

The Oz Vincent Review

Edition #53, August 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



VINCENT Instruction Book for 1935 and Series "A" Models including The "Rapide" Series "A" Price 5/9 Postage 3d. THE VINCENT 128880 COMPANY Ltd. STEVENAGE, HERTS. + Telephone : Stevenage 375. Telegrams : Stevenage 375.

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Welcome

Welcome to the latest edition of The Oz Vincent Review. This month's front cover features the face page of the Series A Instruction book that has been serialised in OVR over the last few editions and concludes with this edition

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Letters To The Editor

Dear Martyn

Once again thank you for your great newsletter that is well received on-board the drilling rig that I am presently on as Chief Engineer working off Exmouth in Western Australia. Because of this I am unable to attend the Qld V.O.C National rally as it falls in my 28 days on duty cycle.

As you well know I am downsizing and will eventually close our small Boutique Museum "Blast from Past" here in Cairns over the next 12 months. Time to move as curator Philip Veivers aka Mouse has many of his own projects to complete. And myself a retire between Philippines and Australia. There is no money in Museums but at least the bikes are not locked away unseen by the public. The most positive side is meeting people all over the world with the same Biker DNA.

From four Black Shadows in the Museum we have only my 1950 "Black Jack" remaining. The 1954 ex Alex Smith went down to new owner in Gold Coast. The 1951 "Saigon Shadow" and 1952 "Crazy George" to new owner also down Gold Coast way.



Greg Brillus is doing beautiful job in restoring the ex Marty Dickerson 1939 Series A Comet. This will be a keeper for Australian Rally's. I intend to import "Black Jack" into Philippines and believe it will be only one in Philippines. Its rumoured that the head of the Philippine home grown church "Iglesia ni Cristo" has a Rapide.

Am presently in the Philippine busy restoring our BMW R69 and sidecar for Philippine travel as a sister for our BMW R69 in Ireland. Everyday riding around Cairns will be keeping my 1973 Z1 Kawasaki "Jaffa" 900.

Sad we cannot meet out many Vincent Friend at the Queensland National rally. But no doubt will see you all in future VOC rallies. Thought you might like a of photo of "Saigon Shadow" leaving our Museum to be handed over to the next custodian for your OVR.

Keep up the magnificent job you do.

DOUGLAS T35



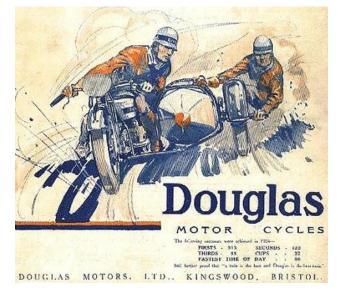
The motorcycle industry has never had a shortage of people who were willing to do things a little differently.

Take Germany's Megola, a 1920s-era machine powered by a five-cylinder airplane-style radial engine mounted in the front wheel. Or Great Britain's Scott, with its distinctive liquid-cooled two-stroke engine design dating all the way back to 1908.

In the USA, consider Cyclone, which was building V-twin engines with bevel-drive single overhead camshafts and hemispherical combustion chambers as early as 1912. Or Ner-A-Car, makers of a low-slung, car-like two-wheeler with hub-center steering and an early version of a constantly variable transmission.

The T35 is a perfect example of why the Douglas Engineering Company, based in Bristol, England, deserves a spot on that list of motorcycle innovators.

Douglas was founded by brothers William and Edward Douglas in 1882, and it was among the pioneers in the development of lightweight, practical internal-combustion engines.



In particular, Douglas became known for the horizontally opposed flat-twin engine design, with two cylinders positioned 180 degrees apart from each other. Douglas didn't invent the flat twin, which goes back to automobile pioneer Karl Benz, but its founders worked with W.J. Barter to create what was likely the first flat-twin powered motorcycle, the Fairy, introduced in 1905.

When Barter's company went under, he became works manager at Douglas, where he oversaw the development of the company's own motorcycle line in 1907. The resulting Douglas Model A was powered by a 350cc flat-twin engine that was an outgrowth of the Fairy design. Like that motorcycle, the Douglas had its engine installed with the two cylinders facing fore and aft, rather than sticking out to the sides as is the case with most modern flat twins.

The Douglas design was well-respected in England, and the company built something like 70,000 motorcycles for military use in World War I. These lightweight, easy-to-ride Douglas machines were admired by American soldiers overseas, but they also captured the attention of the two most prominent U.S. motorcycle manufacturers.

By 1917, just as the U.S. was getting involved in the war, Indian introduced its Model O, powered by a 15.7-cubic-inch (about 250cc) flat twin. And two years later, Harley-Davidson followed with the 35.64-cubic-inch (about 580cc) Sport Twin. Both of these machines appear to have been heavily influenced by the Douglas, right down to the placement of the flat-twin engine.

Unfortunately, neither of those models caught on with American riders. The Indian lasted just three years in production, while the Harley survived five model years. But they were an early indication of how the international motorcycle market was influencing bikes made in he USA.



Meanwhile, in 1918, another British company, ABC, brought out its own 500cc flat twin with the engine turned 90 degrees, so that its cylinders stuck out to each side.

It wasn't until after the war that the company which would become best-known for the flat-twin engine configuration, BMW, got interested in the motorcycle business. The German firm repurposed a portable industrial engine for a motorcycle called the Helios, and, like Douglas, mounted it with the cylinders facing fore and aft in the frame.

In 1923, though, when BMW introduced its R32, the first motorcycle sold under the company's name, it followed the ABC example and arranged the flat-twin engine with the cylinders out in the cooling breeze.

Douglas continued to rely on the fore-and-aft flat-twin design until 1935, when it introduced the Endeavour, a 500cc model in which the flat-twin engine was turned to match the BMW configuration.

By then, the original Douglas company had been purchased by the Bond Aircraft and Engineering Company (BAC). And you might have thought that it had lost the innovative vision of its founders. Indeed, after struggling to continue motorcycle production in the ,1930s, Douglas was reduced to building portable generator units for the military during World War II.

Not surprisingly, those generators were powered by flat-twin engines, in this case displacing 350cc. That generator engine may not have been exceptional, but when the war ended in 1945, it

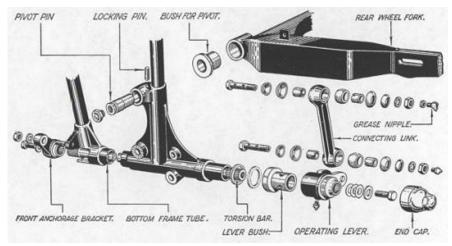
was what Douglas had available. So, like BMW had done after World War I, Douglas adapted its standalone wartime engine for motorcycle duty. Designer George Halliday had the job of creating a new motorcycle around that engine. And while he couldn't make the powerplant more modern, he certainly brought a lot of new technology to the rest of the machine.

