

LOOSE FILLINGS

Robertson-Indian in GEAR

BATHURST enthusiast Barry Parsons is pictured driving the Robertson Indian at the February GEAR day at Wakefield Park. Painted blue and yellow, and now with a marvelous patina of age and incident, the car was built in Victoria in the mid-1950s by Ford Geelong draftsman Max Robertson.

It has a four-tube chassis, the top rails being of oval-section tube, and suspension front and rear is by transverse leaf springs and wishbones, with 16-inch Austin 7 wheels and Bowden cable-operated brakes. The rack and pinion steering appears to be one-off, and the alloy nose panel may be ex-WW2 aircraft.

Gearbox is the almost universal Norton, but the engine is highly unconventional. The car first ran in late 1954 with a side-valve 74 cubic-inch Indian Scout twin, which had roller-bearing bottom end and wondrously long-stroke dimensions of 82.5 x 112.7mm.

Below: the Robertson-Indian in action at GEAR

Robertson then converted it to use pushrod MSS Velocette heads and barrels, which have a slightly smaller (81mm) bore. However, the 42-degree vee angle of the Indian would have made conventional o.h.v. port layout extremely difficult, so after considerable modification to heads and rocker gear the heads were rotated relative to the bores so that the porting is closer to transverse.

As well, to gain more working space for carburetors and exhaust pipes, the two heads are aligned in opposite directions. Thus the inlet port and carburettor for the front cylinder, and the exhaust port and exhaust pipe from the rear cylinder, each face the near side, while for the off side the layout is the reverse.

Max Robertson ran the car at Victorian hillclimbs, sprints and race meetings. In mid-1959 he ran a best of 17.20 seconds at a Fishermans Bend sprint meeting, his class being won by John Marston's ex-Davison Mk5 Cooper Vincent (the car now

GOOD VIBRATIONS

This issue of *Loose Fillings* shows that the air-cooled revival, while still no landslide, is continuing to gather strength. The best indicator, as recorded in *The Log*, is the encouraging number of cars which have recently run at a wide range of events. Almost as encouraging, three air-cooled cars have recently been sold, and at least two of them are likely to become reasonably regular participants, helping to build that critical mass which encourages other air-cooled cars to re-emerge. As it is, air-cooled cars are already starting to be more widely recognised - the recent Eddington Sprints commissioned a special trophy for the best air-cooled performance, and selected air-cooled cars will be part of Winton's "Australian specials" celebration at the end of May. Plan now for the air-cooled day at GEAR NSW on October 12, for Historic Rob Roy in late November, and for Eddington 2006.

owned by Neil Videan) with 12.88. Max Robertson died in the 1980s, by which time he had long sold the Indian, which moved to NSW. During the 1970s it was bought by the late Kevin Catt in Bathurst.

EDDINGTON SPRINTS

TWO air-cooled cars, those of the Victorian stalwarts John Coffin and Graeme Noonan, ran at the annual sprint meeting on a by-passed section of highway on the outskirts of Eddington, near Bendigo in central Victoria on March 19.

John Coffin's BSA-powered Robbins 500 maintained its great record and ran 18-second quarters to its owner's considerable satisfaction. Graeme Noonan's Manx-engined Mk 7 Cooper continued to be difficult to get off the line, but is still one of the best-sounding Historic cars. Eddington resident Keith Roberts had hoped to have the BJP 500 running for this event but was disappointed, and there was no NSW participation - next year, perhaps. Just as important as the sprints were the legendary post-event festivities, which included a tour of the Roberts workshop where a number of Historic cars are under restoration.

The organizers commissioned four special trophies from a local artist potter, including one trophy for best performance by an air-cooled car. Eddington deserves a better roll-up from our cars next year.



