

# LOOSE FILLINGS

## GOOD VIBRATIONS

Air-cooled cars from the 1950s continue to be restored and lost cars re-discovered. In this issue of *Loose Fillings* we record the re-emergence of the Bon Jackson car and the locating of another Victorian car, the little-known Bill Morley special, and restoration of other long-inactive cars is proceeding in NSW and South Australia. Thanks to regular appearances by cars which are already running, our small community is steadily growing and seems likely to grow even further.

## WINNING COOPER'S MISSING YEARS

The outstanding air-cooled car in current Australian historic racing is the JAP twin powered Mk9 Cooper prepared and raced by Derry Greeneklee.

Apart from its New Zealand history up to 1964, surprisingly little has been recorded of the car's career between 1964 and its arrival in South Australia in the early 1980s, nor is it widely known that before coming to Australia, the car had won three New Zealand hillclimb championships.

Graham Vercoe's 1991 book *Historic Racing Cars of New Zealand*, gives the early history of this Mk9, chassis number 26, and ends by saying, "Ken Smith sold

the car to Australia." That final statement is correct, but Vercoe has missed out about 22 years in between.

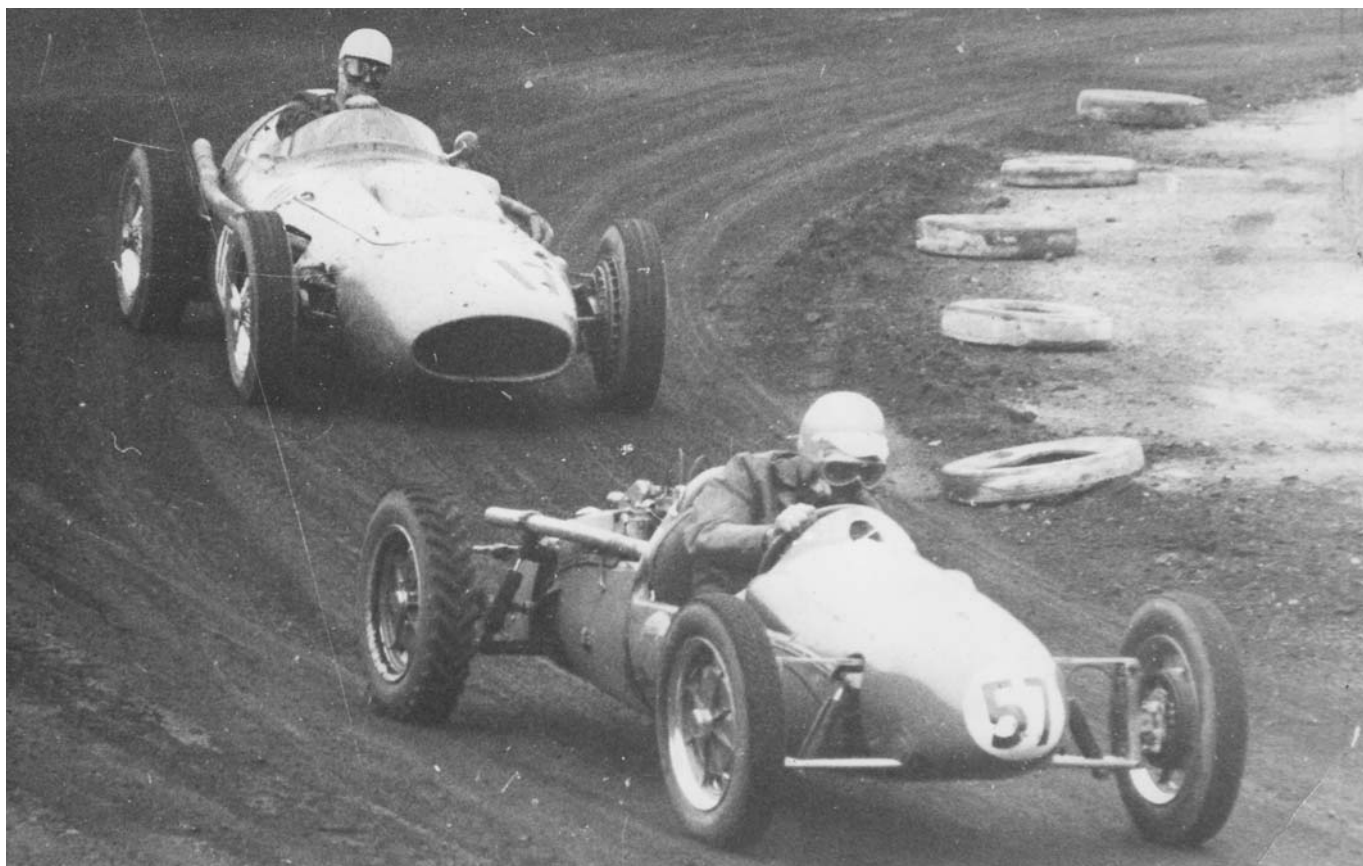
We know the red Manx-engined car was imported by Ron Frost Motors of Levin, NZ, for expat. Englishman Arnold Stafford, passing to Merv Neil, then to Ken Sager, who ran it with the Manx, then used 1100 JAP power to win the 1961 and 1962 New Zealand hillclimb championships.

