



# The Oz Vincent Review

Edition #73, April 2020

The Oz Vincent Review is an 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 [ozvinreview@gmail.com](mailto:ozvinreview@gmail.com)



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**Welcome** to the latest edition of OVR with the front cover depicting the latest addition to Ian Boyd's Vincent collection – said to be the most complete Vincent collection on the planet and his recent acquisition of this Vincent 'Cooler Scooter' or should that be "VinEsky" ensures it remains so. Ian's collection at Jurien Bay is in an area of Australia where distance is measured in the number of cold drinks required to be consumed between landmarks! What a 'fit for purpose' machine it is!

OVR had planned be off visiting the brave and courageous firefighters in Bruthen, in the Victorian alps, in part to thank them for their unselfish sacrifice and to hand over to them a large part of the proceeds of the OVR Bushfire Relief appeal. That was to be followed by a visit to the Raymond Island Koala & Wildlife Shelter who have received the balance. COVID-19 and the World-Wide Health Emergency put an end to all travel plans so your most generous donations have been transferred in full to the intended parties. (see below)

OVR has been received a treasure trove of very old material about Phil Irving. The first of it is in this edition- and there is much more remaining.

Remember, to access the complete OVR archive from any device, just go to <https://goo.gl/jZkiFb>



Melbourne, Australia.

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## Letters to the Editor

Hi Martyn

I was delighted to see my note of support to you printed. One never knows if this sort of thing goes straight into the bin or not. On this occasion clearly not. Good on you! Re the fitting of LED lights in the last edition – a caveat. I bought some LED lights from eBay for a trailer then had a nightmare to get them to work. Polarity on LEDs is critical. The reason that the lights I bought were so cheap I think was that the positive and negative colour coding on one set of lights had been reversed. When I worked it out everything worked fine. Just a small check like this can save hours of hassle and profanity.

Best regards Richard (Oz)

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Hi Martyn, What a great tribute to Marty in the March edition! Thank you! Cheers Bill (NZ)

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Hi Martyn, Literally after I type this we are formulating our brigades response to the COVID-19 virus - some very uncertain months ahead I think for many organisations, so it is very reasonable that you take the steps necessary (cancelling your groups tour to visit us in Bruthen) as a duty of care for your members.

At some stage I would love to meet up - when all this has subsided and a sense of normality can be achieved. Thank you for the donation by OVR readers and VOC members - IT IS TRULY HUMBLING.

Respectfully, James Nicholas, Captain, Bruthen Fire Brigade (Oz)

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Martyn, Nice tribute to Marty. I knew him for 35 years. Best, Somer (USA)

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Thanks once again for a fabulous read. Chas Blunt, (Gibraltar)

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Gee thank you Martyn for the donation from your OVR/VOC Bushfire fund! The outstanding donation is going to pay for my new koala pens being built as we speak. I hope to have them finished in a couple of weeks. Your donation could not have come at a better time. JUST AWESOME!

Cheers and thanks again, Susie, Raymond Island Koala & Wildlife Shelter [www.koalashelter.org](http://www.koalashelter.org) (Australia)

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Dear Martyn, My name is Michael Tilbrook, I am the Great Great Nephew of Rex Tilbrook, I recently came across an article which tells the story behind Tilbrook Motorcycles.

Your magazine was mentioned to be by a work Colleague, who said you might be interested in perhaps printing the article.

Kind regards, Michael James Tilbrook, Australia. *(Ed: Article author contacted and reprint approved !)*

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## **OVR/VOC Australian Bushfire Appeal**

On behalf of those who will benefit directly from the donations made to the OVR/VOC Australia Bushfire Appeal – OVR acknowledges the following generous folk who together donated an amazing amount. As you can see in Letters to the Editor, all donations received have now been distributed.

**Australia:** Glen Challis, Andrew Gasbarri, Audry & Jack Youdan, Bill Coleby, Richard Lloyd, Dave Kimpton, Marcus & Anne Doller, Terry Blenheim, Ruth & Trevor Lever, Ronnie Matthews, Brian Cartwright, Mark Donaldson, Anthony Leach, Ann Goodwin, Greg Wood, Bruce Andersen, Bruce McPhail, Matt Daniels, Neil Heilbrunn

**Belgium:** Paul Coene and Vincent Van Ermengem

**Canada:** Michael Vane-Hunt, Howard Smith, Tony Cording, Dan Smith

**France:** Francois Grosset, Maryse & Didier Camp, Dany Vincent

**Germany:** Michael Kamper and Mirko Thun

**Gibraltar:** Chas. Blunt

**Italy:** Edmondo Perrone

**Japan:** Mitsunobu Kamiya aka 三信 神谷

**Netherlands:** Bill Parr, the members of the VOC Dutch Section

**New Zealand:** Bill Irwin, David J Topliss, Derek Harding

**Philippines:** Stephen Carson

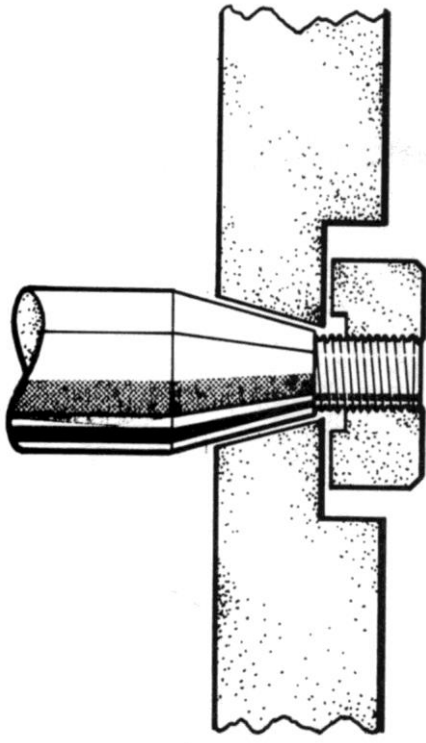
**Sweden:** Börje Kollnert, Mikael Ridderstad

**UK:** John Martin WARR, Peter Barker, Ged Abrahams, Phil n Julie Rich, Jonathhan Lambley, Mike Chipperfield, Tim & Ann Kirker, William (Bill) Long, Richard (Dick) Sherwin, Chris Moulton, William (Bill) Cameron, Robert (Bob) Harvey, Roger Bradley, Paul Adams, Jacqueline Bickerstaff, Geoffrey Burne-Taylor, Colin Manning, Glyn Baxter, Suzanne Stibbards, Norman Pyne, Bernard Jones

**USA:** John David French, Bruce Metcalf, Maynard Hershon, Eric Heilveil, Michael Lewin, William Wally, John Caraway, William Getty, Corey Levenson, Gary Gittleson, Stephen (Steve) Dishman, Hayward Giraud, William Kenyon, Greg ?, Craig Comontofski, James Young, Jr, Nicholas Dourassoff, the entire VOC Chicago Section

# Taper Drives

By Brian Woolley, UK



*A Typical taper joint. The shaft fits inside a bore tapered to match it with decreasing clearance as it is pressed or pulled in. The nut is recessed on its inner face to ensure it does not contact the taper shaft*

AN engineering feature frequently met with on older motorcycles is the use of taper-fitted drives. So common are these tapers, that most of us take them for granted. Mainshafts and crank-pins are fitted to flywheel assemblies, gears to camshaft and magneto drives, sprockets and clutch centres to shafts — all through the simple medium of male and female tapers, which in the case of British machines usually subtend an angle of 9 degrees. Simple indeed — which of course was the attraction for engineers in days gone by. Both the male and female taper could be easily and cheaply produced as part of the over-all machining operation with nothing more sophisticated than a lathe, thus keeping cost and complication to a minimum.

Not that simplicity and cheapness were the whole story by any means. Properly fitted, a taper drive can transmit far more power than superficial consideration might suggest. The reason for this is that such drives do not depend, as is sometimes assumed, upon friction but upon an interference fit which can be readily increased as much as is necessary, by pulling the two tapers closer and closer together.

Most restorers are familiar with the idea of parallel interference fits, for example, where a crankpin is pressed into holes in the flywheels which are deliberately ground several thousandths of an inch undersized. As may be readily understood, elastic distortion of the metal around the crankpin grips the pin with a pressure of several tons to the square inch. Such parallel interference fits work well, but there are drawbacks. Repeated dismantling and refitting may cause wear and thus reduce the degree of interference, and the use of a hydraulic press is called for, both to strip the assembly and to put it back together.

Assembling a crankpin with a male taper fitting into a female taper in the flywheel calls for no other tools than a large vice, a well-fitting socket and a socket wrench. The pin has fine screw-threads formed on its ends, outboard of the tapers. Nuts fitted to these threads draw the tapered pin into the tapered hole in the flywheel, giving an ever-increasing degree of interference as the metal of the flywheel is progressively distorted. It is desirable that the flywheels should be heated, so that the interference can be attained without straining the threads on the end of the pin and in the corresponding nut. When it is necessary to strip the assembly, the nut is slackened off until it is half-a-turn free, and then, using a stout aluminium or brass drift held against the end of the crankpin, a really sharp blow with a copper or lead mallet — or a good sized steel hammer — will break the interference. This is more easily done if two pairs of hands are available — one pair to hold, one pair to hammer — and is even more easily accomplished if a little heat is applied to the flywheels in the vicinity of the tapers.

