



# The Oz Vincent Review

*Edition #47, February 2018*

The Oz Vincent Review is a totally independent, non-profit, e-Zine about the classic British motorcycling scene with a focus all things Vincent. OVR, distributed free of charge to its readers, may be contacted by email at [OVR@optusnet.com.au](mailto:OVR@optusnet.com.au)



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# Welcome

Welcome to the latest edition of The Oz Vincent Review. You will be notified of future issues by email but the big difference is that from now on, past issues of OVR will be added to the on-line OVR archive just 3 months after they are email distributed.

Of course the really big news of the moment is that the market value of Vincents continues its meteoric rise; At the 2018 USA Bonhams Auctions the top price for a Vincent was a breath taking US\$920,000 for the ex Jack Ehret Black Lightning; at the other end of the scale a tatty, non-matching numbers Comet went for a mere US\$22,500. In between was a 55 Black Prince for US\$100,000, a 1950 original Red Rapide at US\$88,000, a 53' Shadow for US\$85,000 and a very tidy 50' Comet at US\$33,000. Best make sure your 'toys' are correctly insured and workshops are well secured!

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*Martyn*

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## Letters To The Editor

Martyn,

Back home from the VOC Hever Rally (August 2017); I rode the Club's Series A there. Only 40 miles each way so I left early in the morning and used the M25 for most of the journey. The bike ran well and at 55-60mph was fine on the motorway.

Everyone was dead chuffed that the bike had won the prize for 'bike I'd most like to take home' at Wednesday's VMCC Girder Fork Run.

The photo (see the front cover) depicts the Club's 'A' and another one that is owned by the bloke that helped me fix a clutch cable before the start of the VMCC run on Wednesday. I bought him a drink to say thanks. I stayed until 1600hrs having won 'quite a few' raffle prizes.

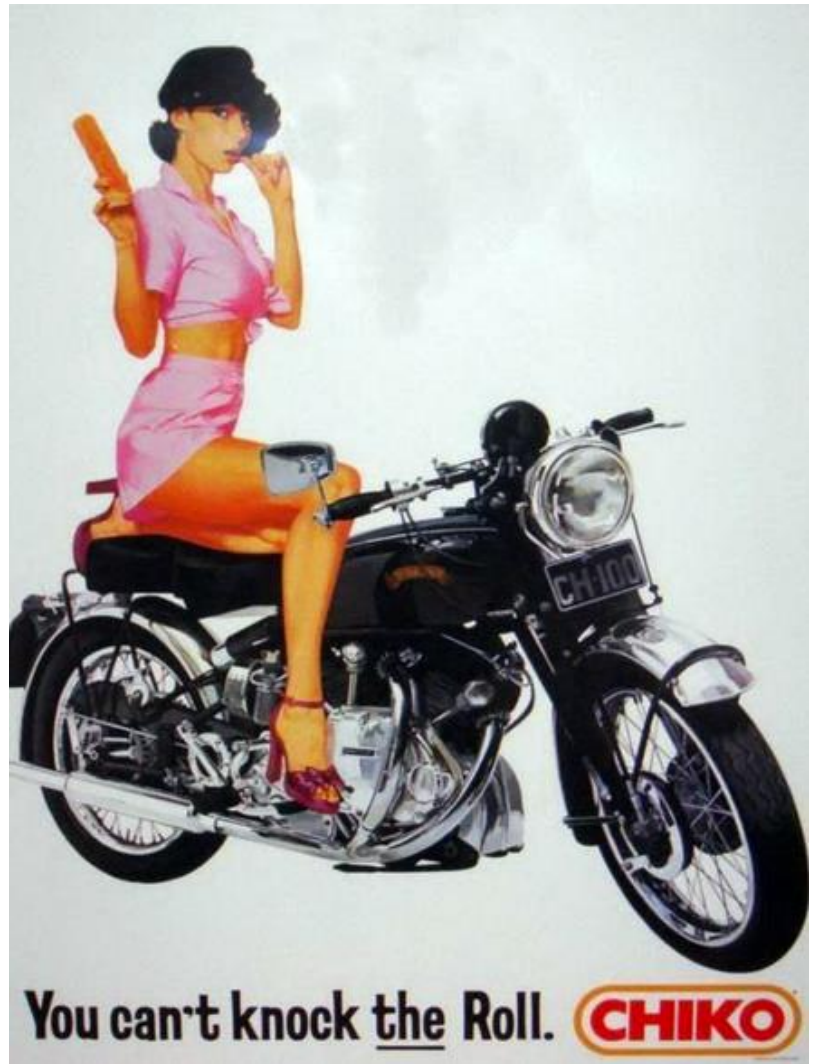
*Regards, Tony Page, UK*

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# Chiko Roll Vincent, Dollar for Dollar?

In 1970 I was just a lad of eighteen summers, three years into a five year apprenticeship and watching my boss David Cottrell speedway outfit sidecar champion ride a Vincent to victory time after time it had me hankering to buy one for a road bike.

As I had never ever seen a Vincent in anything but speedway guise I thought it would be a brilliant idea to make a road bike out of one, how disillusioned could one be, well a few months after this, one day pumping fuel from a bowser a chap pulled up on a Comet (thinking back it might have been Maurice Austin) and I commented that my boss rode similar bikes as this on the speedway and I had a brilliant idea of putting one on the road, I was also expressing that such an engine may fit into one of these Comet frames! To say this chap thought I was some kind of a raving fool was probably an understatement, he then casually remarked they were all road bikes originally and all those speedway bikes were modified standard road bikes, hmm this sent me off in pre-internet days of finding a picture of an original version and eventually it was in a Cycle World magazine of a naked Series D which put me right off as it was ugly.



One day Phil Irving (PEI) came to Cottrell's Garage and I asked him about it and Phil filled me in about earlier versions that looked similar to that Comet I had seen, still seeing a picture and buying the machine were a long way off as a \$27.85 third year apprentice mechanic wasn't really well paid even with tons of overtime.

My Dunstall Triumph had to do for a few more years, then came 1948 Speed Twin Triumph and eventually a stint at Vic Wreckers in 1973 where my new boss Brian Cripps told me of a Vincent in Geelong owned by a bloke called Bill Branagah who may be willing to sell it, man that got me "fired up" and it took some time to contact Bill and yes he told me it was on the market, I could come and see it and put in an offer, great, I was down in Geelong the next evening and he had a 1951 Series C Rapide unrestored with a Shadow speedo and a spare set of wheels with Shadow drums, the bike hadn't gone for over 10 years and had a hessian bag soused with oil under it and a tartan seat cover (more on that later) and he was uncertain if it would even run!

Well I was overcome with a fervour to own this bike still registered with its original Vic rego BE-666 in 1951 the rego number was the Mark of the Beast which all Vincent's are known I offered \$1,500 and he said he would think about it and to ring back in a week, to say I was disappointed is an understatement and this saga went on for six months, one time I was told to bring the money which eventually crept up to \$2,000 and upon arriving he was still thinking about it, I vowed to myself that if I ever bought it I would never sell it, that day eventually arrived

and Bill rang me and said pick it up, I was surprised when it was on my trusty Valiant ute and I paid him, "good riddance " but now it was mine.

My father George was a practical man and as he was a child of the Depression Era was cautious with money, and thought I was a bit stupid to buy an old motorcycle not even running for such a high price, he thought that a new motorcycle would be better value; at the time a new 750 Triumph could be had for \$1,850 ride-away, looking back he was right to think that way, when the Vincent was brought home and parked in his workshop my mother the next morning said to me "Your father is very disappointed in your purchase of an old wreck of a machine not going and leaking oil, he thinks you are stupid" well so be it I thought for parental support.

Meanwhile I ordered the Richardson book on Vincent's and a Riders Handbook, with a parts list from Conway Motors in Shepherds Bush London and every night sat on the workshop bench pinching myself to make sure the sad old beast wasn't a dream. About 3 weeks later a large Jiffy bag was on my bed and I then could see what was inside my machine and start dismantling it for a full restoration I also joined the VOC (Vincent Owners Club) and started dismantling and would take over a year and £1,500 in parts which I never totalled up till after ten years as only after that period of time it seemed cheap!

I remember joining the local Vincent owners section in 1974 and a guy asked me if I had a Vincent, I replied yes and he asked how much I paid \$2,000 I chirped happily to which he said "Man you got ripped" anyway old Vic Bognor the stove enamer painted the machine and Carrol's Platers did the chroming I did some of the engine work and John Hartnett did the flywheels, various bits were polished and eventually it was ready for the road much to my mothers relief as the sub assemblies after I finished them were in my bedroom and it was a great day when it was started to be assembled for her.

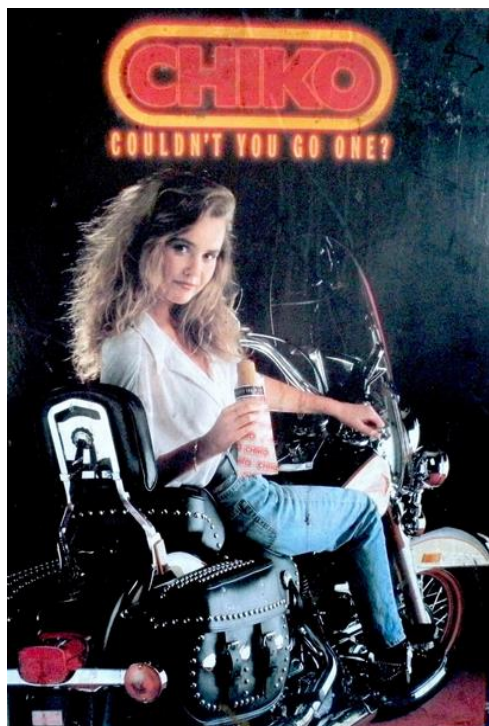


At this time 1974 I started working at the state (Victoria, Australia) Triumph importers Frank Mussett and Co and I rode the Vincent to Mildura to a Classic Club of SA event that following year and it won 1st prize much to my new friend John Powell from Adelaide's to his dismay as he had a equally nice twin that could have taken the honours but I think the fact mine was ridden there did the tipping of odds to my favour a thing that eventually happened some four years in a row.

Meanwhile at Mussett's one day a chap rang up to enquire about a rigid frame Triumph circa 1951 like Marlon Brando rode in the infamous film "The Wild One" as he wanted to do a photo shoot of a model superimposed on it holding a Chiko Roll for Frozen Food Industries. I told him that we never had a Triumph of the era in stock only late versions but would a Vincent do as a alternative? His reply was it wasn't about headache powders (Vincent headache powders were famous at the time) but about Chiko Rolls! I then went onto extolling the virtues of the mighty Vincent and how the campaign would be so much better with it and yes I could arrange to bring it on Saturday to his studio in North Melbourne, my mate Colin Will was into Guzzi's and his then girlfriend, eventually his wife Sandra Mathieson came with me the photographer told us a drawing would be done from the pictures and the model in Sydney would be superimposed on the bike by Alan Puckett so is there anything I didn't want on the picture?

Well the number plate BE-666 and the rear stand as the bike looked odd these were taken off on the final drawing and you can see the stand in the down position but rubbed out and the number plate was CH-100, Sandra was placed on the bike for the shots to get it into prospective, which never happened as the final poster that girl has very, very long legs! So what did your author get for this? "zilch" not even a Chiko Roll! Upon ringing Frozen Foods and complaining they sent me a couple of posters! They did have a Elizabeth Street Centenary in 2000 and a line up of Harley-Fergusons (err Davidsons) which they used in later advertising trying to recapture

the Vincent poster fame and I refused to put my bike in the line-up; Revenge, taken cold, is sweet.



Fame followed this machine and the ABC TV network ran a Sunday Magazine show for 15 minutes on the demise of the British Motorcycle Industry at the time with Triumph off strike and BSA bankrupt, Norton the same, my Vincent featured heavily with me and Phil Irving, eventually 2 days of interviews and riding my Vincent with a cameraman then a soundman polished it off; it was fairly well known.

I was riding it about 12,000 mile a year and loving it more and more, it eventually got me introduced to my wife Carolyn and our first date was a picnic to Point Schank, Carolyn had never ridden on a motorcycle any distance till she met me and I remember that summers day well as it was very hot, she had brought frozen pineapple juice and unbeknown to me it melted all over my muffler! As I was riding a wofting of pineapple aroma was noticeable but eventually on stopping I could see why! It took over two days to get the black cooked on stain off and a lot of swearing and cursing - to say Carolyn made a impression on me is an understatement. On the same day bringing her back home I was booked by an overzealous policeman for not giving way to a car at least 1/2 mile away at a "T" intersection.

