



# The Oz Vincent Review

Edition #92 October 2021



The Brits of the VOC Surrey Section were out in the May Day sun earlier this year. They took a hike to Newlands corner near a place some of you guys may have heard of - Box Hill; from the right the bikes riders were Simon Smith, Alan Ellis, Chris Roche. *Photo Chris Roche*

Disclaimer: The editor does not necessarily agree with or endorse any of the opinions expressed in, nor the accuracy of content, in published articles or endorse products or services no matter how or where mentioned; likewise, hints, tips or modifications **must** be confirmed with a competent party before implementation.

Welcome to the latest edition of OVR.

In Australia the riding season is just about to get started, provided you are not in a region subject to COVID restrictions or lockdowns. So it is time for the annual bike maintenance, change the oil, check the tyres, tune up the ignition and possibly dump that old stale fuel in the tank and replace it with fresh.

Don't just limit your preparation to your ride for the new season of riding – prepare yourself as well.

If not already done, go right now and get your COVID vaccinations so you do not risk being denied entry to your favourite venue when out and about, carry a face mask at all times and while you are at it fella's get a PSA test done as well – ignorance is NOT bliss.

Remember, to access the complete OVR archive from any device, just go to the OVR web site <https://ovr270.wixsite.com/ozvincentreview>

*Martyn*

Melbourne, Australia.

Email : [Ozvinreview@gmail.com](mailto:Ozvinreview@gmail.com)

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### Letters to the Editor

Hi Martyn,

Re Johnny Astley in OVR 91 - he is the bloke on the bike with Harmon and Godfrey, not on the left as in the caption in edition 91.

Cheers, Jim Scaysbrook OAM, Old Bike Australasia magazine



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Martyn,

The article on puncture repair in issue #91 includes the advice "Roughen and clean the area around the puncture and apply some glue..." I completely agree with that advice, but more should be said. In my experience cleanliness is the single most important factor to a successful repair, and it requires more than wiping the tube with a rag. I carry a 1 oz. bottle of alcohol as part of my tire repair equipment, and only when a clean rag comes away from the roughened area without any residue on it is it clean. I also carry a "stitching" tool to use on the patch. As for the glue, even the tiniest leak will allow the volatile solvent to disappear with time. Although it might be wasteful, I replace the glue annually since I don't want to get to the point of applying it only to discover that nothing comes out.

Regards, Charles Falco



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G'day Oz

In a few days time we are off to a VOC Rally in Scotland. Yipee! the first for a long time. It is a fair old distance for us, not by Oz standards of course, but as we live in the bottom right hand corner of England and the rally is, more or less in the top left hand corner of Scotland (I trust these exact geographical terms will enable you to place us) it is a fair way.

On the way up, on the left side of the country (OK,OK, the East) we shall visit Brother-in-law, Sister-in-law, children, grandchildren(, Old Uncle Tom Cobley an' all) and on the way back down the West (are you still with me?) some school friends from way, way, back who now live in "Bonnie Scotland" We shall be travelling in our large(ish) Camper van with scooter in the back, and taking nearly a month to do it. We don't anticipate any breakdowns, but should we have one, we will have our modern mobile phones and access to a Breakdown service.

All this preamble leads me to think, "What would the 1909 motorcyclist do in similar circumstances?" So I consulted the "Hints & Tips for MotorCyclists" fount of all knowledge and found ..... "TROUBLES" A Warning"!

"When the leviathan car sweeps past you with derisive stares from the duchesses in the back seats, as you sit and tinker miserably on the shadeless road, remember that the car is not more reliable than your humble cycle. The plain fact is that last night, while you were chatting with the boys, the chauffeur looked around his mechanism. Don't treat your motor as if it were a bootscraper, and expect it to function eternally without any attention from it's owner" There! you have been well and truly :told (check out that sneaky colon)

The intrepid author of "Hints & Tips etc" goes on to give "A Counsel" which I will save for a later date, but to just give you a taster, it includes "Tracing Troubles"

Far be it from me to add comment to this erudite publication, but may I suggest you have your notebook and pencil at the ready for the next instalment of "Tracing Troubles" We can all learn from history.

Stay safe. Colin Manning UK

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Yes Martyn there is more to come of OZ when I get to write it for you; The Dam Bikers comes up next.

For now I thought you would like another photo of a BSA Golden Flash The rider is an old sailing mate of mine we sailed square riggers together he is now near to 90. When Fred had the Golden Flash from new he worked at the time for a coach builder and made himself the panniers and leg shields you see during his breaks, at least that is what he told me? The OK Supreme is a machine known to me as the National Motorcycle Museum identified it as such, while the Black Shadow Fred had attached to a chair was still known to our government DVLA in 1981 so could still be around on

SORN and be kept off road in a collection. The BSA Bantam in the background was also Fred`s dads.

Chris Roche, UK



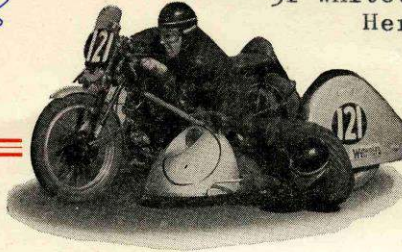
# Treasure from Stevenage

1933

**E. J. DAVIS**

Whitethorn Lane, Letchworth,  
Hertfordshire, ENGLAND.

CROMER MILL  
WALKERN · HERTS



VINCENT - WATSONIAN

CONTINENTAL POSTAL ADDRESS

WINNER OF SIDECAR CLASS

Silverstone - Oct. 1952  
Glover Trophy - April "

Boreham - July 1952  
Aug. "

Thrupton - Oct. 1952  
April 1953

Ibsley - July 1952  
(Kemp Cup - July 1953)  
Castle Coombe - Sept. 1952

Snetterton - May 1953

Brands Hatch - Aug. 1952  
Oct. "  
April 1953  
May "

Tranwell - Sept. 1950

Trent Park - June 1952

Brands Hatch - June 1953  
July 1953

Castle Coombe - July 1953

Mr. & Mrs. D.J. Bowen,  
6/9 Elm Street,  
BRIGHTON,  
SOUTH AUSTRALIA. 5048

<u>To</u>	One 1953 Vincent Rapide Series C Completely restored	£650 ✓
	One 1949 HRD Rapide Series B Engine rebuilt	£500
	One 1951 Vincent Comet in Concours	£375
	One 1952 Norton International Model 30 in Concours	£370 ✓
	Shipping to Adelaide £80 each	£320 +160
		<u>£2215</u>

Paid for in full and despatched

<u>To</u>	One Vincent Series D 1954	£600
	One HRD Rapide C 1949	£550
	Shipping	£180
		<u>£1350</u>

HOLDER OF WORLD RECORDS

MONTLHÈRY MAY 1952



# The VINCENT **H.R.D.** COMPANY Ltd.

STEVENAGE, HERTS, ENGLAND

Service Letter No.: 9

7th March, 1949.

Model RAPIDE MODEL Eng. Type No. .... Frame Type No. ....

Subject FITTING OF REPLACEMENT CYLINDER LINERS.

Replacement liners are sent out with the bores unfinished.

The procedure for fitting is as follows:-

Remove old sleeve. This can be done under a press, but the best method is to plug up the lower end of the sleeve with a wooden bung or an old piston sealed with grease, and support the liner in a vertical position, flange upwards and with no obstruction in the way of the jacket. Fill the liner with water and heat the jacket with a blow lamp, keeping the flame moving to avoid damage to the fins. The jacket will, after a while, drop by its own weight.

By very rapid work it is possible to drop the jacket on to the new liner before it has cooled too much. If there is doubt about this, re-heat the jacket to 200° C (400°F) before fitting to the liner, making sure that there is no dirt or swarf present which may become trapped under the jacket flange. On cooling, a very small gap will exist between the flange and the jacket face, and it is necessary to force the liner hard down in a press until the flange is in contact. The pressure required will be in the region of 6 tons. Unless this procedure is followed the liner will subsequently work down in service and spoil the cylinder head joint seal.

Next, drill and countersink the oil-hole in the same position as that in the old liner. Do not omit this.

The assembly is then ready for grinding and honing. The correct finished bore sizes are as follows:-

Standard Rapide 3.300" 3.306"

Black Shadow 3.307"

Black Lightning 3.307"



Telephone & Telegrams:  
Stevenage 375 (2 Lines) Head Office, Spares & Service  
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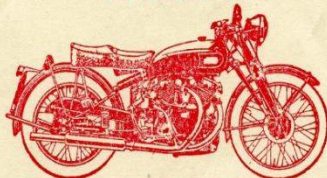
ON WAR OFFICE &  
AIR MINISTRY LISTS

Code:  
A.B.C. 7th Edition

# The VINCENT **HRD** COMPANY Ltd.



MAKERS OF



The World's Fastest Standard Motor Cycle

## STEVENAGE

HERTS, ENGLAND



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R. J. MASON  
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Our Ref.....

Your Ref.....

28th June, 1951.

### SERVICE LETTER NO. 12

Models: Series 'C' Black Shadow.

Subject: Gear Ratios.

With effect from June 1951 all "Black Shadow" Engines will be fitted with "Standard Rapide" gear ratios, unless otherwise ordered.

Engine No. FLOAB/1B/7076 is the first "Black Shadow" unit featuring the 9.1 bottom gear and we would add that this change has been effected as a result of many suggestions in this direction from "Black Shadow" owners throughout the world.

For a limited period we shall be in a position to supply "Black Shadows" with the original 7.2:1 bottom gear if specially ordered.

PE/MGJ.

Customers' Motorcycles are driven by our own Staff at Customers' own Responsibility. No Liability is accepted by this Firm for any Motor Vehicle, Motorcycle or Stock entrusted to them.



# Is the Brough really Superior?

*Back in 1987 Don Morley writing in Classic Bike thought so.*

IT HAS often been claimed that George Brough's ultra-expensive motorcycles were really little more than quality assembly jobs. According to some surviving mythology, in building his range of Brough Superiors this supreme self-publicist merely copied, or bought-in, components from the best of others.



*Brilliant designer, or merely a self-publicist? George Brough with a 1,000cc JAP-engined twin in 1922*

What is not normally taken into account by this popular, yet somewhat scurrilous, argument is that most other manufacturers during George Brough's heyday from 1919 to 1939 bought in their major components, too. Engines, for instance, came from JAP, Rudge, Blackburne or Villiers, front forks via Messrs Webb or Druid, wheels from Royal Enfield and most gearboxes usually arrived care of Sturmey Archer, Albion or Burman.

Indeed, in that era, virtually every machine produced — Broughs included — relied upon frame lug castings or forgings from Ley's Malleable Iron Foundry, electrics from either Joe Lucas, BTH or Miller, saddles from firms such as Lycett, and carburettors from a variety of different sources. And few individual makers contemplated moulding their own handlebar grips or footrest rubbers.

It is argued that George Brough was little different to the many other makers in buying-in so many components. But that tends to overlook the indisputable fact that, in Brough's instance, when those components were assembled together, they formed motorcycles that were a cut above the rest. Not only were Brough's overall designs far different, but so too was the consistently superior quality of George's products. This was not least due to the fact that GB, as he was affectionately

known, was not a mere entrepreneur, but very much a devoted racing and long-distance motorcyclist.

Riding his own products, Brough won countless hill-climbs, trials, sprints, Brooklands races, and took speed records and even dominated foreign Alpine trials. This provided the personal rider/manufacturer feedback which helped him improve his range.

His usual V-twin engines might, like those of rivals Zenith or McEvoy, have originated from J A Prestwich or Matchless. But as a

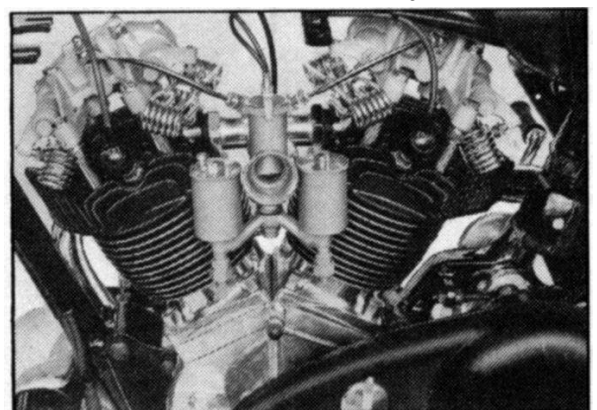
direct result of his personal prestige, largely acquired by virtue of his riding prowess, he could stipulate that when equipment was supplied for Brough Superiors, it would be appreciably better in design. For instance, Brough always used stronger big-ends with forked conrods, where rivals had separate rods; he also specified hairpin valve springs for Matchless engines, when Morgans were content with coil springs. All JAP engines used by Brough were to racing specification.