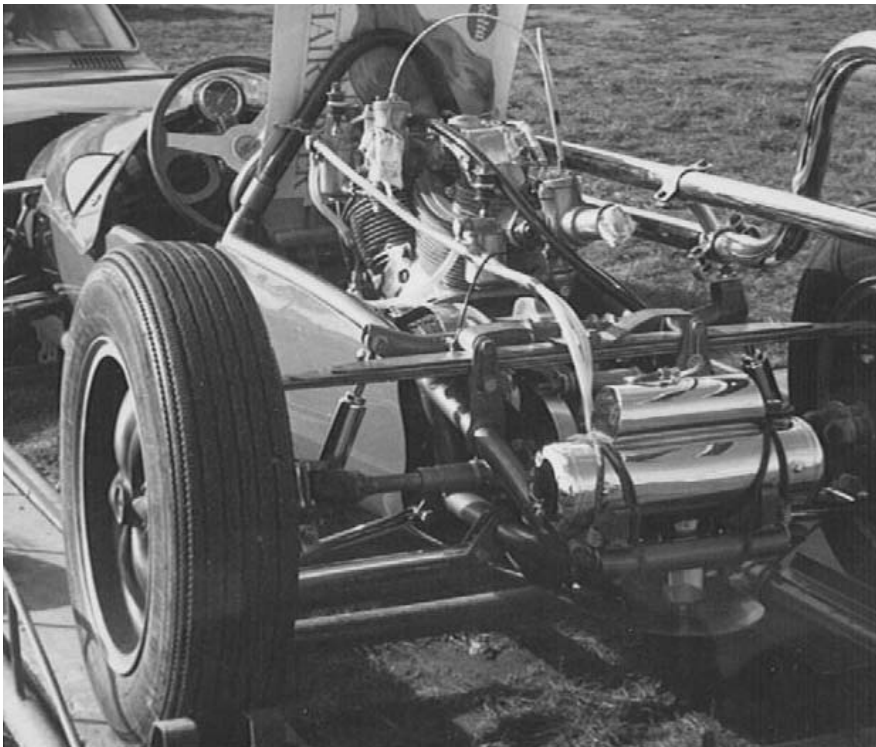
Next owner Graham Harvey repeated the title with a win in 1964. That was where Vercoe's trail went cold. For years I had wondered where a Cooper used by Bill Smith had come from and where it went,

and I discovered his Mk9 was originally the Stafford car. Bill, from Hastings, was competing in hillclimbs and race meetings in the late '60s and early '70s using Manx Norton then Vincent engines, the car always looking very immaculate.