Take the exhaust system, for instance. These days, most modern motorcycles come equipped with an exhaust collector, basically a pre-muffler that combines exhaust from all cylinders to reduce noise



and help refine the engine's powerband. That was hardly the case in 1945, though, when the Douglas T35 was unveiled, nor in 1947, when it actually came to market.

Back then, nearly all motorcycles had exhaust pipes leading to a muffler, with nothing in between. But look underneath the T35 and you'll find a pillow-shaped, cast-aluminum collector that might seem right at home on a machine made 40 or 50 years later.



That's just the start, though. Look at the rear end, where the T35 sports a swingarm that doesn't appear to have any springs or shock absorbers connected to it. Where did the springs go? In turns out that the bottom frame rails house a truly innovative suspension system using a torsion-bar spring. A torsion-bar is basically a metal rod that has the ability to twist, sort of like the rubber-band on a balsa-wood airplane kit. A lever

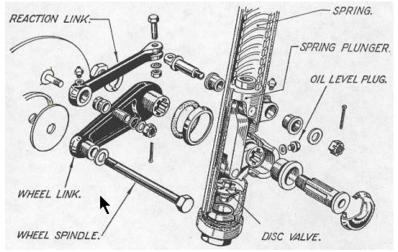
connects the torsion bar to the rear swingarm, so that when the wheel moves up and down, the torsion bar twists and untwists, providing the same kind of springing you would get out of more-conventional coil springs.

Torsion-bar suspension was not unknown in the automobile world at the time. Citroen and Hudson both offered cars with torsion-bar front suspension in 1934, and generations of Volkswagen Beetles had a similar design. Torsion bars also became a fixture on Chrysler cars, along with Jaguar's famed E-type and Porsche's 911.

In the motorcycle world, though, it appears that no one may have followed Douglas' lead when it came to torsion-bar suspension. Honda employed torsion bars in its own innovative way, using them as valve springs on its CB450 twin-cylinder engine starting in 1965, but these days, the only place you'll find torsion-bar suspension in the motorcycle world is as an aftermarket alternative to the Harley-Davidson Softail's stock coil-spring suspenders.

The T35's front suspension is nearly as unusual. Halliday reportedly planned torsion-bar suspension there as well, but when that proved too complex, he designed what was called the Radiadraulic fork. The system used a set of parallel links to transmit wheel movement to a plunger inside a fork tube that provided both springing and damping.

It's an extremely innovative design that offered more than 5 inches of front-wheel travel without the flex of telescopic forks. It also eliminated the front-end dive so common with telescopic-fork suspension. But the downside came in the bike's appearance. Since the front fender remains stationary while the wheel moves, it had to be mounted quite high, sacrificing the wheel-hugging look sought by so many motorcycle designers.



Vincent's famed Girdraulic fork, designed to provide many of the same benefits, was introduced in 1948, three years after the Douglas was first shown.

Unfortunately, Douglas' T35 line never went on to achieve the classic status of the Vincent. The original design was updated with a Mark III version in 1948 and a Mark V in 1951, but sales were never strong. The same basic machine would eventually become the wonderfully named Douglas Dragonfly in 1955, although by then it had lost its torsion-bar rear suspension in favor of a standard coil-spring setup. The Radiadraulic fork was also out, replaced with the patented leading-link design created by Ernest Earles in 1953. That Earles fork would also become the standard design on BMW motorcycles beginning in 1955.

Despite the fact that their stories seem so closely linked, Douglas and BMW went in opposite directions in the 1950s. BMW machines became respected throughout the world, while the Douglas T35 and Dragonfly never achieved much market success. By 1957, Douglas had shifted its focus from motorcycles to scooters and mopeds. But the company left behind a legacy of innovation.



Some elements of that legacy live on in the flat-twin engine design, which has become one of the most-enduring in motorcycling history.

Other elements, like the company's creative suspension technology, died out years ago.

But there's no question that Douglas made important contributions to the rich heritage of motorcycling.

Pictured – the 1955 Douglas Dragonfly

Event Calendar

2018	
August 27-31	Australian National VOC Rally, to be held at the Maroochy River Resort in
	Queensland. Contact <u>kevinfowler2@bigpond.com</u> for more info
Sept 1-2	All-Historic Race Meeting – Wakefield Park – see back cover
Sept 18 - 24	VOC Austria Rally. Said to be the best ever – too good to miss. Contact Michi
	for more info <u>schartner.m@sbg.at</u>
November 16-19	VOC NZ Annual Riders Rally, Northland, NZ. Email to <u>beatin@xnet.co.nz</u> for
	further details
2019	
March 22 -24	VOC NZ 2019 Annual Rally @ Otago. Email <u>beatim@xnet.co.nz</u> for more info
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 <u>nipper@nipper.net.au</u>

Using Second-Hand Parts?

The Australian Consumer Law (ACL) has consumer guarantees that require that all goods — including second-hand goods — be of 'acceptable quality'. This means that they're:

- fit for all the purposes for which goods of that kind are commonly supplied
- acceptable in appearance and finish
- free from defects
- safe; and
- durable.

The ACL does not apply when you purchase an item from a private individual but it does apply in all other cases, such as buying second hand parts from an incorporated association, such as a club.

Many goods are regulated by specific legislation, for example: motor vehicles and their parts are regulated by the Australian Motor Vehicles Standards Act 1989 and state and territory legislation.

When it comes to injuries caused by second-hand purchases, liability is assessed on a case-by-case basis. The definition of 'goods' under the ACL includes second-hand goods, therefore resellers may be liable to compensate consumers if they supply a faulty product that causes an injury.

If you've been injured as a result of the failure of a second-hand part purchase, make sure you:

- seek medical treatment and tell your practitioners how you were injured
- photograph your injuries, especially burns, cuts, bruises, etc.
- keep records of medical and out-of-pocket expenses
- notify the supplier of the fault
- retain your proof of purchase and, where possible, the full product description as it was advertised or displayed for sale
- keep the product in its 'faulty' state and take good photos, and
- seek legal advice.

