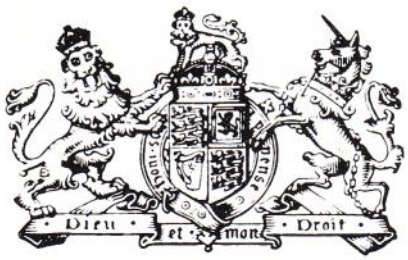
August 1991

The HUMBERETTE

CAR CLUB
HUMBER
VICTORIA



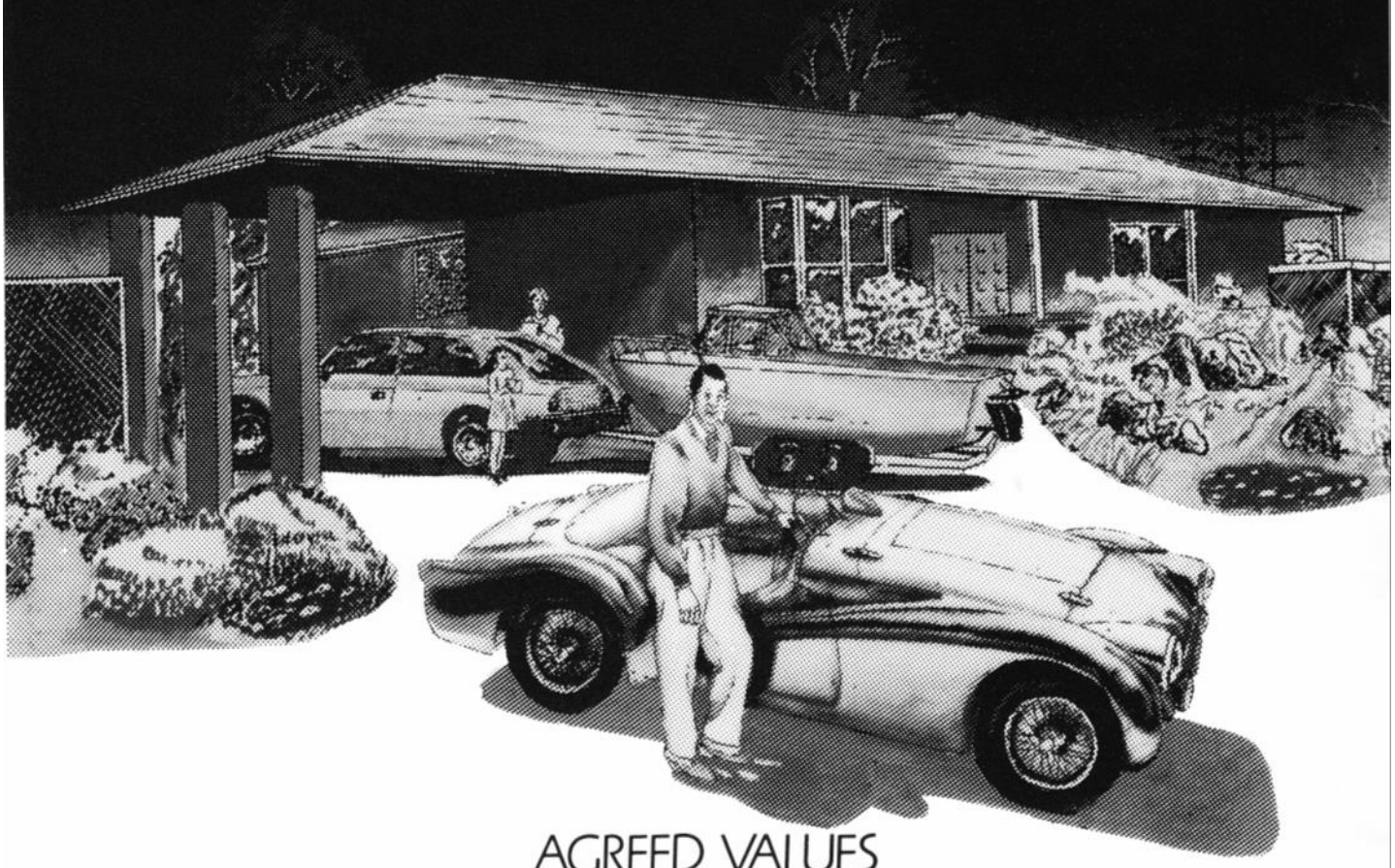
By Appointment to
The Royal Family

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

Feeling Secure About Your Investment?



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CALENDAR

AUGUST 25TH *** (SUNDAY) **	FAMILY SOCIAL DAY AND GENERAL MEETING AT THE CLUB ROOMS, DEEPDENE PARK. MIDDAY FOR BYO LUNCH (BBQ'S IN THE PARK). MEETING COMMENCES AT 2.00PM. LIBRARY AND VIDEO AFTERNOON.
SEPTEMBER 15TH	MONTHLY CLUB RUN TO VICTORIA'S TRAMWAY MUSEUM AT BYLANDS, NEAR KILMORE. MEET AT THE FORD FACTORY, HUME HIGHWAY, CAMPBELLFIELD, MELWAY MAP 7 E1/2. MEETING TIME: 11.00AM FOR 11.15AM DEPARTURE. LUNCH: BYO PICNIC LUNCH. ADMISSION: SMALL FEE WITH GROUP CONCESSION (HOPEFULLY!) WHAT TO DO: TRAM RIDES, MUSEUM, RESTORATIONS, SOUVENIRS, ETC. MELWAY REFERENCE FOR THE MUSEUM IS MAP 254 L10.
SEPTEMBER 27TH	GENERAL MEETING, DEEPDENE PARK HALL, 8.00PM. SPEAKER TO BE ARRANGED (CAR LOCKS).
OCTOBER 6TH.	CITY OF FOOTSCRAY CENTENARY CELEBRATIONS, GRAND DISPLAY AND CAVALCADE OF HISTORIC VEHICLES. ENTRIES HAVE CLOSED FOR THIS EVENT. All participants will receive their tickets and instructions prior to event.
OCTOBER 13TH	PUFFING BILLY OLDE TIME FESTIVAL, BELGRAVE/EMERALD. FOR FULL DETAILS SEE JUNE MAGAZINE.
OCTOBER 19TH - 20TH	"ALL MAKES SWAP MEET" AT THE FRESH CENTRE, FOOTSCRAY.
OCTOBER 19TH - 20TH	BAY TO BAY RALLY, MORNINGTON PENINSULA. ENTRIES CLOSE 19TH SEPTEMBER. ENTRY FEE $25 PER CAR. BROCHURES AND ENTRY FORMS AVAILABLE FROM THE CLUB.
OCTOBER 25TH.	GENERAL MEETING, DEEPDENE PARK HALL, 8.00PM.
NOVEMBER 10TH.	ANNUAL CONCOURS AND DISPLAY DAY INCLUDING SPIT-ROAST LUNCHEON AND "CENT AUCTION". SPIT ROAST BOOKINGS, $7.50 PER PERSON (CHILD $3.50) TO NANCY KENNEDY.
NOVEMBER 16TH-17TH.	BENDIGO SWAP MEET, PRINCE OF WALES SHOWGROUNDS, HOLMES ROAD, BENDIGO.
NOVEMBER 22ND.	GENERAL MEETING, DEEPDENE PARK HALL. 8.00PM.
NOVEMBER 23TH-24TH.	"THE GREAT AUSTRALIAN RALLY". MELBOURNE TO CAPE SCHANK RESORT AND RETURN TO BRIGHTON. ORGANIZED BY ARMSTRONG-SIDDELEY CAR CLUB. SEE DETAILS THIS HUMBERETTE.
DECEMBER 1ST.	PRESENTATION DAY AND CHRISTMAS BREAK-UP AT EDWARDES LAKE BISTRO, EDWARDES ST. RESERVOIR.

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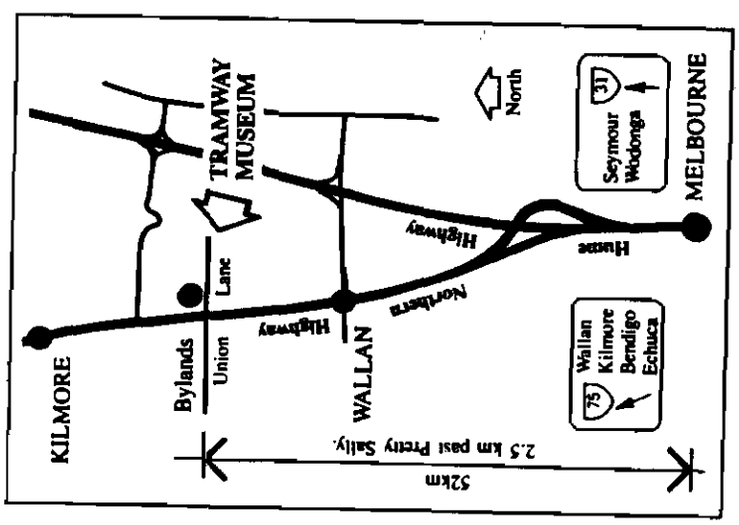
Victoria's Tramway Museum-Bylands

JUST ONE HOUR'S DRIVE FROM MELBOURNE



News Flashes

U.K. BRIGHTER PROSPECTS.

The British motor car industry is entering its major selling season with brighter prospects than it had been possible to foresee a short time ago, according to tbe Financial Times in London.

Leading producers are planning increases in schedules that will raise output to 1951 peaks, or nearly so.

★ ★

OVER 5,000,000 PROSPECTS.

This year there'll be slightly better than one prospective buyer in the U.S.A. for each new car rolling off Detroit assembly lines. At present, 1953 auto production in the U.S.A. is estimated at around 5,000,000 and there'll be 5,496,000 prospects for those cars.

★ ★

U.S. DEMAND FOR SPORTS.

Americans are expected to buy about 30,000 foreign and U.S. built sports cars this year. Mostly convertible two-seaters, they range in price from about £750 for a Singer or M.G. to about £7,000 for a Ferrari. Last year's sales of similar sports cars totalled about 24,000—up 28 per cent above 1951. Of the 24,000, only 3,000 were U.S. made.

★ ★

TOUGHER TYRES.

Longer wear is in sight if a new type of synthetic rubber, now in the pilot plant stage in the U.S.A. becomes a production reality. The new synthetic rubber has given 30 per cent. to 50 per cent. more abrasion resistance than standard rubber in laboratory tests.

★ ★

CHEAPER PETROL FOR COUNCIL.

Brisbane City Council recently accepted a tender by the Atlantic Union Oil Company to supply the Council with petrol at 2/11 a gallon, which is 7½d. less than private motorists pay.

The price of 2/11 a gallon is in line with that which the State Stores Board pays for petrol used by Queensland Government vehicles.

★ ★

TOUCHING UP PAINTWORK.

A "Touch-Up" pen will shortly be available which will enable the car owner to repair instantly any little nicks or scratches on his vehicle. Very similar in appearance to a fountain pen, it contains a retractable brush and is filled with paint. A variety of modern colours will be available, suitable to any recent and current colour schemes for G.M.H. vehicles.