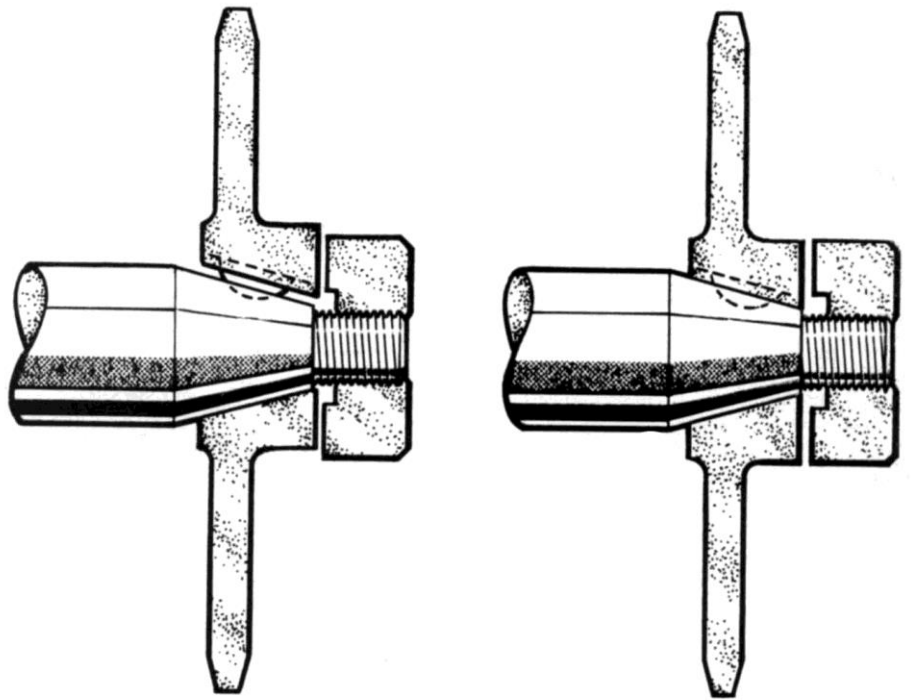
An advantage of taper-fitted crankpins is the comparative ease with which the flywheel assembly can be aligned. With one end of the crankpin fully tightened into its flywheel, the other end can be tightened into a comparatively light interference. Rotating the crankshaft between centres with a micrometre dial gauge will show up discrepancies, which can be corrected with quite light blows from a copper mallet.

The second taper can then be drawn up, and with care, the alignment will be maintained.

Whatever their application, for taper drives to give satisfactory service, a few simple precautions must be observed.

However good the surface finish in each taper, it can be improved by lightly lapping the two components together with fine grinding paste, which of course should be carefully washed off with petrol or trichlorethylene.

As the nut is tightened, drawing the male taper into the female, the male taper may project through by at least a few thousandths of an inch —possibly quite a bit more. So that the nut does not lock up on the projecting pin, it is rebated — or cut back — on its inner face. Sometimes the nut is not rebated but a hardened washer is used to achieve the same end. In either case, it is as well to check that clearance is present and adequate, both as regards the distance that the pin may project and as regards its diameter. Warming the female taper has already been mentioned. Taper drives should be put together scrupulously clean, dry and tight. If a manufacturer's torque figure and a torque wrench are available, so much the better, but if not, err on the side of tightness rather than otherwise.



*When a key is used, care must be taken that it fits perfectly. If not, as on the left, it prevents the tapers mating correctly as on the right*



*A tapered crankpin with rebated nut*

Many taper-drives include keyways and a key, usually (though not invariably) of the 'half-moon' or Woodruff pattern. In the majority of cases, as with timing gears, magneto flywheels, and main shafts and crankpins containing oilways, the purpose of the key is simply to maintain a given alignment. Do not make the mistake of assuming that the key in any way contributes to the transmission of the drive. This depends entirely upon the interference of the tapers. Even in crucial areas of frequent sudden and

heavy reversals of load, such as engine sprockets, clutch centres and final drive sprockets, the presence of a stout key is not intended so much to contribute to the drive as to act as a shock absorber, and to prevent the possibility of the tapers shifting, even so much as a few thousandths of an inch, in relationship to one another.

For the key to absorb momentary shock loads it must be a perfect fit, with absolutely no side play. Woodruff keys are made to standard dimensions, as are the keyways into which they fit, and they should not need to be 'fitted' in the ordinary way. If an emergency arises and a key has to be reduced in thickness and perhaps in depth to suit some application, take great care to ensure that it fits equally tightly (a light interference) in both keyways, and be particularly careful to ensure that there is clearance between the top of the key itself and the keyway in the female taper — otherwise the tapers may be held away from each other, the key will shear and a disaster will occur. Such a failure can result in a sickening sight indeed.

A WORD about removing items such as engine and final-drive sprockets, which cannot be conveniently held as can a pair of flywheels. For such jobs an adjustable sprocket puller is invaluable. Hook the legs behind the sprocket, and tighten up the screw against the end of the shaft as tight as it will go. A smart blow delivered to the end of the puller will then break the interference.

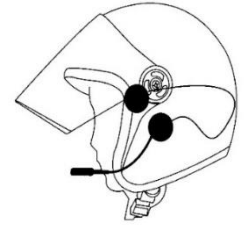


*Typical low cost 3 leg sprocket puller*

Modern motorcycles have tended to adopt splines and parallel interference fits, and are none the worse for that.

But the simple old-fashioned taper-fitted drive, which can be assembled and stripped in the home workshop is very much in the 'do it yourself' tradition of the classic British motorcycle.

# Helmet Bluetooth Headset Review



Bluetooth technology makes mobile phones more functional, with handy little headsets that are completely wireless and allow for hands-free answering and talking on the mobile phone. Not only that, if your phone includes a GPS navigation function, such as Google Maps, in-helmet Bluetooth headsets allow you to hear the spoken GPS directions as you are riding!

There usual type of Bluetooth headset marketed to motorcyclists is designed for multi rider to rider communication with the side bonus of being able to connect to a mobile phone. These systems are sold for \$100 and upwards.

OVR has been using a very different type of Bluetooth helmet headset, one which ONLY allows connection to your mobile phone. The other big difference is the cost. Purchased from eBay it was less than A\$20 including postage. [search EBay for Helmet Bluetooth Headset].

The unit purchased consists of 2 slim speakers (that mount inside the helmet), an attached microphone unit that incorporates the volume controls and a USB connector for recharging the system. Installation is simple with self-adhesive pads for mounting the speakers in your helmet; the microphone is held in place by the padding in your helmet.



First use you need to 'pair' the headset to your phone. A simple procedure. Once done the headset will subsequently automatically pair to you phone whenever BOTH are turned on. With the working range of the headset of up to 15 metres between the phone and the headset, it's important to manually turn the headset off every time you remove the helmet to ensure you do not miss any incoming calls.

When using the system the spoken guidance from the phones GPS app is very clear and audible even when riding at speeds within the legal limits. Unfortunately it's not so good with phone calls – while riding I was able to hear callers OK but the people calling me had a hard time understanding what I said due to wind noise. Once I stopped – thus no wind noise – then phone calls were just fine.

One big plus compared to many other systems is that there is no control box to be mounted on the outside of your helmet.

Pro's	Con's
<ul style="list-style-type: none"> <li>• Low Cost</li> <li>• Compact</li> <li>• Simple installation in both open face and full face helmets</li> <li>• GPS instructions can be clearly heard</li> <li>• Incoming calls are clear</li> <li>• Standby time of around 80 hours</li> <li>• Continuous use time of 5 plus hours</li> <li>• Connection range of 15+ metres</li> </ul>	<ul style="list-style-type: none"> <li>• Not waterproof</li> <li>• Wind noise makes it hard for callers to hear you</li> <li>• Will not auto answer incoming calls – you need to press a button on the microphone</li> <li>• Must remember to power it down when you remove your helmet</li> <li>• No charger supplied but most mobile phone charges will work</li> <li>• No intercom function</li> </ul>

# Off The Record

By Phil Irving, as published in *Motor Cycling*, December 1959

## Some incidents in the early life as a motorcycle designer, pre Vincent

Have you ever found yourself tired, cold and wet, nose-down in a ditch alongside your motorcycle at two o'clock on a winter's morning, surrounded by illimitable acres of impenetrable blackness broken by not the vestige of a glimmer from the newly fitted electric lighting set which, until that cataclysmic moment, had afforded you illumination on a previously unparalleled scale for several hours of continuous riding?

Well, I have—and the moment at which the full realization of my predicament struck me was also the moment at which I decided, absolutely irrevocably, to retire from trials riding on the spot. This decision, if implemented, would have resulted in my possessing probably the shortest career as a trials rider ever recorded. But retirement seemed infinitely preferable to continuing without lights in the conditions prevailing in the vicinity, which was somewhere on a bush track near Ballarat, in Victoria.

However, a moment's thought indicated that it was manifestly impossible to stay there until daylight, so something had to be done. Up to then, I had relied (if you can call it that) on acetylene lighting and knew the remedies for all its many vagaries (including several not in the book), but this new-fangled electric set was a trifle outside my then limited sphere of knowledge.

The first approach was the *suaviter in modo* method—cautiously tweaking any wires which could be located by groping round in the dark. As this proved to be entirely unproductive of results except annoyance, I reverted to the *fortiter in re* system and dealt the headlamp a resounding thump, whereupon "Lo" (as Omar Khayyam would no doubt have remarked had Fitzgerald been at hand to do the translation) "the headlamp of the bike had caught the muddy highway in a noose of light" or words to that effect. Not only that; the tail light also was aglow, the speedo. light shone like a good deed in a naughty world and after a few hesitant coughs, pardonable in an old gentleman who had been inverted in a ditch, the engine responded to the kick-starter.