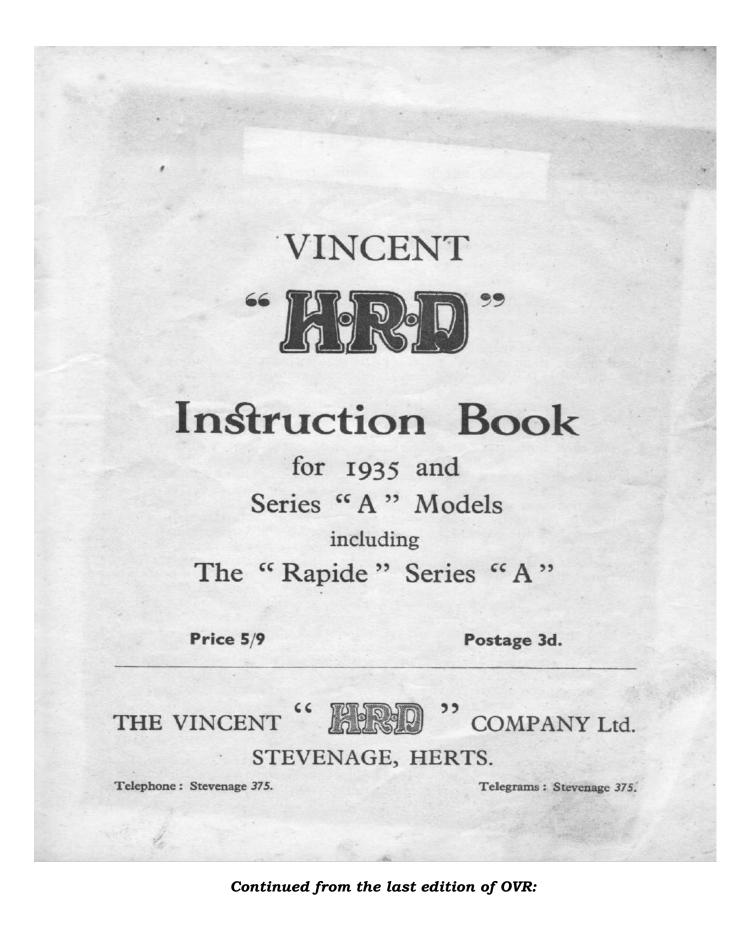
DO NOT return the product to the supplier or reseller. It may be necessary to obtain an expert's opinion in relation to the fault of the product.

So – it's the sellers responsibility to ensure those second hand parts are completely safe and if not then the seller is exposed to your legal action – and as an injured buyer there are lots of no win – no fee lawyers out there keen for your business.

Most important – only buy from sellers of second-hand parts with very deep pockets, who have the means to pay the compensation that may be awarded against them.

This item is based on a recent paper by Trang van Heugten who is a senior associate in Maurice Blackburn's Melbourne office

Thanks to the generosity of Lou from Australia, OVR is able to bring to you in a serialised form, a reproduction of the Vincent H.R.D. Instruction Book for the Series A, originally published almost 80 years past.



juster back two or three half turns, and then treat the other likewise. Keep the rear brakes adjusted well up as the travel of the rear brake pedal is fairly limited.

To adjust the front brakes, either of the adjusters on the brake balance beam may be screwed up. The balance beam should be so placed that with the brakes right off (i.e., no pull on the operating lever), there is a gap of about $\frac{1}{8}''$ between the beam and the shock absorber on the fork on the timing side. The angle of the balance beam can be altered according to which adjuster is screwed up. Screwing up an adjuster depresses the beam on that side.

Remember that the brake cam arms are mounted against serrated washers so that if all the adjustment on any brake should be used up the arm can be reset.

Where the same sized tyre is fitted to both wheels, the wheels can be interchanged by unbolting the rear wheel sprocket and cam bush supports and fitting same to the other wheel.

Either wheel can be fitted the opposite way round in the frame, the only alteration necessary being to slacken off the cam arm nuts and swivel the arms through 180°. This is chiefly used in conjunction with duo sprocket for rapid alteration of gear ratios.

To dismantle either hub, undo the large nut retaining one brake plate, when the whole assembly can be taken to pieces. You will find a number of circular shims between the bearing and the shoulder on the axle. The former are to ensure the correct spacing of the brake plates so that they do not rub on the drums. Sometimes, if the brake is particularly susceptible to water, it can be improved by removing one or more of these shims so that the brake plates are closer to the drum, but they must not rub together.

The inner shims are provided for adjusting the bearings. Should the bearings be slack, remove one or more shims from behind the bearing and place same between the bearing and the brake plate, then tighten up the outer nut with the brake plate in position and test for play. There should be a small amount of play in the hub, about $\frac{1}{32}$ " at the rim. If no play is allowed the bearings will fail.

It is very advisable to dismantle the hub bearings once a year, or every 10,000 miles, and clean same out, re-assembling with clean fresh grease. If grease is leaking through to the brakes, new felt washers are required.

We would remind owners that in the event of the brake drum or bearing housing being damaged through any cause, it can be replaced in a few minutes by removing the brake plate and undoing the five radial nuts inside. The spoking of the wheel is not affected by this.

CHAIN ADJUSTMENT.

The primary drive is by Duplex Chain, $\frac{3}{5}''$ pitch x 92 rollers, running in an oil bath; consequently attention is required only at very long intervals.

A tension tester is provided on the side of the chain case and is operated by pulling it out to clear the recess in which it is locked, and rotating the lever anti-clockwise. As the lever approaches the bottom of its stroke, the internal feeler arm should come in contact with the chain.

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The chain is correctly tensioned when a slight effort is required to push the lever over the chain. If considerable resistance is met the chain is too tight whilst if the internal arm slides along the chain with no resistance at all, the chain is too loose. The internal feeler arm is welded to the spindle, the latter being screwed and the outside lever threaded on to it with a lock nut. The outer lever may come loose on the spindle and it must then be relocked, the correct position for the two being 180° to each other, *i.e.*, so that the internal arm points straight down when the lever points straight up.

To adjust the chain, slacken the top locking bolt (the extended one on top of the gearbox) and also the adjuster lock nut (the other extended arm just behind it). It may also be necessary to slacken the bottom gear box bolt (underneath the gearbox) but this is not often required.

Then rotate the adjuster by a spanner on its square end until the tension of the front chain is correct and relock all nuts.

After adjusting the front chain, always check the rear chain, and when checking either, always do so in several places as the chain may have tight and loose spots. Therefore, rotate the wheel and test in several positions. There should be about $\frac{1}{2}$ " up and down on the rear chain.

If it is too slack, loosen off the rear tommybar axle and screw back the two chain adjuster bolts, taking great care to turn each the same amount, until the correct tension is obtained. Then relock the axle and adjust the brakes as already described. Never adjust the rear chain before checking the front one or you may have to do your work twice.

REAR FRAME SPRINGS.

After a very considerable mileage has been covered, the rear springs may settle down in length appreciably and this will detract from the comfort and steering qualities of the machine. When the machine is standing normally on its wheels with rider dismounted there should be at least $1\frac{1}{4}$ " of the inner spring case projecting beyond the outer case; if less than this, it is advisable to renew the springs.

Springs are available in different gauges for (1) Suitable for single cylinder models, used solo (2) Suitable for racing machines, sports models with a heavy rider, and passenger (3) Suitable for the "Rapide" model, solo, and for side-car work on all models.

THE CLUTCH.

All Vincent H.R.D. clutches subsequent to about May, 1936, are fitted with a special fabric which runs in oil without any drag or slip. This fabric eliminates the risk of burning out and also greatly improves the gear change.

