



The Oz Vincent Review

Edition #46, January 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



HAPPY NEW YEAR 2018

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Welcome

Welcome to this 2018 edition of The Oz Vincent Review. As I mentioned last month the 'article' cupboard was looking decidedly bare – well thanks to the generosity of a contributor who chooses to remain unacknowledged OVR has access to a wealth of historical material old from the master himself Phil Irving that will provide a 'backbone' for many editions into the future.

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Merry Xmas to you all from



Melbourne, Australia.
Email: OVR@optusnet.com.au



Letters To The Editor

Martyn,

Saw your request for info in the latest OVR. Attached is some info you might like. These papers are from American Vincent Dealer Gene Aucott. He left them to Bill Norton. I have scanned them all for Bill with the hope that they can be shared by all who are interested. I am happy for you to say I passed them along to you and you can credit the Bill Norton Collection.

The first is Series A promotional material. The next two are reprints from MotorCycling. These reprints were sent to dealers to hand out to prospective customers. The last two are promotional card and the very early Rapide Black Shadow spec. Note that the original spec included black anodized cylinders with the fins polished at their very tips. This was not done in production due to the cost, but most owners are unaware that this was an original spec.

This should help you fill out a few pages.

Best Wishes, David D, USA

Prince Reigns in Range

An OVR exclusive

The famous Vincentophile, Terry Prince, who worked with Fritz Egli on the iconic Egli chassis design then in later years after many successful Bonneville and Lake Gairdner Land Speed campaigns entered into the exotic world of precision components for his beloved Vincents that he sold world-wide, has decided to reign in his activities and is withdrawing from the supply of 'run of the mill' Vincent components in order to focus on what he does best – the design and production of select high performance parts for Vincent motor cycles.

Once his existing stocks of 'regular' parts have gone they will not be restocked by Terry, allowing him to focus on some of the more exotic performance items for Vincents that he designs and AND ARE manufactured here in Australia.

Amongst other things Terry will be continuing to supply the following items to Vincent enthusiasts:

TP Billet Frame kits, TP 600cc Single and 1200cc Twin Big Bore Conversion kits, TP Crank Assemblies, complete with conrod(s) – in standard AND +10mm long stroke versions, TP 5 speed Gearbox Cluster (for twins only), TP Camshafts and soon-to-be new TP crank cases.

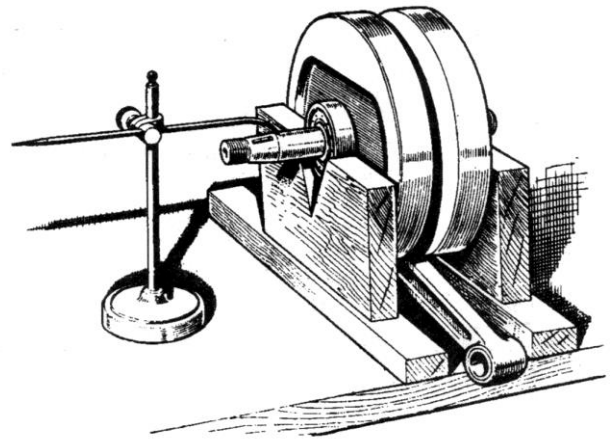
Shown below are long stroke twin and standard stroke single crank assemblies – and of course both are available in standard or long stroke. Terry uses Australian made 70 tonn ARGO rods in all of his cranks. With over 400 TP crank assemblies now in use world-wide Terry has found a balance factor of 60% for twins and 74% for singles to be ideal. Also shown is a partially assembled twin long stroke crank illustrating the robustness of its construction compared to a 'conventional' crank pin assembly.



Final Assembly of Flywheels

By 'Slide Rule'; first published in *Motor Cycling*, Feb 1945

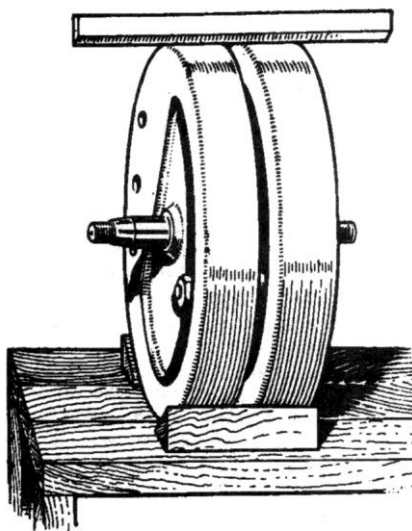
THE maximum of rigidity in the fly-wheel and crankpin assembly is essential to avoid power-wastage through internal vibration. This is obtained partly by providing heavy sections of metal in the regions of maximum stress and partly by the manner in which the assembly is held together.



(Right) Where a pair of centres is not available the flywheel assembly may be supported on a pair of bearings, the whole mounted in a simple wooden jig.

Some years ago it was common practice to grind fairly steep tapers on the pin, and to pull these into the Wheels by fine thread nuts. This method of construction makes a good job, provided that the tapers fit really accurately; thus, in doing-up such an engine (particularly if a new pin is being used) the fit should be checked by means of prussian-blue smeared on the pin, which is then lightly rotated over the holes. If contact is not made over the whole internal surface of each hole the parts can be lapped together, using a very fine-grit abrasive, but great care must be taken to see that the holes are not lapped out-of-square, in which event the second state will be worse than the first! This process will cause the wheels to come a little closer together and the side-float of the conrod will be reduced by a like amount; thus the clearance must be checked carefully on final assembly.

It is now more usual to pull the wheels up against substantial shoulders on the pin, rigidity being gained more by this action than by the actual fit of the reduced portions of the pin in the wheels. If parallel, these are usually made a light drive fit (i.e., about .001 in. larger than the hole) and if for any reason the fit is much looser than this, the pin can be hard-nickel-plated and ground to correct size. Velocette crankpins are ground with an almost imperceptible taper of .001 in. per inch length and should push in by hand for half the depth of the flywheel-hole; the nuts will then do the rest, but if the pin will not go in so far as that, the shoulders may not be pulled up into hard contact with the flywheel as intended by the makers.



(Above) A simple method of rough-aligning the flywheels with the aid of two wooden chocks and a straight-edge before final checking and tightening up.

Whatever the form and fit of the pin, the whole assembly eventually depends upon the nuts, which should be examined for possible damage or distortion of the threads and scrapped if there is any doubt whatsoever about them. The abutting faces must be square to the threads and can be checked and, if necessary, rectified by turning up a mandrel with a thread tightly fitting the nuts, which are then screwed on and skimmed up dead flat.

Regarding the flywheels, there is very little point in going in for a big course of weight reduction; in fact, it is possible to reduce rather than increase the performance by such a proceeding, except perhaps for dirt-track work. Some riders find they get better results with light flywheels on short tracks where acceleration out of the corners is of paramount importance, but for road work, where full use can be made of the gearbox and clutch, there is not much in it. However, a general cleaning-up of all surfaces will not be a waste of time and is of decided benefit on the rim surfaces as oil-drag is perceptibly reduced thereby.

The correct fit of the main-bearing inner races on the shafts varies according to type; in no circumstances should there be any actual slack present, but if the races are locked up endways in some manner, they can be quite an easy fit. If not so retained, there must be sufficient interference between bore and shaft to prevent "creep" which, once it commences, will cause the shafts to wear, particularly if they are not case-hardened; a light drive fit is the ideal at which to aim.

If slackness is found, do not adopt the barbarous process of centre-punching or chiselling the shaft, which, however good it may seem at the time, ceases to be effective after a very short while. Building up the shaft by nickel-plating or metal-spraying with zinc are both effective and lasting repair methods.

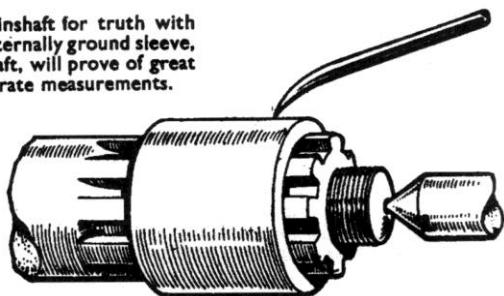
One snag about these tight-fitting races is the difficulty of removal without damage; applying two levers to the roller-cage will almost inevitably distort it thus nipping one or two rollers endwise, and this defect should always be looked for in old engines. The best scheme is to use a split puller which cannot harm the cage, but, failing that, two sharp-edged chisels ground to a narrow taper may be driven in from opposite sides between the race and fly-wheel until there is a gap wide enough to insert a pair of levers. Of course, before reassembling, any burrs raised on the faces must be filed off flush.