COMING EVENTS

- April 30: Historic races, Warwick (Q)
- May 1: VHRR Rob Roy (Vic)
- May 28-29: Historic races, Winton (Vic)
- August 10: GEAR Wakefield Park (NSW)
- October 12: GEAR Wakefield Park (NSW), including special events for air-cooled cars
- December 7: GEAR Wakefield Park (NSW)

Note: GEAR events require neither a CAMS licence nor CAMS Certificate of Description. However they do require GEAR membership, the circuit's own licence, and a reasonable level of driver safety equipment. For GEAR NSW entries contact Lisa Tobin-Smith, 02 4960 9617, or lisamgb@hotmail.com. For Gear Queensland entries contact Bruce Bloodworth, 0427 432 631 or bsnota@big-pond.com.

SIDNEY-RUDGE MOVES ON

The Sidney-Rudge, a Kieft-influenced 500 built in the mid-1950s by Melbourne tool-maker Len Sidney, has been bought from long-time owner Cameron MacMillan by Victorian enthusiast John Hazelden.

Len Sidney, a stalwart of the no-frills Australian Motor Sports Club, worked alongside John Cummins and Phil Irving at Chamberlain's in the '50s, and his daughter's boyfriend was one of the car's early drivers. By 1962, now running a 500cc JAP, it had been bought by Bob Minogue, who later fitted a Vincent twin and then a 500cc Manx Norton, as well as making some changes to wheels, brakes and suspension.

After a tentative return to Historic racing in Vincent-powered form it was bought by Cameron MacMillan in 1988 and has since been campaigned vigorously at Oran Park, Amaroo, Eastern Creek and Winton.

John Hazelden already owns a number of interesting Australian specials, including the 1100cc supercharged Chamberlain. He has written a very detailed book about the car, the Chamberlain brothers, and their many other engineering activities.

Also in the Hazelden stable is the AGD, built around 1970 by Alan Docking using a supercharged 500cc Triumph Daytona engine, spaceframe chassis (bought part-completed from an advertisement in *The Age*) and Mini racing rubber. Docking raced and hillclimbed the car in 1971-72 then in 1973 went to the UK, where he later formed his own F3 team and helped Mark Webber progress towards F1.

BITS AND PIECES

- The Ashley Cowan trophy, at present the only racing trophy offered for Historic air-cooled cars, was again run at the end-of-year Wakefield Park last November, and was narrowly won (0.7 secs!) by Sydney driver Andrew Halliday from Derek Greneklee, who again brought his very fast Cooper Mk 9 JAP 1100 across from South Australia. Andrew drove the family Mk 5 Cooper, which was first raced in Australia by Bill Shipway in 1952 and was brought back to Historic racing in the 1980s by the late Ashley Cowan. At Wakefield Park the Greneklee Cooper was generously loaned to young Keith Simpson, who (of course) drove it well.

- Organisers of Winton's 29th annual all-Historic meeting on May 28-29 have invited more than 30 Australian specials to attend. Amongst cars invited are John

Coffin's BSA-powered Robbins 500 and Chester McCaige's backbone chassis WGM, which is powered by a Shelsley Matchless 500 mounted ahead of, and driving, the front wheels.

- Chester McCaige has not only published, but has also completely sold out, two print runs of a book of his father's photographs of Australian motor racing and hillclimbing between 1946 and 1951. The collection includes photographs of early Victorian 500s such as the Low-Lane, Cudmore, Hunt and Day specials.

- Latest edition of the deluxe annual Automobile Year has a long article about 500cc racing cars.

- While Bathurst legend Barry Parsons was finalising the deal for his latest discovery (a water-cooled racing car this time), he was shown some old photographs, taken somewhere in Sydney in the early '80s, of what undoubtedly was an air-cooled racing car. Comparison of those photographs with photos in *Loose Fillings* #6 established that the car in question was the Marshall 500, the Triumph-powered car built in Sydney around 1950 by Bob Joass for Ash Marshall. With later owners it competed in Victoria until at least the early 1960s, but its subsequent return to Sydney was not previously known to historians of air-cooled cars. The photographs show the car to have still been structurally complete, but without engine, gearbox or bodywork. The chances of its still surviving must be considered slim – but not impossible.

