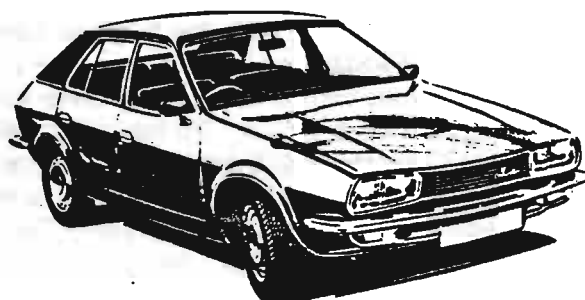


LANDCRAB



Number 32

Landcrab Owners Club of Australasia

January 1991

The turnout at our last meeting was by far the best attendance in a long time — great! — keep it up! At the meeting it was agreed to increase the annual membership fee by 100% to \$20. The decision was based on the fact that the current balance of our club funds is down to \$169.85 and will only barely cover postage costs up to June 1991. In fact our major outlay is postage, amounting to approximately \$27 per month. To date the newsletter is free of printing and stationery costs and is expected to remain so in the foreseeable future. \$20 still represents good value and many other clubs have fees in excess of \$30. In a letter to the club, Ian Ingram expressed surprise at our low rates and frankly he couldn't work out how we could produce a newsletter every month at the \$10 current fee.

With regard to the polyurethane order, I again telephoned Dale McShane in Victoria after a month's wait for our initial order. His reply was that, due to the current economic downturn, he can no longer work solely for himself and must seek outside employment — his business taking second place. Our order was reaffirmed with Dale who promised shipment by mid-December. To date, no order has been received ... but we live in hope.

We are not having much success with our New Zealand connection either. I am still awaiting information of a similar 'Landcrab' club over there and, as regards Coster Motors in Auckland, letters and a fax sent by Neil Melville, Louis Busetti and myself have so far been ignored. However, don't give up hope as my daughter's in-laws have promised to supply me with an Austin/Rover dealer in Dunedin, and perhaps in other cities.

In a letter from the British Landcrab Club in the old (and presently cold) country, Bill Fraser advises the Austin Maxi will no longer be allowed to be part of their club and I must agree with him. We have a Maxi in our household and they really are a different car, though Ian Ingram and I beg to differ on that score. Apparently there is already a strong Maxi Club in the UK; recently they and our counterpart club participated in an event at Alton Towers, a great success with heaps of varied landcrabs on display. Bill sent our club some photographs of the event and I was impressed at the wide variety of vehicle colours. There is a picture of Bill Fraser presenting an award to Trevor Woodford (not Mark Chivers) and appears on page 108 of the December edition of **Popular Classics**. Bill advises that there are strong moves afoot in the UK to amalgamate all the BMC and Leyland clubs into one huge Leyland day. Sounds interesting.

On behalf of our club, I should like to assure Bill Fraser of our appreciation and thanks for his efforts in dispatching the recent batch of new parts. His outlay was way over budget and, in fact, left Bill with a deficit of £8. We shall rectify this in the not too distant future. Good on you Bill!

We received the monthly newsletter from the ACT Council of Car Clubs in which the date for **Wheels 91** was announced — it is to be held on Sunday, 10 February, at the ACTAFL Oval in Phillip with the proceeds going to Pegasus (Riding for the Disabled), 1 PPP (Print Handicapped Radio), and Crystal (The Cancer Support Group). This event is the biggest annual vehicle show in Canberra and our club

has participated the past two years. Also announced in the newsletter was the Historic Car Club Day to be held at Grevillea Park on 10 March 1991.

A comprehensive list of spare parts appear with this issue of Landcrab, part of which have been supplied by Don Thomas. The MkII sedan (less engine) is a give away and, with a little work, would make a fine restoration project. Unless someone can take it away soon I regret to say that it will have to go to the tip ... and that would be a shame. On the subject of spare parts, I checked out the bottom hoses at Motor Spares in Fyshwick and ascertained a price of \$17. However they are a bit on the small side and the bonding of the heater outlet left much to be desired. The plain brand of oil filter available at the Filter Factory in Fyshwick is to be avoided. Two club members have complained recently that they leak around the base of the filter, a fact borne out when I gave it a try. Best we stick to the RYCO Z23.

Pat Farrell sent a couple of photographs of John Taylor's ex-London-to-Sydney rally car which recently took part in the Melbourne to Adelaide rally of cars preceding the Australian Grand Prix. The car, No 61, was driven in the marathon by Rauno Altonen. Through John Taylor, Pat has managed to obtain some very good prices for weathershields for the club, both left and right side weathershields. Normally selling for \$45 each plus tax, to club members they are available for \$32 each plus \$10.30 tax and freight for a pair. These weathershields are manufactured in New Zealand and imported by Sunshade Products Pty Ltd Motor Accessories, 466 Main North Road, Blair Athol SA 5084 (tel (08) 260 6433, fax (08) 349 7209).

Neil Melville wrote to Ros Kelly, Minister for the Environment, expressing concern at rumoured moves to arbitrarily phase out old cars, listing all the valid reasons for the growing restoration movement and suggesting such a move would be environmentally and politically very naive. His article appears in Issue No 85 of **Restored Cars**.

Now to the technical side of things ... As you can see Ken Patience has not been idle, sending in more suggestions, amongst them a fastener for the exterior door trim and rustproofing 1800 doors. He was fortunate when given a tool roll in near new condition and he has reproduced the original detail and dimensions for our benefit.

The following article is reproduced from the Sept 1990 issue of **Practical Classics**:

Shims to Stop Clatter: If you're having trouble getting a quiet top end on a pre-1970s BMC B-series engine and you're certain that there's no excessive play between the rockers and the shaft, and the rocker pads aren't indented, don't be tempted to close down the clearances too far or you'll burn out valves for sure. The closest you should set the clearances is so that a 12thou feeler gauge will slide through easily.

If this doesn't make things quiet, try a modification that BMC introduced around the late 1960s or early 1970s on production which wasn't mentioned in some of the manuals because they were written earlier. BMC traced the trouble to a lack of stiffness in the rocker shaft assembly and cured it by fitting 5thou shims under the two centre rockers. This put just enough pre-load on the shaft to keep it stiff and cured the problem. It's doubtful if you'll be able to get these shims from an Austin-Morris-Rover dealer unless you find one with old stock still on the shelf, but you might find some at an MG specialist because they were used on the 1800 as well as the 1500 and 1600 engines. If not, you can make them up out of shim plate. Don't go thicker than 5thou though. It isn't a cure for worn rockers or a worn shaft.

In a letter to our club Ian Ingram provides a possible solution to the problem of why some owners have trouble with short-lived universal joints. He says that a slightly bent driveshaft will eat these couplings very fast and can result in breakage of the plastic ones. Also, windscreen rubbers are available in the UK from Edgeware Motor Accessories (see advert) and Landcrab rubbers are no problem. However, if sold in metric size, Mini size chrome plastic locking inserts have to be used.

Barrie Turner located a good, reliable, and very reasonable upholsterer in Belconnen who recently restitched a front seat base for \$25. She can also restore the rear seat for around \$75.

