The Oz Vincent Review

Edition #64, July 2019

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

The Oz Vincent Review is an independent, non-profit, electronically distributed magazine 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

Welcome

Welcome to the latest edition of OVR. As you read this edition the entire OVR team (sic!) has just returned from the Belgium-Austria International Rally that was followed by a pilgrimage to the grave of William Clarke (see OVR 63). As a consequence of the time constraints this edition may not be up to the standard you have come to expect, though the content contributions received may make up for it

Photo's on the front cover are typical of scenes at the 2019 VOC International Rally, this time at the Gala Dinner in Wagrain that marked the end of the VOC event. Hard work, but someone needed to do it! Actually congratulations to all involved in the planning and execution of the entire rally – super job!

If you have received this copy of OVR indirectly from another reader you can easily have your very own future editions delivered directly to your personal email inbox; simply [click on this link] to register for your free subscription.

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

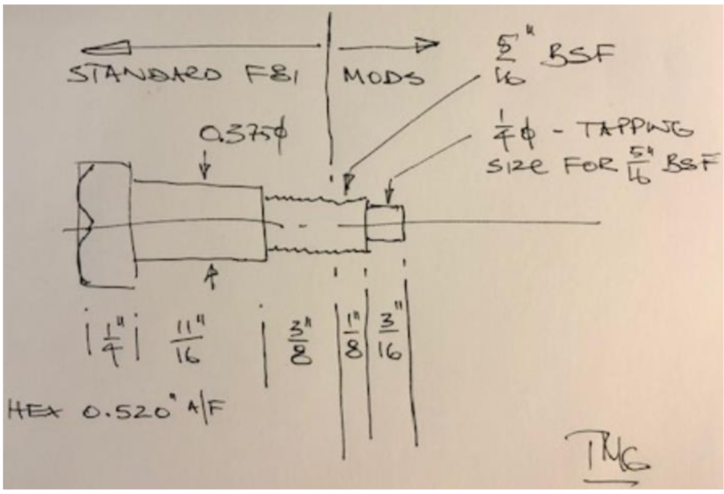
Martyn

Melbourne, Australia.
Email: ozvinreview@gmail.com

Letters to the Editor

Hello Martyn: long story short, as they say.
Here's my time-tested answer to tank holding bolt problems. The shoulder is 11/16" and so is the rest of it. The rest of it comprises a tapping diameter pilot, and an extra 1/8" of thread. Start off with a length of Hex 0.520 AF rod in the lathe .

The pilot makes it easy on you to centre the bolt without the risk of cross-threading, and the extra thread is intended to make sure that the bolt reaches the threads in the UFM least likely to have been damaged by cross-threading.

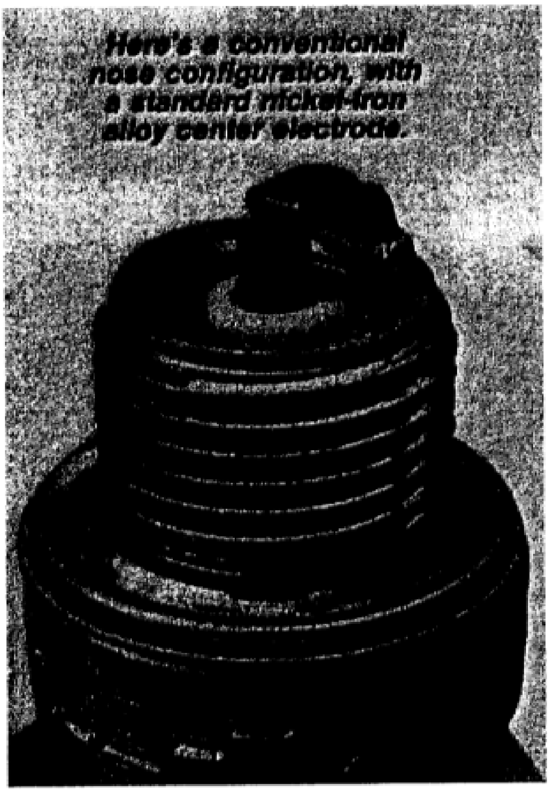


Simple, really, and it works, always useful.

Keep up the great work with OVR! Regards, Tom Gaynor, UK

Hi Martyn, Following on from OVR 64, here is an item written by Gordon Jennings that takes a much different approach to spark plugs. OVR readers may find it interesting,

Regards, Jack Severson. (ed: item follows)



The following is reprinted from Cycle Magazine, October 1977. Nearly all of it is just as pertinent today as it was twenty years ago. Thanks to GJ for all the great tech articles over the years, and for permission to reprint this one. -js

---

How you can read spark plugs and select them - by Gordon Jennings

---

Stay with motorcycling long enough to swat a few gnats with your nose and you will at least begin to realize how much there is to know about spark plugs. Bikers like to tinker, and will replace spark plugs even if they don't venture anything else. And in just replacing plugs the motorcyclist becomes acquainted with the fact that there is more than meets the eye.

The first thing you have to learn is that there are some important differences in spark plugs' threaded ends, which are made in four diameters and lengths. Most plugs' thread diameter is a nominal 14 millimeters, but Honda -for example- uses 10mm plugs in small displacement engines and l2mm plugs spark all the Honda Fours. There also are 18mm plugs, seen only rarely in motorcycle applications despite the advantage they bring to two-stroke engines. At one time you had to cope with slight differences in thread configuration on spark plugs from different countries; this worry mercifully has been ended by an international standardization of thread forms.

Because differences in thread diameters are so large, few people get into trouble through trying to stuff a l4mm plug into a 12mm hole -or vice versa. The same isn't true of plugs' threaded lengths, or "reach." Setting aside for the moment the small variations created by the use of an inch-based standard in a mostly-metric world, there are just four nominal reach dimensions: 3/8-inch, 1/2-inch, 7/16-inch and 3/4-inch. These dimensions are followed by engine manufacturers in the depths they give plug holes, and the idea is that the lower end of the plug's threaded shank should come up flush in the combustion chamber.

We know from personal observation that people do make plug-reach mistakes; using 3/4-inch plugs in 1/2-inch holes is the most common error, and one fraught with unpleasant consequences. One of the disasters you can have from using a long-reach plug in a short-reach hole is purely mechanical in nature. In time the plug threads exposed inside the combustion chamber may become filled with hard-baked deposits. If that happens you'll find it almost impossible to remove the plug without also removing the plug hole threads.

Reversing this kind of mistake, using a plug reach too short for the hole, lets deposits fill the plug hole's exposed threads and may cause difficulties when you try to install a plug having the correct reach.

The worst and most immediate problem created by an overly-long plug in an engine is that the exposed threads absorb a terrific amount of heat from the combustion process. This raises the plug-nose temperatures, and may take them up high enough to make the side electrode function as a glow plug. And when that happens you have the white-hot electrode firing the mixture far too early, like an over-advanced spark timing but worse because the early ignition causes yet higher combustion chamber temperatures, which causes even earlier ignition. This condition is known as "runaway pre-ignition," and if it is allowed to proceed it will wreck your engine.

Even a single plug thread exposed in an engine's combustion chamber will raise electrode temperatures quite markedly. That could be a real problem as engine makers don't hold plug-hole depths to close tolerances, and the near-universal adoption of crushable plug washers gives the user a chance to compound errors by over-tightening when installing fresh plugs. Spark plug manufacturers have solved the problem by leaving an unthreaded relief at plugs' lower ends. The relief also serves as a pilot, guiding a plug straight into the plug hole. Finally, the relief accommodates differences in opinion between plug makers about how nominal reach dimensions should translate into actual metal - and there are some small differences.

Matters of thread diameter and length resolved, you can still get into trouble with a spark plug property called "heat range." All conventional plugs, whatever the application, have to stay hot enough to burn away deposits (oil, carbon, etc.) that otherwise would short-circuit the spark, and that places the lower limit for temperature at about 700 degrees F. There are multiple upper limits for plug temperature: sulfurous fuel elements begin chemical erosion of the electrodes above 1100 F.; oxidation of nickel-alloy electrodes begins at 1600-1800 F.; and at some point (which depends upon compression ratio, mixture, throttle setting, etc.), the electrodes will be hot enough to cause pre-ignition. So, to be safe, plug temperatures must be held between 700 F. and 1000 F. over the whole range of operating conditions.

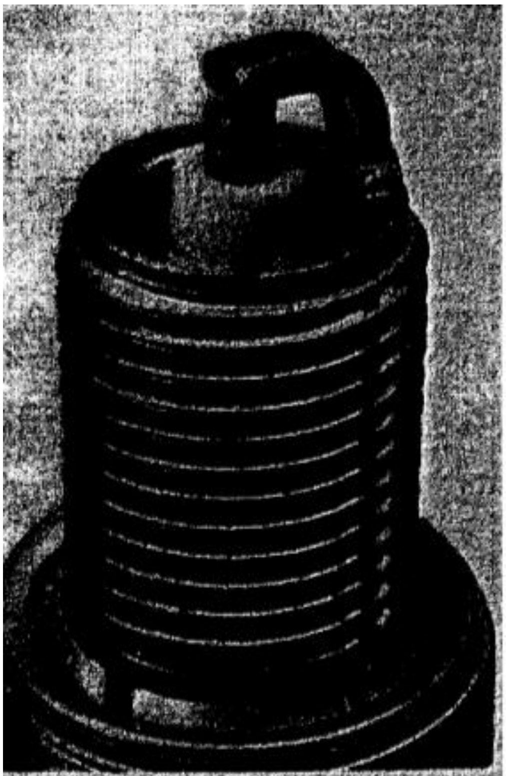
If all engines, and riders, were identical, the spark plug manufacturers' jobs would be easy, as a single plug would be suitable for all applications. Instead, engines vary enormously, as do specific operating conditions, and so the plugs themselves have to be given equally varied thermal characteristics. This is done by varying the length of the path taken by heat as it travels from the very hot center electrode and insulator nose to the relatively cool areas around the body's threads and the plug washer. Plugs with a long insulator nose, which leads heat high into the plug body before it turns back toward the cooler cylinder head, are "hot." Short-nosed plugs, with a shorter heat path, are "cold." And these terms are very misleading, as in all cases the object is to match the thermal characteristics of plug and engine so the electrode temperature will stay between 700 F. and 1000 F. We must emphasize that it is the engine that puts heat into the plug, and not the reverse. A "hot" plug does not make an engine run hotter; neither does a "cold" plug make if run cooler.

The entire question of heat range is something most people find terribly perplexing - and deal with simply by following the recommendations of their bike's manufacturer. But this does not always yield satisfactory results, because many motorcycle engines make impossible heat range demands. Free-air cooling broadens the range of engine temperatures; so does the typical bike engine's specific power output, which is a level encountered only in outright racing engines little more than a decade ago. Manufacturers tend to specify plugs with heat ranges chosen with an eye toward "worst-condition" operation, which means that bikes' original equipment spark plugs often are a bit cold for those who ride conservatively. Unfortunately, the conservative rider is mostly likely to also be conservative in other ways, and in most cases will stick with whatever plug his owners manual suggests; the speed merchants, who are the people manufacturers have in mind when they make their heat-range recommendations, usually assume their own bikes need colder plugs.

