April 1991

The HUMBERETTE

CAR CLUB
HUMBER
VICTORIA

By Appointment to
The Royal Family

Official Newsletter of the
Humber Car Club of
Victoria Inc.

**Affiliated with the
Association of Motoring Clubs**

THE HUMBERETTE IS REGISTERED BY AUSTRALIA POST AS A PUBLICATION No. VBQ 0274

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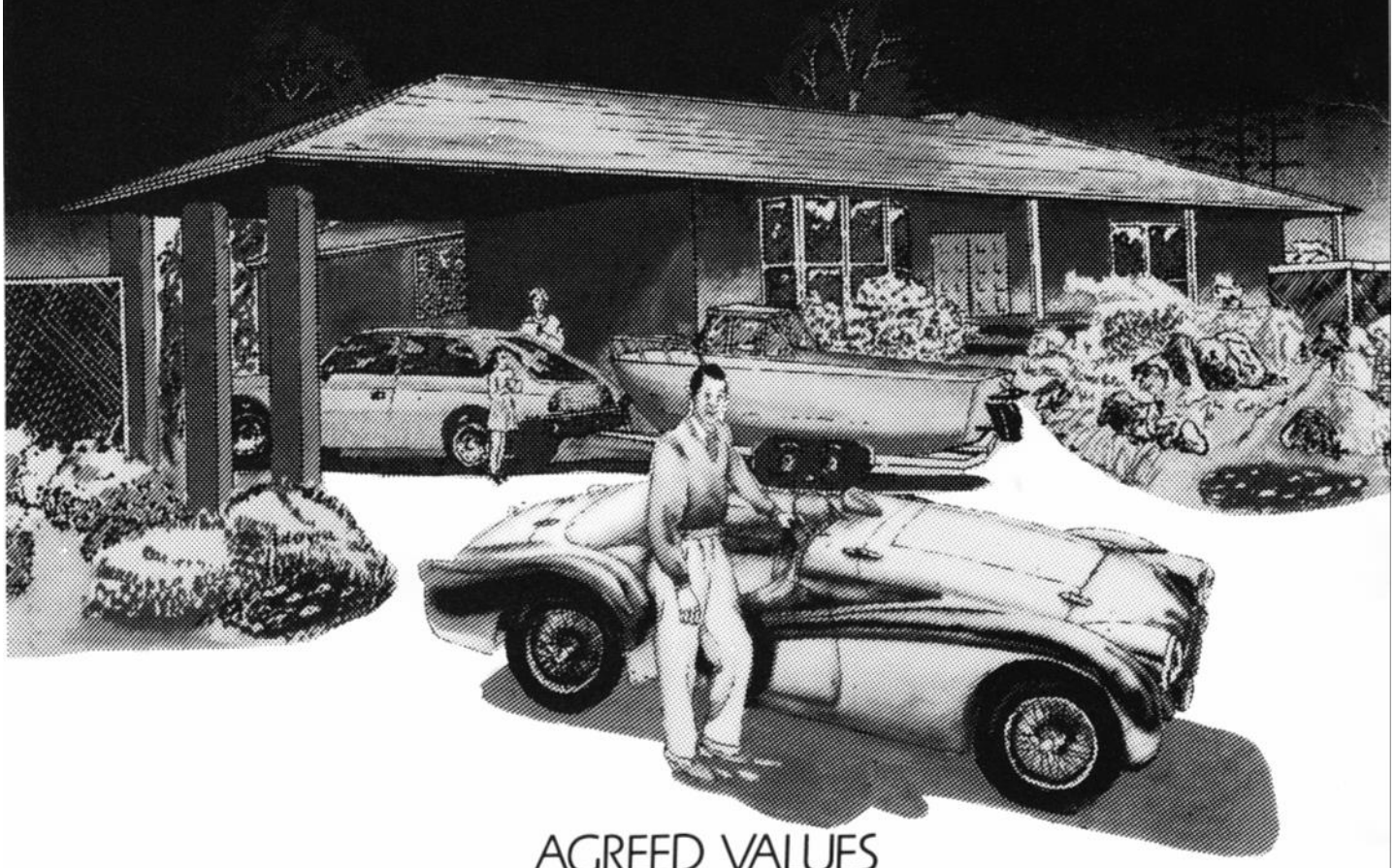

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CALENDAR

APRIL 26TH.	MONTHLY GENERAL MEETING AT DEEPDENE PARK HALL, WHITEHORSE ROAD, DEEPDENE (MELWAY MAP 46 A7). A SPEAKER ON CAR TYRES HAS BEEN ARRANGED. 8.00 PM START. TRADING TABLE - BRING, BUY OR SELL (on commission).
APRIL 28TH.	CLUB DISPLAY AND PROMOTION DAY AT THE "ALL-MAKES" SWAP MEET, FRESH CENTRE, FOOTSCRAY ROAD, FOOTSCRAY. MELWAY MAP 42 J6. PRE-ARRANGED CARS FOR DISPLAY ENTER VIA GATE 6. PLEASE BE THERE BY 9.00AM. VISITORS TO SWAP HAVE FREE PARKING WITHIN FRESH CENTRE GROUNDS, ENTRY TO SWAP MEET $2.00 PER ADULT. SEE AD. VETERAN & VINTAGE SECTION IN SATURDAY'S AGE.
MAY 19TH.	CLUB DAY AT THE BRIARS HOMESTEAD AND TOURIST CENTRE, NEPEAN HIGHWAY, MORNINGTON. MELWAY MAP 145 D11. WE WILL MEET 11.30AM AT THE INFORMATION CENTRE CAR PARK AND ENTER AS A GROUP TO OBTAIN THE GROUP CONCESSION. COST: $3.50 per adult OR $2.50 IF GROUP OF 15+ CONCESSION: $2.00 or $1.50 group. CHILD: $1.00 5years and over. LUNCH: BYO PICNIC OR BBQ LUNCH. WHAT TO DO: HISTORIC HOMESTEAD, NATURE WALKS, BIRD HIDES, FARM MACHINERY DISPLAY, A-V PROGRAM, VISITOR CENTRE ETC. SEE MAP ON NEXT PAGE.
MAY 26TH. (SUNDAY)	GENERAL MEETING AND FAMILY SOCIAL DAY AT THE CLUB-ROOMS, DEEPDENE PARK. IT IS PLANNED TO HAVE SOME TECHNICAL DEMONSTRATIONS AT THIS MEETING. MIDDAY FOR PICNIC LUNCH, FORMAL MEETING AT 2.00PM.
MAT 31ST - JUNE 1ST.	VINTAGE DRIVER'S CLUB SWAP MEET SPECTACULAR AT THE FLEMINGTON SHOWGROUNDS.
JUNE 8TH - 10TH.	POSSIBLE LONG WEEKEND TRIP TO THE ECHUCA STEAM RALLY. PLEASE NOTIFY PRESIDENT (435 6354) A.S.A.P. IF YOU ARE INTERESTED.
JUNE 16TH.	JOINT OUTING WITH WOLSELEY CAR CLUB TO THE HARRY-HAWKER (MOORABBIN) AIRPORT. MORE DETAILS LATER.
JUNE 28TH.	GENERAL MEETING AND SPEAKER. DEEPDENE HALL. 8.00PM.
JULY (TBA)	MONTHLY OUTING TO BE DECIDED.
JULY 26TH.	GENERAL MEETING. DEEPDENE HALL. 8.00PM.
AUGUST 4TH.	SMORGASBORD LUNCHEON AT WESTERNPORT PUB, HASTINGS FOLLOWED BY A TECHNICAL AFTERNOON AT "THE KENNEDY'S", LANGWARRIN.
AUGUST 25TH (SUN).	FAMILY SOCIAL DAY AND GENERAL MEETING. DEEPDENE HALL. INCLUDING A LIBRARY AND VIDEO AFTERNOON.

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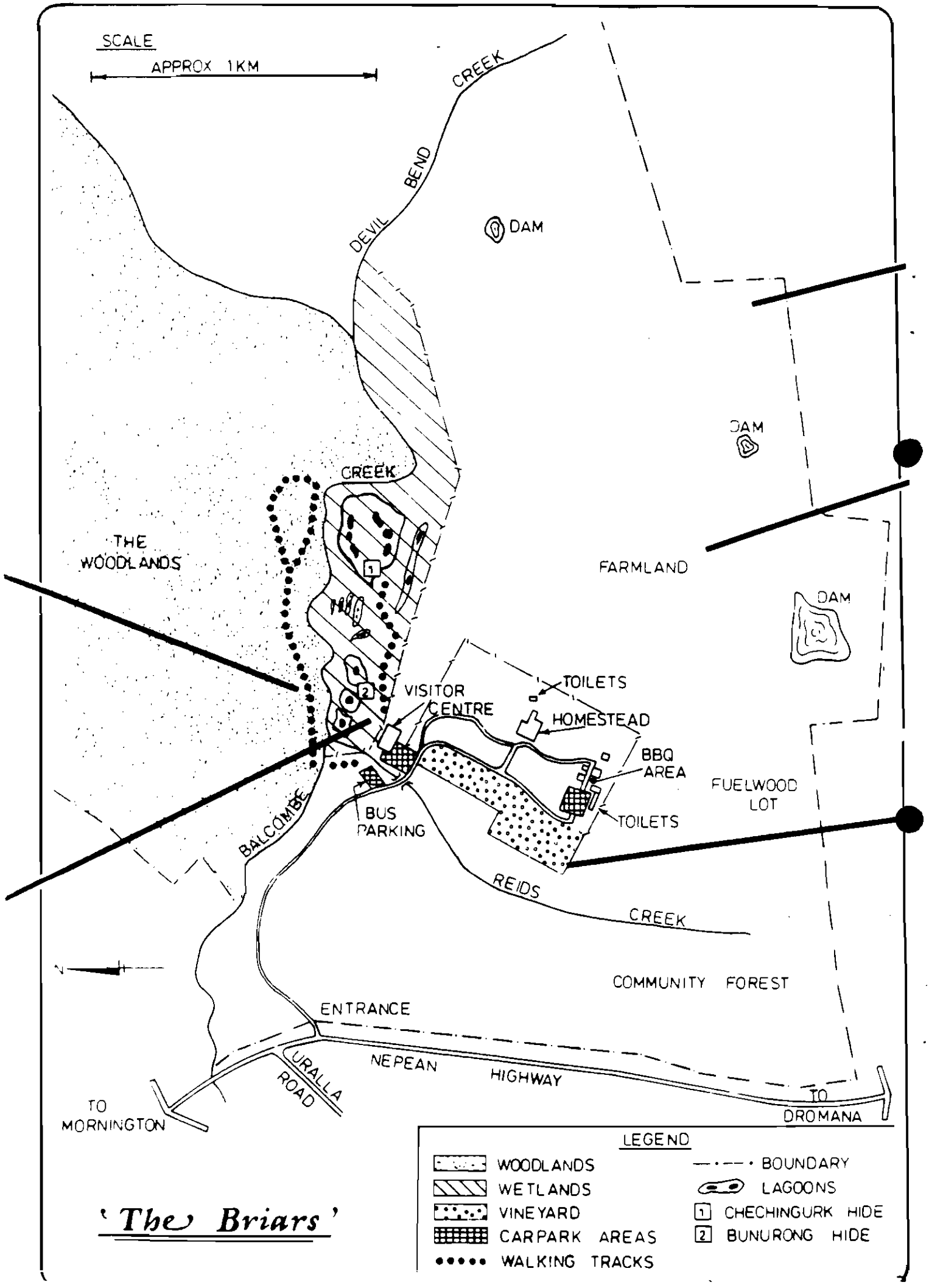
NATIONAL RALLY