- The Donland special, owned since 2001 by Andrew Farmer in Melbourne, was sold at the recent Shannons AGP auction to an undisclosed buyer, believed to be from NSW. This car was built in Victoria in the early 1960s by Don Blair and Ken Clelland, using a 650 Triumph twin in a multi-tube chassis which incorporated some parts from the Cooper Mk4 first owned by Paul Roberts and next raced by Jack Brabham. The car was raced in Historics by Peter Tucker in the late '70s and early '80s.

- Terry Wright plans to take the newly restored Walton-Cooper to England later this year. He will run the car with its supercharged 1100 JAP at the Centenary Shelsley Walsh meeting on August 19-21, and then either at Gurston Down (August 27-28) or Prescott (September 3-4). All three events are rounds of the British hill-climb championship. A 500cc JAP will then be fitted, and the car will run at Shelsley on 10-11 September, then at the Goodwood Revival race meeting on September 16-18, where it will be driven by David Stevenson.

Classifieds

For sale: Cooper Mk V Norton, ex Bob Gerard (UK). Don Hall, 08 9386 2346.

For sale: 1961 Lynx Vincent, ex John Marston, oldest surviving Lynx. Very original, partially restored (see *Loose Fillings* # 4) includes new Terry Prince Vincent crankcases, other Vincent parts. Approval in principle with blown 1200. Asking \$20,000. David Lawry, 08 8373 1633, jlawry@picknowl.com.au.

For sale: Scarab Triumph, NSW race history from at least early 1960s. Rebuilt Bonneville engine, new 4-speed box, single Amal. No trailer. \$20,000, all offers considered. Graeme Worsley, 02 6362 8734.

For sale: Cooper Mk 4 JAP 500, superbly presented, not run since total rebuild. Ex-Saywell 8/80 car, first Cooper to race at Bathurst. \$35,000, Matt Segafredo, 0418 280 000.

For sale: 1949 Cooper JAP 500, immaculate, reliable. Oldest Cooper in Australia, long racing history in UK, Europe, Malaysia and Australia. Rob Gunnell, 02 9427 0816

More on Norton boxes

by Terry Wright

Most air-cooled owners with Norton boxes have heaps of spare gears. How do you make sense of these if you want a competition box?

The 'sleeve' or 'constant-mesh' pair influences the whole set. For competition the 23/19 pair is essential; using the much more common road 24/18 set is an considerable handicap if you want to get a decent set of ratios.

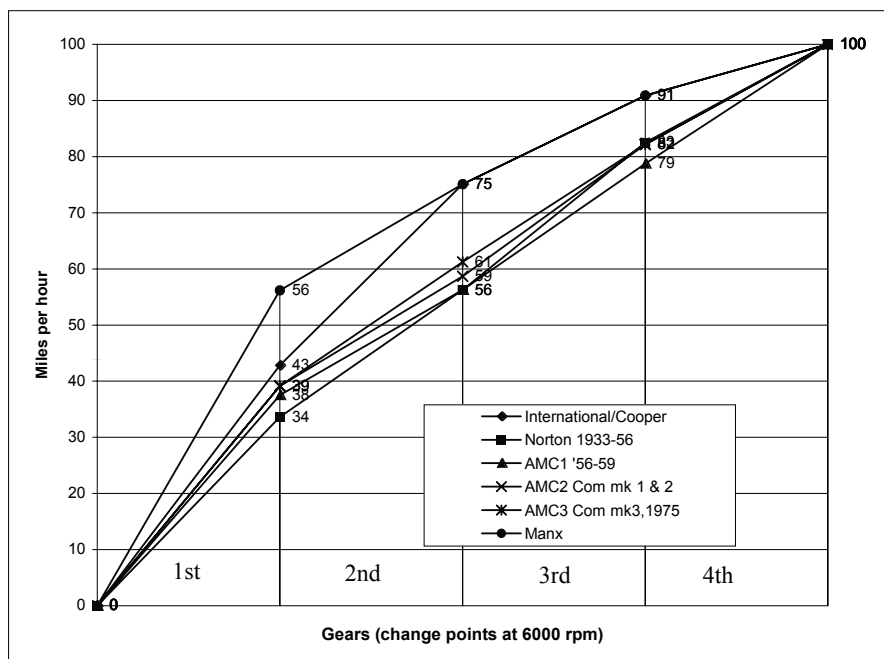
There is a wide choice of first gear ratios available of the shelf, so to speak, so optimising top and bottom gear is relatively easy. It's the gears in the middle that are harder to get right.*