Knowing which plugs are hotter or colder than the ones you presently have in your bike is easy if you're content to stay with the same brand. Nearly all of the world's plug makers use a number-based code to designate heat range: foreign firms follow a system in which higher numbers mean colder plugs; American companies do just the opposite, assigning hotter plugs higher numbers. Unfortunately, there is no semblance of order beyond this point. One company, Champion, is in a state of nomenclature transition that makes its product line inordinately confusing. The American Rule applies at Champion, but in an odd way, spread across three series of heat ranges that encompass touring and racing spark plugs, old and new, with double-digit numbers assigned to some and single digits for others.

Bosch's three-digit numbers are a holdover from the early days, when plugs were rated for engines' "indicated mean effective pressure." But combustion chamber pressures alone soon proved inadequate, for it was found that the thermal load on a plug also depended upon spark timing, cylinder head cooling and even on the flow of mixture into the cylinder. These factors greatly complicate the business of assigning plugs thermal ratings. Each spark plug manufacturing firm has its own test procedure, and though there are efforts being made to bring the whole thing under some international standard no agreement exists today.

On the other hand, there is an enormous amount of mutual product testing being done, and this enables plug manufacturers to offer accurate cross-brand conversion charts. However, it should be understood that the equivalents are not exact. When plug maker-A's chart shows "equivalents" from maker-B and maker-C it only means those are the nearest equivalents; they aren't necessarily identical. This creates a little confusion, and an opportunity: if you think a particular plug is just a hair too hot or too cold, try its equivalents in other brands. You might hit upon precisely the thermal characteristics you want.



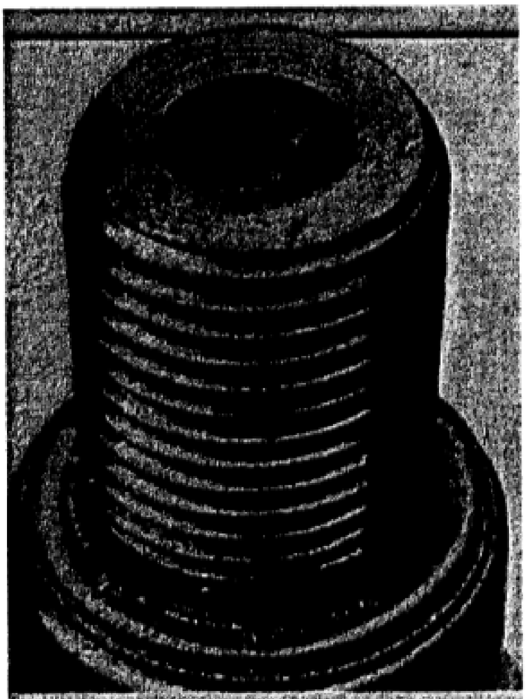
Projected-nose plugs stay warmer and cleaner at low speeds; they don't get as hot when the load goes up.

The last point of confusion in the area of heat range is the fact that the progression of numbers within a manufacturer's line of plugs may not accurately reflect the extent of the shift toward hotter or colder thermal grades. It appears that all the companies began with some neat, evenly-spaced arrangement of numbers and heat ranges, and then had to shuffle everything around to align themselves with reality. Apparently some plugs are thermally biased, hotter or colder, to make them better suited to particular applications - as when an engine manufacturer is willing to order large volumes of plugs if they're biased to suit his needs. And if one of a plug maker's best-sellers is biased colder, while the next-warmer thermal grade is biased a bit hotter, you get a kind of heat-range gap, which can be bridged only by switching brands.

There is more to spark plugs than just thread diameter and reach, and heat range. Cramped installations have created plugs with stubby insulators and small-hex bodies; aircraft plugs often require strange provisions for shielding; aerospace work has brought us spark plugs that look like a death ray firing-pin. Most of the far-out variety have no conceivable application in motorcycling and can be ignored; but there are a few "special" spark plugs you definitely should know about.

One very useful variation of the standard spark plug has its insulator nose and electrodes extended from its metal shell. The projected-nose configuration moves the spark gap a bit farther into the combustion chamber, which tends to improve efficiency by shortening the distance traveled by the flame front and also making the combustion process more regular. But there is a more important benefit: the projected-nose plug provides, in many engines, what effectively is a broader heat range than you get with the conventional flush-nose type. The projected nose is more directly exposed to the fire in the combustion chamber, and quickly comes up to a temperature high enough to burn away fouling deposits after ignition occurs. Then during the subsequent intake phase this plug's exposed tip is cooled by the swirling air/fuel mixture. In this fashion the higher temperatures existing at full-throttle operating conditions are to some extent compensated by the greater volume of cooling air, and the net effect is to make the projected-nose plug better able to cope with the conflicting demands of traffic and highway travel.

It should be evident that the projected-nose plug's effectiveness depends on the pattern of incoming mixture flow. Four-stroke engines often have intake ports angled to promote turbulence. If the plug is positioned directly in the path of the intake flow there will be a large amount of heat removed from the plug's tip by this direct air cooling, and that is just what you get in most four-cylinder motorcycle engines. Indeed, any hemi-head four-stroke engine gives its plugs' tips quite a useful blast of cold air during the intake stroke, and we think projected-nose plugs probably should be in wider use in bikes than is the



Retracted-gap plugs exist only to solve combustion chamber clearance problems though they look racey.

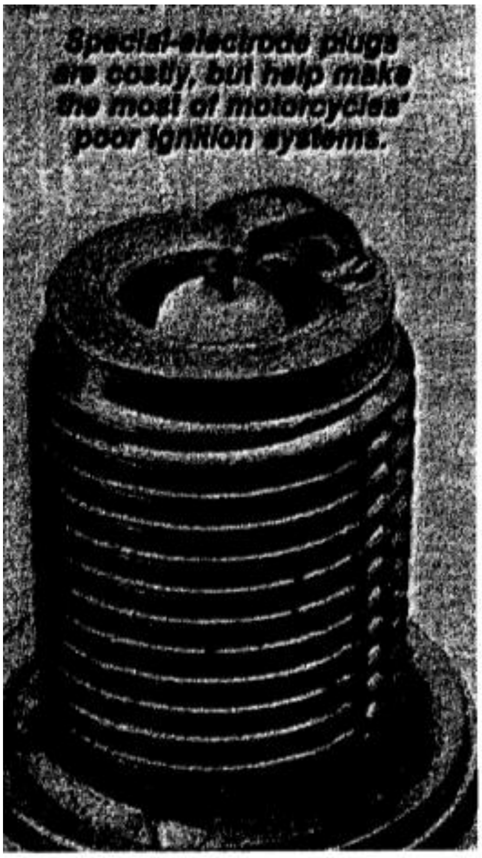
case. Two-stroke engines can benefit from projected-nose plugs' fouling resistance which they get simply through the sheer length of their insulator (it's a long way from the center electrode's tip back up to the metal shell). However, the two-stroke's incoming charge doesn't always do a good job of cooling its plug, and you have to be very cautious in using projected-nose plugs in the valveless wonders.

Some four-stroke hemi-head engines' domed pistons extend up into the combustion chamber too far, at TDC, to leave room for plug tips that extend inward. This can prevent the use of projected-nose plugs; it's something you check by covering the plug nose with modeling clay, shaping it so you have a 360-degree electrode contour, and inspecting for signs of contact after you've installed your "clearance" plug and cranked the engine over a couple of turns.

Limited plug/piston clearance in certain racing engines has prompted plug makers to create the recessed, or retracted gap, configuration. Champion inadvertently did everyone a great disservice by labeling its retracted-gap design as an "R" plug: people thought the letter meant "racing" and used the R-series in all kinds of high-performance applications, which was a terrible mistake. Even if an R-plug's heat range (all are very cold) is right, its gap placement lights the fire back in a hole and the combustion process never is quite as regular as it should be. The retracted-gap plug exists only because some engines present a clearance problem; it never was intended for use where conventional or projected-nose plugs can be fitted.

At one time there was a lot of excitement over another unconventional plug-nose configuration. In the "surface-fire" plug the spark gap was between the center electrode and the flanged-inward end of the metal shell, and the insulator material filled its interior out almost flush with the electrode's tip. Surface-fire plugs don't even have a heat range; they run at about the same temperature as the combustion chamber's walls and are completely immune to overheating. Neither can they cause pre-ignition. These features were stressed at the time of their introduction, and everyone thought surface-fire plugs were just wonderful. They aren't, because they make their spark too close to the chamber wall, and require an incredibly powerful, CDI ignition system.

Motorcycle ignition systems are the weak sisters of the world's spark generators. Bikes therefore need all the ignition help you can give them, which brings us to yet another useful group of special spark plugs: those with precious-metal electrodes. Conventional plugs have thick, blunt electrodes made of an alloy that's mostly iron, with a little nickel added to lend resistance to erosion. Special-electrode plugs have a side (ground) post



Special-electrode plugs are costly, but help make the most of motorcycles' poor ignition systems.

made of ordinary nickel-iron alloy, but a center electrode of something much more costly - which may be a silver alloy, or gold-palladium, or platinum, etc. Bosch still favors platinum; Champion, ND and NGK offer plugs with electrodes in materials ranging from silver to tungsten. Gold-palladium seems to be the alloy that offers the best price/performance advantage; we don't entirely trust silver electrodes, which if overheated will over-expand and crack the insulator nose.

Platinum and gold-palladium alloys can survive the combustion chamber environment as very small wires, and in that rests their great advantage. Electrons leap away from the tip of a small-diameter, sharp-edged wire far more willingly than from one that's fatter and rounded. So the fine-wire plug requires less voltage to form a spark than one with conventional electrodes, and the difference becomes increasingly biased in the former's favor as hours in service accumulate and erosion blunts the iron-alloy electrodes. There are, of course, drawbacks with precious-metal plugs: they are more expensive, and they are very sensitive to excessive ignition advance. The overheating you get with too much spark lead effects plugs' center electrodes before it can be detected elsewhere in an engine, and when subjected to this kind of mistreatment fine-wire electrodes simply melt. In one sense this is a disadvantage, as it means the ruination of expensive spark plugs. Seen in another way it's a bonus feature: it is better to melt a plug electrode than an engine.

A final variation on the basic spark plug theme you should know about is something NGK calls a "booster gap," and is known at Champion as an "auxiliary gap." By any name it's an air gap built into a plug's core, and it improves resistance to fouling. Conductor deposits on a plug's insulator nose tend to bleed off the spark coil's electrical potential as it is trying to build itself up to spark-level strength. If so much energy is shunted in this way that firing does not occur we say the plug is "fouled." It is possible to clear a lightly fouled plug by holding the spark lead slightly away from the plug terminal and forcing the spark to jump across an air gap. The air gap works like a switch, keeping plug and coil disconnected until the ignition system's output voltage rises high enough and is backed by enough energy to fire the plug even though some of the zap is shunted by the fouling deposits. Mechanics discovered this trick; plug makers have incorporated it into some of the plugs they sell, and booster/auxiliary gap plugs work really well in bikes with an ignition system strong enough to cope with the added resistance. Such plugs more or less mimic the fast-voltage-rise characteristics of CDI systems - and offer no advantage used in conjunction with a capacitor-discharge ignition.