BROKEN HILL, EASTER WEEKEND 1992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HOMESTEAD
BBQ AREA
FUELWOOD LOT
TOILETS
BUS PARKING
BALCOMBE
REIDS CREEK
COMMUNITY FOREST
ENTRANCE
NEPEAN HIGHWAY
URALLA ROAD
TO MORNINGTON
TO DROMANA
LEGEND
WOODLANDS
WETLANDS
VINEYARD
CARPARK AREAS
WALKING TRACKS
BOUNDARY
LAGOONS
CHECHINGURK HIDE
BUNURONG HIDE
'The Briars'

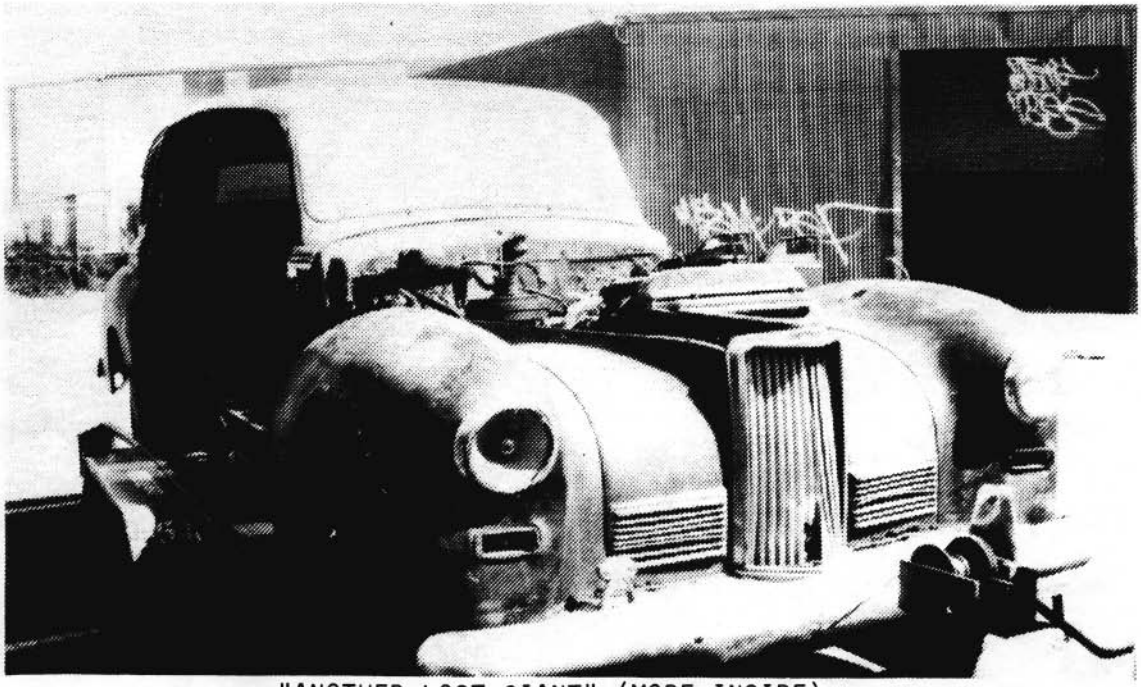
THE HUMBER CAR CLUB OF VICTORIA INC.

CLUB ADDRESS — 23 HIGH STREET, WATSONIA, 3087

COMMITTEE

PRESIDENT	: Margaret Willimott		435 6354	
VICE PRESIDENT	: Bob Kennedy		789 5119	
SECRETARY	: Ian Foreman			
TREASURER	: Brian Parkinson			
MEMBERSHIP SECRETARY	: Graeme Finn		497 4231	
EDITORIAL COMMITTEE	: Barry Bosnich	(057)	83 1899	
	: Nancy Kennedy		789 5119	
EVENTS DIRECTOR	: Mike Dupla		390 2211	
LIBRARIAN	: Dave Denner		874 7016	
REGALIA	: Vic Wilson		478 9352	
TECHNICAL ADVISORS	:			
- Vogues	: R. Dunlop		439 7059	
- Series V, VA S/Snipes	: A. Goldman	(059)	75 6807	
- Hawks	: K. Willimott		435 6354	
- Mk Cars	: B. Kennedy		789 5119	
- General Information	: B. Kennedy		789 5119	
- Auto Electrical	: M. Fitchett	(054)	27 1217	(B/H)
	:	(054)	27 1411	(A/H)

MARYBOROUGH MEMBER JOHN RISTROM'S SERIES 5 S/S AT HANGING ROCK



"ANOTHER LOST GIANT" (MORE INSIDE)

PRESIDENT'S REPORT APRIL, 1991

Keith and I have just returned from the Autokhana at Balnarring where we participated along with other Humberers in a day of fun, friendship and fancy driving organised by the Sunbeam & Talbot Club.

As I attend more and more of these inter-club activities I am convinced that this is the way of the future - not only for the survival of our own Humber and Rootes Group cars but, equally importantly, for the healthy continuance of the older car movement as we know it today.

With the worsening economic situation and its attendant decline in new car sales, manufacturers will undoubtedly be looking to other means of creating increased revenue. What is more vulnerable than the pre-emission control era vehicle?

One has only to read the motoring pages in the media these days to see where such a situation may lead. WE all know our cars are safe, sure, solid, reliable and can be less environmentally threatening than a high turnover in modern vehicles but to convince our leaders of this may not be so easy.

We all share the responsibility to help preserve a viable movement. Cars that are regularly serviced, clean and well maintained plus a strong, united front behind our representative bodies must help to convince the public and the politicians that the older vehicle deserves a place on the roads as well as in the history of our country. It is a problem to which we all need address ourselves.

To end on a brighter note, I am very happy to report that after twelve months of correspondence, constitution adjustment, negotiation and sheer persistence by past President Geoff Webb and our Treasurer Brian Parkinson, we are now in the position of holding a taxation exemption for HCCV! A splendid effort and congratulations to both Geoff and Brian on a job well done.

Finally just a brief reminder, don't forget your subs renewal - response this year has been terrific and we hope for over 90% renewal rate by the end of May. To those who have decided to leave us; thank you for your past support and may we wish you smooth motoring in the future.

I'll look forward to greeting many of you at our next meeting on FRIDAY, APRIL 26TH.

Margaret.

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FOR SALES

1965 Vogue - manual, green, complete, not running, many spares, will negotiate a price, car at Tullamarine.
Contact: Simon, Ph: 330 2194 (RK)

1966 Vogue - auto, 8mths rego, r.w.c., white, excellent condition, car at Altona, $3,500 o.n.o.
Contact: Raffaele Grosso, Ph: 391 3629 (AH), (RK).

S/Snipe - Series 5, power steering, r.w.c., Oct '91 rego, $3,900.
Contact: Janaka Williams, Ph: 537 1008, (RK).

1963 Vogue - auto, white, Dec '91 rego, r.w.c., $1,700.
Contact: Janaka Williams, Ph: 537 1008, (RK).

Series 3 Snipe - unused for last 5 years, $1,200.
Contact: Brian Sladden, (053) 45 3059, Clunes.

Series 3 Vogue - in pieces, car has rebuilt alloy head motor, $250 o.n.o.
Contact: Murray Roberts, Ph: 729 2637, Bayswater.

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H.C.C.V. GENERAL MEETING

22ND MARCH, 1991

Meeting commenced at 8:14pm.

APOLOGIES: Keith Sparrow, Bob Kennedy, Allison Bodycombe, Roy Webster, Sylvia Petersen, Fred O'Shea.

NEW MEMBERS: Vic Wilson (MK II), Tim Barley, William Cox, Brad Hunter.

NEW HUMBERETTE: Theresa Foreman was welcomed.

* Previous Minutes moved by Geoff Webb, seconded Vic Wilson (MK I).

CORRESPONDENCE: Ken Watts (Launceston, Tasmania), Adelaide Underwood (letter of appreciation).

Newsletters & Advertising: Pioneer Electronics, HCCQLD ('Transmission'), Humber, Hillman 'Torque' N.Z., Rover Small Torque, The Inverted Commer (Rootes C.C.), Wallace Cheesery, Webster Bearing Co, Pickles Car Auctions, AOMC Newsletter, Daimler-Lanchester Club, The Flying 'A', A40 Newsflash, Wolseley Hornet, CHACA Journal.

* Correspondence moved by Fred Peiterson, seconded Mal Derbyshire.

TREASURER'S REPORT: Treasurer presented a letter from the Taxation Department stating that the HCCV is exempt under the taxation clause. Our thanks go to Brian Parkinson on this matter and Geoff Webb for their groundwork and negotiations.

EDITORIAL REPORT: Nancy Kennedy distributed 223 newsletters this month. Barry requires Vogue articles and specifications for publication.

SOCIAL SECRETARY'S REPORT: Rootes Car Club Day was successful with six Humbers in attendance. Zephyr, Zodiac Car Club Day at Elaine was also a successful and enjoyable day with five Humbers attending. Organisers of All Makes Swap Meet held at Footscray on 28th April have requested ten Humbers for display on the day.