★ ★

AUSTRALIA BACKWARD IN TRANSPORT.

The Federal Director of the Associated Chamber of Manufacturers (Mr. Withall) said recently that Australia is 20 years behind America and Europe, as far as road transport is concerned.

Mr. Withall said that the road transport industry was being suppressed by transport regulation acts, which imposed heavy taxes and required road permits in order to force consignors of merchandise to use the railways.

★ ★

SAFETY-FILMS.

A press correspondent (J.B.R., "Age") advocates more safety films to educate motorists in traffic rules of the road rather than a general speed limit for motor cars. He states that 76 per cent. of road accidents in England occurred in areas where a 30 m.p.h. speed limit was enforced.

Amongst motorists there seems to be some confusion between air-adjustable and gas shock absorbers. Normal shock absorbers contain oil and air. The air space is necessary to allow the level of the oil to vary as the unit is extended and compressed. One disadvantage of air is that it tends to mix with the oil, particularly when the going is a little rough. This is known as aeration. As a result the effectiveness of the shock absorber is reduced. To improve the operation of the shocker, gas is used in place of the air as the gas does not mix with the oil. However a gas shock absorber still contains oil, not just gas as many seem to imagine. It is best to think of a gas shock absorber as being a more efficient unit irrespective of whether you are towing a caravan or not.

Air-adjustable shock absorbers, sometimes known as pump-up shockers, are designed to assist the normal springs when heavy loads are carried in the back of the vehicle. It is worth noting that air-adjustable shockers do not increase the load carrying capacity of a vehicle. Their main advantage is that the normal vehicle height can be maintained with different loads.

Viv Elabbasy, the editor of Fire Australia (the official journal of the Australian Fire Protection Association Ltd and the Institution of Fire Engineers) has forwarded an extremely relevant article, published in her Spring 1990 issue. "Vehicle fires involving magnesium alloy" is an interesting read, particularly considering the vast amount of magnesium VW hardware on the roads today.

"In the early eighties, the problems with fires involving magnesium-alloy motor vehicle components came to prominence when a racing team's transporter caught fire in South Australia. At the time, the brigades involved received criticism from members of the public for the way the fire was handled. They've now learnt the value of special dry powder extinguishers and, with the increased use of mag wheels, it is reported that several CFS brigades now carry such extinguishers on appliances.

More recently, the MFB in Melbourne attended a VW Kombi fire, in which the engine and gearbox ignited. During the initial fire attack with water, significant flaring and rapid expansion of the fire occurred, causing the fire crews to retreat before attempting a second time.

In researching this particular phenomenon, AFPA has learnt of numerous such incidents, indicating that little training information on how to deal with the problem is available. The manual of firemanship in NFPA handbooks recommends the use of special powder extinguishers. However, these are not readily available in Australia and are certainly not carried in most fire fighting appliances.

Experience has shown that the most appropriate means of extinguishing these fires is to use a coarse water fog to cool the fire, remembering that flaring will occur and that water must be poured on continuously, rather than intermittently. Once the main fire has been extinguished in the vehicle, a multi-purpose powder extinguisher can be used to attack the magnesium-alloy fire.

This method was recently successfully used by the Rowville CFA fire brigade when attending the October 9 Kombi fire. Captain Ives said that 'when we arrived, the vehicle was well alight. We cooled the vehicle and extinguished all parts, except the engine. Slight flaring occurred. We then lifted the engine-cover and extinguished the fire in the engine with a multi-purpose powder fire extinguisher.

GUTEN appetit! East Germany's now defunct Trabant is being eaten.

The resin-impregnated compressed cardboard bodies of Germany's automotive joke are proving to be a major disposal problem. If burnt, the Trabis release poisonous dioxins into the air; if buried, the same dioxins leach into the soil.

One West Germany company has formulated ze correckt answer — a bacteria to eat Trabants. These clever microbes, mixed in a smelly brew, apparently digest Trabant bodies with scarcely a noxious burp.

Well, they do have some trouble with the pheno-formaldehyde resins in some sections of the car, according to American industry magazine *Autoweek*.

But the clever Germans reckon they're close to having the right bug to do that job too. A stein of beer, a bread roll and some German worst anybody?

Towards 40mil cars

DOES the world have too many cars?

It's a question some quite brilliant automotive minds are asking lately, among them BMW's Research and Development chief, Dr Wolfgang Reitzle.

This year the forecasters predict some 34.4 million new cars will be sold — a 3.3 per cent decrease over last year's all time record of 35.6 million.

The downturn will be only temporary. Forecasts for 1993 peg the market at a staggering 37.3 million passenger vehicle sales.

The breakdown for 1991 has Western Europe consuming 12.9 million cars, the USA 9.6 million, a little under 5.0 million in Japan and 2.1 million in the Asia-Pacific region.

With manufacturers busy building new factories with a total of 6.3 million additional capacity, London-based DRI Europe forecasts cars sales of nearly 40million by 1995.

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)

H.C.C.V. GENERAL MEETING

26TH JULY, 1991

Meeting commenced at 8:19pm and Chaired by Margaret Willimott (President).

ATTENDANCE: Thirty-one (31) members in attendance as per book.

APOLOGIES: Ray Webster, Frank Stockwin, Joan Holmes, Ian Wilde, Sylvia Pieterson.

* Minutes moved by Vic Wilson, seconded by Tim Barlee.

CORRESPONDENCE: (In) Mr. C.G. Hickie re sale of 1966 Humber Vogue; Auto Tag Vehicle Security; Buda Historic Homestead; MaCalister Lodge; 4S Sandblasting; McEvoy Tavern; Fun City Go-Karts; Foto-Tops; Performance Industries; Historical Insurance; Pickles Auto Auction.

(Inter Club Correspondence) C.M.E.C. Newsletter; Rover "Torque"; Standard Vanguard Club; Chevrolet Car Club; H.C.C. of W.A.; C.H.A.C.A. "Journal"; H.C.C.S.A. "In Vogue"; S.A.T.O.C.; The Inverted Commer; Wolseley "Hornet"; The Flying "A"; The H.C.C.A.; Humber-Hillman N.Z. "Torque"; Daimler-Lanchester C.C.

* Correspondence moved by Peter Davenport, seconded by Eoghan Wilson.

TREASURER'S REPORT:	Accounts for payment	$ 625.30
	Term Deposits Westpac	2,500.00 at 8.25%
		2,500.00 at 9.25%
	Total Term Deposit	5,000.00
	Account Balance as at 26/7/91	3,750.26

* Treasurer's Report moved by Bob Kennedy.

EDITOR'S REPORT: Nancy Kennedy reported that 211 magazines were distributed this month. Barry wants photos and stories relating to member's cars.

SOCIAL SECRETARY: Mike Dupla reported on the very successful trip to Maldon. He informed us that fourteen Humbers made the journey on this day; possibly the best attended outing this year. Mike also mentioned the run to Westernport Hotel on August 4th.

LIBRARIAN'S REPORT: Dave Denner mentioned that the loan of technical publications including Workshop Manuals, Owner's and Spare Parts Manuals, etc. are only on loan for one month. If time extension is required please see Dave.

MEMBERSHIP SECRETARY: Graham Finn reports on two new members - Mrs. Jean Sterling and Mr. Michael Vukovic. A big welcome to our new members.

* Margaret Willimott mentioned the Footscray Centennial Celebrations. H.C.C.V. has been invited to display vehicles in this parade.

* Puffing Billy Rally is approaching us and application forms are available - $30.00 per club entry.

* Wanted - Lloyd Hughes is after a Series 5 S/Snipe windscreen.

A film on Military WW2 Humbers "Wheels of Victory" was shown.

Meeting Closed at 9:44pm.

Ian Foreman,

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PRESIDENT'S REPORT AUGUST, 1991

Hello everyone! With Winter now almost behind us the Rallying season will be underway again shortly.

I hope all those intending to attend have got their applications in for the GRAND NATIONAL HUMBER RALLY at BROKEN HILL next Easter. The South Australian Club have put a lot of effort into its organization and have received responses from about forty-three (43) cars when I spoke to Chas Grimes, one of the Rally Committee, last week. To date it looks as if fourteen (14) Victorian cars will attend. Application forms are available at the club meetings or from myself should anyone still require one.

There has been an excellent response to the CITY OF FOOTSCRAY CENTENARY CAVALCADE. Sixteen (16) members indicated their cars would be available and I have sent these details on to the Council. A small entry fee for the Cavalcade also covers free lunches, entry to the historical displays, etc and a commemorative badge. Fees will be collected on the day.

Still on the rallying scene, we hope to have at least four (4) Humbers at the PUFFING BILLY OLDE TIME FESTIVAL (October 13th) and there will also be Humber participants in the BAY TO BAY RALLY (October 19th/20th) and the BRIGHTON/CAPE SCHANK RUN (November 22nd/23rd).

These rallies are a marvellous way to promote our club and recruit new members whilst enjoying ourselves at the same time. Applications for Puffing Billy and Footscray have closed but information on any of the other events is available form Ian, Bob K. or myself.

Yesterday, along with other A.O.M.C. representatives I spent a full day attending a community consultation on ecologically sustainable development (E.S.D. for short) at Eden on the Park, Melbourne.

Although we were there specifically to represent the motoring interest, representatives covered everything from mining, manufacturing industry, etc to conservation, women's interests and community concerns. As you can imagine it was very difficult to reach a consensus on any one particular thing. However the small working groups did come up with a series of environmental concerns and possible action plan which will be co-ordinated by the E.S.D. Secretariat and then forwarded to the Prime Minister in October for consideration in forming an Australian approach to an ecologically sustainable environment. It is something which should concern us all and if we are to see our hobby continue into the future, it requires a responsible approach to the use and performance of all our vehicles.

Finally, may I remind you all that our meeting this month is a SUNDAY FAMILY DAY with a B.Y.O. BBQ, picnic lunch preceding the meeting at 2:00pm at Deepdene Park Hall.

I'll look forward to seeing you all for a social hour beforehand. Meanwhile, keep Humbering on!

Margaret.

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FOR SALES

1. 1962 S/Snipe Series 3, reg Dec '91, mech O.K., green & white, auto needs service, drives well, w/wall tyres, reluctant sale, best offer.

2. 1964 S/Snipe Series 4 parts, motor, auto, t/shaft, front and rear screens, wood trims, handles & winders, front and rear seats grey good condition, w/trims & hub caps, best offers.
Contact: M. Hardware, Ph: 754 8322 B/H, 755 2798 A/H.

1962 S/Snipe, Cavendish area, good order, owner keen to sell.
Contact: Jim Kent has details on (055) 81 1414.

1966 Humber Vogue, manual, no reg, not driven for 4 months, suitable parts, best offer.
Contact: C. Hickie, Balwyn, Ph: 836 2307. D. Hickie, Ph: 789 6594.

MK 1 S/Snipe, 80 P.C. complete, $450.
Contact: Ossie Grande, Ph: 807 6937.

1977 Triumph 2500S, auto, white, 12 mths reg, genuine 150000km, one owner past ten years, excellent condition, $4,500.
Contact: Vic Wilson, Ph: 478 9352.

