing a cleaner if you only want it for your carburettors but I have additional use for cleaning antique clock parts.

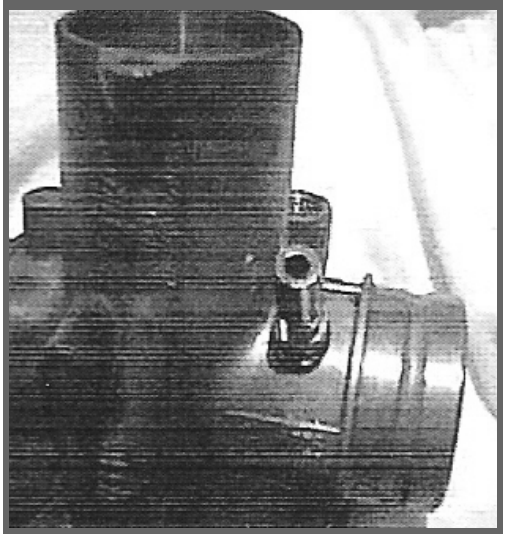


The result is that now the right hand side runs as smoothly as the left! I suppose on reflection, forty five years without use, the petrol would have evaporated leaving a deposit that hardened over the years. Imagine what the carbs would be like if left for that length of time with the modern day petrol.

While on the subject of carburettors, I have a bit of a dilemma concerning whether to modify my existing ones or not. I have thought about installing vacuum gauge take-off points to make setting-up easier but, firstly, Bing carb bodies are no longer available, and secondly, my bodies are rare in that they have a smaller slide diameter than the post 1951 models. Slides are not available let alone bodies. Should I mess with originals that are rare?

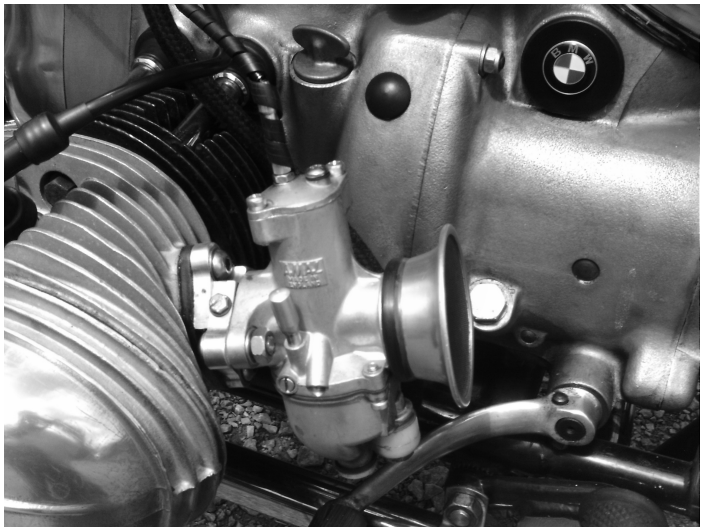
Apparently the tooling for the Bing carburettor bodies had worn to such an extent that they had no choice but to stop manufacture. Re-tooling would have been too expensive. Not, I suppose, if they went to China for tooling and manufacture, as long as they put in some form of quality control the product should be acceptable, unlike the throttle assemblies and rear light units being sold out of Germany and Switzerland at the moment.

A vacuum gauge take-off fitted to a Russian Jikov Carburettor



An option when carburettor bodies become very worn is to have them sleeved and new slides manufactured. This gives the opportunity to use materials that will not wear as fast as the originals. This service will eventually be available to Club members from Barry Wilson who advertises in the newsletter but, until he gets half a dozen orders it is not worth tooling-up for it. So, if your carbs are worn out, and many are I suspect, please get in touch with Barry and discuss the situation.

Continuing with the carburettor theme, the photo on page 19 shows Amal carbs fitted to an R69S. This machine was at the Register Rally in S. Wales this year and the owner assured me that it gave more performance and easier adjustment than the original Bings. I don't know but I



think I prefer the looks of the original set-up and would put up with the other aspects.

Moving on now to the other 'bug-bear', electrics. This year I've had more calls about electrical problems than any other subject, and invariably, it is the coil playing up. Some members swear by, rather than swear at, the original system of magneto/dynamo but old coils are going to play up eventually. When hot they go 'squishy' when squeezed. First indications that the coil is on the way out is the inevitable 'it won't start when its hot' syndrome. Replacing the coil with a new one should be the end of the problems but more cases are coming to light of new items failing or not even working from new.

Two sources are used by the German dealers for their new coils; Emerald Isle and a manufacturer in Germany. Both makes of coil have given trouble. At approx. £80 per coil they are not exactly cheap to replace. One member has recently tried four coils on his R69 and none worked for long! Mark Huggett in Switzerland has a wait of several months now before his next batch are due in, but…. will they function okay?



A number of us have fitted the BTH electronic ignition/alternator system to our machines and this maybe the way to go if your electrics are generally in a poor state. The system reliability is well proven now and was tested in prototype form over thousands of miles by the late Ray Hall. Ray reported less vibration, improved performance and better fuel consumption. Register Member, Phil Rudge, fitted his unit, carefully following the instructions, and a check with the strobe showed the timing to be spot on. Starting has been exemplary and Phil has not needed to remove the front timing cover in two years since fitting the unit.

My own unit is shown fitted to the R67 engine and I too have found starting easy. Of course the other advantage is the unit is 12v so no headlamp beam draping itself across the front mudguard! The system is not cheap but I think if compared with reconditioning the original units it would come out well ahead on price.

Why am I advocating the BTH system when it is no longer available I hear you ask. Well, Tony at BTH will manufacture another batch but does need an order of 15 units to make it commercially viable. Like the carburettor sleeving situation with Barry Wilson, contact Tony at BTH if you are interested.

Now onto oils. For many years I've used Silkolene 40, the one containing a detergent, but it has become harder to find since the manufacturer stipulated a minimum order from the retailers. In consequence, and in addition to the cost of a barrel of oil, prices have risen considerably. My nearest supplier charged £22 the last time, for 5 litres, but now is asking £29! Time to change I think so I've been trawling the net (no pun intended) for an alternative detergent oil.

I've found that Millers Classic Oils sell one that is to the same specification as Silkolene. Called Pistoneeze P40 it fits the bill and is only £16.50 for 5 litres. Carriage is £7.00 on all orders up to five cans. So to get a stock of 25 litres in makes it £17.90 per 5 litres delivered to my door. All the Miller products are endorsed by the FBHVC so they have been checked out. Now, just a

warning to those who might wish to start using this oil, and any oil that contains a detergent. **Don't** unless your machine has been running on a detergent oil or the engine has been newly rebuilt. Use it when other oils have been used and all the rubbish collected within the engine will be loosened and could block the oil ways in time. If in doubt, don't.
Millers Oils can be obtained from Jeff Smith Classic Lubricants Ltd in York. Tel. 01430 828453
Web site www.jsoils.co.uk email jsoils@btinternet.com

BLACK MUSEUM ITEMS FROM BOB PORECHA





1. Comments from customer 'My electrics don't seem to be working'.

2. The owner of this machine had lost his balls!

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