Reflecting that while any fool could retire, it was only the 24-carat idiots who kept going, I instantly rescinded the decision re retirement and off I set, to arrive at the next control on time—though only just. What's more, I finished the course some 19 hours later with only a couple of points lost through failing to keep an eye on the watch when retightening some loose spokes outside a control. As only about 40 of the 70-odd starters even finished the course in this 1926 24-hour trial, it was perhaps a reasonably good maiden effort, especially on a device which a kindly soul had described as "a mass of crystallized metal screwed on to a dud sparking-plug."

This description lacked accuracy in one particular. The plug was both new and effective but, as first the forks and then the frame broke a few weeks after, there are grounds for suspecting that as a whole the stricture was warranted. Hence the speedy acquisition of another mount, this time a "big-port" A.J.S., sold to the cheaply





because its owner had, through stress of financial circumstance, lubricated it exclusively with old sump-oil which he had not even bothered to filter. Luckily the damage proved less severe than I had convinced the seller it was and, after stropping and honing, this iron was used for touring, racing and scrambling impartially. In five years it had been ridden solo and sidecar, almost written off in a crash, sold, bought back again and finally disposed of to a gent who, after paying a small deposit and taking delivery, lost all further interest in the proceedings as soon as I departed for England in search of a little more technical knowledge about how a motorcycle was put together.



There luck was with me. With one or two racing successes on Velos on the credit side, I received a very sympathetic hearing from Percy Goodman at Hall Green. During the interview, after I had recounted our troubles with the overhung-crank 250 c.c. two-stroke—mainly with seizure of the mainshaft—P.J. remarked they'd had the same thing but had cured it quite easily. I asked how. He replied, " Oh, we just stopped making that model." Its successor was, of course, the delightful GTP.

This was in the heyday of that fabulous figure Harold Willis, who was combining the functions of constructor, tuner and rider of the KTTs of the period. A cautious man by nature, he was inclined to temper other people's enthusiasm with a modicum of reserve. He also tended to look with suspicion upon anything unconventional; he must have been the last rider ever to use a lever throttle in a T.T. On one occasion, when a suggestion to use cast magnesium for wheel hubs was made, he promptly squashed it with the observation that the stuff was only electrified dirt after all, and it was he who would have to ride on it.

Arguing with Harold when he thought he was right definitely paid no dividends. When a very eminent member of the trade gave it as his opinion that it should be easy to make an engine which would win the T.T., he could find no answer to Harold's rejoinder: " Is it? You ought to try it some time! "

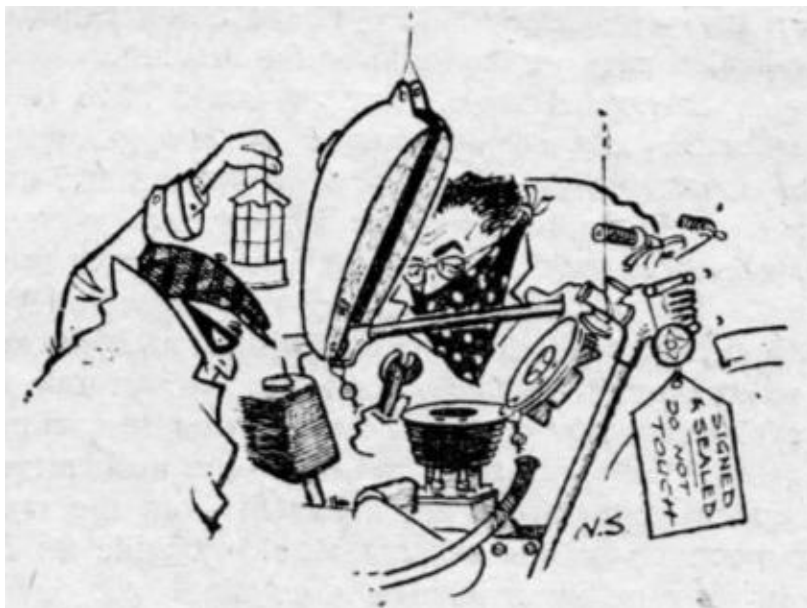
Yet he did take excursions into new realms himself, as witness the invention of the positive-stop foot gear change now so commonplace that the majority of present-day riders have never used anything else. Remember " Whiffing Clara." the supercharged model which subsequently came into the hands of the Velo fellos, The Archers of Aldershot? Clara was born of an idle conversation in a near-by hostelry and the first-fruit of this was about the wildest lash-up one could possibly conceive. A KTT engine, mounted on a test-bench in the small corrugated-iron " din-house " which then constituted the experimental section, drove a commercial vane-type vacuum cleaner, using the outlet as the pressure side feeding air to a gallon oil-tin and thence through the carburettor to the cylinder, Harold being of the opinion that the blowing-up of a gallon of explosive mixture if the engine back-fired would put the rider off his stroke, to say the least.

This hurried experiment resulted in a jump from 24 to 32 b.h.p., so work was promptly instituted to design the whole thing properly, with the, blower in front of the engine and the " official receiver " located where the oil-tank used to be. The layout called for a new frame, but when this was finished the power-unit could not be fitted because the engine-bolt centres were about a quarter of an inch too close to each other, though everything

appeared to measure correctly to drawing sizes. The frame-builder took much umbrage at any suggestion that his work could be wrong, particularly as he had bought a new and shiny two-foot rule especially for the job, but when matters had passed the conversational stage and reached an angry deadlock it was found he had purchased a pattern-makers' contraction rule which, through some oversight, had not been branded as such and had been foisted on an unsuspecting public by a cut-price store!

Where the " Clara " part of the name came from deponent knoweth not, but the " whiffing " came from the odd hisses and squeaks which arose after the bicycle was stopped. To maintain correct carburation, the receiver, float chamber and petrol tank were connected by balance pipes so that they were all under pressure, but some complicated drill with various taps had to be gone through when stopping—and also when starting—in order not to upset the carburation so hopelessly that a restart would be impossible. The Archers subsequently put the carburettor in the right place, on the blower inlet, and so far as I know they never had an explosion in the receiver, so Harold's fears of physical mutilation were probably ill-founded.

There *was*, at a much later date, an explosion in the external brick-built chamber used as a silencer alongside a new and larger test-house. Not that those inside were aware of this; all they knew was that an engine required for Donington next day suddenly dropped about a thousand revs. and never regained them, despite pulling the engine down, checking and reassembling everything possible. Eventually, in disgust, they gave up for the day, but on leaving found that the concrete roof of the exhaust chamber had fallen down—it had to, the walls were almost non-existent—and partially blocked the exhaust outlet from the engine!



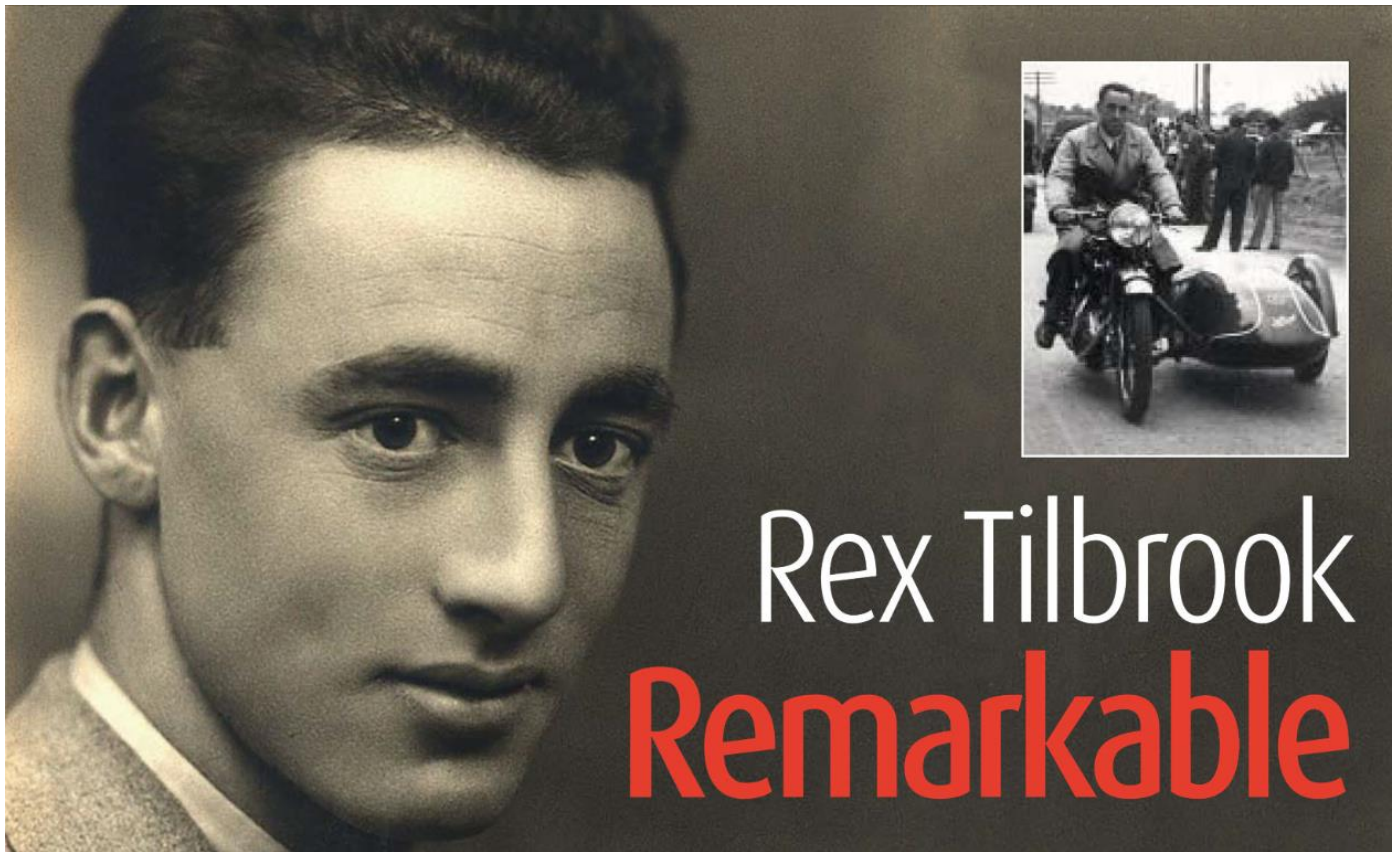
Lots of odd things happen in test-houses---and they're not always recorded, either. I can remember how, at another time and place a fellow-conspirator and myself dismantled by stealth, at dead of night, an engine which had shortly before been officially wired and sealed in preparation for a 100-hour test. Suspecting that all was not well internally. we had arranged the sealing wires with such devilish cunning that it was just possible to eviscerate this prime mover without breaking the seal.