TECHNICAL REPORT: A discussion with regards to Series 5 S/S brake pads was brought up by Mike Dupla who experienced problems obtaining these pads. It was discovered they were available at approximately $45-$50 per set rebonded.

MEMBERSHIP REPORT: Graham Finn reported on new members. Welcome to Sharon Russell, P.J. Ristrom, Grant Passons and Rev. Ian Thomas.

PARTS WANTED: 1) Rear seat for Series 2 Vogue (colour/grey). Contact Ian Wilde on 725 9897.
2) Bill Holmes wants signs made up for this year's Concours.

Meeting closed at 9:10pm

Members viewed an early sixties Rootes Group film on the history of Hillman, Humber, Sunbeam and Singer. Thanks go to Nancy Butt for supplying same.

Ian Foreman.

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NEWSFLASH:-

Humber adds three new "stork" models - a big welcome to our three newest "Humberettes".

* A baby son (Matthew) on March 31st to Gary & Dianne Davies of Ballarat.
* A baby daughter (Theresa) to Ian, Michelle & Alexander Foreman.
* A baby son (Conor James) to Janet (Willimott) and Dominic Fogarty.

Congratulations to all parents, "big" brothers and grandparents!

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SOCIAL NEWS & NOTES

APRIL

Humbers have been moving in all directions this month. We were represented at:-

* The Koo-Wee-Rup Potato Festival (Ron Forth's Series IV Ambulance).

* The Geelong Swap and Vintage Rally (Vic Wilson, Grant & Rose Busch, Kevin Megee, Bill & Joan Holmes, Ron Forth & Family).

* Elaine Cavalcade of Cars (Bill & Joan Holmes, Keith & Margaret Willimott, Kevin Megee, Ian & Michelle Foreman with Alexander and baby Theresa, Bob Bruce & Joyce, Gary Davies and Ben, Mike Dupla, Joe Aldam in his MK IV Snipe and new member Brad Hunter.

* Rootes Autokhana (Ron Forth and Ambulance - just in case of casualties, Fred & Sylvia Peiterson, Keith & Margaret Willimott.

Humbers in this event proved stable, steady and surprisingly speedy (well, almost, and they did improve with each run!!). Winner of the Autokhana was Colin Gunn in a Hillman with a Sunbeam Rapier and Fiat 123 taking minor places. Fred Peiterson with the Series V Humber took out the "Pumpkin Prize" and Sylvia is thinking of writing a pumpkin cookbook!!

COMING EVENTS:

HUMBER DISPLAY AND PROMOTION - We will have ten vehicles from our club joining the display at the All Makes Swap Meet on Sunday April 28th. This is at the Fresh Centre, Footscray Road, Footscray (see Calendar Page for details). Everyone is welcome and cars on display receive a free double pass but should be in position for display by 9:00am.

BRIARS HOMESTEAD - This will be a leisurely visit to Mornington for a BBQ picnic lunch and a look at the lovely Briars' buildings and gardens. Our Secretary, Ian, works in this area and I am sure has a very interesting day planned for us. Meet at the Homestead at 11:30am - midday. See further details elsewhere in the Humberette.

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KENNEDY'S KLANGERS

Another month slips away and I ask you, have you been thinking about entering your vehicle in the Concours later in the year? Give it a go please, add some colour to the event.

You should be starting to plan your attack now - What has to be done? How do I do it? Who can advise me? How high do I aim? These are some of things you must thing of now.

It is no use waiting until just before the event and then deciding to run out and carry out a five minute clean up and expect to carry off a prize. Believe me, it doesn't work that way at all. If you decide to touch up parts with paint remember two things; don't use an 8 inch paint brush to touch up with and only paint it if it was painted when first built. More on this matter at a later date.

I mentioned the trading table in my last rantings and ravings. I again remind you that we are in need of items no matter what they are. So please keep the items coming. One member told me it would save him a trip to the tip. Perhaps the same applies to you, so dig out all those unwanted items - but please, no husbands or kids. They make too much of a mess on the table and they keep changing their price tags!!

By the time you get this newsletter, Nancy and I will hopefully be up at Bright. At this time of the year it's a picture and if all goes well we hope to call into see a few members residing up that way. Do I hear thunderous chants of NO, NO, NO?! Can't help bad luck can you?

Well enough from me at this stage and I look forward to seeing you at the next meeting.

Bob Kennedy.

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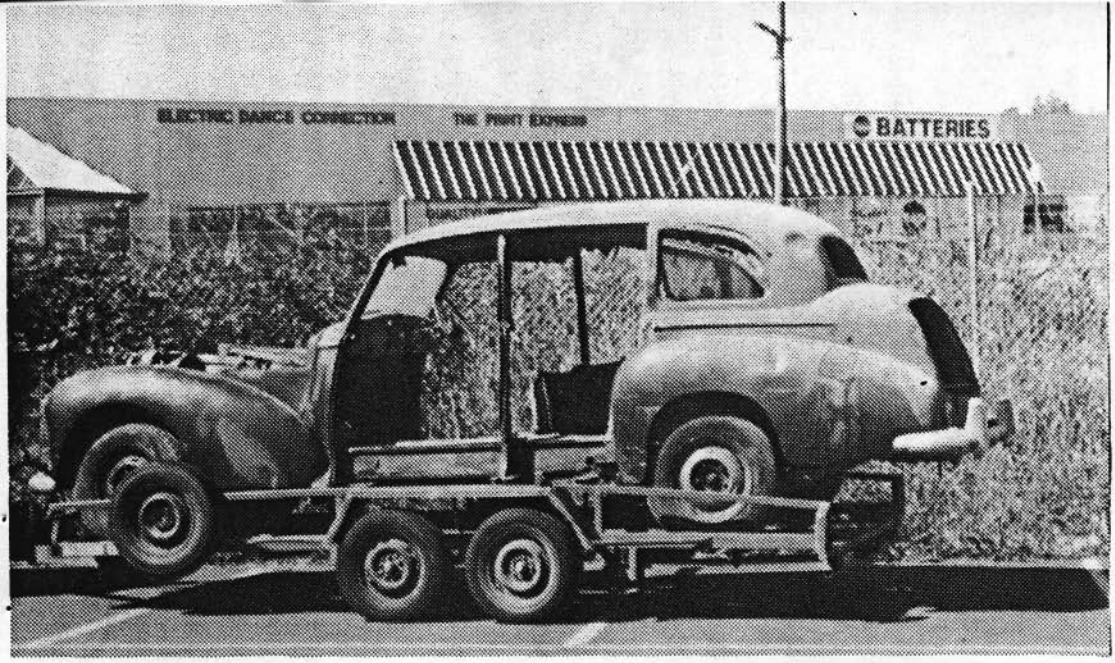
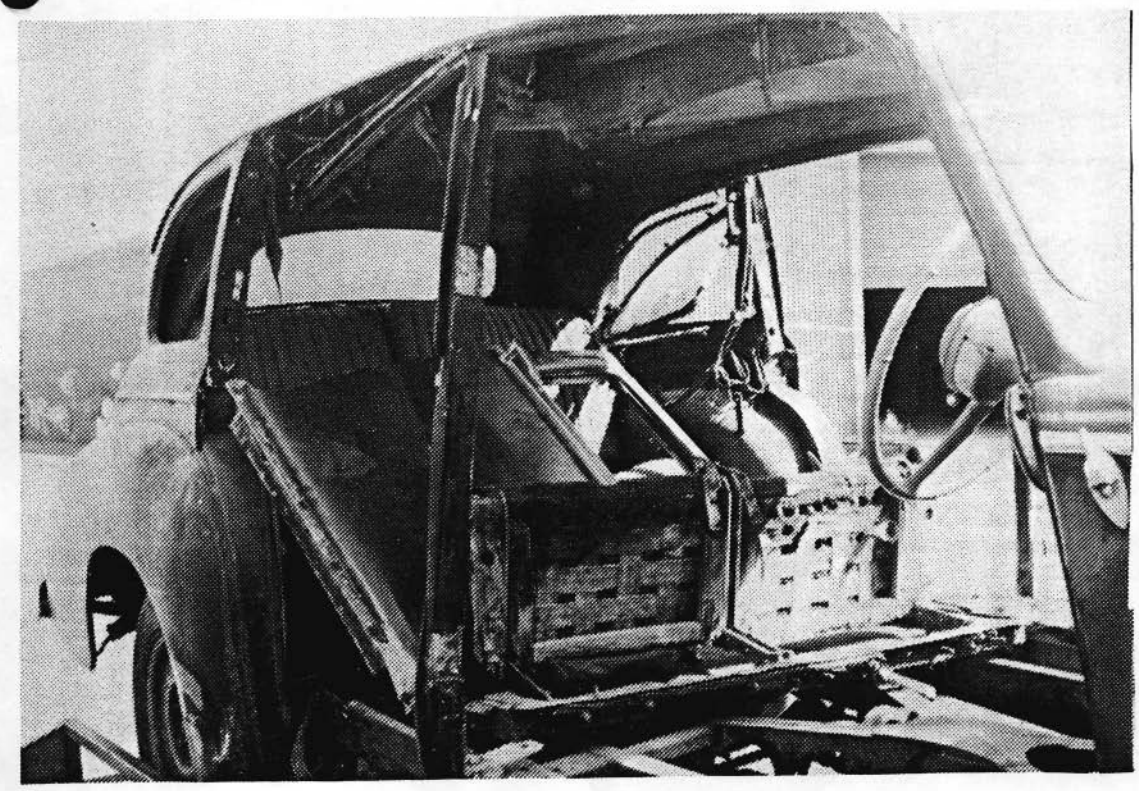


ANTHONY WILLIAMS RESTORATION PROJECT

MARK III HUMBER IMPERIAL REQUIRES



PARTS AND STORAGE SPACE PH: 370 8331

FAULT FINDER

Cure for a juddering brake

ARNOLD GOLDMAN

Symptom	Cause	Remedy
Pulsing or vibration of the foot pedal when braking	Distorted, worn or cracked brake discs and/or drums	Replace defective discs or drums

Depressing the brake pedal of a moving car should cause smooth, progressive slowing. If slowing down is accompanied by a pulsating, vibrating effect felt through the brake pedal it is a clear signal that there is a fault in the braking system to which urgent attention should be given.