Should the clutch show any signs of slipping it should be attended to at once, otherwise serious damage may occur.

Make sure that there is always about $\frac{1}{32}$ of slack at the cable end of the operating arm on the gearbox.

In the event of slip, check the above point, and if correct slack is present, take off the small cover on the oil bath and screw up the clutch springs. Do not screw them up so far that you cannot lift the clutch, and also make sure Page Twenty-Four that the clutch plates are lifting evenly, otherwise they will drag badly. It the plates tilt when lifted, screw up the spring on the highest side and if necessary slack off the spring on the lowest side until the plates lift evenly.

Keep the level of oil in the oil bath so that it just comes up to the edge of the filler with the machine standing vertical.

OIL FILTER.

On models supplied up till about October-November, 1936, a Tecalemit fabric type filter is fitted at the top of the tank through which oil returned from the pump is forced. This filter should be removed and cleaned at frequent intervals (see paragraph 6, page 14). Models supplied subsequent to the date mentioned above are fitted with a gauze filter in the bottom of the tank through which oil going to the pump is sucked. This also must frequently be removed and washed in petrol. We suggest that this should be done when draining the oil tank, i.e., about every 1;500 miles, but it is advisable to do it the first time after 500 miles.

Always keep the tank reasonably full of oil but never nearer than $1\frac{1}{2}$ " to 2" from the top.

"RAPIDE "MODEL.

Series " A "

The instructions given for the single cylinder model apply also in most respects to the "Rapide" which is equipped with identical wheels, front and rear forks, and a very similar frame and pivot bearing bracket. Hints for maintenance of these components, therefore, need no further amplification. The gearbox and clutch, although of stouter construction, are also similar with regard to maintenance and adjustment of the clutch-wire and primary chain.

The main differences lie in the engine though, here again, as this consists in essentials of two Meteor cylinders on a common crankcase, each with its own supply of oil to rockers and cylinder base, and since the "BD" type pump as used on the singles is also fitted, the procedure for adjusting tappets, removing heads and barrels or checking and cleaning the lubrication system is as previously described, except for the following items.

Push Rod Adjustment.

To gain access to the front inlet pushrod, first slacken off the bolts in the clips holding the rear exhaust pipe to the rear cylinder head and the main exhaust pipe. The rear pipe can then be pulled away bodily and adjustment to pushrods carried out as described. As this engine pulls the high top gear of 3.6 to 1, wear on the valve gear is low and there should be no need to inspect the clearances at intervals of less than 4,000 miles, unless the machine has been driven really hard.

Rocker Oil Feed Adjustment.

Separate feeds are provided to each rocker, but as the rear inlet and front exhaust rocker boxes lie at a greater slope than the other two the oil drains

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back into the timing chest more readily and a higher rate of feed can be given to these two rockers if the valve stem sleeves appear to be running dry.

Cylinder Base Oil Feed.

The rear cylinder feed is controlled by a needle-value in the pump as on the singles and is checked by removing the banjo bolt holding the oil pipe to the crankcase just behind the rear cylinder base. The front cylinder feed is controlled by a similar value situated between the two camboxes and is checked by removing the banjo stud holding feed pipe near the top of the drive side crankcase.

Magneto Adjustment and Removal.

The "Lucas" Mag-Dyno is mounted beneath a bracket in front of timing chest. To adjust chain, remove rear exhaust pipe and mag. chain cover and loosen mag. bracket by slackening the $\frac{1}{2}$ " nut at base of down tube, the $\frac{5}{16}$ " set-screw adjacent to it and the nut securing the bracket to the rear wall of the chain case; the latter, being not easily visible, is sometimes overlooked. The bracket can now be slid forwards and downwards until the chain has $\frac{1}{4}$ " up and down play at its tightest spot—found by turning the engine round several times. Re-tighten bracket and check adjustment before replacing cover.

To adjust contact breaker points, remove magneto shield by slackening the lower crankcase bolt nut and the nut securing horn bracket to engine plate, and remove the 4" set-screw in front of shield, which can then be pulled off. Points can then be adjusted to .012" gap by the normal method applicable to "Lucas" instruments. The contact breaker cam has two lobes and the points should open an equal amount on each cam. If not, adjust so that the average of the two openings is correct.

Either of the chain sprockets can be freed from its taper by unscrewing the self-withdrawing nut until it comes up against the sprocket collar. Further movement of the nut pulls the sprocket off the taper. The whole instrument can be detached by removing the four set-screws clearly visible on the upper face of the bracket.

To time the magneto, set the contact-breaker points just breaking with the heel of the arm on the cam-lobe furthest away from the crankcase, and the rear piston just coming towards top dead centre on its compression stroke. The correct degree of advance is 42° (or 17/32" measured on the stroke), and after obtaining this setting on the rear cylinder check the timing on the front cylinder, which should come the same, although sometimes there will be one or two degrees difference. If so, set the magneto so that neither cylinder has more than 42° advance. As this engine does not need to rev. as fast as the singles, a lesser degree of advance may be used to improve tractability and starting, with very little diminution in maximum speed.

Note.—The magneto cam ring is specially made to suit the 47° cylinder angle and cannot be interchanged with one made to suit a 50° engine. Page Twenty-Six In connecting the plug leads, the wire from the foremost H.T. pick-up goes to the front cylinder.

Valve Timing.

The standard timing is the same as for the "Meteor" model, but a number of engines were fitted with "Comet" cams, either when made or at a later date. For the respective timings, see page 20.

The timing gear is similar to the single cylinder layout, except that the front camshaft is inserted into a sleeve having a flange and four studs for attachment of the camwheel. This wheel is slotted, to permit small angular adjustment in order to obtain identical timings on both cylinders and under normal circumstances the four nuts should not be disturbed.

To dismantle the timing gear, remove the oil pump, both halves of the magneto chain case and the small cover plate. Turn engine until all timing dots on teeth come into line simultaneously, or if no dots can be seen mark the wheels. Remove cam boxes and lift out camshafts. To remove idler wheel, remove the three screws in shaft flange, remove the cover plate on front wall of timing chest (after removing magneto and bracket) draw out idler shaft and extract wheel through slot. Replace in reverse order, finally locking idler screws by punching metal into slots.

If the front camwheel has been disturbed, proceed as follows. First time rear cylinder as described for "Meteor" or "Comet" engine, according to which cams are fitted. Next, fit mag. chain sprocket temporarily to front camshaft and insert with its bearings with the teeth engaged to give approximately the same timing as the rear cylinder. Final adjustment is then made by loosening the camwheel studs and turning the camshaft by the magneto sprocket to its correct position in relation to the crankshaft; then tighten the

Recheck the timing on both cylinders, remembering that the cylinder angle is 47°, and verifying that the firing order is correct. To do this, set the rear piston at top dead centre with the valves on the overlap (*i.e.*, both slightly open) and rotate the engine *backwards* until the front piston comes up to top dead centre, in which position both its valves should, of course, be slightly open.