After all work on the components has been completed, assembly is a straight-forward job, although it is easy to over-look the obvious precaution of ensuring that the oil-holes in the crankpin and timing side wheel are accurately in line. Cleanliness is essential, not only for the sake of the bearing but also to ensure that no particles of foreign matter are trapped between the abutting faces to the detriment of main-shaft alignment. If the pin is of the solid type it can be inserted and the nut fully tightened on one wheel only, before assembling the rest, but if of the two-piece variety with a pressed-on sleeve, it is not advisable to tighten either nut fully unless the other wheel and nut are in place, otherwise the pin may be pulled over too far to one side, leaving insufficient thread for the nut on the other end.

For final tightening to a torque of at least 150 foot/pounds a properly fitting box-spanner with a strong tommy-bar at least 2 ft. long is essential; the common type of tubular spanner is not really up to the job (unless reinforced by a brazed-on ring turned to clear the crankpin nut counter bore), but if made from chrome-molybdenum steel tube this type will do.

After semi-tightening, the wheels can be lined-up fairly closely by means of a Straight-edge laid across the rims and, when reasonably accurate, the nuts are pulled up nearly as tight as they will go. As easy a way as any to move the wheels relative to each other is to bump the rim of one on a lead block or the end-grain of a hard-wood post; only a light blow is necessary, as the inertia of the wheels themselves does the trick and no damage at all is done to the rim surface.

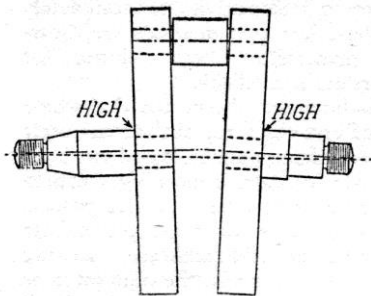
When checking a splined mainshaft for truth with a scribe or dial gauge, an externally ground sleeve, which is a push fit on the shaft, will prove of great assistance in making accurate measurements.



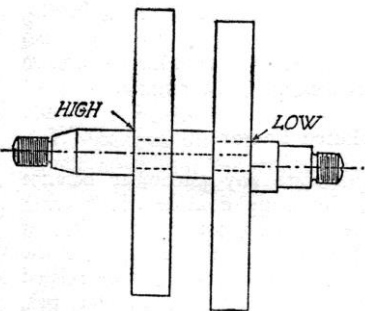
The final check must be made on the main shafts, using an indicator reading to thousandths of an inch. If a lathe or a pair of centres is available the assembly should be mounted thereon, taking care that the wheels are not deflected inwards by excessive pressure applied to the centres. Next apply the indicator to each shaft as near as possible to the ends, as all too frequently the centres in these shafts get knocked about; any defect will immediately be shown by the indicator and must be rectified by scraping, lapping or re-turning the centres until concentricity is obtained. A number of engines have one or both shafts splined and in such cases a tightly fitting, accurately ground concentric sleeve fitted over each spline will greatly assist matters.

The next move is to -check the shafts close up to the wheels; this will probably show one shaft to be " high " and the other " low " in a direction at right angles to the crankpin. If this is the only error present the situation is good, because bumping the wheels in the appropriate direction will (albeit after quite a number of shots) eliminate it entirely, but if in spite of all your efforts both shafts are " high" in the same direction, the whole assembly is in effect "bent" in the centre.

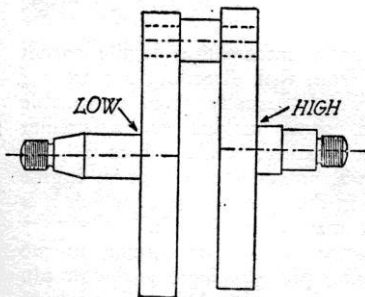
This may be due to swarf between wheels and pin, lack of parallelism between the outer faces of the pin shoulders, or similar causes. If not due to dirt, the trouble can sometimes be cured by refitting the pin in a different position should the oil-hole arrangements permit. Failing that, some very careful work can be done with a scraper applied to the flywheel faces, but most people adopt the easy way of nipping the rims in a vice, in the plane in which both shafts are "high." This process is all right if the wheels are of steel and the pin is robust, but is not to be recommended if the pin is of light section or the wheels are cast iron.



There is a third error which is rarely met with unless the wheels were not originally a pair, and that is when one shaft is high and the other low in the plane of the crankpin. This is almost certainly due to the radius of the pin-hole in one wheel differing slightly from that in the other and can only be remedied by a difficult machine-shop operation.



If a pair of centres is not available, or the shaft-centres are too badly damaged to be usable, another method of checking is to support the assembly by its own or a similar pair of main-bearings resting in V-blocks. Alternatively, if there are only two bearings the crankcase itself can be utilized, although it is rather laborious having to separate the whole issue in order to bump the wheels whilst carrying out the truing process—needless to say, it is a bad plan to attempt to shift them while supported in their own bearings. If there are two fairly widely spaced bearings in either side of the case the job is a little easier, as then one shaft can be run in these bearings, leaving the other wheel and shaft completely exposed for checking. These last two methods are, however, only suggested as makeshifts where facilities for employing one of the others are unavailable.



.002 in. there is nothing much to grumble about. Two-bearing assemblies can run with a greater error than those with three or four, particularly where the latter are housed in a very stiff crankcase. Having got the shafts as true as they can be made, the nuts must be given a final nip-up, and the shafts finally rechecked.

If all is well, a couple of squirts of oil up through the feed drilling in flywheel and pin to clear out any possible grit will finish the job off.

And here is an alternative explanation on how to align flywheels from OVR reader

The way that I true flywheel assemblies as follows. It presupposes that the ends of the main shafts are in good order. If you do not have them then you should be able to use your lathe to make a couple of centres.

One centre in the chuck and the other in the tail stock. I fit the crankpin into the drive side flywheel, which already has the main shaft fitted. I then fully tighten the crank pin nut. I then assemble the big end, con rods etc. and then press on the timing side flywheel and loosely fit the nut to the timing side of the crank pin.

Put it in the centres, making sure that they are tight, but not too tight, and then measure the out of round near to the flywheels on the main shafts as the whole assembly is rotated on the centres.

You will now need a block of hard wood, oak is good but other woods might do, and an immovable object. I normally use the concrete foundation of any local structure but others might have access to a large anvil etc. This is when you do your body building exercises.

Having worked out in what direction the timing side flywheel needs to move, pick up the whole assembly by the drive side main shaft, taking care to hold the small ends loosely, and hit the block of wood with the timing side flywheel.

Go back to the centres and measure again. This will tell you whether you need to hit harder or more often.

Start to tighten the timing side crank pin nut, but not fully, and then go back and do the body building again. If the neighbours see you doing this then explain to them that you had wood worm in the piece of wood and were trying to give the insects a headache. It might take a few goes but it is better to sneak up on the correct settings slowly rather than go too far and have to come back on it.

Once you have it correct then fully tighten the timing side crank pin nut and go back and check again that nothing has moved. If this does not work then either the flywheels have different distances between the crank pin holes and the mains shaft holes or the faces for the crank pin to sit against are faulty. I have seen the former but never the latter.

To show how things have moved on; I have somewhere a 1940s or 50s motorcycle hand book which advises using a set square against one face of a flywheel and across the two circumferences of the flywheels. This was clearly considered good enough for bike used during the second World War or in the forties and fifties. In the hands of a skilled mechanic this might have been good enough. I'm pretty sure if I tried it, then the bike would vibrate the flywheels to pieces very soon.

Event Calendar

2018	
Jan 21	Great Southern Motorcycle only Swap Meet, Goulburn, Australia. Call Colin for more info 0418 482 630
Jan 25	Jack Ehret's record Braking Black Lightning to be auctioned today by Bonhams in Las Vegas
March 23-24	New Zealand National Vincent Annual Rally at Waitomo, North Island, New Zealand. email Suzy Hall at thmotorcycles@xtra.co.nz 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 www.ma.org.au
April 22	Maffra Motor Museum Swap Meet. Additional info at www.gippslandvehiclecollection.org.au
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 http://lsvoc.vincent-hrd.co.uk
May 26-27	42 nd Historic Winton; meeting for heritage cars and motorbikes. More info from www.historicwinton.org
August 27-31	Australian National VOC Rally, to be held at the Maroochy River Resort in Queensland. Contact kevinfowler2@bigpond.com for more info
2019	
June 3 - 19	VOC International Rally; Belgium and Austria. More info to follow also see MPH
2020	
tba	International Jampot Rally in Nelson, New Zealand for AJS & Matchless bikes. Contact nipper@nipper.net.au

Distance, bloody distance !

A personal comment on Classic Australia from OVR reader and contributor, Derek Pickard

MILE after mile flat out. Throttle full open, engine full noise and rider giving it everything. The stuff dreams are made of. To many motorcyclists such a situation is fantastic. To most Australian motorcyclists it's little more than boring.

Australia is a very sparsely populated country. This continent has the population numbers of London spread over a land mass the equivalent of North America -- and most of us live in a handful of cities around the coast.