Later Matchless engines that Brough fitted in the mid-thirties owed almost as much to George as they did to AMC. Plumstead were quite happy to supply Brough with ohv and side-valve powerplants that were significantly improved over similar engines fitted to their own machines like the Matchless V-twin Model X. Similarly, Brough's Sturmey Archer gearbox, though outwardly the same as that on the International Norton, was in practice quite different: he alone demanded far stronger pinions and shafts.

Look up motorcycling's most useful design patents and you'll find that, like Alfred Scott before him, George Brough's name rockets to the fore. For example, Brough invented the dipping headlight his machines uniquely employed, and in conjunction with colleague Harold Karslake he invented a footrest-fitting propstand that is still better than anything around today. But, because so few Brough Superiors were actually built, it is as motorcycling's high class bespoke tailor that GB is — unfairly — most remembered.

Most of the mere few thousand hand-built production machines were ordered in advance by wealthy owners direct from the factory, no matter which dealer would ultimately supply them. Everything from riding position, mudguards and petrol tank, to carburettor and tyre size, even whether machines were to be supplied with rigid, plunger-sprung or Bentley and Draper swinging-fork back ends, was determined by the buyer.

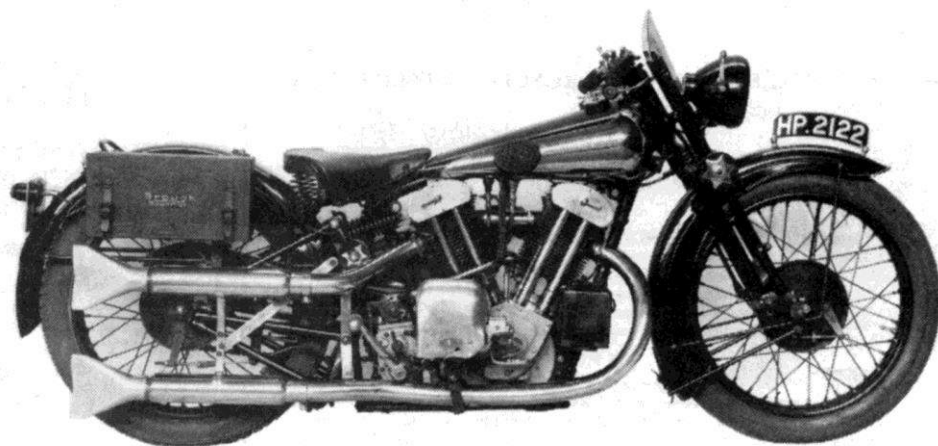
Sultans, courtesans and kings visited the works at Haydn Road, Nottingham, to discuss the final specifications and precise measurements for their own exclusive machine. Not least among them was Lawrence of Arabia, who in the guise of Aircraftsman T E Shaw, purchased a total of five, including the Brough on which he eventually lost his life. The one-off machines, whose peak was arguably reached amidst the Depression of the 1930s, were never compromised or built down to a price. Instead, they continued to appeal primarily to the affluent few for whom, despite the troubles of the world, money was no problem.



*A Matchless-made Brough engine of the late 1930s. Engines were ordered to special specifications, rather than merely bought in*



Broughs always reflected George Brough's own interests and from the outset featured 740cc, or larger, V-twin engines. They matured as he did, from being thinly-disguised racers, via the Alpine Grand Sports — named after his own Alpine Rally-winning bike — to become softer, plusher, better-braked and more comfortable. But they always remained fast transcontinental tourers.



To many, the 1920s' semi-Brooklands racers represent the ultimate Broughs today, yet though supremely beautiful, they are somewhat skimpy 100mph-plus machines whose three-speed, hand-change gearboxes, beaded-edge tyres and ineffectual brakes do little to inspire confidence on busy 1980s' roads. Nonetheless, their value has gone sky-high. If few but the wealthiest could afford a Brough in the

*Sports machines like this 1929 SS100 are top of today's Brough price league*

1920s or 1930s, the wheel is now coming full circle. Prices of 1920s' Brough SS100s, if they ever come on the market, are now nudging £30,000. Today, even fewer people are likely to get a ride, especially as machines are less likely to be used.

Perhaps fortunately for those who appreciate Broughs and therefore want to actually ride them, the more civilised, better equipped and far nicer to use ohv Matchless-engined SS100s, along with virtually all of the side-valve powered 680cc and 1,150cc bikes, have yet to acquire values of anything like such ridiculous proportions. It is still possible to find a well restored 680, SS80 or 1150 for under £5,000, though — somewhat illogically — the similar Matchless ohv versions are edging up to £12-13,000. This is fine if you already have one, but not nearly such good news if Brough riding is your future aspiration.

As regards riding a Brough, how does anyone adequately put such a unique experience into words? Due to their long wheelbase they are surprisingly comfortable, even in rigid form. Today's unavoidable potholes do not unduly trouble them, though it is generally acknowledged amongst Brough experts that the rigid frames actually handle best. To make comparisons, Brough V-twins have more in common with big Ducatis rather than, for instance, Vincents. Like the Dukes, both the JAP and Matchless engines wind up so smoothly — like a turbine, instead of the Vincent's uneven pulses and clatter.

The rider is never really aware of just how good a job the unusual parallelogram Castle front forks are actually doing. Nor will he, or she, be troubled by a clutch that later graced a thousand Nortons. With so much deceptive speed available, Brough brakes could be better: nonetheless there is power and handling ability aplenty to pull the rider out of trouble.

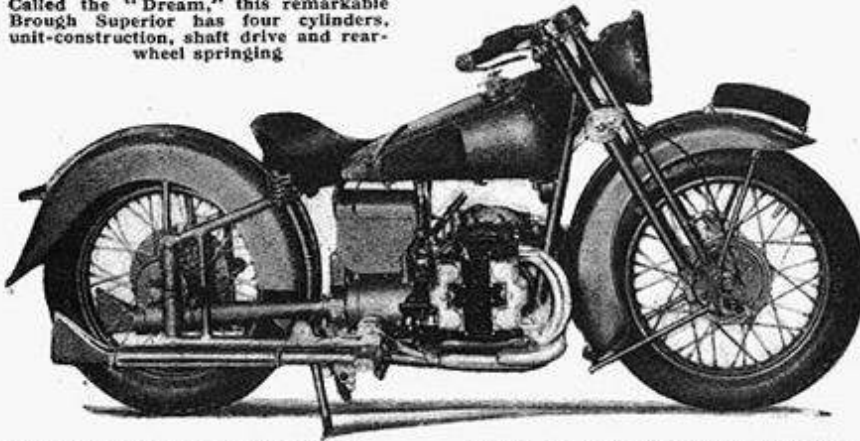


*Brough as innovator: the flat-four Dream of 1938. Many factory models before it carried the HP 2122 plate*

## BROUGH SUPERIOR

**STAND 12a: The Sensation of the Show—The New Spring-frame "Dream" with a Strikingly Original Four-cylinder Engine and Many Interesting Features: Luxurious Side- and Overhead-valve Big-twins**

Called the "Dream," this remarkable Brough Superior has four cylinders, unit-construction, shaft drive and rear-wheel springing



George Brough, Haydn Road, Nottingham.  
Model "Dream"—996 c.c. four-cyl. o.h.v. Brough Superior, with spring frame; dry-sump lubrication; magneto ignition; shaft drive; gears, 4.2, 6.3, 8.4, 12.6, with foot control; fuel, 4½ gals.; 3.50—19 front and 4.00—19 rear tyres. Price with lighting, speedometer, horn and licence-holder (solo), £185.

ONE has become used to a glittering array of Brough Superior machines, but this year George Brough has surpassed himself. All his famous models are there, just as bright and practical as ever, but their thunder is stolen by the presence of his new four-cylinder model, the "Dream."

It may be true that "all is not gold that glitters," but in this case even the gold finish is matched by the brilliance of a design of absorbing interest. The power unit virtually consists of two engines geared together with their cylinders set across the frame. The engine is admirably cooled and particularly compact, while the arrangement provides an unusual degree of accessibility—the overhead-valve gear, the cylinder heads, the two carburettors, and the Magdyno are easily reached without disturbing any item other than that one wishes to inspect.

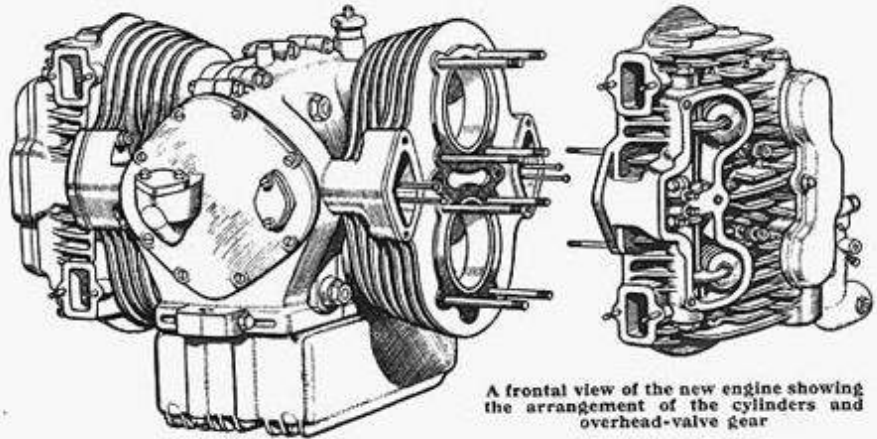
The engine, with its geared crankshafts, bristles with novelty, but interest does not stop here. In unit with the engine is a three- or four-speed gear box from which an enclosed worm shaft is taken to the worm wheel in the rear hub.

Other points that are attracting interest

are the rear wheel suspension, the method of removing the rear wheel, the re-designed Castle forks, the ball-mounted head lamp, the concealed tool box, and the special sidecar attachment and chassis designed for this machine.

Model "SS80 Special"—990 c.c. twin-cyl. side-valve J.A.P.; dry-sump lubrication; magneto ignition; all-chain drive; oil-bath primary chain case; gears, 4.23, 5.2, 8.53, 11.5, with foot control; fuel, 4 gals.; 3.50—19 front and 4.00—19 rear tyres. Price with lighting, speedometer, horn and licence-holder (solo), £99 15s.

The "SS80 Special" is the lowest-priced machine in the Brough Superior range, but it embodies most of the refinements found on the others. Its engine, although very powerful and capable of a fine performance, is probably one of the most silent on the road. The spring frame and trailing-link forks are not included, but, in common with all Brough Superiors, this model is planned on luxurious lines and is finished in black and chromium. The range is completed by an "SS80" in de luxe form, the famous 990 c.c. overhead-valve "SS100," and the equally well-known 11/50 side-valve.



A frontal view of the new engine showing the arrangement of the cylinders and overhead-valve gear

Brough was no mere assembler of parts, but a gifted engineer who always put quality, longevity and ergonomics equal first. Yet, like Edward Turner, he was also a brilliant publicist for his own products and — equally important — brilliant as a stylist.

Perhaps the supreme accolade was paid by Rolls-Royce of Derby, who were normally so jealous of their reputation. After inspecting his factory, his bikes and his methods, they allowed George — alone amongst motorcycle manufacturers — to officially advertise Broughs as being 'The Rolls Royce of Motorcycles'. Another accolade today is the Brough's incredible survival rate.

Most of the bikes that George built are still alive and kicking. Some that were originally bought by police forces paid back their not inconsiderable initial purchase price by nicking hundreds, if not thousands, of motorists and motorcyclists over decades of loyal service!

The world's fastest boys in blue must have been suitably impressed, for they kept their Broughs until 1955. Many have survived, which, knowing what police bikes go through, must itself add up to quite a testament that Broughs were indeed Superior.



# Treasures from the Stevenage Works

CONFIDENTIAL

The VINCENT **HRD** COMPANY Ltd.

STEVENAGE, HERTS, ENGLAND

31st October, 1947.

Service Letter No.:.....3.....

Model RAPIDE "B"..... Eng. Type No. ~~F10AB~~ 1/3..... 68 Frame Type No.....

Subject CLUTCH SLIP AND CONVERSION, MARK 1 to MARK 11.