Sure enough, the fault was there and was duly rectified. But the job left us no time to play with. We were just able to lock up, drive out of the place, wait along the road for a minute or two and then make an innocent arrival coinciding with that of the inspector-in-charge. The test started at 10 a.m. At 10.30 my accomplice observed airily, " Well. there's only another 99 ½ hours to go." They went. And the engine stuck it for the full distance. I'm afraid that we were rather pleased with ourselves.

## OVR Event Schedule, updated 30 March 2020

<i>Date</i>	<i>Details</i>	<i>More Info?</i>
<b>2020</b>	<b>2020</b>	
April 4-5	VRV Over The Top Tour	<b>CANCELLED</b>
April 10-12	Broadford Bike Bonanza	<b>CANCELLED</b>
April 24 - 26	All British Rally @ Newstead, Victoria	<b>CANCELLED</b>
May 29-31	Historic Winton	<b>CANCELLED</b>
June 5-7	VRV Winter Jaunt Event	<b>CANCELLED</b>
Sept 21-25	Australian National Vincent Rally, McLaren Vale, South Australia.!	<b>CANCELLED</b>
Sept 27	Bay to Birdwood Rally, South Australia	<b>CANCELLED</b>
Oct 2-4	VRV Bit on the Side Adventure	<b>CANCELLED</b>
Oct 2-4	Australian Superbike Championship @ Philip Island	<b>Under Review</b>
Oct 23-25	MotoGP @ Philip Island	<b>Under Review</b>





# Rex Tilbrook

## Remarkable

*By Jim Scaysbrook, first published in Old Bike magazine, now in OVR with his kind permission.*

Rex Patterson Tilbrook was a man of relentless ambition. A gifted engineer, Rex's probing mind was always searching for a better way; a more efficient means to manufacture; a breakthrough in design. Like many of his ilk, Rex could also be a prickly character when it suited him.

Born in 1915, Rex was up to his elbows in engines from his early teens, and by the age of 16 had saved enough to acquire a chain-driven Frazer Nash sports car. He had visions of competing in the vehicle in local events, but quickly became focussed on a bigger picture. England, he reckoned, was the place for an aspiring young racing driver and engine designer to be. At the age of 18, he sold the car and booked a passage to Britain, arriving in early 1933 with high hopes of landing a job at the Fraser Nash factory at Brooklands in Surrey. With no such jobs on offer, he found employment at the neighbouring Hawker and Vickers aircraft factories which were also located within the massive Brooklands bowl – the heart of British motor sport.

His fame as a tuner and fabricator spread rapidly, to the point that he took a lease on a vacant building and opened his own workshop, making the specialised exhaust systems and silencers required by the stringent local noise regulations.

Disaster struck in early 1938 when a broken acetylene gauge caused a fire that completely destroyed the workshop where he was working. Faced with the choice of rebuilding or bailing out, and with war clouds gathering, Rex chose the latter. With his Brooklands experience, he had plans of setting up in motorcycle manufacturing back in South Australia. Before sailing for home however, he travelled to several 'continental circus' race meetings with Fergus Anderson and multiple Brooklands record holder Dennis Minett (of Vincent HRD fame) typically cutting his run late and catching one of the last boats to leave Genoa before the outbreak of hostilities.

### **Hanging out the shingle**

Back in Adelaide in a shed in the back yard of his home in the suburb of Kensington Park, he produced the first in a long line of accessories – a universal pillion footrest. By 1947 business was ticking over sufficiently for him to expand to a proper workshop in the same suburb, where he produced a greater range of motorcycle components as well as the first of the stunning Tilbrook

sidecars. These unique creations featured a lightweight tubular chassis with torsion bar suspension carrying a stressed metal skin body mounted on tension springs.



Left: The Dandaloo Sidecar. Right: A Tilbrook Double Adult sidecar mounted on a B33 BSA.

The dream of producing his own motorcycle still consumed Rex, and the 1947 Adelaide Exhibition, which ran from March 21st to May 17th, gave him the chance to do so. Rather than build a prototype in secret, Rex went public. He took a stand at the exhibition, set it up as an open workshop, and during the 54 days of the show's duration, the first Tilbrook was constructed.

The engine was based on a pre-war 250cc Zundapp, with castings made locally and machined on his stand. It featured an aluminium-alloy cylinder head with a flat-top piston, with a ten-port arrangement. The ignition coil, condenser, voltage regulator, cut-out and complete generator assembly were all housed in a neat compartment on the right hand side of the motor. The high-output 20-amp generator eliminated the major bugbear of coil-ignition systems by enabling the engine to be started with a flat battery. The crankshaft was supported by three main bearings with a white-metal big end bearing. Primary drive was by duplex chain to a three-speed gearbox with a positive-stop foot-change. The engine was a complete running unit in 28 days. Rex's own design of pneumatic front forks used air pressure to vary the travel.

In contrast to the usual brazed-up frames, the new Tilbrook's chassis was all-welded, with the top tubes wrapped around the aluminium petrol tank in Coventry Eagle and Cotton style. Tilbrook claimed the only English parts in the entire motorcycle were the ball races and the primary and secondary chains. With the exception of the spark plug, the rest of the bike, including the ignition system, was made in South Australia. The complete machine was started up and ridden from the show, and still exists in the hands of Rex's family. Plans were announced for a production run beginning in 1948, with the option of rigid or sprung frames, but it soon became apparent that mass-producing the 250cc engine was a far more expensive proposition that had originally been thought. The Tilbrook factory was kept busy churning out its accessory range as well as the increasingly popular sidecars in their various styles.



## Taking to the track

To showcase his growing range of products, Rex decided to build himself a racing 125cc machine, and three were constructed prior to 1950. Evidence of Moto Guzzi design features could be seen in the racers, such as the radial arm front forks with friction dampers. The 125cc engines were loosely based on the pre-war Villiers Y-port barrel, but with bore and stroke altered to 52 x 58mm. The front forks had no conventional top yoke, with the solid legs finishing at the bottom yoke. At race meetings, the immaculate red bikes were accompanied by mechanics dressed in blue Italian-style overalls, decorated with Rex's three-pointed star emblem.

The racers were ridden by a variety of noted competitors including multi Australian champion Maurie Quincey, who gave the marque its competition debut at Fisherman's Bend, Melbourne, on Boxing Day 1948. Other regular riders included Rex himself, Tilbrook employee and Rex's close friend Alan Wallis, and future multi ISDT gold medallist Tim Gibbes.

## Production becomes a reality



With the racing team enjoying qualified success, Rex once again turned his attention to constructing a road motorcycle of his own design. In true style, Rex continuously leaked details of his 'secret Australian motorcycle' to the press to the point that a wave of enthusiastic publicity preceded the arrival of the first production model - chassis number 4 (1-3 were the 125 racers). For once, practicality had triumphed over passion, and Rex abandoned plans to produce his own engine. He imported a pair of German Ilo 125cc engines but future delivery

could not be guaranteed so he opted for the ubiquitous 125 and 197cc Villiers units. Apart from the engine and gearbox however, virtually everything else was produced in house – even the nuts and bolts!

The production Tilbrook featured an exceptionally large four-gallon petrol tank to allow for vast distances to be covered between fuel stops, and a large flared front mudguard to protect the rider from mud and road grime from the crude roads of the time.

In contrast to the puny brakes fitted to most of the British Ultra-lightweights, the Tilbrook employed handsome and functional full-width finned aluminium hubs with shrunk-in cast iron lining and 37 mm width shoes.

In all, around 55 complete road machines were constructed up till 1956, the final example being readied for the Royal Adelaide Show of that year. This version departed significantly from earlier models in that it featured a twin-loop frame with a conventional swinging arm rear suspension and Girling shock absorbers. The most striking feature was the all-enclosing bodywork



The 1956 Tilbrook prototype which never went into production.

which covered the petrol tank and carried the seat and battery/toolbox compartment. By this stage however, the motorcycle trade in Australia was in a seemingly terminal state and the new design never went into full production.

In reality, the motorcycle part of the business was minute compared to the sidecar production. 1,500 units were produced for both the home and export markets, ranging from the tiny 26 kg Tom Thumb version (pictured) that was specially designed for lightweight motorcycles to the Dandaloo.



This latter model was available as either a single or dual seater, with rubber bush mounting to insulate the sidecar from the vibrations of the motorcycle. Passenger enjoyed a plush ride, with the seat and backrest formed as a single unit, pivoted on rubber bushes and suspended on coil springs.