Away from these cities, the roads are invariably straight, flat and empty. They go for literally thousands of miles and may only pass through a handful of small townships. Although the legal limit is 100 kph, the chance of getting caught doing twice that speed across an empty desert is practically nil — policemen also get bored and prefer to hang around towns.

Most Australian motorcyclists avoid long distance trips. Touring usually means heading for a local mountain range only a few hundred miles away. Clocking up a couple of thousand, just to say you've done it over a weekend, wouldn't impress anyone. You could wear out a BSA just doing one trip, so there's no shame in putting classics on trailers.

There are two big boring trips Down Under, and both of them start at Adelaide. One is to head west a few thousand miles to Perth, and the other is over the same distance north to Darwin. Both require good planning as many motorcycles won't make the distance between fuel stations. (And there's absolutely no point in trying to push 400 pounds of hot metal 200 miles along an empty desert road!)

These journeys can be fun for the first few hundred miles. They usually start as a challenge, a chance to really see what man and machine can do. But all the romance rolls away once a few hours have passed.

There's nothing quite so lonely as sitting on a bike, classic or modern, along a dead straight road, in a perfectly flat landscape, that doesn't alter for the next three days of non-stop riding. For hour after hour, day after day, nothing changes. Other road users can be as rare as petrol stations. All the rider has to think about is refuelling and trying not to fall asleep.

There are many techniques which can be used to add a little interest to these situations. Speed is irrelevant: 180 kph soon gets to be as boring as 20 kph and feels much the same anyway. The only point in sitting on the maximum is the way it helps bring a quicker end to the boredom.

Riding all over the road can be fun for an hour or so. The technique is to change lanes every now and again. Say, five minutes on the left side, ten minutes over to the right, five minutes down the middle and then back to the left again. The chance of meeting anyone coming the other way is nil, and if you did it would help break the boredom anyway.

1 95 GREAT NORTHERN HWY	
Dalwallinu	231
Mount Magnet	549
Meekatharra	743
(Newman)	1164
(Port Headland)	1613
(Broome)	2154
(Derby)	2308
Fitzroy Crossing	2482
Halls Creek	2771
Wyndham	3139

A challenge I often dare riders to have a go at is the old 'see how long you can keep your eyes closed' game. This can be real fun and is guaranteed to add excitement to any long trip — especially if it's played at night.

The rules are these. The bike is set up along a dead straight road going right down the middle, both eyes are closed and the rider begins to count. Slowly.

At first it's easy. Anyone can count to ten. Most people pass twenty. Real heroes approach forty. Only lunatics get the other side of fifty. Everyone will later lie their head off claiming what number they reached. The fact is, no matter how long a person has ridden dead straight, and knows that the road continues to be the same for the next six hours, the mind simply cannot accept it. When the eyes are first closed everything is under control for the initial few seconds. But even a will of chrome steel turns into wobbly silastic when the imagination takes over. At around the 15 second mark you begin to hear a huge truck; at 20 seconds it becomes two trucks and they're both coming straight at you! By the time 25 has been reached most riders cannot fight it any longer, and try as you might both eyelids pop open. When you do, the sight is exactly the same as 30 seconds before.



Practice makes perfect and by the end of the first day regular runs of up to thirty seconds can be achieved. After a few days of this, over-confidence can set in and better riders have to resist the temptation to prove their skills in city streets. The old excuse 'But I didn't see him your honour' can take on real meaning! However, the faint hearted don't get up to such antics and cope with problems other than boredom.



One of the worst is discomfort due to lack of movement. Nine hours in the saddle (any saddle) without even so much as a twitch to operate the gear lever or signal a turn is guaranteed to be uncomfortable. A common remedy is to vary the riding position, An hour with the feet on the normal footpegs is followed by an hour with them on the pillion pegs, then it's left foot forward and right foot back followed by the obvious reversal. Sitting up on the tank for a while helps, as does stretching and parking the backside past the pillion reserve. It's amazing the silly positions one can contrive to retain relative control of a motorcycle when there's positively nothing else to do.

These anti-boredom techniques invariably begin with basic manoeuvres like kneeling on the saddle. That soon becomes nothing special and always develops into a standing position. The fortunate restriction at all times is the need to retain an open throttle —although with a little imagination this can be done with any one of four limbs. On one particularly dull trip I managed to remove both boots and shoved my bare feet up on top of the instruments while leaning backwards to see the rear number plate! The welcome cooling sensation on that mid-summer ride was a real delight. It's important to keep an eye out for on-coming settlements while doing this, as thundering through the main street at around eighty, practising what must look like a circus act, is enough to wrench any traffic policeman out of his country pub.



Kangaroos are also a problem. There's nothing worse than having a six-foot-tall hopping thing which weighs in like a Honda Gold Wing leap onto the roadway. Keeping a watch for such things along bush highways certainly helps riders to stay alert. [Click here](#) [And Here](#) [And again here for examples of this](#)

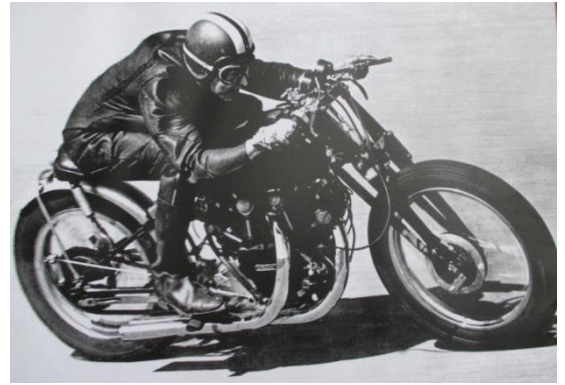
Most Australian motor-cyclists can tell stories of incredible speeds being maintained for equally incredible distances.

When I was working on Australian Motorcycle News in the nineteen seventies we conducted many long distance road tests. One was with the cute orange Laverda SFC 24-Hour Replica

which we kept at 120mph for 24 hours around a huge road loop with only minutes lost for refuelling and chain tensioning. It didn't break, but the riders got bored. In the end we stopped doing such tests as everyone in the office preferred other activities.

Today, the only interstate riders invariably roll along on huge well-kitted touring bikes. With their beautifully padded seats, wrap-round fairings, on-board stereos and bike-to-bike radio communication, they while away the hours in comfort without a thought for speed.

For me, I guess it's time I did another long-distance interstate thrash. All the way from Adelaide to Perth, and back, without the speedo falling back into two figures. Who's game to lend me a nice just restored Vincent Black Shadow? I promise I won't get bored.





A collection of enthusiasts, young and old with a not so recent 'shed find' at Arkaroola, in Central Australia, a mere 700 Km inland from Adelaide. [Click for info on the location](#). Left to right is Roger Fuller, Doug Sprigg, Mark Sprigg, David Bowen and Andrew Rackstraw.

The following 4 pages of original Series A promotional material is from the Bill Norton Collection, with thanks to David D for passing them on.

INTRODUCTION

FOR ten years we have built nothing but spring frame machines, believing that the time is very near at hand when no experienced rider will ride anything but a spring frame machine.

Whilst there are still more rigid than spring frame machines built and sold, manufacturers have been compelled to recognise that spring frames are now essential to success in high speed racing. All the leading events this past season have been won on spring frame machines—to mention only a few: The Senior "T.T.," the "Ulster," European Grand Prix, the Dutch "T.T."

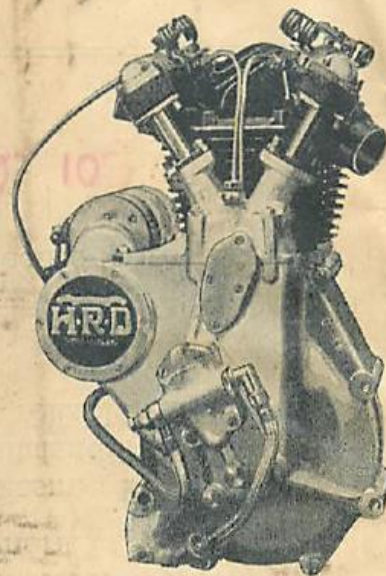
What greater justification could there be for our policy?

For the coming season we have made no radical alterations in our standard products. Details have been improved here and there and better performances achieved. The racing machine has been greatly altered and is now an exact replica of machines used by ourselves in the more important races.

We have withdrawn the "Comet Special" model, because the performance of the "Comet" model is now so good that there is little to be gained by converting our racing machine into a roadster.

The "Rapide" model has been a wonderful success, and we claim that it is impossible to buy a better machine.