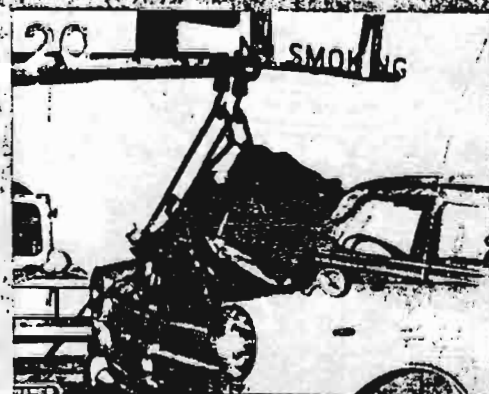
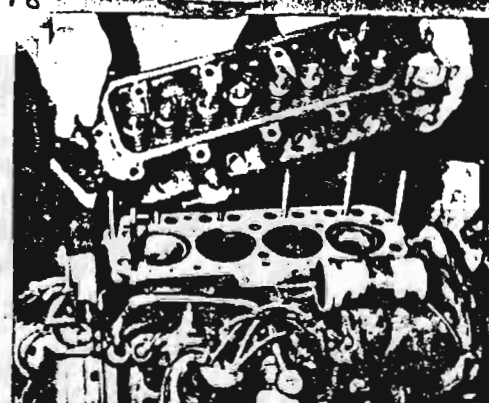
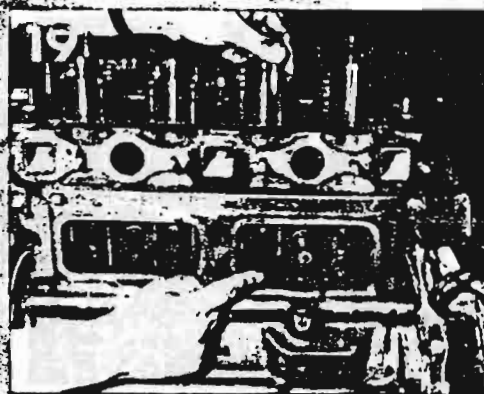
AB BIG-UN

further examination. At least two exhaust valve seats were very badly burned, although the valve guides were only slightly worn. As the seats would need recutting, we decided to send the head to the local machine shop. Here, the head was refaced, valve seats recut and new guides fitted for a very modest sum. New exhaust valves were supplied as standard in the overhaul kit, but we decided new inlets were needed as well. All valves were ground-in using fine paste (17) and spending at least ten minutes on each valve to ensure a good seal. Afterwards, we inverted the head, replaced all valves and spark plugs and then filled each combustion chamber with paraffin — a faulty seat seal would allow paraffin to trickle out of the ports. Ours passed the test, and the next job — a vital one — was to thoroughly wash the head in paraffin to remove all traces of grinding paste prior to reassembly.

Each valve was well lubricated with oil before fitting it, to avoid possible guide seizure later on. We also checked that the 'O' ring oil seals on the stems were correctly seated under the collets before each spring was released. With a new head gasket in position on the block (with the words TOP and FRONT showing that it was the correct way round) we lowered the head into place (18).

Before replacing the rocker shaft, we fitted the tappets and the push-rods (19), visually checking each rod was located before replacing the cylinder side covers. With the shaft in position, the head nuts were tightened, a little at a time, in the correct sequence. We left the valve clearance adjustment until the engine was back in the car — there being no easy way of turning the engine to adjust the valves with the unit out of the car.

All that was left was fitting a few ancillaries before the completed engine was ready to be installed. Removing the engine in the first place had been difficult because it had to be tilted backwards to clear the bulkhead. To install it at the correct angle we rearranged the rope and hoist to give the required tilt (20) before lowering it into the car. Refitting was now just a reversal of the removal procedure.



tightening torques

Engine block	
Main bearing cap nuts	70 lb.ft
Flywheel set screws	40 lb.ft
Big-end bolts	40 lb.ft
Cylinder head nuts	40 lb.ft
Rocker shaft bracket nuts	25 lb.ft
Oil pump to crankcase	14 lb.ft
Transmission case to cylinder block	25 lb.ft

Cylinder block side cover screws	5 lb.ft
Timing chain cover — 1/2 in. screws	6 lb.ft
Timing chain cover — 3/4 in. screws	14 lb.ft
Crankshaft pulley nut	70 lb.ft
Front plate — 3/4 in. screws	20 lb.ft
Water pump to cylinder block	17 lb.ft

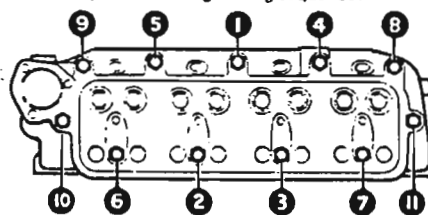
Water outlet elbow nuts	8 lb.ft
Rocker cover nuts	4 lb.ft
Manifold nuts	15 lb.ft
Oil filter centre bolt	15 lb.ft
Clutch pressure plate to flywheel	25 lb.ft
Carburettor stud nuts	15 lb.ft
Carburettor float chamber bolt	7 lb.ft
Distributor clamp nut	3 lb.ft

Valve clearance (cold) .015 in. inlet and exhaust.
Up to engine No 18 AMW/U/H 27522 clearance is .018 in.

Valve open	Valve to adjust
8	1
6	3
4	5
7	2
1	8
3	6
5	4
2	7

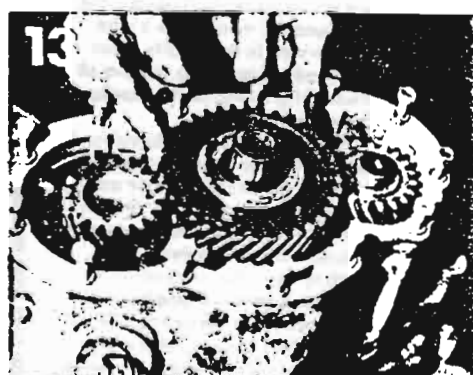
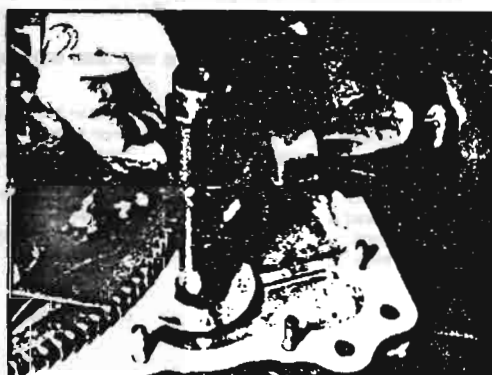
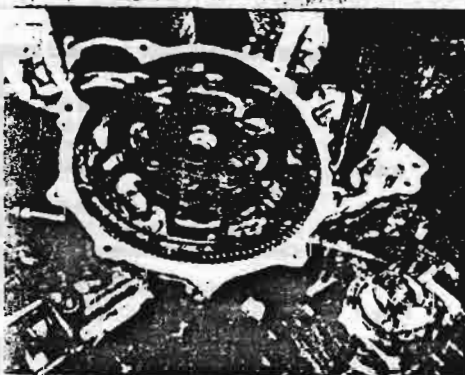
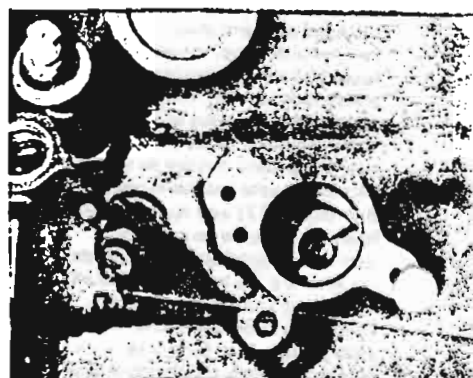
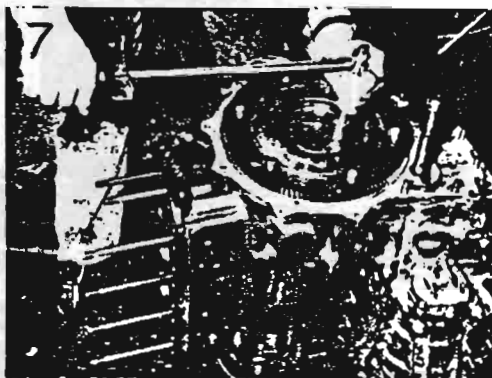
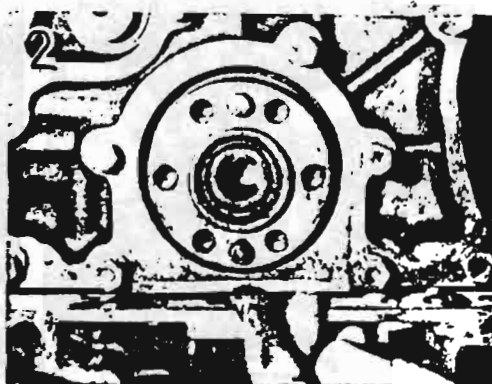
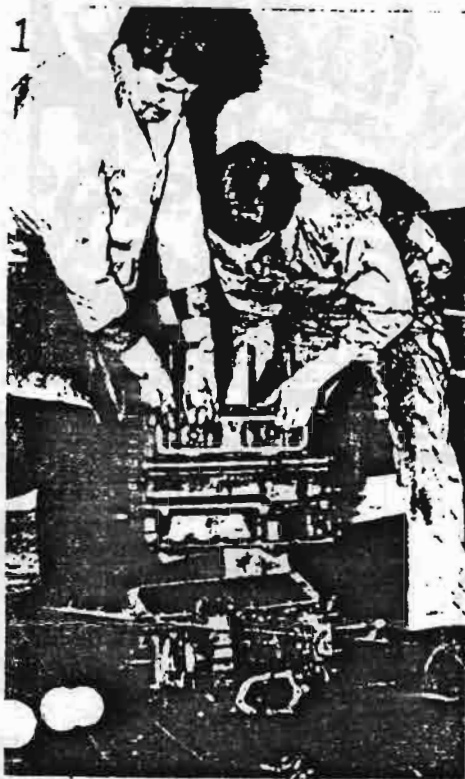
No. 1 cylinder and No. 1 valve are adjacent to the thermostat housing and radiator.