Drive Side Main Bearing.

This is of substantially the same construction as on the singles, except that a single-coil spring distance piece is used and the outer ball-race ring is ground back to give room for fitting an oil seal in place of the outer chip guard. The cup leather in the seal runs on a thick distance washer.

To re-assemble, proceed exactly as described for the "Meteor," making sure the ball race is the right way round. Force oil seal into position and pull down bearing cap with three screws. Verify that sprocket is just held off its taper by the thick distance piece and, if not, add sufficient shims to do so. This will ensure that when the sprocket is tight there will be no end thrust placed on the ball-race by the spring distance piece.

Page Twenty-Seven

Carburettor Tuning.

With the correct jets and throttle slides fitted, the main point to observe is that both slides move absolutely in unison. Slacken both slow-running adjuster screws (at side of mixing chamber) right back and adjust each throttle cable adjuster so that with the twist-grip in closed position each slide is just commencing to lift. As the twist-grip is turned, both slides should then move simultaneously. Now adjust slow-running adjuster screws so that each slide is open approximately $\frac{1}{16}$ " and set the pilot jet adjusters $1\frac{1}{4}$ turns open. These operations are best conducted with the tank removed.

After fitting the tank, the slow-running can be adjusted to obtain even firing on both cylinders; the individual air control levers will be of assistance in determining whether either or both cylinders are running weak.

The correct carburettor setting for pump fuel is: Rear Cylinder: 1 1/16 bore Vertical, 170 jet, 6/4 slide, Needle Slot 3. Front Cylinder: 1 1/16 bore Horizontal, 180 jet, 6/3 slide, Needle Slot 3.

Page Twenty-Eight

Leiston Abbey Press, Ltd.

This concludes the reproduction of the Vincent H.R.D. Instruction Book for the Series A, originally published almost 80 years past.

In the next edition with thanks to A.V. of Australia, we intend to commence the serialisation of the 1956 Instruction Book and Spare Parts List for the Vincent Universal Two Stroke Engine

The John Emmanuel Steering Head Modification

Those of you who read the VOC Forum should be up to date with this item, but as many of you don't this is meant for you.

For those who have no idea what is being referred to here, the following should help. Dave Dunfey, and some of his chums, who race Vincents in the USA, found that when braking hard going into corners they had difficulty laying the bike down into the corners and there were some accidents. There is also a real risk of violent tank slappers if the front suspension 'locks up' while its fully extended.

Dave realised that the problem was that the standard Vincent front end causes the bike to rise up over the front end when braking and this causes the trail to increase dramatically and affects the handling of the bike. The problem is not just the trail but also the fact that when the suspension is fully jacked up it requires the release of the front brake before the suspension can settle. This is not good practice when one is braking hard going into a corner. His solution was to use shorter stiffer springs so that the movement of the front suspension was limited to that part of the travel where the wheel is moving vertically, not backwards.

Here is a link to a video <u>CLICK ON THIS TEXT</u> that shows the unusual travel path of the standard Vincent suspension, front and rear.

Frustratingly, photographs of early 1950s works racers show that the front forks were nearly always well settled down with the lower link horizontal, not down at the front, so it seems that by at least 1950 the factory must have been aware of this problem. However, the idea that more movement at the front was desirable for a comfortable road bike persisted and for many years most of us have made sure that the front springs were either in good order, packed up or replaced with the series 'D' ones which are longer and softer.

At the same time John Emmanuel from West Yorkshire had also discovered this problem in 1993 when he experience violent head shake at over 100 MPH – a sobering and laundry inducing experience that led directly to him developing his revised steering head.



John's solution was radically different. He altered the pivot position of the lower link, normally the eccentrics, in such a way that the front wheel now moves upwards and backwards over the whole of its travel. The path is slightly curved but is approximately the same as the front wheel movement on bikes with modern telescopic forks.

Those of you with long memories will recall that after Dave Dunfey had published the characteristics of his modified springs in MPH I had some of the springs made so that fellow Vincent riders could benefit from Dave's experiments.

When John Emmanuel showed me his modification it was clear that this was an improvement which would benefit many Vincent riders and it is a measure of John's generosity that he lent me one of his modified steering heads so that I could draw it up in a CAD (computer aided design) program and get some parts manufactured on modern numerically

controlled machines. Please note that this has never been a money making project.

As a bachelor, who has now been riding Vincents for sixty years (where did they go?) I have no dependents, circling like hungry vultures, and can spend my money without any thought of desperate offspring waiting for the demise of the leader of the pack.

A first batch of ten units was made which sold rapidly. A second batch of fifteen was followed by a third batch of another ten. At this stage we had no idea what would be the optimum spring rate and length to fit and generally people fitted just the outer front springs on twins or tried weaker springs on singles.

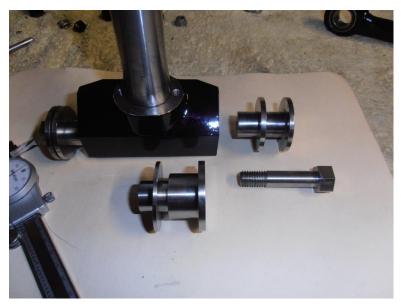
Greg Brillus in Australia fitted one of the modified steering heads when he built his twin racer. He also included an additional modification wherein the Oilite bushes at the rear of the lower link were replaced by two ball races at each side. He also included many other modifications in order to cut down weight and reduce friction. Greg was so impressed with the improvement in handling that he started to fit this modification to many road bikes in Australia and publicised his enthusiasm for the modification. With no exceptions the feedback was wholly positive.



At this stage new orders for a fourth batch of modified steering heads were approaching thirty, in addition to the original thirty five. I decided that although it was clear that both the handling and safety provided by this modification was proven that I might as well try to see if improvements to comfort were also possible.

Chris Launders from South Yorkshire now comes the picture. Chris had already fitted one of the modified steering heads and was ready and willing to provide measurements of spring box movement and so on so that I could calculate what springs should make improvements. It took some time and we eventually came up with a recipe which required 36 lbs/inch springs fitted with 3" of preload.