Over the years numerous articles in Australian Motorcycle News, Motorcycle Trader magazine and MPH 378 the Vincent Owners magazine, a mate Trevor Thomas from Sydney wrote about the Chiko Roll Vincent in that magazine in July 1980. It has also featured various roadtests one four years ago was a Suzuki Hyabusa vs Vincent Rapide considering both have held the "Worlds Fastest" title the difference was remarkable. The Vincent still in its era and up till the Laverda Jota in 1976 was to hold that title longer than any bike manufactured since!

Earlier on I had contacted the VOC and John Marshall, the machine register of the era, about the build sheets on my Rapide and he wrote to me that this machine had been extensively roadtested by a Mr Thomas some 650 miles with breather issue testing EN32 half time and breather pinions, imagine buying a new bike these days ridden that mileage from new! It had been ordered by Sven Kallin the importers in Adelaide 11/09/1951 and despatched 07/11/1951 and it went to Pratts Motorcycles (agent) in Geelong to be sold, Frank Pratt rode HRD No 4 to many victories in Australia in the early years of Vincent's in Australia and also BMW's, other details on my machine were R&M bearings, + 4 half time pinion, "U" barrels and pistons .005" clearance, magneto timing 2 deg ATC.

This Vincent stayed with me along time since 1973 in fact and at various time I have owned others but now I think I have had it longer than most of my other possessions. 16 years ago a chap rang me to ask if I still owned it and cautiously I asked him why, he then to me his father in law had bought it and rode it up to the time Bill Branagh purchased it and could he see it now as the old chap, Ron W Mackenzie from Raymond Island was now around 85. Wow this was the guy that put the tartan seat cover on and was "miffed" to see it missing, also pannier racks, it had had 13,000 mile on it when he purchased it, he told me he worked for SECV ( electricity commission) and rode it weekly from Geelong to Redcliffs power station where he was on maintenance. He had to buy the Vincent to do the long mileage, it was less tiring than a MG TC sports car he also had at the time and as the highway was unpaved he took a shotgun to shoot rabbits on the way to eat and pictures were produced with evidence, also one of a parrot stacked to the front tommy bar axle that he had hit at speed!

This bloke wanted a couple of photos of him on the bike for the memories so that was something else I knew about it and the rare Amal air filters that he ordered for the desert roads he had told me that took three months to arrive were still on so although the seat cover was gone he seemed

happy they were still fitted photos of him broken down on the then car-less dusty highway with a flat tyre seemed daunting but obviously still got him to his destination, a great bloke to meet and another bit of history cleared up.

So this humble old Rapide has changed over the years like its owner, we have both matured, it used to have lots of chrome, a Shadow speedo, a Cibi headlight glass, 6V Miller electrics, 19" and 18" wheels, stainless mudguards, a Series D breather system ( about the only thing I liked off those models) leather saddlebags, type 6 Amal carbs and a Lucas magneto, now it has a 12V system, "Chinamo" generator, Pazon regulator, electric start, BT-H magneto, Li-ion battery, type 29 Shadow carbs, a Hallmark bike pack, a standard Miller headlight, no chrome on non standard bits, Ikon shockers, balance beam "boomerang" ,plain brake drums, 20"and 19" rims, a McLennon sidestand, a standard 3" 180 KPH speedo and a 3" matching clock, an elephant trunk breather, alloy guards, 520 "o" ring chain conversion. At various times its had a Dusting sidecar, and even a Steib 501 fitted



although it's currently solo now. I have had Phil Irving ride my Rapide with me in the sidecar testing my clutch and have the pictures to prove it, at the time Phil hadn't ridden a motorcycle for some years so it was an achievement.

You know I think it's still just as nice as when I started restoring it some 47 years ago as a 21 year old and as the original Frozen Food Industries advert said " Dollar for Dollar the 1955 Chiko Roll still reigns Supreme" the later advert with "You can't knock the Roll" just doesn't quite sound right.

*Phil Pilgrim, Australia 2016*



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## Mines Longer Than Yours – but does size really count?

There are formulas on the internet for calculating exhaust lengths; most folk use maths devised by A Graham Bell. Having grown up with maths by Phil Irving, I thought this must have been from Tuning for Speed but I now can't find it.

I was shown an interesting way to check the tune of a pipe length with no more than a cigarette paper.



We were playing with the straight through exhaust on a single on the beach at Kirk Michael (IOM). I seem to remember it was Dave Taylor (stunt rider etc.) who showed us how to slide one piece of straight pipe over/along another slightly smaller bore pipe (e.g. the down pipe) to find the position at which the gas 'wave' exits with least turbulence.

This length starts as a function of the distance from end of carburettor bell mouth to back of the inlet valve. From memory if this was e.g. 7", you would

start looking for this low turbulence point at 49" (7 x 7"), I can't remember why. This sweet spot is altered a bit by revs, but if the length is wrong, at your chosen revs the paper is torn to bits, at the point where the length is correct the paper just waves about in the exhaust gas. At this point the motor seemed too smooth out, calming vibration and improving the exhaust note.

I don't know if this exhaust pipe length also produce the most power but the bike felt good.

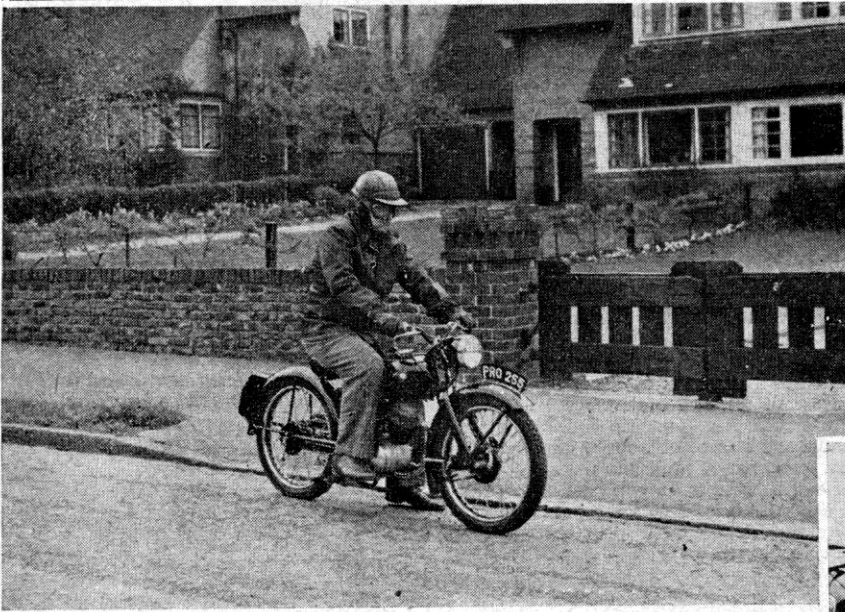
I recall it's a good idea to tune the pipe length to match the revs where the engine is going to spend most of its time. On some singles the downpipe protrudes well into the silencer so it's quite easy to fine tune this length. I've never tried but it's hard to imagine this cigarette paper 'technology' working on a twin.

*An original OVR contribution from Ian Douglas, Northumberland UK*

## Event Calendar

<b>2018</b>	
March 16 - 18	Australian Vincent & Velo Rally @ Oberon, NSW. Email <a href="mailto:j.wenden@bigpond.com">j.wenden@bigpond.com</a> for details
March 23-24	New Zealand National Vincent Annual Rally at Waitomo, North Island, New Zealand. email Suzy Hall at <a href="mailto:thmotorcycles@xtra.co.nz">thmotorcycles@xtra.co.nz</a> for details
March 29 – April 1	Broadford Bike Bonanza with a focus on all things Vincent. @ The State Motorcycle Sports Complex, Broadford, Victoria. More info elsewhere in this edition and also at <a href="http://www.ma.org.au">www.ma.org.au</a>
April 20 - 22	All British Rally @ Newstead, Victoria , Australia. Info at <a href="https://www.trybooking.com/book/event?eid=333096">https://www.trybooking.com/book/event?eid=333096</a>
April 22	Maffra Motor Museum Swap Meet. Additional info at <a href="http://www.gippslandvehiclecollection.org.au">www.gippslandvehiclecollection.org.au</a>
May 1-5	2018 North American VOC Rally in Kerrville, Texas. The scenery and weather will be great and the riding is really world class. Just too good to miss! More info at <a href="http://lsvoc.vincent-hrd.co.uk">http://lsvoc.vincent-hrd.co.uk</a>
May 26-27	42 <sup>nd</sup> Historic Winton; meeting for heritage cars and motorbikes. More info from <a href="http://www.historicwinton.org">www.historicwinton.org</a>
August 27-31	Australian National VOC Rally, to be held at the Maroochy River Resort in Queensland. Contact <a href="mailto:kevinfowler2@bigpond.com">kevinfowler2@bigpond.com</a> for more info
<b>2019</b>	
June 3 - 19	VOC International Rally; Belgium and Austria. More info to follow also see MPH
<b>2020</b>	
tba	International Jampot Rally in Nelson, New Zealand for AJS & Matchless bikes. Contact <a href="mailto:nipper@nipper.net.au">nipper@nipper.net.au</a>

## ROAD TESTS OF CURRENT MODELS



Clean and economical, the 98 c.c. N.S.U.-Vincent "Fox" proved excellent as an everyday runabout.

## TESTER'S ROAD REPORT

## Maximum Speeds in:—

	Time from Standing Start
Top Gear (Ratio 8.17 to 1) 50 m.p.h. = 5800 r.p.m.	47.3 secs.
Third Gear (Ratio 11.49 to 1) 37 m.p.h. = 5950 r.p.m.	23 secs.
Second Gear (Ratio 16.45 to 1) 28 m.p.h. = 6400 r.p.m.	8.4 secs.

## Speeds over measured Quarter Mile:—

Flying Start 47.5 m.p.h.	Standing Start 32.4 m.p.h.
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## Braking Figures On DRY TARMACADAM Surface, from 30 m.p.h.:—

Both Brakes 31 ft.	Front Brake 46 ft.	Rear Brake 58 ft.
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## Fuel Consumption:—

30 m.p.h. 135 m.p.g.	40 m.p.h. 106 m.p.g.	50 m.p.h. — m.p.g.
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ONE of the most interesting developments in the motorcycling sphere during 1953 was the announcement that an arrangement had been concluded between Vincent Engineers (Stevenage), Ltd., and the N.S.U. concern, of Neckarsulm, Germany, for the modification and sale in this country of the German manufacturer's range of motorcycles.

The smallest of these (autocycles apart) is the 98 c.c. "Fox"—an overhead-valve machine which has no British equivalent. Thus, when the question of a road test was broached, it was this machine which was chosen, as the sole representative of a type which—a favourite with Continental riders—has yet to win popularity on this side of the Channel.

The engine, with its four-speed gearbox in unit, is mounted in a pressed-steel beam-type frame, which is equipped with swinging-fork rear suspension utilizing a fork welded up from steel pressings. Fork movement is controlled by a single coil spring

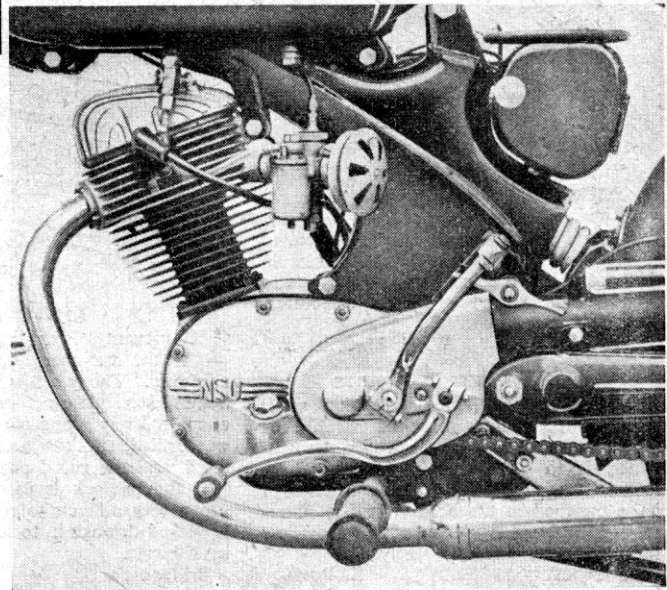
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## The 98 c.c. o.h.v. "Fox" Model N.S.U.— VINCENT

An o.h.v. Anglo-German Light-weight Offering Performance and Economy



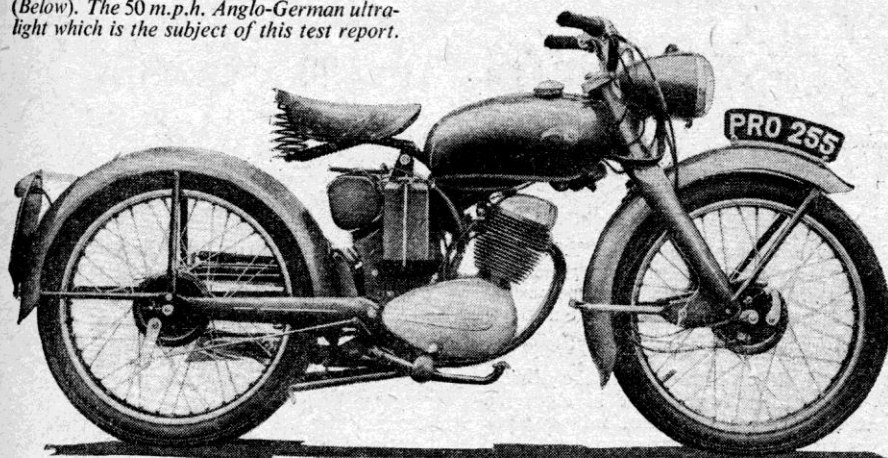
Of unusual design is the swinging-fork front suspension (right) which utilizes pressed-steel fork legs.