Cylinder head tightening sequence.

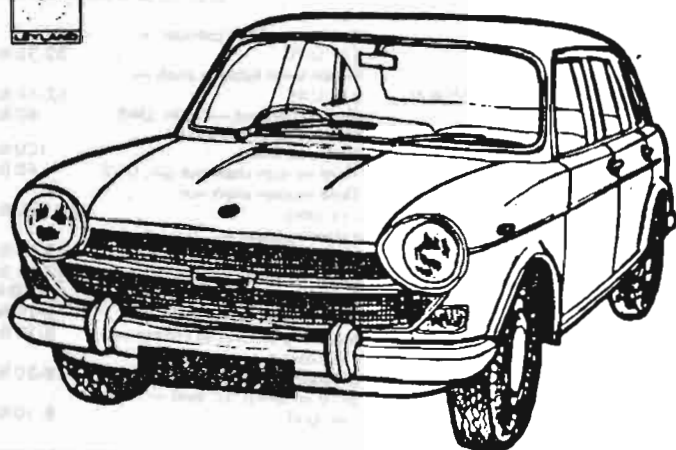


Drain plug	40-50 lb.ft
Transmission case stud nuts — 1/2 in. UNF	40-45 lb.ft
Transmission case stud nuts — 3/4 in. UNF	25 lb.ft
Transmission case stud nuts — 1 in. UNF	18 lb.ft
Adaptor plate to cyl block — 1/2 in. UNF	18-20 lb.ft
Adaptor plate to cyl block — 3/4 in. UNF	33-35 lb.ft
Clutch shaft bearing retainer — 1/2 in. UNC	18-20 lb.ft
Flywheel housing to adaptor plate — 1/2 in. UNF	33-35 lb.ft
Flywheel housing to adaptor plate — 3/4 in. UNF	23-25 lb.ft

Clutch operating cylinder — 1/2 in. UNC	33-35 lb.ft
Clutch lever fulcrum shaft — 1/2 in. UNF	12-14 lb.ft
Clutch shaft nut — 1 1/2 in. UNS	60 lb.ft
First motion shaft nut — inner and outer	120 lb.ft
Third motion shaft nut 3/4 in. UNS	40 lb.ft
Third motion shaft nut 1 in. UNS	150-170 lb.ft
Retaining plate — change speed cables	13-15 lb.ft
Retaining plate — control box	10-12 lb.ft
Locknut — cable to jaws	8-10 lb.ft
Top cover to control box	8-10 lb.ft
Mounting bracket to control box	8-10 lb.ft
End cover bolts — differential housing	18-20 lb.ft
Drive coupling "U" bolt — 1/2 in. UNF	8-10 lb.ft



A BL BIG'UN PART TWO



LAST month, we had completed most of the reassembly of the cylinder block and were approaching the final stages of the overhaul. An initial job was to ensure that both mating flanges of the block and the transmission case were clean and free from dirt, before fitting the gasket, liberally coated with jointing compound. Then two of us (1) lifted the engine and carefully lowered it into position on the transmission case.

Before the two units could be bolted together, however, we had to fit two additional cork sealing strips (2) between each outer main bearing cap and the transmission case flange. These, too, were dipped in sealant before we lifted the block slightly and slipped them into position. The flange nuts and bolts must be tightened to the correct torque.

At the front end of the engine now, the oil seal in the timing cover was renewed, a piece of softwood and a hammer being used to fit the new seal squarely in the housing. Before tightening

the bolts, we used the crankshaft pulley (with the seal flange well coated with oil) to centralise the cover (3). Two of the bolts were then tightened to hold the cover in position as the pulley was withdrawn. When all cover bolts had been tightened, we refitted the pulley and tightened the nut to 70 lb.ft.

Next, the engine/transmission unit was placed on end — making sure that it was well supported — so that the flywheel, clutch and primary drive could be installed. We fitted the new adaptor plate gasket first (4), sealing it with jointing compound after making sure that the four layshaft thrust springs were in position (arrowed) under the gasket.

Then the adaptor plate (with its oil seal lip well oiled) was replaced (5). A delicate touch is required to ease the seal over the crankshaft flange. We used a well-oiled blunt feeler gauge (6) to scribe the seal lip before the plate was pushed fully home. Note that both 3/8 in. and 5/16 in. UNF bolts

A useful tip worth remembering is that if super fuel is unavailable and you are forced to use unleaded petrol, add 4% of diesel to the fuel. This should minimise any damage to the engine, but don't expect any sparkling performance.

With regard to the article concerning converting your 1800 from automatic to manual (see Newsletter No 18), Daryl Stephens advises the speedometer unit from a manual car should also be used as it differs from one fitted to the automatic in that the latter is slower. Daryl also sent in an article on how to get more power from your standard 1800 in that he fitted twin carburettors to his Mkl. Following are the trials and errors in fitting the same:

- One way is to use the MGB inlet manifold complete with MGB twin $1\frac{1}{2}$ " carbies. However a slight problem occurs here because the fuel bowl touches the brake power booster. The booster can be relocated but not easily.
- A second way is as above but using twin $1\frac{3}{4}$ " SU's (from an X6 Kimberley) though they still hit the booster. Unfortunately, the $1\frac{3}{4}$ " SU's do not bolt on to the MGB manifold and an adapter has to be fabricated.
- A third way is still to use the MGB manifold and to fit the later type H1 1F SU carbies. These have the advantage that the fuel bowl is no longer separate, but incorporated within the main body, and clears the booster. Engine idle speed is also constant.
- The next problem is to determine the fuel mixture and, unless you can find someone who has done this exercise already and you are able to identify the correct jet needles, a lot of time will be spent overcoming this.

All of the above can be avoided if you can lay your hands on an (English) 'S' manifold as Ian did — these were fitted to the 1800 'S' models. This inlet manifold differs in two aspects:

- $1\frac{3}{4}$ " SU's bolt straight on.
- This manifold has a kink in it thus allowing it to clear the power booster.

This arrangement has the fuel bowls on the inside almost touching each other. The correct needles are TZ (rich) C1 (weak). To complete the above operation, it only remains to fit a suitable set of extractors. Be careful here and try to obtain one that roughly follows the path of the existing exhaust pipe. Inferior ones sometimes go under the driveshaft. Again, the obvious solution is to fit 1800 'S' extractors. Finally, the remaining exhaust system rearward of the extractors will have to be new as the pipe diameter is larger. Ancillary items such as choke cables (TR7 twin cables will fit) and air cleaner(s) — sports air cleaners or the standard twin air cleaner from an X6 Kimberley — can be encouraged to fit. To round things off, Daryl ported and polished a MkII head and fitted it to the Mkl engine.