It is necessary to know all these different plug configurations if you are to be completely successful in doing your own maintenance work, and it is absolutely essential that you know how to "read" plugs if you're dealing with a high-performance bike (whether factory-built or do-it-yourself). Sports/touring machines usually are well sorted out before they're sent to market, but even the best racing bikes seem to be timed and jetted a little off-the-mark for our fuels and riding conditions. We suspect that the laboratory-quality gasoline that some factories use in their development work warps manufacturers' ignition advance recommendations; whatever the cause, nearly all the factory-built racing engines with which we have direct experience run better when their spark timings are slightly retarded. Typically, too, their spark plugs are one heat range too cold and they're jetted a bit rich. Also typically, these same bikes are fitted with even colder plugs, richer jetting and sometimes are given more spark advance by those who buy them.

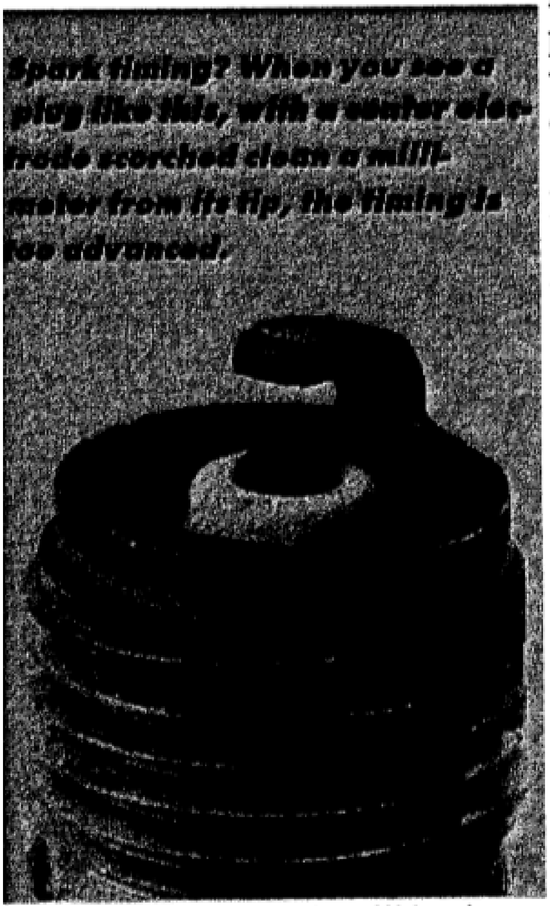
The worst, most destructive, combination of mistakes we see begin with two widely-held assumptions: first, that a cold spark plug will help fend off that old devil detonation; second, that more spark advance -not less- is the thing to try when reaching for power. Try to use a too-cold spark plug and you very likely will have to jet for a lean mixture to avoid plug fouling - and as you lean an engine's air/fuel mixture down near the roughly-14.5:1 chemically-correct level it becomes *extremely* detonation-prone. Excessive spark advance is even worse in its ability to produce detonation, and when combined with a lean mixture it's enough to quickly destroy an engine.

Most people who've had some experience with racing bikes (especially those with two-stroke engines) know that detonation is a piston-killer. Few really know the phenomenon for what it is: a too-sudden ending to the normal combustion process. You may imagine that the ignition spark causes an engine's mixture to explode, but it actually burns. There's a small bubble of flame formed at the spark gap when ignition occurs, and this bubble expands - its surface made a bit ragged by combustion chamber turbulence - until all the mixture is burning. This process begins slowly, but quickly gathers speed because the mixture beyond the flame_ bubble is being heated by compression and radiation to temperatures ever nearer the fuel's ignition point. When the initial spark is correctly timed the spreading flame bubble will have almost completely filled the combustion chamber as the piston reaches top center, and all burning will have been completed by the time the piston has moved just a millimeter or two into the power stroke. But the final phase of this process can be shifted from simple burning into a violent detonation of the last fraction of the whole mixture charge.

Starting the fire too early will produce detonation, as it gives the mixture out in the chamber's far corners time enough to reach explosion-level temperature. And a slightly lean mixture detonates at a lower temperature. It's all a function of ignition timing and mixture in any given engine, and spark plug heat range plays absolutely no part in it.

Your engine's spark plug doesn't cause detonation but it can tell you when and why the phenomenon has occurred. Moreover, the spark plug can tell you with remarkable precision how much spark advance and what jetting your engine needs. Those are things you can "read" in a spark plug, and all that is written there will be revealed very clearly when the heat range is right.

So how can you tell whether you've chosen the right heat range? It's easy: a spark plug should be getting hot enough to keep its insulator nose completely clean, with all deposits burned away, but not so hot that its electrodes show signs of serious overheating. These are things to look for on a new plug that has been subjected to a few minutes of hard running. After many miles of service insulators acquire a coating of fuel deposits, with some coloration from oil in two-stroke applications, and there will be some erosion of the electrodes even when everything is normal. Don't try to read old spark plugs; even the experts find that difficult. New plugs present unmuddled information about what's happening inside an engine, and can give you a complete picture after just minutes of hard running. At least they will if they're running hot enough, and that should be hot enough to keep the insulator clean.


Spark timing? When you see a plug like this, with a center electrode scorched clean a millimeter from its tip, the timing is too advanced.

It's impossible to separate the question of ignition advance from the primary evidence of spark plug overheating, which is most strongly shown on the plug's center electrode. If you inspect this electrode's tip with a magnifying glass and see that its edges are being rounded by erosion, or melting, then you know there's overheating. You should also have a close look at the tip of the ground electrode, checking for the same symptoms. Finally, inspect the condition of the insulator, which should be white but with a surface texture about like it was when new; a porous, grainy appearance is evidence of overheating. If the signs of overheating are confined mostly to the center electrode you can bet you're using too much ignition advance. Retard the spark timing in small (two or three degrees) increments and as you get close to the optimum advance you'll find two things happening: first, the whole plug will be running colder; second, the center electrode will begin to acquire a film of fuel deposits extending out from the insulator nose toward its tip.

The fuel film mentioned here is what you watch when making fine adjustments in ignition advance. In an engine that's been given just a few degrees excessive advance (as most have) the fuel film will only extend outward along part of the center electrode's exposed length, ending abruptly a couple of millimeters from the tip. The portion remaining won't be filmed over simply because it has been hot enough to burn away the fuel salts dusted on the rest of the electrode, and you'll see that sort of localized overheating created by too much spark advance even on a plug that is two or three heat ranges too cold. And you'll have the correct spark advance when the center electrode's fuel film continues right out to within a hair of its tip. There are a couple of caveats to be observed in this matter. An overly-retarded spark timing won't show except as an absence of any evidence pointing to too much advance. Also, the spark itself will blast clean spots in the electrode's fuel film, and when there's enough combustion chamber turbulence to blow the spark sideways into a curved path you'll get a cleared area on one side of the electrode. This lop-sided spark blush shouldn't be mistaken for the more sharply defined ring associated with the electrode tip overheating produced by excessive spark advance.

Once you have brought your engine's ignition timing close to optimum you'll almost certainly have to make a further change in spark plug heat range. Manufacturers' specifications for racing models very often advise you to use too much advance and a too-cold plug, and when you shorten the spark lead to suit commonly-available fuels it almost certainly will be necessary to use a warmer plug. Then, when you have found plugs of a heat range that will keep that insulator nice and clean you can start adjusting your engine's air/fuel mixture - a task that will be easy if you can forget everything you thought you knew about this aspect of plug reading.


This sectioned plug body provides a clear view of the "mixture ring" (arrow) on the insulator's nose.

A lot of amateur tuners, some of whom are fairly successful, will look at some plug freshly removed from a two-stroke engine and offer advice based on the color of the oil deposited on the insulator nose. In fact, if the plug is hot enough there won't be any color, and if there is that still has nothing much to do with air/fuel mixture. If you think about it you'll realize that the only color you can get from an air/fuel mixture is the color of soot. When the mixture trapped in an engine's combustion chamber has more fuel than can be burned with the available air, then combustion will be incomplete and the excess fuel will remain as soot, which is not brown or tan or magenta or any color other than black. And if your engine's mixture is too rich, the sooty evidence will be present on the spark plug's insulator, in a very particular area.

You won't find any soot out near the insulator nose, on a plug that's running hot enough to keep itself from fouling, because temperatures there are too high to let soot collect. But the insulator is much cooler deep inside the plug body, and coolest where it contacts the metal shell, which is precisely where you "read" mixture strength. Look far inside a plug, where its insulator joins its shell, and what you'll see there if your engine's mixture is too rich is a ring of soot. If this ring continues outward along the insulator to a width of even a millimeter you can be sure the mixture is rich enough to be safe, and too rich for maximum output. In most engines best performance is achieved when the mixture contains only enough excess fuel to make just a wisp of a "mixture ring" on the plug insulator. Air cooled two-stroke engines often will respond favorably to a slightly richer mixture, which provides a measure of internal cooling; some four-stroke engines give their best power when the mixture is leaned down to such extent that the last trace of soot deep inside the plug completely disappears.

Never try to jet too close to a best-power mixture until after you've taken care of spark advance. As previously noted, the air/fuel ratio that yields maximum power is only a shade richer than the one that is most detonation-prone; fortunately, the plug will tell you when there has been even slight detonation inside your engine. The signs to look for are pepper-like black specks on the insulator nose, and tiny balls of aluminum concentrated mostly around the center electrode's tip. Severe detonation will blast a lot of aluminum off the piston crown, and give the plug a gray coating-which is a portent of death for the engine. A few engines will show just a trace of detonation when jetted and sparked for maximum power, but that never produces anything more than a few miniscule spots of aluminum gathered on the center electrode's sharp edges. If you see more aluminum and an extensive peppering evident on your plug, you're in trouble.

We cannot stress too strongly the need to give spark advance your closest attention, because excessive spark lead is the most frequent cause of detonation, which is a real engine killer. You can't stop advance-produced detonation with a cold spark plug, nor with anything but a wildly over-rich mixture. Also, excessive ignition advance has a bad effect on performance. We ran a 250cc road racer at the drags a few months ago, and found that retarding the spark about five degrees from the manufacturer's setting raised the trap speed from 106 to 110 mph. Similarly, there's a 125cc motocross machine residing in our shop which runs a lot stronger and cleaner since it has been retimed for less advance, jetted leaner, and been given a hotter spark plug.

Even touring bikes sometimes benefit from revised spark timings. Only rarely will their carburetion be off enough to need attention, but the ignition advance they get represents a compromise between the optima for power and economy. For some riders, especially those who use a lot of throttle much of the time, stock ignition advance is too much advance. And of course many riders find that their specific requirements are better met with non-standard plug configurations.

The trick in all this is to know enough about spark plugs to be able to choose the right basic type, and to understand what the plug has to say about conditions inside your bike's engine. It's not an altogether easy trick to perform, with so many things to be remembered all at once; it's a terrifically effective trick when you get it right.