(Right). In this near-side view of the overhead-valve engine the modern lines are seen to advantage. The method of mounting the engine into the pressed-steel frame is by bolts at the rear of the gearbox and behind the cylinder head.



(Below). The 50 m.p.h. Anglo-German ultra-light which is the subject of this test report.



mounted in the main frame and acting in compression, with a rubber shock-absorbing cushion. The front suspension is also of swinging-fork type. The main fork member is of pressed steel and comprises the fork legs, crossbridge, and a "shroud" enclosing the steering head and providing a collar-type mounting for the Miller head lamp.

The wheel is carried on a chromium-plated U-fork, horizontally mounted, which is pivoted roughly 3 in. from the wheel spindle. Movement is controlled by two short coil springs. Both front and rear suspensions are provided with friction dampers.

Though the frame, forks, engine (apart from the Miller generator and Amal carburetter) and gearbox are of German manufacture, the remainder of the machine is British.

Starting the N.S.U.-Vincent was, throughout the test, almost invariably a first-kick procedure. Gear selection from neutral proved to be positive, but the clutch take-up was rather fierce. As is usual with Continental machines, first gear was rather low, and the change into second was made almost immediately. None of the upward changes demanded any special care, save that top gear did not always engage perfectly unless the pedal was given a decided "pull" to lock the dogs. Downward changes, too, were clean, though it was necessary to watch the road speed closely to avoid too-audible over-running.

The power output of the "Fox" engine was deceptive. At first, the tester was misled into believing it to lack power. However, the first run down his "yardstick" of 56 miles from the Thames to the Channel dispelled the illusion, for the little four-

stroke was able, without difficulty, to clip five minutes off the previous best time for a machine of similar capacity. Subsequent runs over the same road resulted in overall times in the region of 105 min. being recorded for the full distance, and 63 min. for the 39 open-road miles. These averages—32 m.p.h. and 37 m.p.h. respectively—were achieved without so much as bending a law, and with the machine cruised at its maximum full-throttle speed of 50 m.p.h. for long periods. Lower cruising speeds could, of course, be selected if desired.

#### 100 m.p.g.

Despite the use of full speed, the engine evinced no sign of distress. After nearly 1,000 miles on test, the dipstick in the oil sump still registered well above the danger mark, and no trace of leakage was apparent anywhere on the unit. On these trips, one gallon of petrol sufficed for just over 100 miles of main-road motoring.

The hill-climbing abilities of the N.S.U.-Vincent were considerable, the machine pulling well down to 20 m.p.h. or less in top gear. Obviously, however, better results could be obtained by using the gearbox, and in practice third gear was used once the speed fell below an indicated 30 m.p.h.

While the steering and general handling of the machine earned full marks, even on indifferent road surfaces, both the front and rear springing systems gave an impression of inflexibility. It is a drawback of friction damping, of course, that it can be adjusted to cope with only one particular set of road conditions at any one time, and where the suspensions were allowed full play to deal with pot-holes (even so, jarring occurred at comparatively low speeds) the settings were

obviously not right for rippled surfaces taken in the "40s." With a compromise setting, bottoming was encountered at the front on more than one occasion. It would seem that, in this department, Neckarsulm may well learn something from Stevenage as the partnership progresses!

Until the engine had really settled down, vibration was in evidence once the speed rose above 40 m.p.h., though below that barely a tremor made itself felt. As the recorded mileage rose, however, all such symptoms disappeared, and the model became progressively free from discernible traces of an engine at work. Mechanical noise was limited to a whisper from the tappets. When first received, a German silencer which permitted a somewhat crisp exhaust note, was fitted. Replacement of this component by a British "Carbjector" component (the standard fitment) considerably reduced the phona. Unfortunately, the improved silencing affected the performance, cutting the maximum cruising speed to 45 m.p.h.—a drop which, however, made only a few minutes difference to the overall times mentioned earlier.

The riding position proved to be reasonably comfortable for a rider of medium height, though some saddle-soreness was at first felt after 50 miles or so had been covered.

Mudguarding is above average in standard, and short runs on wet roads could be safely undertaken in ordinary walking-out dress without the fear that "throw-back" from the front wheel would bespatter shoes and trouser legs. Additionally, the complete cleanliness of the neat engine/gearbox unit made the use of ordinary clothes quite practicable for local journeys.

Initially, some trouble was experienced with both the front and rear brakes which, though powerful, gave audible evidence of application. The fitting of new linings—a task carried out at the "works"—effected only a cure, but did not preclude good braking figures.

A good tool kit is provided with the "Fox," but—except to retighten the odd nut and to free a jammed float tickler—it was never seriously needed.

On all parts, British and German alike, the finish of the "Fox" is first-class. Light alloy components are left in dull metallic silver and chromium plating is kept to a sensible minimum. Black enamel, with gold lining on the tank and red lining on the wheels—as in normal Vincent practice—provides a "classic" colour scheme, and enhances the attraction of a machine which can best be described as belonging to the "luxury" class of lightweights.

#### BRIEF SPECIFICATION

**Engine:** N.S.U. single-cylinder four-stroke; overhead valves, push-rod operated; light alloy head; cast-iron cylinder barrel; 50 mm. bore x 50 mm. stroke=98 c.c.; c.r., 7.2 to 1; valve clearances adjusted by means of eccentric rocker bushes; oil contained in sump below engine.

**Gearbox:** N.S.U. positive-stop gearbox, in unit with engine; primary transmission by helical gears to multi-plate clutch; gear selection by pedal on left-hand side; ratios 8.17, 11.49, 16.54 and 25.74 to 1.

**Frame and Forks:** N.S.U. pressed-steel beam-type frame, with swinging-fork rear springing controlled by single, central coil spring in compression; friction

dampers; rubber shock-absorbing cushion. Front forks N.S.U. pressed-steel swinging-fork pattern, with twin coil springs and friction dampers.

**Lighting:** From Varley 6-v. battery charged through rectifier by Miller A.C. generator driven from crankshaft; Miller head lamp; Lucas "Diacon" tail lamp; Lucas electric horn.

**Wheels:** Fitted with 2.50-in. x 19-in. Avon tyres at front and rear; chromium-plated rims, with black centres, red lined.

**Brakes:** Internal-expanding brakes, 5½-in. diameter, at front and rear.

**Tank:** Petrol tank pressed-steel, of 2¼-gal.

capacity; oil carried in engine sump, 1½ pt.

**Dimensions:** Overall length, 72 in.; wheelbase, 48 in.; width, 26½ in.; saddle height, 30 in.; ground clearance, 6 in.; weight, 185 lb.

**Finish:** Black enamel, with gold lining; chromium plating on wheel rims, head lamp and speedometer bezel; handlebar levers, exhaust system, etc.

**Equipment:** Smiths 70 m.p.h. speedometer mounted in headlamp; tool kit; tyre inflator; Lycett saddle.

**Price:** £104 plus £20 16s. P.T.=£124 16s.  
**Concessionaires:** N.S.U. Distributors (Great Britain), Ltd., Stevenage, Herts.



## A Load of Bull

It was my lot during many years doing duty as Flagman at the 11th Milestone on the Isle of Man Mountain Course, to spend a fortnight at TT and MGP standing on a pile of pallets just inside a field that usually held about 40 cattle. Having to rebuild the knocked-over pallets for every practice session

and also having to discourage over-inquisitive beasts from coming too close had been a regular part of the job. Then, back in 2004, ace course-builder, the late Ian Baxter Ross, fixed the pallets together and put a barbed wire fence around them – thanks Ian.

In front of me as I marshalled was a barbed wire fence and then the roadside bank of the Course. In the case of a need to display flags, I had to step gingerly from my elevated position on the pallets, over the fence and on to the bank. My predecessor (a former racer) used to sit in a hollow he had made in the bank, with his legs and feet resting on the tarmac of the road. That was a bit too exposed for me at this 140mph 'sweeper'.

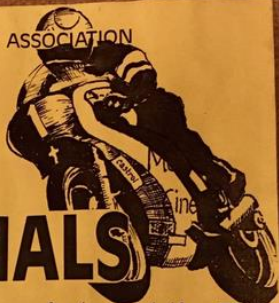
*What a Flag Marshal carried at his position on the course, some 15 years ago. What was a specialised position of white-coated Flag Marshal has now been subsumed into the orange-bibbed brigade.*



*Six of the flags used during today's races on the TT Course.*

In such seemingly secure surroundings I wasn't too concerned when I spotted a bull ambling over during the first night's practice for the 2004 Manx Grand Prix. However, when he arrived at the pallets, put his head under the surrounding wire and began to scratch the back of his neck on it, I got a bit concerned at the way the fence was flexing – he was a very big bull, in all areas. When he then put his head over the fence and used the top of a post to scratch his chin, I shuffled to the far edge of the pallet, managing to keep about three feet between me and his disconcertingly staring eyes. Thankfully, after about 10 minutes of scratching and fence testing he departed and left me to the relative peace of motorcycle racing.

I.O.M. TT. MARSHALS ASSOCIATION



# WE NEED MARSHALS

It takes a lot of people to put the T.T. and M.G.P. on the road.

Right **NOW** we urgently need Marshals. Training will be given.

If you think you could do the job write to or phone Rodney Evans, P.O. Box 87, Douglas, Isle of Man. Telephone 26222 (ext. 252)

At Wednesday evening's practice the bull was lying in the middle of the field for the first hour. Eventually he got up and began to walk towards the edge of the course, making a loud roaring noise in his throat. I then saw and heard another bull in the field on the opposite side of the course doing the same thing. They arrived at their fences together. Then 'my' bull, standing less than 5 yards from me, began butting the fence and pawing the ground, ripping up divots as he did so. It was beginning to look a bit serious. Both bulls then put their heads over the fences and bellowed across the course at each other for several

minutes on end. It was an unreal sensation. I was trying to concentrate on a stream of racing motorcycles passing between the bulls at high-speed – that they totally ignored – and I was also wondering what I was going to do if they broke through the fences. A waved yellow would hardly have been adequate to control riders or bulls in that situation, but I had serious doubts about the wisdom of producing the red flag within sight of those two beefy fellows!



*In this slightly fore-shortened photo the Flag Marshal now has the luxury of a purpose-built scaffold platform to watch TT stars Ian Hutchinson, Guy Martin, Ryan Farquhar and Ian Lougher crank through the sweeping 140 mph bends at the 11th Milestone.*

David Wright, IOM, January 2018

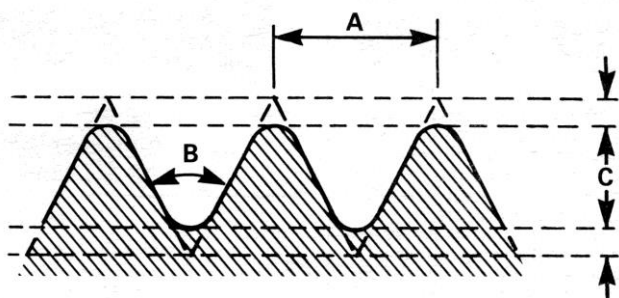
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## Unravelling Threads.