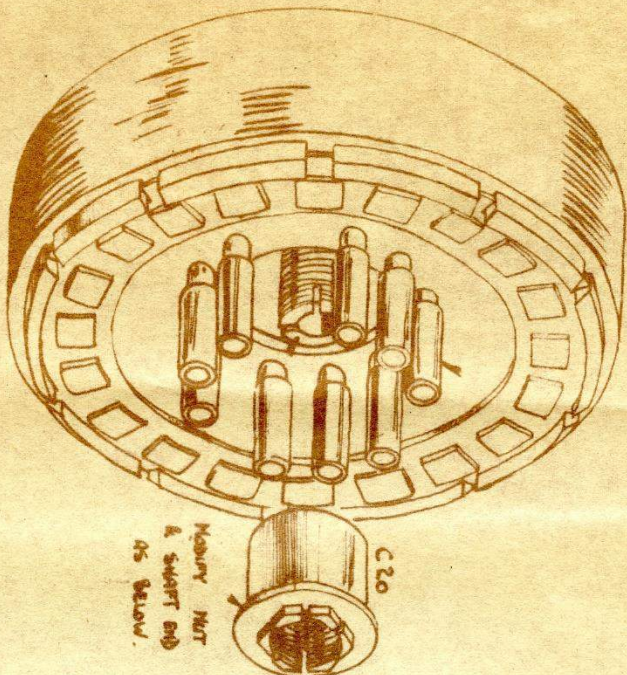
Models up to the above engine number were fitted with the Mark 1 clutch, which has 3 springs and no locking device for the Clutch Retaining Nut; this occasionally comes loose unless fully tightened up with a box spanner, and rechecked after a few miles in case any bedding-down has taken place. If this nut comes loose, oil works through from the chain case up the shaft splines, is thrown on to the drum and reduces the grip of the Shoe clutch, thus throwing more work on the plate clutch which will then slip under medium or heavy loads.

Another cause of slipping which may occur even at light loads is the outer clutch plate contacting the end of the Clutch Shaft after some wear has occurred on the inserts. As a temporary cure, remove the Thrust Plug in centre of Outer-Plate, and fit under the head a washer, about 1/16" thick, (A Third Gear Spacing Washer Part No. G20 is suitable) and finally adjust the lift by the method described in Riders Handbook. p.23.

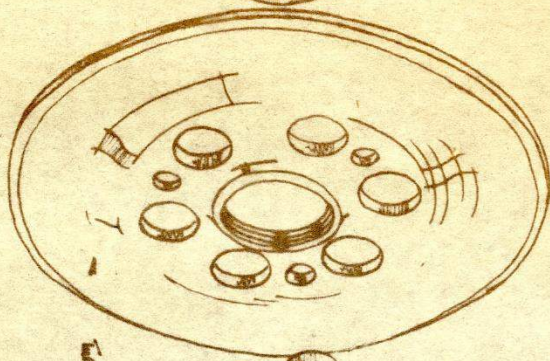
Although the Mark 1 clutch is perfectly satisfactory when correctly adjusted, its possible troubles can be overcome by conversion to the Mark 11 pattern as depicted in Drawing No. M004. A number of machines have already been so converted, which can easily be ascertained after removing the clutch cover, by noting that the Outer Plate is fitted with its convex side outwards, instead of being concave as in the Mark 1 clutch.



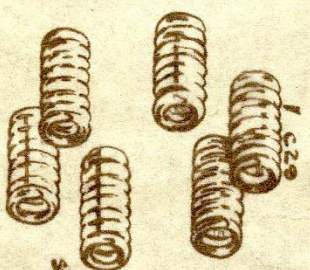
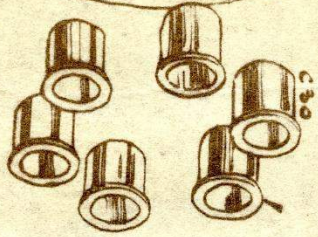
Fit 2 sleeves instead of existing 3. (C15)



C20  
NUT AND  
A SHIRT END  
AS BELOW.

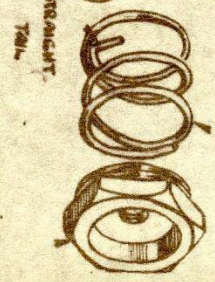


Use the same bands to  
fit the new design.



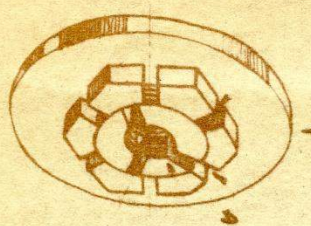
Fit 6 springs & cups  
instead of existing 3.

Discard 3 cup spacers  
at present fitted



Existing  
Thrust plate

NOT SLOTTED 1/2" DIA.  
ACROSS FLATS BOUND TO  
LEVEL OF FLANGE



slotted 1/2" dia. for 1/2" in  
from end in 3 places.  
(a) Opposite slot in nut.  
(b) 1/2" of distance between slots behind nut slot  
(c) This will prevent a locking position every  
20° or in other words 18 positions per turn.

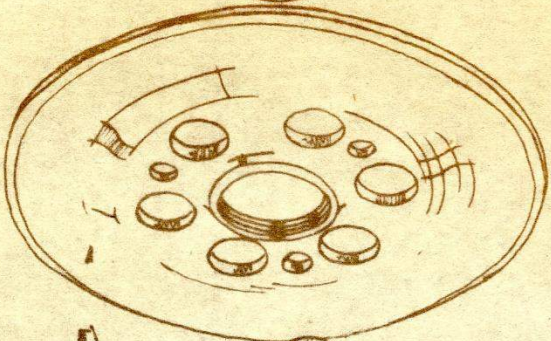
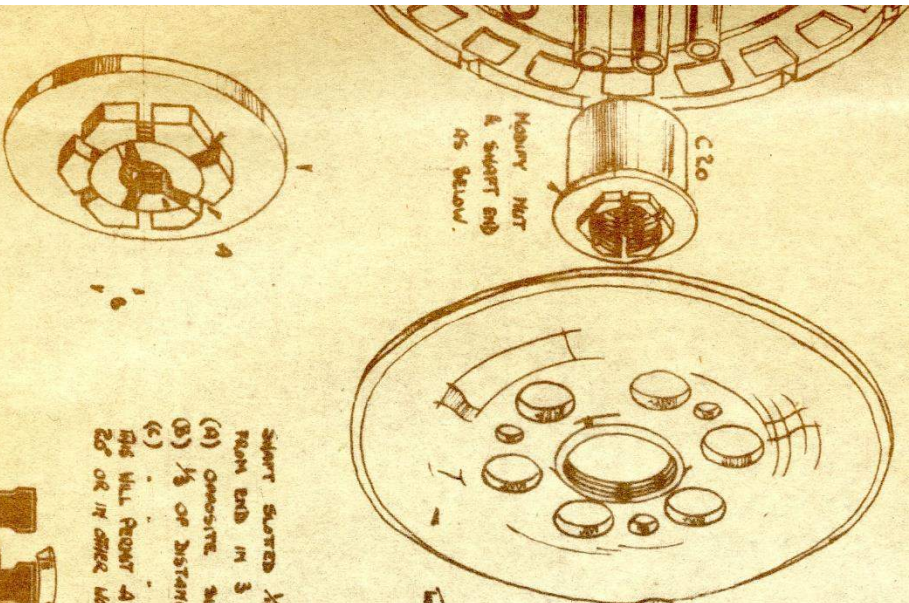
- Extra parts requ
- 6 sleeves
  - 3 springs
  - 3 cups
  - 1 adjuster
  - 1 spring

THE VINCENT  
**M.R.D.**

CLUTCH CONVERSION



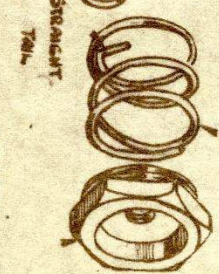
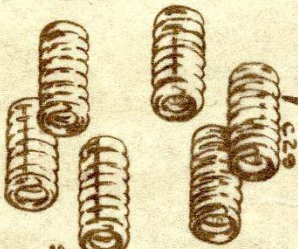
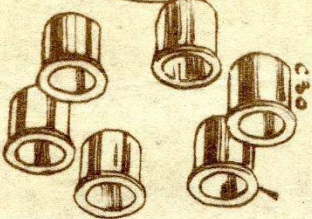
**FIT 3 SLEEVES INSTEAD OF EXISTING 3. (C15).**



DISCARDING CUP SPACERS AT PRESENT FITTED



FIT 3 SPRINGS & CUPS INSTEAD OF EXISTING 3.



Existing THROUST PLUG



NEW PISTON



EXISTING LOCKING NUT

Specific Lock C45 -  
-NUT C20 IS FULLY TIGHTENED ON SHAFT SO THAT ONE END OF SLOTS IN NUT AND SLATS ARE IN LINE. OUTER PLATE, SPRINGS ETC. ARE ASSEMBLED AND SPRING LOCK IS PUT IN PLACE WITH STRAIGHT TAIL. DURING OPERATION, WHEN THROUST PLUG C20 IS SCREWED INTO OUTER PLATE, THE SPRING LOCK IS HELD IN POSITION.

TAKE THE CUPS AND SPRINGS TO THE DESK OUTSIDE.

SHAFT SLOTTED  $\frac{1}{2}$ " USE FOR  $\frac{1}{2}$ " IN MAIN END IN 3 PLACES.

- (A) OPPOSITE SLOT IN NUT.
- (B)  $\frac{1}{2}$ " OF DISTANCE BETWEEN SLATS BEHIND NUT SLOT
- (C) THE HILL POINT A LOCKING POSITION EXACTLY 20° OR 14° OTHER WAYS IS PERMISSIBLE PER TURN.

**THE VINCENT**  
**H.R.D.**

CLUTCH CONVERSION ~ MK. I. TO MK. II.

M.004.

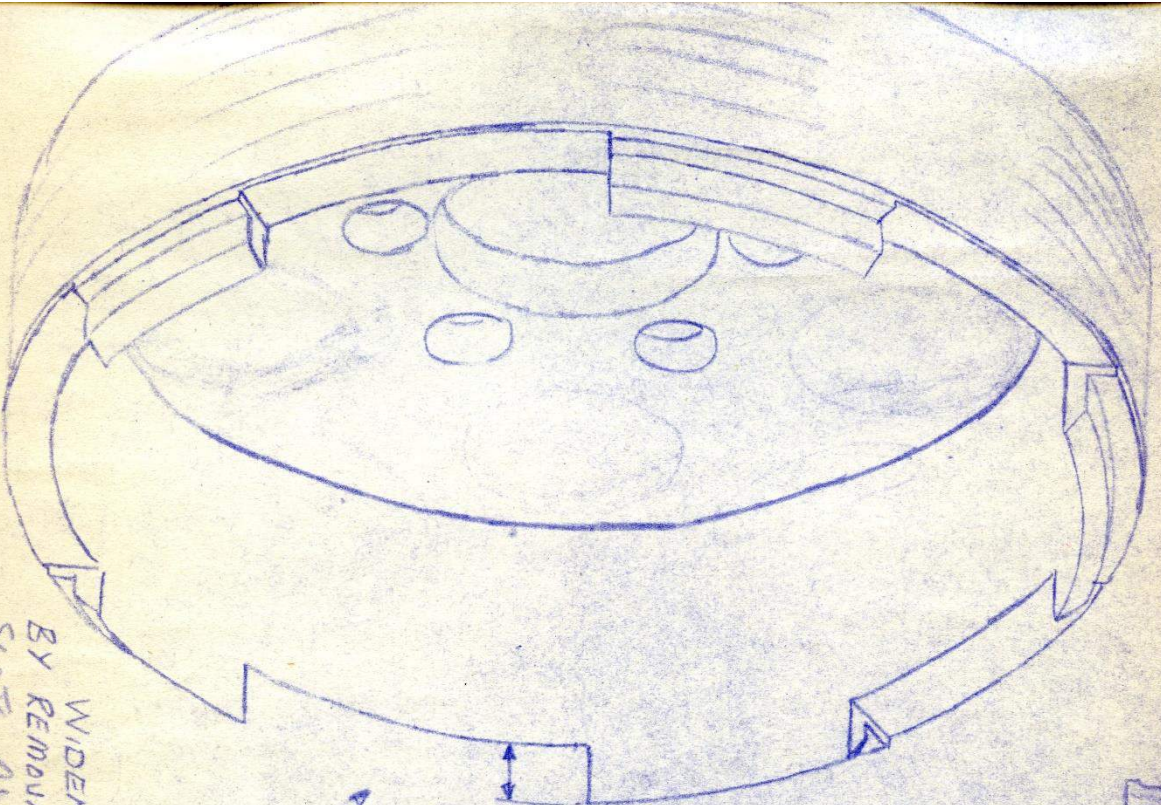
10/24/55

Extra Parts Required for Conversion

- 6 SLEEVES C15.
- 3 SPRING CUPS C30
- 3 SPRINGS C29.
- 1 ADJUSTER C42AS.
- 1 SPRING LOCK C45.