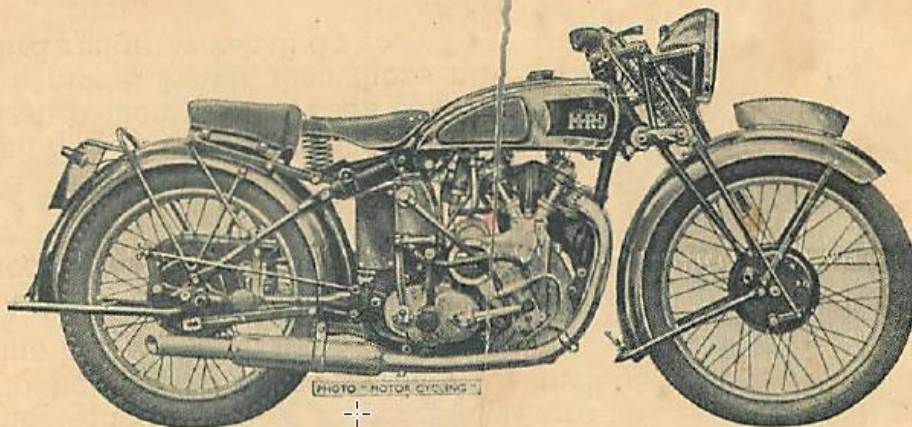
We thank all the enthusiastic band of Vincent H.R.D. owners for their loyal support, and assure them that as soon as we can produce a model better than those now in our standard range, we shall do so.



500 c.c. Rear Springing

THE VINCENT H·R·D COMPANY, LTD
STEVENAGE, HERTS.

The "METEOR" Model



Series "A" "Meteor" 500 c.c. Semi-O.H.C.

THE Vincent H.R.D. Series "A" Models have proved so successful that no major alterations have been required for four years. When we asked leading agents and riders whether we should alter them, by far the majority said we should leave them as they are. Few motor cycles in history have built up such an enthusiastic following in so short a time, and "Meteor" riders are amongst the most satisfied of Vincent H.R.D. owners.

There must be some reason for this enthusiasm. **You** will find the answer the first time you ride one of these outstanding machines; they are "beyond comparison" as safe, fast, reliable, **and comfortable** touring motor cycles.

Speed, 75 to 80 m.p.h. Weight, 385 lb.

Price, including 6-volt 36-watt lighting, electric horn, licence holder, pump, and tools

~~£79 10 0~~ £92. 10. 0d.

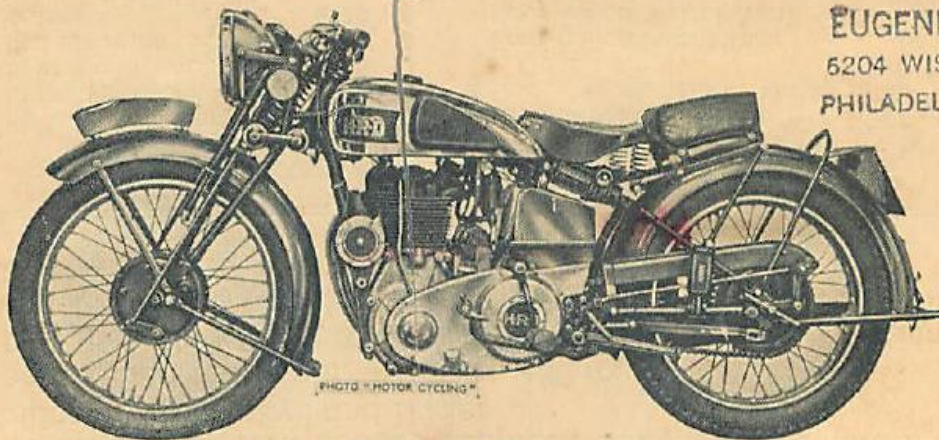
(Speedometer £2 15 0 extra)

TESTIMONIALS

"I can honestly say the spring frame cannot be beaten for sheer comfort. I will never go back to a stiff frame, and believe that if all motor cyclists were to have a ride on an 'H.R.D.' they, too, would be finished with the rigid frame for ever . . . Myself, I can't praise the Vincent too highly." L. J.

"I have had one of your machines in preference to . . . because I believe they are a fine piece of engineering. From the little while I've had it, it shows great promise of being everything one could insist for in a high efficiency motor cycle." G. L. G.

The "COMET" Model



EUGENE A. AUCOTT
6204 WISSAHICKON AVE.
PHILADELPHIA, PA. 19144

Series "A" "Comet" 500 c.c. Semi-O.H.C.

THE most essential feature in any motor cycle having pretensions to high speed, and unfortunately the one that appears often to be overlooked, is safety of handling.

This covers a wide range of qualities, including first-class steering, road holding, braking, and comfort. We definitely claim that no other motor cycle possesses these qualities to the extent that the Vincent H.R.D. possesses them.

It is generally acknowledged that a good spring frame is **essential** for all these qualities to be achieved at high speeds. Racing results prove this, yet Vincent H.R.D. are the only manufacturers who have standardised for many years a spring frame **identical** to the one used in T.T. races. In addition, we fit **four** brakes to ensure an instant, smooth pull-up from the highest speeds, without the slightest tendency to "wander" or skid.

The Vincent H.R.D. is demonstrably the **safest** machine in the world. You **must** try one before buying your next machine.

Speed, 85 to 90 m.p.h. Weight, 385 lb.

Price, including 6-volt 36-watt lighting, electric horn, licence holder, pump, and tools

~~£85 0 0~~ £99. 10. 0d.

(Speedometer £2 15 0 extra)

LUBRICATION

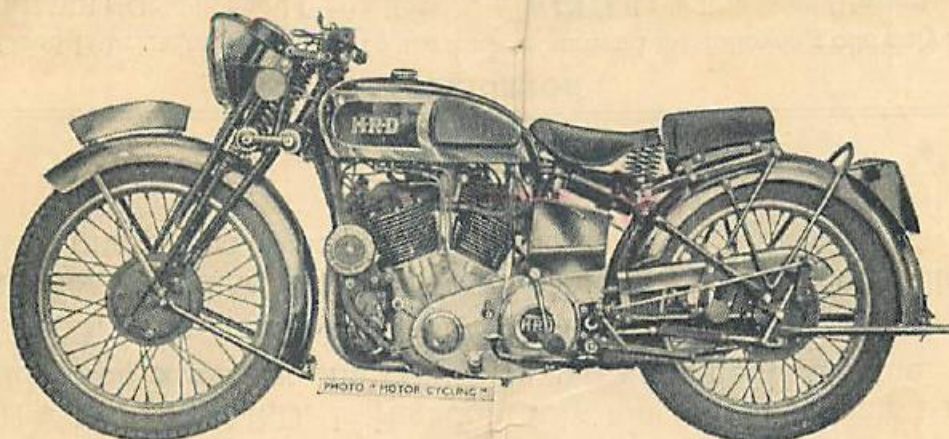
Good Lubrication is vital. We use and recommend the following oils only:—

SUMMER: Golden Shell (Extra Heavy).
Patent Castrol XXL.
Mobiloil "D."
Price's Motorine B de Luxe.
Essolube "Racer."

WINTER: Triple Shell (Heavy).
Patent Castrol XL.
Mobiloil "BB."
Price's Motorine C de Luxe.
Essolube "50."

All machines sold are subject to the Conditions of Sale and Guarantee printed in our main catalogue

The "RAPIDE" Model



Series "A" "Rapide" 1000 c.c. Semi-O.H.C. Twin

THE "Rapide" has enjoyed a successful first season, and apart from a few minor alterations is continued unchanged.

It is impossible to attempt to convey on paper an adequate impression of the performance of this magnificent model. We at the works are pretty hard-bitten enthusiasts, used to riding really good motor cycles, but the "Rapide" gave us a shock!

We expected something good from this model for we had put everything we could into the designing and making of it, but it far surpassed our expectations.

The performance is electric. Power appears to be almost limitless, yet it is so smooth and controllable that it is a delight to ride even in thick traffic.

There is only one snag we have discovered in owning a "Rapide." You never get a scrap with another machine, because no ordinary motor cycle can live with a "Rapide." Here at last is a performance equal to the fastest T.T. models, coupled with silence, comfort, and tractability. A true Jekyll and Hyde.

Speed, 105 to 115 m.p.h. Weight, 430 lb.

Price, including 6-volt 36-watt lighting, electric horn, 120 m.p.h. speedometer, 8-day clock, full spring pillion equipment, pump, and tools

~~£128 0 0~~ £149.0.0d.

EXTRAS—Where not fitted as standard

Smith's Revolution Counter	£4 4 0	Undershield	£1 0 0
Smith's Eight-day Clock	1 17 6	Duo Sprocket for varying	
Patented Sprung Pillion Carrier	1 5 0	Gear ratio	0 15 0
Mosely Pad for same	0 12 6	Four-gallon Petrol Tank	1 0 0
Pillion Footrests	0 10 0	Four-gallon Petrol Tank, all	
T.T. Pattern Footrests, with		stainless steel	2 0 0
folding right-hand Footrest	1 10 0	T.T. Duralumin Mudguards	
Patented Sprung Luggage		and Stays on Standard	
Carrier	1 15 0	models	1 15 0

The makers reserve the right to alter without notice, the specification and prices in this Folder as they may deem necessary and advisable.