*An OVR item from K. Hallworth, UK*

'SMALL Heath goes Unified', shouted the headline in Motor Cycle, when announcing the BSA range for 1969. Could it mean that factory disputes were a thing of the past, that workers and management were striving together to give the motorcyclist a better deal? Hardly—the headline in fact referred to the wholesale switch-over by this famous maker from BSW, BSF and BSCy (CEI) thread forms for its bolts, studs and screwed components, to the American-based Unified

system UNF and UNC. This might help explain to present day readers about to tackle a strip-down of one of the latter day BSA products, why their toolbox full of BSW and BSF spanners won't fit the hexagon heads of any of the fastenings. Not only were the thread sizes changed, but the standards for bolt head and nut dimensions were different too.



*Basic thread form: A is the pitch, B the included angle, C the thread depth. These dimensions vary to give different standard forms*

BSA were simply accepting the fact that with the lion's share of their production being sold in the States, customers naturally expected to buy a motorcycle with 'standard' fastenings which were familiar to them. Brits and colonials had to accept it for better or worse, along with high-rise handlebars. In over 100 years of production motorcycles, the diversity of thread forms and fastener sizes used is bewildering, so how has it all come about?

The automotive industry grew out of the mechanical engineering age which, for Britain, meant the Victorians. They realised the need for a standardised system of screw threads to permit interchangeability of components. The British Standards Association at the time recognised the information collated by the great engineer Sir Joseph Whitworth and adopted his dimensioning, for thread and hexagon nut forms, as British Standard Whitworth (BSW). Although the pitch of

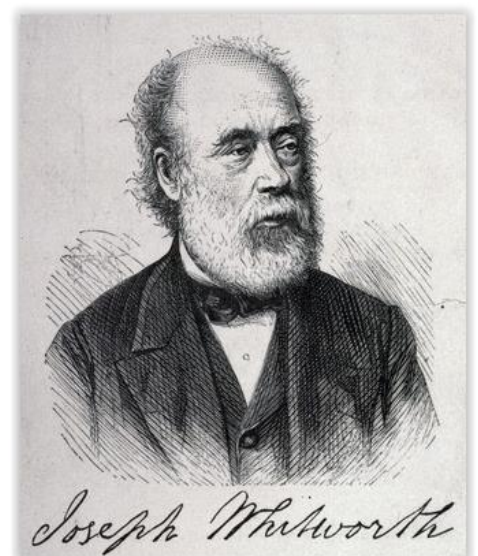
Whitworth's threads was coarse and his hexagon sizes large, this mattered little in industrial engineering where everything was on a grand scale, but, with the coming of the motor car, a finer system needed to be developed.



The tensile strength of steels had increased allowing greater stresses to be imposed, thereby permitting finer threads. So, along came British Standard Fine (BSF), using the same thread form as BSW but having a finer pitch and smaller nut hexagons. In practice, the hexagon of a 5/8 in BSF nut or bolt head is identical to that of a 1/4 in BSW; 3/8 in BSF being identical to 5/16 in BSW and so on, and spanner sizes are generally dual-marked to indicate this. It should be noted that spanner sizes in these systems refer to the diameter of the bolt or nut and not to any dimension across the hexagon heads.

The cycle trade also called for a much finer thread form than the original Whitworth. However, the Cycle Engineers Institute (CEI) selected a different included angle for their thread form, 60 degrees as against 55 degrees for BSW/BSF. Later known as British Standard Cycle (BSCy), the CEI thread was taken up by the motorcycle trade for much of its work, but BSF and BSW threads also found applications on most machines. One crumb of comfort from this mishmash is that BSCy hexagon sizes corresponded to BSW/BSF and so spanner sizes remained constant. Imagine a similar state of affairs in the USA and on the Continent and it isn't difficult to see how each country, each trade and, indeed, each era adopted standards which were only 'standard' within their own limitations.

To try and correct some of this complication, that part of the world which persists with bolt diameters based on the Imperial, or 'inch', dimensions has attempted to standardise around the Unified National Fine (UNF) and Unified National Coarse (UNC) systems; whilst the metric world has its own International Standards Organisation (ISO) again with fine and coarse pitch variations. A distinguishing feature between both the Unified and Metric systems and our own BSW/BSF/BSCy types when choosing the correct spanner, is that the former stamp their spanners with the jaw width necessary to fit the 'across flats' (A/F) dimensions of the hexagon heads of the bolts. For example, a spanner marked 1/2in A/F will fit the head of a nut or bolt of 5/16in diameter on the UNF/UNC system; 11/16in A/F fits 7/16in UNF/UNC, and so on. A metric spanner marked 10mm



will suit the head of a 6mm ISO bolt; a 17mm jaw fits a 10mm ISO bolt or nut.

To help put this into order a chart is provided with this article covering the most popular sizes used in motorcycle frame and engine work. If the subject fascinates you, then any good tool store should be able to supply a manufacturer's facts booklet or sales catalogue that will provide all the detail you need. Although they are becoming hard to find, screw pitch gauges can be invaluable to the restorer.

British bike owners will find that they also have other thread forms to cope with, although not in any quantity. The two most common other than those already mentioned are British Standard Pipe thread (BSP) and British Association (BA).

The BSP thread, like BSF, has the basic Whitworth form (55° included angle) but the thread dimensions are based on the nominal inside diameter of a tube. BSP provides a fine thread for pipe joints where a pressure-tight seal may have to be effected; hence its adoption on motorcycle engines and gearboxes for filler plugs, drain plugs and similar applications.

The BA thread is confined mainly to electrical components, number plate fixings, control level pivot and clamp screws; in fact all the smaller fixings around the bike. BA sizes are designated by a number, giving OBA, 1 BA and 2BA, for example, the 2BA being perhaps most prevalent, approximating to 3/16in in diameter. Higher numbers indicate smaller diameters, so a 6BA screw is considerably smaller than a 2BA one.

Just to show that the British were occasionally favourably disposed to the metric system, our manufacturers fitted millimetre-sized spark plugs: 18mm in the early days, 14mm later on, and even 10mm on the LE Velocette and some other machines. British and European 18mm plug threads have a standard 1.5mm pitch, but the Americans also used Imperial sizes, 1/2in BSP or 7/8in x 18tpi (threads per inch) being common.

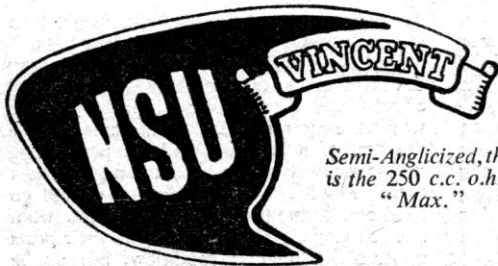
With so many different types of thread in use, it can be difficult to order the correct nuts and bolts, or find the right spanner. But, as with many other aspects of restoration, the more you're involved with it, the easier it becomes.

AMERICAN A/F				METRIC ISO				CYCLE		BSF		BSW		BSP		BA	
spanner jaw (in)	bolt diam (in)	tpi UNF	tpi UNC	spanner jaw (mm)	bolt diam (mm)	pitch (mm)		bolt diam (in)	tpi	bolt diam (in)	tpi	bolt diam (in)	tpi	tube bore (in)	tpi	size no.	pitch (mm)
						Fine	Coarse										
7/16	1/4	28	20	10	6	0.75	1.00	1/4	26	1/4	26	1/4	20	1/8	28	0	1.00
1/2	5/16	24	18	11	7	—	1.00	5/16	26	5/16	22	5/16	18	1/4	19	1	0.90
9/16	3/8	24	16	13	8	1.00	1.25	3/8	26	3/8	20	3/8	16	3/8	19	2	0.81
1 1/16	7/16	20	14	17	10	*1.00 1.25	1.50	7/16	26	7/16	18	7/16	14	1/2	14	3	0.73
3/4	1/2	20	13	19	12	*1.25	1.75	1/2	26	1/2	16	1/2	12			4	0.66
7/8	9/16	18	12	22	14	1.50 *1.25	2.00	9/16	26 or 20	9/16	16	9/16	12				
1 5/16	5/8	18	11	24	16	—	2.00	5/8	26 or 20	5/8	14	5/8	11				
				27	18	*1.50	2.50										
				*spark plug threads				spanner sizes relate to bolt diameter									

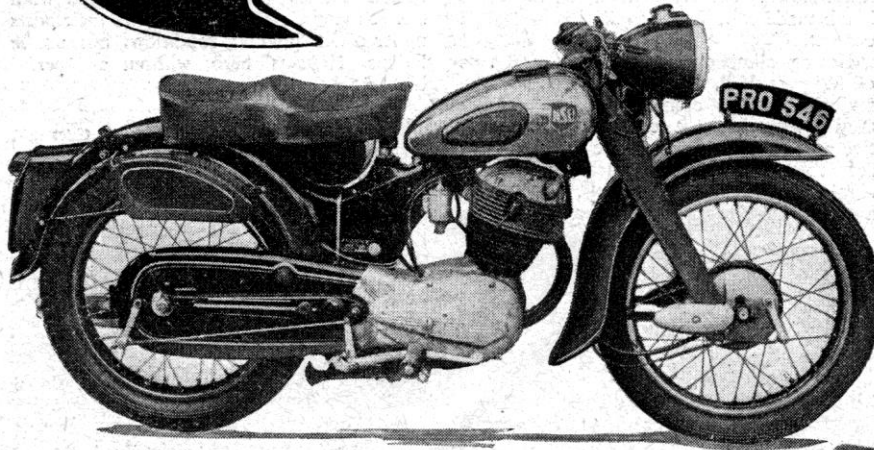
*Table of commonest thread and fastener sizes used on motorcycles*

# N.S.U.-VINCENT MODELS ANNOUNCED

Stevenage and Neckarsulm jointly Produce Four New Anglo-German Models for the Show



*Semi-Anglicized, this is the 250 c.c. o.h.c. "Max."*



plan is that the German factory will ship to Stevenage the engine-gear units and the frames and forks. All the remaining equipment will be "home made," and Mr. Vincent estimates that finally, in each machine, there will be over 50% of British material.

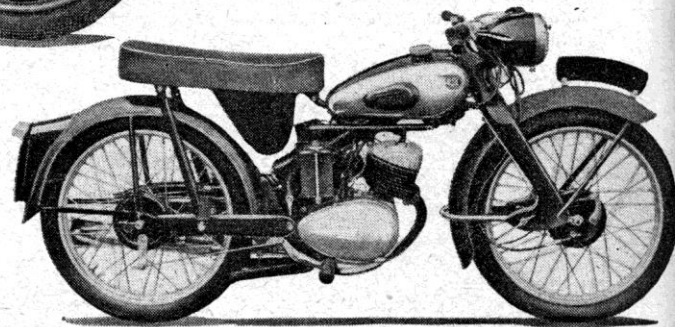
A brief description will be of interest to those readers who have not yet had occasion to study the specifications of these mounts, which have been produced in Germany for several years past.

All four models have a rigid pressed-steel backbone frame, with pivot action rear springing and bottom link action front-wheel articulation in pressed-steel forks. In all cases the engine-gear unit incorporates a

THE outcome of some six months of Anglo-German negotiations was revealed last Thursday when, at the Stevenage, Herts, factory Mr. P. C. Vincent, managing director of Vincent Engineers (Stevenage) Ltd., explained to members of the technical Press the plans which have been made for producing Anglicized versions of German N.S.U. motorcycles for sale in Great Britain and the Commonwealth. With Mr. Vincent were executives of the Layford Trading and Shipping Co., Ltd., of 7 Chesterfield Gardens, Curzon Street, London, S.W.1, who are the British and Commonwealth concessionaires for N.S.U. and who, in conjunction with the factory at Neckarsulm, have made an agreement with the Vincent concern whereby a range of these machines will be marketed under the name "N.S.U.-Vincent." The sales and servicing of N.S.U.-Vincent machines will be handled in Great Britain by the Vincent company, the British Commonwealth sales being in the hands of the Layford company, to whom all overseas inquiries from the territories concerned should be addressed.

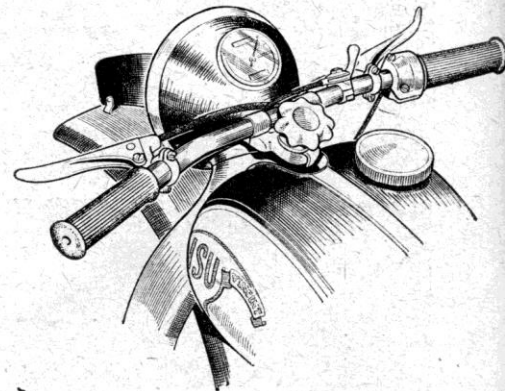
This project makes Vincents one of the most versatile motorcycle manufacturing concerns in the world, for they will in future be able to offer machines ranging from their famous 1,000 c.c. V-twins and 500 c.c.