1964 Snipe, no motor, oyster grey, body and interior fair, woodgrain/dash good, new tyres, $1,000 o.n.o. Contact: Alex, Ph: 337 3674 or 337 7923.

1957 Hillman Minx, original rego, grey and cream, still being driven, some rust in body, O.H.V., car at Ballarat, $400 o.n.o.
Contact: Ph: (053) 42 0484.

1966 Vogue, black, no rego, some rust and body damage, suitable for parts, best offer.
Contact: Michael Hickie, Balwyn, Ph: 836 2307.

1) 1954 MK IV, fully registered, r.w.c., five near new tyres, spare tyres and many other spares, radio, motor/brakes/radiator recently done up, blue duco.

2) Series V S/Snipe, reg to June '92, r.w.c., in very good condition all through, plenty of spares, w/wall tyres and extra set, 20,000 miles since motor overhaul. $7,500 the pair.
Contact: Grant Busch-Corio, Ph: (052) 75 8684 after 5:30pm.

Wanted: Any literature on Vogue Sports especially parts supplement or bulletins, Sceptre owner's manual and workshop manual. Also, Vogue steering wheel (must be mint) and locking petrol cap. Also to suit Hillman Minx Series 5A 3rd and 4th gear slider and locking petrol cap.
Contact: Ken Watts, 130 Penquite Road, Launceston, Tasmania, Ph: (003) 44 3764.

1965 Humber Vogue, manual, genuine 56,000, one elderly owner since new, always garaged, white with red trim, reg April '92, r.w.c., $2,950.
Contact: R. Funston, Ph: 885 9505.

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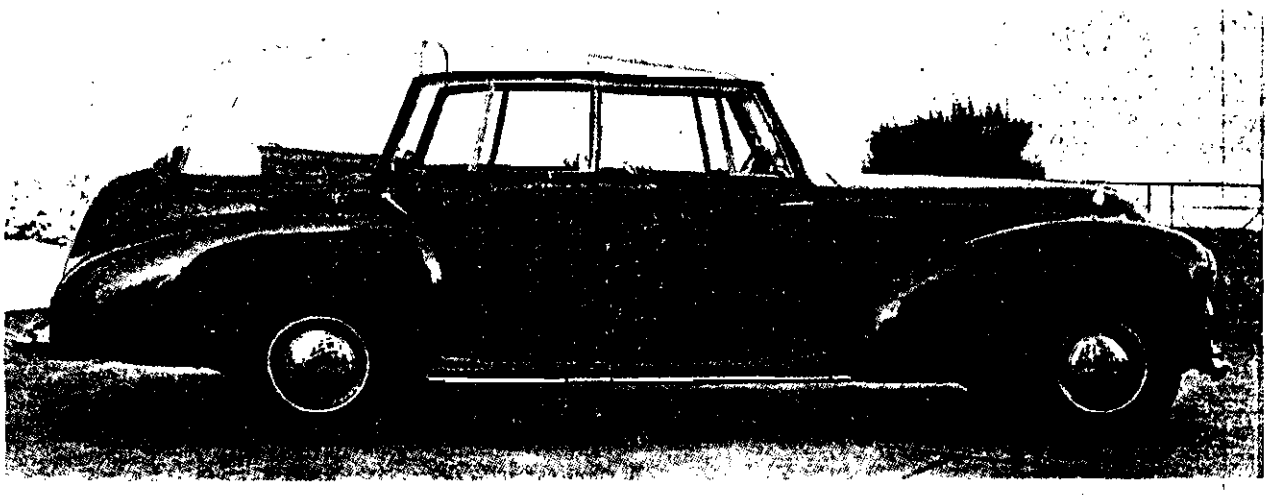

This is the type of car the Queen will be using during her Royal Tour of Australia. Pictured here is the Humber Pulman special-bodied saloon with a transparent "Plexiglass" top.

SOCIAL NEWS & NOTES

There must be something about good food that brings Humbers out on a Winter's day. The Westernport Pub smorgasbord and Technical afternoon turned out to be one of our best attended outings for some time. It was lovely to see one of our original members, Adelaide Underwood, together with family Graeme & Heather, also Moe members Tom & Lyn McAlpine (hope the Mk 1 recovered from her "indigestion" Tom - no doubt it resulted from envy of the lovely food her driver was consuming!).

Following the smorgasbord we proceeded to the Kennedy residence for an interesting technical hour inspecing a variety of Humber engines and their operation. Bob even offered to provide us with gumboots, gloves and wash cloths next time so that his garage could be as spic'n'span as some of his cars!

Thanks Bob for an interesting and informative afternoon and also Nancy and Joan (now then Bill, don't get jealous!) for providing a simply scrumptious afternoon tea. I wonder why no one wanted any tea that evening?

In attendance: (Humbers) Bob & Nancy Kennedy; Bob Bruce & Joyce; John & Eily McGregor; Barry & Jenny Lee; Des Judd & Lyn; Ian McDonald & Alison; Fred & Sylvia Pieterson; Tom & Lyn McAlpine & Betty; Bill & Joan Holmes; Bert Groothius & Friend; Keith & Margaret Willimott.

(In Moderns) Ron & Eleanor Forth; Nancy Butt & Olga; Geoff & Jill Webb; Adelaide Underwood, Graeme & Helen.

Our next outing is a run to the Bylands Tramway Museum at Kilmore on Sunday September 15th.

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KENNEDY'S KLANGERS

Well, I sit here looking at this pad, wondering what I'm going to fill all these lines up with and at this stage I don't know. Today is the deadline for me to get my report in so here I go.

Further to my rantings about the Concours that I have written over the last few months, there are a lot of small items that effect your marks. I'll try to mention a few of them.

Wheels and tyres - take them off and clean both sides, black both sides of the tyres, I find boot polish to be very good, I know you can buy tyre black paint but if you use it be careful not to splash it over the painted wheel and don't forget your spare.

With the wheels off you might as well check your brakes for damage and condition, all O.K.? Good, doesn't it make you feel good to know the vehicle will stop, that is stop when you want it to!

Inside, after you have had the last clean up, don't jump in with mud all over your shoes, place something down on the floor mats, it's useless cleaning them up then walking dirt all over them isn't?

All the ashtrays need to be emptied and cleaned, clean the lens of the interior lights both sides as well as the globe. Speaking of lights, check your park light lens. Is there water or dust behind them? If so unscrew them and clean them up.

On the doors of all the vehicles are drain holes, these are found on the bottom of the doors, make sure the holes are clean to let the water out. If not the water lays there and starts to cause rust. Just another quick one, have you ever oiled the door hinges? Just thought I'd ask?

Well as I have said before, preparing your vehicle for any show whatsoever, mainly requires common sense and as Humber owners we already show that!

See you at the next meeting.

Bob Kennedy.

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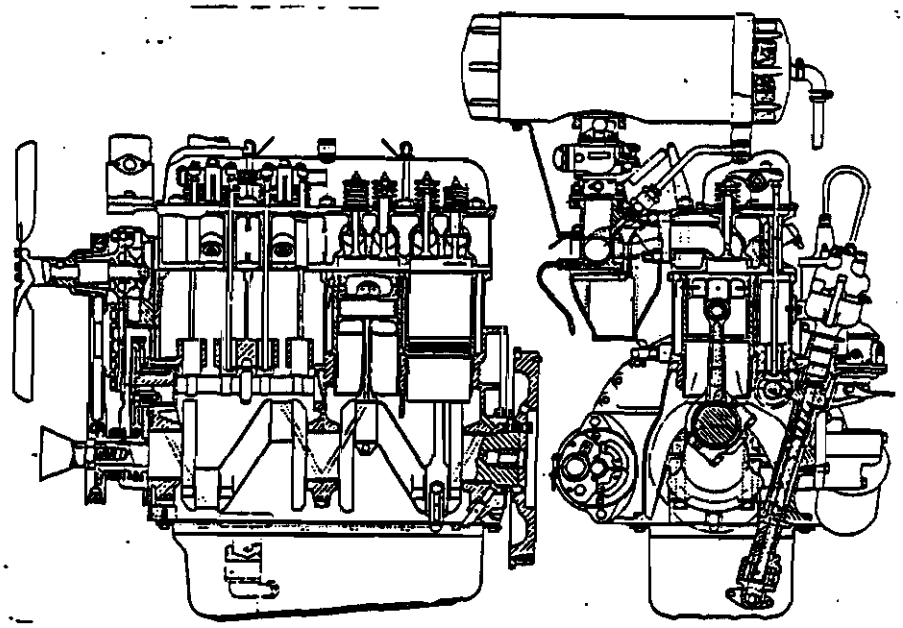
OIL CONSUMPTION in Modern Motor Car Petrol Engines

★

By C. F. POLLARD,
Service Inspector,
Boyed Pty. Ltd.
Sydney.



SOME CAUSES OF EXCESSIVE OIL CONSUMPTION.

Piston Rings: Worn, loss of tension, excessively tight or loose fit in grooves, compression ring stuck, oil rings plugged.

Cylinder Wall: Worn, distorted, or scored.

Valves: Worn guides or stems, excessive oil supply to valve train.

Crankcase: Excessive crankcase pressure, excessive crankcase ventilation, defective ventilator pipe, leaks at gaskets.

Leaks: At rocker arm cover, push rod cover, behind fuel pump, behind any other flanges, oil filter couplings and other oil line couplings, timing case, rear bearing oil seal.

Overfilling Crankcase: Causing excessive splashing and throw off.

Fuel Pump: Leak where bolted on, leaking diaphragm at vacuum pump.

Oil Dilution by Fuel: Defective carburetion, defective fuel pump.

Operating Temperature: Too low.

Oil Viscosity: Too low for operating conditions.

Low flash-point and low V.I. napthenic or mixed base oils: These may increase oil consumption but their lubricating value is undoubted. It has been shown beyond doubt that they yield far better wear figures and consequently lower maintenance costs and better performance throughout the life of the engine than do the higher V.I. paraffin base oils.

The increased consumption of 'light oils' is outweighed by their advantages. They are:—

1. Quick 'lift' and rapid circulation when starting in the cold, replacing water of condensation with oil sooner than possible with heavy oils. This fulfils indication No. 1 for prevention of cylinder wear.
2. Reduction of load on starter-motor when starting in the cold.
3. Better penetration, enabling oil quickly to get between closely fitted parts and lubricate where heavy oils might fail to do so.
4. Faster circulation at all times, resulting in faster heat transfer, cooler oil, cooler moving parts, and slower oxidising of oil.
5. Quicker 'healing' of any oil film broken by abrasive particle.
6. Absorption of less horsepower in overcoming friction and oil-drag. This tends to improve fuel consumption four per cent under average driving conditions for each reduction in viscosity by 10 S.A.E. numbers. For 'public service vehicles (buses) the figures given for improvement in fuel consumption are 2.3 to 3.6 per cent.
7. Less tendency to sludge.
8. Better scavenging.
9. Slower carbon accumulation.

CONCLUSIONS.