OVR Event Schedule, updated 28 June 2019

Date	*Details*	*More Info?*
2019	**2019**	
July 7	**VRV Mid-Winter Romp. Meet @ Caltex Servo 377 Plenty Rd Mill Park @ 9:30am**	**RSVP by July 1 unionjackmotorcycles@gmail.com**
August 11	**VRV General Meeting .**	
August 17-19	**VRV run to Wimmera Silo Art plus General Meeting,**	**sec.vrv@gmail.com**
August 25	Federation Picnic at Marwong, Victoria. Significant VRV participation anticipated!	neil.athorn@bendigobank.com.au
Aug 21-29	2019 Vincent Owners Club North Queensland Atherton Tableland Tour	mdbarr48@bigpond.com

Date	*Details*	*More Info?*
Aug 24-25	BULLI ANTIOUE MOTORCYCLE WEEKEND, Bulli Showgrounds, Grevillea Park Road Bulli NSW	
Aug 31 – Sept 1	All-Historic Racing at Wakefield Park, Goulburn, NSW – see OVR last page	
Sept 8	**VRV Annual General meeting & elections**	**sec.vrv@gmail.com**
Sept 22	**VRV post-AGM Committee Meeting**	**sec.vrv@gmail.com**
Sept 29	Bay to Birdwood Rally, South Australia	
Oct 4 - 6	**VRV & Iron Indian Grampians Rally hubbed at Dunkeld. more info on VRV Web Site**	
Oct 6	HTPAA Antique & Collectable Tool Market, St Anthony's School Hall, 164-168 Neerim Rd, Caulfield East, 9am start till 12.30pm	
Oct 11	**VRV General Meeting, meeting at 7 pm followed by dinner,.**	
Oct 19	**VRV Bit on the Side Run, for outfits but singles also welcome**	**brianh1967@yahoo.com**
Oct 22	**VRV First Anniversary Event**	**sec.vrv@gmail.com**
Nov 10	**VRV Day ride plus General and Committee meeting;**	**sec.vrv@gmail.com**
Nov 16-17	Bendigo Swap Meet, Bendigo showgrounds, gates open from 6 am!	
Nov 22, 23 24	**VRV Annual Vincent Riders Dinner**	**brianh1967@yahoo.com**
Dec 8	**VRV Xmas Function plus General and Committee meeting;**	**sec.vrv@gmail.com**
2020	2020	
Jan 12	**VRV General Meeting and Ride.**	
Feb 3 - 18	2020 International Jampot (AJS & Matchless) Rally in New Zealand	matchlessnz@icloud.com
Feb 9	**VRV General Meeting and Ride.**	
March 13	**VRV General Meeting, meeting at 7 pm followed by dinner.**	
March 10-19	Tassie Tour 2020, held in association with the British Motorcycle Club of Tasmania.	www.tassietour.info
March 28-April 4	Australian Historic Motoring Federation 2020 National Motoring Tour, Albury NSW & Wodonga Vic.	www.ahmf.org.au
April 12	**VRV General Meeting and Ride.**	
May 9	**VRV General Meeting – one day early to avoid Mothers Day clash!**	
June 14	**VRV General Meeting and Ride.**	
July 10	**VRV General Meeting, meeting at 7 pm followed by dinner,.**	
Aug 9	**VRV General Meeting and Ride.**	
Sept 13	**VRV Annual General Meeting;**	**sec.vrv@gmail.com**
Sept 21-25	Australian National VIncent Rally, McLaren Vale, South Australia.! Timed to align with the Bay to Birdwood event for vehicles built up to 1960 which will be held on the following Sunday 27 Sept.	lesbeyer@internode.on.net
Sept 27	Bay to Birdwood Rally, South Australia	http://baytobirdwood.com.au/
Oct 9	**VRV General Meeting, meeting at 7 pm followed by dinner,**	
Nov 8	**VRV General Meeting and Ride.**	
Nov 20, 21, 22	**VRV Annual Vincent Riders Dinner**	**Sec.vrv@gmail.com**
Nov 28 2020 – April 2021	**Exhibition:** *Motorcycles: Desire ~ Art ~ Design*. The exhibition will be at the Queensland Art Gallery|Gallery of Modern Art (QAGOMA) in Brisbane, Australia	
Dec 13	**VRV Xmas Function plus General and Committee meeting**	

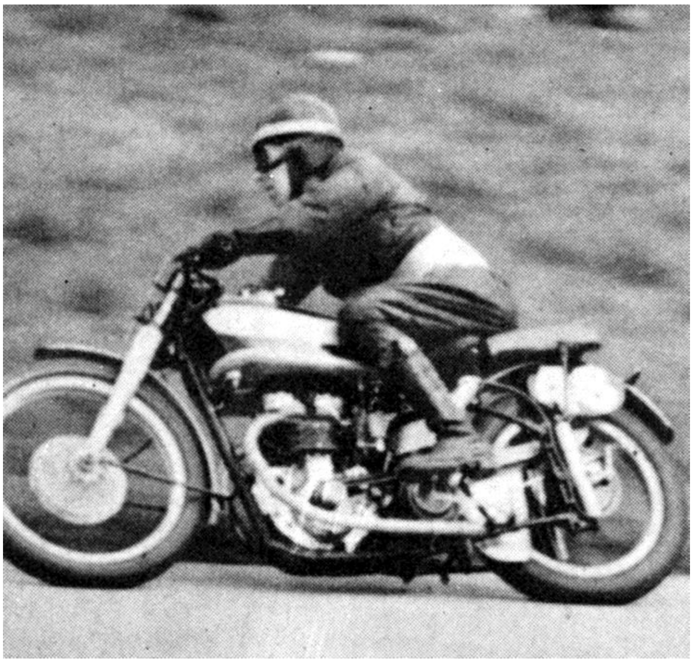
My Racing Years (conclusion):

As told by Ted Davis in Motorcycle Sport, 1975

Nineteen fifty started with a third behind Duke and Daniell at Silverstone and continued with a modicum of success around the circuits. I built my first 500 (a sort of working man's Grey Flash) and finished up selling/swopping my twin and single to Jack Surtees for a 596 Norton and chair and much needed cash, the twin for Jack and John, the 500 for John — his first 500 racer.

We all had a great day at the first Brands try-put. I won a sidecar heat, John won a solo heat on the 500 Vincent, with Dad Surtees and John as ballast (998 Lightning) blasting off the opposition in the sidecar final; did you ever see Mum Surtees and family turn up at meetings with a Rapide and chair? Mum, starting and handling it with the best, with John (a Vincent apprentice), eventually to become world champion.

If you haven't ridden a 596 long-stroke single knocker Norton on dope you have never 'experienced real vibration. It was so bad that any attempt to exceed 5,300 r.p.m. resulted in bat-like objects floating away from the motor (believe it or not, they were fins from the aluminium head and barrel). Blurred vision, loss of hair and partial paralysis were routine personal hazards; as for the tanks and frame, splits and fractures, they were dealt with between races. Even one side of their handlebar fractured clean through when flat out on the long straight at Croft. I still got home between Cyril Smith and Bill Boddice. The things you do to finance another go next week (no; Norton's would not support me, either).



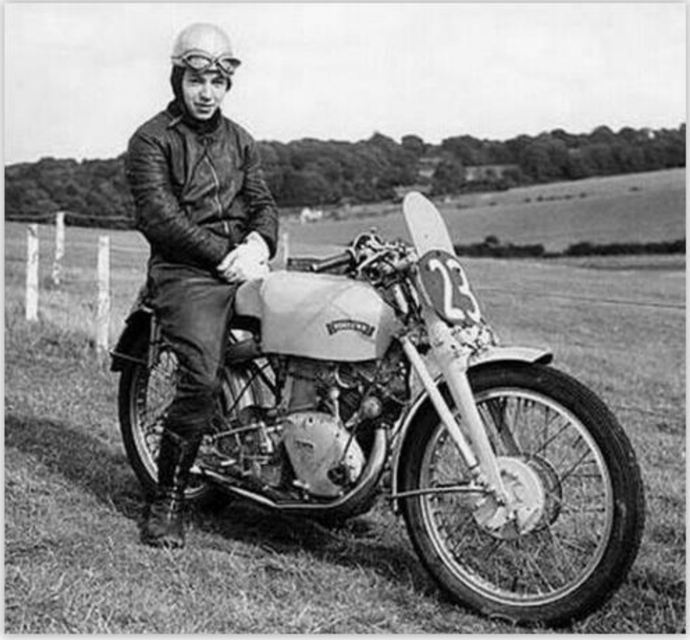
Writing about vibration reminds me of a story of Phil Irving' He said: "Ted Davis complained about the vibration on a certain vertical twin travelling up the A 1 from Stevenage in the late 1940s. When asked why was he riding one anyway, he replied, 'He wasn't — he was riding alongside it on a Series B Meteor'."

I remember Phil Vincent asking me what I thought of the black engine for the Shadow and my replying "waste of time and money", which probably explains why I never got official works support. He had a knack of getting in first and right most of the time.

Nineteen fifty was the Vincent road-tester's delight, with Black Lightnings on dope and Grey Flashes coming off the line most weeks, all needing extended road-tests.

What a difference from today, with the 50 m.p.h. limit; production Black Shadows were checked at 75 m.p.h. in bottom gear; 120 m.p.h. was an everyday event with the old blurp to 140+ up the old A 1. Most of the dope Lightnings subsequently collected most individual country, plus world, records, i.e., USA — Rollie Free, 10 miles at 150 m.p.h. World solo and sidecar —Burns 184 m.p.h. solo and 176 m.p.h. sidecar, etc. And you could buy a Black Lightning for £500 —the fastest and cheapest standard motorcycle in the world.

I remember trying to beat the late Henry Pinnington's tour from Stevenage to Nottingham (1 hour, 18 minutes — 109 miles point to point), and failing by nearly 10 minutes, and continuing to Glasgow. Elapsed time — 5 hours, 38 minutes; yes, in those days we lived in Black Shadow country.

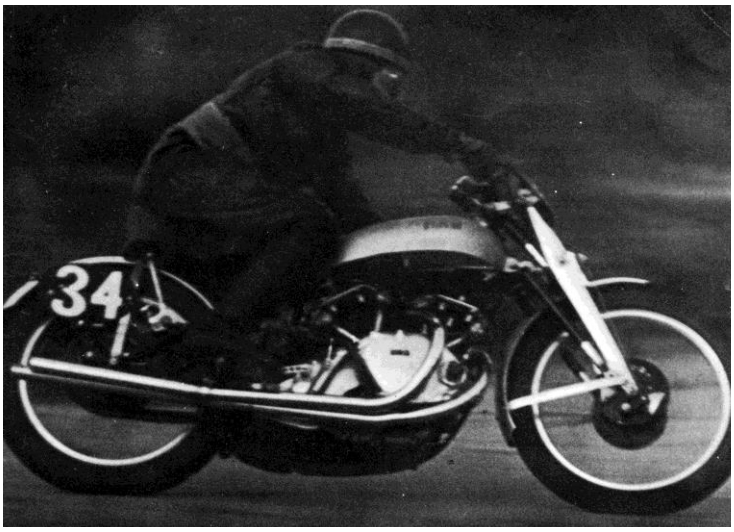


Roll on 1953, the year of the Firefly moped. ... The period 1950-51 was the Grey Flash era and yours truly, having run out of fins and welding rods, had disposed of the trusty 596 single-lunger Manx for that ever topical subject — money (food was essential!) and resorted to riding anything that any kind soul would-lend me, from a 350 c.c. plunger Gold Star to scrounging a lash-up Lightning and a semi-Works Grey Flash.