His updates included fitting modified Lotus 18 wheels, a chrome-plated Seagull outboard motor fuel tank at the rear, and a lowered nose cone over the undertray. A

Two cylinders v eight; Ken Sager's JAP 1100 powered Mk9 Cooper leads Johnny Mansel's Corvette engined Tec-Mec at Western Springs speedway in the early 1960s.





The Greeneklee Mk9 in New Zealand in the early 1970s while owned by Bruce Lissette, showing its rear-mounted fuel tank, Lotus wobbly-web wheels and general immaculate turnout.

notable feature was the upswept exhaust pipe on the rear (#1) cylinder.

Upon purchasing a Brabham Bill sold the car to Bruce Lissette, also from Hastings, who used it infrequently before moving it on to Ken Flashman, who recalled that the engine was damaged in a test drive prior to the purchase (the price paid was \$2000!); subsequent running included competing in the 1972-73 Gold Star hillclimb championship.

Max Fisher helped with further enquiries, and noted that a Cliff Waite (no relation to well-known NZ motorsport identity Colin Waite) had owned the car after Graham Harvey, and there may even have been others before Bill Smith.

Graham McGregor of Auckland was next on the list of owners. He recalled selling it to Ken Smith on the proviso that it stayed in New Zealand. Yeah, right!

A trip across the Tasman to Brian Harker in Adelaide in company with the Syd Jensen-built Cooper Mk X clone (now with Vincent engine, in Jurien, WA) was the next stop.

It sat around in pieces before Derry Greeneklee became the next owner about 1986, and while briefly running it with a

## BITS AND PIECES

- Congratulations to the Halliday team, whose Cooper Mk5 Norton driven by Andrew Halliday won HSRCA's Dick Cobden Trophy 2007 pointscore for Group L (pre 1961) cars. It was a narrow victory, by just one point from Jim Elphick (Gazelle), himself just one point in front of Percy Hunter (MG TC special) and John Medley (Nota FJ). Moral of the story, as Andrew said, is that he won this pointscore because he finished races. So much for the assumption that air-cooled cars are unreliable. The same meeting saw presentation of the annual Ashley Cowan trophy, for best performance at the meeting by any air-cooled car. Ashley Cowan, who died in 1995, was a long-time enthusiast for air-cooled cars and bought the Halliday's ex Bill Shipway Mk5 Cooper into historic racing after buying it from Ron Ewing. For 2007 the trophy was won by South Australian Derry Greeneklee in his very fast Cooper JAP, which claimed one second place and two thirds from its three starts.
- Meantime, work continues on a number of restoration projects which will significantly add to air-cooled numbers. Coming along quickly in the Adelaide hills, not far from Derry Greeneklee in fact, is Kevin Shearer's comprehensive rebuild of a locally-built JAP-engined car with chassis broadly copied from a Mk8 Cooper. Given

Kevin's engineering and driving skills, this will be a quick car. Also making impressive progress in Port Macquarie is Terry Perkins' rebuild of the Scarab Triumph, originally built in Sydney in the late 1950s and recently bought from Graham Worsley in Orange. This car, and neighbour Graham Branch's Bedson Enfield, are both to be given on-board starter motors. Further away from completion is the ex-Jack Saywell Mk4 Cooper now owned by the Hallidays, which has just been given a Simkin-built roll bar. The big challenge with this car will be to complete an 8/80 JAP, which will allow the car to once more run as it was with Saywell in the early '50s.

- In Victoria, Darren Visser has found the unbodied Bill Morley special, which has transverse-leaf springing at both ends, rack and pinion steering and alloy Hartnett wheels. He is also on the track of the very successful Balle 1000, a 10-inch wheel car from the 1960s.