Such trouble usually indicates that one or more of the brake discs or drums has distorted, become worn or, in some rare instances, cracked. The pulsating movement can be felt because the brake pads or shoes pick up vibration from a distorted drum or disc and transmit it via the hydraulic system to the foot pedal. As the brake fluid in the wheel cylinder reservoirs can absorb minor vibrations without transmitting them any further, vibrations that reach the pedal often indicate a serious fault.

Other associated signs of a brake fault include the car's pulling to one side; steering wheel 'twitch'; and a kind of on-off grabbing effect when the brakes are applied. But these symptoms are not necessarily such an accurate indicator of a brake fault, as they may also be caused by worn wheel bearings and steering joints, front tyre imbalance or loose rear axle mounts.

Distortion and heavy wear almost invariably arises from the heat stress to which the brakes are subjected. Most discs and drums are made from cast iron, which is a good heat conductor, whereas pads and shoes contain asbestos, which is a poor heat conductor. So, in a drum brake, a high percentage of the heat generated through friction flows into the drum. In a disc brake, the heat flow can be even higher, depending on the pad contact arc.

This heat build-up usually dissipates quickly as the designers intended, without any damaging effects. But if a vehicle is subjected to prolonged heavy braking, abnormally high temperatures will occur. Even under normal road conditions the repeated heating and cooling of the brakes may lead to eventual distortion, particularly if the brakes are already well worn.

About two-thirds of the braking force is taken on the front brakes. This is one of the reasons why discs, with their superior cooling capabilities, are employed at the front of most modern cars, even when drums are used at the back.

Even front discs are sometimes unable to get rid of generated heat fast enough, although they are designed to operate at higher temperatures than either rear discs or drums.

Since front brakes are more susceptible to juddering than rear brakes are, and there is no way—short of dismantling the brakes—of telling from which end of the car the trouble is originating, the first stage in dealing with the problem is to tackle the front brakes.

If the front brakes are serviceable, the next stage is to check the rear brakes.

Whichever end of the car you are dealing with, brakes should always be serviced in pairs. If one rear drum has to be replaced, for example, the other rear drum must be replaced too, or your braking could be dangerously out of balance.

Better judgement is needed by the modern driver, says Dr Max Lay, Director-Technical Resources at the RCA

Drivers today don't seem to realise that it's not a lack of car control skills that causes most accidents - the main culprit is actually the flaws in their driving judgements.

Attitudes of drivers and their ability to quickly and accurately assess traffic conditions have become the most important factors in driving on our modern roads systems.

This is a pronounced swing away from the early days of motoring when the abilities to control and direct the vehicle were all-important. But all too often, we have not learned to put enough emphasis on what is now the most essential element in safe driving - **judgement**.

I believe we give too much emphasis to framing, enforcing, and teaching negative or prohibitive traffic laws and regulations. This drenches drivers with repressive attitudes.

It is as if we believe there are just two purposes for driving: to avoid being caught breaking the law, with its suffering and punishment; and to avoid having an accident and suffering serious personal loss.

Perhaps it's time that we recognised that the real reason most of us drive is to get from where we are to where we want to be, and to do it as expeditiously as possible - trying to minimise our travel time within the constraints of the law, while preserving our safety and security, and keeping down our stress levels. For a few, it seems that driving is an opportunity for personal display.

The modern traffic system requires positive driving from motorists to enable them to use the roads more efficiently. To do this, drivers and educators clearly need to be taught more about how the traffic system functions, particularly signals and signs. New drivers have a number of skills to learn, but the key areas of strategic driving, positive responses and correct risk assessments seem to be underplayed at the moment. So, traffic laws and their enforcement should be directed more towards improving both safety and traffic efficiency.

There would appear then to be a strong need for better liaison between driver educators, police, traffic engineers, researchers and the drivers themselves.

We should all realise that controlling a modern car is relatively easy. Much of what currently passes for driver education is no more than instruction in simple skills to control the vehicle. We become better drivers with practice, gradually building our reflex skills and judgement. As novice drivers we will make errors that won't be repeated so often as we gain driving experience.

☞

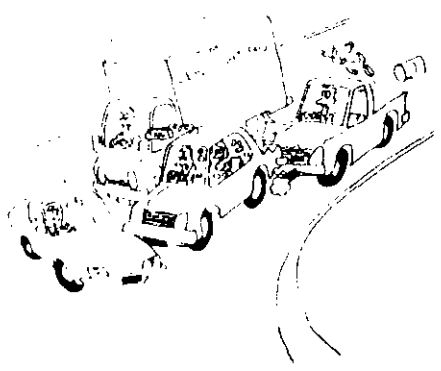
Positive Driving

"Any driver is just one part of an interactive traffic system."

The Basics

The basics of positive driving are the keys to using the crush and bustle of a big-city traffic system. They can be shown in ten areas:

1. To drive strategically, detecting opportunities and hazards as early as possible, with trouble being avoided by planning rather than by reaction.
2. Regularly scanning all parts of the visual field.
3. Assessing the traffic conditions and risks.
4. Driving according to the prevailing conditions, not according to habit.
5. By not driving when alcohol, drugs, fatigue, stress, aggression or illness are likely to impair your judgement or ability.
6. Driving as an exercise in co-operation rather than competition.
7. Being aware of the gaps and head -ways that drivers are adopting.
8. When entering, travelling, or leaving a traffic lane, maintain the same speed as the other drivers. Wherever possible, accelerating or decelerating outside the lane.
9. Keeping to the left, both when travelling straight ahead or when turning left.
10. And, by improving your judgement of traffic movements by understanding the workings of the traffic system.



These skills and judgement techniques of strategic driving and assessing risks should be taught in a structured manner to new drivers. At present, they learn risk assessment mainly through 'fortunate' near misses and minor accidents - a very chancy basis for such an important matter.

The crucial aspects that inexperienced drivers need to pick up as quickly as possible are:

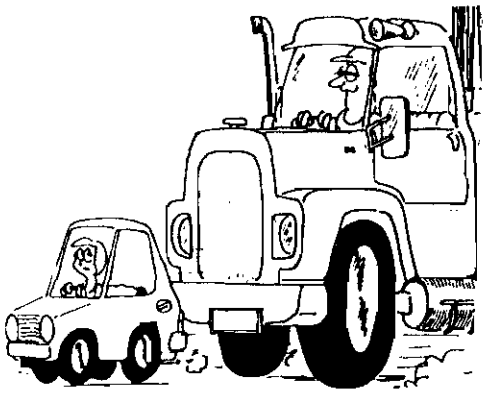
- better scanning of the visual field for relevant cues,
- better judgement of the speed of other vehicles,
- better assessment of available gaps,
- more practice at making quick, accurate decisions on the roads,
- a downgrading of their opinions of their own capabilities.

Over a period of time, these items can be taught; aided, perhaps, by a system of graduated licensing to introduce drivers to more complex situations. For example, new drivers could start with being allowed to drive only in daylight hours with an experienced companion.

Some accidents are chance events, but as many as 90 percent are errors of human judgement, often in quite demanding situations. These errors relate to perception, decision, and response. So our efforts to reduce accidents should be directed strongly at:

- enhancing driver judgement by training in risk-assessment and by publicising the relative dangers of various driving manoeuvres,
- reducing the need to rely on that judgement by increasing the abilities of strategic driving and by designing safer intersections,
- removing the factors that diminish that judgement, such as alcohol, drugs, fatigue, stress, and aggression,
- replacing competiveness with driving co-operation,
- and, education on how the road system functions.

People often advocate as an accident countermeasure that drivers should be taught how to drive out of a skid. The better tactic is to teach them how to avoid getting into a skid. This is not to suggest a return to the worst aspects of negative driving instruction but a plea for a positive approach to avoid problem situations. It would, for instance, involve making drivers aware that different speeds are appropriate in different circumstances rather than the wide-spread mentality of a blanket approach to all violations of speed limits.



Driver Courtesy

Any driver is just one part of an interactive traffic system. The ability to sense that interaction and to co-operate with other drivers is what positive driving is all about. Courtesy is a good indication of the co-operation we need, but we still need judgement. For example, it shouldn't mean holding up a stream of vehicles behind you to give way to a solitary car on your left. While aggression and competition are common factors of our modern society, drivers with these traits have no place on our modern roads.

Motorists are sometimes confused by what they think is inconsistency at intersections. Sometimes, for instance, they get a green arrow and sometimes they don't. It needs to be explained that the computer often makes a green arrow decision based on how many cars are waiting to turn, compared to how many are travelling straight through. If you are one of only a few, you may well be discriminated against.

Positive Driving

"The very people who signs are directed at, are the last to read them."

The computer is not being inconsistent and it isn't difficult to explain its logic to drivers. But do we try?

A knowledge of the average length of time for a green signal (perhaps 30 to 50 seconds on a major approach road) would help drivers judge whether trying to achieve that distant green is worth incorporating into their driving strategy.

A similar issue occurs when the signals are linked together by some form of area-wide control system. The driver gets most benefit from these systems when driving as part of a platoon - that is, a tight group of cars moving in the peak traffic direction - because then the computer is able to progress the platoon with a green light at each intersection. This doesn't work when the platoon fragments, which can be caused by just one person driving below traffic speeds or with an excessive headway.

Negative driving attitudes can lead drivers to believe that they are helping road safety by this type of behaviour, but by creating variations they are actually harming the traffic efficiency. Platooning makes it much easier for other vehicles and pedestrians to cross a road. Of course, any over-reaction to "safe following distance" works against platooning.

Incidentally, in promoting area traffic control, we often don't tell drivers that if they are moving against or across the traffic flow, they may well be worse off than if there was no computer linking.

Traffic signs can often be the cause of major communications gaps between the players in the traffic system.

For example, there is a wide-spread, but totally unsupported belief, particularly in local government, that any traffic problem can be solved by another sign. Unfortunately, the very people at whom signs are directed are the last to read them. In fact, a proliferation of signs normally exaggerates a hazard.

Screening Drivers

It is sometimes argued that dangerous drivers should be detected by a screening process and banned from the road. But even drivers in high-accident categories (in order, young drinking-males, young males, males) have a low accident risk. Most of these relatively risky young males are not going to have a serious accident anyway.

Due to low accident risk, the concept of accident proneness has no relevance in road safety. This is because many people who would qualify as accident-prone would not actually have an accident.