FERODO



25"  
64

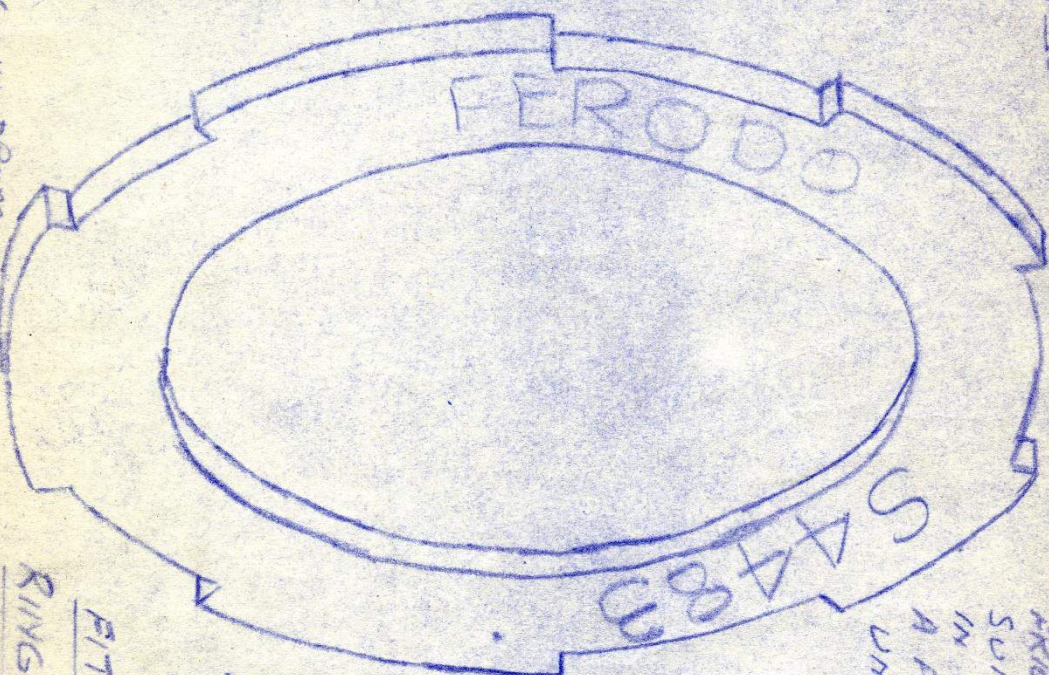
WIDEN SLOTS IN DRUM

BY REMOVING TONGUES BETWEEN

SLOTS AS SHOWN. FINALLY DEEPEN

SLOTS TO FIGURE SHOWN (I.E. A 1/2"

DEEPER) FIRST RIB ON DRUM)



SHAPE OUTSIDE OF  
FRICTION RING TO  
FIT MODIFIED DRUM,  
IN WHICH IT MUST BE  
A FREE FIT WITHOUT  
UNDUCE BACKLASH.

-5 JAN 1950

THE DEEPENING OF  
SLOTS IN THE DRUM  
IS TO ACCOMMODATE  
GREATER THICKNESS OF  
RING AS COMPARED  
WITH EXISTING STEEL  
FLOATING PLATE

FITTING OF FRICTION

RING TO EXISTING

CLUTCHES

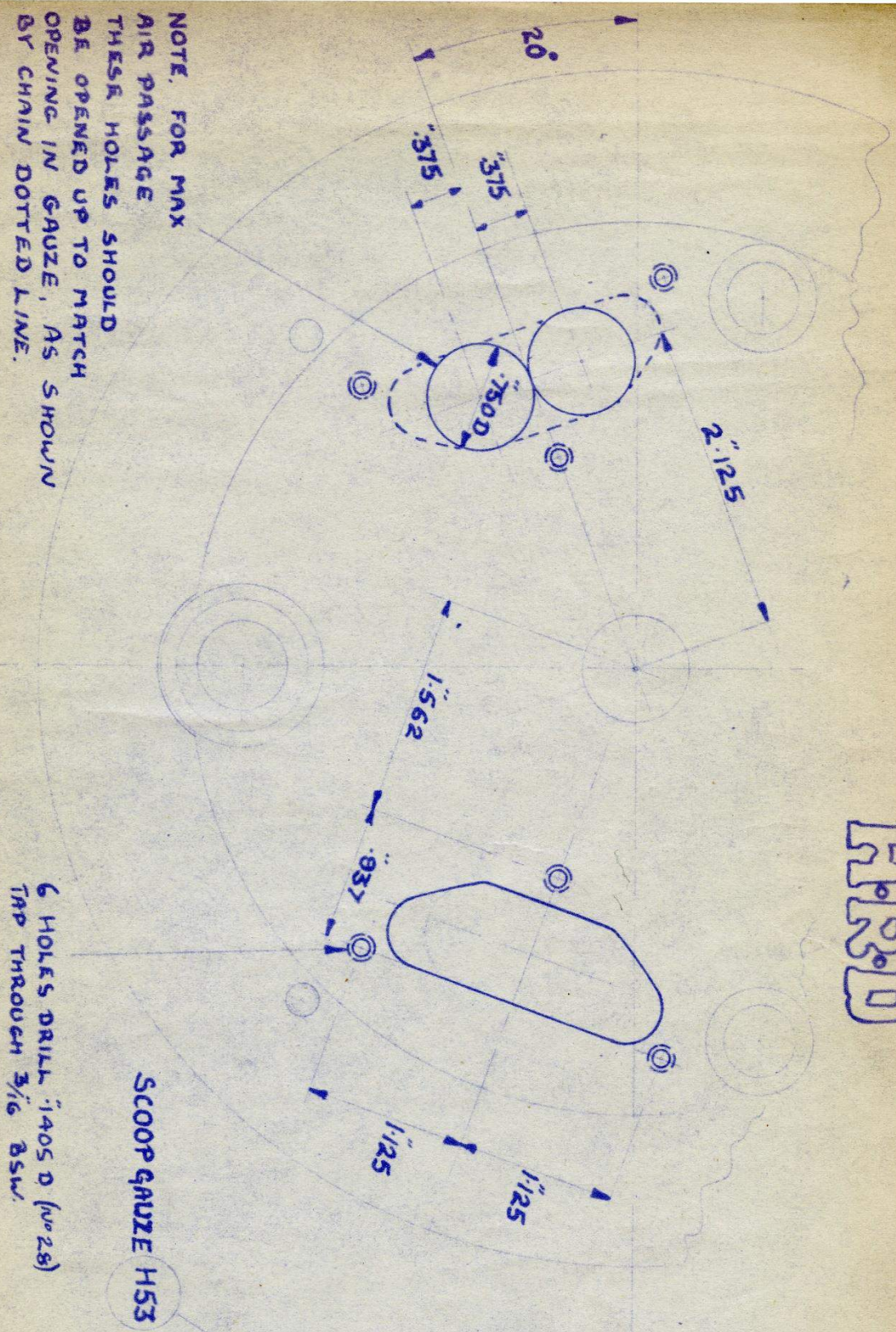
DRG No. M.051

M051

19/10/48



# HRD



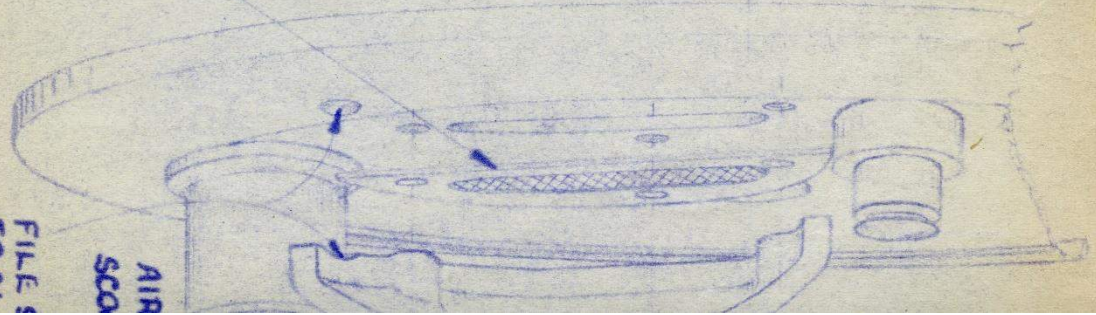
AIR SCOOP  
FILE TO CL

6 HOLES DRILL .1405 D (NO 28)  
TAP THROUGH 3/16 BSW.

NOTE, FOR MAX  
AIR PASSAGE  
THESE HOLES SHOULD  
BE OPENED UP TO MATCH  
OPENING IN GAUZE, AS SHOWN  
BY CHAIN DOTTED LINE.

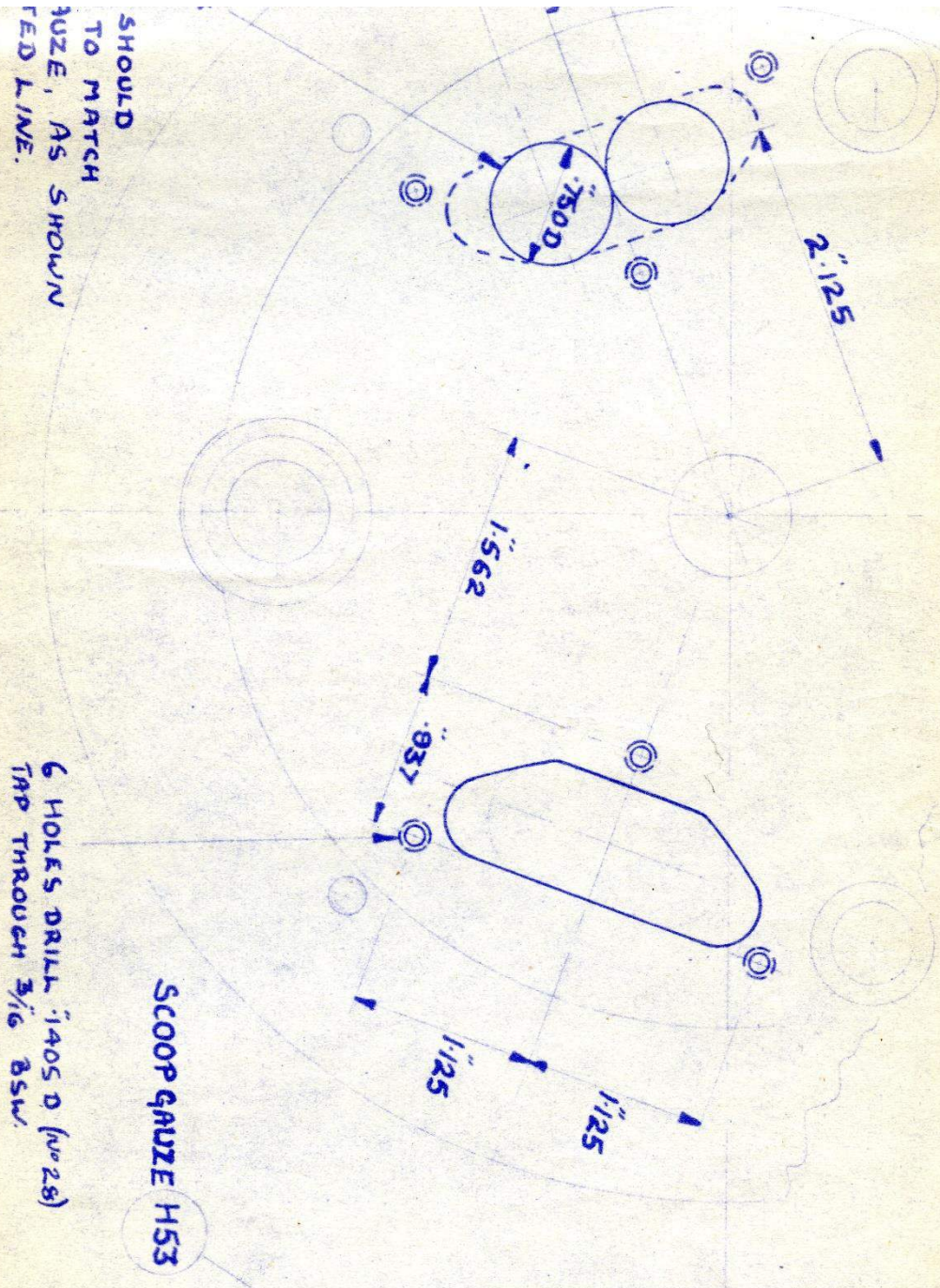
M 047

FITTING AIR SCOPES TO FRONT TAKE





**H.R.D.**  
THE WORKERS



SCOOP GAUZE H53

FILE SCOOP LOCALLY TO CLEAR RIVET

AIR SCOOP H52

845 SCREWS

-5 JAN 1950

FITTING AIR SCOPES TO FRONT TAKE

M 047



# Chasing a Spark . . . . Hen's Teeth.

If you are anything like me you will treasure the normally solid reliability of a traditional magneto, even more so if it is an original and not one of those new fangled electronic do-dars.