Bowden Cable Construction

As promised last month, the continuing story...

A Bowden cable is a type of flexible cable used to transmit mechanical force or energy by the movement of an inner cable relative to a hollow outer cable housing.

If you wish to have smooth and reliable cable operation on your bike the best thing you can do is ensure that your cables are of adequate length so that they are not forced into excessively tight curves/bends and that there are no twisting constrictions on the cables inner wire. You may choose to purchase and use pre-made cables, available from a number of suppliers but for ultimate results it's not all that difficult to produce control cables yourself. **IMPORTANT** - I do not advocate the use of homemade brake cables unless you really have a lot of experience and skill in cable making as this is the one area where a professional product could mean the difference between life and death – Yours!.

The key to a professional job lays in the tools you use and your experience with them – so if you are just starting out making cables practice each stage in the process till you feel you have it right before you make a cable to actually use. For your own peace of mind you may care to test your practice items to destruction till such time as you are happy with your work.

At a minimum you will need:

1. a means of cutting to length both the outer casing and the inner wire,
2. a tool suitable to 'birdcage' the inner wire (prior to soldering),
3. a solder pot being the only means of correctly soldering the inner wire to the nipples at each end of the wire and
4. a work bench that will accommodate the full length of any cable you plan to make.



For cutting the outer casing and the inner wire to length you may choose to use a pair of parrot beak cable cutters, something like these (left) or alternatively you may use a rotary hand tool like a Dremel (right) with a suitable cut off wheel



Once you have cut the outer cable you will then need either a set of files – or again a rotary tool with a suitable cut off wheel or stone to clean the end of the cut to remove any wire burs that would constrain movement of the inner wire through the outer casing.



Left is an outer casing cut with a parrot beak cutter showing the distorted outer wire (caused by the cutting action), which must be removed; On the right, the same cut subsequently cleaned up using a Dremel tool used with a fine grind stone and now ready for a cable ferrule to be fitted.



It is a common misconception that it is the solder that does the work of securing the nipple to the inner wire but this is not the case as solder alone does not have the strength to deliver a secure and permanent job. The key to reliable nipple attachment is bird caging of the inner wire prior to soldering and Venhill sell a tool designed to do this and do it well, it's called an Inner Wire Bird Caging Tool and is suitable for wires and ropes of 1.5, 2 and 2.5mm OD. Here is a link showing the tool in use. https://www.youtube.com/watch?v=g_273vfLLa8



The primary role of the solder is to support the shape of the bird cage.

When it comes to the actual soldering there is only one correct way and that is to use a solder pot. A container of molten solder into which you dip the inner wire with nipple on it and pulled firmly against the bird cage.



Immediately before dipping into the solder plunge the inner and nipple into some Flux first. I use a product called “Bakers” Soldering Fluid which contains 400 g/L of Zinc Chloride.

You can use whatever you wish as a solder pot though purpose made ones like that shown are available – I got mine via eBay for under US\$15 delivered.

You need to keep the cable end/nipple in the solder for only long enough to heat the bird caged wire and the nipple – 5 seconds is more than sufficient. Don't plunge it into the solder – a gently dip that just covers the nipple is all that's required. If you overheat the wire it will lose its temper and its strength – the soft solder you use should contain at least 2% silver and will have a melting point around 230 C. There is no need to use hard or “silver solder” which has a melting point



in excess of 400 C, a temperature which will destroy the ‘temper’ and strength of the inner wire rope. You should not use a naked flame to perform the soldering as even the workshop type propane burner has a flame temperature exceeding 1,200 C and that will ruin the flexible inner wire rope in the blink of an eye. Once out of the solder pot wash the newly soldered wire/nipple in clean water to remove any remaining traces of Flux.

Cable components are available from a number of suppliers including [Flanders Cables](#) in the USA and [Venhill](#) in the UK. I use Venhill's as they seem to have the broadest range of components and offer reasonably quick and economical shipping – and their on-line store is easy to use.

Venhill Components, needed for Vincent cables



Adjuster A61B



Ferrule F101



Ferrule F103



Reducing Bush RB8M6



Nipple TN24



Barrel BN1013L



Adjuster A675B



Ferrule F1



Ferrule F89B



Ferrule F2B



Nipple BN575



Nipple BN624



Nipple EE7

Venhill Inner Wire Ropes

Generally inner wire ropes are available in galvanised steel or in stainless steel. Stainless steel requires special solders and flux and precise temperature control that is the domain of professional cable manufacturers. As a consequence, only galvanised steel ropes should be used by the enthusiast constructor. The two galvanised steel wire ropes I use are:-



R77/1 super flexible galvanised Wire Rope with an OD of 1.5mm consisting of 7 twists each of 7 wires for a total of 49 wires

R77/2 super flexible galvanised Wire Rope with an OD of 2.0mm consisting of 7 twists each of 7 wires for a total of 49 wires



Venhill Outer Conduit

LB1TS 5mm OD with a low friction Teflon liner, suitable for wire rope up to 1.5 mm OD

LB3TS 7mm OD with a low friction Teflon liner, suitable for wire rope up to 2.5 mm OD

Construction Details for Vincent Comet Control Cables

The following deals with cables for a Vincent Comet however it is also directly applicable to any classic bike – the only change you may need to make is to the lengths of the inner wire and outer conduit.

Clutch

Composed of 2 Venhill Conduit LB3TS outers with an adjuster part way. Use adjuster A61B . The Inner Wire Rope is R77/2

One outer at the gearbox end is 325mm long, ferule step to ferule step. Ferrule at gearbox end is F101 and ferrule at adjuster end is F101

Other outer is 900mm long ferule step to ferule step. Ferrule at adjuster end is F103 and ferrule at lever end is F101

Nipple at clutch end is TN24. At lever end is a loose barrel, BN1013L retained by a TN24 nipple

Measured at the Clutch Lever end, with adjuster fully closed, the Inner cable has a one end free length of 80mm from ferrule shoulder to base of nipple that retains the free barrel.

REQUIRES: 1x A61B adjuster; 3 x F101 plus 1 x F103 ferrules; 2 x TN24 nipples; 1 x BN1013L loose barrel

Decompressor Cable

Composed of 2 Venhill Conduit LB1TS outers with an A675B adjuster part way. Inner Wire Rope is R77/1

The outer at the engine end is 520 mm long, ferule step to ferule step. Ferrule at the engine end is F1 inside a F89B; Ferrule at the adjuster end is F2B

Other outer, between adjuster and lever, is 890 mm long ferule step to ferule step. Ferrule at the adjuster end is F2B; at the lever end the ferrule is F2B.

Nipple at lever end is a TN24 retaining a BN1013L loose barrel and at the engine end the nipple is a BN575.

Measured at the Lever end with adjustor fully closed, the inner cable has a one end free length of 45 mm from ferrule shoulder to base of nipple that retains the free barrel.

REQUIRES: 1x A675B adjuster; 1 x F1 plus 1 x F89B plus 3 x F2B ; 2 x TN24 plus 1 x BN1013L loose barrel

Throttle Cable for Amal Mk1 Premium

Composed of 2 Venhill Conduit LB1TS outers with an A675B adjuster part way. Inner Wire Rope is R77/1.

The Outer from carb to adjuster is 670 mm long, ferule step to ferule step. Ferrule at the carb end is F1; Ferrule at the adjuster end is F2B.

Other outer from adjuster to twist grip is 160 mm long ferule step to ferule step. Ferrule at the adjuster end is F2B. At the twist grip end the ferrule is F2B that MUST then have a RB8M6 reducing bush fitted over it.

The nipple at the Twist Grip end is BN642. At the carb end the nipple is a EE7.

Measured at the twist grip end with adjuster fully closed, the Inner cable has a one end free length of 110 mm from the RB8M6 shoulder to base of the BN642 nipple.

REQUIRES: 1x A675B adjuster; 2 x F1 plus 3 x F2B ferrules; 1 x RB8M6 Reducing Bush, 1 x BN624 and 1 x EE7 nipple.

Mixture Cable for Amal Mk1 Premium

Composed of 2 Venhill Conduit LB1TS outers with an A675B adjuster part way. Inner Wire Rope is R77/1.

One outer at the engine end is 530mm long, ferule step to ferule step. Ferrule at the carb end is F1; Ferrule at the adjuster end is F2B.

Other outer is 250mm long ferule step to ferule step. Ferrule at the adjustor end is F2B; at the lever end the ferrule is F2B.