To get some feel for these I developed a spreadsheet (right) showing gear teeth, gear ratios and road speeds for all production gears standardised to a top speed of 100 mph at 6000 r.p.m. To do this I used the sprocket and wheel sizes in the Walton-JAP but for the purposes of this article the car set-up doesn't matter - it's the comparison that we want to look at. - and this is displayed in the chart (top).

You can see the flatish line of the road gears and the very 'tall' bottom gear of the Manx motorcycle which was designed for a push start and a slipping clutch. From experience of racing sidecars I already knew the second and third road gears aren't much use for serious competition even with the 23/19 gears.

Factory Cooper ratios (the same as the International motorcycle) looked much more like the business but that jump up to third from second looked a bit too much for my liking on short tracks and hill-climbs. It may o.k. for the open spaces of Goodwood or Phillip Island but maybe not the thing for Wakefield Park or Winton?

The second chart (bottom) shows what the Walton-JAP and Garry Simkin's JBS-Norton currently have. Despite a fair bit of experience and fiddling with ratios over the years, neither of us have been happy with what we have. Garry says that his second in the JBS is too low for circuit work with a Manx engine. The Walton gears, both second and third, seem to be too low * A small complication is that everything pre-AMC had four dogs between 2nd and 3rd gears on the main shaft; later boxes had three dogs so in this respect earlier and later gears are not interchangeable except as sets of four.



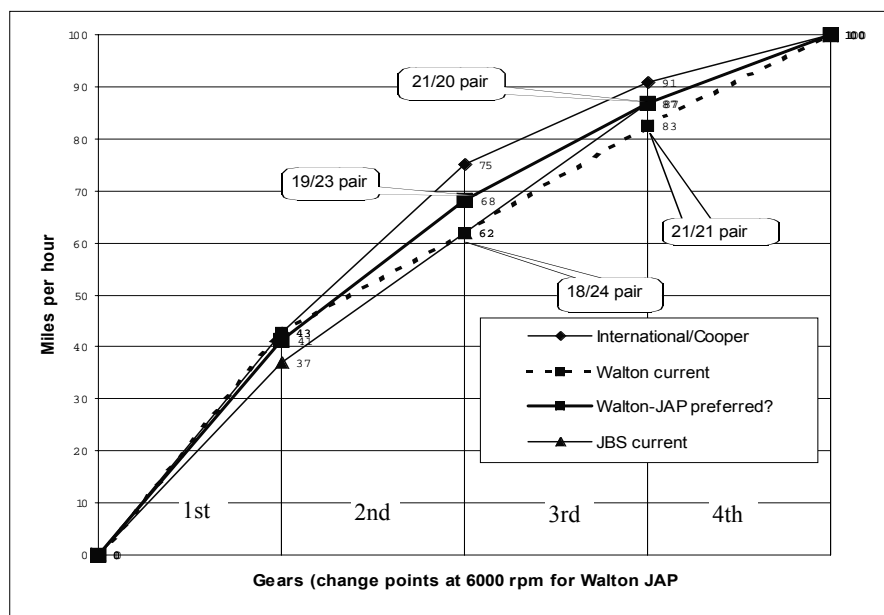
on power hills with the 1100 twin, but on the twistier hills it doesn't seem to matter.