Maintaining a Lucas magneto is actually a simple affair, its all about keeping the internals dry, clean, sparingly lubricated and above all, making sure those vital ignition points are in good condition. The prudent rider, when touring, will allways carry a spare set of magneto points – just in case.

Routine magneto maintenance is required on a regular basis – if you have not used the magneto for over a month you should gently clean the tungsten points as tungsten oxidises forming a hard grey oxide finish on the contact faces. And remember to put a thin smear of grease on the magneto cam surface every 500 miles or so.

Points gap should be set at 0.010 to 0.012” and checked every 500 miles.; spark plug gaps should be 0.018 to 0.020”.

Every 1000 miles remove the HT pickups and dustoff the slip ring, at the same time remove and clean the earthing brush.

Back to the points. If you do not already have a spare set then this is a good time to embark on the search for a set. I had a set on order from the VOC Spares Company for over 12 months to eventually be told that their supplier had gone out of business. I then tried all of the usual alternative sources locally – magneto rebuilders - but no luck there either. Talk about searching for Hen's Teeth!

Finally I tracked down a supplier of NOS points. They came in their original box and waxed paper wrapping, complete with patenia!



So if you are in the market for a set – be quick. I do not know what the future supply is like – but like real estate – they are NOT making any more.

The Lucas Provision List from 1951 specifies the following contact sets for Vincents: Twins with KVF Magnetos use Lucas contact set 470877 while for singles with K1F magnetos the contact set is 470608

My set (pictured) came from Baxter Cycle, in Iowa, USA and just ONE set of points cost US\$35 – not bad? Well that was before shipping cost of US\$30 was added on. Hen's teeth were never cheap.

Baxters can be contacted thru their web site <https://www.baxtercycle.com/> .

Good luck.





# A Man Who *Really* Mattered.

by Alan Turner

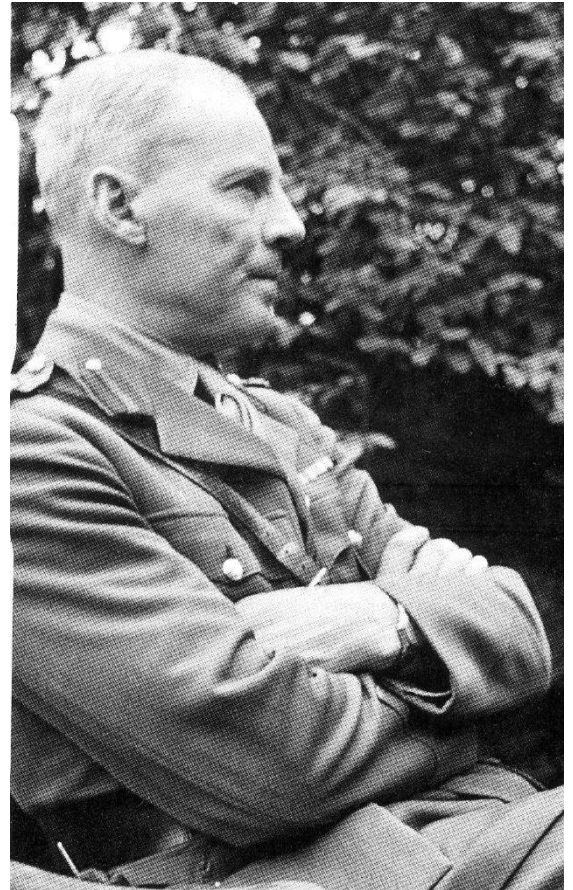
*First published in Classic Motorcycle, 2012*

**Sir Hugh Cairns was the Australian-Born Neuro-surgeon called to the bedside of T.E. Lawrence to, all be it unsuccessfully, treat his injuries sustained when he crashed his Brough Superior – ‘Lawrence of Arabia’s’ subsequent death had a profound effect on him.**

T.E. Lawrence (Lawrence of Arabia) was an enthusiastic motorcyclist, but died in 1935 as the result of an accident while riding his Brough Superior. He had been to the Post Office to send a telegram to the writer Henry Williamson. Almost back home, near Wareham, Dorset, he came upon two boys on bicycles in a blind dip in the road and, in taking evasive action, lost control and crashed.

Lawrence was a figure of national importance and the British Government acted quickly. Short term, the incident was hushed up and the witnesses sworn to secrecy. Lawrence remained in a coma as the result of a fractured skull. His status merited the attention of Hugh Cairns, at the time Britain's finest brain surgeon. In spite of Cairns' efforts, Lawrence succumbed to his injuries six days after the accident. When news of the death was released, there was a national outcry.

Hugh Cairns was an Australian-born gifted scholar who had come to Britain to further his career. He saw action in the First World War before taking up his scholarship at Oxford University. As well as many achievements as a brilliant academic, he was also a member of the Oxford Boat Race team, one of the country's most important sporting highlights at that time. By 1921, he was a Fellow of the Royal College of Surgeons.



In 1926, Cairns took a year out to study neuro-surgery in America, before returning to practice his newly learned techniques in Britain. Lord Nuffield, magnate and benefactor was, like so many who encountered Hugh Cairns, impressed with his energy and enthusiasm. Nuffield provided the finance necessary to expand facilities for (pre-NHS) medicine in Oxford.



In spite of his vast experience, Cairns was deeply shocked by the death of Lawrence. TE's injuries had been confined to the fatal wound. Cairns determined that Lawrence's death would not be in vain. He embraced the problem with his usual tenacity.

At the time, road riders might wear caps or berets. Helmets were reserved for those taking part in competition. The design for the pudding basin bone domes had simply been adopted from the helmets used by horse-race jockeys. The construction relied on assorted combinations of leather, rubber and cork to provide a measure of shock absorbing properties. The helmets were more effective than their unconvincing appearance suggested.

When war returned in 1939, Hugh Cairns took on additional responsibilities as an adviser to the Ministry of Health and as a consultant to the Army on neuro-surgery, eventually rising to the rank of brigadier.





Among his many skills was persuasion and he convinced the military authorities that dispatch riders should be obliged to wear crash helmets. He helped with the design and by 1941, wearing a helmet was mandatory for dispatch riders. The Army was agreeably surprised to have reduced accidental fatalities to its 'Don Rs' by a third. There was also a design for leg protectors.

In 1945, Cairns was called to another high-profile accident, when 'Old Blood and Guts', American General George S. Patton, was severely injured in a road accident.

In 1946, he received a KBE, thus becoming Sir Hugh Cairns. As ever, he was applying himself to numerous medical problems, but motorcycling remained on the radar. His authority and influence helped the furtherance of a nationwide training scheme for learner riders (the RAC-ACU Training Scheme). He also campaigned for the abolition of Purchase Tax (the forerunner of VAT) on helmets, which was applied at a crippling 33% rate.

In 1952, he was diagnosed with cancer and Sir Hugh William Bell Cairns died weeks later, in July of that year, aged 52.

Two years later, Roy Richter created a helmet made from a new, revolutionary material - glass fibre. The jet helmet was marketed in the name of its maker's workplace: Bell, a Los Angeles suburb (and Sir Hugh's middle name).

Australia, the country of his birth, was the first country to make the wearing of motorcycle helmets compulsory for road riders.

## 1978 Federal Govt Gazette No G45

### Trade Practices Act 1974

### NOTICE UNDER SECTION 63AA (1)

### CONSUMER PRODUCT SAFETY STANDARD

### PROTECTIVE HELMETS FOR MOTORCYCLISTS SAFETY STANDARD

WHEREAS it is provided by section 63AA (1) of the Trade Practices Act 1974 that the Minister may by notice under his hand published in the Gazette, declare that, in respect of goods of a kind specified in the notice a particular standard, or a particular part of a standard, prepared or approved by the Standards Association of Australia or by a prescribed association or body, or such a standard or a part of a standard with additions or variations specified in the notice, is a consumer product safety standard for the purposes of section 62 or a consumer product information standard for the purposes of section 63.

NOW THEREFORE I, Wallace Clyde Fife, the Minister for Business and Consumer Affairs, declare that, in respect of goods specified in Division 1 of the schedule to this Notice, the standard specified in Division 2 of the schedule as varied by the variation specified in Division 3 of the Schedule, is a consumer product safety standard for the purposes of section 62 of the Trade Practices Act 1974.

#### THE SCHEDULE

##### Division 1: Particulars of Goods

Protective helmets for motor cyclists for use on public roads.

##### Division 2: The Standard

Australian Standard 1698-1974, "Protective Helmets for Vehicle Users", approved by the Standards Association of Australia on 27 September 1974 and as amended by Amendment No 1 of September 1977 and amendment No 2 OF May 1978.

##### Division 3: Variation

The Standard specified in Division 2 is varied by deleting paragraph (g) of clause 14, and substituting in its place the following paragraph '(g)The registered Certification Mark of the Standards Association of Australia, encircled by the words "Approved to Australian Standard 1698".'

Dated this 7th day of November 1978.

**WAL. FIFE**  
Minister for Business and  
Consumer Affairs



# Flat Tyre?

An article mainly by Charles Falco

On the subject of tires, several items I carried on my Ariel during the Cannonball may be of interest. It's a lot easier to work on a tire when it's off the ground, so I made a tripod stand that breaks down into four pieces for carrying in the Ariel's saddlebags.

Although I made it for the Cannonball, it's quite useful in the garage. The hole in it is sized for the Ariel's axles, which stay bolted to the wheels. A bike that has removable axles, like the Vincent, needs a faux axle sized at one end to fit that 9/16" hole.

Once a tire is off and the tube patched, it's time to put it back on the rim again. Ideally, that's done without pinching the tube. For that, I modified a **'Baja No Pinch'** tire tool.

The Baja tool came with several "axles" of different metric diameters to fit in the wheels of modern bikes. However, for the Ariel I needed a hollow end sized to fit over its 9/16" axles. So, I modified the tool by boring a 9/16" hole in a short length of the largest of the "axles" that came with it. Also shown in the photograph is the faux axle I made to fit a BSA. **I'll make a 1/2" one for the Vincent before it's time to install new tires on it.**



The tool is made with a rack and pinion that uses force on the lever to advance the hooked end against the bead of the tire, pushing it over the edge of the rim without the risk of pinching that can happen when using tire irons. Working this tool around the circumference of the wheel quickly has the tire installed. Even if there were no risk of pinching the tube with tire irons, installing a tire with this tool is easier. [CLICK HERE](#) for a video of the "No Pinch" tool in action.

Not shown is a short length of strap with a friction clamp that I find useful when re-installing a tire that has been completely removed. It holds the tire against the rim at one point as I work around the rim to get one bead completely in place. Once one bead is on the rim the strap isn't needed for the other bead.

At the risk of sounding like a shill for Motion Pro (who don't pay me anything, but should...), three more tire-related items of theirs I recommend.

The soft plastic 'Rim Shield', well, shields the chrome on the rim from being damaged by tire irons. I have two of them.

The Aluminium 'Bead Buddy' is used when installing a tire, to keep the segment that was just levered over the edge of the rim from squeezing back off again when the tire iron moves to the next section. I have four of them, but by the time I've worked my way far enough around a tire to have two of them in place, that's always been sufficient. [CLICK HERE](#) to see a tyre change using 'Rim Shield' and "Bead Buddy".





The "BeadPro" bead breaker and lever tool set makes the removal of a tyre just so much easier. Available in forged 7075-T6 aluminium (part # 08-0519) but at a lower price, and possibly better performing, is the longer set in forged chrome vanadium steel (part # 08-0536). [CLICK HERE](#) for a quick demonstration video.



Of course, with the tyre off the rim you may choose to fit a new tube or patch the old tube, no matter which you select make sure you first identify what caused the puncture and fix that first else you are just wasting time and effort. Also make sure to use 'proper' tube repair materials, such as Rema TipTop.

[CLICK HERE](#) to read/download a copy of the Rema TipTop tyre/tube repair catalogue.

[CLICK HERE](#) for a video on patching a tube.