Highlights were being passed by three Porcupines (all at once), at Silverstone; biting the dust on the same bend as George Brown at Epynt and, while trying to sqpeeze another mile per hour out of the Flash, using 2.75 in. ribbed tyres front and rear at Boreham; it started to rain halfway through the race — you could have balanced an egg on my tank round every bend!

As I am writing what was almost the obituary of my solo racing career, I will devote this memory to the Grey Flash, surely one of the safest and best handling racing motorcycles ever built.

Brake horse power was never a strong point, 35 at 6,200 r.p.m. Still, 116 m.p.h. and 40 m.p.g. in the Island with K. Bills aboard wasn't exactly hanging about in 1950! Ken's fastest lap was the fastest by a push-rod single. Ken is an optician. He was to prove invaluable in the. Montlhery record attempt a couple of years later, with his advice on night riding; but that's another memory.



Basically the Flash was a C Comet Vincent which appeared with standard and big port heads, carburettors upped from 1 and 5/32” to 1 and 5/8”; Albion and Burman boxes; exhaust systems from 1 and 5/8” to 2 in; scalloped fork legs, i.e., grooves up the inside (I recommend this for all uses — I used them for racing a chair); BTH and Lucas racing mags, etc.

My most enjoyable rides were race-long duels at Thruxton with John Surtees and at Aberdare with Phil Heath — both similarly mounted. What with Johnny Hodgkin, "King of Cadwell", on yet another Flash, the 499 Vincent had arrived.

I had a fabulous gallop on Bob Stafford's TT Replica in 1973; but had to ride a 350 rigid Manx in 1974 at Vintage Mallory. Perhaps "had to" is a little unfair, I should say I had the privilege of riding this 100 m.p.h. plus flyer, still nudging 7,000 after nearly 40 years.

The 1951 season confirmed my early suspicions that I didn't need a hat to get ahead — I needed a third wheel. Watsonians supplied it and I built my last bedroom special. What better way to spend the winter: work at Stevenage all day and build the Black Lightning to end all Lightnings at night? This one was destined to win 40 races without my lifting the heads.

My individual lack of real success with the single is in no way a reflection on the bikes — the performances of Surtees and Hodgkin were terrific. I like to think that my current hobby has been directly responsible for over a dozen Vincents rising from the proverbial basket lot. Five appeared earlier at the Stevenage Rally and some more were at Donington. It could well be that in the Vincent world 1975 is the year of the revival of the Comet with twins becoming scarcer daily.

Shadow and a Firefly both did 137 m.p.g. at a steady 30 m.p.h. (the 1983 speed limit?); a Comet could do 80 m.p.g. at a. steady 60 m.p.h. on two-star petrol.

The winter's toil was rewarded with the Glover Trophy and £90 at the opening Silverstone meeting, our first real go at sidecar racing; the motor was fabulous, but what a handful, the next two years were to be a sort of high-speed Charles Atlas muscle-building course! Strange, all this muscle work was completely unnecessary, but it was well into the 1954 season before I found this out.

Success followed success, with wins and places at all the major circuits. For once the Harris, Boddice, Smith and Beeton Norton brigade were forced to vacate their regular 1-2-3 roles.

In all this a Montlhery, France, record attempt by Vincents was slowly being born, my part being to prepare Shadows and Lightnings, while the late Goeff Manning went over to Montlhery during April to get things organised. Unfortunately he only organised himself into a hospital bed, having clobbered some Frenchman with his Rapide en route. All the bikes were built with the Vincent caged rolled big-end assemblies and run in for 1,000 miles. The only other significant departures from standard were a larger fuel tank, one rear brake, lower mounted headlamp and handlebars and the removal of rear mudguard flap, rear stand and mag cowl.

At the last minute Phil Vincent decided to replace the racing big-end assemblies with the standard crowded roller (a move I did not agree with), as we were supposed to be demonstrating the reliability of the stock Black Shadow. The standard big-end assembly, while excellent for normal road usage, objected to continuous high r.p.m., particularly when lubricated with dirty hot black water, which is what Castrol XL looked like after a couple of hours at a continuous 100 m.p.h. plus.

The day for departure eventually came, with yours truly driving a van load of Lightings, accompanied by a lorry load of Shadows, driven by a chap called Dave. The trip was uneventful, apart from Dave's call on an ex-girlfriend from the last war. After she came to the door with half a dozen offspring, we beat if for Montlhery. Our workshop was set up under the track banking and the team began to arrive. The team consisted of Phil Heath, John Surtees, Robin Sherry (works AMC), Ted Davis, Cyril Julian (TT rider), Vic Willoughby (*The Motor Cycle)* the late Dennis Lashmar (killed in the German Grand Prix), the French contingent, and Danny Thomas (Vincent tester and sand racer): Ken Bills was team manager and Paul Richardson was interpreter.

An exploratory daylight run was followed by a spot of night lappery to sort out the bikes and riders who couldn't follow the yellow line. The only one to fail was Danny Thomas, and he was then taken out of the team. The vast concrete basin with enormous high and wide banking was murderously bumpy, flattening the suspension, tyres and our faces on the tank top, several times per lap. I should mention at this point that only a grim determination not to miss the attempt stopped me from dropping out altogether, as I had what seemed to be a slipped disc prior to our departure for France. However, one lap of that circuit and I was completely cured! At least for 23 years.

The record-breaking group at Montlhery track. From left: Timekeeper, John Surtees, Robin Sherry, Danny Thomas, H. Reynolds, K. Mainwaring, Ted Davis, Johnny Hodgkin, Ken Bills, Dennis Lashman, Phil Vincent, "a Frenchman" - what else with that beret? - Vic Willoughby, Paul Richardson, Cyril Julian.

The Shadows were scuffing their pistons and a few of the riders were having trouble; either they couldn't lap quickly enough, couldn't keep to the yellow line at night or were going too quickly — remember that we were going for 24 hours at 100 m.p.h. on the Shadows. Poor Vic Willoughby was ticked off for repeatedly going too quick and young John Surtees (then 17) did his first standing lap in the dark at about 30 m.p.h. quicker than he should have done (or anyone else had done or ever did), all before Ken Bills could tell him that he needed a few laps before going fast at night.

The Lightnings were to concentrate on the short-duration records and were ridden by John Surtees, L. Levre and yours truly. Lapping at around 130 m.p.h. plus, with seven-gallon tanks, the tyre loading on the banking was up to four tons, with tyre temperature running dangerously high. It looked, in fact, as though tyre troubles would be the thing most likely to stop us, unless Avons could come up with something before the big day.

The long-awaited day arrived and soon we collected the first of the eight world records we were to eventually come home with — not quite what we hoped for, but better than none at all.

Slowly, slowly was the watchword. It was all too easy to wring the bike's neck and cram 120 miles in an hour, but the plan was to go just fast enough to allow for fuel/rider/tyre chain changes and still average about 100 m.p.h. I had had a couple of spells (we were doing one hour apiece) when, at just over 10 hours, an eerie silence fell over the huge basin. Paul Richardson looked at me and all I said was "Sounds like our old friend" (Stevenage slang for big-end). Hadn't the same thing happened to me at Brough and bingo — our "old friend"! I never used one for racing after that and never had another failure, staying with the Vincent ¼” x ¼” caged roller racing big end assembly.

I found the bike over on the far side of the track and pushed her round to the finish. We waited about 20 minutes then pushed her over the line to collect the 11-hour record, which was the record that was to stand longest — after all, who would deliberately go for such a record (I believe Moto-Guzzi took it eventually).

Of course that other classic machine whose name also begins with a V well and truly cracked the 24-hour record some years later at Montlhery. (I turned up on one of those at last year's (1974) Rally at Donington; felt a bit of a black sheep, but I'm sure they must be related somewhere. At least I always keep one in my stable).

The Lightning attempts were much as predicted and had to be abandoned due to rear-tyre failure. Imagine running without mudguards when the 2ft-long strips of tread came off at around 140 m.p.h. and whacked you on the back before departing skywards, leaving a nice virgin section of canvas and the whole damn bike feeling as though it had square wheels! Quite a few quick laps were successfully completed using what would be known as slicks in these days of greater enlightenment. Tyre temperatures were then lower, but we had to complete at least two hours to collect any records and the rubber would have worn away in less than half that distance.

So we were now a lot wiser in the business of record breaking and before we came home we meant to learn a little about night life in Paris —the team's treat. With Pop Surtees' words ringing in my ear ("Look after the lad, Ted"), I opted to put young John on the inside seat while I took pole position at the Folies Bergere: soon we were being approached by a sumptuous Parisienne wearing only a G string. I was only able to spare a quick parental look at John, which was all I needed as the lad was fast asleep; yes, fast asleep! How's that for a dedicated racer?

The rest of 1952 was devoted to putting the name Vincent at the top in sidecar racing. A first season on the outfit produced 20 wins, showing definite promise. It was going to be a really good year for Vincent in 1953.

Ninety fifty three — a year of disastrous and distasteful diversion. After all, weren't we enticed down to Stevenage to build the "World's Fastest"? and what was it that darkened our horizons? The Vincent Firefly — one, yes one, b.h.p. at 4,200 r.p.m.! The wretched little thing clipped under the pedal crank, with friction drive to the rear tyre (efficient only in the dry). Performance was just sufficient to overtake a human-powered push-bike (not a club cyclist). It fell to the lot of yours truly to share the durability and rig testing and proving of this glimpse into the future.

One rather amusing trick of the Firefly was to discharge the rollers from the big-end out of the exhaust pipe; this would occur when adopting a Rollie Free prone riding position complete with bathing shorts while riding downwind and downhill.

Being a Miller design, the electrics could be expected to be pretty unreliable, and they were. One rather funny story I heard was of the Firefly owner who wrote in asking if we could recommend a suitable sidecar, then silencing our laughter by turning up at Stevenage with one attached, (albeit a child's version).

The mass distribution of the NSU Quickly by Vincents killed off the Firefly (thank goodness!), although the other two NSU products, 98 c.c. and 125 c.c. Foxes, undid all the Quickly's good work, the 98 c.c. four-stroke being notorious for its gutlessness and the 125 c.c. two-stroke for its readiness to seize at the drop of a hat. With a new ex-refrigerator sales force installed, it was a toss-up whether they gave a free Firefly with every Quickly, forced one Firefly on to the dealers with every six Quicklys, tossed in a Fox, or dumped the whole damn lot back into Germany or the Channel.