At about this time Rob Staley from Northamptonshire, had been developing a new damper for the front of Vincents in conjunction with AVO dampers. It transpired that the combination of AVO damper and the new springs gave a very nice ride and handling which was a vast improvement over the original. That could have been the end of the story but Chris decided that it might be nice to fit a modern bearing in place of the Oilite bushes at the rear of the lower link. Chris chose needle roller bearings, as opposed to Greg's use of ball races, but the change was so

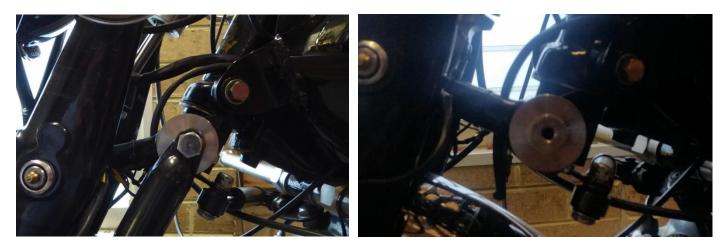


dramatic, that at first, it was assumed that the AVO damper had failed. It took some months but eventually it was discovered that the combination of a 45 lbs/inch spring with 2" of pre-load and an AVO damper with stiffer settings was the correct combination for use with a low friction set up at the rear of the lower link. At the same time, feedback from Australia, via Greg, from some of his customers confirmed this combination.

So where does this leave us? If you are one of the first thirty five people who bought this modification then you should know that the comfort of the front end can be dramatically improved if you fit 16.5" long springs with a rate of 36 lbs/inch and a standard AVO damper intended for Vincents. You will not get the optimum benefit if you use either an unmodified Vincent damper or an Armstrong. Both these dampers have the same resistance on compression and extension. The Thornton damper from the USA seems to work well with this combination. I know people racing with it who are happy users.

If you have a single, which is normally lightly loaded, then 33 lbs/inch springs will be better. If you want to go for the ultimate here then using the Greg Brillus later modification of fitting needle roller bearings at the rear of the lower link seems to be the way to go. You will need an AVO damper with different settings and stronger springs. You also have to get the eyes at the rear of the lower link machined out by approx.. 0.005" to take the needle roller races.

What a fantastic contribution from Norman Walker, UK



The modified steering head (at full extension and full compression) fitted to a Comet.

In the next edition of OVR there is planned to be a detailed description of the installation of a hydraulic steering damper (as pictured above). Editor

In an exclusive interview with the Oz Vincent Review, John Emmanuel made the following observations about his design:

- The revised head stem does, as intended, alter the vertical path of the front wheel so that it now moves back slightly when the suspension is under compression so be sure to check that neither the mudguard or its stays do not hit the motor. If they do then reduce the radius of the front guard and/or shorten the stays.
- Make sure that the control cables are not fouled at any point, especially as the top link rises
- The spring box inners and outers should each be shortened by $\frac{1}{2}$ inch.



October 25, 1951.

(Right) "Somewhere in Greece" the travellers joined Walter Hirtle, a Canadian student touring on a "tlddler," in a roadside brew-up.

Anglo-Iranian Oil Company kindly effected repairs by slipping a solid metal bar into the Velocette's broken front down-tube, anchoring and welding it in place.

Then we were fortunate enough to meet "Punch" Glanville, the friend of all Trans-Asian motorcyclists, who needs no introduction to readers of "Motor Cycling."

"Punch" sportingly gave the engine the once-over and found the causes of the overheating—a distorted carburetter flange, which let in excess air, and a bent exhaust valve.

During our sojourn in Teheran another wandering soul, mounted on a Norton, appeared. He was Vernon Crouch, who also commenced his journey from Ceylon. Vernon had quite an experience back in Baluchistan when he lost his model in a flooded river for several hours. Undaunted, he sweated for four days, stripping it down and cleaning mud and an assortment of flora and fauna out of the works, before battling on.

"Punch" introduced us to the pleasures of riding trials machines over the particularly rugged hills in the district. On picnics with the Glanvilles this sport proved to be lots of fun.

After calling at the Kermanshah refinery (where the Persians had confined the British manager to his quarters) to liberate the staff, a prank which caused much embarrassment to the newly appointed Persian manager, we crossed into Iraq.

" 155 in the Sun" !

We cantered on to Baghdad in a sun temperature of 155 degrees and arrived at the gates of the British Embassy at 10 p.m. After voluble assurances that we were British subjects, the armed Iraqi guards allowed us to enter the compound. A rough interrogation of the men led us to believe that no Britisher was on the premises, so it was decided to find a cool spot to lay out our sleeping-bags.

While searching for a soft patch on the lawns of the Embassy we interrupted His Majesty's Ambassador, Sir John Trout-Beck, and Lady Trout-Beck, enjoying a quiet drink before retiring! The appearance of two unwashed, unshaven, untidy Australians from the darkness of the Baghdad night did not shock Sir John into forgetting to offer us a drink—and a guest room for the night!

After a short stay in Baghdad, the next leg of our journey was the long desert stretch of 600 miles to Amman, via Rutba.

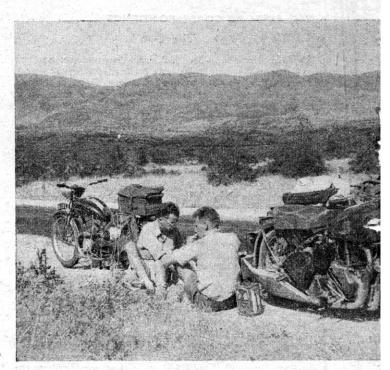
West of Rutba trouble returned. Smoke began spurting from the crankcase and the engine suffered an almost total loss of power. We struggled across the desert towards the beacon light of H4 oil-pumping station. By 11 p.m. the light appeared to be no closer, so we slept the night beside the road. Next morning, as a preliminary, we pulled the head off to examine the piston and rings. A sandstorm showed signs of blowing up, so the bits and pieces were hastily reassembled and the outfit pushed seven miles to H4, where it was possible to work in comfort.

Meeting with Glubb Pasha

The top ring was broken into a dozen pieces, while the other one and the scraper were gummed up tightly. The small-end bushing was found to be loose and an indentation worn on the base of the piston-ring groove. It was late in the afternoon before we had fitted a new piston and tightened up the bushing.

We pushed on and arrived at Amman the following morning. It was our intention to remain here only a few days, a period which lengthened into a fortnight. Our hosts, the British Council, at our request and to our delight, arranged a meeting with Glubb Pasha, Commander of the Arab Legion. In view of our interest in the Legion and its liaisons with the Bedouin tribes of the Jordan, Glubb sent us out to live with them for a week—Arab Legion escort thrown in!

Accompanied by this heavily armed and strikingly uniformed escort, we lived out in the desert as guests of several tribal sheikhs and travelled through much of the A32

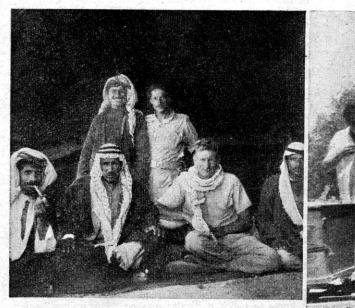


UP FROM "DOWN

country. It was an unforgettable experience to sit crosslegged on rugs laid out in the black nomadic tents, sipping countless cups of bitter coffee and sweet, black tea. The rigid laws of etiquette demand quite a lot from

The rigid laws of etiquette demand quite a lot from guests, but we learned quickly. As is the custom, we were always offered the more delicate and tasty tit-bits of the great sheep's carcass—plus head, which stared at us from the centre of an enormous dish! Not wishing to strain Australasian-Arabian relations, we consumed numerous sheep's eyes, tongues, ears, huge chunks of fat and assorted entrails! However, we found hot camel's milk delicious and refreshing, and drank gallons of the stuff, burrs, sand and all!