A word about camshafts. Early MkIs and automatics run a 5/45/51/21 cam, which is the same as a Morris 1100 and gives peak revs at 2500 rpm. Later 1800s had 5/45/40/10 peaking at 2100 rpm. Late MkIIs, S models, and the MGB cams run 16/56/51/21 giving a peak torque at 3000 rpm. Daryl says that distinguishing between them all is difficult; the most suitable cam in his opinion is the 'Wade 240' running at 30/70/70/30, which comes highly recommended.

Also included with this month's newsletter is part two and concluding article on the complete overhaul of the 'B' series engine reproduced from the English **Practical Motorist**.

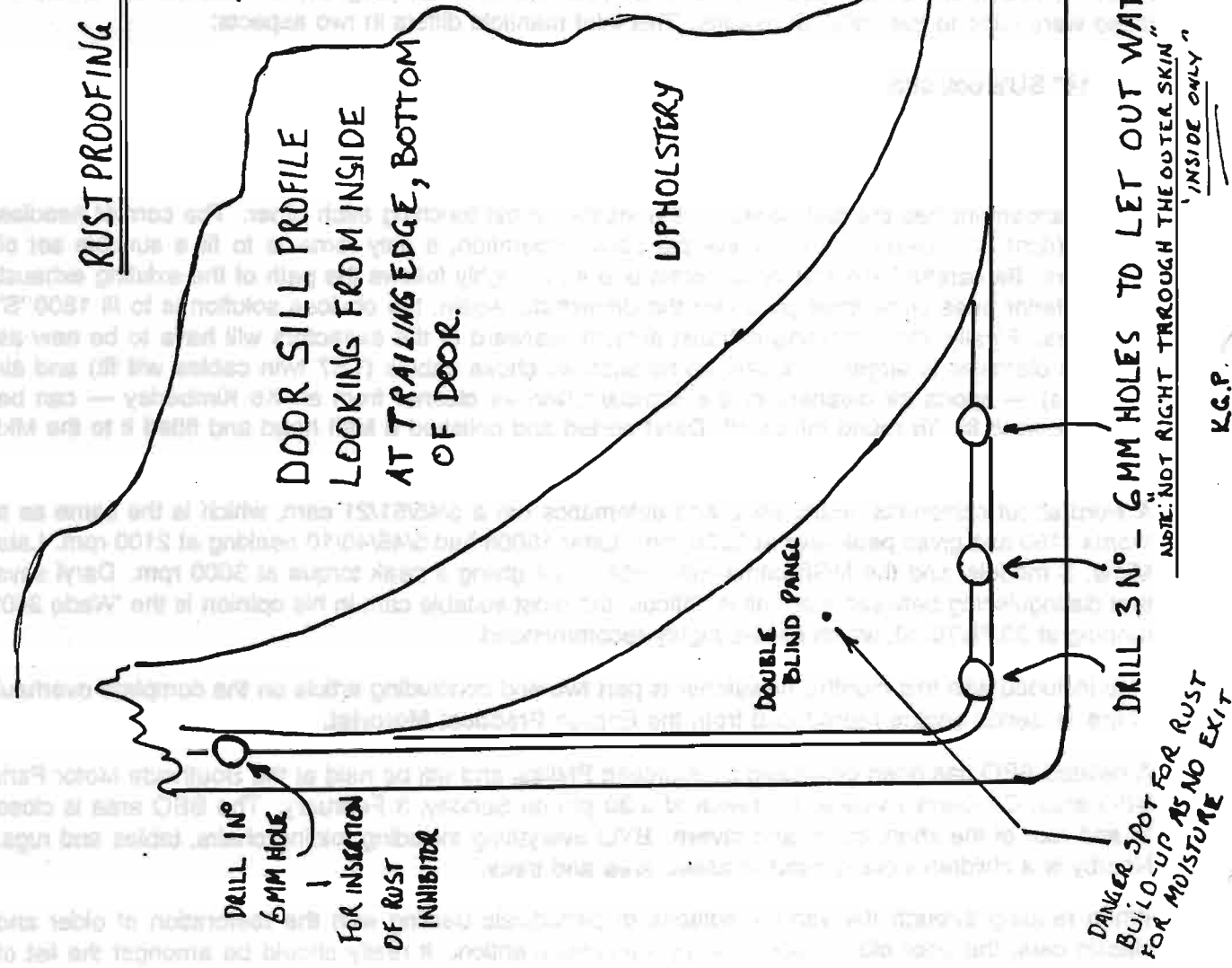
A belated BBQ has been organised by Kathleen Phillips and will be held at the Southside Motor Park BBQ area, Canberra Avenue, Fyshwick at 3.30 pm on Sunday, 3 February. The BBQ area is close to and rear of the shop, bistro and tavern. BYO everything including folding chairs, tables and rugs. Nearby is a children's playground, grassed area and trees.

When reading through the various editions of periodicals dealing with the restoration of older and classic cars, the poor old Landcrab rarely warrants mention. It really should be amongst the list of

RUSTPROOFING OF AUSTIN 1800 DOORS.

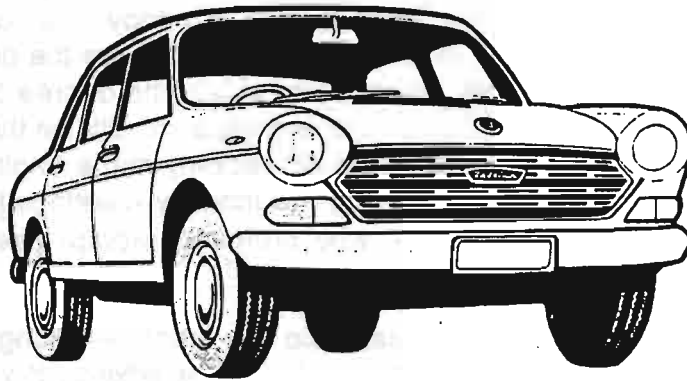
- STEP 1. Remove upholstery from door and vacuum clean all dust from within the door cavity.
- step 2. Apply a suitable rust inhibitor within door cavity - a good one is Fishoilene, but smells a bit for a few days.
- Step 3 At trailing edge, bottom of door. locate double panel section. Carefully drill 3 holes as shown on drawing adjacent. [attach some masking tape to drill bit about 2mm from cutting edge as limiter to stop drill advancing too far - IE GOING STRAIT THRU. DISASTER!]
- Step 4 Drill another hole higher up as shown on drawing.

Step 5. Inject rust inhibitor into hole at step 4. and observe draining at bottom holes.
Note it may be wise to clean out any dust or corrosion deposits from within double panel area prior to inject of inhibitor.



DRILL 3 NO - 6MM HOLES TO LET OUT WATER
 NOTE: NOT RIGHT THROUGH THE OUTER SKIN "INSIDE ONLY"
 DANGER SPOT FOR RUST BUILD-UP AS NO EXIT FOR MOISTURE
 K.G.P.

LANDCRAB



Number 33

Landcrab Owners Club of Australasia

February 1991

Yet again our last meeting saw a good turnout of members which is very encouraging. Good! Keep it up. The club has gained a new member — please welcome:

Tim HUNT 55 Fraser Court (06) 295 6577 Mkl Sedan (manual)
Kingston ACT 2604

Tim has had his Mkl several months and has done a marvellous job in resurrecting it from a basic bodyshell to a nearly finished and running car.