As a final comment, in addition to the tools mentioned above, I carried a spare tube, patch kit, CO2-cartridge inflator with several cartridges, and tire pump with me. While a CO2 inflator is an easy and fast way to fill a tire, if something goes wrong (e.g. the adapter is screwed on incorrectly, or the tire valve itself leaks, or the tube is pinched when installing it, or...), there are no second chances. While it takes more effort to inflate a tire with a tire pump, it gives what could be an all-important second (and third, and...) chance. When touring I also carry a small plastic jar of a commercial tire bead lubricant along with a brush, as well as a travel-size container of talc.



I made the tripod wheel-changing stand and modifications to the Baja 'no pinch' tool specifically for use on the Cannonball. However, if I were to make them again today, I would alter the designs somewhat to allow fewer parts to do the job. But, working with what I have, I made a several more faux axles for each to cover most of my old bikes.

Since there are now a lot of similar-looking Al rods rattling around, I color-coded the ones for the Baja to match the red of the tool's body.



The A7 and A10 o.h.v. Twin-cylinder

**B.S.A.s**

Workshop Details for a Popular Range of 497 c.c. and 646 c.c. Models in Touring and Sports Form

MAINTENANCE of the 497 c.c. and 646 c.c. B.S.A. twins involves consideration of basically similar engines with general specifications varying according to model types, of which there are no fewer than five. As the A7, the 497 c.c. version has an “iron” engine and separate gearbox carried in a full-loop frame with a rear swinging-fork member controlled by Girling units. An Amal “Monobloc” carburetter and Lucas K2F magneto with automatic advance mechanism are used.

An earlier sports-type version of this “500,” the A7 “Star Twin,” is now represented by the light-alloy-head-equipped “Shooting Star,” for which there is different valve timing, a higher compression ratio and manual control of ignition advance;

Available B.S.A. instructional matter makes quite clear the scope of D.I.Y. activities on any of the five models. While the B.S.A. Service Department offers a highly organized replacement service, their literature is refreshingly free from “thou-shalt-nots” in the matter of work which the home mechanic may undertake. Indeed, given a normal selection of hand tools and a few of the special tools recommended by the manufacturer, the owner can commence work without qualms.

**Special Tools**

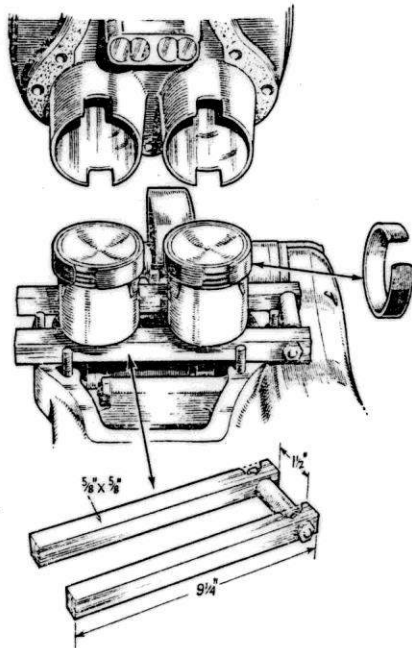
The most important of the several appliances available (usually on a loan or sale-or-return basis from a B.S.A. dealer) are a timing pinion extractor, tool No. 61-3256; and an extractor No. 61-3159 to withdraw the camshaft bushes, which are

**Dismantling Procedure**

Ways and means of removing the tank, fuel and oil pipes, exhaust pipes and so forth are obvious; but a possible hidden snag is the need to take out the bolt found inside the rear of the rocker cover, as well as the five through bolts and four nuts (two front and two rear), before the rocker box can be freed. Acorn nuts secure the two rocker spindles which, when the oil feed pipes are removed, can be tapped out from the threaded ends using a hammer and soft drift. Wear in the bearing surfaces of the rocker and spindle is unusual, except after long periods of use. Note that the rockers are separated centrally by two washers, with a spring and plain washer (in that order) between the outer ends of each rocker and the wall of the box.

Because rocker lubrication is by means of a lead from the return feed, it is possible, though unlikely, that the presence of relatively dirty oil may have deposited a film in and around the feed holes in the spindles. It pays, therefore, to cleanse thoroughly all these parts. Note also that the exhaust push-rods are longer than those used for inlet-valve operation.

The slackening of nine bolts releases the cylinder head, which can now be removed for renovation, if necessary, of the valve

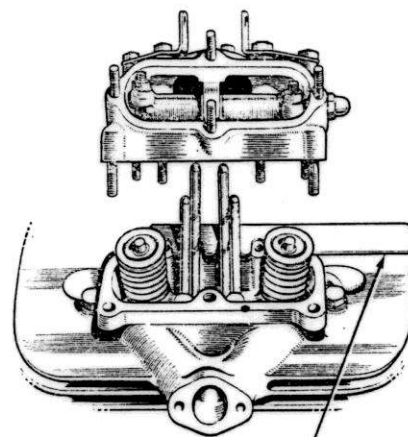


Application of slipper ring-compressors and a piston-steady (dimensions below) during assembly.

tappet clearances and carburetter settings, too, are in keeping with the sports character of this model.

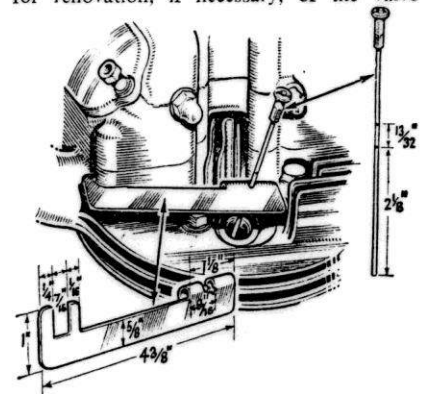
As the A10 “Golden Flash,” the bigger of the twins has a general specification similar to that of the A7, but there is an alternative version in which certain earlier design features are retained. These include the previous type of frame structure, incorporating plunger-pattern rear suspension, suitable especially for sidecar use when “chairs” of B.S.A. manufacture are fitted. On this model the engine and gearbox are bolted up in semi-unit form and the primary drive is by a 3/8-in. pitch duplex chain; the gear ratios are slightly different and there is no hydraulic damping of the rear wheel springing.

Possessing most of the sports characteristics of the “Shooting Star,” the “Road Rocket” is a tuned version of the A10, with a special Amal 10TT9 carburetter and valve and ignition timing arrangements which produce some 40 b.h.p. output and road speeds in the region of 105-110 m.p.h.



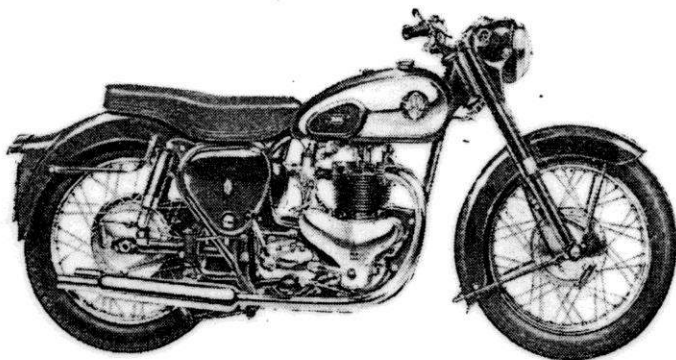
How to use B.S.A. tool 67-9114: note central position of the tall exhaust push-rods.

of the blind type. B.S.A.s supply as standard tool kit equipment a guide plate to aid reassembly of the pushrods and rocker box. Available as an “extra” is a set of piston ring slippers, sized to fit either the A10 or A7 piston and ring assemblies, which facilitate the sliding-on of the cylinder block. To help during this operation, a home-made piston steady is indispensable to the man working single-handed. Details of the rig are shown in an artist’s sketch. The application of additional tools is mentioned as opportunity occurs in this article, but in many cases it is possible to improvise.

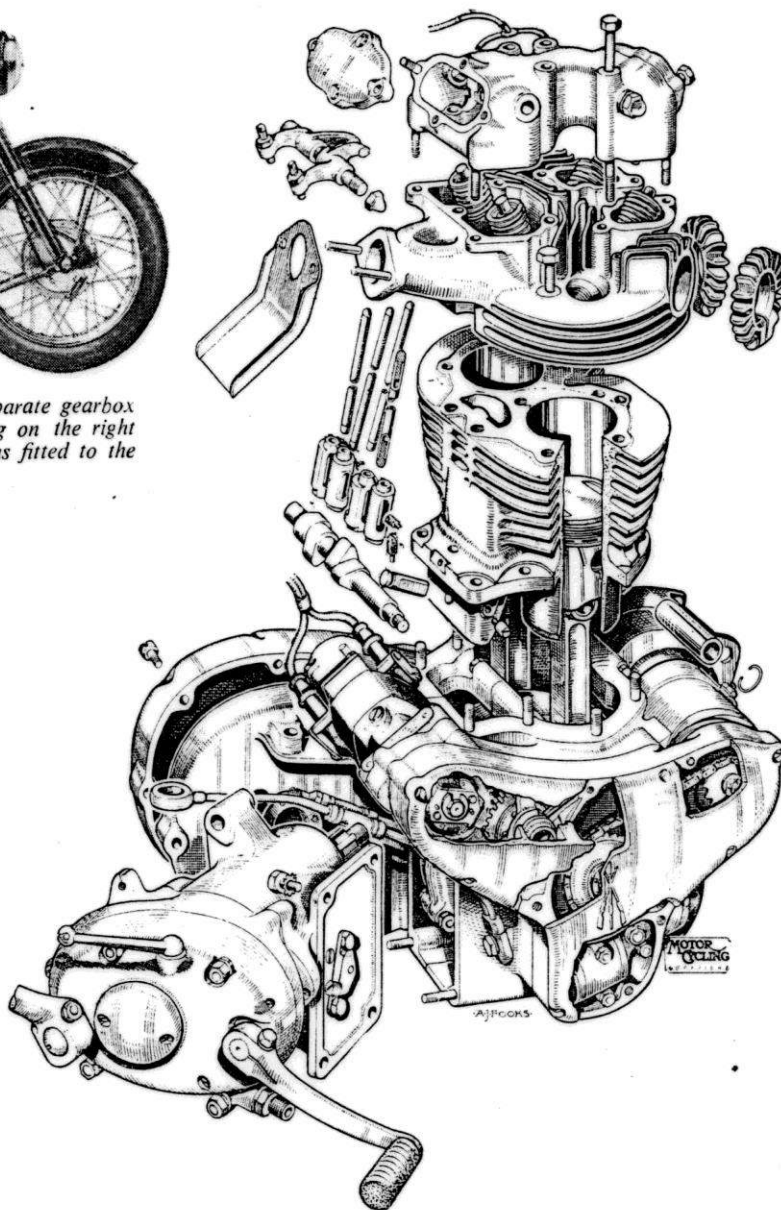


Spokes are used in the fabrication of two simple gauges; one (top) for ignition timing with the head assembled, the other for detecting uneven clutch-plate assembly.





The current A7, with 499 c.c. "iron" engine, separate gearbox and swinging-fork rear suspension. The drawing on the right shows the power unit with bolted-up gearbox, as fitted to the plunger-sprung models.



guides. Old guides should be driven through with a punch from the inside and the new parts pressed in from the top as far as they will go. After this work it is essential to true the valve seats, using a 45° cutter. Test the free length of the valve springs, which should be, inner 1 17/32 in. and outer 1 1/2 in.

The cylinders are in the form of a single cast block, which is lifted, complete with tappets in a housing at the base of the block, to reveal the pistons and rings. The latter, in good condition, have a degree of springiness which pushes the ends at least 1/8 in. apart when free. Test the rings also by pressing them evenly down into the least-worn part of the barrel (usually at the bottom). At this point, the gap shown in a set of new rings should be .009/.015 in. Moving the rings upwards from the point of least wear and watching the gap increase provides some indication of the degree of cylinder wear present in a well-used engine. Excepting the "Road Rocket," all "A" engines are fitted with split-skirt pistons assembled with the diagonal cut to the front. The pistons should not be interchanged.

Procedure in stripping down the engine on the bench continues normally, starting with the removal of the primary chaincase, the primary drive and clutch. On current models, a central splined sleeve carries the clutch back-plate and supports the inner ball-race member; the sleeve is keyed to the tapered end of the gearbox mainshaft and B.S.A.s recommend the use of their No. 61-3362 extractor at this stage. Located

on the opposite side and also keyed is the dynamo driving sprocket. Take this off, also the endless chain and the driven sprocket, and then withdraw the dynamo. Take off the timing-side inner cover to expose the timing gears, noting that the camshaft gear, also keyed in position, carries the rotary crankcase-breather mechanism, backed by a 1/4-in. thick cork washer.