By the end of 1954 this nightmare to both motorcylists at Vincents and, I'm sure, the financial backers, was just a memory. NSU set up their UK sales for the Quickly, the Foxes disappeared and Vincents continued, poorer and somewhat disillusioned with the business of making motorcycles, while yours truly had become established as a serious threat for top honours in the sidecar class on every circuit in the UK.

Following the successful 1952 season, a short top fork link, 16in alloy wheels and sprung rear wheels were introduced for 1953. (1925's set up was 20in. front wheel, 19in. rear and rigid; yes, rigid rear end) Handling of the new set-up was inferior to the 1952 arrangement; I didn't think this was possible. However, huge biceps and the experience of the previous season, plus a magnificent engine, carried us through the year, and I won the sidecar class at Brough, Brands, Oulton, Boreham, Thruxton, Ringwood, Silverstone.

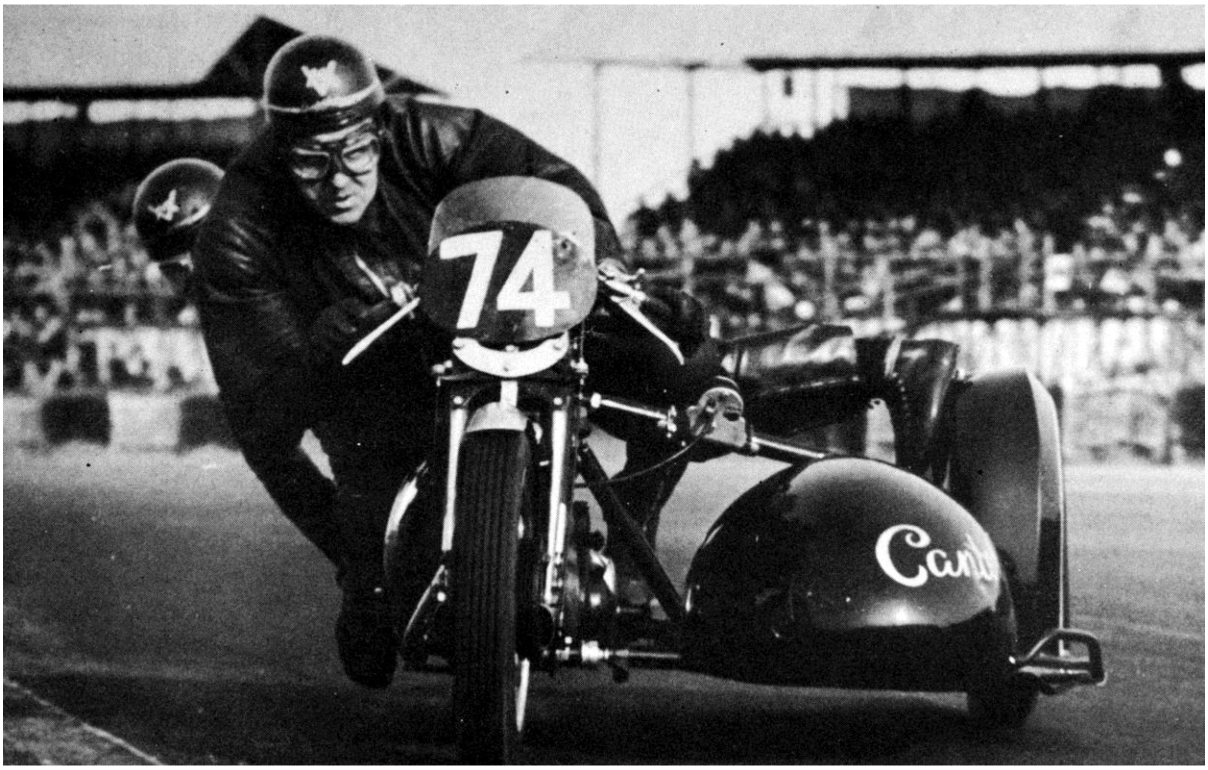
Backed by Esso, and advertising "We use Avon tyres, Birbour suits, XYZ bearings," I found that racing began to pay and equally rapidly the pleasure began to disappear. Now we were expected to win and when, for some reason or another, we didn't, gloom and despondency took over.

Altogether 1953 could be described as a mixed bag, but one I thoroughly enjoyed in spite of the 'Flys and Foxes. How easy it is to be critical in hindsight and how ironical that such excursions into the commuter's market would be necessary in the '70s.

NINETEEN-FIFTY-FOUR saw a second out-fit added to the strength—a G45 Matchless with sprung-wheel Canterbury chair : the return of the Sidecar TT to the Island being the main reason for this disastrous choice of iron-mongery. It may have been reasonable solo—but with a chair ! The narrow torque band, four-speed box and joint weight of Ted Davis and E. G. Allen killed it stone dead. We only needed to open our mouths to have it come off the meggas !

However this dark cloud didn't appear on the scene until June; and weren't there some pickings to be had on the old stamping grounds !

The usual early-season wins came along, but then there was Crystal Palace and world champion Cyril Smith (Norton/Watsonian); a heat win each, and the battle was on with a vengeance in the final, when the sprung-wheel Canterbury, having its first airing on the big Vincent, coming into head-on contact with a large tree (which had grown on the circuit since the first lap) at about 90-plus.



The next quarter-hour or so (it seemed) was spent flying gracefully along towards the grandstand. We should have been black-flagged as we didn't have our outfit with us.

The pain didn't start until we returned to terra firma some 30 yards past the tree. Count-down showed tree still in good shape and me with just the odd broken arm, etc, plus a totally restyled Canterbury sidecar (and with all three Canterbury directors, the Jacob brothers, sitting in the grandstand).

The Vincent rebuild was easy; the scrap bins were always full. How about the TT only a month away ? A domesticated "Doc" should fix the required medical. The Jacob brothers went to work on the chair and I hightailed it to Jock West and Jack Williams at Plumstead to collect my G45 which was pranged in front of me by a tester, on my arrival. Not a good omen; still Jack and Jock assured me all would be well and said that the extra horses I would have should see off the Nortons (they must have been New Forest ponies).

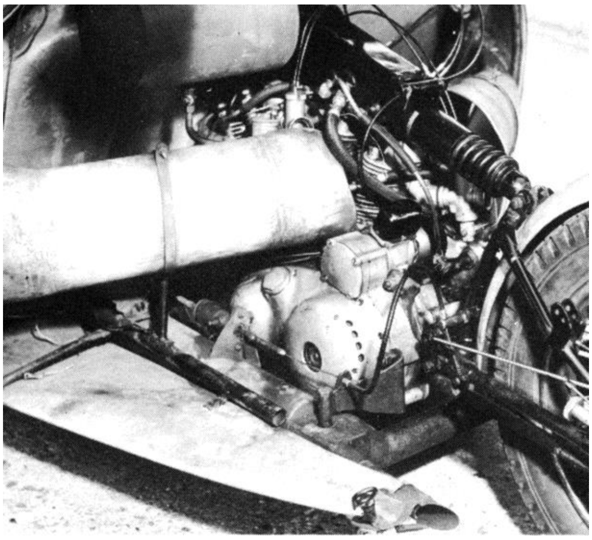
A short period of therapy road-testing 125 two-stroke NSU foxes that usually seized forced me to use my broken arm ahead of schedule. So we duly arrived in Douglas ready to do -battle with the Nortons and BMWs. A pity o.h.c. engines were not banned; then we would have won !

Practice was anything but encouraging. A 72-tooth (yes : 72 from a Porcupine AJS) rear-wheel sprocket proved necessary to keep the motor on the boil; a few more teeth and we could have had caterpillar drive. I just managed to get on the practice leader-board before stripping the motor for inspection. To everyone's surprise, we were the only G45 (others were solo) which hadn't worn its cams. We were, also, the only bike running on Filtrate graphite oil—a moral there perhaps.

Apart from a glorious exhaust note, nothing much happened during the actual race, until the vibration progressively dismantled the out-fit. It was the duty of Ernie Allen to collect the parts in order that we should qualify as a finisher.

We did, in fact, just squeak a replica, staggering over the finish line with the chair piled high with exhausts, meggas, footrests, and so on. (Ever tried picking up freshly discarded exhaust pipes during a TT ?)

One particular highlight that remains with me concerns the laborious climb to Graig-n-Ba (Clypse Circuit.) It was just as we were running out of puff and a shift down to third was becoming essential. Two BMW outfits shot by and shifted up, one passenger giving us the thumbs-down sign at the same time (how I wished I had the big twin). I did, in fact, meet that same pair on the home circuits when riding the Vinny and reversed the situation (including the thumb sign).



I flogged the bike on our return, to the late Bob Anderson, who finished ninth on it in the Manx. Obviously, its chair life hadn't spoilt its handling, as I had already noticed, having galloped it myself solo at Thruxton and at the Palace. But then, as a three-wheeler man I had grown to accept awful handling, and Bob had graduated from a Triumph. . . .

So 1954 was the year of excuses, really; my weakened right arm being an excellent one. Hence my thoughts of a racing three-wheeler and the resurrection of the Vincent three-wheeler, and its one and only (abortive) race appearance at Snetterton.

With Gunga Din's engine fitted, I promptly clipped a second off my sidecar best time (could have been an optimistic timekeeper); or perhaps because it was a little more civilised, it didn't appear so quick.

With over 115 m.p.h. showing on the clock down the straight, the device's shape must have been about right but handling was a different matter. A jelly on springs was a fairly accurate description through the Esses. In fairness, it has to be said that the three-wheeler was not designed originally as a racer.

Race day was hilarious. For spectators, not for us. The damn thing went on to one cylinder when the flag dropped, reducing its performance to half. We struggled around the first bend, leapt out and lifted the hinged tail hopefully to stick a plug lead back, or similar. Unfortunately we were a little too enthusiastic and the tail hinges broke, resulting in the tail shooting clean over the car on to the circuit, leaving the remains looking like a duck with its tail shot off (much to the amusement of the onlookers). After a lightning check over the motor, it appeared we had seized a cam on its spindle, as we had no valves functioning on the rear pot.

Nothing daunted, we resumed the race tailless and all, our maximum speed being such that we didn't even have to shut off for the hair-pin. A friend said afterwards he thought how foolish it was to have a road-sweeper going round the circuit during a race.

Not destined for the Guinness Book of Records, the Vincent three-wheeler was promptly retired from racing and subsequent press reports were intercepted before reaching Phil Vincent's desk, as he was totally unaware (I think) of our abortive attempt, being away on holiday at the time.

The same year I road-tested a production Black Lightning down the old North Road in the early morning at around 150 m.p.h. Later it was to collect both the solo and sidecar world record some 12,000 miles away in New Zealand, piloted by Bob Burns, at 184 m.p.h., unblown. Its price was £500. Ridden by Burns and Wright in New Zealand on a 25-foot tram road, the bike was in "as shipped" condition, plus a fairing. The last and fastest *real* motorcycle.