Nipple at Bar end is BM642, at carb end the nipple it is a EE7.

Measured at the control lever end with adjustor fully closed, the Inner cable has a one end free length of 120 mm from ferrule shoulder to base of nipple.

Note – it may be necessary to use a file to slightly reduce the thickness of the BN624 nipple in order to fit into a Bowden control lever.

REQUIRES: 1x A675B adjuster; 1 x F1 plus 3 x F2B ferrules; 1 x BN624 and 1 x EE7 nipple.

Compiled by The Black Sheep, with thanks to Martin Bradfield, UK who identified the RB8M6.

ANNIVERSARY STORY No. 3

Launching of the Good Ship 7R

ONE Sunday in March of 1948, 10 years ago this month, something new hatched out at Brands. The 7R A.J.S., a technical description of which had appeared in *Motor Cycling* the previous month, circled a race circuit for the first time, crewed by A.M.C. sales manager Jock West. These try-outs, although conducted on a non-meeting Sabbath, happened to coincide with a B.H. visit by one of our freelance "noses," who, equipped with Kodak and quills, duly copped us a minor scoop for the following issue.

And now, after a decade in which this gainly production racer has stamped an indelible imprint on the scenes of derring-do all over the world, it is timely to take a hindsight glance at its genesis. It all began when the collective A.M.C. consciousness was struck by the thought that Plumstead's post-war racing policy—so far geared exclusively to the 500 c.c. "Porcupine" twin—was neglecting something; or rather, somebody, viz, the boy racer, alias the private owner. A decision to stopper the gap was taken forthwith, and it devolved upon West, as one combining commercial responsibilities and acumen with an impressive background in all forms of competition riding, to give the project due consideration.

He recalls that a week-end's prodigious cogitation over his terms of reference, namely, to express an opinion on the best type of machine to suit the purpose, resulted in the following "specification"—it should "provide the desired performance with ease of maintenance and durability." It seemed that a single cylinder, single camshaft type of engine best met these requirements and accordingly the Board passed the matter on to designer Phil Walker, who, apart from the aforementioned guiding principles, was given *carte blanche*, which he probably interpreted as meaning a sheet of drawing paper with nothing on it.

The basic 7R blueprint is too familiar to need reiteration in detail here, but we should pause to salute Mr. Walker on his success in achieving the triple objectives. From the very start, even before it had scored anything spectacular in the way of wins, the Boys' Racer, as it was affectionately christened, sold like 12-in. hot dogs, no fewer than 77 passing over the counter in its first season. Output—not to be confused with demand, which has consistently exceeded supply—has averaged almost exactly 50 per annum for 10 years, the total built up to the end of 1957 being 499. Today, even more than hitherto, production perforce lags behind requirements. Twenty-five 7Rs are being minted for 1958, and every week's mail at A.M.C. brings plaintive (sometimes acrimonious) letters from disappointed aspirants whose orders have been regretfully declined.

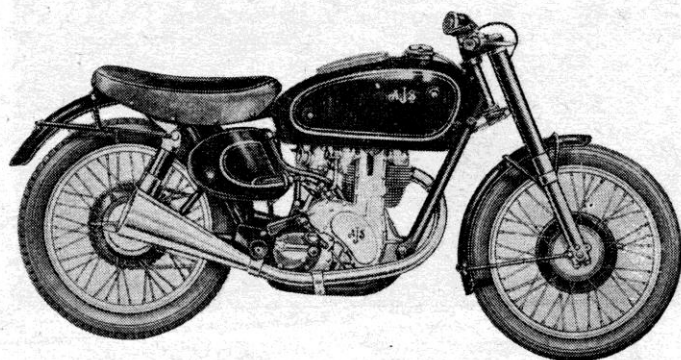
When A.M.C. disbanded their own works team, the racing department, under former T.T. and Brooklands rider Jack Williams, was entrusted with the production of the 7R; this compact organism can turn out 25 bicycles per year to the exacting standards it sets itself; more than 25 would involve a compromise with those standards, which is something the company doesn't want to know about. (The department has other commitments as well, of course, such as the rebuilding, maintenance and tuning of existing machines for established owners.) If compromise had had any place in the picture during these past 10 years, the 7R's record wouldn't have included such items as four Junior Manx G.P. wins in five years (1950/51/52/54) . . . fourth place by Geoff Murdoch in the 1948 Senior T.T. . . . 3-4-5-6-8 placement in the Junior T.T. of 1952, and others too numerous to catalogue. (If it isn't unethical to count fish that got away, there was, of course, that 1949 catastrophe when Bill Doran's 7R, leading the Junior T.T. on the last lap, suffered a gearbox layshaft bearing failure at the Gooseneck.)

The first standard 7R off the slips was supplied to George Bryant for the use of Les Dear, who rode it at Floreffle and Mettet in the spring of 1948. Less than two months after Jock West's *in camera* trials at Brands Hatch (which was then a grass track, you remember) the 7R made its first conquest when Ernie Lyons won the 350 c.c. class of the Leinster "200" at Tallaght, tying with Denis Parkinson (Norton) for fastest lap. On the principle that the best form of testing is racing, A.M.C. lent a 7R to the late Fergus Anderson for the 1948 season, and after his initial gallop on it—at Pau, where

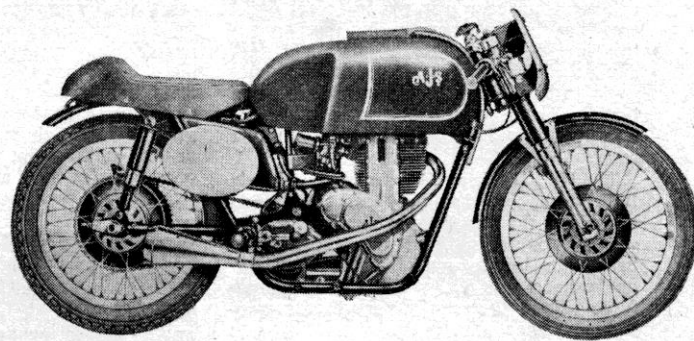
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The Ten Years' Life Story of the A.J.S. "Boys' Racer"

by DENNIS MAY



With ten years between: the original 7R of 1948 (above) and the current model.



he retired with clutch trouble while looking up the trumpet of leader Van Rijswijk's Velocette—Ferg reported to "Sports Gossip": "It's handling is at least as good as anything I have ever ridden; it is comfortable, with good brakes, and so far the engine has never missed a beat."

The absence of missed beats, then and thereafter, didn't in the least surprise the A.M.C. boffins, because designwise they certainly hadn't taken any leaps in the dark; in spite of the outward dissimilarity between the "Porcupine" and the 7R (two cylinders against one, double knockers compared with single, etc.), the fact was that their experience with the two-banger had been very fully exploited on the three-fifty. On the other hand, contrary to many peoples' guess, there was no affinity whatever between the 7R's engine and that of the pre-war o.h.c. A.J.S. single, apart from the retention of chain drive for the camshaft—a move dictated mainly by tradition and sentiment.

Having typed the new three-fifty for the rôle of the private owner's best friend, A.M.C. initially had no thought of running a lower-league works team, armed with 7Rs; and the proposal to do so, when it crystallized, came from the works riders themselves, who hadn't been slow in realizing its potentialities as a second string to the fabulous "Porcupine." The result of this delayed-action develop-



One of the most striking of 7R action shots: Alastair King breaking the Junior M.G.P. lap record in 1954. The race was won by the late Derek Ennett on another 7R.

ment was slightly comic. Committed to building for-sale 7Rs as fast as they could, A.M.C. found themselves obliged to run up the first batch of works team machines out of left-over bits and pieces, with the consequence that these were appreciably slower than off-the-peg samples. Jock West, who was then, of course, an A.J.S. team member, discovered this discrepancy to his cost in the 1948 Junior T.T., when he was repeatedly caught and passed on the straights by one of his own customers.

The 7R's decade of development is living proof that "mony a mickle maks a muckle." Ten years ago, in its original 74 by 81 mm. proportions, the engine gave 29 b.h.p. at 6,800 r.p.m. Today's edition, redimensioned to 75.5 by 78 mm., yields over 38 horse at between 7,400 and 7,600 revs. (on bench test it is taken up to 7,800 per minute, but there is little or no extra power to come beyond the seven-six mark). In all essentials of its design, of course, this motor is the same as ever it was, with its aluminium-alloy barrel, shrunk-in iron cylinder liner, magnesium-alloy crankcase, and Weller-tensioned chain drive to a single o.h. camshaft. Apart from the change in bore-stroke ratio, adopted two years ago, all the mods. have been relatively minor both in character and their effect on performance; some, indeed, have in the strict sense, not affected performance at all, being designed purely as aids to reliability and/or length of life.