Screening drivers by the use of physical tests, particularly eye tests, is also often argued. But relatively few accidents are caused by people lacking the ability to see - those with defective vision either wear corrective lenses or tend to avoid dangerous situations. Indeed, many accidents involve "looked, but didn't see"; that is, the motorist saw the situation but the proper impact wasn't made on his perception.

Once again, our argument moves away from the physical attributes of the driver towards his judgement, attitudes, and experience.

Overtaking Attitudes

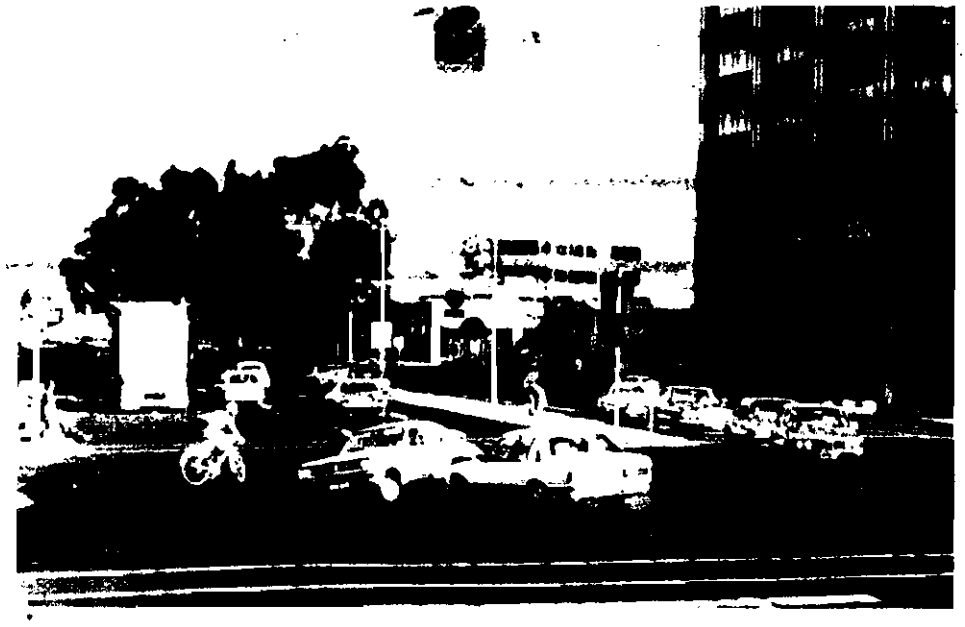
Overtaking, particularly on country roads, is so difficult for most of us that we leave ourselves large margins for error. Nevertheless, research shows that in one out of twenty overtakings, one of the drivers had to do a last instant evasive action to avoid a collision.

The signalling by drivers for overtaking (and the signs, provided by our engineers, for overtaking conditions) falls well short of what should be done. Why do Australians generally take such an aggressive, certainly unhelpful, outlook towards drivers attempting to [illegible]s, whereas in countries such as Scandinavia, it is routine to make things easier for the overtaking driver?

Another situation that can readily overtax a driver's concentration is at a complex intersection.

One particularly difficult, that is risky, intersection manoeuvre for many drivers is doing a right turn from a local street onto an undivided road. This difficult multi-task process is shown, by accident statistics, to be messed up all too often.

Caught in the act - a red light camera captures this accident at a Melbourne intersection.



Positive Driving

"The best way to merge with other traffic is to be travelling at the same speed."

To improve the expertise of novice drivers, and the safety on the roads of the experienced drivers, there would seem to be great potential in putting novice drivers into driving simulators to encourage them to 'read' the road scene. Many amusement arcades and PCs now have quite good driving simulators, but do we use them constructively?

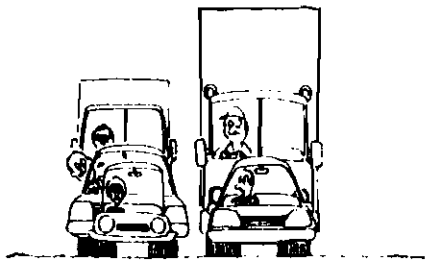
In our calvinistic approach to driving we tend to concentrate on such aspects as keeping at a safe distance from other cars and travelling at a speed that will permit us to stop when some threatening object appears. With positive driving, we learn, quite differently, to see the object as early as possible and to drive around it - concentrating on advance planning, steering, reduced or zero acceleration, while maintaining full vehicle control. Braking is only a final, incidental, and perhaps unnecessary part of this strategy.

Give it a break!

Making drivers believe that brakes are their major safety tool has led to an over-use of braking. But a car being braked is largely out of control and in the extreme will skid. The driver has less options to control the vehicle, and is wasting fuel when he again has to accelerate. A very good driver has a dramatically reduced use of brakes. Professional truck drivers on interstate trips were shown by a recent ARRB study to touch their brakes only once every three kilometres or so.

Similarly, the best way to merge with other traffic is to be travelling at the same speed. Just like jumping from one speeding train to another in the movies - it is an easy stunt if the trains are going in the same direction at the same speed.

But if our driver follows the fearful philosophy of defensively slowing, so he can check that everything is in order before he merges, the difference becomes greater in the relative speeds between himself and the traffic stream he wishes to enter. His task becomes much more difficult and dangerous in terms of physics, space available, vehicle performance and human judgement.



Another major traffic inefficiency is caused by the poor lane discipline of Australians compared to what is expected of drivers on US freeways and European motorways.

Drivers on those systems expect you to keep in your lane, adopt the prevailing traffic speed, signal any lane changes in advance and keep away from the centre lane unless you are travelling at high speed. Australians seem to believe that the slowest drivers should use the lane out by the median strip, even though in most states that's illegal.

Then at traffic signals a similar driving mentality leads to the bulk of drivers queuing in the centre lane, blocking others from entering the right turn slot.

A related situation sees drivers failing to properly use the turning lanes. We place great store on telling motorists about regulations likely to catch them for speeding or drink-driving, but little or none on ways to improve traffic flow.

This inefficient behaviour at signals and intersections shows just how widespread is our failure to educate our drivers properly.

Few drivers even know the law on what to do when they are confronted with a yellow light. And those who once did know have had such fear put into them by the publicity on "red-light cameras" that they no longer have confidence in that knowledge.

What should you do when the yellow comes on at that critical distance? The commonsense thing - the one the traffic engineers use - is to brake if you are able to stop without entering the intersection. If you can't brake safely, keep going across the intersection.

Don't be alarmed if you see the red light before you clear the crossing. The traffic engineer will have left the light sequence on all-red for long enough to give you safe passage. ❑

Humber specifications

Humber Hawk produced 1945–47 (pre-war body style and engineering—style first seen in 1937)

Technical description: *The Autocar*, 3.8.45

Engine: 4-cyl, 75 × 110mm, 1944cc, side valves, CR 6.4:1, Stromberg carb, 56bhp at 3800rpm.
Maximum torque 97lb ft at 2000rpm.
Transmission: Axle ratio 4.78:1. Overall ratios 4.78, 7.12, 11.81, 17.02, reverse 22.75 : 1. 16.4mph 1000rpm in top gear.

Suspension and brakes: Ifs, transverse leaf spring, wishbone upper link, lever arm dampers; live rear axle, half-elliptic leaf springs, anti-roll bar, lever arm dampers. Worm and nut steering. 10in-diameter drum brakes front and rear. 5.75–16in tyres.
Dimensions: Wheelbase 9ft 6in; front track 4ft 7.8in; rear track 4ft 8in. Length 14ft 10in; width 5ft 9in; height 5ft 3in. Unladen weight 2970lb.
Performance: Not tested in this guise.
Price: £684 in 1945 (Note: All prices *include* Purchase Tax

Humber Hawk Mk II—produced 1947–48

Technical description: *The Autocar*, 26.9.47

Specification as for Mk II, except for new gearbox, also with synchromesh on top, third and second as before, and with same ratios.
Overall length now quoted as 15ft 0in, and height as 5ft 5in, but with no apparent styling changes.
Performance: (*The Autocar*, 26.9.47)
Price: £889 in 1947

Humber Hawk III—produced 1948–50

Technical description: *The Autocar*, 15.10.48

Engine: 4-cyl, 75 × 110mm, 1944cc, side-valves, CR 6.4:1, Stromberg carb, 56bhp at 3800rpm. Maximum torque 97lb ft at 2000rpm.
Transmission: Axle ratio 4.55:1. Overall ratios 4.55, 6.78, 11.24, 16.14, reverse 21.62:1. 16.3mph/1000rpm in top gear.

Suspension and brakes: Ifs, coil springs, wishbones and lever-arm dampers; live rear axle, half-elliptic leaf springs, anti-roll bar, lever arm dampers. Worm and nut steering. 9in diameter drum brakes, front and rear. 5.50–15in tyres.
Dimensions: Wheelbase 8ft 9.5in; front track 4ft 8in; rear track 4ft 9in. Overall length 14ft 6in; width 5ft 10in; height 5ft 4in. Unladen weight 2750lb.
Performance: (*The Autocar*, 15.7.49) Maximum speed 72mph. 0–60mph 34.4sec. Typical fuel consumption 24 to 27mpg.
Price: £799 in 1948.

Humber Hawk IV—produced 1950–52

Technical description: *The Autocar*, 25.8.50

Specification as for 1948–50 Hawk III except for:
Engine: 81 × 110mm, 2267cc, side-valves, CR 6.3:1, 58bhp at 3400rpm. Maximum torque 110lb ft at 1800rpm.
Transmission: 17.0mph/1000rpm in top gear.
Suspension and brakes: 6.40–15in tyres.
Performance: (*The Autocar*, 29.12.50) Maximum speed 70mph. 0–60mph 30.4sec. Typical fuel consumption 21–23mpg.