Even after the closure of the engineering business in 1976, Rex continued to supply parts for sidecars, and even built the odd complete unit to special order.

### The sporting heritage continues

Despite the economic pressures of road bike production, Rex never lost his passion for racing. The three 'works' 125 two-strokes were continually modified, and a further five built for customer orders. Always searching for the competitive edge, Rex conceived his most radical design in the form of a 125cc rotary valve racer. Based on Villiers crankcases and using the standard 62mm stroke, the rotary engine had a hardened and ground crankshaft driving a train of gears in a handsome casting on the right hand side. Atop the barrel sat Tilbrook's version of a twin rotary valve head, with the valves rotating at one-quarter engine speed. The rotary valve concept itself was not new, but the twin problems of sealing the valves and the combustion chamber, and of lubricating the valves usually proved insurmountable. With clearances so critical, varying degrees of expansion among the various components usually resulted in either seizures or loss of sealing, but Tilbrook's answer was to attach the barrel to the head using a spring loaded technique. The idea certainly worked, with the engine spinning to 12,000 revs with useable power from 8,000. As



soon as the rotary engine was completed it was installed in the chassis of Rex's two-stroke racer and he took off for a test run up the main street outside the factory! Within minutes he was back, declaring the project a failure since it offered no appreciable advantage. Rex totally lost interest in the project and the rotary was never raced in anger. Fortunately, the unique machine survives in totally original form in the hands of Rex's son-in-law Tom Johnston.

The revolutionary but unsuccessful rotary valve Tilbrook racer.

In 1989, when the Australian Grand Prix at Phillip Island finally became part of the world championship, Rex decided to have a crack at the 125 class and built a typically-innovative 125 contender powered by a Yamaha engine and entered for future Australian Superbike Champion Steve Martin. The machine however, was hopelessly outclassed in the highly developed GP field, and was withdrawn from the race. The 125 was taken back to Adelaide and all-but forgotten, but recently was acquired by Lyndon Tilbrook in Canberra, who has fitted a Villiers engine to the chassis.

As the motorcycle market continued to diminish, Tilbrook still produced sidecars and accessories, but gradually switched over to contract engineering work, making, among other things, tables and chairs. The firm finally closed down in 1976.

Indeed, 46 years after the factory ceased motorcycle production, the Tilbrook marque is still extremely well represented. Numerous solo machines and hundreds of the superbly-built sidecars still swell the ranks on classic rallies. The fondness with which the brand is remembered is largely due to the efforts of Alan Wallis, Rex's great friend and former employee. As well as being the marque expert and a sought-after speaker on the subject, Alan served many years as an administrator at the top level of the sport and received an Order of Australia medal for his work.

Apart from enjoying the contents of his crammed workshop, Rex and his wife Dorothy made a complete break from the business that had been their lives for 30 years and re-established themselves at the seaside town of Victor Harbour, south of Adelaide in 1976. There they built a prominent restaurant, The Whalers Haven, and a museum that housed artefacts from the whaling heritage of the area. Far from taking it easy, Rex became a significant figure in the district, heading several local associations, leading the project that rescued the historic Victor Harbour railway from demolition, and even standing for Parliament at one stage. Rex died of leukaemia on December 3rd, 1997.



The last Tilbrook; the 125cc GP racer.

OVR thanks Jim Scaysbrook, of Old Bike Australasia Magazine for permission to include his article in OVR. Visit [www.ldbikemag.com.au](http://www.ldbikemag.com.au) for more information about Old Bike



# The Art of Greasing...

Contribution from Jack Youdan. Melbourne Australia

Reading OVR March 2020 Edition 72 article on K16 Vincent grease gun was for me a case of “live and learn”.

It prompted thoughts of “what are those grease guns in my garage”.

Checking showed that all four I have are for use with old style nipples, (article says Tecalemit Tecazerk) and constitute.....

1. Unbranded 1” (25.4mm) diam. Stainless with piston rod actuator, rather than Martyn’s gun with cylindrical actuator.
2. Tecalemit 1.5” (38.1mm), cast fluted body with piston rod actuator.



3. Tecalemit Australia cast-in-nose 1.75 (44.5mm) plunger type nose end, pistol grip pump.



4. Alemite Zerk 6E Automatic 1.75”, plunger nose, pistol grip. The Bassick MFG Co. Chicago USA.



## Using these guns.

Always had trouble greasing the Anstey suspension on my Ariel Square Fours— possibly they had different nipples (Ariel’s own?) Seems father used these guns successfully on his from-new 1950’s Austin A40.....could that have been old style nipples from BMC?

More recently, to use the 1” guns on a Moto Guzzi shaft drive universal joint “modern” nipples, I used a new type (lock on) gun end component simply attached via flexible hose/ clamps to the old-gun end.

Although this seems a lot of coverage for the humble grease gun, it is part of the motorcycling experience through the years.

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# Leading The Way

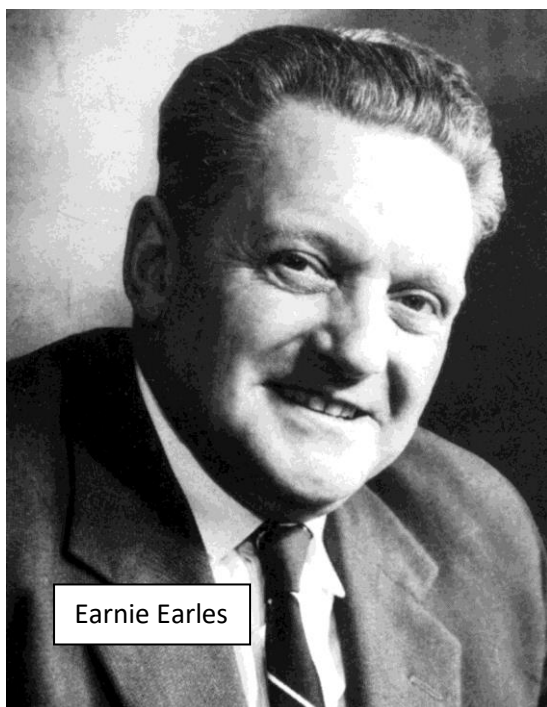
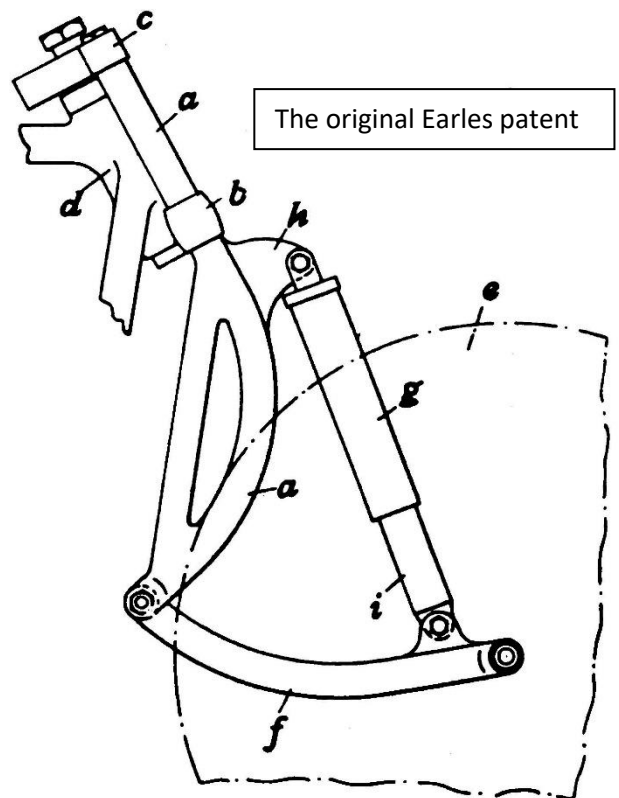
*In the early 50s it looked as if a then new British design might oust the recently developed telescopic fork. Writing in Classic Bike in 1988, this is how Peter Watson saw things.*

WHEN BMW won the Senior TT in 1939 it shook the British to the marrow. For only the second time since 1911, the race had been won on a foreign machine. The lightweight supercharged ohc flat twin seemed to point the way forward, and its attributes were dissected in boardrooms and bars.

One feature was already familiar, for this had been the second consecutive year in which a machine equipped with a telescopic rather than a girder front fork had won the premier race on the Isle of Man. Harold Daniell's 1938 works Norton had featured a telescopic fork strikingly similar to that employed by BMW on its production models.

A few insiders knew that appearances were highly deceptive. The Norton fork was not hydraulically damped like BMW's. Only after they had studied BMWs captured during the Second World War did British manufacturers — led by the London-based Associated Motor Cycles — arrive at anything approaching the sophistication of the German design. Even then some companies lagged behind the best practice for years.

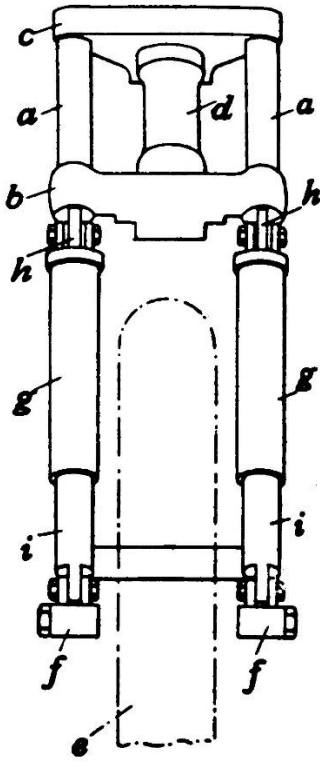
Post-war fashion in front suspension saw telescopics become the accepted norm. Yet in 1953 BMW — arch-priests of the telescopic fork — unveiled a works racer whose long leading link front fork design had recently been patented by an English engineer.