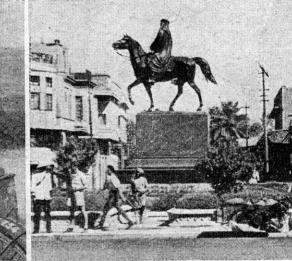
The days slipped swiftly by and eventually we returned to Amman on the eve of Jordan's sad but historic event, the assassination of its monarch, King Abdullah. Arrange-



(Above) Bob Chambers in the tent of Sheikh Rascend who entertained the Australians for a nomadic week in the Jordan desert. (Right) En route for Athens, the expedition halts to watch a gipsy child dance.

October 25, 1951.

MOTOR CYCLING



ments had been made for us to meet him at the airport on his return from prayers in the Mosque in Jerusalem. We waited in vain, and later watched in silence as his body was unloaded from the Royal aircraft and borne away in an Arab Legion ambulance.

Before departing for the desert we had taken the cycle to the Legion Air Force station. It was spurting smoke from the usual place, so one of the British fitters promised to give it a check-over. His report was devastating. The rings were again in the same condition and the bore oval. The clearance between the cylinder and the piston at the greatest point being 64 "thou."!

Owing to the curfew which followed Abdullah's assassination, it took several days to salvage the rings and fit a new sleeve. As the correct clearance between cylinder and piston was not known, the machining of the sleeve was a matter of trial and error before the MSS could be ridden without the engine seizing every other mile.

Gaily we motored up through Syria and Lebanon, revisiting old camp sites we had known so well during the war and meeting old acquaintances. We revelled in the sight of the

(Above) The Velocette under the statue of King Faisal in Baghdad. (Right) King Solomon Street in Jerusalem—an old stamping ground of the Australians.

UNDER"

by BOB CHAMBERS and

BRIAN CHASELING

The Conclusion of a Story Describing How Two Australians Took an MSS Velocette and Box Sidecar on a 12,000-Mile Holiday



blue, blue Mediterranean, of which we had dreamed for so many thousands of dusty miles. A day and a night's travel took us out of Lebanon,

A day and a night's travel took us out of Lebanon, through Syria once again via Aleppo, and into Turkey. The Turkish roads, though somewhat rough and corrugated in parts, were fair. In spite of this, they claimed another victim—one motorcycle outfit. This time the rear chassis connection carried away, letting the box down rather suddenly in the dust. As usual, no welder could be found, so the box was stripped from "The Monster" and piled on a passing lorry bound for the Istanbul abattoirs. The Velocette was ridden solo.

Once in Istanbul the damage was quickly repaired. Visits to the city's many mosques, great covered bazaars, places of historical interest and ferry trips up the Bosphorus meant more delay, after which it was heigh ho! and the good tarred road to Edirne was behind us and Greece before us.

The road from Edirne to Alexandropolis, 80 miles distant, was, without question, the worst encountered since Colombo. About 50 miles of it can best be described as heavy chopped foundations which never got past the foundation stage. Speed again dropped to the pushing rate. Our pushing technique had not been impaired since leaving Afghanistan.

But Fate struck once more. Five miles from Kavalla, in Northern Greece, a valve tappet stem broke, leaving the stub in the rocker arm. We carried no spare, so it was necessary to improvise. A bolt approximating the correct $\Lambda 33$



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MOTOR CYCLING

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The box sidecar on arrival in London, with bandaged tyre and some Eastern hieroglyphics which, it is hoped, are not censorable!

thread size was purchased from a hardware store. Then a "local" with the necessary equipment drilled an oil-hole and filed the head to the proper size.

On to Athens, via Salonika and Larissa, we sped on a good tarred road. From Piræus a grubby Greek, steamer ferried the chariot and occupants across to Brindisi at a cost of £20 (£6 each and £8 for the outfit.)

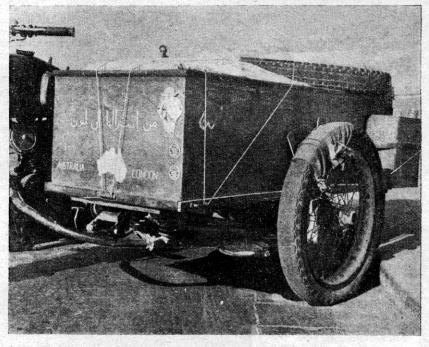
At Brindisi the local stevedoring agency demanded such an exorbitant price merely to swing the outfit over the bulwarks to the wharf that we refused to pay. Although the ship was due to sail for Greece again at 6 p.m., the expedition was still aboard at 3 p.m., conducting its own strike as protest. The outcome of the argument was a reduction in costs, to which we readily agreed, as much time had already been wasted.

At this stage the tyres needed watching carefully as the treads had been worn smooth by the terrific pounding they had taken

Life was pleasant indeed motoring over the highways that led us up through Florence, Milan, across Switzerland and into France.

For many months we had been looking forward to gazing upon "The White Cliffs of Dover" and the English Channel; but such was not to be. We crossed in a fog with everything blotted out completely. Someone told us it was England. We believed them!

On looking back on our troubles, considerable though



they were, we thought of what might have been—collisions with crazy native drivers, resulting in wrecked machinery or perhaps a shattered side-box, or electrical and ignition faults. Notwithstanding our almost complete ignorance of the "sparks," we had been spared such disasters. But imagine our surprise when, on examining the sparking plug after arrival in London, we found it has been valiantly functioning with a point-gap of more than 30 " thou."!

'Next day, September 11, nearly seven months out from Colombo, having covered 11,883 miles on 212 gallons of petrol, we clattered over Westminster Bridge to Big Ben's mid-day chimes.

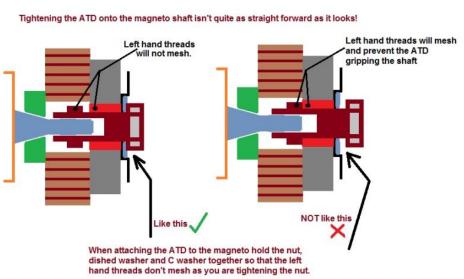
Maintenance Miscellanea:

Lucas Auto Timing Device aka ATD's

ATD's can be a bit baffling! Occasionally folks call, whilst fitting their magneto, to ask if their ATD is faulty. The conversation goes like this... "I'm fitting the magneto and just about to fit the ATD. When I hold the ATD in my hand it flicks back OK but as soon as I start to tighten it onto

the magneto shaft it doesn't seem to flick back properly. I can move it backwards and forwards by hand but it seems to have gone stiff and won't flick back on its own. I've taken it off again but I can't find anything wrong with it. What's going on?!"