- Tireless John Coffin and wife Elaine drove to Winton last December and were shown the long-rumoured Bon Jackson Triumph special in the garage where it had stood for some 40 years. Bon Jackson himself had died about a year earlier, and his widow said she had thought of taking the car to the tip. John contacted Garth Rhodes, who drove to Winton with a friend who bought the car for its Triumph engine. Through John Coffin the rolling

chassis was subsequently bought by George Mack, who is keen to find out more about its history. He can be contacted on 03 9876 1557 or at gmac1@tadaust.org.au, and John Coffin's number is 03 9802 1066. The car is said to have raced at Tarrawingee and Barjarg, so it may also have history at other mid-'50s - early '60s circuits in north-eastern Victoria. It has a ladder chassis of about 2-inch round tube, bolt-on 19-inch wire wheels and springing by transverse leaf. It has a four-spoke steering wheel and framing to support a body, but most panels appear to be missing.

- Overseas, we can report that Ian Gordon's Mk5 Cooper Norton has been bought by US Cooper enthusiast Charles McCabe. An unconfirmed report claims the car's Norton engine may be replaced with a 750cc side-valve Harley Davidson, not as strange a swap as it may sound because US F3 for a while accepted 750cc s.v. air-cooled engines, and also 750cc overhead cam watercooled engines, presumably to attract cars using modified Crossley motors.

- Latest issue of *The Tangler*, the North American air-cooled newsletter, carries discussion of a possible 500cc "world series." More substantial is confirmation that 500s will this year again be part of the Goodwood Revival race meeting, September 19-21 acknowledging 60 years since the first 500cc race there.

500cc JAP single he set about returning it to its earlier form with a JAP twin.

Curiously enough, despite two owners subsequent to Bruce Lissette running the car, Lissette's name is still on the nose cone in photos sent by Derry. Derry also recalled the cut-out section in the screen where a high-mounted tacho sat.

Derry retains the car to this day and is a very formidable foe in the Lb racing (1940-1960) category. At the November 2007 HSRCA MG-themed meeting at Wakefield Park, Derry was a very worthy winner of the Ashley Cowan Trophy for air-cooled cars.

To summarise, Mk IX/26/55 ownership would appear now to be: Arnold Stafford, Merv Neil, Ken Sager, Graham Harvey, Cliff Waite, Bill Smith, Bruce Lissette, Ken Flashman, Graham McGregor, Ken Smith, Brian Harker, Derry Greeneklee.  
*Garry Simkin*

## ROB ROY NOVEMBER 2007

Five air-cooled cars ran at MG club's 16th Historic & Classic meeting at Rob Roy on November 25 in typical fine, hot (25 deg) Rob Roy weather. Most notable was John Hazelden's Sidney Rudge, driven by Bruce Ellis, the car's second owner (1959-61, see *Loose Fillings* #26).

There were lots of dramas getting the car to Rob Roy, but thanks to many helpers, including Lindsay Urquhart, the end result was worth the effort.

Fastest of the 5 cars was Penrite's Mk5 Cooper 1100 driven by Ken Bedgood, which won its class with a best time of 25.20, sounding perfect again after bending pushrods and valves at its last outing. Neil Videan with his supercharged Cooper Irving had a best time of 31.91, with 25s possible as he gains confidence. David Palstra in the Newbound had a best time of 32.40.

Bruce Ellis went well in the Sidney (best 36.73) considering he had not driven the car since 1960. John Coffin and the Robbins 500 had a mediocre sort of day and finished with 31.04, for a class second. Outright fastest time of day, from an entry of 93 cars, was claimed by Nick McDonald and his historic Formula Ford, with 22.66 seconds.

At the presentation of trophies I thanked the volunteers for their marshalling, and in particular thanked David White for his support of air-cooled cars and his efforts in making Historic Rob Roy such a successful event.