Soon Munich was to confirm its belief in the superiority of the Earles fork. Twenty years after its adoption of telescopics on production machines in 1935, BMW began to standardise the new design throughout its range. It was to be 1969 before the launch of the /5 series BMWs saw a general return to telescopic forks on the flat twins. The classic BMW's front end therefore owes as much to Birmingham as it does Bavaria!

In some ways it's easy to see why —with the benefit of 20/20 hindsight —someone should re-invent the long leading link front fork in the early 1950s. Just as plunger rear suspension had led designers towards telescopics in the late thirties, so it seemed logical to adopt a Velocette-type pivoted fork controlled by twin spring-damper units at the front as well as the rear of the frame in the fifties.

The man who came up with the notion — and applied to patent it in January 1951 — was Ernie Earles. A tough



little Brummie with a passion for motorcycle sport, Earles acquired an amazing range of metalworking skills at the Austin motor company. He had joined the car makers at the age of 15, and in wartime ran the sheet-metal and presswork shops in Austin's engine division.

Since Austin also made armaments and aircraft during the war, Earles was introduced to the latest in light-alloy technology. This sparked an enthusiasm for aluminium alloys that was to lead to such amazing racing specials as the alloy-framed BSA twin — now owned by Sammy Miller — ridden by Charlie Salt in the '52 Senior TT and recalled in *Classic Bike*, June 1985.

In 1942 Earles had begun Elms Metals, a two-man metalworking company based in a shed near his Birmingham home and to which he devoted his spare time. By 1948 the operation was large enough for this human dynamo to strike out on his own, and he quit Austin.

Earles's patent application merely claimed that he had succeeded in bypassing the telescopic fork's tendency to alter the wheelbase of a motor-cycle on the move. Under braking and acceleration and over bumpy going this alternately shortens and lengthens, which hardly

increases high-speed stability. His design would maintain a virtually constant wheelbase throughout the range of suspension movement and wheel travel.

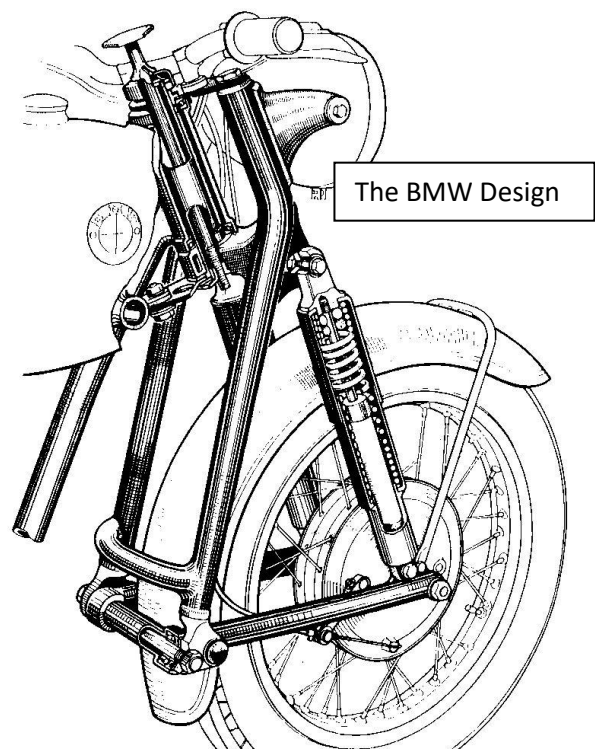
The leading link fork has other basic advantages over telescopics. Better torsional and lateral stiffness commend it to sidecar drivers and solo racers alike. Its reduction in unsprung weight is another bonus.

But here we must make a distinction between 'long' and 'short' leading link designs. Earles's design is of the long type, with the links joined together by a tube running across behind the front wheel. This imparts lateral rigidity and its existence permits the amount of trail to be varied — more for solo use, less with a sidecar — in a matter of minutes if alternative pivot locations are provided at the lower ends of the main fork members.

This type of adjustment isn't possible with short links because they aren't normally connected in the same way. So why did Moto Guzzi and NSU prefer short leading link designs for road racing while both MV and BMW campaigned Earles-type forks?

The answer to that question concerns the so-called pendulum effect, which afflicts the long leading link fork to a considerable degree. Think of a motorcycle's steering head as the pivot of a pendulum. Anything connected to the steering head that lies behind the steering axis will act as a pendulum. And the farther away from the pivot that you locate fork parts — such as tubing behind the front wheel — the greater the pendulum effect.

An engineer would merely remind you that the greater the radius of gyration for a given mass, the greater the moment of inertia of that mass.





Now if we examine an Earles-type fork we can immediately spot lots of weight located aft of the steering axis. This weight has to be steered, and an engineer would simply describe the design as possessing high steering inertia.

On the road or track this means that the steering may well feel heavy at low speeds. But the machine will also display a tendency to weave easily, the pendulum effect sustaining this unstable behaviour. Short leading link designs concentrate their weight more closely around the steering axis. The first signs that the Earles fork was to find favour internationally came in 1952. Les Graham recruited Ernie Earles in his efforts to make the MV Agustas handle, and soon the 500cc fours were fitted with Earles forks.

But 1953 brought avid readers of the British motorcycling press even more remarkable news. Early in February Ariel development engineer Clive Bennett was spotted riding a very unusual VCH single at the Colmore Cup trial. It was equipped with an Earles fork in

which the pivot could be moved fore and aft between three locations to alter the amount of trail. Two weeks later, a Mk II Square Four was photographed at the Victory trial complete with a similar fork, experimental twin-leading-shoe front brake and a headlamp nacelle.

These inspired leaks were followed up in early April by press impressions of both a 997cc Ariel four and an Earles-fork 498cc parallel twin. Three new models were to be launched — a 500cc VHA Mk II Hunt Marshal single, a 500cc KHA Mk II Hunt Master twin and a 1000cc 4G Mk III Royal Hunter — with production commencing immediately. Prices released a week later revealed that Ariel was to add a premium of about £6.40 to Earles-fork models.

The original Earles design was little altered, although the line of the main fork stanchions had been reversed to blend in with the curve of the front mudguard. Trail on Ariel's telescopic fork was 31/4in, a compromise between solo and sidecar requirements. The 62° head angle of the frame had not been altered, but the trio of pivot points set at quarter-inch intervals on the Earles fork permitted a variation in trail of from 4 in to 2 1/2 in.

As usual, the press reports were fulsome in their praise. Criticism was limited to the heavy steering at low speed and the manner in which the front end sometimes *rose* under braking.

The reason for this is simply explained, for the brake torque reaction was resisted by the right-hand link, to which the brake plate was secured. If the upward reaction was greater than the downward force supplied by weight transfer under braking — as it might be at low speed — then the front end rose. This effect could have been cured by fitting a floating brake plate and separate torque arm.

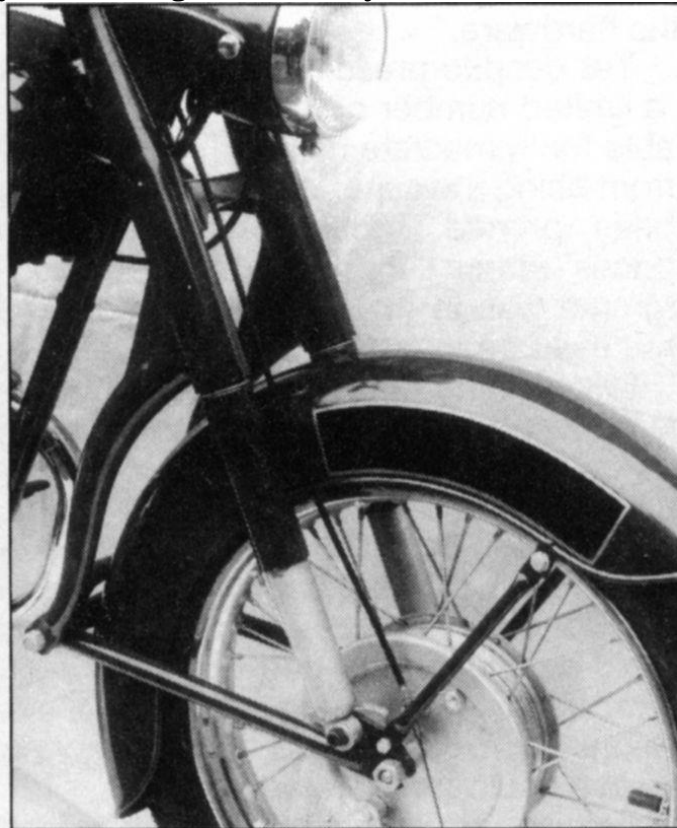
On the surface, everything looked right for Ariel's new models. The sidecar market was still of considerable importance; by 1955 there would be no less than 160,000 outfits on Britain's roads. It was easy to alter trail and as simple to detach the Girling suspension units to fit stronger springs.

In 1952 Armstrong, Woodhead-Monroe and Girling had all announced new shock absorber designs for motorcycles based on their automotive experience. Ariel might need to experiment with damping and spring rates, but other firms would be supplying the hardware.

Yet despite press reports in April that 'a limited number of machines are available for immediate delivery', this was far from being the case. While the press had been primed, brochures printed and prices struck, the development programme was in disarray. Production had not even been costed in detail.