Those of us also members of the UK LOCI (Landcrab Owners Club International) will have received the latest newsheet and the 17-page voluminous quarterly magazine. The UK club now boasts in excess of 280 members and, at their recent annual general meeting, agreed to divide their club into regions within the UK with appropriate regional secretaries. In addition, their club now sports a 'Spares, Events and Technical Secretary', together with a 'Publicity Officer' and 'Registrar/Historian'. What an enormous load it must be from Bill Fraser's shoulders. Under the guidance of their new editor, Ian Ingram, a newsheet will appear every two months with the main Landcrab News appearing three times per year (Christmas, Easter and Autumn). The Aussie members of our the UK LOCI who recently expressed concern at the lack of contact have been invited to write Bill if they are unhappy with their membership, however, I feel now that Bill's huge workload is distributed in the club, we shall see a return to normalcy.

Bill Fraser has also asked for suggestions for pooling our resources in some way and forming a closer identity — any ideas? The UK magazine is not without Aussie content with an interesting article entitled 'York Flying 50' (featuring an event in York WA, sent in by Ken and Paula Lyle), together with photographs and details of the interesting differences between the Aussie and UK Landcrabs. One of the photos showed rust damage to the front edge of the bonnet on the driver's side which Ken thought may be caused by stone chips. I am inclined to believe it is caused by the continuous corrosive fumes emanating from the battery. Regarding the small indicator repeating light on the front mudguard, these appeared below the waistline on the very last of the Australian-made Mk1s.

In early December the UK LOCI participated in yet another display at the National Exhibition Centre at Birmingham. Among the photographs Bill sent to our club was an interesting one of the British Leyland Safety Research Vehicle. The main bodyshell is that of an 1800 with a Wolseley rear end incorporating Triumph Dolomite rear lights. It featured a rear screenwiper and a different boot floor with a spare wheel recess. Doors were from a 3-litre Austin with Morris Marina door handles, and the locks the anti-burst type from a Rover. The front end and bonnet were from a Triumph Dolomite with Vauxhall front lights. The engine was the same as

an Austin Maxi as was the hydrogas suspension. As Bill says, "Quite a weird mix..."

On the subject of photographs, this is the one item sadly lacking from our newsletter. Apart from the time involved, the main problem is cost. To copy a photograph using a standard photocopier is unsatisfactory. The only solution is to first have the original photo lasercopied, after which it can be conventionally photocopied with some degree of clarity, but to lasercopy anything costs in the region of \$4.50. I'm still working on it. Still on the subject of photographs, Ken Patience sent in three photos showing his recently-made engine hoist in use. [All photos, incidentally, are available for perusal at the monthly meetings.] Ken also mentioned he has been in touch with Dale McShane who promised prompt attention with regard to the polyurethane bushes.

Pat Farrell supplied us with our technical topic this month — fitting twin carbies to an 1800 (similar to what Daryl Stephens did with his MkI). Pat advises if you use the MG manifold you have clearance problems with the firewall as the MG manifold is longer than the standard 1800. When you fit SUs to the Australian MkII, you can use the brake booster bracket from a Kimberley X6 range, which puts the booster flat against the firewall and out of the way. He also suggests that the simplest way to extract more power out of your standard Landcrab is to use a single 2" HS8 SU carby and a three-branch exhaust system, though Pat prefers to use the Weber 45 DCOE carby which is easier to tune than the twin SUs. Pat has successfully used this carby on his rally car, however to fit it requires cutting a hole in the firewall in order to gain the necessary clearance. Regarding camshafts, he uses a 36,52,56,32 grind camshaft (Part No C/AEH864) which was fitted as standard to his English engine (Engine No 18AMW-U-H 101631) and is perfect for rallying, providing lots of low speed torque. Finally, Pat says the difference in speedometer readings after converting from automatic to manual is caused by the different differential ratios: 3.88 (auto) to 4.19 (manual).

Andrew McGregor has moved premises in Fyshwick and is now at the rear of 2/26 Geelong Street — Gemini Wrecking and Repairs. It is a little hard to find in that it is at the rear of a smash repairs which, in turn, is at the far end of Geelong Street on the right. Andrew is able to do engine tuneups for members at \$40 plus any parts which may be required. Also, he has access to wheel alignment equipment and can offer this service to members for \$28. No phone is available at present but you can phone Andrew at home on (06) 286 1807 for these and other services.

Weston Autopart advises that a discount of 15% is available to club members on production of their membership card. They deal in general parts and accessories, specialise in brake and clutch equipment, and also sell and fit tyres. Ty Reynolds recently bought an 1800 clutch kit there for \$205, a saving of \$30.

The NEXT MEETING will be: **Monday, 4 March 1991, 7.30 pm**
The Canberra Yacht Club.

See you there!



Mick



WESTON AUTO PARTS

**12 LIARDET STREET,
WESTON
88 6600**

Trading Hours 8am to 5pm Monday to Friday
8.30am to 4pm Saturday
10am to 2pm Sunday

**GEMINI WRECKING &
REPAIRS**

**REAR 2/26 GEELONG ST
FYSHWICK**

With regard to establishing a New Zealand connection, Daryl Stephens kindly sent in some addresses of dealers in Christchurch and Wellington who sell BMC parts:

BISH AUTOMOTIVE
90 Waltham Road
Christchurch, New Zealand
telephone: 0011 64 3 668 347

BMC CAR PARTS
73 Wrights Road
Christchurch, New Zealand
telephone: 0011 64 3 389 788
389 793

BMC AUTO SPARES
19 Raycroft Street
Opama, New Zealand
telephone: 0011 64 3 660 401

MINI SPARES
35 Wordsworth Street
Sydenham, New Zealand
telephone: 0011 64 3 660 668

AUTO PARTS AND PANELS

Wellington, New Zealand
telephone: 0011 64 4 375 538

GEARBOX AND STEERING CENTRE
2/133 Park Road
Miramar, New Zealand
telephone: 0011 64 4 881 861 (ask for Bill Lane)

BMC AUTO DISMANTLES
68 Montgomery Crescent
U/Hutt, New Zealand
telephone: 0011 64 4 264 223

UPCOMING EVENTS

WHEELS 91, 10 February, ACTAFL Oval in Philip. Biggest annual vehicle show in Canberra.
Historic Car Club Day, 10 March, Grevillea Park.

FOR SALE

Mkl Sedan: Green with matching interior, reconditioned cylinder head, good condition. ACT rego until 7/91. \$800. Contact Les Low (06) 282 1313.

Austin 1800: Good condition throughout. Automatic faulty, no forward gears, only reverse. Price negotiable and cheap in exchange for good home. Enquiries to: 117 View Street, Glenroy VIC 3046, telephone (03) 374 2257 (work) or (03) 300 2138 (home).

BMC Grille Bugscreen: To suit Austin 1800 Mkl. \$50. Contact Peter Jones (046) 262 094.

WANTED

To complete my photo collection of BMC cars, I need photos of the following Landcrabs:

Austin 1800 MkIII & 2200
Morris 1800 Mkl, II, III & 2200
Wolseley 18/85 & Six
as well as the Austin Maxi & 3-litre.

If any member could help, please write to: Peter Jones, 26 Leichhardt Street, Ruse NSW 2560.



WHEELS

xies cars prepare for rerun of 12,000-mile London-Sydney rally



This Austin 1800 raced half-way round the world to finish second in the 1968 marathon. Photograph by John Wildgoose.

Wizards of Oz hit the marathon road again

THEY called it the Land Crab, and it drives like one, with its vague steering, snapping and lumbering brakes.

A mere 21,373 miles on the clock and wood veneer trim around the interior belie the brutal past of this travel-weary Austin 1800, now owned by the British Motor Industry Heritage Trust. When new, 23 years ago, it was 'run in' by one Paddy Hopkirk, from here to Australia.

This is the car Hopkirk and his crew battered halfway round the world on the 1968 London-Sydney Marathon, finishing second behind Andrew Cowan's Hillman Hunter. The old rivals renewed acquaintance in London for the launch of plans for a 1993 Marathon, 25 years on from the original.

It will be a nostalgic rerun for pre-1968 cars, following a route largely similar to the rugged original. Eighty drivers will travel 12,000 miles across three continents in 23 days — the treatment to which no car would subject a 25-year-old car.