Humber Hawk V—produced 1952–54

Technical description: *The Autocar*, 26.9.52

Specification as for 1950–52 Hawk IV except for:
Transmission: Overall ratios 4.55, 6.78, 11.24, 14.50, reverse 18.37:1.
Performance: Not tested in this guise.
Price: £1129 in 1952

Humber Hawk VI—produced 1954–57

Technical description: *The Autocar*, 11.6.54

Specification as for 1952–54 Hawk V except for:
Engine: Overhead valves, CR 7.0:1. 70bhp at 4000rpm. Maximum torque 119lb ft at 2200rpm.
Suspension and brakes: 4.5in wheel rims. Anti-roll bar to front suspension. No anti-roll bar at rear. 10in drum brakes all round.
Dimensions: Length now quoted as 15ft 1.5in (without significant sheet metal changes). Unladen weight 3110lb.
Options: (for export) 4.22:1 axle ratio. Overall ratios 4.22, 6.30, 10.43, 13.45, reverse 17.04:1.
Optional Laycock de Normanville overdrive with 4.55:1 axle ratio, giving overdrive top gear ratio of 3.54:1. 21.8mph/1000rpm in overdrive top gear.
Performance: (*The Autocar*, 13.8.54) Maximum speed 80mph in overdrive, 76mph in direct top gear. 0–60mph 23.8sec. Standing ¼-mile 22.5sec. Typical fuel consumption about 22 to 31mpg.
Price: £986 in 1954

(Note: From September 1955, an estate car derivative was made available. Specification was as for the saloon except for:
Engine power now quoted as 75bhp at 4000rpm (shared with saloon).
Tyres 6.00–15-in. Unladen weight 3360lb.
Price: £1255 in 1955)

Humber Hawk—produced 1957–59

Technical description: *The Autocar*, 31.5.57

Engine: 4-cyl, 81 × 110mm, 2267cc, overhead valves, CR 7.5:1, Zenith carb, 73bhp (net) at 4400rpm. Maximum torque 120lb ft at 2300rpm.
Transmission: Manual, axle ratio 4.22:1, overall ratios 4.22, 6.30, 10.43, 13.46, reverse 17.04. Optional overdrive, axle ratio 4.56:1, overall ratios (3.54(, 4.56, 6.79, 11.26, 14.52, reverse 18.39. Optional automatic, axle ratio 4.22:1, overall ratios 4.22, 6.06, 9.79, reverse 8.48:1. 18.32mph/1000rpm in top gear (manual and automatic), 21.8mph/1000rpm in overdrive top gear.
Suspension: Ifs, coil springs, wishbones, anti-roll bar, telescopic dampers; live rear axle, half-elliptic leaf springs, telescopic dampers. Recirculating ball steering. 11in-diameter front drum brakes, 10in-diameter rear drum brakes. 6.00–15 or 6.40–15in tyres on 4.5in rims.
Dimensions: Wheelbase 9ft 2in; front track 4ft 8in; rear track 4ft 7.5in. Overall length 15ft 4.7in; width 5ft 9.5in; height 5ft 1in. Unladen weight 3080lb.
Performance: (*The Autocar*, 28.6.57) Maximum speed 83mph. 0–60mph 20.6sec. Standing ¼-mile 21.8sec. Typical fuel consumption about 25mpg.
Price: £1261 in 1957

(Note: An estate car derivative was introduced in October 1957, with only minor mechanical differences.)

Price: £1464 in 1957

Hawk Series IA—produced 1959–60

Technical description: *The Autocar*, 16.10.59

Same basic mechanical specification except for:
Transmission: Overall ratios (manual) 4.22, 5.88, 9.04, 14.13, reverse 17.90. (Overdrive) (3.54), 4.55, 6.34, 9.75, 15.24, reverse 19.31:1.
Price: £1191 (saloon) in 1959
£1411 (estate) in 1959

Hawk Series II—produced 1960–62

Technical description: *The Autocar*, 14.10.60

Same basic specification as Series IA except for:
Transmission: Automatic transmission no longer available.
Suspension and brakes: 11.6in front disc brakes, 11in rear drums.
Price: £1241 (saloon) in 1960
£1460 (estate) in 1960

Hawk Series III—produced 1962–64

Technical description: *The Autocar*, 14.9.62

Same basic specification as for Series II. Changes entirely cosmetic.
Price: £1204 (saloon) in 1962
£1417 (estate) in 1962

Hawk Series IV—produced 1964–67

Technical description: *The Autocar*, 23.10.64

Same basic specification as for Series III, except for:
Suspension: Rear anti-roll bar, saloon version only.
Transmission: All-synchromesh gearbox, overall ratios 4.22, 5.88, 9.04, 14.16, reverse 15.07:1.
Optional overdrive, ratio 3.28:1. 18.1mph 1000rpm in top gear, 23.3mph 1000rpm in overdrive top gear.
Performance: Not tested in this guise.
Price: £1095 (saloon) in 1964
£1361 (estate) in 1964

Humber Snipe—produced 1945–48

Technical description: *The Autocar*, 3.8.45

Same chassis, suspension, and bodyshell as for 1945–48 Hawk, except for:
Engine: 6-cyl, 69.5 × 120mm, 2731cc, side valves.

CR 6.4:1, Stromberg carb, 65bhp at 3500rpm.
Maximum torque 120lb ft at 1300rpm.
Transmission: Axle ratio 4.67:1. Overall ratios 4.67, 6.82, 11.58, 18.35, reverse 18.35:1. 17.1mph/1000rpm in top gear.
Suspension and brakes: 11in-diameter drum brakes front and rear. 6.00–16-in tyres. Unladen weight 3330lb.
Performance: Not tested in this guise.
Price: £863 in 1945

Humber Super Snipe—produced 1945–48

Technical description: *The Autocar*, 3.8.45

Same chassis, suspension, and bodyshell as for 1945–48 Hawk, except for:
Engine: 6-cyl, 85 × 120mm, 4086cc, side valves, CR 6.3:1, Stromberg carb, 100bhp at 3400rpm.
Maximum torque 197lb ft at 1200rpm.
Transmission: Axle ratio 4.09:1. Overall ratios 4.09, 5.99, 10.14, 16.07, reverse 16.07:1. 19.7mph/1000rpm in top gear.
Suspension and brakes: 11in drum brakes at front and rear. 6.00–16in tyres. Unladen weight 3360lb.
Performance: (*The Autocar*, 13.12.46) Maximum speed 'over 75mph', 0–60mph 24.5sec. Typical fuel consumption 15–17mpg.
Price: £889 in 1945

Humber Super Snipe II—produced 1948–50

Technical description: *The Autocar*, 17.9.48

Same basic chassis, suspension, running gear and bodyshell as 1945–48 model, except for slightly lengthened wheelbase, wider tracks and body width, and restyled nose:
Transmission: Axle ratio 4.09:1. Overall ratios 4.09, 5.89, 9.59, 15.95, reverse 16.91:1. 20.25mph/1000rpm in top gear.

Suspension and brakes: 12in drum brakes at front and rear. 6.50–16in tyres. Unladen weight 3695lb.
Dimensions: Wheelbase 9ft 9.5in; front track 4ft 9.9in; rear track 5ft 1in. Length 15ft 7.5in; width 6ft 2.5in; height 5ft 5.7in.
Performance: (*The Autocar*, 23.5.49) Maximum speed 80mph. 0–60mph 22.7sec. Typical fuel consumption 14–18mpg.
Price: £1144 in 1948

Humber Super Snipe III—produced 1950–52

Technical description: *The Autocar*, 25.8.50

Same basic specification as for 1948–50 model except for:
Suspension and brakes: Rear suspension now has Panhard rod linkage. Overall length now quoted as 15ft 10.7in. Unladen weight 3745lb.
Price: £1144 in 1950
£1240 in 1950 for 'Touring' limousine derivative

Replaced in October 1952 by new chassis/body design allied to 1948 variety of Humber Hawk.

Starting with the Humber Hawk announced in October 1948, Rootes ushered in a new range of Humbers. All 1948–57 Hawks, and all 1952–58 Super Snipes were based on the same basic chassis layout and pressed-body style, though there were significant differences in wheelbase, and in front and rear body sheet metal.

Humber Pullman—produced 1945–48

Technical description: *The Autocar*, 3.8.45

Same basic chassis and mechanical layout as Hawk/Snipe/Super Snipe range, but with Thrupp & Maberly bodyshell, and following details:
Engine: As Super Snipe.
Transmission: As 1945–48 Super Snipe, except 20.2mph/1000rpm in top gear.
Suspension and brakes: 12in-diameter drum brakes front and rear. 6.50–16in tyres.
Dimensions: Wheelbase 10ft 7.5in; front track 4ft 7.8in; rear track 5ft 1in. Overall length 16ft 6in; width 6ft 1in; height 5ft 10in. Unladen weight 4005lb.
Performance: Not tested in this guise.
Price: £1598 in 1945

Humper Pullman II—produced 1948–53

Technical description: *The Autocar*, 28.5.48

Specification as for 1945–48 Pullman except for considerable styling changes and revised chassis as for Super Snipe II:
Suspension: 7.00–16in tyres.
Dimensions: Wheelbase 10ft 11in; front track 4ft 10in; rear track 5ft 2in. Overall length 17ft 6.5in; width 6ft 2.5in; height 5ft 9in. Unladen weight 4465lb.
Performance: (*The Autocar*, 4.7.52) Maximum speed 78mph. 0–60mph 26.2sec. Standing ¼-mile 23.2sec. Typical fuel consumption 14–17mpg.
Price: £2171 in 1948

Humber Pullman III—produced 1953 to 1954

Technical description: *The Autocar*, 8.5.53

Specification as for 1948–53 Pullman except for:
Engine: 6-cyl overhead-valve engine of 1952 Super Snipe (see below).
Suspension: 7.50–16in tyres.
Dimensions: Length now quoted as 17ft 7.9in.
Unladen weight 4870lb.
Performance: Never tested in this guise.
Price: £1977 in 1953

This model was dropped in 1954, and was never replaced.

Humber Imperial—produced 1949–53

Mechanically and visually this car was identical to the Pullman II of 1948–53, but fitted with a seven-seater arrangement without a limousine division.
Performance: (*The Autocar*, 21.10.49) Maximum speed 79mph. 0–60mph 26.5sec. Typical fuel consumption, about 13–15mpg.
Price: £2171 in 1949

Humber Imperial II—produced 1953–54

Mechanically and visually, this car was identical to the Pullman III of 1953–54, but fitted with a non-limousine variety of coachwork.
Unladen weight: 4845lb.
Performance: Not tested in this guise.
Price: £1977 in 1953

This model was dropped in 1954, and was never replaced.