I only wish we could get some interstate support to help establish Rob Roy as the home for air-cooled hillclimb cars.  
*John Coffin*

## BOB JOLLY

Bob died late last year from a brain tumour, at the age of 58. From feeling vaguely unwell at Winton in 2006 he was gradually overcome by the cruel illness in little more than 12 months, despite several delicate operations and a determination to overcome. Although Bob seriously raced Triumph sports cars, and had an occasional outing in a Cooper Vincent, he will be better known for his bike exploits and manufacture of JAP twin engines. Returning to Australia after a European holiday in the '70s, he became a regular historic racer, dominating at Mallala, Mt Gambier and Winton on his Manx Norton and JAP bikes. Historic car racers will remember him best for his engineering skills and his ability to reproduce unobtainable spares parts far superior to the originals. He manufactured a perfect copy of

the Norton double-sided twin leading brake, and sold hundreds of them around the world. He had just built his business into a thriving activity, extending into heavy general engineering. What can we say of Bob Jolly the man? As a long-time friend and business associate I wonder how best to answer that question. Thoughts come to mind. I remember his confidence and energy. There was no problem too big to tackle. Usually cheerful, he was sometimes jokingly referred to as "Jolly Bob". He had an intuitive ability to solve mechanical problems - "this will work and that won't!" He was concise in his speech, even laconic, but you always knew perfectly what he meant. In short, Bob was a character, and part of that character - perhaps not seen by everybody - was a hidden softness and a genuine concern for those around him. He was a good man, and my friend. *Derry Greeneklee*

## CALENDAR

Meetings in coming months include Eddington sprints, an event which could have been purpose-built for our sort of car. GEAR, which has given us our own grids each year (the special GEAR date this year will be October 8) celebrates its 50th meeting in April, which should be a lot of fun. Like GEAR, the May 5 Calder meeting will be

run with AASA sanction and insurance, and could give some of our cars and drivers a chance to race without the costs and paperwork of a CAMS event. .

- March 29 - Eddington sprints.
- April 5 - Calder races, air-cooleds will be combined with Vees and Austin 7s.
- April 16 - GEAR 50th meeting, Wakefield Park.
- April 22 - Historic Mt Cotton.
- May 4 - VHRR Historic Rob Roy.



Welcome back: Bruce Ellis (left) and Neil Videan at last November's Rob Roy.  
*Photo John Coffin*

## THE LOG

No point in having an air-cooled gadget if you don't (at least occasionally) roll it out into the daylight and persuade it to go bang in public. This page of *The Log* covers events since the October 2007 GEAR meeting at Wakefield Park.

- October 13-14, Collingrove Masters Games hillclimb: Don Penn, Rilstone Vincent
- October 21, Mt Tarrengower hillclimb: John Coffin, Robbins 500
- November 25, Rob Roy hillclimb: Neil

## CLASSIFIEDS

**For sale:** Gilbert JAP 500, built 1968 by Roy Gilbert with 1938 4-stud JAP 500, upright Norton box, 10-inch steel Mini wheels. Spares include registered trailer, small Shorrock blower, some engine, gearbox and carburettor spares. \$10,000 or offer, John Cooper, 02 4982 6370, 0407 202 436

**Historic collection for sale**

1951 Cooper Alta sports, chassis 51848, 930cc 4-cylinder Alta engine, aluminium body. Not road registered. HRSCC log book, VCC identity card

1953 RGR Triumph F3 single-seater, chassis 53302, alloy body, some engine spares included, HRSCC log book, VCC identity card, registered with UK 500 Owners Association

1949 Cooper Mk 4 F3 single-seater, ex Peter Collins UK, Alan Freeman NZ. Massive history. This car comes as a rolling chassis, new alloy body, complete with Norton gearbox and clutch. It can be had as a complete package with the engines and spares listed below. Registered with UK 500 Association. 2 x 4-stud JAP engines, disassembled. Some road-race components and a heap of both new and used spare parts. To be sold as a package, as I will not split engine parts. Would prefer to sell with the Mk 4 Cooper. All the above are in storage in NZ. Sensible offers only, no dreamers. Max Fisher, phone/fax New Zealand 09 534 2245, 93a Mellons Bay Rd, Howick, Auckland NZ

**For sale:** Cooper-type aluminium body panels, suit Mk9 or later, ex UK, history unknown. Nose, centre and rear undertrays, engine cover/tail. All need work but basically straight. Graham Howard, grimes@ix.net.au or 02 4787 8722.