*(Right) How the 123 c.c. "Fox" two-stroke looks with English guards and dual seat.*

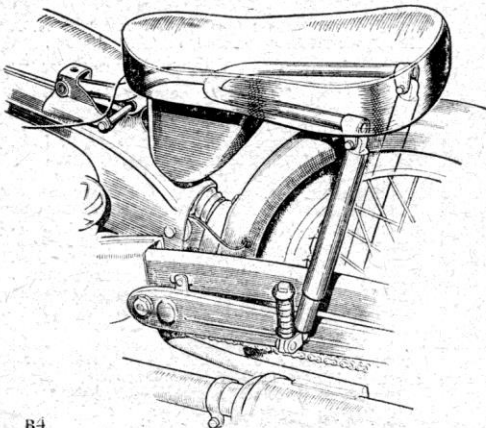


singles down to the 50 c.c. "Firefly" cycle-motor attachment, the manufacture of which they took over during the course of the current year. The N.S.U.-Vincents to complete this wide range are the 250 c.c. o.h.c. "Max," the 200 c.c. two-stroke "Lux," the 123 c.c. two-stroke "Fox" and the 98 c.c. o.h.v. four-stroke "Fox." Representatives of all these types will join the Vincent and "Firefly" productions on Stand No. 5 at the Earls Court Show.

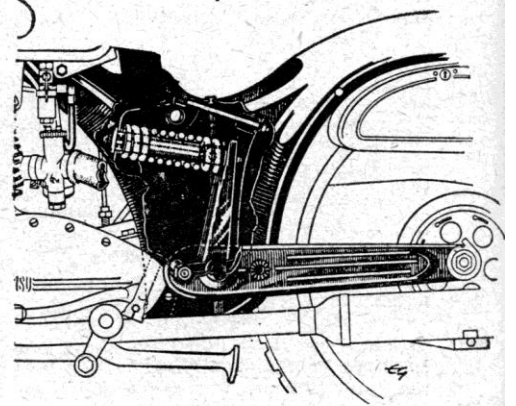
One each of the four German models have already undergone a metamorphosis and they were on view, and available for test, at Stevenage on Thursday when Mr. Vincent explained the arrangements which are being made for their forthcoming appearance on the British market. The

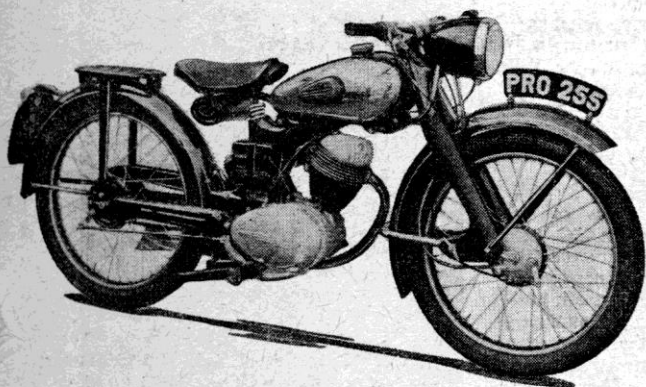


*(Above, right) Typically "Vincent" are the flat, near-straight bars fitted to the Stevenage-modified N.S.U.s.*



*(Left) Details of the dual seat and toolbox arrangements as adapted to the two-stroke "Fox" model. (Right) How the N.S.U. swinging rear fork is sprung.*





*A lively little lightweight is the 98 c.c. o.h.v. "Fox" model, which has yet to undergo all its British modifications.*

four-speed layout including a primary drive of the helical toothed-gear type. The foot-change mechanism is on the near side. The smallest, 98 c.c. "Fox" is a remarkably lively little o.h.v. unit with a "square" engine of 50 mm. by 50 mm., having a compression ratio of 7.2 : 1. Ignition is by flywheel magneto and the overall gear ratios are 9.08, 12.82, 18.39 and 28.6 : 1. The standard model has direct lighting with a dry battery for parking, a bulb horn and a sprung-top saddle. A de luxe edition will offer rectified A.C./D.C. lighting, an electric horn, a dual seat and pillion footrests.

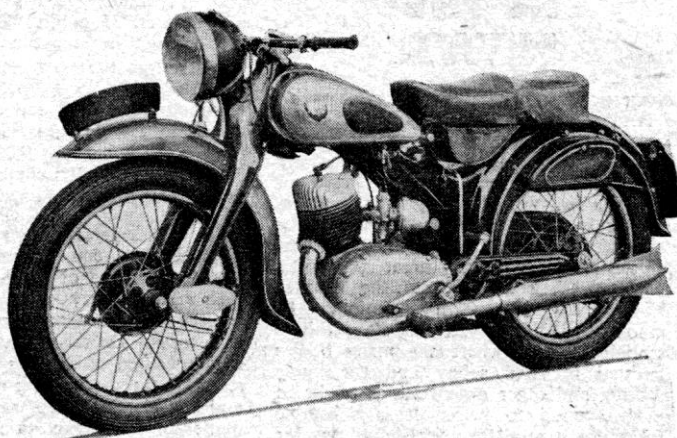
#### The 123 c.c. "Fox"

The two-stroke "Fox" has bore and stroke dimensions of 52 mm. by 58 mm., giving a capacity of 123 c.c. The piston is of the deflectorless type and the compression ratio is 6.16 : 1. In other respects the general specification is similar to that of the smaller machine, though the gear ratios are as follows: 8.17, 11.49, 16.54 and 25.74 : 1.

On a larger scale is the 200 c.c. "Lux" two-stroke which has cylinder dimensions of 62 mm. by 66 mm. The light-alloy cylinder head gives a compression ratio of 6 : 1, and dynamo-battery ignition and lighting are featured. Suspension both at the front and the rear is hydraulically damped and the standard equipment includes a dual seat and pillion footrests. The gear ratios are 6.86, 9.65, 13.89 and 21.63 : 1.

Lastly, there is the 250 c.c. "Max," with its unique system of overhead camshaft drive employing eccentrically mounted "connecting rods" operating in a tunnel-cast in the nearside of the cylinder barrel. This engine has cylinder dimensions of 69 mm. bore and 66 mm. stroke and operates on a compression ratio of 7.4 : 1. Dry-sump lubrication is employed and ignition is by coil, with automatic advance. A 45-watt D.C. generator charges the battery. The general specification is much the same as that of the "Lux" and the gear ratios are virtually the same, the difference being that the o.h.c. machine is geared fractionally higher.

On both the "Max" and the "Lux" machines, a noteworthy feature is the enclosure of the rear chain in a robust steel case swinging with the fork.



*Utilizing the same frame as the "Max" model, this is the 200 c.c. "Lux" two-stroke with English controls, lighting and seating.*

Quoted performance characteristics are as follow: "Fox" four-stroke, 6 b.h.p. at 6,500 r.p.m., weight 180 lb., approximate maximum speed 50 m.p.h.; "Fox" two-stroke, 5 b.h.p. at 5,500 r.p.m., weight 185 lb., speed 50 m.p.h.; "Lux," 8.6 b.h.p. at 5,250 r.p.m., weight 295 lb., speed 60 m.p.h.; "Max," 18 b.h.p. at 6,750 r.p.m., weight 340 lb., speed 75-80 m.p.h.

All models are fitted with Avon tyres, the dimensions for the two smaller mounts being 2.50 in. by 19 in., and the two larger models 3.25 in. by 19 in. The new Avon "Speedmaster" front covers will be featured with Avon "Supremes" at the rear. Amal carburettors have been standardized and, although not yet so equipped, the "Lux" model will utilize the same ingenious air-cleaning and ventilating system as is employed on the "Max," where the carburettor intake is connected to the frame backbone, which itself acts as an extended manifold, housing air-cleaning and silencing material.

#### British Equipment

So far as the English-built equipment is concerned, efforts are being made to give the machines a "British look" and to suit them to the British riders' professed preferences. For example, the rather flamboyantly curved Continental handlebars give place to the almost straight bar that has long been a feature of the big Vincents. The extremely softly sprung German saddles have made way for Feridax "Dualseats" on the two larger machines and the saddle spring member which normally reposes in a compartment in the frame backbone has been removed and the aperture blanked off. On the smaller machines the option is given of either a Terry spring-top saddle or a Walker "Roadmaster" twinseat. The latter is then fitted on a Y-forked tubular member, the forward end of which is pivoted on a bracket integral with the frame backbone under the tank while the two extremities, at the rear are linked to a pair of telescopic spring units whose lower ends are attached to the swinging fork legs at the pillion footrest mounting points.

Thus the twinseat has, in fact, a certain amount of movement imparted by the rear

fork—about 50%, as in the case of the big Vincents. With the dual seats, "under the seat" tool boxes are inbuilt, with a pull-out drawer, in a fashion that is familiar to all who know the existing Vincent arrangement.

Mudguarding on the "Fox" models is entirely British; on the larger machines the front guards will be of British manufacture and more symmetrically valanced than on the Continental versions. The rear guards on these machines, being an integral part of the frame, will probably remain unaltered, though an "enclosed" type of rear number plate is featured.

Harwill hubs and brake units are to be employed. On the "Fox" models they are of 5 in. diameter and on the "Lux" and "Max" models of 6½ in. diameter with finned drums. The machines pictured on these pages have German tanks. Vincents have on the drawing board a new tank design which will give for all machines a larger capacity and a deeper appearance, with a top contour more rounded to blend in with the nose of the saddle or dual seat.

Experiments are at present proceeding with electrical gear. Whichever make is standardized it will provide completely British electrical equipment.

Smiths speedometers are part of the specification and a new tank motif, combining the two familiar trade marks of the collaborating concerns, sets a seal on a range of newcomers to the British market which will undoubtedly create great interest when exhibited on the Earls Court stand where, also, sectioned engine-gear units will be on view. It is anticipated that by then prices will have been fixed.

The distribution of N.S.U.-Vincents is not to be confined to Vincent dealers only, and new agents are now being appointed. The Vincent factory is being organized to provide service and a ready supply of all spare parts. Furthermore, it is likely that a new company may be formed at some later date to handle the sales of these machines, both at home and abroad. The formation of this company will, however, be for the purpose of internal simplification and practical administration of sales. Servicing of the machines will be carried out by Vincent Engineers (Stevenage), Ltd.

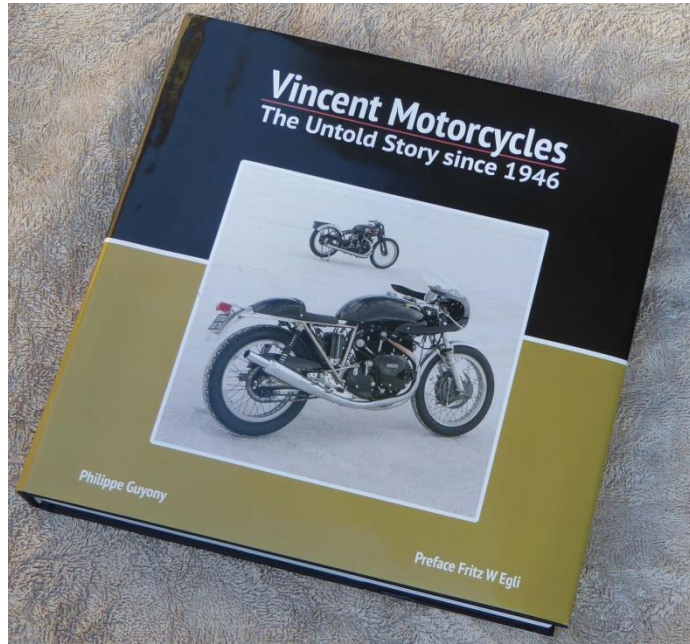
# A Classic Book Review

## Vincent Motorcycles. The untold story since 1946, By Philippe Guyony.

ISBN: 978-1-845849-02-3

400 pages, 875 illustrations, many never before seen, and weighing in at almost 3 Kg. Available in Australia from Renniks, ph 02 9695 7055. More info at [www.velocebooks.com](http://www.velocebooks.com)

Reviewing a tome such as this is always exciting as I'm hoping to find out something



new on a marque so extensively covered in the past, it's a challenge finding new material for a author, but let me say here that I'm biased toward this book as a few of my personal machines are featured in it.