Not being convinced the Cooper factory set (originally designed for a high performance road motorcycle) is necessarily the way to go, the question for both of us has been - what might be more suitable?

By tinkering with the spreadsheet and then plotting graphs for inspection, a combination of the readily available 21/20 (AMC) third gears and custom-made 19/23 second gears looked worth experimenting with. You can see the 'profile' of this set with the current gears, and the factory Cooper ratios as a benchmark, in the chart below.

Some 19/23 gears have been made for us by Bob Jolly and are about to be tried out. We'll let you know how they go and if you have any other ideas or information on the topic please let us know at *Loose Fillings*.

Gears	1st	2nd	3rd	4th
Norton 1933-56	13	18	22	24
4 dog	29	24	20	18
Ratio	2.97	1.78	1.21	1
Speed (mph)	34	56	83	100
AMC1 '56-59	14	18	21	24
3 dog	28	24	20	18
Ratio	2.67	1.78	1.27	1
Speed (mph)	38	56	79	100
AMC2 Commando mk 1 & 2	14	18	21	23
3 dog	28	24	20	18
Ratio	2.56	1.70	1.22	1
Speed (mph)	39	59	82	100
AMC3 Commando mk 3, 1975	14	18	21	23
3 dog	28	23	20	18
Ratio	2.56	1.63	1.22	1
Speed (mph)	39	61	82	100
Manx	17	20	22	23
3 or 4 dog?	25	22	20	19
Ratio	1.78	1.33	1.10	1
Speed (mph)	56	75	91	100
Trials/Big4WD	12	16	21	25
4 dog	30	26	21	17
Ratio	3.68	2.39	1.47	1
Speed (mph)	27	42	68	100
International/Cooper	14	20	22	23
4 dog	27	22	20	19
Ratio	2.33	1.33	1.10	1
Speed (mph)	43	75	91	100

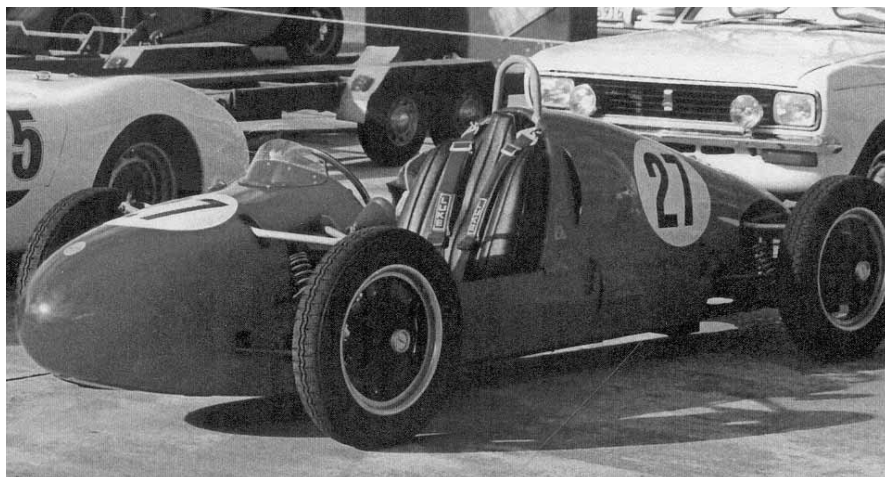


Air-cooled cars in New Zealand

BY MAX FISHER

ARNOTT JAP 500

CURRENT OWNER ROB WILLIAMS, OREWA, NORTH AUCKLAND



IN England in 1950-51 Daphne Arnott, who ran the family garage/engineering business which included the manufacture of Arnott superchargers, decided to build a run of 500cc racing cars, with company general manager George Thornton handling the design.