**Wanted:** pre-WW2 Morris 8 Series 1 stub axles, steering arms, tie-rod ends and front brake backplates. Series 1 has bolt-on steering arms, not taper-fit type. Graham Howard, grimes@ix.net.au or 02 4787 8772.

Videan, Cooper Vincent Mk5; Ken Bedggood, Cooper JAP Mk5; David Palstra, Newbound 500; John Coffin, Robbins BSA; Bruce Ellis, Sidney Rudge

- November 24-25, Wakefield Park historic races: Derry Greeneklee, Cooper JAP Mk9; Andrew Halliday, Cooper Norton Mk5; Garry Simkin, Cooper Vincent Mk4.
- February 10, Wakefield Park: Garry Simkin, Cooper Vincent Mk4.
- March 1, Morwell hillclimb: Graeme Noonan Cooper Norton Mk7, John Coffin, Robbins BSA.
- March 8-9, Phillip Island, Duncan Rabagliati, Noonan Cooper Norton Mk7.

- March 11, Rob Roy hillclimb, Ken Bedggood, Cooper JAP Mk5; David Palstra, Newbound 500; John Coffin, Robbins BSA; David Halliday, Brabham speedcar.

Below: At Wakefield Park in November Andrew Halliday, wearing Vintage Speedcar Association T-shirt, receives his trophy from HSRCA's Bob Morey while behind him donor Dick Cobden, who himself raced Mk5 Coopers in the 1950s, looks on. *Photo Steve Oom.*

Bottom: Garry Simkin congratulates Derry Greeneklee on winning the Ashley Cowan Trophy at the same meeting.



# Improving crankcase breathing in air-cooled motorcycle engines

By Rex Bunn, Carlel Classic Restorations, Sydney

In four-stroke singles, vertical twins and vee-twins, the descending piston(s) displace air down into the crankcase, and more gases and vapours escape past the piston rings on power strokes as 'blow-by'. Then, when the piston(s) go up again, the process reverses.

These 'pressure spikes' worry away at gaskets and seals and force through joints, unions and porous castings, and for this reason the crankcase is vented to let the pressure escape via breather tubes. The problem has always been that no classic breather really did the job.

British makers vented their engines with open tubes, clack and flapper valves or timed breathers. For example, in the JAP speedway engine there are four one-way flap valves which discharge waste air and oil onto the ground. JAP alternatively used a rotary valve as on the dry-sump version of the speedway engine used by Coopers.

A timed breather is good at cutting return flow, but not so good at passing useful volumes of air. A typical British timed breather has holes that marry for ~8% of shaft rotation, and are fully open for only half that. In competition engines with altered cams and timing, original settings may no longer apply.

Classic designers designed crankcases to operate with a vacuum to control oil leaks. While oil leaks are a sign of breathing problems, blow-by and power losses inside the engine are more serious issues. Blow-by is ~70% unburnt fuel, plus water, sulphur compounds, nitrogen oxides and soot. Oxides of nitrogen form under conditions of high temperatures and pressures in high-

compression, air-cooled engines. Cylinder head and barrel metal temperatures reach 160-230°C, twice that of water-cooled car engines. The hydrocarbons, nitrogen and sulphur compounds form a corrosive mixture, rather like an acid rain. This emulsifies with engine oil, giving that tell-tale white fluid in breather pipes. Letting this stuff stay in the crankcase is like spraying acid around and watching your engine rust.

Blow-by causes more problems including oil dilution and contamination, sludge formation, loss of oil film, corrosion, crankcase fire risk and perished rubber. As Phil Irving noted, 5% unburnt fuel in the sump reduces oil viscosity by 25%. So the SAE50 classic monograde oil we so prize may be degraded to SAE35 down the track.