The pride so often obvious when an operator says 'my engine does not use any oil at all' is likely to be pride before a fall if his engine is submitted to long sustained work at or close to full power, and the experience quoted in support of an indignant objection to the liberal consumption comes 'from the port o' the past on a bowline, close hauled on a wind of dream.' (Fox-Smith.)

SUMMARY.

Attention is directed to the fallacy of 'miles per gallon' as an index to oil consumption, and to the fact that all manufacturers anticipate the consumption of engine oil.

(Continued on Page 174).

The following information was extracted from an article on oils in Restored cars, No 88, by Paul Corey.

Oils are rated by the American Petroeum Institute (API). The ratings go: SA, SB, SC, SD, SE, SF, SG. In 1988 the SG oil came on the market. These oils are reported to be better than the SF rating that were the top of the range until 1988

The lower priced 20W40 oils are rated SF and the 20W50 is usually rated SG. With 20W50 SG you get nice thin oil to lubricate moving parts quickly when starting from cold and 50 weight when hot.

Castrol recommended optimum oil change period for city and suburban driving conditions is 4 or 5 months using GTX2. It is recommended that you always change the filter when changing theoil. A warning is also issued regarding used motor oil, it is carcinogenic! It can cause cancer. Keep it off your hands or clean it off thoroughly if you get it on you. Do not dump it, dispose of it safely.

OIL CONSUMPTION

(Continued from Page 173).

The oil consumption in motor car engines, operating on the road, contrasted with that in stationary engines, and reasons are given for the variation in oil consumption between engines built to the same specifications.

The effect of viscosity on oil consumption, and the desirability of using thin oils is referred to. Some Causes of excessive oil consumption are noted.

ADDENDA.

Oil Pressure: Observations made on an 8 cylinder V type aero engine developing 200 b.h.p. at 1400 r.p.m. indicate the effect of oil pressure on oil consumption.

Pressure lbs per sq. in.	Consumption grms per b.h.p. hour
70	34
50	20.43
30	11.25

Permissible Tolerance: In petrol engines, the permissible tolerance between 'excessive' and 'insufficient' oil consumption is much wider than in diesel engines and therefore the same fine limits in control of oil consumption are not required.

Oil Viscosity: Effect on bearing temperature.

In an actual engine test it was found that a change from S.A.E. 50 to 10W brought about a reduction in bearing temperature of 20 degrees F for the same running conditions.

Engine condition and effect of type of oil: Tests conducted by Georgi, using two engines and two oils:—1940 engine, 65000 miles; 1947 engine, 8000 miles. With high consuming oil 190 miles per quart 380. With low consuming oil 220 miles per quart 720.

Running In: As stated earlier, oil consumption is normally heavy during the running-in period.

In new or reconditioned engines, a drop in oil consumption to a figure within the accepted range for the engine is proof that running in is completed.

Viscosity:

The viscosity of an oil is the measure of its resistance to flow. It may therefore be regarded as the internal friction of an oil.

Viscosity Index: Viscosity Index serves not only to indicate viscosity changes with temperature but also to identify the base of the crude from which an oil is made, provided a V.I. improver has not been used. The strictly paraffinic type oils have viscosity indexes of about 100, whereas strictly napthenic type oils have viscosity close to 0. Oils made from intermediate base crudes fall between these two limits.

Equivalents and Multiples: For rough calculations, as made for this paper, 4540 grms are taken as the equivalent of 1 imperial gallon.

The exact equivalent for 1 imperial gallon of water at 60 degrees F. is 4535.92 grms.

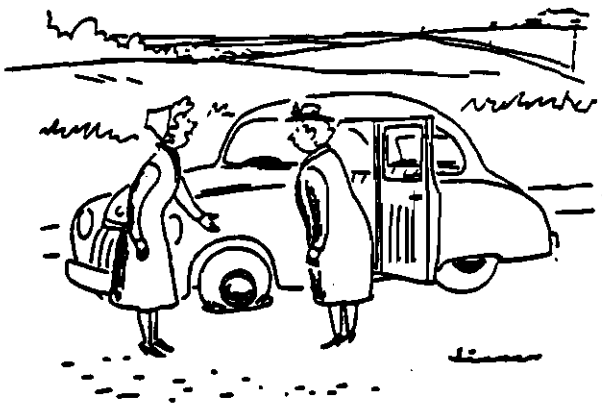
For oil a correction would be required for specific gravity.

1 Imperial gallon equals 4.5435 litres and 1.2003 U.S. gallons.

1 U.S. gallon equals 3.785 litres and 0.883 Imperial gallons.

Index to Oil Consumption in Medium Sized Engines in Average Private Owner's Service using S.A.E. 20 Oil.

	Pints per 1000 miles	grms. per b.h.p. hour
Too low (investigate) ..	under 1	under 0.6
Low, but satisfactory ..	1 to 2	0.6 to 1.1
Ideal	2 to 3	1.1 to 1.7
High, but satisfactory ..	3 to 6	1.7 to 3.4
Too high (investigate) ..	over 6	over 3.4



"It could be worse dear, it's only flat at the bottom!"

ELIMINATING SQUEAKS.

To rectify a squeak at a rubber bush or rubber shackle, make up a mixture of two parts alcohol and one part of glycerine. When applied by means of a squirt can the alcohol will evaporate, leaving a film of glycerine on the bush. This film will not only act as a lubricant, but also afford protection against the action of petrol, oil and grease. In the case of inaccessibility, the pin should be removed and the mixture, or hydraulic brake oil used to advantage.

R. Robinson, Wynnum, Q'ld.

TO CUT TRIPLEX GLASS.

Many motorists have tried to cut triplex glass, which is usually used in early Ford cars, and consists of two sheets of glass, with celluloid sealed in between.

To successfully cut this glass to your required shape use an ordinary glass cutter and carefully cut the shape required on one side of the glass. Turn it over and cut the same shape, exactly opposite the first cut—give the glass a careful twist or bend to fracture where cut with the cutters and the glass will break on both sides, leaving the celluloid in the centre. Get a razor blade and insert this in the crack. Carefully following the shape around, cut the celluloid through.

Albert Heather, Castlemaine, Vic.

ARNOLD GOLDMAN

What to do when the engine knocks

Symptom	Possible causes	Remedies
Engine "pinks"	Mechanical advance not working	Repair or replace mechanical advance
	Vacuum advance not working	Repair or replace vacuum advance
	Too low a grade of fuel	Drain and replace with correct grade

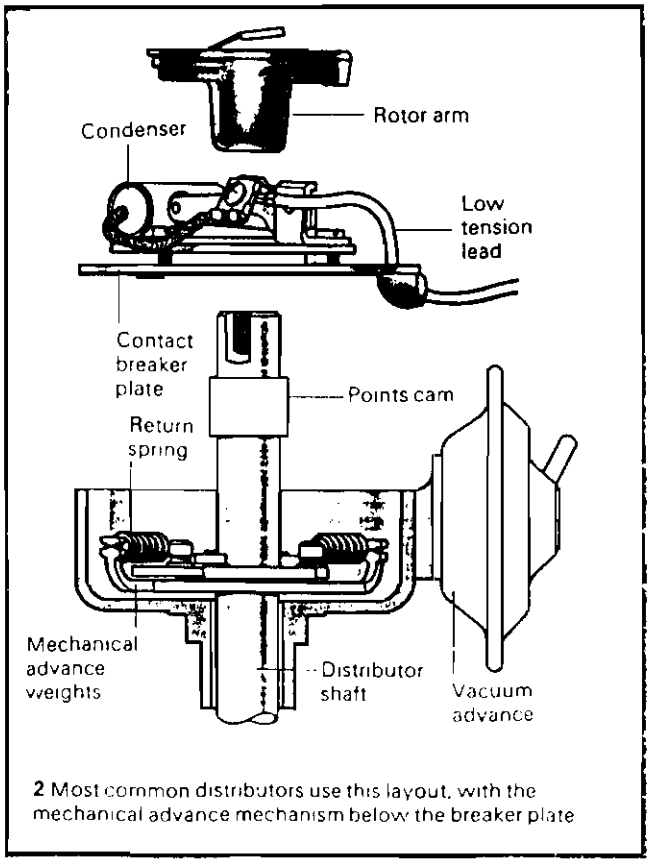
The timing of the spark which ignites the petrol/air mix in the combustion chamber is critical to the performance and economy of your car. As the engine speed changes, the time at which the spark must occur changes correspondingly. The distributor has two completely separate mechanisms designed to alter the time of the spark—the mechanical advance system (usually known as the centrifugal advance) and the vacuum advance system.

The most common indication that one or both timing devices are malfunctioning is 'pinking'—a metallic knocking noise, generally accompanied by a failure to run smoothly and a general lack of performance.

After the spark from the ignition system has ignited the compressed petrol/air mix in the compression chamber, there is a brief delay before the burning mixture expands to produce maximum pressure. If the spark is timed correctly, this delay occurs while the piston passes over TDC (page 97), and the burning mixture exerts its maximum force when the piston is in the ideal position to transfer this pressure in the combustion stroke on to the crankpin and, eventually, into forward motion (page 78).

As the engine speed increases two things happen to alter the ideal time for the spark. First, the piston completes the combustion stroke faster and there is less time available for full combustion of the petrol/air mix. Second, the petrol/air mix becomes less dense and therefore less compressed at TDC, with the result that the time needed for full combustion is longer. For both these reasons ignition must take place earlier in the cycle.

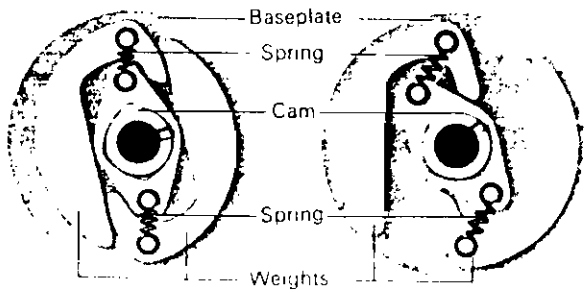
To match the timing of the spark accurately with the need for the spark, the distributor is fitted with the automatic advance mechanisms. Although the mechanical advance and the vacuum advance systems are designed to operate separately, they work best in combination and it is rare for only one to be fitted.



2 Most common distributors use this layout, with the mechanical advance mechanism below the breaker plate

Mechanical advance, where and how

The mechanical advance system is fitted inside the distributor and it is possible to remove and replace the various parts. The system consists of two weights and two springs. They are below the distributor baseplate on most distributors (fig. 2), but above it on AC Delco distributors fitted to Vauxhall and Holden cars and Marelli distributors on Italian cars. In all forms of distributors equipped with a mechanical advance system, the part of the distributor shaft which carries the contact breaker cam is separate from the main shaft and has a small amount of free play. (See page 110 for a full description of the ignition system.) One end of each weight is pivotted on a circular drive plate which moves with the distributor main shaft (fig. 3). The other end of each weight is attached to the breaker cam by a small spring. As the distributor main shaft rotates, these weights tend to continue in a straight line due to inertia. The pivotted ends of the weights rotate with the distributor drive plate and the weights are thrown away from the centre (fig. 3). This effect is called movement by centrifugal force. The force increases as the distributor shaft and drive



3 When the engine is not running, the mechanical advance weights are in the position shown on the left. The distributor shaft turns when the engine is running, and at high speeds this moves the weights by centrifugal force to the position shown on the right

plate move faster. The ends of the weights apply tension to the contact breaker cam through the springs, turning the cam in relation to the mainshaft, and causing the points to open earlier in the compression stroke at higher speeds. The timing is thereby advanced.