Philippe has spent quite a number of years researching various motorcycles in this book, and if you purchase it you will find out of the 400 pages only 69 are dedicated to the original Vincent-HRD motorcycle the rest of the subjects covered are the specials and racers that have cropped up since December 1955 when Vincents closed, the balance of 331 pages are dedicated to these specials.



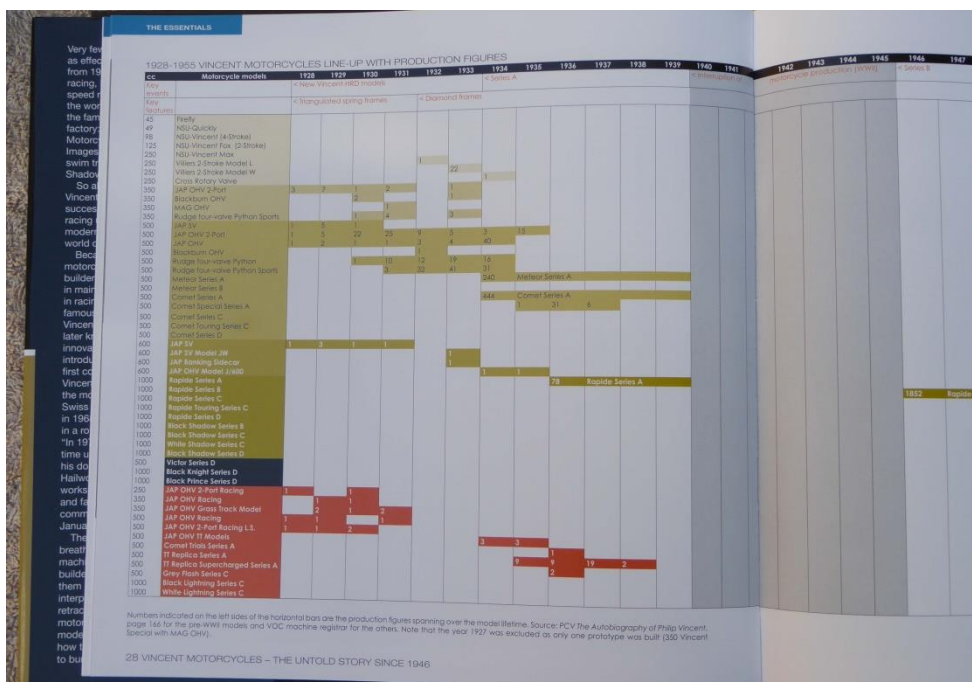
For the Norvin, Egli, VIscount, Vindian, Vincati, TPV, RTV, Irving-Vincent etc lovers there is a wealth of information and plenty of photos for your entertainment, this coupled with a reasonable amount of documentation add to the outstanding value of this hardcover book printed on the best paper stock around by Veloce Publishing.



So all positives up till now you say but surely there is something wrong with it, hmmm probably the area on Egli's is a bit too much and other specials are sometimes sacrificed with scant information but that's it. Would I have one in my library, well yes I have, am I inspired to build another Vincent special, having a Vindian and a Vincati and having had a trials Comet built out of mainly Triumph parts maybe.



These days as the Vincent has got older, standard engines are hard to find and very expensive, fortunately new replica engines are available at a hideously expensive price this cuts back specials being made and a finished special can add up to more than a standard old Vincent plus the fact that beside the bike the owner or enthusiast is now usually 55-60 + years old and younger rider have neither the money, skills or commitment to such a project beside never ever knowing what a Vincent was or is!



This book is a necessary thing and had to be written for old enthusiasts who either dream or have had such a special in the past thank you Philippe for a enjoyable history of a marque I have enjoyed for 45 years now.

Phil Pilgrim  
2017

# ENGINE TORQUE and

If you buy a super-sports or a racing motorcycle, you will probably receive from the makers a performance chart, including a graph showing the power developed by the actual engine fitted to your machine, or, if the makers do not include one with the usual literature sent out with their models, and if you are sufficiently interested, they will doubtless furnish one on request, always provided that the power unit fitted to the machine of your choice has had a genuine dynamometer power test, and this is almost certain to be the case with real high-performance machines.

On the graph there will be plotted three or four curves, including brake horse-power, torque and probably also specific fuel consumption. Of these, the first is a term with which everyone is familiar, and so also is the third, although the word *specific* may cause a momentary lifting of the eyebrows, until it is realized that this is merely a qualifying term indicating that the consumption is given in precise units. Thus, if the consumption is given as half a pint, this does not tell much, but if the specific consumption is stated to be half a pint per horse-power per hour, then the story of the engine's fuel requirements is complete. But we are not concerned with consumption at present; we are more interested in the relationship, if any, between two of the other curves on the performance chart, those showing respectively the brake horse-power, which is usually contracted to B.H.P., and the torque.

## Meaning of "B.H.P."

I have already said that most people are familiar with the term B.H.P., but this does not necessarily mean that all of them know exactly what it is. It is a measure of the power developed by the engine, of course, but of what use is it in estimating road performance, and in what terms is it expressed? Before steam and other engines were invented, there were only three forms of power normally used by mankind: wind, water and horses, and of these, the horse was the most common. It was only natural, therefore, when the steam engine arrived—soon to be followed by the internal-combustion engine—that its output of power should be measured in comparison with an existing type, i.e.—the horse. But how to measure the power of a horse? George Stephenson, the great locomotive pioneer, solved this problem after careful measurement of the work done by various horses over a considerable period and decided that one horse-power was equal to 33,000 ft./lb. per minute. This has been used in the English-speaking countries ever since, and it has been copied under the metric system as Continental horse-power which, although derived in a different manner, has almost the same value.

Having obtained the definition of horse-power, we can apply it to our motorcycle engine without worrying at this stage about the term "brake," for this simply indicates that the power in question is actually available at the engine shaft, where it can be measured by a dynamometer, another name for which is a water-brake. To say that an engine develops one horse-power means, according to our definition, that it is capable of doing 3,000 ft./lb. of work in one minute.

This means that in this period of time it could lift a 1-lb. weight to a height of 33,000 ft., or lift 33,000 lb. weight one foot, or any combination of pounds and feet which, when multiplied together, amount to 33,000. It could lift 33 lb. a thousand ft., for example, and so on.

Now, it may be asked what this has to do with the performance of a motorcycle on the road? The answer simply is that work is done—and, of course, we are dealing here with the mechanical work done by an engine—when a resistance or force is overcome, whether this be the force of

gravity, we have to overcome the force of gravity on the weight, which is, of course, shown as  $W$ , and we do this at a leverage from the centre of the pulley to the rim, where the rope is, this being the radius  $r$ . If  $W$  is in lb. and  $r$  is in feet, then the torque necessary to raise the weight, quite regardless of the speed at which we raise it, is represented by  $W \times r = Wr$  lb.-ft.

Transferring our attention to Fig. 2, we see the primary drive of a motorcycle. If a torque of  $Wr$  is applied at the engine shaft, it will be transmitted to the engine-shaft sprocket, to the chain, and to the clutch sprocket, and thereafter to the rear transmission, finishing up as torque at the rear wheel. As there is a gear reduction

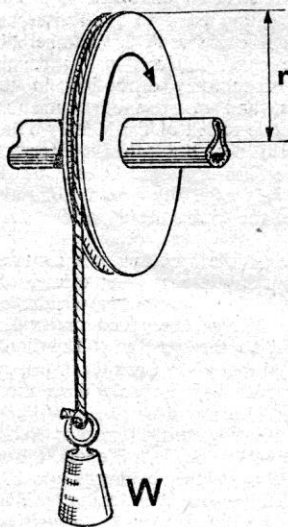


Fig. 1. A diagrammatic description of the meaning of "torque," which is another word for "twist."  $W =$  a given weight and  $r$  a known radius.

gravity we discussed a moment ago, when lifting weights, or the resistance to motion which a motorcycle encounters on the road, most of which, by the way is due to the pressure of the air.

If we consider an engine developing, say, 15 b.h.p., we do not know very much about it unless we are also told at what speed (in r.p.m.) this power is developed. If we have two engines of the same size developing 15 b.h.p., the one at 5,000 r.p.m., and the other at 4,000 r.p.m., then we should say that the latter was the better engine. And this is where torque comes in, for the engine developing its power at the lower speed would have a higher torque.

This term "torque" is a slightly puzzling one. For one thing, it sounds rather French, although, curiously enough, our neighbours on the other side of the Channel do not use it: they prefer another word which is English in origin. "Torque" actually means twist. Fig. 1 shows a pulley with a rope round it, and a weight hanging on the end of the rope. If we twist the pulley to the right, as shown by the arrow,

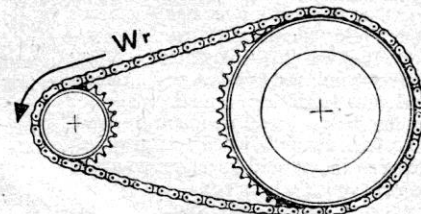


Fig. 2.  $Wr$  represents torque applied at the engine shaft of a motorcycle and transmitted, via shaft, chains and sprockets to the rear wheel.

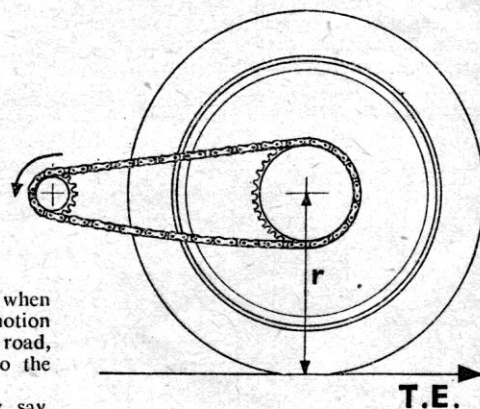


Fig. 3. At the rear wheel the torque is interpreted in terms of tractive effort (T.E.) at the junction of tyre and road—a force depending upon the value of  $r$ .

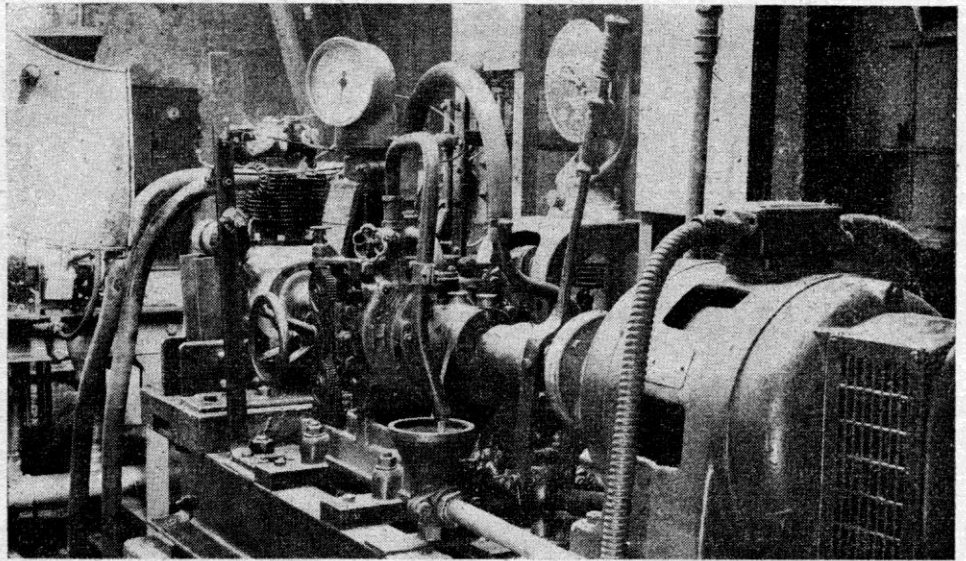
between the engine shaft and the rear wheel, this torque, for reasons which need not trouble us here, increases on its way in the same ratio as the gear reduction. Thus, if the gear ratio is 5 to 1, then the torque at the rear wheel will be five times that of the engine shaft torque: i.e.  $5Wr$ . This assumes 100 per cent. efficiency for the drive, which in practice is not quite attained in top gear even on the best motorcycles, but for the sake of simplicity we ignore this point.