Humber Super Snipe Mk IV—produced 1952–54

Technical description: *The Autocar*, 17.10.52

Engine: 6-cyl, 88.9 × 111 1mm, 4139cc, overhead valves, CR 6.5:1, Stromberg carb, 113bhp at 3400rpm. Maximum torque 206lb ft at 1400rpm.
Transmission: Axle ratio 3.9:1. All-synchromesh gearbox, overall ratios 3.9, 5.54, 8.16, 12.18, reverse 12.92:1. Alternative axle 3.7:1, overall ratios 3.7, 5.22, 7.74, 11.56, reverse 12.25:1. 21.3mph/1000rpm in top gear or 22.5mph 1000rpm in top gear.
Suspension and brakes: Ifs, coil springs, wishbones, anti-roll bar, telescopic dampers; live rear axle, half-elliptic leaf springs, telescopic dampers. Worm and nut steering. 11in-diameter drum brakes front and rear. 7.00–15in tyres on 5.0in wheel rims.
Dimensions: Wheelbase 9ft 7.7-in; front track 4ft 10in; rear track 4ft 8.25in. Overall length 16ft 5in; width 6ft 1.5in; height 5ft 6in. Unladen weight 4025lb.
Performance: (*The Autocar*, 29.5.53) Maximum speed 90mph. 0–60mph 16.0sec. Standing ¼-mile 20.5sec. Typical fuel consumption 14 to 18mpg.
Price: £1627 in 1952

(Note: From autumn 1953, the engine was uprated, with CR 7.1:1. 116bhp at 3500rpm. Maximum torque 211lb ft at 1400rpm.)

Humber Super Snipe Mk V—produced 1954–58

Technical description: *The Autocar*, 16.4.54

Specification as for uprated Super Snipe Mk IV (1953–54 variety).
Performance: Never tested in this guise.
Price: £1397 in 1954

Note: From September 1955 the following engine changes were introduced:
CR 7.4.1, 122bhp at 3600rpm.
Transmission: Axle ratio 4.1:1. Overall ratios 4.1, 5.82, 8.57, 12.8, reverse 13.57:1. Optional overdrive, giving 3.2:1. 20.33mph/1000rpm in direct top gear, 26.0mph/1000rpm in overdrive top gear.
Performance: Not tested in this guise.
Price: £1552 in 1955

(Note: From April 1956, the car became available with optional Borg Warner automatic transmission.
Price reductions also took place at this time:
£1426 (manual)
£1614 (automatic))

Starting with new Humber Hawk, announced in May 1957, and the new Super Snipe announced in October 1958, Rootes brought in a rationalized range of cars all based on the same monocoque four-door bodyshell which shared the same wheelbase, suspensions and principal dimensions. Hawks had the old engine, while Super Snipes and their derivatives had a brand-new six-cylinder engine. These models carried on until 1967, when both were phased out and not replaced.

Super Snipe—produced 1958–59

Technical description: *The Autocar*, 3.10.58

Same unit-construction four-door shell and suspensions as for Humber Hawk of 1957–67:
Engine: 6-cyl, 82.55 × 82.55mm, 2651cc, overhead valves, CR 7.5:1, Stromberg carb, 105bhp (net) at 5000rpm. Maximum torque 138lb ft at 2000rpm.
Transmission: Choice of manual, overdrive, or automatic transmission. Three-speed manual and automatic boxes. Axle ratio 4.55:1. Overall ratios (o/d top, if fitted, 3.54), 4.55, 7.34, 12.77, reverse 14.29:1. Automatic ratios 4.55, 6.5, 10.5, reverse 9.51:1, 17.4mph 1000rpm in top gear, 22.4mph 1000rpm in overdrive top gear.
Suspension: Ifs, coil springs, wishbones, anti-roll bar, telescopic dampers; live rear axles, half-elliptic leaf springs, telescopic dampers. Recirculating ball steering. 11in diameter front and rear drum brakes. 6.70–15in tyres.
Dimensions: Wheelbase 9ft 2in; front track 4ft 8.5in; rear track 4ft 7.5in. Overall length 15ft 4.75in; width 5ft 9.5in; height 5ft 1in. Unladen weight 3350lb.
Performance: (*The Autocar*, 31.10.58) Maximum speed 92mph (in overdrive), 87mph (direct top). 0–60mph 19.0sec. Standing ¼-mile 21.0sec. Typical fuel consumption 16 to 23mpg.
Price: £1494 (saloon) in 1958
£1741 (estate) in 1958

Super Snipe Series II—produced 1959–60

Technical description: *The Autocar*, 16.10.59

Specification as for Super Snipe I except for:
Engine: 87.3 × 82.55mm, 2965cc, CR 8.0:1, Zenith carb. 121bhp (net) at 4800rpm. Maximum torque 162lb ft at 1800rpm.
Transmission: Automatic ratios 4.22, 6.03, 9.77, reverse 8.82:1. 18.5mph/1000rpm in top gear.
Brakes: 11in-diameter front discs, 11in-diameter rear drums.
Performance: Not tested in this guise.
Price: £1453 (saloon) in 1959
£1701 (estate) in 1959

Super Snipe Series III—produced 1960–62

Technical description: *The Autocar*, 14.10.60

Specification as for Super Snipe II except for:
Overall length 15ft 8in.
Performance: (*The Autocar*, 16.6.61) Maximum speed 100mph (overdrive), 96mph (direct top). 0–60mph 14.3sec. Standing ¼-mile 19.5sec. Fuel consumption between 15 and 26mpg.
Price: £1489 (saloon) in 1960
£1737 (estate) in 1960

Super Snipe Series IV—produced 1962–64

Technical description: *The Autocar*, 14.9.62

Specification as for Super Snipe Series III except for:
Engine: 124bhp (net) at 5000rpm. Maximum torque 160lb ft at 2600rpm.
Transmission: Automatic ratios as before. Axle ratio now 4.22:1 on all derivatives. Manual ratios (3.28—o/d), 4.22, 6.13, 11.83, reverse 13.25:1. 18.6mph/1000rpm in direct top gear and automatic, 23.9mph/1000rpm in overdrive top gear.
Performance: Not tested in this guise.
Price: £1541 (saloon) in 1962
£1782 (estate) in 1962

Super Snipe Series V—produced 1964–67

Technical description: *The Autocar*, 23.10.64

Specification as for Super Snipe Series IV except for:
Engine: 2 Zenith-Stromberg carbs, 128.5bhp (net) at 5000rpm. Maximum torque 167lb ft at 2600rpm.
Power-assisted steering as standard. Rear anti-roll bar for saloon cars.
Height 4ft 11.25in. Unladen weight 3415lb (saloon), 3495lb (estate).
Performance: Not tested in this guise—but see below.
Price: £1512 (saloon) in 1964
£1633 (estate) in 1964

Imperial—produced 1964–67

Technical description: *The Autocar*, 23.10.64

Mechanical specification in every way as for Super Snipe Series V, except for standardization of automatic transmission and Selectaride rear shock absorbers. Manual or overdrive transmission not available.
Estate car derivative not available.
Performance: (*The Autocar*, 11.6.65) Maximum speed 100mph. 0–60mph 16.2sec. Standing ¼-mile 20.7sec. Typical fuel consumption 18mpg.
Price: £1796 (saloon in 1964)
£1917 (limousine) in 1964

(Note: 'Touring' limousine derivatives were also available of all Hawks and Super Snipes in this series, but they were mechanically identical.)

Natural gas may power road and public transport in future

By CHRISTOPHER de FRAGA

GAS is greener for public transport and big trucks, according to the Victorian Gas and Fuel Corporation, which is developing technology to convert big diesel vehicles to compressed natural gas — a technology it may export.

The corporation is working with German engine management specialist Bosch in Australia to develop a spark-ignition, diesel-derived engine which can burn a combined gas and diesel mixture, pure gas, or diesel fuel, depending on the owner's requirements to save money and aim for a clean environment.

So far, the work has produced a diesel engine which, with electronic controls, will burn fuel at the rate of half the stoichiometric rate — reducing both exhaust pollution and producing an exhaust without the usual diesel black particulate-laden smoke.

It is also far more fuel-efficient, but the lack of smoke is important for other reasons.

The importance of this alternative gas technology can be seen from proposed future pollution rules for diesels, which will require particulate traps — these black particles being suspected as a possible cause of cancer.

Regulations banning diesel engines from the city and heavily populated areas could make the Australian technology an export bonanza.

Meanwhile, the corporation plans to have refilling stations for compressed natural gas vehicles from Brisbane to Perth as part of a bid to have Australia's big truck fleet converted from diesel to gas.

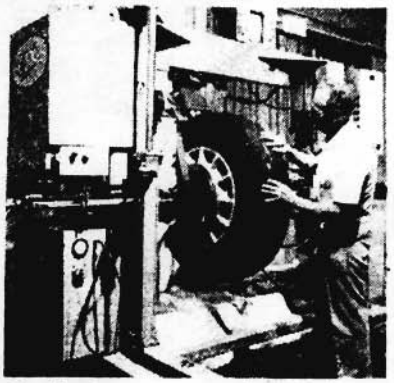
Ford already has offered to switch its own big trucks to gas — trucks which take parts from its Geelong plant to the Broadmeadows factory.

Benders Buses in Geelong has switched its fleet to gas and The Met is testing some gas-propelled buses.

From its suburban bus fleet of 350 diesel vehicles, The Met is having 10 switched to dual-fuel — burning both diesel and gas — as part of an experiment in both environmental improvement and cost savings.

The higher-than-average cost of the changeover (seven times the usual $1600 quoted for converting a car to gas) would have a "pay-back" time of two years, after which the buses would be saving considerably on expensive diesel fuel.

Natural gas is regarded by many as the near-future Australian fuel since it is abundant and available around the country, from the North-West Shelf to Bass Strait.



Bandag's new tyre casing analyser.

BANDAG MANUFACTURING

Bandag, which claims to be one of Australia's leading tyre retreaders, has introduced a new tyre casing analyser that it says will give vehicle operators better performance from tyres at a lower cost per kilometre.

The NDI analyser is being imported from Bandag in America and the computer-controlled machine has already been installed in dealers' workshops in Victoria, South Australia, Queensland and New South Wales. Dealers in other states are expected to install analysers as they become available from the US, where Bandag says 70 per cent of its outlets already use them.

The analyser determines the integrity and retreadability of a vehicle operator's valuable casings. After buffing the analyser rotates the inflated tyre "listening" for air leaks, which it marks so they can be repaired before the next stage, which is the ultrasonic inspection of the casing for separations.