Organiser Nick Brittan has achieved a coup in already confirming as the first three in the 1993 running order Andrew Cowan, Paddy Hopkirk and Ian Vaughan, who finished first, second and third in 1968.

Number four will be Roger Clark, the hero of the original marathon who led the event until the final day when his Lotus-Cortina's differential failed. By 'borrowing' a replacement from a fisherman's car, he limped home tenth.

Brittan plans to copy much of the original route, but avoiding Iran, Pakistan and Afghanistan. Instead the rally will follow the old Silk Route through the Soviet Union to Samarkand and Tashkent, with surviving cars airlifted to their final leg through Australia by a Russian transporter plane.

Brittan was a competitor on the 1968 event, but failed — after mechanical breakdown. He says of his 1993 Marathon: 'It will be a gentlemanly event. After all, the cars and many of the drivers are 25 years older ...'

BMC 1800

Following the success of their 1800s in the 1967 Danube and Alpine Rallies, BMC then prepared a team for the 1968 Safari and Daily Express London-Sydney Marathon events. The car driven by Michael Scarlett early in 1969 had just returned from Australia, where Paddy Hopkirk had just taken a fine second place overall, behind Andrew Cowan's winning Hillman Hunter.

The BMC 1800 had a very short 'works' rallying career, and the Marathon performance was really the climax of it. For the 1969 season British Leyland (formed in 1968) turned to racing their Mini-Cooper S models, and for 1970 they looked to the big Triumph 2.5 PI instead. The 1800 was neither fast enough, light enough, nor nimble enough to be a winner, and for that reason it was soon discarded.

Looking back on the magnificent Daily Express London-to-Sydney Marathon of 1968 one can't help thinking how under-reported the event was. It couldn't really help it – a rally or road-race (call it what you will) of that length is pretty difficult to cover fully from every competitor's point of view, yet every runner who got as far as Bombay, let alone Sydney had some tales to tell. We went to British Leyland's special tuning department at Abingdon (it really is a bit Leyland now too – amidst all those Minis and MGs we saw two Triumphs) to hear and see a little of the story behind British Leyland's second place Austin 1800 driven and crewed by Paddy Hopkirk, Tony Nash and Alec Poole.

How does it differ from other rally 1800s? Not all that much; from standard 1800s – well, quite a bit, like all rally cars. Many of the details are ones first used or else found necessary on 1800s for the East African Safari. Starting with the power unit and transmission, the engine is bored out 0.040 in. to increase the capacity to 1,845 c.c. The cylinder head is standard Morris 1800S, that is to say it has a 9.5-to-1 compression ratio instead of the usual 9.0-to-1. A high lift camshaft is fitted, the valve springs are heavy duty and the inlet manifold is polished and matched. Twin 1.75 in. HS6 SUs are used.

The two air-cleaners are unusual in that they are joined together by a piece of trunking like Siamese twins. If it looks as though the car has to voyage through heavy flood water, a plastic plug is put in the offside air-cleaner's trumpet intake and a piece of flexible hose is connected to the other trumpet, now the sole means by which air enters the engine. The other end of this hose inhales air from the cockpit, so that the engine room can be completely flooded without water getting into the cylinders. This was first used on the Safari car.

The Rootes Hunter which won had a high-compression cylinder head used in Australia where

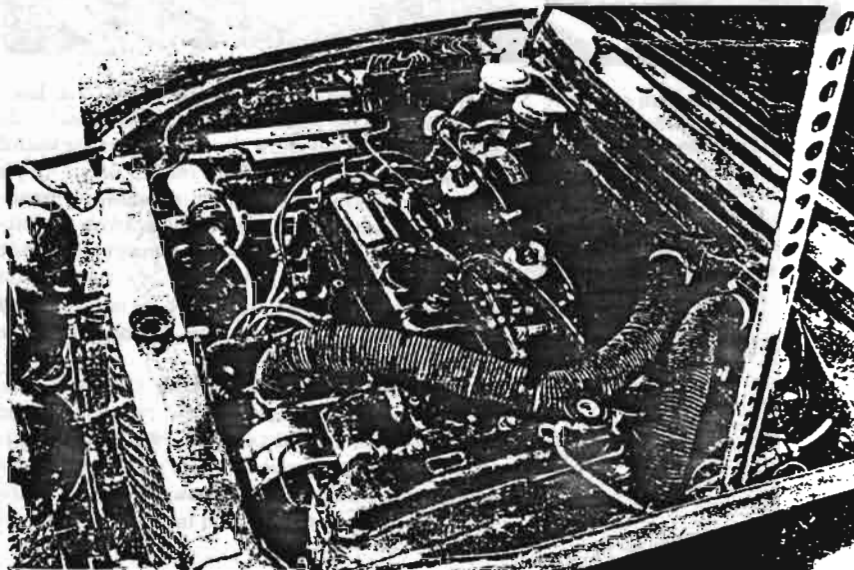
good petrol was available, and a low compression one used as far as Bombay. (In actual fact high octane fuel was available for most of the way.) In the 1800, a simpler solution was used – an ignition timing adjustment controlled via a cable and lever from the cockpit. Its quadrant rim was marked 1, 9, 8, 7, 6 which corresponded roughly to 100, 90, 80, 70 and 60 octane fuel. Special Tuning claim no great accuracy for the ratings of this 'octane selector' (to use an old-fashioned name for it) but it did the trick.

The engine has a very flat-topped power curve – 100 bhp at the flywheel at both 5,500 and 6,000 rpm (Morris 1800S figure is 100 at 5,700), of which 77 are available at the wheels according to Abingdon's rolling road. All-up weight with 26 gallons of fuel on board (plus crew, etc.) was 1.5 tons. An oil cooler and an extra, small radiator are mounted behind the grille.

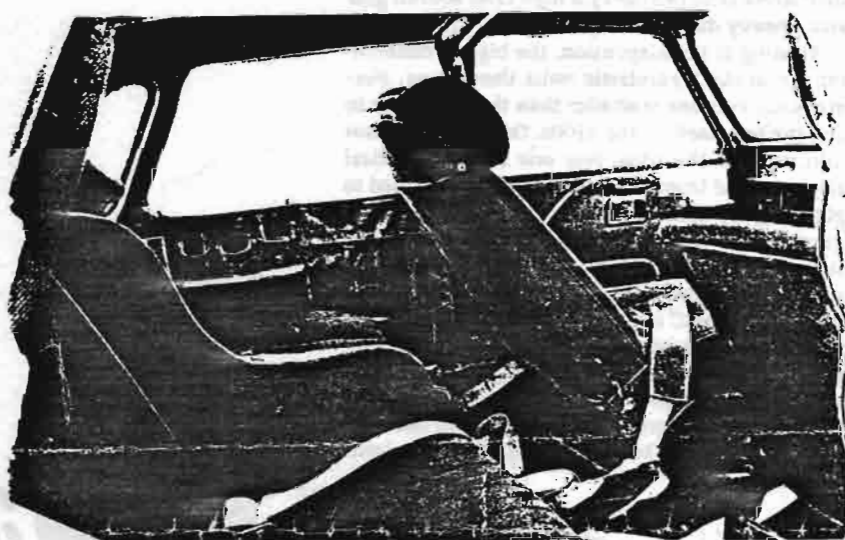
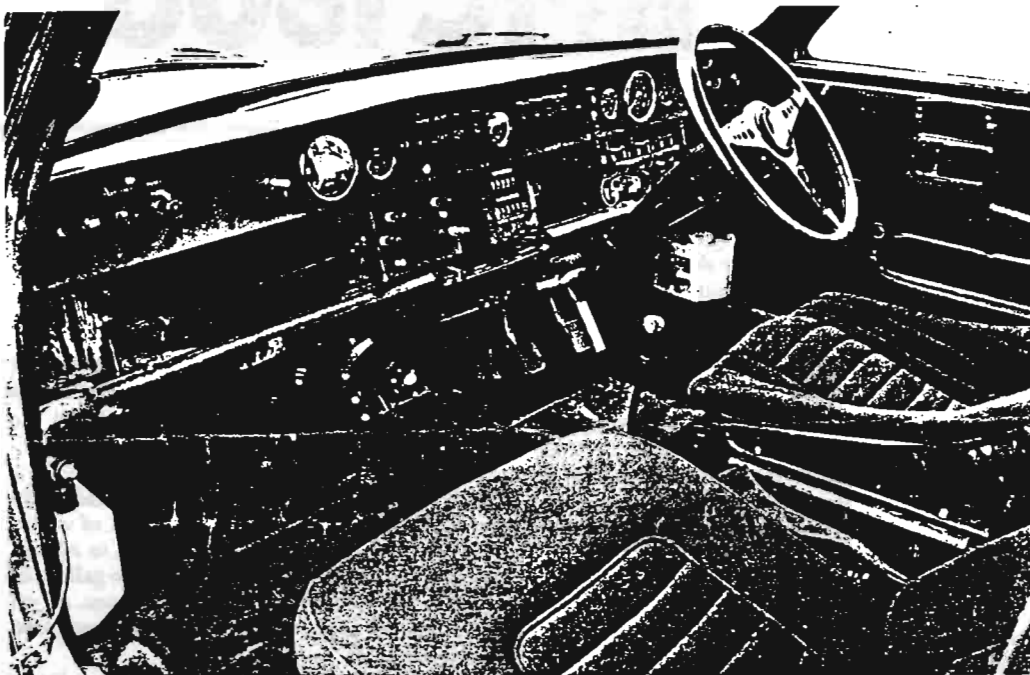
Changes to the transmission amount to a lower final drive ratio (4.1-to-1), a high ratio second gear and a heavy duty clutch plate.