Clive Bennett recalls a series of problems with the new fork. Using the standard 7 inch s/s drum, braking proved poorer using the Earles fork. Worse still, it was discovered that the very high loads transmitted to the steering head by the new fork were resulting in unacceptably rapid wear in the cup-and-cone bearings. 'The tracks were being indented,' says Bennett. To cap it all, a high-speed weave could not be eradicated.

Bennett accepted the tight deadline for full scale production as part of his lot. 'That was the way you did things in those days,' he recalls. 'As a development engineer you had to meet the deadline.



**Panther twin fork from Reynolds shows how neatly the suspension units and stanchions could be styled as one**

Ariel wanted something different, but it wasn't a fork for all seasons.'

Where the Earles design really scored, says Bennett, was in trials or scrambles where you could run downhill on greasy going at full tilt and still steer your way out of trouble at the bottom. But once a series of bumps had upset it, the pendulum effect would keep that tank-slapper going from lock to lock.

Outside events now sealed the fate of Ariel's dalliance with the Earles fork. Late in April, general manager Ted Crabtree died as the result of a car accident. Ken Whistance, brought in to replace him from Ariel's parent company BSA, is said to have been less enthusiastic about the project. In June Les Graham died after crashing at the foot of Bray Hill in the Senior TT. Perhaps unfairly, rumour associated his death with the Earles fork employed by MV Augusta.

Nothing more was heard of the new Ariels and there never was a Mk III Square Four with the unlikely name of The Royal Hunter. The Leaders of Design had set off in another direction —

towards a short trailing link front fork on the 1958 Leader.

Meanwhile, Ernie Earles had passed over the manufacturing rights in his design to the Reynolds Tube company, which had the facilities to make the forks in quantity. Ken Sprayson, formerly with Reynolds and now engaged on classic frame production with BSA, recalls that the technical director Tony Reynolds and Earles were good friends. 'It was probably agreed over a pint,' he says. Reynolds then passed on the rights to Earles fork production of machines of under 250cc to Metal Profiles Ltd in Dudley.

It's interesting to see how the original Earles design was now altered and improved upon by the various concerns — BMW, Reynolds and Metal Profiles — associated with its manufacture. The

most obvious change was the almost universal adoption of straight rather than curved tubing for the links, while the stanchions were often straightened. The curved bracing tubes that contributed so little to their stiffness were generally deleted. At the same time, an extra bracing tube between the stanchions and above or below the pivot was added.

In fairness to Earles himself it must be said that he had already made many of these changes himself. You have only to examine drawings of the front fork he designed for a special racing sidecar outfit for Bill Boddice early in 1954 to appreciate that his mind was open to both major and detail improvements.

BMW employed tapered roller bearings at the fork pivot, while other makers made do with Metalastik steel-sleeved rubber bushes. Reynolds experimented with many different bearings — such as Oilite and Railco bushes — but normally settled on these as well. It's also interesting to note that the largest British production machine fitted with Reynolds-Earles forks, the 350cc Douglas Dragonfly flat twin, features a separate brake torque arm.

After the Ariel debacle British opinion swung round to feeling that leading link forks were only suitable for lightweight machines. DMW fitted Earles-type forks from their associated company, Metal Profiles. Reynolds equipped the light-weight Panthers but could not convince Phelon & Moore that the 600cc sloper would benefit from a change, although a Model 100 was fitted with a Reynolds-Earles fork as an experiment.

Reynolds' involvement with the Earles design concentrated the company's attention upon leading link front suspension in general. So it was perhaps hardly surprising that Reynolds should develop its own short leading link fork in 1956. Yet this superb design only went into series production in a batch of 50 for the short-lived Royal Enfield GP5 racer. Meanwhile, telescopic fork design advanced. Stanchions and sliders were enlarged; seals improved in efficiency; two-way damping became the norm. Styling, rather than engineering, won the day.



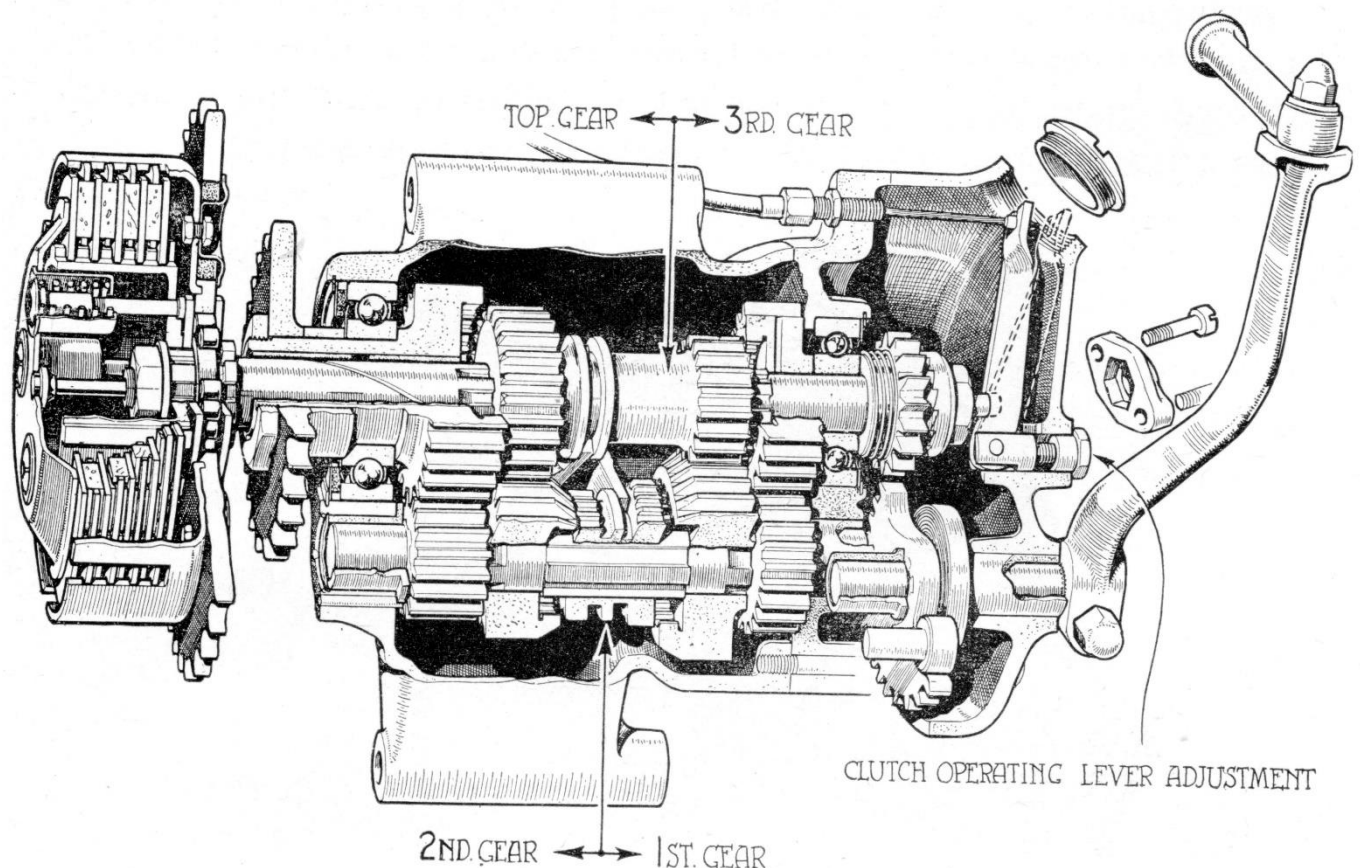
Prototype Ariel KHA Mk II Hunt Master twin on test. Unstable and considered by some as ugly

# Burman BAP Main Shaft End Float

I will confess to be a slow but persistent learner - I *think* I have finally understood how to control main shaft end float in a Burman BAP gearbox.