A self-extracting nut facilitates the withdrawing of the automatic ignition device (where fitted), but the mainshaft pinion is keyed, calling for the application of a three-bolt type extractor (B.S.A. tool No. 61-3256 is recommended) and is removed after the oil pump has been taken away. Note the employment of a left-handed thread for the mainshaft nut.

Take off the flange-fitting magneto and, if you are dealing with the early type, built-on gearbox, slacken the two securing nuts and two bolts in order to separate the crankcase and gearbox assemblies.

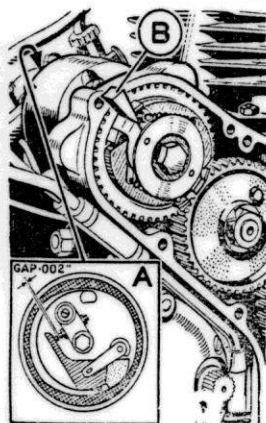
Check the big-ends for signs of wear and also the mainshaft which, if the engine has been running roughly, emitting a heavy

bottom-end knock, may need regrinding and building up with undersized bearing shells. This work is necessary when the journals show more than .002-in. ovality, or if they have been damaged by a lubrication failure. Shells are available minus .010 in., .020 in. and .030 in. on the 1.461/1.4615-in. standard diameter. At the sides, the re-ground journal should be machined with a .060/.065-in. radius.

Note the location and the number of shims, if any, between the mainshaft roller bearing and the crank web. These shims determine and control the essential fit of the shafts and flywheel in the crankcase. Earlier A7 models had a ball-journal bearing, instead of a roller bearing, on this side and the shaft was locked up by tightening the mainshaft-sprocket nut. Current practice is to use a roller bearing and permit a degree of shaft end-float amounting to not more than .005 in.

In all "A"-type B.S.A. engines, the timing-side mainshaft support is a white-metal bush acting also as an oil distributor to the drilled

(Continued overleaf)



How a wedge (B) is used to hold the automatic timing bobweights in the "fully advanced" position while setting the contact breaker points (A).



“DO-IT-YOURSELF SERIES”

Continued from previous page

mainshaft journal. This special function makes it necessary that, while carrying the shaft, the bush must also possess good oil-sealing qualities. A worn bush naturally impairs those qualities, resulting in oil leakage, apart from noisy performance. The bush, like the bearings in the opposite side of the crankcase assembly, can easily be removed without special tools, but, as already mentioned, an extractor is recommended for the blind bushes carrying the camshaft. After being fitted in the crankcase and inner cover, new camshaft and idler bushes must be line reamed to .7485/.7495 in.; B.S.A.s recommend a jig tool No. 61-3281 for this purpose. Fitting information for all fine-limit finish bushes is included in the Reference Data section.

Assembly

If the centre flywheel member is removed before the journal is ground it should be reassembled and the metal of the six high-tensile bolts peened over to lock the nuts in position. Connect each con-rod and cap, carrying new shells, to its crankpin: tighten the castellated nuts and secure with split pins, noting that if at the tightest point the positions of the slots and pin holes fail to coincide, the nut should not be turned back, but removed and filed at the base to get a better register.

Mate up the crankcase halves, checking that you have fitted the oil-seal washer between the inner race and the crankcase wall on the drive-side; check that the shims, if any, are assembled on the shaft and fit the driving sprocket and nut to pull up the shaft assembly. The shims compensate for variations occurring as a result of give-and-take in machining tolerances, and if certain new parts have been put into the crankcase more or fewer shims may be required.

There is seldom need to remove the tappets from the housing in the base of the cylinder; but, if they have been taken out, assembly is commenced by replacing the exhaust tappets, which are secured centrally by a flat-sided retaining pin, following up with two inlet tappets, located by set-screws. Prepare the piston assembly, turning the rings so that the gaps are not in line, and lower the cylinder block into position. Insert the push rods—“tallest in the centre, shortest on the flanks”—and follow up with the timing gear, the magneto and dynamo.

In determining ignition timing, it helps to simulate the normal running speed position of the A.T.D. bobweights by inserting a wedge while the contact-breaker is set at .002 in. (just open) with the piston the requisite distance before T.D.C.—i.e., A7  $\frac{1}{16}$  in., A7 SS and A10 RR,  $\frac{1}{8}$  in., and A10 GF  $\frac{11}{32}$  in. This work can be done very easily before the cylinder head is in position, or later by means of a measuring rod inserted through the plug hole. Valve timing varies according to the model, but in all cases the pinions are marked. Now fit on the oil pump, the inner cover and the dynamo-drive sprockets, leaving  $\frac{1}{8}$  to  $\frac{1}{16}$  in. vertical play in the endless chain, which should be coated fairly heavily with grease to ensure silent running.

Transmission

The construction of the old type semi-unit gearbox has much in common with B16

that of the newer version. In both cases, the mainshaft and sleeve gear on the drive-side are carried on a ball-journal bearing pressed into the shell, with a second bearing of this type in the inner cover on the kick-starter side. Both ends of the layshaft are supported by phosphor-bronze bushes which, like the bearings, can be removed and replaced by the private owner without difficulty.

Gear selection is by means of a simple, claw-operated quadrant member meshed with, and controlling the rotation of, a cam-plate component which is slotted to guide the selector arms to and fro on a fixed rod. This mechanism, together with the gear clusters, can be withdrawn by removing the end and inner covers, leaving the sleeve gear, the bearing and final-drive sprocket in the shell. The work is carried out by withdrawing the inner cover, complete with the mainshaft and gears and taking out the layshaft and its gears separately. The ball bearing in the inner cover is a press fit and is retained by a circlip. Likely wear points are the selector arms, the spring loading of the claw assembly and the bearings and bushes.

Commence assembly with the cam-plate in the neutral position and located with the selector plunger. Build up the layshaft first, with the appropriate selector arm, and feed this sub-assembly into the shell, followed by the mainshaft assembly complete with the inner cover.

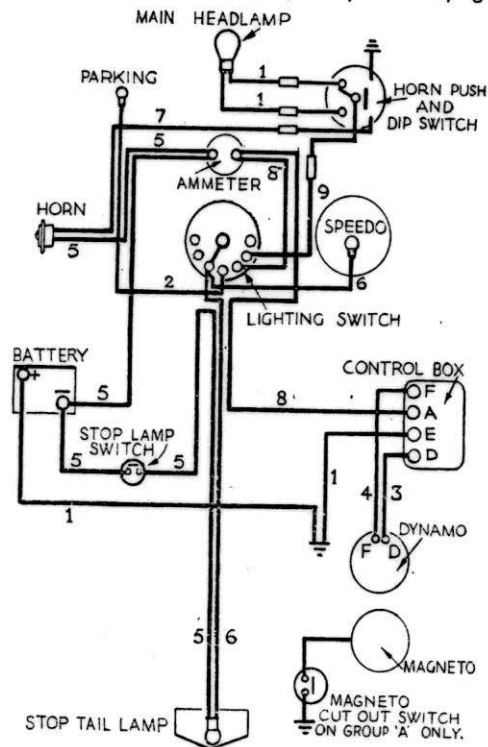
Suspension

With the wheel and mudguard out of the way, either of the front fork legs can be dismantled by slackening the hexagon-headed top tube cap and the pinch bolt at the lower yoke. This leaves the tube a tight fit in the taper of the top yoke. It can be freed by screwing in the B.S.A. tool 61-3350, and, with this device in position, dealing a sharp downward blow; the tube should then be released, complete with spring and lower slider.

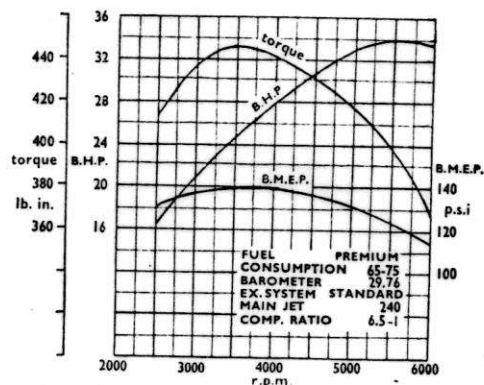
Further dismantling is possible if the spindle lug is secured in a vice and a box spanner (tool 61-3005) employed to engage with the chrome-plated spring shroud. An oil seal is contained in the base of the shroud, but this need not be pressed out unless it requires renewing. A circlip retains the slider bush and, if it is prised out, the complete fork shaft and bushes can be withdrawn from the sliding member. Sometimes shims will be found fitted between the circlip and the top of the bearing: these are to take up small machining tolerances, and if they are not replaced it may be found that movement of the fork leg in normal working conditions will produce a slight clicking sound.

The Girling hydraulic dampers controlling the rear suspension of the swinging-fork models are sealed during manufacture and call for no home maintenance. In the case of the plunger-type “Golden Flash” model, there is no hydraulic damping for the rear suspension assembly, which comprises impact and rebound springs with, centralized between them, the wheel spindle lugs sliding on a vertical spindle. Provision for lubrication is by grease nipples and, until such time as the springs show signs of fatigue, it is usually unnecessary to dismantle either of

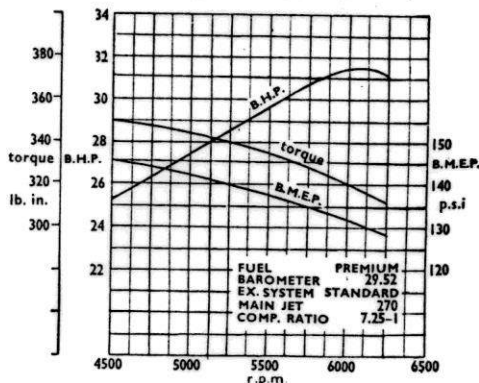
(Continued on page 498)



Wiring diagram for the A7, A7 SS and A10 GF, also applicable with slight variations to the “Road Rocket.” Colour code: 1, black; 2, red; 3, yellow; 4, green; 5, brown; 6, brown and green; 7, brown and black; 8, brown and white; 9, blue.



Manufacturer's output curves for the A10 “Golden Flash” (above) and the A7 “Shooting Star” (below).





REFERENCE DATA

CYLINDER-PISTON GROUP

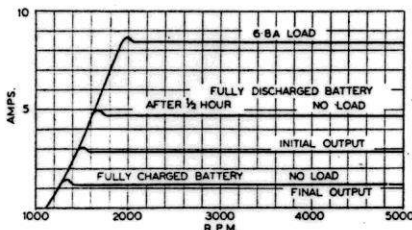
	A7	A10
Bore:	66 mm.	70 mm.
Stroke:	72.6 mm	84 mm
Swept volume:	497 c.c.	646 c.c.
Compression ratio:	6.6	6.5
(A7 "Shooting Star" .. 7.25 : 1)		
(A10 "Road Rocket" .. 8 : 1)		
Rebore to +.020 in. O.S. when maximum wear exceeds .010 in.		
Piston diameters:		
<b>A7 and "Shooting Star" A10</b>		
At top land:	2.5756/2.5776 in	2.7319/2.7339 in
At bottom land:	2.5492/2.5591 in	2.7067/2.7165 in
At skirt (top):	2.5952/2.5962 in	2.7527/2.7537 in.
At skirt (bottom):	2.5959/2.5969 in	2.7534/2.7544 in.
Piston ring gap:	.010/.015 in.	.008/.013 in
Piston ring depth:	.0615/.0625 in.	
Permissible vertical play:	.004 in.	
Gudgeon pin diameters:		
<b>A7 A10</b>		
Small-end bush diameters:	6754/.6875 in.	7503/.7502 in.
	6754/.6764 in.	7503/.7506 in

VALVES AND VALVE GEAR

	A7	A10		
Valve stem diameter				
Inlet:	.310/.311 in.	.3105/.3115 in		
Exhaust:	.310/.311 in.	.309/.310 in		
Bore of valve guides:	.313/.314 in.			
Seat angle:	45°			
Free valve-spring length:		Outer 1 1/2 in.		
Rocker spindle diameter:	.4985/.4990 in.			
Rocker bore:	.4985/.5005 in.			
Camshaft bush bore:	.7485/.7495 in.			
Bore of tappet guide in cylinder block:	.7495/.7500 in.			
Valve timing (with tappets set at .015 in. clearance):				
<b>A7 A7SS A10GF A10RR</b>				
Inlet opens before T.D.C.:	30	42	30	42
Inlet closes after B.D.C.:	70	62	70	62
Exhaust opens before B.D.C.	65	67	65	67
Exhaust closes after T.D.C.:	25	37	25	37
Normal tappet clearances (in.):				
in. ex. in. ex. in. ex. in. ex.	.010/.016	.008/.012	.010/.016	.008/.008

CRANKSHAFT GROUP

Crankpin track diameter:	1.4595/1.4600 in
Con-rod big-end eye diameter:	1.4610/1.4615 in.
Permissible side play:	.024 in.