Apart from the copper-plating of the cams to counteract a rate of wear that was high on some units, engine mods. during the 7R's first and second years were nil, but for 1950 the flywheels were lightened, the sump fitted to the crankcase, both valves increased in diameter (up to 1 23/32 and 1 1/2 in. for inlet and exhaust respectively), the valve timing altered and roller rockers substituted for slipper type.

Two more seasons passed without further doctoring, then in 1953 came a fresh spate of mickles to make a muckle. Included in this batch were a shallower combustion chamber; a sodium-cooled exhaust valve (up again in size to 1 17/32 in.); a change in inlet valve angle and diameter; modified rockers and rocker lubrication; replacement

of the plain camshaft bush by a roller bearing; improved main bearings; a narrower chain line for greater rigidity of the fly-wheel assembly; a redesigned breather and the deletion of the exterior crankcase webs.

Status quo was again maintained throughout 1954-55, while the chief 1956 development was, of course, the bore/stroke revision already mentioned. Concurrently, a double timing-side main bearing and a rotating-magnet magneto were adopted.

Out of all these revisions, taking the whole period from 1948 to 1957 inclusive, the one that paid the biggest individual dividend was the narrowing of the chain line, accompanied, incidentally, by the discarding of the engine-shaft shock absorber.

For 1958, cam design has been altered, the inlet port re-angled and a more positive engine breather employed.

The 7R started life with a compression ratio of just under 9 to 1, the figure rising by stages to over 10 to 1. Interestingly enough, it was recently lowered to just 10, coincidentally with improvements in cylinder filling. Ultra-high compression ratios are no substitute for efficient breathing: 7Rs have, of course, been run on alcohol fuels at various times (as for example when the Monnerets and Bill Doran broke World's records, including the one hour at 115.5 m.p.h., in 1952), and such a diet naturally enabled higher ratios to be exploited. Incidentally, a high-crowned dope piston out of a 7R—the one that scored the late Les Graham his 350-class record for Shelsley Walsh hill some nine or ten years ago—forms the hardware element in a new trophy that A.M.C. are to present to "Bemsee" shortly.

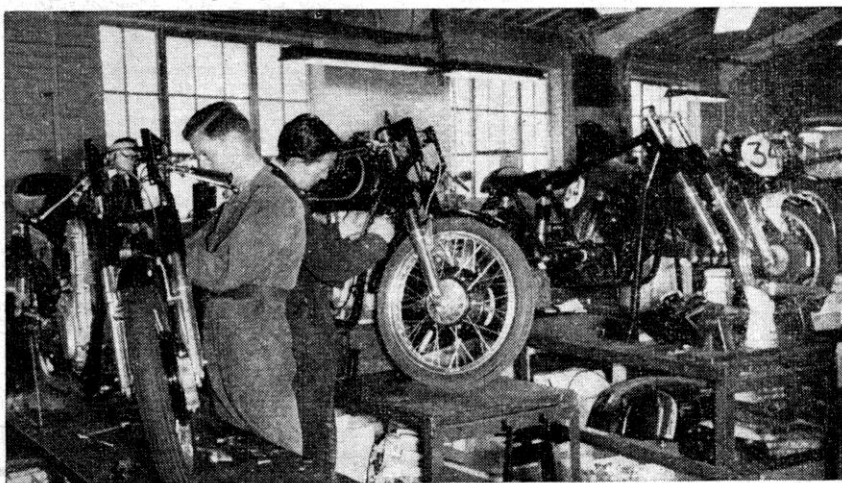
Face-Lifting

The cycle parts and running gear, too, have had their face-lifts, of course, without ever really stepping out of line with the original 7R concept. Notably, over the period 1953/4/5, frontal area was diminished and handling improved by lowering the frame and narrowing both it and the tanks; in the same era, leading and trailing shoes were adopted for the rear brake instead of 2 l.s. Later, the wheelbase was shortened and the frame further lowered in the war on windage.

Why, I asked Phil Walker, did they go for a single camshaft rather than two, the common supposition being—mine included—that double knockers have an inherent superiority on the score of reduced reciprocating weight? (They were no novelty, of course, even back in 1948—Peugeot racing cars had them in 1912 or thereabouts.) The option for one camshaft, Mr. Walker replied, was because of its obvious simplicity and consequent appeal to the customer he had primarily in mind; and because double knockers *don't* have any advantage in respect of reciprocating weight; the indispensable tappet, whatever its form may take, between cam and valve, will almost inevitably weigh as much as a rocker.

The only drawback of the single-o.h.c. layout is that the valve attack involves a wiping action rather than a direct hit . . . and this, for his money, was a small price to pay for the simplicity of single cams when you're catering to a private-owner clientele.

H'mm . . . think that one over.



All in the day's work: 7Rs for private owners being turned out in the "works" race shop ready for the 1956 T.T.

It's a Question Of Balance.

If you are about to or are in the process of a bottom end rebuild of your Vincent motor if you replace either the conrod or anything attached to its small end (Piston, rings, Gudgeon pin or pin clips) that are of a different weight to those bits being replaced then it may be wise to check the static balance your engine.

Here are the weights of some pistons, complete with rings, pins and clips intended for use in Vincents. Clearly there is no such thing as 'standard'.

Specialloid; from 480 to 500 grams

Hepolite; varies 490 to 540 grams

Kempalloids; 450 to 470 grams

Carrillo Forged; approx. 420 to 450 grams

Omega; varies between 480 and 536 grams



It is quite useless to postulate any particular balance factor as being the ideal; so many considerations enter into the matter that it varies with almost every design of engine, or even the type of frame in which engines of the same kind are mounted. The best thing one can do is rely on the original manufactures recommendations – if they can be found.

The Balance Factor: The balance-factor applies, of course, to the reciprocating parts only, i.e., piston, rings, gudgeon pin with clips and the top half of the connecting rod.

For a single cylinder Vincent engine Phil Irving writing in “Tuning For Speed” states that a factor of 66% of the reciprocating weight usually gives reasonable results for everyday use. In MPH 205 Phil confirms 66% as the ‘standard’ balance factor for a single cylinder Vincent.

Regarding a Vincent twin, Phil Irving, again in “Tuning For Speed” tells us that the appropriate balance factor for everyday use is 35% of the reciprocating weight. This is very different to Paul Richardson who in his tome suggests a balance factor of 46% for a Vincent twin.

What to believe?

- 1) Writing in June, 2000 on thevincent.com Sid Biberman stated *“The main experiment under test was the running of a crank-shaft balance factor of 35% rather than the 46% commonly employed since Paul Richardson's book apparently led us up a fools path some 50 years ago ! Phil Irving clearly stated the balance figure {for a twin} in two of his books as being 35%, and not 46%! Marty Dickerson long ago got the real skinny on this from the Master himself. In a real fury of anger Phil Irving revealed to Marty that Paul had blundered and got it wrong. By the way, this 35% is based on TOTAL reciprocating weight, i.e. both piston assemblies and the weight of both small ends.*

With the balance factor of 35% at speeds up to 60 the bars feel as if they are not bolted to the bike at all - but rather lying quietly on your kitchen table! From 60 up to 90 mph there are NO vibration periods, only a mild feeling of being part of the motorcycle, this gently increasing as speed mounts. We were careful to blue-print / equalize all reciprocating component weights and the flywheel run-out was held to about 1/2 thou. total, and pinned to prevent shifting.”

- 2) *In MPH 572 Neville Higgins mentions the differences between the information provided by Richardson and Irving and draws his conclusion that the Irving number is a mistake! This*

conclusion is surprising given that earlier in MPH 374 Irving clearly "puts the figure at 35% of the reciprocating weight, i.e. of two pistons and small ends".

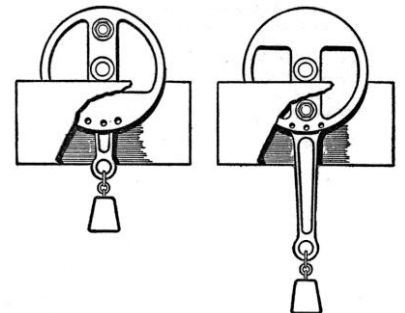
- 3) In MPH 716 Neville Higgins is quoted as saying that a balance factor of 54% has given him a engine which is smooth up to 7,000 rpm. Later Higgins quotes Bob Dunn who reportedly claimed that Vincent Twins with balance factor around 50% were good, 45% was OK, at 40% they begin to vibrate and at 30% balance factor the vibrations were really bad.
- 4) Vincent specialist Terry Prince has his own take on all of this. For Vincent twins he uses a balance factor of some 60% and for singles he uses 74%. With 100's of his cranks installed and in use he tells OVR his customers are happy with them.

Draw your own conclusions!

Weigh In: A lot of weighing and measuring can be eliminated by dealing with the complete flywheel assembly only. Arrange the flywheel assembly on a level surface so that the conrod (minus piston) is lying horizontally, with the small end resting on a set of scales with the conrod be supported in the plane of the gudgeon pin. Let's assume we find the small end weight to be 170 grams.