Turning to the suspension, the biggest differences are in the Hydrolastic units themselves. Normally the rear one is smaller than the front; it is in fact the one used on the 1100s. On this car a front unit replaces the usual rear one so that identical sizes are used front and back. They are modified to give slightly greater ride height, this also being partly achieved by higher pressures in the Hydrolastic lines. It is interesting to note that although one gets the impression from the handbook of any Hydrolastic BMC car that the line pressure is the important thing when correcting low-sitting suspension, Special Tuning in fact adjust the pressure until the car's height relative to the wheel centres is right, to a certain extent regardless of how different the pressure may be from standard. Hydrolastic

Under the aluminium bonnet: note trunking from the heater cold-air intake to the alternator, unconnected shorter trunking for the 'siamesed' air-cleaners, the twin reservoirs for the front and rear brake cylinders and the substantial lamp brackets



Open plan office. The foot dip-switch in the middle was for the siren and roof flashing light (which some Australian policeman insisted be taken off). The 'octane selector' is just visible above the handbrake; two separate washers lived each side of the handbrake. Instruments are (from left) 130 mph speedo, fuel voltmeter, 0-110 deg temperature gauge, tachometer, and 0-100 psi oil pressure gauge. Watches (removed) were on the left of the Halda Twinmaster. The alternator control box and some fuses are in front of the steering column; the entire panel was quickly detachable. Note fence across passenger's shelf, to stop things falling out



Spacious back seat: the front passenger seat is not the original, but the extra divided part behind is the rear section of the bed-cum-seat (made from a standard 1800 reclining seat) used up to Bombay. In Australia, the co-driver had to be up front

lines – indeed, all electric, hydraulic and fuel lines – run through the interior of the car along each side of the floor. The pressure bleeding valves are found in the back footwells and (as on the Safari car) a normal workshop Hydrolastic adjustment hand-pump is mounted on the back bulkhead on the left-hand side. By this means, quick adjustment of ride height can be made anywhere any time. Aeon hollow rubber spring bump stops are incorporated at the rear and at the front the tie-rods are made adjustable.

The wheels are magnesium alloy Minilite 5.5 in. rim ones which except for the crossing of the Nullabor plain carried Dunlop SP44 Weathermaster covers; the Nullabor had only recently been re-graded and was smooth enough to encourage 175HR13 SP Sports to be used for what turned out

to be a flat-out blind; they were on the car when we tried it. Two spares are obvious on the roof and another two were kept in the boot.

The split-circuit brakes have twin Girling master cylinders worked through a whiffle-tree with a vacuum servo mounted underneath the fascia on the passenger's side (no room under the bonnet!) and working on the front brake only. No rear limiting valve is fitted.

Without any doubt whatsoever, the 1800 in standard trim has one of the strongest body/chassis units in production. Each of the five cars built for the Marathon (four works ones for Aaltonen, Fall, Green and Hopkirk plus a fifth for the RAF Red Arrows team) started life as a bare body unit delivered to Special Tuning and assembled there; any 'tweaks' known to be needed would certainly be carried out, yet even a searching look at the car shows no glaringly obvious bits of buttressing, like the top cross-member added on some competitors' cars to keep MacPherson-strut mountings from leaning inwards when tired. The kangaroo bar is attached to the car at five points. Two bottom tubes are fixed via big plate brackets running inside the grille, the two top ones attach to the insides of the wing 'walls' and a central lower one looks like a conventional car's starting-handle tube which is welded to the very strong front cross-member. This also serves the big auxiliary lamp bracket. A similar tube at the back supports the external rear step.

In order to lighten the car a little, or perhaps it is more accurate to say in order to counteract a little of the added weight, a few things are lightened. Bonnet, boot and door panels are aluminium alloy and there are perspex windows at the rear. And someone's done an elaborate job of drilling lightening holes in the bonnet stay.



The test drive in murky Berkshire weather, with the back lifting slightly as the throttle is lifted. Light- or just sticky-fingered spectators removed the first set of advertising transfers at Kabul

Inside, one is immediately struck by the fact that using one of the few contemporary models made which are truly roomy enough to be called *family* cars as a rally device makes things a lot easier when it comes to comfort for three men at work for 10,000 miles. There is a comprehensive (carefully padded) roll-cage installed but it doesn't dominate the interior as they usually do. The original seating arrangement used for most of the run wasn't in the car when we saw it; this had involved an ingenious bed for the rear man. Irvin full-harness is fitted.

An unusual thing about the Marathon is that with the strong likelihood of people relatively or even completely strange to the cars having to work on them, it was essential to make this as easy as possible. Dash panels which are completely detachable are normal practice, but really thorough labelling isn't. The customary black fascia and full instrumentation is there; the watches had been removed long before we got near the car, mainly as a protection from pilfering (by souvenir-hunting spectators, not journalists). One small detail which may amuse 1800 owners who are occasionally irritated by things falling out of those useful fascia parcel shelves is that this car had a 2 in. high 'fence' across the edge.