The first Arnott was a short-chassis 6'6" wheelbase device with torsion bar suspension front and rear. These cars did not achieve much in the way of race results apart from occasional minor placings in club racing. This changed when Ivor (The Driver) Bueb and his mechanic Pip Preece lengthened an Arnott chassis by eight inches, relocated the pannier fuel tanks into the area between the driver and the engine, and replaced the torsion bars by coil springs. This car became a winner, using both JAP and Norton engines.

In 1964 the ex-Bueb car was imported to New Zealand by Mike Artus of Tauranga, but he did not do much with it. It went via dealer Ken Smith to panel beater Kevin Moore, who undertook a major rebuild, including new panels and a rebuilt 4B JAP engine and Norton gearbox. Kevin ran the car in Historic club racing for about two years until he had a major engine blow-up when the aluminium rod broke. (Aluminium rods must not be used in cars, due to the stress two driven wheels impose, compared to the wheelspin available with the single wheel on a speedway bike.)

The Arnott was bought by a fellow panel beater, Rob Williams, whose collection includes an Elva 100 Formula Junior, an Allard, a Healey and a very quick Ford V8 coupe. The Arnott is driven by both Rob Williams and Allan Woolf, and is a quick



and interesting car. It currently has a Bob Wigg-built 4B JAP, and the whole car is in immaculate condition.

There is one other long-chassis Arnott still in existence in England, also modified to the same specification as the Williams car. The Williams car does not carry a chassis number, but is possibly #3, the third car built in 1951.



BMW MYSTERY SOLVED

THE pretty BMW 750-powered streamliner shown in Loose Fillings #10 (summer 2001/2) has been identified as an Avia, built in Czechoslovakia in 1956. Details of the car's background were published in the BMW Car Club magazine, and passed on some time ago to Loose Fillings by Ian Garmey, whose son Tony now looks after the car for its Seattle owner.

The BMW CC article records that Czech racing in the 1950s included cars powered by the local 610cc flat-twin Aero Minor engine (745cc Aero Minors ran at Le Mans in 1949, 1950 and 1951), from which evolved a small-capacity sports car class which included cars powered by a 750

BMW flat twin of a type originally used in WW2 motorcycles. This particular car was one of two built at the Avia factory with management approval. Avia had built aircraft, then after WW2 switched to making trucks. The racing cars had VW gearboxes, and Aero Minor brakes. This car was raced up to at least 1963, and is believed to have been exported in the late 1980s.

THE LOG

In this section of Loose Fillings we record every known occasion on which one of our cars, in New Zealand or Australia, fires up in public. The purpose of The Log is not to boast, simply to celebrate.

- November 21, 2004: Alan Kerr, Cooper Mk 6, Chelsea Rd Hillclimb, N.Z. (one of three fastest cars on the day)
- November 28-29: Andrew Halliday, Cooper Mk5 Norton and Derek Greneklee/Keith Simpson, Cooper JAP 1100, at Wakefield Park historic races. November 29: John Coffin, Robbins 500, at Historic Rob Roy hillclimb (down to 30.48!)
- December 8: Col Davidson, Scorpion Vincent, GEAR NSW, Wakefield Park. December 22: Barry Parsons, Smith Special, GEAR Queensland, Ipswich.
- January 28, 2005: Garry Simkin, Cooper Mk 4 Vincent, Wakefield Park test
- February 5-6: Craig Pidgeon, Cooper Mk 10 Norton, Chris Cullen, Cullen Harley, Charles McCabe (USA) Cooper Mk 8 Norton, Ruapuna races, N.Z.
- February 16: Barry Parsons, Robertson Indian, GEAR NSW, Wakefield Park
- February 26-27: John Coffin, Robbins 500, and Graeme Noonan, Cooper Mk 7 Norton, in regularity events at Phillip Island historic races.
- March 15: Garry Simkin, Cooper Mk 4 Vincent, Oran Park test.
- March 19: John Coffin, Robbins 500 BSA, and Graeme Noonan, Cooper Mk 7 Norton, Eddington sprints
- April 2-3: Garry Simkin, JBS-Norton, historic races, Wakfield Park

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