In electronic systems, the same effect is achieved by similar means. In magnetic electronic ignition systems the breaker cam is replaced by an induction cam (see page 142). Advancing this induction cam advances the magnetically induced spark. In optical electronic ignition systems the breaker cam is replaced by a light interrupting blade. Advancing this blade cuts the light trigger earlier and advances the ignition spark (see page 143).

With both conventional and electronic ignition systems, the weights and springs are designed to match the special requirements of the particular make and model of car. Although the mechanical advance system combines with the vacuum advance system to maintain perfect ignition timing at all engine speeds, for the purpose of inspection and repair the mechanical advance system should be regarded as operating independently.

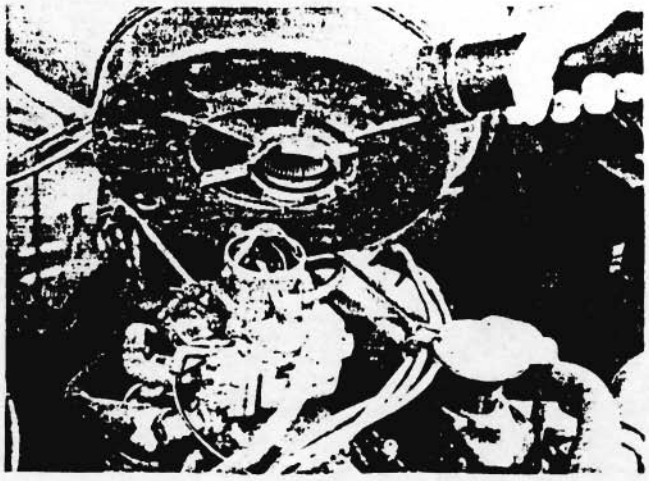
Checking for faulty mechanical advance

The mechanical advance system, like other automatic systems, depends on the distributor contact points, rotor arm, cap and shaft being in good working condition. Check and if necessary replace these before looking at the advance system.

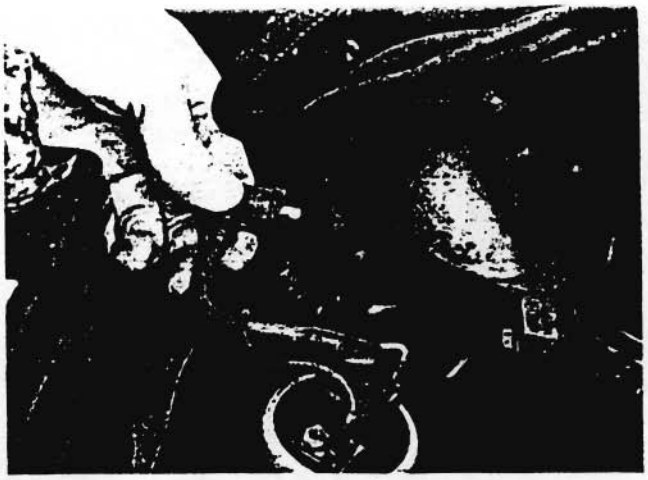
Take off the distributor cap and rotor arm. In the AC Delco distributors on Vauxhalls and Holdens and in Marrellis the weights will be immediately visible. On other distributors, you will also have to remove the contact breaker points and capacitor (see page 82), lift off the plastic sleeve at the base of the rotor shaft, and remove the distributor baseplate. The weights will then be exposed. Carry out the following checks:

1. The weights should be free to move out against the tensioning springs. All wiring should be routed clear of these weights and no other obstruction should be near them.
2. Replace the rotor arm and turn the engine by hand (see page 85) and see the direction of rotation. Now gently press the cam in this direction using the rotor arm, and release it. The cam should spring back under the tension of the springs. If this does not happen, remove and clean the weights and pivotpoints, having carefully noted their position for reassembly. Replace the weights and fit new tension springs. Make sure you use the correct springs for your make, model and year of car.
3. The mechanical advance weights should not become damaged and cleaning them should be sufficient. If this is not the case the operation of the distributor must be faulty and it should be replaced completely.

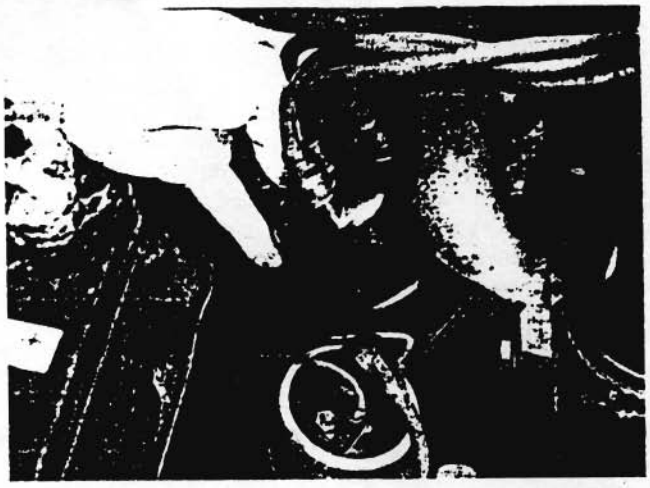
Finally, replace the distributor components in reverse order and retime the ignition



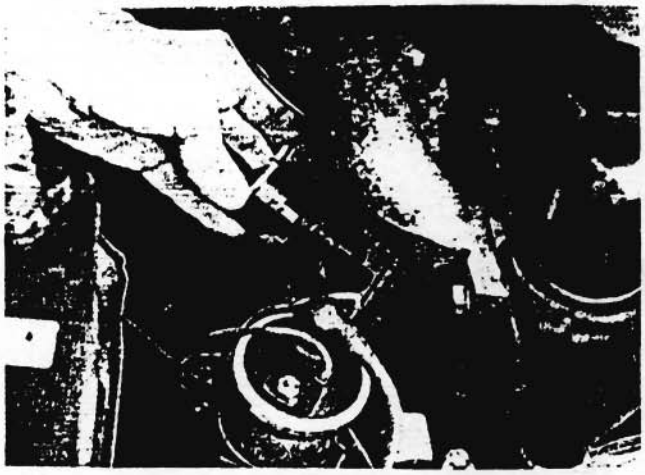
4 Working on the mechanical and vacuum advance mechanisms is much easier if you first remove the carburettor air filter



5 With the ignition switched off, disconnect the positive terminal from the battery. Then remove the coil lead from the distributor

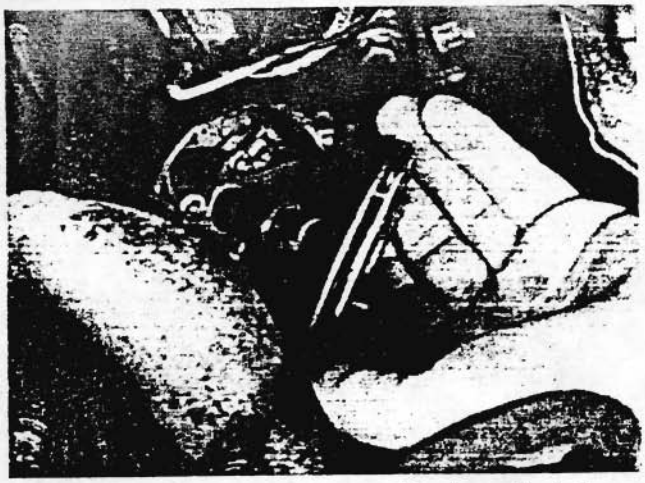


7 Unclip the cap and remove it. On some cars, like this Cortina Mk II, the cap can be removed with all the leads still in place

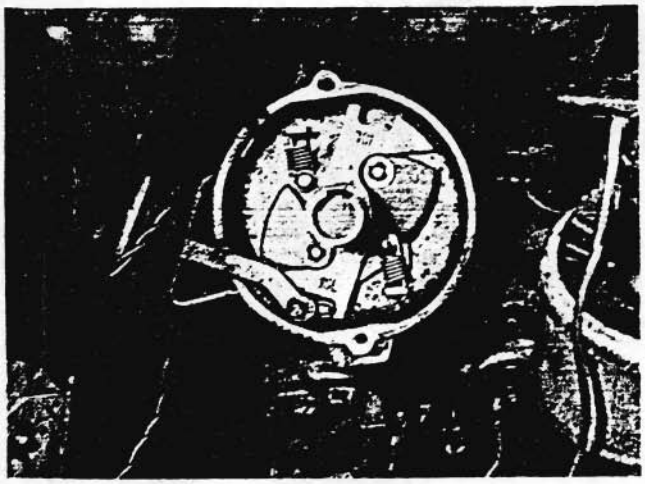


8 You can now start work on the mechanical advance mechanism. It is under the breaker plate on this distributor. Remove the rotor arm

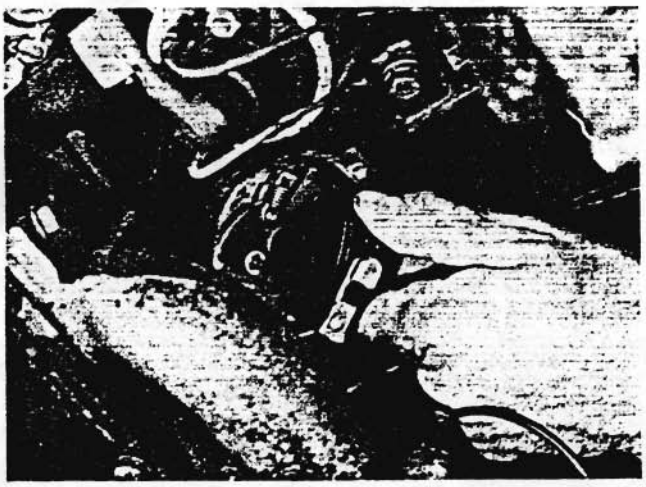
10 The contact breaker plate is held on by two screws. Undo these, using a ring spanner as a lever if the screws are tight



13 The breaker plate is then removed by lifting it over the shaft. Clean the breaker plate and store it for re-use



14 The mechanical advance weights and springs are then exposed. Make sure that they are clean and unobstructed



15 Turning the rotor arm clockwise on this distributor moves the mechanical advance weights. A faulty mechanism will not move

Vacuum advance system, where and how

The vacuum advance system is designed to provide additional advance to increase the timing accuracy given by the mechanical advance system at varying driving speeds.