Air-cooled engines tend to develop sump-water, and moisture is, after all, the major cause of engine wear. Irving set 0.1% as a maximum moisture level in sump oil. In a typical classic, that's 2mL. I find 20-50mL in sumps if breathing is neglected. No wonder such engines need rebuilding so often!

As well as oil leaks and blow-by wear, poor breathing causes power losses. This is due to drag and lost work from pistons pumping air around the crankcase. We've measured this on dyno tests as a 5-9% loss in bhp and torque.

Many types of valves have been tried by owners of classic engines and I have tested and discarded many of these e.g. car PCV valves, power brake valves, duckbill, plumbing and industrial non-return valves, classic OEM breather valves and most ball

and spring valves.

That left a group of non-return valves which can be divided into two classes:

(a) Flap valves - these operate on a hinged-flap principle and include 'reed valves' in outboard motors and two-stroke bikes. Sometimes the hinge is replaced by a spring, as in Matchless and AJS breathers. The Harley umbrella valve is a type of flap valve, as are the thin valves in respirators.

(b) Ball or disc valves - where a light ball or floating disc seals against a seat, e.g. Moto-Guzzi.

Our new MkIII breather valves belong to group (b) and use patented technology, to form a double-acting air-pump in the crankcase of nearly any classic engine. The inlet and exhaust valves mirror those in the cylinder head.

These valves communicate and take over management of crankcase airflows from idle to over 6000rpm. The system meters air into the crankcase, before breathing it out ... in a way similar to our own human breathing.

Air pressure fluctuations in the crankcase and connected compartments are ironed out, along with the oil leaks they cause. Blow-by is separated and pumped out of the engine, before it can cause accelerated wear. Power losses under the pistons are minimised, giving dyno-measured power and torque increases.

Anyone wanting more information is welcome to email me on [rexbunn@bigpond.com](mailto:rexbunn@bigpond.com) or browse <http://bunnbreather.bigblog.com.au>

Being a British engine, the Vincent in my Cooper had a natural propensity for oil leaks. Not quite the Exxon Valdez on wheels, but there was room for improvement. Initially I ran a couple of 5/8" hoses from the crankcase and a rocker cap outlet to a catch tank, then later tried a Ducati flapper valve paired up to the two lines. Leaks still persisted so I tried the Bunn system and thus far have a much improved control over the leaks.

Installation was straight forward enough, a small air filter and one way valve on a 3/8" hose going into the crankcase down low providing a measured amount of air going into the engine. This happens on a piston's up-stroke, and on a down-stroke air, fumes, by-pass etc is exhaled via two outlet valves in

## BUNN BREATHERS GARRY SIMKIN REPORTS

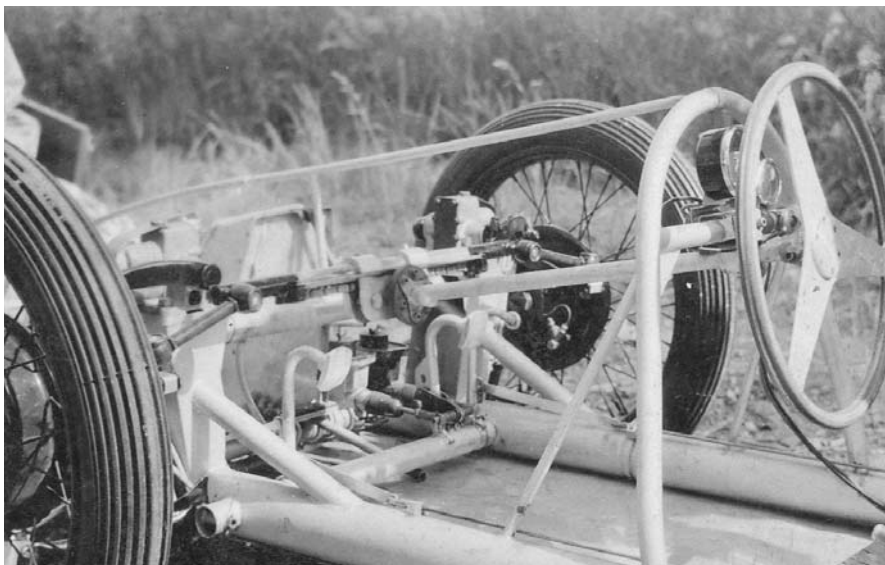
5/16" lines from rocker caps to a catch tank. I don't use any of the standard Vincent breathing systems, so apart from the Bunn valves the engine is more or less sealed airtight. It works rather like one's lungs, but using smaller amounts of air.