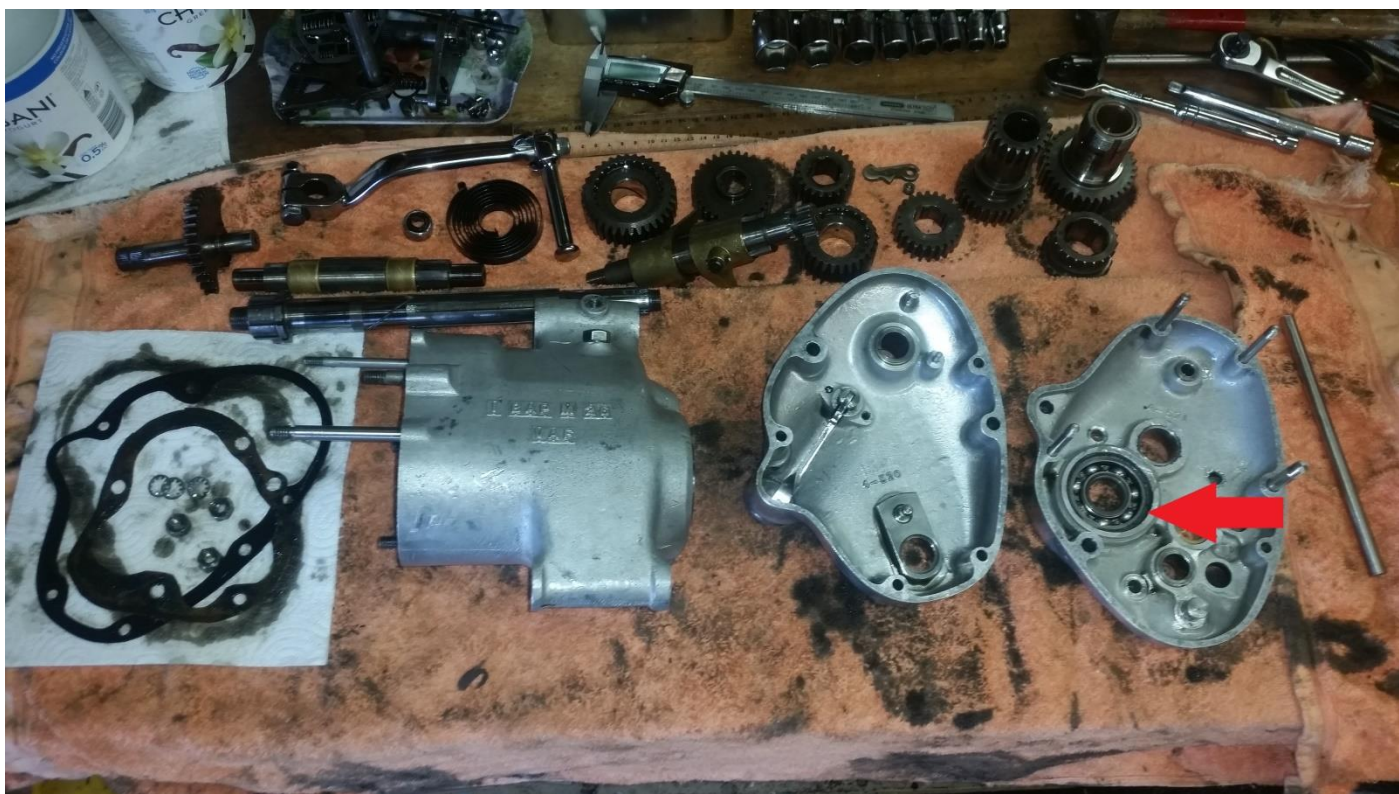
Up front be clear that the **ONLY** time that I think you can get a true measure of main shaft end float is with the mainshaft with the 3rd gear on it, fitted into the inner cover and the k/s pinion assembly in place and tight on the other side of the inner cover. **AND NO GREASE OR OIL IN THE BOX OR ON ANY OF THE COMPONENTS**

On the mainshaft at the kick shaft end there is a threaded portion that nut 70X fits onto and there is a shoulder there - when tightening 70X it is (should) be tightened up against that shoulder. Starting at the outer kick shaft end of the mainshaft between the tightened 70X nut face and the outer face of the small bearing firstly there is the Driven Ratchet PR50-41BA and then the Ratchet Pinion Bush PR50-39BA (this bush is installed with its top hat flange against the small bearing inner race). Slip fit over the Pinion Bush is Ratchet Pinion PR50-38BA and the spring PR50-40BA. Essentially this assembly makes a spacer between the nut 70X and the top hat part of the Pinion Bush. Let's call this assembly the Float Control (*ok I made that name up!*)



Now on the other (inner) side of the small bearing is the 3rd gear that is a slip fit on the mainshaft, with (hopefully) end float between the inner race of the small bearing and the shoulder on the mainshaft. It is the stepped face of the 3rd gear that abuts the small bearing and the mainshaft shoulder on the other side of it that becomes the partner to the Float Control. So we are looking at an assembly that can slide on the mainshaft between the mainshaft shoulder that abuts the 3rd gear and the nut 70X.

I have not been able to locate any Burman works documentation that advises what the main shaft end float should be however the suggestions received is that around 0.010" end float should be adequate. Richardson states that main shaft end float should not exceed 0.030".



*The Small bearing is highlighted in this workshop photo*

**Gearbox Small Bearing:** This can be a problem in that it often comes loose in the housing, sometimes the outer part of the circlip groove is actually broken away, my chum, Greg Brillus has seen this several times and the usual fix is to drill and tap 3 or 4 holes, taped 3/16 Whit or similar, and short machine screws with a washer under each to "clamp" the bearing in place, this on the outer side of the bearing housing. Now this 'failure' can only happen if someone has literally bashed the clutch end of the main shaft with a hammer, for whatever reason. The shaft is only held in place by that bearing and its fit in the housing – hammer blows can prove costly – you have been warned.

Perhaps what is felt to be end float on the shaft is actually the bearing loose in its housing and moving left to right. In any case, the assembly is quite fragile, and needs to be treated with a little care. And IF there is any movement of the bearing in its housing that **MUST** first be fixed.

So if we are to control the end float of the mainshaft and the bearing is secure, then it can only be done in one of two ways.

If there is **excessive end float**, and the small bearing is secure then, to reduce end float we can fit a shim between the Ratchet Pinion Bush and the Small Bearing. Standard Vincent metric wheel bearing shims available from the Spares Company are ideal for this use - Order H17M/set.

If there is **insufficient end float** then the remedy is to reduce the length of the Ratchet Pinion Bush. But first make very sure there is no grease or oil on the parts masking the real end float.

Remember when checking end float there must be **NO** grease or oil anywhere!





## 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.

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**Amal Mk1 Concentric Carburettor Shim Kits**, provides for twelve 0.016" incremental needle adjustments to allow precise mixture tuning in the critical mid-range. Also suitable for Wassell carbs. A\$15 per kit including postage world-wide. Additional kits just A\$10 each. Email [ozvinreview@gmail.com](mailto:ozvinreview@gmail.com)

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### For Sale: Modern gaskets for the Vincent.

The gasket materials, known as 'AFM' is a chemically blown, compounded nitrile synthetic rubber, bonded to an aluminium core with temperature resistance of over 250° F. AFM material does not require gasket sealers or silicone bead. Re-torque is NOT required.) These gaskets can be used many times over.

**Post war Vincent twin gasket set** includes:ET106, PD14, ET105, 2 each ET102, ET182/1, ET1801 and 2 each ET181. US\$58.00. Also ET 140 Clutch cover gasket available, US\$15.28

**Post war Comet and Meteor kit** includes (pictured): ET 106, ET180, ET182, ET181, PD14/1, and ET106. US\$55.00

Pack and post is additional. All gaskets are .060", ET106, is supplied in .032". (gaskets are available in .032" & .018" thickness). Contact Paul Holdsworth of the VOC Chicago section c/o [phpeh@hotmail.com](mailto:phpeh@hotmail.com) Located in Chicago IL USA.

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**News Flash!!** Cometic Gaskets for Burman BAP gearboxes are now available, 0.018"thick. Part numbers are Outer=EC2188 SP1 018AFM and Inner = EC2189 SP1 018AFM. For these gaskets please Email Drew at Cometic for more information [drew@cometic.com](mailto:drew@cometic.com)

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### For Sale: Vincent Series C front cylinder head

Brand new and twin plugged and never run, made by Godden as supplied to Conways, JMR etc A\$2300 which is what it cost to buy a new rear Godden head to fit to project a mates doing, this head would not work in a Vindian as you need front and rear, unfortunately the new engine was fitted with two front heads hence this is now redundant

Contact Phil Pilgrim (Australia) 03 94996428 (B.H)



# 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@outlook.com](mailto:nvidean@outlook.com)

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

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

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

**Tri-Spark Ignition**, based in Adelaide, Australia. Modern electronic ignition systems with models for all classic (and modern) bikes and the current system of choice by Godet Motorcycles (France) for installation in their superb Godet-Vincent machines. For info go to [www.trispark.com.au](http://www.trispark.com.au)

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

**Union Jack Motorcycles**, Australia: Full range of Triumph, Lucas, Amal and Venhill control cables. Ships worldwide. More info at the website [www.unionjack.com.au](http://www.unionjack.com.au) or phone +61 3 9499 6428

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

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

**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 [phpeh@hotmail.com](mailto:phpeh@hotmail.com) 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. <http://www.classicfasteners.com.au/>

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

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

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

## **Restoration Services:**

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

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

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

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

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

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

**John Parker, AMAL Carbs**, Melbourne, Australia: A specialist in AMAL carbs of all models, repairs, restorations and a massive supply of spare parts. For information phone him on +61 3 9879 3817 or email to [ukcarbs@hotmail.com](mailto:ukcarbs@hotmail.com)

## **General Services :**

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

**LUCAS STUFF** – The man who bought Kevin Baker's Lucas Parts business is Danny Lee in Melbourne. Email: [dannyleepersonal@gmail.com](mailto:dannyleepersonal@gmail.com) His phone number is 0412 327 197 Apparently Kevin has moved to Melbourne and works with Danny one day a week.

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

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# U.K.'s Lucas Ltd. to build electric Bike!



One of the United Kingdom's most enduring brands will proceed with plans to build the quintessentially British electric motorcycle.

Lucas, the world leader in faulty electrical components, has determined after decades of deliberation to finally push ahead with plans for an electric vehicle wholly of its own design.

The Lucas electric motorcycle, to be called the "Prince" in homage to the company's founder, Joseph Lucas, who died in 1902, taking with him to the grave his secrets of how to make reliable electrical parts. Since that time, the company has been awarded more wisecracks than any other.

Lucas has led in many important innovations since, including the first intermittent windshield wipers, the first self-dimming headlights, and the first anti-theft starter interrupt devices among its several inventions.

The company has also long extolled safe driving practices, as exemplified by its motto: *"get home before dark."*

Lucas's 2020 EV will be based on a design originally conceived in 1948.

The company had intended to build the EV in the 1960's but the plans were thought destroyed when the company's then-chief engineer's prototype bike caught fire.

The blueprints were recently rediscovered in fine shape in a back room, after having been overlooked for decades due to poor lighting.