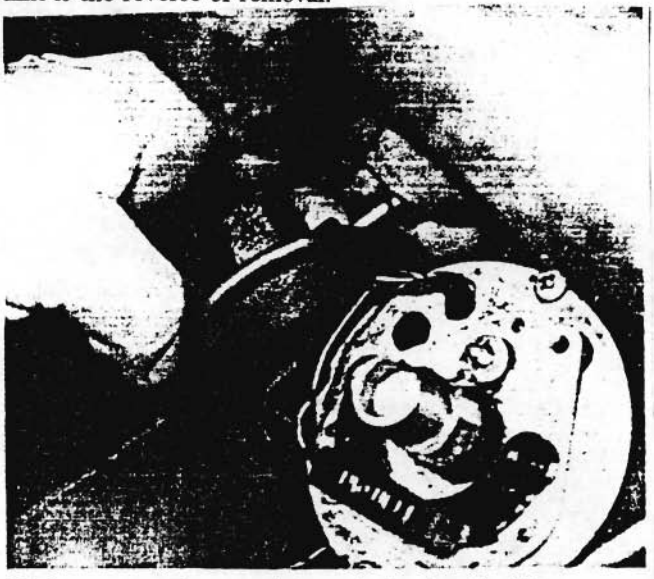
During normal running conditions, the down movement of the piston on the combustion stroke produces a partial vacuum in the inlet manifold. The butterfly in the venturi (see page 296) is open and this partial vacuum draws an increased amount of petrol/air mix through. During certain running conditions, notably cruising, the butterfly is only partially open. The vacuum increases and less petrol/air mix is therefore drawn into the cylinders. The reduced amount of petrol/air mix takes longer to ignite and the spark must therefore be advanced to maintain maximum power. The vacuum advance uses this extra vacuum to do this automatically. And, because the vacuum both causes the need for the advance and supplies advance, the solution is at all times perfectly matched to the problem. In its simplest form, the vacuum advance system consists of a chamber with an airtight diaphragm sealing the carburettor from the distributor and connected to both by a pipe (fig. 16). The chamber is found attached to the side of the distributor and can easily be recognised by its shape (fig. 19). A spring is fitted inside the chamber so that when no vacuum is present, the diaphragm is held against the pipe leading from the chamber to the distributor. This effectively seals the distributor from the chamber. When the vacuum is produced in the carburettor inlet manifold, the diaphragm is drawn away from the distributor. The diaphragm is connected to the distributor base plate by a linkage system, and as the diaphragm is drawn against the spring, the linkage moves the base plate. This moves the contact breakers so that they are opened earlier by the cam on the distributor shaft and the spark timing is advanced. The vacuum and diaphragm action have the same effect on electronic ignition systems.

Checking the vacuum advance system

The vacuum advance system will only work if the piping from the carburettor to the diaphragm, the diaphragm itself, and the diaphragm chamber on the carburettor side are all airtight. Carry out the following checks:

First, remove the distributor cap. Next disconnect the vacuum unit from the carburettor and suck the open end of the pipe. Move the base plate gently forward with a screwdriver. Remove the screwdriver and the base plate should remain in the new position as long as your tongue maintains the suction. Removing your tongue should allow the breaker plate to spring back to its original position.

If the breaker plate does not move, first make sure that there is no obstruction—all wiring should be routed free of the breaker plate. Next, check that the piping is unblocked. To do this, remove the piping from the diaphragm chamber and blow through it. If the piping is clear, unbroken and in good condition, the fault is most likely to be in the diaphragm. It may be a ruptured diaphragm, a jammed spring, or a faulty air seal. Alternatively, but rarely, the linkage from the diaphragm to the breaker plate may be broken or damaged. If any of these is the cause you will have to fit a new unit. The vacuum unit is held onto the distributor by a bracket and by connecting linkage. Undo the bracket and fine tuning nut holding the linkage to the breaker plate. Take care to retain the spring on the linkage. Fitting the new unit is the reverse of removal.



19 The vacuum advance unit is attached to the side of the distributor and it is easily recognizable by its shape

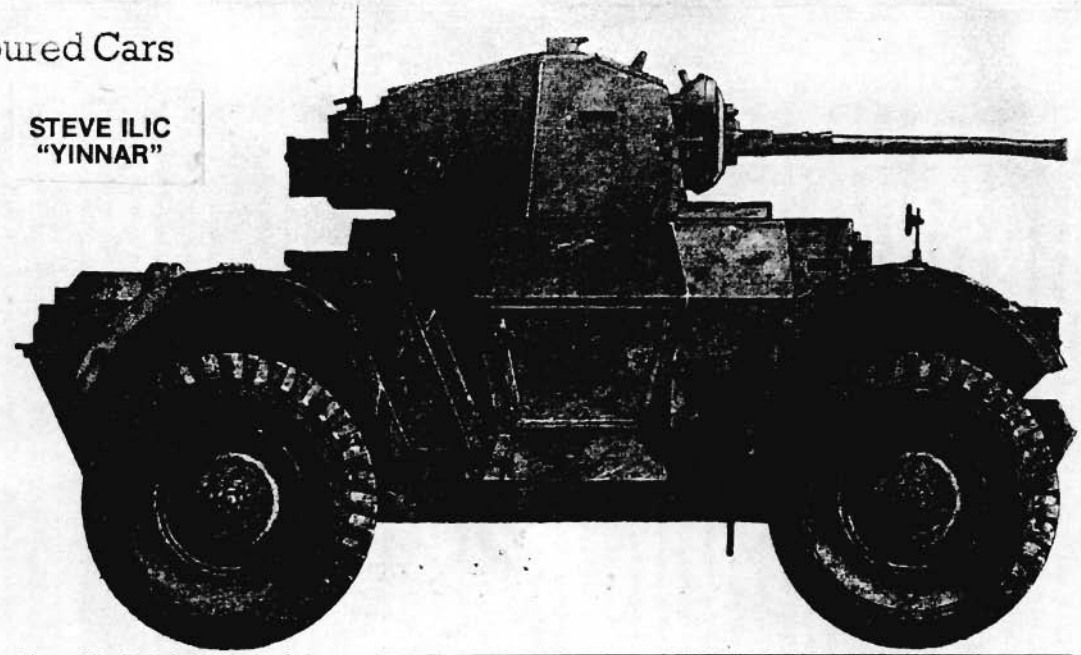
UK

Daimler Armoured Cars

STEVE ILIC "YINNAR"

When the BSA Scout Car was undergoing its initial trials, it was decided to use the basic design as the foundation for a new vehicle to be known as the **Tank, Light, Wheeled**. As with the Scout Car, Daimler took over the development of the project, and the result was a vehicle that outwardly resembled the little Scout Car but was nearly twice as heavy and had a two-man turret. Work started on the project in August 1939 and the first prototypes were running by the end of the year, although troubles soon arose as the extra weight of the turret and armour overloaded the transmission. It took some time before these problems were overcome, and it was not until April 1941 that the first production examples appeared. By then the vehicle was known as the **Armoured Car, Daimler Mk I.**

The Daimler Armoured Car was basically a Scout Car enlarged to accommodate a turret mounting a 2-pdr (40-mm) gun. The turret was the same as that designed for the Tetrarch light tank intended for use by airborne forces, but when this was placed on the Daimler it was the first such installation on a British armoured car. The turret also mounted a co-axial 7.92-mm (0.31-in) Besa machine-gun, and many vehicles also had smoke dischargers mounted on the sides of the turret. The four-wheel drive used double-coil springs on each wheel station although the early idea of using four-wheel steering was discarded as being too complex an idea without real operational benefit. One advanced feature was the use of Girling hydraulic disc brakes, well in advance of general use elsewhere. A fluid flywheel was used in place of the more usual clutch arrangement/



Above: The Daimler armoured car was one of the best of all the British armoured cars, and the one that became the standard equipment for many reconnaissance regiments. Armed with a 40-mm (1.57-in) 2-pdr gun, it had limited combat capability but proved to be an excellent and reliable reconnaissance vehicle in all theatres.

Right: A Daimler armoured car in North Africa during November 1942 carries an unusual load of German prisoners-of-war. Note the North African additions of the front-mounted sand channel and the rack for extra fuel cans on the side, plus the kit stowage all over the vehicle.

How to Rewire a Car

ARNOLD GOLDMAN

Making Up a New Loom and the Use of Sleeving

By W. TOPPING

MANY people who normally think nothing of carrying out household electrical repairs and wiring fight shy of rewiring a car. Yet, providing the job is attempted in easy stages, no serious difficulty need be experienced, especially if the correct wiring loom for the car is available.

Correct preparation, as always, ensures success in this type of work, and the first thing to do is to try to obtain a ready-made loom. This may be bought from a car electrical agency, or, possibly, from the makers of the car. A complete wiring diagram for the car should also be obtained.

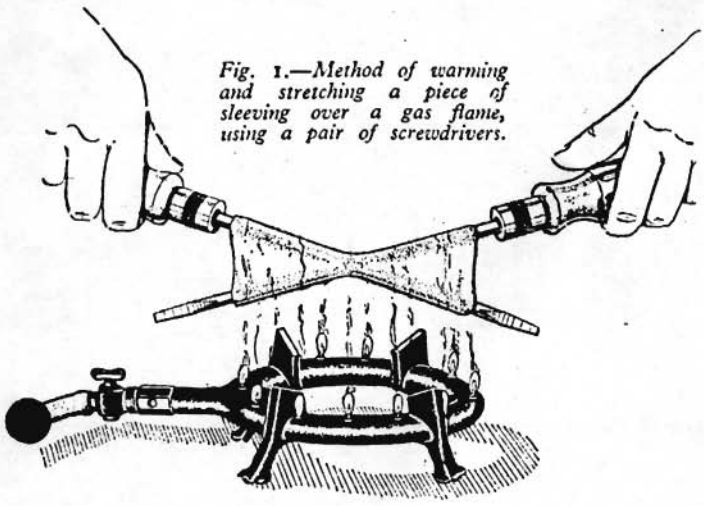


Fig. 1.—Method of warming and stretching a piece of sleeving over a gas flame, using a pair of screwdrivers.

A new loom is invariably made up with different coloured cables, and on the wiring diagram these are indicated as numbers, with a key beneath, thus obviating difficulty in tracing circuits.

For a start, the old loom should be stripped from the car, notes or sketches being made of the general lay-out of the main and auxiliary harness.

Fitting a New Loom

Then the new loom can be installed. Make sure that it is adequately clipped to the chassis or body of the car, and that no possible chafing of wires will occur from any moving or hot parts.

It is as well to remember that most cars use the frame or body of the vehicle as an "earth" or return to the battery, so that any items of equipment on the car that make bad electrical contact with the frame should be checked and, if necessary, cleaned.

It is an entirely different matter, however, if a ready-made loom is not available. The rewire becomes automatically a longer job, for a loom must be specially made up.

The loose-cable method is fairly satisfactory, but it is infinitely preferable to make up a loom in compact runs properly sleeved. If a wiring diagram of the car is unobtainable, it is helpful to make a rough sketch of the circuits to be used. Then the various lengths, such as dashboard to lamps, junction box to dynamo, etc., must be measured by running a single length of cable along the proposed route along the framework. As far as possible keep all wires together inside large-diameter sleeving. It is helpful if the old loom is preserved as much as possible in one piece, then it can be used as a pattern.

Drawing the Cables

Draw the cables through the sleeving with a strong steel wire soldered on to the ends of three or four cables at a time, and use sleeving that is large enough to accommodate all the cables with ease.