Next weigh the complete piston assembly (piston, rings, gudgeon pin and circlips), which comes to, say, 450 grams. Thus the *total reciprocating weight* is $170+450=620$ grams and employing a factor of 66% the amount to be balanced is, therefore, 409 grams. Note: these weights are an example only – you MUST weigh your own components and do the math.

Symmetrical Balance: The fly wheels are already bound to be balanced to some percentage, and if they are placed with the shafts resting on a pair of accurately horizontal metal straight-edges they will eventually come to rest with the crankpin vertically upwards, although they may show a tendency for the pin always to be slightly to one side of the dead centre-line. This indicates that the wheel balance is off-centre, a fault which much first be rectified by drilling equal-sized holes into each rim, in a position at right angles to the crank pin and, of course, on the "heavy" side of the vertical centre line.



Only AFTER symmetrical wheel balance has finally been obtained, attach to the small end a bob weight equal to the amount to be balanced minus that of the small end; using the example figures quoted above, this would be $409-170=239$ grams. If the balance-factor does actually correspond to the figure desired, the wheels will roll freely along the straight-edges and show no tendency to settle in any one position; if not, the pin will go to the top or bottom according to whether the bob weights are too heavy or too light.

Existing Balance Factor: Before you contemplate making any changes you should first determine your existing balance factor to determine IF you need to make any adjustment. If you have weighed the small end and the piston assembly, as described above, using the straight edges determine the weight of a bob weight required to achieve the point of balance where the wheels will roll freely along the straight-edges and show no tendency to settle in any one position. Let's assume that you do this and the required bob weight weighs 310 grams. Using the information obtained earlier, the balance factor is the weight of the bob weight PLUS the weight of the small end divided by the total reciprocating weight; so we have $310+170$ with the result of 480 divided by 620 = 77 so the Existing Balance Factor is 77%. If we are dealing with a

Vincent single, some correction seems to be required but first double check all your measurements AND calculations.



Balance Correction: Correction is usually made by drilling the rims in the appropriate positions, being careful to take equal amounts out of each wheel and on each side of the centre plane, but it can equally well be done by tapping and plugging existing holes. I would suggest that any holes that may need drilling are done on the centre of the edge of the wheels, this way they collect no oil or debris. And don't forget to wash big end out and let it dry before and after balancing!

Horizontal Straight Edges: For permanent workshop use it is nice to make up a proper jig, but it is not necessary to go to such lengths. There are plenty of other ways; for instance, two lengths of elevated angle iron (or better still, angle aluminium) can be used. The only vital qualification is that the top edges must be flat, smooth and absolutely horizontal and level with each other when the fly wheel spindles are resting on them. A good spirit level is the best aid to checking this point.

What To Do?: Given that the crank assembly is such a vital part of any motor, contributing to the overall smoothness of the entire bike, willingness of the engine to perform and the longevity of the motor itself, you must ask yourself is this really a task for an amateur? OVR would suggest it is not and recommends you seek the assistance from a seasoned professional who has the experience, equipment and skills to do the job properly.

You Want More? For those insomniacs who really wish to understand the mathematics behind balancing a single cylinder OR a single crank pin twin, then this discourse by Prof. Gosh, IIT Kanpur, may be of interest [CLICK THIS TEXT](#) .



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

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

OVR Exclusive! Another Amazing Collection is downsizing, buy one or buy the lot!

Long time OVR reader and supporter Stephen Carson is downsizing his collection of exotica. The prices shown are estimates in Australian \$. Where required Stephen may be able to assist with local and international shipping. The bikes will be slowly put onto the market over the next 4 to 6 months as he needs time to recommission some of them which are currently on static museum display in Australia. So if you are interested, now is the time to contact him. Remember the story about the Early Bird! For further details send email to Stephencarson50@hotmail.com or phone +61 419834262

Vincent

1 x 1951 Black Shadow "Saigon Shadow" Matching numbers well documented with excellent provenance. Less than 1000 miles since new. Previous owner Nguyen Van Nohn; first appeared in MPH 308 A\$210K

1 x 1952 Black Shadow "Crazy George" Matching numbers well documented with excellent provenance. Less than 50 miles since full restoration by Greg Brillus. Previous owners Crazy George Disteel and Arlen Ness. A\$190K

1 x 1950's Replica Steib S500 sidecar with linkages for Series C Vincent. A\$12K

Ducatis

1 x 1972 450 Shotgun A\$30K

1 x 1973 750 GT A\$35K

- 1 x 1974 replica 750 Sports A\$45K
- 1 x 1974 750 Sports A\$55K
- 1 x 1974 750 SS green frame A\$245K
- 1 x 1975 900SS A\$105K
- 1 x 1978 900SS A\$55K
- 1 x 1978 900 GT A\$25K
- 1 x 1981 MHR A\$37K
- 1 x 1982 900SS A\$47K

BMW

- 1 x 1938 R51 A\$45K
- 1 X 1955 R67/3 A\$47K
- 1 x 1961 R69S A\$20K
- 1 x 1975 R90S A\$34K

Honda

- 1 x 1971 CB750 A\$22K
- 1 x 1981 CB1100R A\$27K

Kawasaki

- 1 x 1972 Z1 900 45K (an immaculate Philip Veivers restoration)
- 3 x 1973 Z1 900 waiting to restore A\$30K each (Philip Veivers is restoring all these Kwakas)
- 1 x 1974 Z1A 900 waiting to restore A\$25K
- 1 x 1975 Z1B 900 waiting to restore A\$22K
- 1 x 1976 ZA4 900 waiting to restore A\$22K
- 2 x 1978 Z1000 to recommission before selling A\$15K
- 1 x 1978 Z1000 waiting to restore. A\$15K

Miscellaneous

- 1 x 1939 Ariel Square 4 A\$23K
 - 1 x 1972 Triumph X-75 Hurricane A\$45K
 - 1 x 1969 BSA Rocket 3 A\$25K
 - 1 x 1972 Norton 750 Commando A\$18K
 - 1 x Egli Fritz Target CBX1000 (one of six) A\$95K
 - 1 x Egli Fritz jnr 750SS Ducati Racer (one off) A\$40K
-

For Sale: Honda FT 500 1982 based unique bike Difazio hub centre steered front end cast iron discs AP calipers equals great brake 25mm x 38mm chassis built 30 years ago with no probs. Full weather protection top box full Victorian (Australia) rego. If you collect bikes this is the one for you at new reduced price A\$7,900.00. ONO Phone Ken 035678 2245 or 0409004017

For Sale: One pair of genuine Vincent Shadow heads and cylinders, new valves, valve guides, valve springs, valve caps, ET100 mods rocker feed bolts, collets. valve collars, New liners bored and honed to new CP 7.5 cr pistons, polished rockers, All threads are good, rocker tunnels are good, no Broken fins, new 2 pack paint. Fully assembled ready to go. A\$8,000 ONO.

Contact Terry Prince;
Phone 0245682208 int 61-245682208
e-mail clmotorbikes@esat.net.au



For Sale: 2009 Piaggio Xevo 400cc scooter. A great machine for commuting or shopping due to the huge under seat storage area, easy to ride with Auto trans. Comfortable seat & full weather protection. Just serviced with new front tyre, Hi-tec battery & rear brake pads. Only 28,500 km. Reg. Till Feb.2018. Good condition. Couple of scratches on right side & small knee panel repair. Any test. Runs well. RWC. Located near Melbourne, Australia. A\$3,800.O.N.O. Ph: Ken on 03 5678 2245.



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

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

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 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

Pablo's Motorcycle Tyres, Australia: Road, Classic, Road Racing, Classic Racing, Enduro, Motocross, Speedway, Trials and Slicks....and if they haven't got it - they'll get it! For more info see their web site www.pablos.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

VMS, Holland: 2x2 leading shoe brake kits for Vincents; high quality 30mm wide 4 leading shoe system. Email vspeet@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 pontricol@gmail.com for more info.

Nuts n Bolts:

Acme Stainless Steel, UK: All stainless steel fasteners are machined to original samples supplied by customers and clubs over the years to enable us to keep your machine looking authentic and rust free! Ships Worldwide. More info at their web site www.acmestainless.co.uk

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

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

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

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 . 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

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 . Their Web page is 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

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

Rays Custom Spray Painting, Australia: Ray Drever is skilled in paining bike tanks and frames. Also a craftsman in flame work and airbrushing. Located near Geelong; contact Ray on 03 5251 2458 or 0402 988 284.

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 are total professionals when it comes to painting. Expert service, quick turnaround and fair prices. <http://www.melbournmotorcyclefairings.com.au/>
Ph 03 9939 3344



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Motor Cycles
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