# POWER

An Explanation of Two Technical Terms Expressive of a Motorcycle's Capabilities

by  
"SCOTIA"

*A typical motorcycle engine under test on a "brake." The gauge on the left indicates r.p.m. That in the centre is the dial of a spring balance upon which approximate torque readings are given.*



Having reached the rear wheel, we can convert back to the scheme of Fig. 1 where we have a weight and a pulley. The pulley will be the rear wheel (see Fig. 3), whose radius we can measure, and the weight will be the push of the tyre against the road. In other words, we can, given the engine shaft torque, easily calculate the force tending to push the machine forward. Taking our rear wheel torque of  $5Wr$ , and the rear wheel radius which we shall call  $R$ , then the value of this force at the point of contact between the tyre and the road amounts to  $5Wr \div R$ . We can get the value of  $Wr$  from the torque curve on the performance chart, and we can quite easily measure the radius of the rear wheel, so the value of the propelling force in lb. is immediately found. This force is known as the tractive effort (T.E. in Fig. 3), and

corresponds to the draw-bar pull, beloved of locomotive engineers.

We see at once that torque must be one of an engine's most important characteristics, despite the fact that it has nothing to do with speed, as I stated earlier. Although it enters at all times into road performance, it is particularly valuable for acceleration and hill-climbing. Take the torque necessary to provide the tractive effort on a motorcycle for climbing a given gradient. Ignoring wind resistance for the moment, this torque will be the same whatever the speed at which the ascent is made. But this immediately brings us back to b.h.p., for, it will be remembered, this takes the time element into account: so much effort made for a specified time or so much torque exerted at a given speed, for do not forget that speed is simply distance divided by time. The

torque may be the same at 5 m.p.h. and 50 m.p.h., but it does not need much scientific training to convince one that 50 m.p.h. requires vastly more power.

To describe the relationship between torque and b.h.p. we might paraphrase the old gag and say: "It's not what you do, but the time you take to do it."

Brake horse power is, roughly speaking, torque multiplied by speed. So, for a given power, if the speed is high, the torque is low, and, conversely if the speed is low, the torque is high. There has been a tendency for many years, in the search for engine performance, to run up to extraordinarily high rates of r.p.m., and this has meant that the torque has been maintained at a reasonable level at high speeds, but these high-revving engines frequently lack torque at the lower speeds, with the result that they have no performance "low down." Then again, we have the other kind of engine, the big single side-valve, with a nice fat torque curve at low speeds and nothing exceptional at the top end.

Fig. 4 shows the torque and b.h.p. curves of an intermediate type, represented by a normal compression ratio o.h.v. single of about 350 c.c. capacity. Here it will be seen that there is plenty of torque at low speeds, and that the curve actually rises slightly before beginning to fall slowly. This is ideal for snappy acceleration from lowish speeds without too much fuss. At the same time, the engine holds its head up well, and has quite a good b.h.p. and a fairish torque with a bit in hand at 5,000 r.p.m. which, with the gearing normally used for an engine of this size, represents about 70 m.p.h.

From the designer's point of view, as well as the engine tuner's and the rider's, torque and b.h.p. go hand in hand, each with its own independent function, yet they are complementary to each other. Of the two, despite its somewhat narrower implications, torque is more useful to the designer than b.h.p., for it tells him more directly what he wants to know, and enables him to proceed at once with his road performance analysis. If you tell him what the b.h.p. of an engine is, he will immediately ask: "At what speed?" Which shows that it is really the torque that interests him.

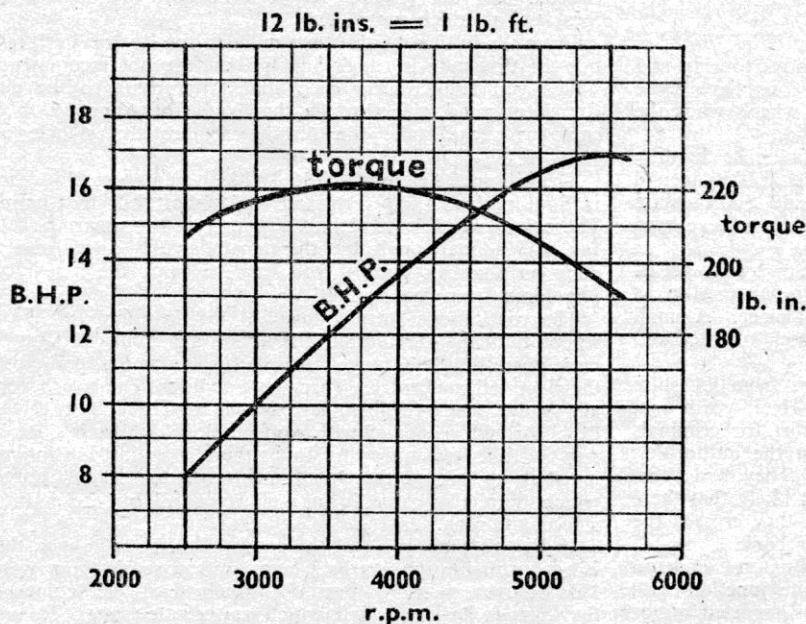


Fig. 4. B.H.P. and torque characteristics of a hypothetical 350 c.c. engine having normal compression ratio and other typical features.

## My Excellent Holiday Part 3.



The bikes were checked over and I noticed the rear wheel of Ernie's bike did not seem right as he changed a chain. We whipped the rear wheel off and quickly discovered the problem. TWO of the bolts were not as they should be. One had sheared its head and the other was rattling around inside the drum. Yikes said Ernie!! Fortunately a couple of spares were located and the job was done.

The weather was not good as we set off North to overnight with Gill's sister. Light misty rain which at times became heavier. Only a few miles down the road Gill pulled over and was obviously not pleased. It turned out her clutch was slipping so she made Ernie ride it. We continued North and the traffic

varied between slow and stationary. The motorway system in England is a total disgrace and the M5 is probably the biggest disgrace of all. To cover 200 miles on the M5 you have to allow up to FIVE hours!!! We pulled into a services area to have morning tea, a smoke and fill the bikes with what is called petrol. Gill continued to be less than amused after Ernie had assured her the clutch had been fixed the previous day. The one flaw however was Ernie never took the bike for a test ride. He was to rue this for quite some time. As we crawled North, Gill and Ernie instigated Plan B; leave the motorway and use the "A" roads to Macclesfield. Even lane filtering on the M5 we barely maintained 30 mph.

I won't go into all the details but we were all well fed and watered that night. A bottle "House of Lords" single malt whisky was waiting for us at our B&B. Only available to sitting members of the House of Lords. It was a very pleasant drop, not dissimilar to Highland Park 18 y.o. We thought it was best to leave some for the next guest so we were off to bed at a reasonable hour. The next morning was WET. Not misty rain but plain rain. Ernie and Gill were wearing Rukka and I had my new Aerostich so none of us got wet but still not ideal. The forecast was not good either with the weather supposedly clearing on the Monday.

We arrived at our next B&B and unloaded our kit. The landlady was amazing; so helpful and kind. We then went to the rally site but Ernie had a brain fade when entering the details. Let's just say it took us fourteen miles to get to the site three miles away. Immediately we arrived we checked in and circulated. I then realised my beard was a perfect disguise as so many people I have known for over twenty years just walked by. We had organised with our landlady to pick us up at 10pm so we could enjoy the atmosphere AND a few ales. Next day was a short ride to a village fair where our bikes and some classic cars were a centrepiece. The weather was reasonably kind and we all had a good day. When we returned to the rally site I renewed old friendships and scored a ride on Glynn Baxter's Black Shadow trike.



There was also the usual cheese and wine kiosk which was very well attended! The evening meal was well organised and the raffle likewise. The food and ale were excellent and the local rugby club excelled themselves. The music was not too loud and very pleasant to the ear. The Lancs. and Cheshire Section have a lot of experience with rallies and the Red Ninja knows how to organise!. Like the night before, our landlady picked us up at 10pm and brought us safely home. Sunday was a bit drier and the ride was excellent, especially for an Aussie. Across moors, up hills and down dales, it was very open and sometimes bleak but always interesting. Very little traffic except for cyclists, and sweeping bends for a bit of throttle. Morning tea was at a café that claims to be the geographical centre of Great Britain. There was a plaque so it must be true!. The staff did an heroic job serving all of us and it was nice to get a feel of this lovely part of England.

Tim Kirker was ride leader and he set a very pleasant pace. There were marshals on the intersections so nobody ended up in Scotland. It is truly a wonderful landscape even when the weather is mediocre. I think everyone agreed it was a "Grand Day Out". Quite a few people departed after the ride and Sunday night was a barbecue with copious quantities of ale and wine. All too soon we were heading back to Gloucestershire with me knowing I was actually going "home".



Before I actually flew home there were a couple of things I had to do. I had to re-connect with a relative I had not seen for fifty years. That was a bit scary but it turned out well. Then a re-visit to my cousin, his wife and their son Phil. It was my cousin, I think, who started me on the road to motorbikes back in 1960. He is still a very naughty boy.

You know you have had a most excellent holiday when going home is a bittersweet experience. That is how I felt as I cleaned my Shadow ready to fly it back home. Gill and Ernie had been the most wonderful and accommodating hosts and for me, that made this a very special holiday. I took them out for a meal the night before I left, one of the few times I could actually pay my way.



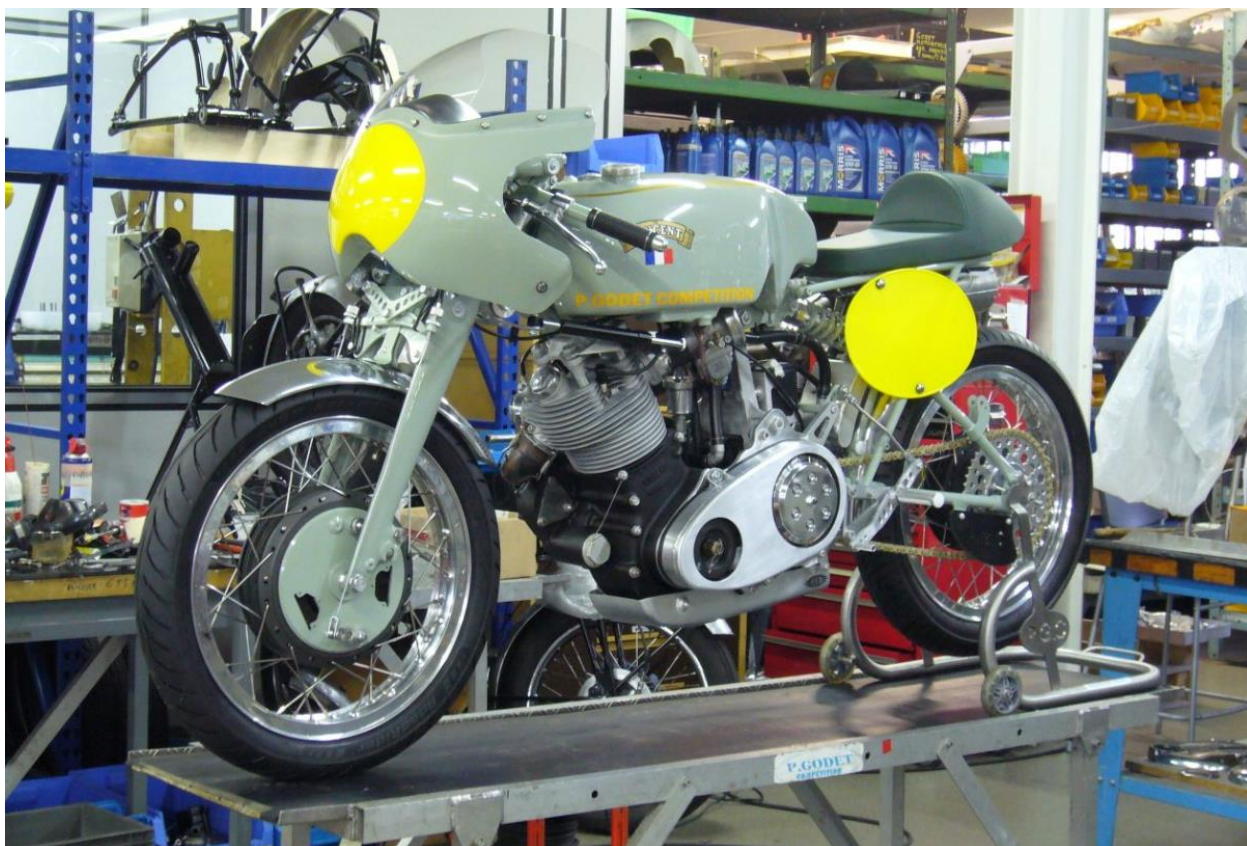
As promised, Ernie and Gill drove me to the airport (Heathrow Terminal 5). As we arrived at Terminal 3 I realised Ernie had made his usual navigation error. Eventually we parked and disembarked from the Yeti and we entered Heathrow Hilton Terminal 5. A lovely lunch then goodbye. Until next time. The Hilton was perfect as it is adjacent to the terminal and an early morning departure was scheduled; 5.30am rise and shine, order breakfast and shower. Shower drain is blocked and flooding occurs!!! Breakfast arrives. Yummy.; smoked salmon and scrambled eggs ended up being free due to drainage issues of shower . A driver took me and my luggage to the check-in. The lounge was fine but the plane was better. Then the lounge in Doha was simply amazing. My Shadow arrived two weeks later and was well packed. Thank you to the shippers, Motofreight. I have left a few episodes out of my holiday due to brevity (?). But I want to thank everyone who made this so excellent. No names except for Gill and Ernie, Marcus and Christine and the remnants of my family. There were so many others who made me laugh and made me smile.