Obviously the Bunn system cannot be a cure-all if castings are porous, gaskets and seals are old, oil scavenging is poor and the engine is not in good shape to start with. It's interesting to observe condensation being pumped out of the engine after it has sat around unused for a length of time. At slow cranking speed the valves can be heard

opening and shutting, and air being drawn through the filter.

David White in Auckland NZ has documented slight horse-power and torque improvement on dyno runs on his Vincent-engined side-car, mainly through the mid-range. Above 5000rpm there was no significant difference, as opposed to a Harley Davidson EVO engine which delivered an increase at over 5000rpm. JAP engines that use an oil pump for top end rocker gear lubrication should have no problem, unlike those engines that relied on an oil mist to lubricate this area.

Prices for the Mark 3 kit are around \$A77, kits for Harleys and Enfields are slightly more due to extra components.



Above: this photograph, taken in the mid-1950s, shows the neat front suspension and steering of the just-completed Sidney Rudge, nowadays owned by John Hazelden. Len Sidney, who had raced a bronze-head Rudge motorcycle before WW2, was one of many talented people who worked at Chamberlain's in Port Melbourne, and the car's workmanship reflects both Len Sidney's fabrication skills, and the fact that he was allowed to build the car after hours as a foreign order, using the factory's machine tools. John Cummins, who also worked "out the back" at Chamberlain's, recalled Len Sidney as "quite a character," and unperturbed by reactions ("You can't do that!") to his use of bungy rubber for the car's suspension, and motorcycle chain and sprocket for a light and simple rack and pinion steering system. This photograph is one of a large collection assembled by John Hazelden with assistance from an earlier owner, Bob Minogue, who had been an apprentice at Chamberlain subsidiary Rolloy. Bob recalled the car was sketched out on the floor at Rolloy, and had room to house a Vincent engine, which Len could not afford. Len was very proud of his hand-made steering wheel, and the steering coupling made from genuine elephant hide. Bob Minogue said Len built a jig to accurately drill the main chassis tubes so the cross-members would fit exactly and need only minimal welding.

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Below: The young man in the smart trousers will need no introduction but not everyone may recognize Peter Collins who was killed at the Nurburgring in August 1958. Seen here at Shelsley Walsh in September 1949, Collins is in his second Cooper, a Mk3 which initially had a JAP twin but was soon Norton powered with great success. Collins acquired a "lightweight" Mk4 in 1950 but retained the Mk3 for 1951 with the aim of using a JAP twin stretched to 1260cc for larger capacity races. The Mk4 came to New Zealand a few years later and is now owned by Max Fisher who is advertising it for sale in *Loose Fillings Classifieds*. Peter Collins was a Shelsley local boy and his life and cars will be celebrated at the August 16-17 meeting there which will host a round of the British Hillclimb Championships. *Terry Wright*  
*Photo John Pratt Collection in 'Speed Climb 60'*



Right: the Scarab, a 650cc Triumph-powered car built in Sydney in the late 1950s, is being given a strip-and-rebuild in Port Macquarie by Terry and Raewyn Perkins, who bought the car from longtime owner Graeme Worsley. This photograph shows the car's Ralt steering rack and Ralt composite front wheels with bolt-on rims made from paired light-gauge steel spinnings brazed together. The chassis used straight tubes almost everywhere, and is different in many areas from the "kit" Ralt chassis which were available at that time.  
*Photo Terry Perkins*