And 1954 saw the birth of a mono-shock cantilever suspension system on a solo motor-cycle with the Vincent Series D. Note that the three-wheeler had this years before. Development of the enclosed Series D temporarily interrupted the racing scene and resulted in some hair-raising experiences. Ever tried riding a 60 b.h.p., 450 lb, 115 m.p.h. scooter ? Still Vic Willoughby rode one to Scots Corner for breakfast and back for the London Show opening at 10 a.m., so our efforts had at least made it rideable.

At the 2019 VOC International, near Wagrain, Austria. 30°C and snow on the Alps – perfect!

A look back at 1953.   Insight into minor improvements and prices of the day.

CHEAPER VINCENTS for

Price Reductions are Coupled With Detail Improvements to Range of Three "Big Twins" and One 500 c.c. "Single"

NO manufacturer of any experience would claim that he has produced the perfect motorcycle—except, perhaps, in an advertisement for the American market—but when Phil Vincent, managing director of the Vincent-H.R.D. Co., Ltd., of Stevenage, Herts, says that the 998 c.c. vee-twin he designed in 1935 is now "almost to his liking," he is being unduly modest.

It is doubtful whether there ever has been a big twin of the excellence of the Vincent and, certainly, there has never been one with such a performance. So it is not surprising that the factory—first in Britain to proclaim its 1953 programme—should announce a policy of, virtually, no major change.

Detail improvements have been made to the positive-stop gear-change mechanism, and new type brake and clutch linings should increase still further the efficiency of those components. But by far the biggest amendment in the 1953 catalogue will be concerned not with mechanical aspects of the four-model range, but with the equally important financial one. Production flow in the Stevenage factory has reached a stage when it becomes possible to pass some of the benefits of increased output to the customer, and retail prices will be as much as 10 per cent. lower than in the post-war peak period of 1949.

The New Prices

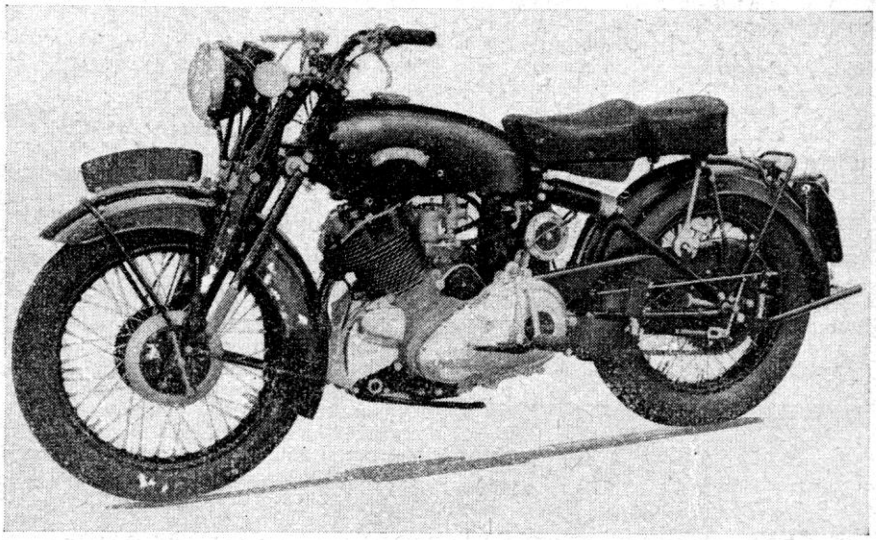
The 499 c.c. single-cylinder Series C "Comet" is to sell for £215, plus £59 14s. 5d. Purchase Tax. The new price of the 998 c.c. vee-twin Series C "Rapide" will be £272, plus £75 11s. 1d. P.T.; and the "Black Shadow" is to be listed at £305, plus £84 14s. 5d. P.T. The price of the "Black Lightning" alone remains the same—£395, plus £109 14s. 5d. P.T.—but this racing version of the famous big twin is, in any case, produced in strictly limited quantities, to special order.

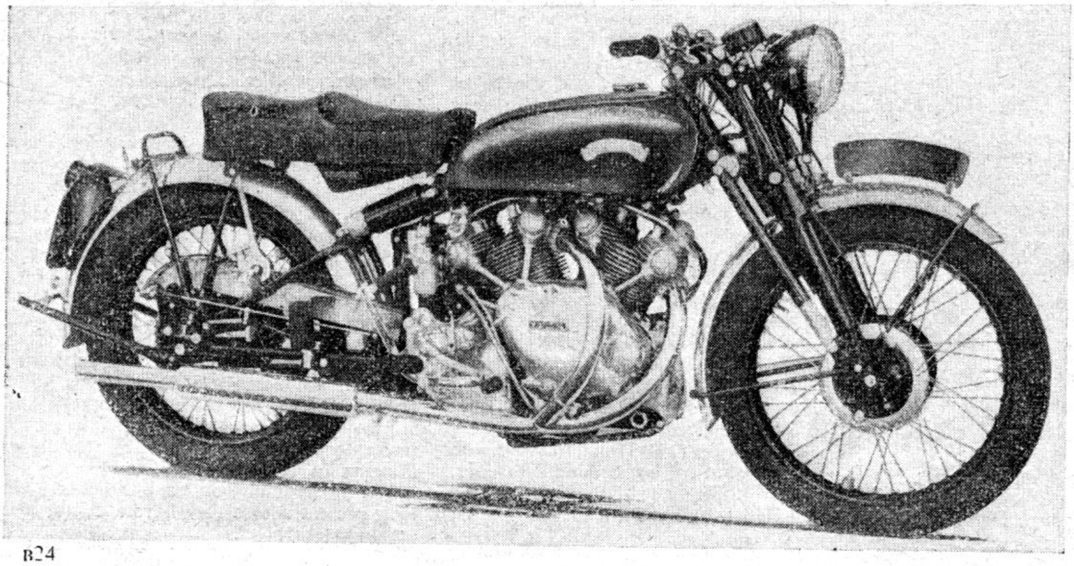
Common to all models is the unique Vincent "frameless" frame, in which the power unit bolts direct to the heavy, one-piece steering head forging and to the box-section backbone; and in which the triangulated rear sub-frame has its pivot bearing behind the gearbox, and the twin spring units and the hydraulic damper anchored beneath the saddle nose. Common to all models, too, are the patent Girdraulic forks, of traditional girder type but having long, telescopic, spring units and a central hydraulic damper, an arrangement which incorporates many of the advantages of both the pre-war parallel-link girder patterns and the now popular "teles."

All models have 3½-gallon fuel tanks, and a six-pint oil reservoir incorporated in the "backbone" forging. The standard specification includes Lucas magneto, K.L.G. sparking plugs, Amal carburetters, Miller dynamo lighting with automatic voltage control and a 7-in., sealed-beam headlamp, two 7-in. diameter brakes to each wheel and 3.00-in. by 20-in. front and 3.50-in. by 19-in. rear Avon tyres.

Without extra charge, however, any of the three road-going models can be supplied in what is termed "touring" trim. Tyre sizes are then 3.50-in. by 19-in. front and 4.00-in. by 18-in. rear, deep valanced mudguards are fitted and the short handlebars popularized by the Vincent manufacturers are replaced by wider, upturned bars. All Vincents have quickly detachable wheels and, with the exception of the "Lightning," which has a racing seat, all are fitted with Feridax dual-seats—of an improved type, with one-piece top, for 1953.

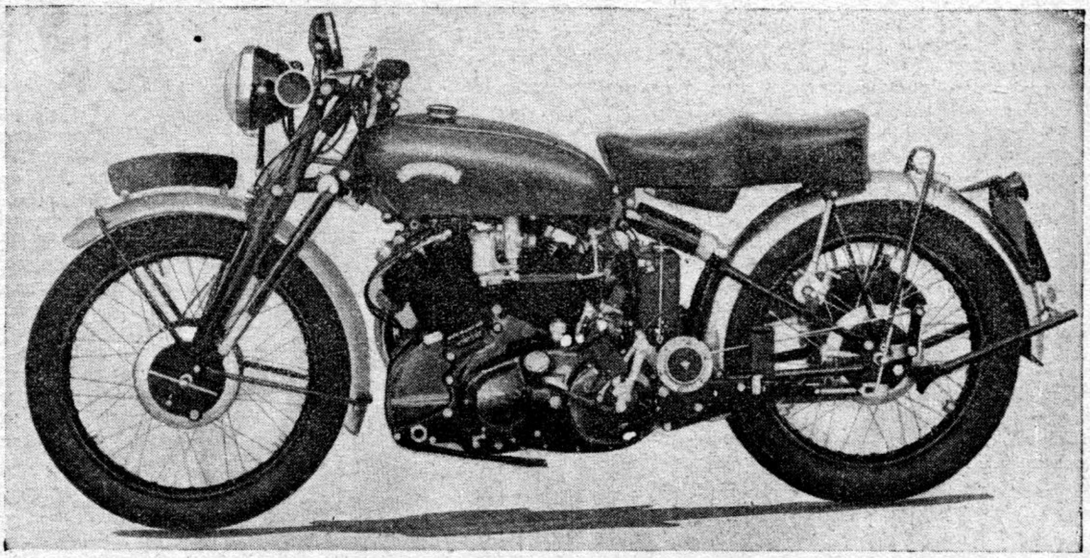
Basically, the power-unit of the three "thousands" is the same. A massive two-piece light-alloy casting forms the crankcase and gearbox shell, the exterior of which, as those of the timing case, gearbox end plate and primary chaincase, has a highly polished surface on the "Rapide" and a heat-proof black finish on the "Shadow."





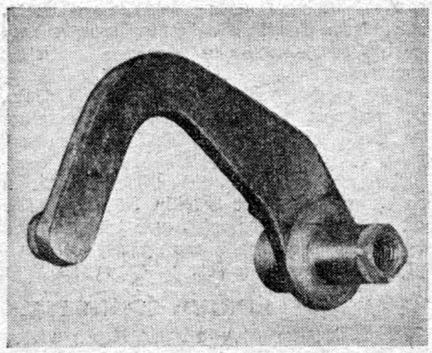
(Above) In "touring" form, the 499 c.c. "Comet," with its inclined, single cylinder o.h.v. all-alloy engine is an impressive looking machine.

(Left) An old favourite among admirers of big twins is the "Rapide," on which only detail modifications have been carried out. The 998 c.c. o.h.v. high camshaft engine produces some 45 b.h.p.



(*Right*) *The fastest road-going Vincent. This is the 998 c.c. "Black Shadow," with its handsome ebony finish to engine and gearbox, and having a power-output in the region of 55 b.h.p.*

(*Below*) *Among improvements for 1953 is this new, forged, one-piece selector arm which replaces the built-up component previously used in the gearbox.*



Of high-camshaft type, with inclined push-rods, the engine has bore and stroke dimensions of 84 mm. by 90 mm. Each cylinder is deeply spigoted into the barrel and four long through-bolts go from cylinder head to crankcase. The rocker-boxes are cast integrally with the cylinder heads and there are hexagon-headed inspection caps giving easy access for tappet adjustment. Each cylinder has its own carburetter. "Softer" cam contours have greatly reduced mechanical noise, without noticeably lowering the maximum speed of the "Rapide" and "Black Shadow" engines.