Gulf crisis boosts gas

A RUSH of motorists converting from petrol to LPG because of the Gulf crisis has come as an unexpected boost to a new Victorian factory.

The McMillan Pty Ltd factory at Echuca, on the Murray River, is producing 7000 LPG cylinders a month compared with an expected demand of about 1000 a month, the managing director, Mr Tony Bradford, said.

The company has also announced a joint-venture manufacturing project in Malaysia plus an export drive to South-East Asia, the United States and Japan.

The Echuca complex employs more than 100 people over two shifts plus extra time on Saturdays to cope with the strong demand.

Mr Bradford said it may not be long before the $10 million plant reached its capacity of 10,000 LPG cylinders a month.

Recycle motor oil to save imports

from T. Pearson

One of today's vital questions is what effect hostilities in the Middle East would have on our oil supplies and costs. The answer in respect of lubricating oil is quite a considerable one.

The crude oil we produce in Australia is not a source of any lubricating oils and that includes motor oils. It is just not a suitable grade.

Crude oil imports from the Middle East are the main source of supply for lubricating oils.

Such imports are already a major factor in Australia's external balance of payments position. Any further disadvantageous change in cost or availability is likely to have a most detrimental effect on our economy and cost of living.

There is an answer; recycled oil. The technology exists in Australia today to produce considerable volumes of recycled motor oils at quality levels equal to other premium products.

In recent tests carried out by the laboratory Oilcheck Pty Limited, the quality and protection levels of premium recycled motor oils were found to be on a par with the leading premium brands.

Recycled motor oils will not be significantly affected by price increases deriving from developments in the Middle East. They are processed in Australia from used motor oils which would otherwise be potential environmental pollutants.

They reduce our dependence on uncertain supplies from the Middle East and vulnerability to soaring prices; they help our balance of payments and contribute to a better environment.

Tim Pearson,
Canberra.

Airbags 'not needed'

CARS do not need to be fitted with airbags, says the Federal Chamber of Automotive Industries.

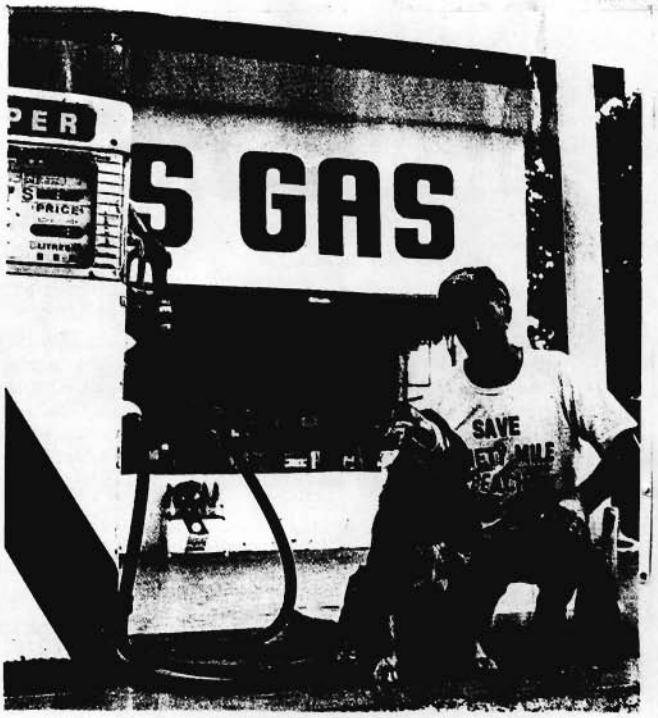
The chief executive of the chamber, Mr Ian Grigg, said Australia's mandatory seat belt wearing laws made our situation incomparable with the United States, which has no such enforceable legislation.

Mr Grigg said seat belts "have proven to be the single most effective means of reducing fatalities and serious injuries to vehicle occupants".

SAFETY ROLL CALL

This list of the introduction of safety features on production cars includes only companies still in business.

1908: Electric headlamp, General Motors Corp.
1925: Electric windshield wiper, GM.
1927: Dual tail-lamps, GM; Safety-glass windshield, Volvo.
1928: Laminated glass windows, GM.
1932: Headlamp beam indicator, GM.
1933: Power brakes, Chrysler.
1936: Windshield defroster, Chrysler; manual turn signals, GM.
1938: Self-adjusting brakes, Mercedes-Benz AG.
1939: Sealed-beam headlamps, Ford Motor Co and GM; rear turn-signal lamps, GM.
1940: Front and rear turn-signal lamps, GM and Chrysler; circuit breakers, Chrysler Corp.
1941: Double hood latch, Chrysler; safety door locks, GM.
1944: Laminated windshield, Volvo AB.
1946: Backup lights, Chrysler; parking-brake warning light, Chrysler.
1949: Cushioned instrument panel, Chrysler.
1950: Seat belts, Ford.
1951: Crumple zone, Mercedes-Benz.
1954: Power-window ignition interlock, GM.
1955: Interlocking door latches, recessed door handles, child-safety locks, wide brake pedal, Chrysler; headlight-aim guide points, GM; padded sun visors, Ford.
1956: Recessed steering-wheel hub, Ford; windshield washers, split steering column, Volvo.
1957: Double ball-joint mirror, Chrysler; rear-window defogger, Chrysler.
1958: Seat-back locks, GM.
1959: Aluminised mufflers, power door locks, Chrysler; three-point front shoulder belt, Volvo.
1960: Power-window safety switch, emergency light flasher, Chrysler.
1962: Split hydraulic brake system, Ford and GM.
1963: Automatic park-brake release, Chrysler.
1966: Penetration-resistant windshield, Ford and GM; defroster in rear window, Volvo.
1967: Recessed instruments and controls, Chrysler; three-point rear seat belt, Volvo; deformable steering column, Mercedes-Benz, GM, Chrysler and Ford; headrests, Chrysler.
1968: Child safety seat, GM.
1969: Rear anti-lock brakes, Ford; door-reinforcement beams, Ford and GM.
1970: Drunk-driver ignition interlock, GM.
1971: Fuel tank over rear axle, Mercedes-Benz; seat-belt warning light, Volvo.
1972: Air bag, GM; disc-brake wear indicator, GM.
1973: Ball-joint wear indicator, GM; self-aligning steering wheel, Volvo; polyethylene fuel tank, Volkswagen.
1974: Seat-belt audio warning, Volvo.
1974: Bulb-integrity sensor, Volvo.
1975: Passive safety-belt system, Volkswagen AG; four-wheel drive, Subaru Enterprise Co Ltd.
1978: Digital electronic ABS, Mercedes-Benz and BMW.
1981: Hill-holder clutch, Subaru.
1982: Open-door warning light, wide-angle rear-view mirror, Volvo.
1983: Drowsiness warning system, sonic back-up warning, Nissan Motor Co Ltd ; safety-film windshield, GM.
1985: Air bag (both sides), Mercedes-Benz (S class).
1986: Contracting steering column, Audi AG.
1987: Traction control, BMW; automatic transmission shift lock, Audi.
1989: Automatic roll bar, Mercedes-Benz; seat-integrated belt system, Mercedes-Benz and BMW; head-up instrument display, Nissan and GM.



EVERY DOG HAS HIS PAY

▲ Motorists who fill up at Mac's Gas station, then look for the attendant to pay, are more often than not patting him while they wait. Rocky, a border collie/kelpie cross, helps out owner Mac Dryden by taking money from motorists, trotting to the till, opening it and putting the notes in their correct compartment (always). "He hasn't got to working out the change yet," says Dryden, "but it's just a matter of time." Rocky developed his unusual skills by simply watching, and without any encouragement from Dryden. He also puts bags of rubbish out at night, fetches the correct tools on command at the service bay, and even finds the right electrical plugs and points for individual makes of car. He has gained something of a fan club at the station on Victoria's Princes Highway between Sale and Stratford, a fact Dryden plays on unmercifully. When smiling Rocky lovers turn up asking where the dog is, he replies, deadpan: "I shot him."

ROSS BIRD

General dogsbody Rocky and his owner/boss Mac Dryden.

Edited by Katy Bravery.

Electric cars get boost from battery invention

By RICHARD SMITHERS, Sydney

A big problem with electric cars is that you cannot tell when they are about to run out of power.

But after 10 years' research, a Sydney engineer has developed a system to monitor the energy level of a battery that could pave the way for electric vehicles to be on the road within 18 months.

Mr David Gosden, the system's designer, has installed the technology in a mini-van, which he unveiled at Sydney University yesterday.

The van, a 10-year-old Suzuki, is also fitted with solar panels on its roof, which Mr Gosden said would provide up to 35 per cent of the car's power, calculated from the average amount of sunlight available in central Sydney.

The rest of the power would be provided by overnight charging from the electric mains, making use of cheap off-peak rates, he said.

The breakthrough has been announced as the world is contemplating the high cost and problems of petrol supplies as well as the damaging effect of car exhausts on cities.

Mr Gosden said electric vehicles produced 20 per cent less carbon dioxide, a large component of gas causing the greenhouse effect, than petrol-driven cars. He said the carbon dioxide level would drop as the cars became more efficient and more power was generated from renewable energy sources such as solar, wind and hydro power.

Most of the world's big car manufacturers are working on electric power and Mr Gosden hopes he will be able to develop his technology with the assistance of an Australian car manufacturer.

General Motors recently unveiled its electric Impact, which has a range of about 190 kilometres and can cruise comfortably at 110 kmh.

The Federal Government's Department of Primary Industries and Energy and the Electricity Commission of New South Wales have provided $500,000 towards the building of two further prototypes of Mr Gosden's vehicle which will be rigorously tested as part of the Electricity Commission's regular van fleet.

Mr Gosden estimates his van would have a top speed of 100 kmh and a range of 150 kilometres, but these could increase with further refinements.

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1946 Austin 8 Saloon	$5,000	$90
1913 Ford Model T	$19,000	$90
1958 Customline Star Model	$15,500	$145
1955 Bentley R Type	$32,000	$225
1932 Ford Street Rod	$35,000	$490
1970 Mercedes Benz 280SL	$55,000	$650
1977 Jaguar XJC V12 Coupe	$27,000	$755
1960 Aston Martin DB4	$165,000	$865
1971 Falcon GT HO Phase III	$45,000	$975
1986 Group A Commodore	$27,000	$1190

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