Until next time we meet.

*Alyn Vincent, Australia*

# No Flash In The Pan!

Renowned Australian race team Motogallur will be campaigning this new Godet built Gray Flash replica in Period 3 at selected rounds of Australian circuits beginning with this years Philip Island Classic. Great things are expected with Cam Donald (of Goodwood fame) aboard



At the Philip Island Classic in January Motogallur will also campaign two Egli Vincent 500's ridden by Cam and Levi Day in Period 4 events.



Registration for this superb event has opened on the tramway website [www.tramway.co.uk](http://www.tramway.co.uk) , so get your forms in.

This will be the second year that the East Midlands Section of the VOC has run this event and they are hoping for another great day. Their really hoping to get even more Vincents to the event this year, so please have a think about coming along on your Vincent or bring it on a trailer if you can.

Its a pretty informal event and the section like to think they have the balance right. A real mix of pre-1994 motorcycles & scooters from all the decades, ranging from Flat tankers to multi cylinder bikes of the 80's. You'll meet people from numerous owners clubs, all with differing opinions but its just a great day. There are a few prizes to be won as well. Oh and its free if you exhibit.

If you are coming any distance there are plenty of B&B's and campsites in the area.

Anyway, the 'Classic Motorcycle Day' - if you have any questions or you want to help, even for just an hour email; [lambley705@gmail.com](mailto:lambley705@gmail.com) or [john.f.warrener@gmail.com](mailto:john.f.warrener@gmail.com)

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# Buy, Swap n' Sell

*If you have anything that you want to buy, swap or sell you can now do so, free of cost, in this section of OVR. All you need do is send a email to the editor of OVR with the text of your advertisement. OVR will NOT be providing any editorial or corrections. Of course OVR cannot accept any responsibility for anything to do with the items advertised – that's a buyer/seller matter. Items will be listed in 2 consecutive editions of OVR.*

## **For Sale: Series C Black Shadow**

A local (NSW Australia) VOC member is selling his Series C Shadow. He has owned it, ridden it and maintained it for over 10 years. Due to a change of circumstances, it is up for sale.

The bike is ALL Black Shadow but NOT matching numbers. It is a very nice comfortable machine with Thornton suspension, Aucott rear seat stays and sensible 8:1 compression. A Dave Hills stand plus extended side stand (LHS) make for easy parking. It has done well over 12,000 trouble free miles under current ownership. Depending on offers there are some spares that may be supplied. Concentric carbs currently fitted. This is an older photo before some mods were undertaken. Boranni rims front and rear. Anyone interested can have up to date photos and more details.

Offers in the region of AUD\$105,000 will be considered.

All enquiries by email to [alynvincent@mac.com](mailto:alynvincent@mac.com)

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## **For Sale: Terry Prince's Personal 1949 Vincent Rapide**



Not just another Rapide, Prince's personal street ride, described as equal parts nostalgia and performance. Engine cases, engine number and upper frame member all match, (verified by the VOC) though the rear frame member is a replacement for the damaged original. Prince's hand is evident all around the bike, starting with the front brake hubs, which contain four-leading-shoe internals. Suspension has been upgraded with modern dampers front and rear. An accessory Tread-Down centerstand eases parking chores. The Shadow 5in. 'clock' perched atop the forks is a nice touch. The bike is to full Shadow spec plus, 85% of the bike is from new parts even hand rolled aluminium guards, new wheels SS rims and spokes. Of course the engine is fully overhauled by Prince and breathing through modern carbs MK2

cams, 7.5cr pistons, Pazon ignition, 12 v electrics, V3 clutch, etc.;

This bike has been totally rebuilt from the ground up by Terry Prince. It only has 11 miles on it, as seen in the video test ride (see it here <https://youtu.be/LDkezG-tAgk> ) now with rear seat damper units and the D type struts go with it.

There are over \$5000 in upgrades making this a modern riders bike. The bike, located in southern California, can be shipped anywhere.

This is your chance to own a Rapide that is ready to go at a price much lower than you would pay to purchase a Rapide and have it restored and upgraded not to mention having the history and expertise of Terry Prince behind it. **Please call Terry with any questions and price on +61 2 45682208** (in Australia call 02 4568 2208) or email to [clmotorbikes@esat.net.au](mailto:clmotorbikes@esat.net.au)

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## For Sale: An item of history with Spirit.

This is possibly your only chance to acquire a rare item of highly collectable Vincent memorabilia.

A virgin, unopened bottle of Black Lightning Exhaust Port carefully selected then bottled exclusively for the 1983 Vincent International Rally. This is possibly the only one in existence left in this pristine state.

Sensible offers over US\$50 are invited. Assistance will be provided with international shipping as required.

Contact Alyn Vincent at [alynvincent@mac.com](mailto:alynvincent@mac.com)



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## Service Providers

The Service Providers listed have been used with a degree of satisfaction by OVR readers in the past. Just because they are listed does not imply an endorsement of them by OVR. Service providers are not charged a fee for this service nor can service providers themselves request that their information be included, though they may request that an entry referring to them be removed.

### Spares:

**V3 Products**, Australia: (aka Neal Videan) has an extensive range of top quality Vincent Spares including multiplate clutches for twins, oil leak eliminator kits, socket head tappet adjusters, paper element oil filters and lots lots more. Ships worldwide. Email for a price list to [nvidean@optusnet.com.au](mailto:nvidean@optusnet.com.au)

**VOC Spares Company Ltd**, UK: Full range of Vincent Spares. Ships Worldwide. Visit their web site for more information <http://www.vincentspares.co.uk>.

**Coventry Spares Ltd**, USA: Fantastic service and deep product knowledge plus extensive range of excellent Vincent Spares and tools. Ships Worldwide. See website for more information <http://www.thevincentparts.com>

**Conway Motors Ltd**, UK: Anti-Sumping Valves, Multi-Plate clutch conversions for Comets plus an extensive range of excellent Vincent Spares. Ships Worldwide. Email for more information [steve@conway-motors.co.uk](mailto:steve@conway-motors.co.uk)

**Fastline Spokes**, based in Broadford, Victoria, can supply Australian made spokes for just about any bike. Owner Bruce Lotherington manufactures spokes to order with a turn around time of less than 1 week. For more info see [www.fastlinespokes.com.au](http://www.fastlinespokes.com.au) or phone (+61) 0411 844 169

**Union Jack Motorcycles**, Australia: Full range of Triumph, Amal and control cable parts, plus an extensive range of Vincent parts. Ships worldwide. More info at the website [www.unionjack.com.au](http://www.unionjack.com.au)

**Paul Goff**, UK: A massive range of electrical spares and replacements including 6 and 12V quartz Halogen bulbs, LED lamps, solid state voltage regulators and lots lots more. Ships Worldwide. PayPal accepted. See Paul's website for more information [www.norbsa02.freeuk.com](http://www.norbsa02.freeuk.com)

**VMS**, Holland: 2x2 leading shoe brake kits for Vincents; high quality 30mm wide 4 leading shoe system. Email [vspect@vmsmetaal.nl](mailto:vspect@vmsmetaal.nl) for info.

**François Grosset**, France: Electric starter for Vincent Twin. Electronic ignitions for Vincent Single and Twin supplied complete with drive gear. Email [pontricoul@gmail.com](mailto:pontricoul@gmail.com) for more info.

### Nuts n Bolts:

**Classic Fastners**, Australia: Their aim is to supply obsolete and hard to obtain fasteners for your restoration project be it a professional or private venture. The print catalogue, available for download, lists the current complete range. Ships Worldwide. <http://www.classicfasteners.com.au/>

**Precision Shims Australia:** All types of shims made to your requirements, ships worldwide. More info at their web site [www.precisionshims.com.au](http://www.precisionshims.com.au)

**V3 Products** (see entry under Spares above) also stocks a large range of Vincent specific nuts n bolts.

**Keables, Australia:** The original nut n bolt specialists who are able to supply just about anything with threads and bits to match such as taps n dies. Recently have relocated to 11 Braid St, West Footscray, Vic. Ph 03 9321 6400. Web site [www.keables.com.au](http://www.keables.com.au)

## *Restoration Services:*

**Steve Barnett**, Australia. Master coachbuilder and fuel tank creator who does incredible workmanship; located in Harcourt, Victoria. Ph +61 3 5474 2864, email [steviemoto@hotmail.com](mailto:steviemoto@hotmail.com)

**Ken Phelps**, Australia – Qualified aircraft engineer and builder and daily rider of Norvins for over 30 years, who has the skill and experience to carry out overhauls, rebuilds, general repairs and maintenance to Vincent HRD motorcycles. Full machine shop facilities enabling complete engine and chassis rebuilds, Painting, wiring, polishing, aluminium welding and wheel building. Ken Phelps Phone: (61+) 0351760809 E-mail: [ogrilp400@hotmail.com](mailto:ogrilp400@hotmail.com) . Located in Traralgon, Victoria, Australia

**Outer Cycles**, Australia: Jim Browhly is a master craftsman who manufactures bespoke motorcycle exhaust systems for classic bikes, no job is beyond his capability, so if you do need a new system that will be made to your precise requirements, give Jim a call, telephone 03 9761 9217.

**Grant White – Motor Trimmer**, Australia: Specialising in Vintage and Classic Cars and Motorcycles. Located in Viewbank, Victoria. ph 03 9458 3479 or email [grantwhite11@bigpond.com](mailto:grantwhite11@bigpond.com)

**Ace Classics Australia** is a Torquay Vic. based Restoration business specialising only in British Classic and Vintage Motorcycles. Complementing this service, they provide in-house Vapour Blasting, Electrical Repairs and Upgrades, Magneto and Dynamo Restoration plus Servicing and Repairs to all pre-1975 British Motorcycles. They are also the Australian Distributor and Stockist for Alton Generators and Electric Starters. Phone on 0418350350; or email [alan@aceclassics.com.au](mailto:alan@aceclassics.com.au) . Their Web page is [www.aceclassics.com.au](http://www.aceclassics.com.au)

**Terry Prince Classic Motorbikes**, Australia: Specialises in development and manufacture of high performance components for Vincent motor cycles. For more information visit the web site [Click Here](#) or telephone +61 2 4568 2208

## *General Services :*

**Peter Scott Motorcycles**, Australia: Top quality magneto and dynamo services, from simple repairs to complete restorations plus a comprehensive range of associated spares. Provides hi-output coil rewinds with a 5 year warranty. For more info contact Peter on (02) 9624 1262 or email [qualmag@optusnet.com.au](mailto:qualmag@optusnet.com.au)

**Ringwood Speedometer Service**, Australia: Experts in the repair and restoration of all motorcycle, automotive and marine instruments. Smiths cronometric specialists. Telephone (03) 9874 2260

**Dyson M/C Engineering**, Australia: Wheel building, Crank rebuilds, Bead blasting, Rebores & Engine Rebuilds and more. Located at 12 Chris Crt., Hillside, Victoria. Phone 0400 817 017

**Piu Welding**, Australia: Frank Piu is a master welding engineer who works with Aluminium as well as steel. No job to small. Has been recommended by multiple OVR readers. Phone 03 9878 2337

**MotorCycle Fairings, Australia:** This crew are total professionals when it comes to painting. Expert service, quick turnaround and fair prices. <http://www.melbournemotorcyclefairings.com.au/>  
Ph 03 9939 3344

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## The Ladies of Stevenage



Posing for the camera outside the Vincent-HRD factory. Left to Right: Peggy Miles, Winny Moss, Yvonne Leach, Vivien Barker, Masie Olirff, Betty Toll, Hilda Young and Meg Russell. Where are they now???

*Contribution from David Bowen, late of Stevenage*

**42<sup>nd</sup>**

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