Think of the ATD as a component that works in three stages.... 1) the fixed gear picks up drive from the engine then..... 2) the drive is passed on to a flexible connection made of springs and bob weights,



then... 3) the drive is collected from the flexible mechanism by a nut fixed onto the magneto armature shaft.

Remember that the gear is fixed because it is meshed to the camshaft gear, so the springs are trying to pull the magneto armature back to the 'at rest' position whilst one end of each spring is attached to the gear and the other end of each spring is attached to the armature shaft. Now here's the critical bit.... (and the reason why the ATD doesn't flick back when stationary) ... the magneto armature is not free-floating because there is friction and magnetism in the magneto which prevents the armature responding fully to the pull of the springs. The friction/resistance is caused by the pickup brushes, earth brush, heel of the points, drag in the bearings and the attraction of the magnets. As the engine is turned over very slowly the friction is reduced because the parts are moving - sliding over each other, and the springs are able to pull the mechanism to its 'at rest' position. You can test this by turning the bike over slowly on the kick start and watching the ATD return to its fully retarded position - Hey Presto!

ATD units are not very sophisticated but they do need to work properly. The springs should be strong enough to return the unit to 'fully retarded' as the engine comes to rest - this will enable you to start the bike again without getting launched over the handlebars. If the springs are too strong they will prevent the magneto advancing soon enough which may cause overheating and sluggish running. Springs which are too slack will advance the spark too soon causing advancement at kick start speed (kick-back) and spitting in the carb when blipping the throttle.

Valve Guide Removal – here is a tip from J.W. Cope of Wakefield, UK, first published in Motorcycling 25/10/1956!

A simple way of removing an upper valve guide on a Vincent machine is to insert a shilling over the bottom of this guide and then to pass a tommy-bar through the lower guide so it abuts against the shilling. It is then quite simple to tap it out

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 advertisment. 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: Spare Parts Treasure Trove.

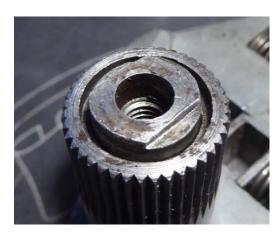
Due to a change in business direction Classic Motor Bikes Terry Prince is selling their surplus Vincent spares stock. All parts are of very high quality that we have been fitting and retailing all over the word for many years. Thousands of parts, stock is to be sold as one job lot, it also contains many original parts in good condition. The listing is not complete as there are too many parts in small number that will be included. Anyone that is restoring or retailing Vincent parts would be crazy not to buy these parts at a third of their retail price. \$20,000. AUD ONO can be ship anywhere. Contact clmotorbikes@esat.net.au for full list.

Terry will still manufacturing and retailing Top End Kits, cranks, cams & followers, Aluminium Billet frames, pistons, special parts etc.



Chasing Down A Burman Leak

There are just a few places where oil/grease can leak from the outer case of a Burman BAP gear box and one of those places is where the gear change shafts pass through it.



In OVR #36 Bernhard Kurschel described how to effectively fit an internal oil seal to the gear change shaft carrier. While this tamed at least 80% of the oil leaking from the gear change area, some traces of oil was still able to find its way to the outside world along the tiny space between PR50-C-094 the ratchet foot change sleeve and the inner PR50-C-090 sector spindle.

Wanting to eliminate this remaining small leak I closely examined the components in the gear change area and immediately noticed the space at the outer end of the gear change shaft assembly that look suited to an 'O' ring.

From my parts stock I found that a 5/16" OD x 1/16" cross section 'O' ring could be easily persuaded into the groove between the two shafts (picture above). As the back of the Gear

Indicator PR50-C-097-1 sits on the shoulder of the inner shaft and proud of the outer sleeve as shown on the right - without some form of retainer there is the opportunity for any such 'O' ring to work its way upwards and loose sealing effectiveness My solution to this was to modify a 0.015" shim that I had on hand so that it would fit over the inner shaft but inside the hole in the gear change lever, so acting as a retainer for the 'O' ring; as shown in the images below. It is essential that when installed the face of the shim is a few thou' below the shoulder on the sector spindle.





Gear Lever

Even with Bernhard's oil seal mod in place it is essential to retain a seal between the gear lever and the gear shaft carrier to prevent grit and detritus getting into the shaft space and causing problems. You can retain the felt seal or, as I did, find a 'O' ring to perform the outer sealing role. I used a $\frac{3}{4}$ " od x $\frac{1}{8}$ " section 'O' ring.

Now nice and tidy; and leak free.



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 endorsment 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 refering 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 <u>http://www.vincentspares.co.uk</u>.

Coventry Spares Ltd, USA: Fantastic service and deep product knowledge plus extensive range of excelent 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 excelent Vincent Spares. Ships Worldwide. Email for more information <u>steve@conway-motors.co.uk</u>

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 <u>www.fastlinespokes.com.au</u> 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 <u>www.unionjack.com.au</u>

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 <u>www.norbsa02.freeuk.com</u>

VMS, Holland: 2x2 leading shoe brake kits for Vincents; high quality 30mm wide 4 leading shoe system. Email <u>vspeet@vmsmetaal.nl</u> for info.

François Grosset, France: Electric starter for Vincent Twin. Electronic ignitions for Vincent Single and Twin supplied complete with drive gear. Email <u>pontricoul@gmail.com</u> for more info.

Cometic Gaskets: Modern, reusable gasket sets for Vincent twins and singles. If you actually USE your Vincent you are mad not to have these. Contact Paul Holdsworth of the VOC Chicago section c/o <u>phpeh@hotmail.com</u> Located in Chicago IL USA.

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. <u>http://www.classicfasteners.com.au/</u>

Precision Shims Australia: All types of shims made to your requirements, ships worldwide. More info at their web site <u>www.precisionshims.com.au</u>

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 <u>www.keables.com.au</u>

Restoration Services:

Steve Barnett, Australia. Master coachbuilder and fuel tank creater who does incrediable 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 <u>grantwhite11@bigpond.com</u>

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 <u>alan@aceclassiscs.com.au</u>. 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 <u>Click Here</u> or telephone +61 2 4568 2208

General Services :

Balancing Services Australia, Experts in the dynamic balancing of all motorcycle and automotive crankshafts, flywheels and the like. 43 Chifley Dr. Preston, Vic. Contact Murray on 03 9480 4040 http://www.balserv.com.au/

Peter Scott Motorcycles, Australia: Top quality magneto and dynamo services, from simple repairs to complete restorations plus a comphrensive 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 <u>qualmag@optusnet.com.au</u>

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. <u>http://www.melbournemotorcyclefairings.com.au/</u>Ph 03 9939 3344