The "Rapide" has a compression ratio of 6.8 to 1 and with a power output of around 45 b.h.p. at 5,500 r.p.m., is capable of maintaining a speed of well over 100 m.p.h. on its standard top-gear ratio of 3.5 to 1. The intermediate ratios are 9.1, 5.6 and 4.2 to 1.

A spring-tensioned, duplex primary chain transmits engine power to the massive, in-unit gearbox, through the medium of a patent centrifugal clutch. Since its introduction on the first of the post-war "Rapides," this clutch has proved its ability to cope, without slip, with all the power that a Vincent can produce—unless inadvertent overfilling of the gearbox or chaincase has resulted in oil reaching the clutch linings. Now, even in that eventuality, there will be no slip, for the Duron P28B material now being used is impervious to oil, while diagonal grooves act as scrapers, keeping the surface of the clutch-drum clean. Similar linings are, incidentally, being used in the brakes, so that the ingress of water cannot impair their effectiveness.

The Vincent gear change is already commendably positive in operation, but detail improvements made for 1953 should overcome even the rare troubles which may have been experienced. The gear actuating arm, for instance, is now a robust one-piece forging instead of two parts pressed together; and the pawl carrier centralizer is provided with two raised lugs which limit the travel of the rear end of the pawl, so making it impossible for the latter to over-ride the ratchet. Inside the gearbox, the ratchet-shaft bevel assembly is now in one piece.

These improvements are, of course, common to the other twin-cylinder models. The most obvious difference between the "Rapide" and the "Black Shadow" is in the use of larger-bore carburetters on the latter model. The inlet valves are of 1⅛-in. diameter instead of 1 1/16-in., and the standard compression ratio, on which the power output is in the region of 55 b.h.p. at 5,700 r.p.m., is 7.3 to 1. Pistons giving a lower rating can, however, be supplied for countries where only poor-grade petrol is to be had; while for the American market—in which the faster "Black Shadow" almost exceeds the "Rapide" in popularity—models are supplied with 8-to-1 c.r. pistons to take full advantage of the higher octane fuels available there to lucky riders.

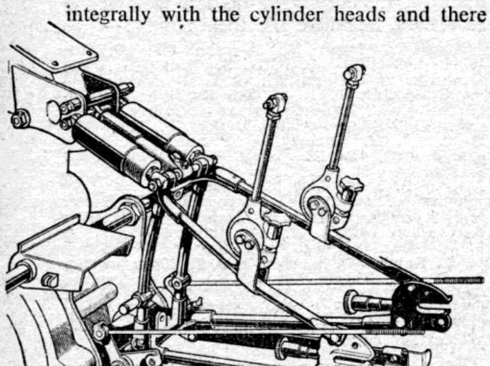
Both these models weigh 446 lb., but the racing version—the 150 m.p.h. "Black Lightning"—is scaled down to 380 lb. Gear ratios, wheel and tyre sizes, and compression ratios are optional and T.T.-type carburetters and a racing magneto are, of course, fitted. There is no lighting equipment, and a rev. counter is fitted in addition to a 180 m.p.h. Smiths speedometer.

Fourth member of the Vincent range is the ever-popular "Comet," a lusty 499 c.c. single-cylinder model with the same bore and stroke dimensions as the "twins," and with the same high-camshaft o.h.v. layout. The compression ratio is 6.8 to 1, and the engine achieves an output of from 27 to 30 b.h.p. at 5,800 r.p.m. A Burman CP-type gearbox is fitted, providing gear ratios of 12.4, 8.17, 5.94 and 4.64 to 1.

Weighing 390 lb., the "Comet" has the same 56-in. wheelbase, 6-in. ground clearance and 29-in. saddle height as the other road-going Vincents. It also has the same black enamel finish, with gold lining, and a highly polished surface on all light-alloy components, a refinement that appeals greatly to the rider who likes to preserve the showroom finish of his model.

All the Vincents can be supplied with gear ratios suitable for sidecar work, and the "Rapide," in particular, has proved itself to be an ideal machine for heavy two-seater haulage.

The address of the makers is The Vincent-H.R.D. Co., Ltd., Stevenage, Herts.



The popular and well tried Vincent swinging-fork rear suspension assembly which figures, unaltered, on all 1953 models.

1953 Vincent Prices	Price	Purchase Tax	Total
	£ s. d.	£ s. d.	£ s. d.
499 c.c. "Comet"	215 0 0	59 14 5	274 14 5
998 c.c. "Rapide"	272 0 0	75 11 1	347 11 1
998 c.c. "Black Shadow"	305 0 0	84 14 5	389 14 5
998 c.c. "Black Lightning"	395 0 0	109 14 5	504 14 5

Buy, Swap n' Sell

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

For Sale: 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, ET180l 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 Located in Chicago IL, USA.

For Sale: Taps n Dies

¼" to ½" HSS BSF tap and die kit made in EU, just the thing for your Vincent, also available in BSC (CYCLE THREAD) A$230. *Contact* *vindian1952@gmail.com*

For Sale: Vincent Comet Flywheel Assembly

Comprised of original ET3 flywheels, a new Maughan's caged needle roller crankpin assembly, an original and polished ET6/2 conrod in superb condition and unmarked mainshafts. This flywheel assembly has been dynamically balanced to 66% (to match an Omega piston) as per Phil Irving's recommendation using a Repco balancing machine designed by the same Phil Irving. Sale is the result of upgrading my Comet with Terry Prince performance items.

Seeking A$1,200 or GB£ 630 or US$ 840 or Euro 740 for the complete Flywheel Assembly packed in a custom wooden crate. Shipping additional. Enquiries to Goodwin@pobox.com

Service Providers

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

Spares:

V3 Products, Australia: (aka Neal Videan) has an extensive range of top quality Vincent Spares including multiplate clutches for twins, oil leak eliminator kits, socket head tappet adjusters, paper element oil filters and lots lots more. Ships worldwide. Email for a price list to nvidean@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 excelent Vincent Spares and tools. Ships Worldwide. See website for more information http://www.thevincentparts.com

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

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

Union Jack Motorcycles, Australia: Full range of Triumph, Lucas, Amal and Venhill control cables. Ships worldwide. More info at the website 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 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 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 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

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

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

Restoration Services:

Steve Barnett, Australia**.** Master coachbuilder and fuel tank creater who does incrediable workmanship; located in Harcourt, Victoria. Ph +61 3 5474 2864, email steviemoto@hotmail.com

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

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

Grant White – Motor Trimmer, Australia: Specialising in Vintage and Classic Cars and Motorcycles. Located in Viewbank, Victoria. ph 03 9458 3479 or email 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@aceclassiscs.com.au . Their Web page is www.aceclassics.com.au

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

General Services :

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

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

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

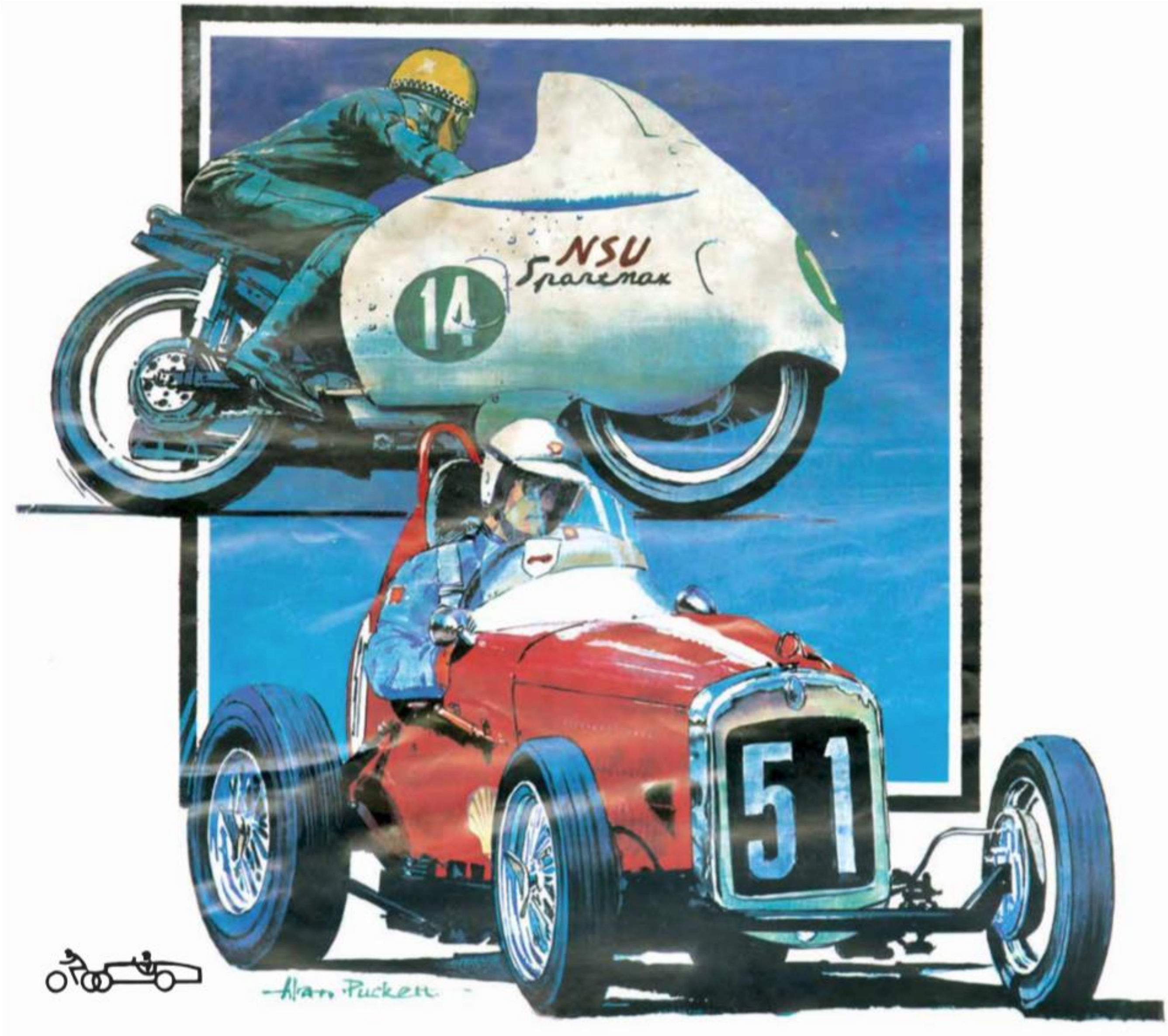
Piu Welding, Australia: Frank Piu is a master welding engineer who works with Aluminium as well as steel. No job to small. Has been recommended by multiple OVR readers. Phone 03 9878 2337

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

Wakefield
PARK RACEWAY
GOULBURN NSW

ALL-HISTORIC RACING

Pre 1963: Period 3 and older Solos and Sidecars
Pre 1961 and older: Racing and Sports Cars



Wakefield Park Raceway
31 August to 1 September 2019

All enquiries contact Wakefield Park Office 02 4822 2811 or racesecretary@wakefieldpark.com.au