Branching-off, where two or three wires are required to branch away from the main harness, can be achieved neatly by drawing the wires that are required to branch off up to the position where they are intended to leave the main loom. Slit the large sleeving at this position and prise the cables out. Then pull them through until the required length is obtained. A short length of sleeving should now be cut of the same diameter as the main sleeving. Warm the short length over a flame, stretching it with two screwdrivers as shown in Fig 1. When the sleeving is hot and expanded it will slide over the main sleeving easily. Slip it up to where the wires branch from the slit and ease it over the join, covering the slit. When the short length cools it contracts, forming a permanent seal over the branch. (See Fig. 2.)

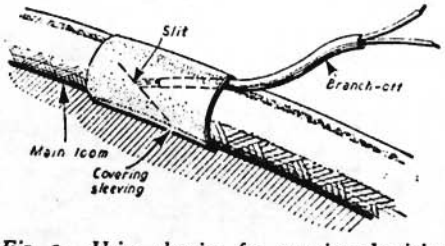


Fig. 2.—Using sleeving for covering the joint of a branch-off with the main loom.

Fitting Terminals

Such branches-off may be used for the dynamo leads, coil, petrol pump and lamp feeds, etc. Where terminals are fitted, a small length of small-diameter sleeving should be slipped down the cable first. The terminal should then be soldered on. After the solder has cooled, the piece of sleeving can be moved up to cover the join at the terminal. This gives a neat effect, and is also a more satisfactory electrical job. (See Fig. 3.)

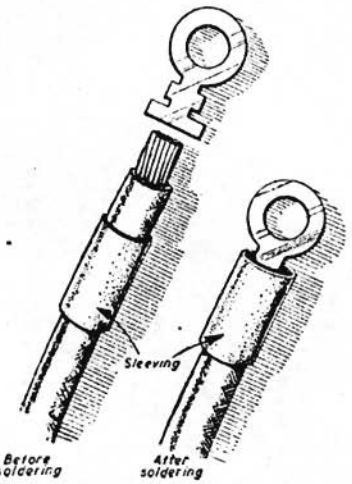
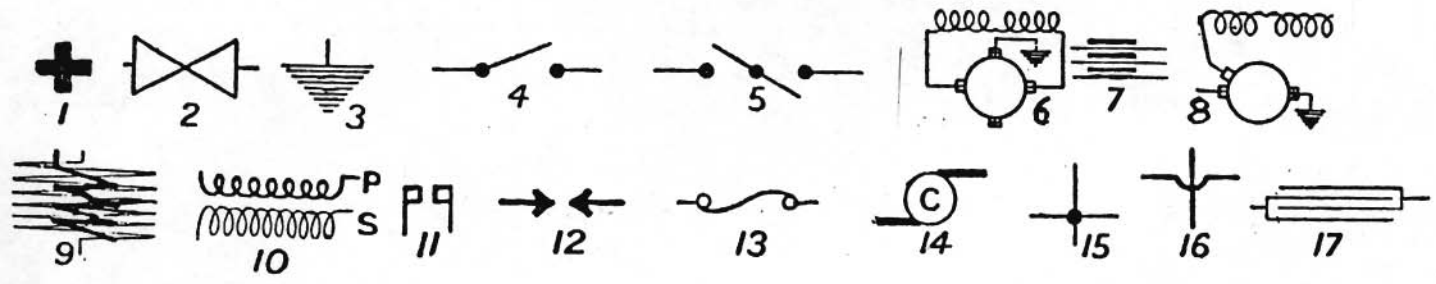


Fig. 3.—Using sleeving for finishing terminal ends.

It may be necessary to make up a loom in two or three pieces, but, where possible, junction boxes should be used in preference to snap connectors. Normally, however, it is possible to make up a loom in two pieces only; one being the dashboard to front lamps, dynamo, cut-out, etc., and the other for the tail lamp, stoplamp, fuel tank unit (often forgotten, by the way !) and any other items fixed to the rear of the car.

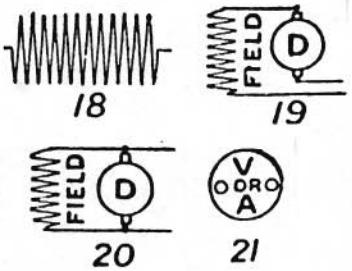
Any wiring in the interior of the car is done with loose single-cable lengths, extra protection being unnecessary.

A word of warning—use only the correct cable when rewiring, which is a 70/36 size varnished cable. If the above hints are carried out a very satisfactory job will result.



WIRING SYMBOLS.

1. Positive terminal. 2. Grounds not insulated from chassis. 3. Earth or ground. 4. Single Switch. 5. Double Switch. 6. Starter. 7. 3 cell 6 volt battery. 8. 3 brush generator. 9. Induction coil. 10. Induction coil. 11. Contact points. 12. Safety gap or spark jump. 13. Fuse. 14. Commutator. 15. Wires or leads joined. 16. Wires crossing but not touching. 17. Condenser. 18. Plain coil or resistance. 19. Series connection of field coils with dynamo brushes. 20. Shunt connections of field coils. 21. Ammeter of voltmeter.



ESMERALDA ROLLS

Make a scone mixture using rather more butter than usual, allowing 1 tablespoon butter to 1 cupful flour. Roll this into pieces 5 x 7 inches. Have on the stove a large piedish containing 1 pint of boiling water, 2 tablespoonfuls desiccated coconut, and 3 tablespoonfuls golden syrup. Let this simmer. Smear over each piece of pastry a tablespoon of golden syrup. Roll over lightly, drop into the simmering mixture. The water should just cover the rolls. Place in a moderate oven for about an hour. The water evaporates, leaving the rolls in a thick sauce of the syrup and coconut. The rolls should be light and fluffy. Honey and lemon may be used in place of golden syrup.

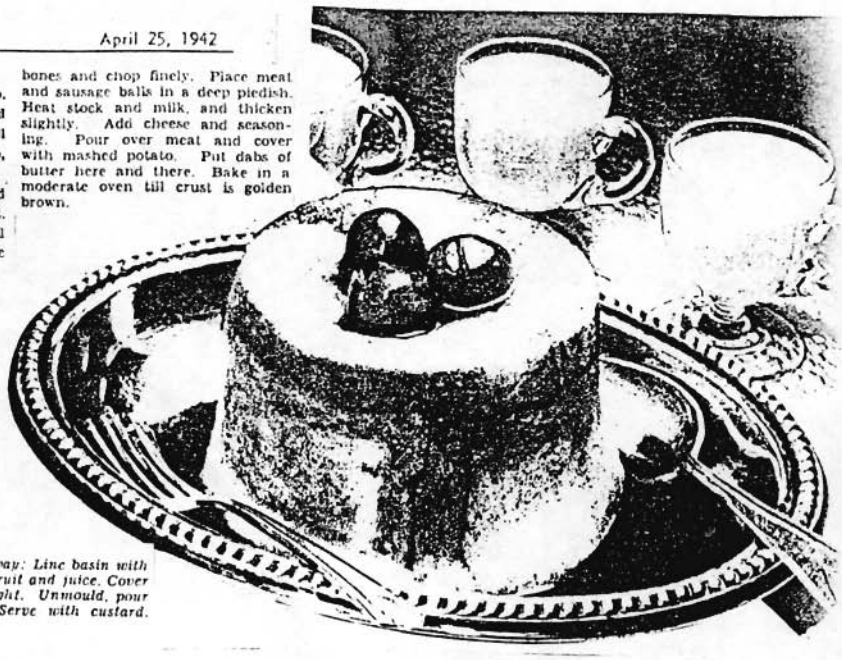
GIPSY PUDDING

One rabbit, 1 small onion, ½lb. pork sausages, 1 gill milk, salt and pepper, 2oz. grated cheese, 1 gill rabbit stock, ½lb. mashed potato, 1oz. butter.

Remove skin from sausages and form into balls the size of a walnut. Boil with rabbit and onion until rabbit is tender. Remove the bones and chop finely. Place meat and sausage balls in a deep piedish. Heat stock and milk, and thicken slightly. Add cheese and seasoning. Pour over meat and cover with mashed potato. Put dabs of butter here and there. Bake in a moderate oven till crust is golden brown.

CANDIED PARSNIPS

Wash and scrape 4 medium-sized parsnips, boil in enough water to cover, halve or quarter, according to size, and place in a baking pan. Cover with ¼ cupful of light brown sugar, bits of butter, ½ teaspoonful of salt, pepper and paprika. Bake in a slow oven till brown and slightly candied.



DELICIOUS DESSERT shown above is made this way: Line basin with ½-inch slices buttered bread. Fill with hot stewed fruit and juice. Cover with bread, then place weight on top; leave overnight. Unmould, pour over remaining juice. Decorate with fruit. Serve with custard.

Miss Precious Minutes says:

THERE are times in your life when you need hard-boiled eggs. Well, start them off in hot water and drop in a little salt. No trouble, then, about removing shells.

LACE may be nicely stiffened by dipping in milk instead of starch. Good idea when in a hurry.

ADD a pinch of borax to the water when washing silver. It saves elbow-grease in polishing. Fine for cutglass and crystal, too.

CHRYSANTHEMUMS will be blooming in a week or so. When using for house decoration, crush ends of stems up to a couple of inches. They'll last much longer.

Banish years from your face and figur

—says Our Beauty Expert

GOING ON FOR THIRTY-FIVE—Bette Davis, famous Warner Bros. star . . . No sign of a double chin, no lines on her face. She works hard for her living and to keep herself young and lovely.

● How many times have you looked in the mirror and wished you were younger? Stop it!

THE majority of women get a panicky feeling around the heart when they pass the thirty-fifth milestone in life.

They frown at the lines appearing and any thickening of the jawline; perhaps notice a "roll" forming at the waistline.

They make all kinds of resolutions, decide to be more consistent in beauty care, in exercises, and sighingly think about the pastries, and sweets, and the like that should be banished from the menu.

A few do keep to the resolutions but the majority fail by the wayside. Which is a pity, seeing that the oncoming years can be cheated so beautifully.

Here are a few brief hints for the firm in mind:

Allow yourself at least fifteen minutes a day for simple beauty care; more if you think yourself worth it.

Take some kind of exercise every day. A sharp walk will do if you hate bending and stretching before an open window.

Eat the right food. Include plenty of raw fresh fruits and vegetables in the diet. Cut down on cakes, desserts, pastries, soups, stews, sweets, bread and the like. Do not drink with your meals.

Relax as often as you can. Don't make more appointments than you can possibly keep and avoid a succession of late nights.