Performance curves for the Lucas E3L dynamo with voltage regulator.

Type of big-end bearing: Steel-backed lead bronze indium flashed, detachable shells.  
 Main bearings, drive side: R130L roller, 30 mm. bore by 62 mm. O/D by 16 mm.  
 Main bearings, timing side: White metal bush, 1 1/2 in. bore by 11/16 in. O/D by 1 5/64 in.  
 Left-hand threads on engine components.  
 Crankshaft 9/16 by 20 thds. B.S.A. L.H.  
 Location of contact breaker: Magneto. behind engine.

GEARBOX

Bearings, type and size: Sleeve gear supported by ball journal bearing 35 mm. bore by 72 mm. O/D by 17 mm. At mainshaft K/S end, 3/4 in. bore by 1 1/4 in. O/D by 3/8 in. Layshaft supported by: Ph. bronze bushes in shell, .687/.688 in. bore by .8765/.8775 O/D. In inner cover, .7495/.7505 in. bore by .939/.940 in. O/D.  
 Left-hand threads on gearbox: Nil.

TRANSMISSION

	Solo		Sidecar	
	A7	A10GF/RR	A10	
Sprocket sizes:				
Engine:	18t	21t	27t	
Clutch:	43t		54t	
Final drive:	19t		19t	
Rear wheel:	42t		49t	
Gear Ratios:				
A7 and "Shooting Star":	5.28, 6.39, 9.28 and 13.62 : 1 (solo)			
A10 "Golden Flash" (Swinging fork frame)	4.53, 5.48, 7.96 and 11.68 : 1 (solo)			
A10 "Golden Flash" (Plunger frame):	4.42, 5.36, 7.77 and 11.68 : 1 (solo)			
Alternative wide ratios:	5.16, 7.52, 10.96 and 16.35 : 1 (s/car)			
Primary chain: 1/2 in. pitch by .305 in. by .335 in. roller (68 pitches).				
Secondary chain: 3/8 in. pitch by .380 in. by .400 in. roller (98 pitches; 100 pitches on SF models solo, .104 sidecar).				

WHEELS

**Swinging fork frame**  
 Front: WM 2-19.  
 Brake diameter: 7 in.  
 Spokes, 10G/8G butted (20 each side)  
 Hub bearings: 1 in. bore by 2 1/4 in. O/D by 3/8 in.  
 Rear: WM 2-19.  
 Brake diameter: 7 in.  
 Spokes, 10G/8G butted (20 each side)  
 Hub bearings: 1 in. bore by 2 1/4 in. O/D by 3/8 in.

**Plunger frame**  
 Front: WM 2-19.  
 Brake diameter: 8 in.  
 Spokes 10G/9G butted 5 1/8 in. long (20 off) 10G/8G butted 8 1/8 in. long (20 off)  
 Hub bearings: 3/4 in. bore by 2 in. O/D by 3/8 in.  
 Rear: WM 2-19.  
 Brake diameter 8 in.  
 Spokes, 10G 7 3/4 in. long (20 off) 10G 7 3/4 in. long (20 off)  
 Chainwheel and brake drum bearing: 1 in. bore by 2 1/4 in. O/D by 3/8 in.  
 Wheel bearings: 3/4 in. bore by 2 in. O/D by 3/8 in.

FRONT SUSPENSION

Telescopic type, carried on cup-and-cone head bearings, comprising 40 1/4-in. diameter balls (20 each race).  
 Compression springs: solo, 34 lb.; A10 plunger S.C., 37/39 lb.  
 Fork angle: 27°.  
 Damper fluid content: 7 1/2 fl. oz. of S.A.E. 20 oil.  
 Slider bush dimensions:  
 Bottom bush: 1.2485/1.2495 in. bore by 1.473/1.474 in. O/D by 1 1/4 in.  
 Top bush: 1.250/1.251 in. bore by 1.4750/1.4755 in. O.D. by 2 1/4 in.  
 1.525/1.530 in. diameter head.

REAR SUSPENSION

By swinging-fork and Girling suspension units.  
 Pivot bush details:  
 Inner tube: .812/.817 in. bore by 4.686/4.691 in. long.  
 Outer tube: 1.250/1.253 in. bore by 2.245/2.254 in. long.

CARBURATION

**A7:**  
 Amal Monobloc type 376/4, 15/16 in. choke; 210 main jet; 3 1/2 throttle slide; No. 2 needle position; 1065 needle jet.

**A7 "Shooting Star":**  
 Amal Monobloc type 376/15, 1 in. choke; 270 main jet; 3 1/2 throttle slide; No. 3 needle position; .1065 needle jet.

**A10 "Golden Flash":**  
 Amal Monobloc type 376/1; 1 1/8 in. choke; 240 main jet; 4 throttle slide; No. 3 needle position; .1065 needle jet.

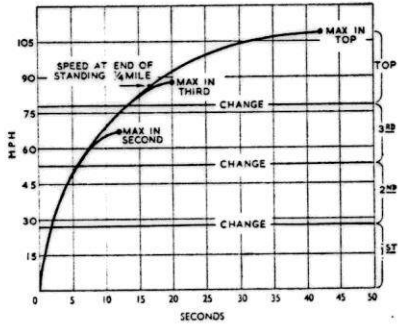
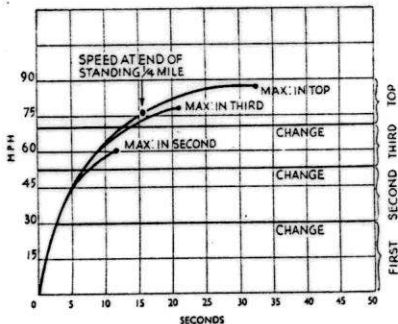
**A10 "Road Rocket":**  
 Amal 10TT9, 1 1/8 in. choke; 340 main jet; 6 throttle slide; No. 4 needle position; No. 9 needle jet.

LUBRICATION

Oil tank capacity: 5 1/2 pints.  
 Gearbox: 14 fl. oz.  
 Chaincase: 8 fl. oz. or 4 for plunger-type A10 model.

ELECTRICAL EQUIPMENT

Lucas K2F magneto and E3L 60 watt dynamo with output controlled by RB107 C.V.C., set as follows:  
 Cut-out:  
 Cut-in voltage: 6.3-6.7 volts.  
 Drop-off voltage: 4.8-5.3 volts.  
 Reverse current: 3.0-5.0 amp.  
 Regulator:  
 10° C (50° F) 7.7-8.1 volts.  
 20° C (68° F) 7.6-8.0 volts.  
 30° C (86° F) 7.5-7.9 volts.  
 40° C (104° F) 7.4-7.8 volts.  
 Headlamp: 6v. 30/20W.  
 Pilot: 6v. 3W.  
 Tail: 6v. 1.6/18W.  
 Lucas PUZ7E-9 6v. 12 amp. hr. positive-earth battery.



"Motor Cycling" road test graphs for (left) the A7 (published July 8, 1954) and the A10 "Road Rocket" (July 19, 1956).



# **Buy, Swap n Sell**

**FOR SALE:** 21" Chrome and lined Vincent front rim , correct 40 holes, purchased from Coventry Spares for a project that did not proceed. Comes complete with a full set of stainless steel 12/14G double butted spokes including nipples. All brand new in original wrappings. A\$550. Located in Melbourne. Contact [ozvinreview@gmail.com](mailto:ozvinreview@gmail.com)

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## **Service Providers**

The Service Providers listed have been used with a degree of satisfaction by OVR readers in the past. Just because they are listed does not imply an endorsement of them by OVR.

### **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>.

**Maughan & Sons, UK** Taking pride in producing the highest quality spares, Maughan & sons stock over 1300 parts and produce over 800 for the Vincent Twin and Comet. Ships worldwide. More info here <http://www.maughanandsons.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)

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

**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

**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 use these. Contact Paul Holdsworth of the VOC Chicago section c/o [pl\\_holdsworth@yahoo.com](mailto:pl_holdsworth@yahoo.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: [ogrip400@hotmail.com](mailto:ogrip400@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.

**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.

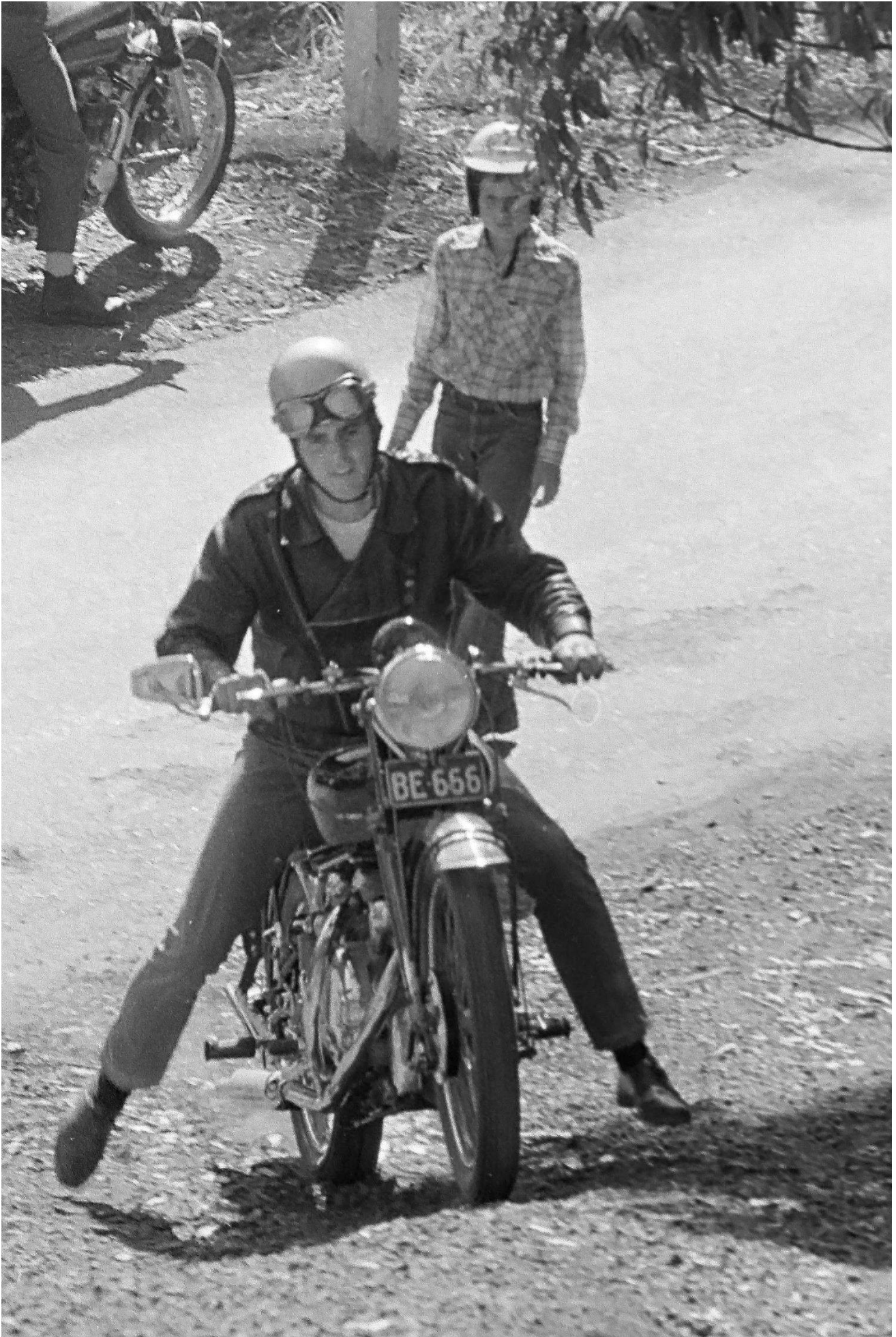
**Ringwood Speedometer Service**, Australia: Experts in the repair and restoration of all motorcycle, automotive and marine instruments. Smiths cronometric specialists. Telephone (03) 9874 2260

**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

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

**Tyreman M/C, Australia:** Highly professional and reasonably priced motorcycle (and car) tyres, 102 Chifley Drv., Preston, VIC. Ph 03 9480 0911 ask for Ari ( *disclosure – OVR gets its motorcycle tyres here*). [www.tyremanmc.com.au](http://www.tyremanmc.com.au)





Who, Where, When ?? No Prizes.