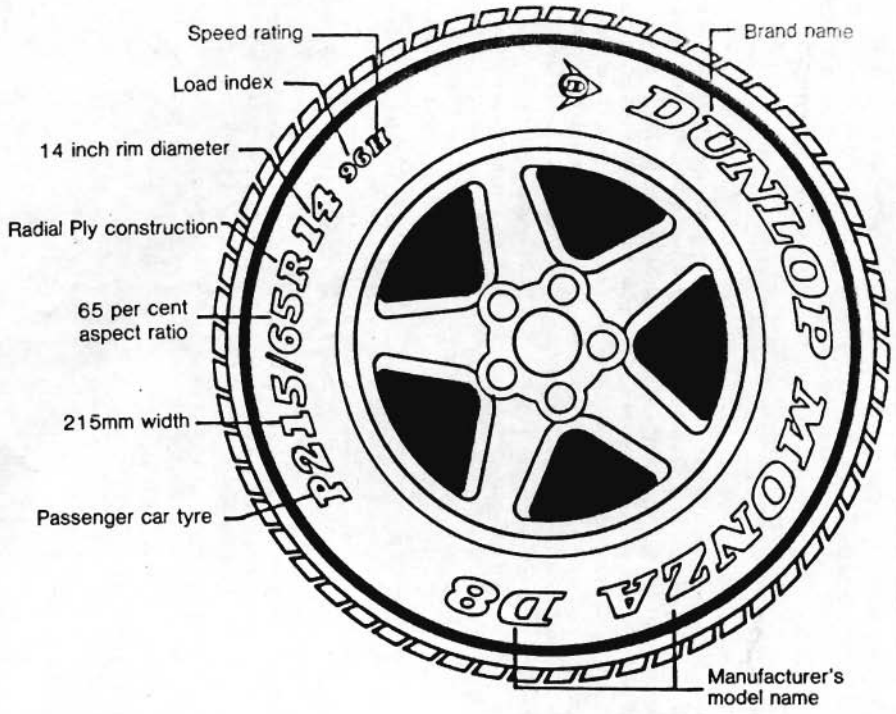
Cultivate a serene mind. By that I do not mean that you should cultivate a phlegmatic mind or become mentally rusty. Try to eliminate unnecessary worry from your life; in short, stop fussing and fretting over trifles. Be as bright and cheerful always as you possibly can.

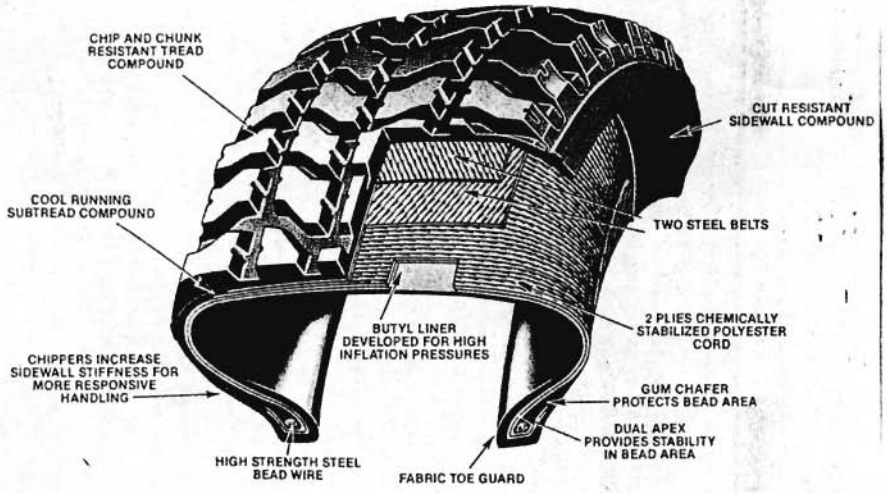
Check up on yourself constantly and you'll find that you look years younger than you really are.

THE GLAMOROUS Gloria Swanson, RKO star, did not keep her youthful beauty and glamor by sitting back and resigning herself to the years. She is forty-four!

HOW TO POWDER. Start at the chin and work up to forehead. Lay it on thickly. Then take a soft-haired brush and brush your skin as if it were a dusty garment. A lovely soft, natural-looking face emerges. Try it out for yourself.

TYRES





Tyre load indices are established by the manufacturer, using data resulting from extensive testing - often to destruction. Basically a tyre's load bearing capabilities depend on its construction.

Two main types of tyre construction are likely to be encountered these days. There's the bias belted type and of course the radial. All use mixes of nylon, rayon, polyester or aramid fibres, as well as steel and fibreglass in their construction.

The majority of tyres sold today however, are radials. Here the cords run from bead to bead at a right angle to the direction of rotation, each being layered over its neighbour. Then, circumferentially around the tyre are belts which can be made from any of the materials mentioned earlier.

Because the radial's plies are at right angles they do not provide the sidewall support which is achieved in the crossply. Too much suppleness however, creates heat, so the sidewalls have to be built up. It's the "filler" which does this. The filler is that stiffer part of the tyre which encloses the beads at the rim. Various levels of control depend on the distance the filler extends up the sidewall. If it extends too far ride comfort can be affected. Not far enough and the sidewalls will be able to flex, increasing temperatures, and accelerating wear.

The radial tyre has become pretty well universal, with a few bias ply models still available. In Australia the steel belted radial is particularly popular. The use of steel requires far greater care in manufacturing than other materials. After all, steel can rust if moisture and air can get to it. Thus, in the preparation of steel belts for tyres, all moisture has to be excluded. Furthermore, in the event that such a tyre is punctured there's a chance that moisture may get in and initiate rust. Depending on where and how that rust attacks the belts, there's the possibility of the tread detaching itself from the carcass.

The biggest enemies of tyres, particularly offroad, are sharp objects and heat. Sharp objects cause punctures, while excessive heat can cause layer separation within the tyre's construction and, at the very least, accelerated wear.

Heat gets into tyres from the ambient air temperature, from friction with the running surface, and as a result of flexing and scrubbing during cornering. Incorrect tyre pressures accentuate the latter. Flexing of sidewalls is fine so long as it is controlled. All of these factors are taken into account when establishing a tyre's load index.

Tyre grip is dependent on the amount of tread area offered to the running surface. That, allied to the tread design's ability to maintain its grip, is the most important aspect of any tyre.

So how is a vehicle's tyre speed rating established? It is based on the speed achieved by the vehicle from a standing start over one mile of acceleration, conditional upon the manufacturer's maximum engine speed not being exceeded.

These speed ratings, which come under Australian Design Rule 24, call for a minimum of 'L' (120 km/h) overall and a minimum of 'N' for light commercial vehicles, 'N' being good for speeds up to 140 km/h at GVM. Also important here is the load index. This is based on a vehicle's GVM, divided by the four road tyres, expressed in kilograms. The load index figure increases by one for every 25 extra kilograms of load on one wheel.

Thus a vehicle with a GVM of, say, 3000 kilograms, has a load index relating to 750 kilograms (ie one quarter of the total), in this case the number would be 98.

Motoring

REPRINT FROM CHRISTCHURCH PRESS

Humble beginnings for British Humber

Behind the badge

By BRYAN NICOLSON

HUMBER was one of the earliest British car makes and like many others had its origins in a cycle works.

Thomas Humber began his cycle business in 1868 and quickly established a reputation for quality and craftsmanship, so much so that he could sell his cycles for three times as much as most lesser makes.

In 1896, Humber produced a motorised tricycle with a wicker passenger chair positioned between the two front wheels. This primitive Forecar was joined by a motorised quadricycle two years later, but it was not until the turn of the century that something more akin to a proper car put in its appearance.

This was the Humberette, a two-seater four-wheeler powered by a water-cooled engine of 5hp.

However, Humber, like a number of other British makers, had fallen under the thrall of the notorious Harry J. Lawson, who was trying to take over the entire British motor industry. It was not until Lawson was despatched to serve a spell in prison for siphoning off £300,000 of other people's money that Humber managed to shake itself free of his influence.

A much more benign influence was the young French designer, Louis Coatalen, who joined Humber and produced a four-cylinder car with a four-speed gearbox.

He also set to work to modernise the Humberette and found time to produce a couple of special racers — a 20hp in 1903 and a 24hp in 1907 for the Isle of Man Tourist Trophy Race.

Neither Humber won, but they did serve to bring publicity to the marque, which by now had two factories — one at Coventry and one in Beeston.

Although they produced basically the same design, there was great rivalry between the two. They came to an end in 1907, when financial difficulties forced Humber to rationalise production at Coventry.

At the same time, Coatalen, took himself off to Hillman, where he obviously saw better opportunities for himself.

Humber's problems stemmed from the fact that its range was a little too ambitious for the times, but at least the company had established a reputation for quality engineering, a reputation that was to be enhanced by its contribution to the war effort.

The period from 1914 to 1928 is considered to be the era of the classic Humbers, for apart from the ambulances and field cars produced for the war, the company produced a succession of models combining engineering excellence with elegance of brass, leather and polished wood.

IN 1926, the Humber Company bought Commer Commercial Vehicles, but two years later found itself part of the growing Rootes Brothers empire and along with Hillman became the foundation stone off the Rootes Group, destined at the time to become "the General Motors of Coventry".

Humber became the prestige marque in the Rootes Group and its products were pitched at the upper middle classes. However, as their numbers declined in the wake of the Depression, so too did Humber's sales.

The Rootes Group itself survived the Depression in good heart and indeed profited by others misfortune. Just prior to the outbreak of World War II the group added the ailing Sunbeam and Talbot marques to the fold.

The Humber Super Snipe of 1955, a big, slow-revving, luxury car which also saw service as a police car in Britain and New Zealand. This example is in the Southward Car Museum at Parapaaraumu.

The war years saw Humber back in the business of manufacturing aircraft engines, as it had been in the first conflict, but probably its most famous wartime products were field cars, four-wheel-drive wireless trucks, armoured cars and scout cars.

Some 60 per cent of Britain's armoured cars and 30 per cent of its scout cars were Humber-built, but most famous of all was Field Marshall Montgomery's staff car, "Old Faithful".

IT SAW service in all Monty's campaigns and was reputedly dropped in the sea just after the Normandy landings, fished out again and made mobile two days later.

Post-war Humber continued its top-of-the-range role for the Rootes Group with the big, roomy Snipe and Super Snipe. With their low-compression side-valve engines (4.1 litres in the Super Snipe) performance was never their forte, although they were certainly built to last.

Sadly, quite a few were destined to end their days as the last cars running in the "demolition derbies" that became a feature of New Zealand stock-car racing in the 60s — an undignified end, but a testament to their tremendous strength and durability.

As the 50s progressed, Humber's identity gradually became submerged in the rest of the Rootes Group makes. As badge-engineering became accepted practice, the Humber 80 was introduced as a variation on the Hillman Minx.

The large cars — Hawk, Snipe and Super Snipe — managed to keep Humber's reputation intact in the luxury market, but they were facing increasing competition from the likes of Jaguar and Rover.

THE RANGE was completely revised for the 1960s and the Humber Sceptre was announced as the luxury version of the latest Minx in 1964, just as America's Chrysler Corporation acquired close to 50 per cent of the Rootes Group shares.

By 1967, Chrysler's influence saw the now outdated big Humbers axed and replaced on the British market by Australian-built Valiants, badged as Plymouths for the British.

Further changes were in the wind and by the time the Rootes Group became a wholly owned subsidiary of the Chrysler Corporation in 1973, only the Humber Sceptre was left — by now a luxury version of the Hillman Hunter.

Even that disappeared in the mid-70s and so Humber, like a host of other British makes once loved throughout Empire and Commonwealth, passed into the pages of history.

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