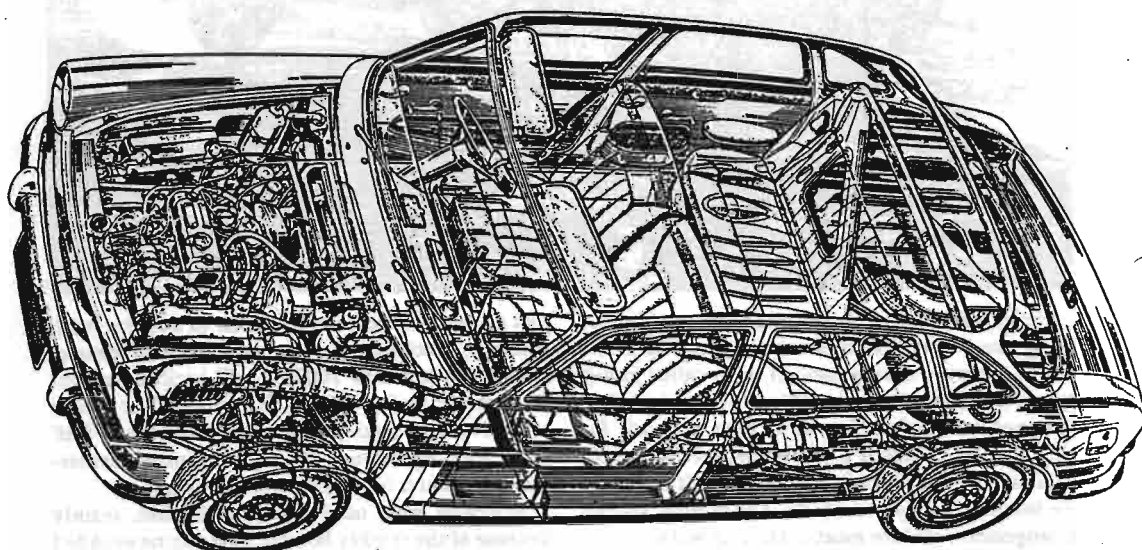
British Leyland very kindly entrusted the car to us for a couple of hours driving, an honour in itself which was all the more trusting when we learnt that they were shipping it to the Brussels show after we'd finished with it. It was a most interesting experience, especially after I'd been lucky enough to try the winning Hillman Hunter a little earlier. Rally 1800s have a 'feel' all their own. Not surprisingly they aren't as staggeringly quick as their Ford competitors; with the extra weight and after 10,000-odd miles, this one was no flyer, understandably. (Neither was the Hunter.) But thanks to slightly higher-ratio steering and all the other modifications, the car handles like a magnified Mini which after all is what in many ways it is. It is

just as taut and you can put it on to any line with absolute precision. It rolls very little of course. Unlike the standard 1800s it will kick its tail out tidily if you go fast enough and lift off. The brakes are heavy but respond well, there is plenty of 'feel' in the steering through the big fat-rimmed leather-and-aluminium Moto-Lita steering wheel.

It looked more used than the Hillman, mainly because of the crinkly bonnet. The engine sounded as though there were some fairly wide clearances in one or two places. The driver's door shut stiffly though no wear was detectable in its hinges. The gearchange worked well and there was still more than adequate synchromesh. Like the Hunter, it felt as if it would have made the return journey all right, though not quite so quickly.

Various things happened to all four works cars. This one got to Bombay unscathed but 'hit a rock or a big hole in Australia' which broke the steering rack housing. (The number of malevolent holes in Australia uncovered by Marathon cars is notable.) Aaltonen's car was the only one fitted with a de-ditching winch which the crew had to use as a substitute for a torn-out front tie-rod between Teheran and the Iran border; he later had some slight gearbox bother. Fall's car broke a top front suspension arm somewhere nearby; a local man made a very good job of re-welding this. In his native Australia, Evan Green lost a rear hub and wheel after some possibly overtightened wheel bearing overheated and failed. A message written in the sand for a flying farmer to read was how they got mechanics to that one. All in all, a fascinating exercise; the 1800 is a formidable contender in the family car stakes - which is at last gradually being acknowledged - and deservedly so. It is not an ideal rally car because of its weight, but second place overall in such a chancy event as the London-Sydney (and second in the team section) is no mean achievement - a total of nine of them finished.

History and Type Identification



YOUR MANUFACTURER:

The Austin, Morris and Wolseley Motor Companies were pioneers of British vehicle producers and their names still remain predominant - even though groupings and mergers have taken place throughout their respective long and eventful histories.

Before becoming associated with BMC - British Motor Corporation - in 1952, Austin had in its turn linked with Donald Healey Motor Co. Ltd. and Vanden Plas Ltd. Likewise, Morris, Wolseley and Riley Motors had grouped under the Nuffield Organisation. In May 1968, British Motor Holding - comprising BMC and Jaguar - merged with the Leyland Motor Corporation to form BLMC - British Leyland Motor Corporation Limited. Austin, along with Morris, MG, Vanden Plas and Wolseley form the Austin Morris Manufacturing Group which is responsible for volume car production within BLMC - Britain's largest manufacturer of motor vehicles.

With head office at Berkeley Square House, Berkeley Square, London and main works at Longbridge, Birmingham and Cowley, Oxford, this giant combine has assembly plants and licensing arrangements throughout the world.

YOUR CAR:

The BLMC 1800 range was introduced on the following dates:

AUSTIN MODELS

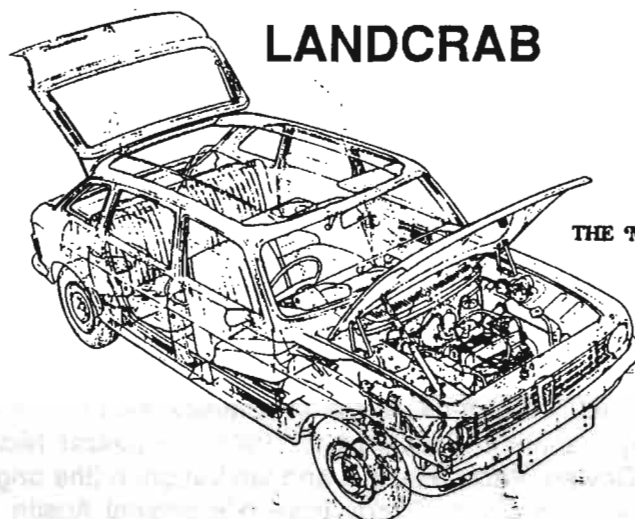
Oct. 1964 - Mk I
May 1968 - Mk II
July 1969 - Mk IIS

MORRIS MODELS

March 1966 - Mk I
March 1968 - Mk II
Sept. 1968 - Mk IIS

WOLSELEY 18/85 MODELS

March 1967 - Mk I
May 1969 - Mk II
Sept. 1969 - Mk IIS



LANDCRAB

THE 'MAXI 1500 and 1750' FIVE-DOOR
SALOON

Number 34

Landcrab Owners Club of Australasia

March 1991

Again the February meeting saw a good turnout of members — great!. We welcome a new member from Goulburn:

Patricia JARRETT 8 Gundry Street (048) 218 547 Mkl Sedan (manual)
Goulburn NSW 2580

Rick Hopkins rang me recently and we both thought it would be a good idea for interested Canberra and District members to organize a run to Goulburn one Sunday — probably in April when it is cooler — for a picnic and to meet our Goulburn members. Details will appear in next month's newsletter.

The **Wheels 91** day was a non-event as far as our club was concerned. I was in North Queensland that week and no one bothered to organize anything or attend at ACTAFL. [Similarly, Len Eastwood was the only one to turn up at the barbecue recently.]

The following is reproduced from the January 1991 newsletter of the **ACT Council of Car Clubs** of which our club is a member:

No doubt you are all aware of the reports that the government may be considering selective restrictions against older vehicles. Although we wrote to the Hon Ros Kelly, the Minister for the Environment etc, we have not yet been favoured with a reply to our letter which sought answers to a series of specific questions and points.

The Minister has however issued a media release, commenting that "it is nonsense" to suggest that increased petrol and registration costs were being proposed for older cars. All very well for the present, but recent newspaper reports seem to suggest that the proposals to restrict old cars are coming from the new-car industry and they can be expected to keep trying — dollars are involved.

Example 1. The **Canberra Times** of 11 January reported Keith Taske, dealer principal of Canberra Toyota, as follows:

"We have an average age of cars on the road of around 10 years which is one of the oldest in the western world. There was a time 10 or 15 years ago when the average age was about 4 years".

"Old cars aren't doing anyone any good: they emit more pollution, aren't as safe and, of course, in a commercial sense continue to debilitate the new-car manufacturing and selling industries".

Example 2. The January council meeting was shown a copy of "an open letter to all car enthusiasts" from the USA Chrysler enthusiasts magazine **Mopformance** for August 1990. The letter tells how Chrysler is not allowing the manufacture of reproduction parts for its older cars. What is more, the USA is considering an 'Industrial Design and Anti-Piracy Bill' (promoted by Chrysler) to ensure there are no counterfeit parts in the marketplace. Of course, the vehicle restoration movement largely relies on such repro bits...

We would welcome your club's comments or suggestions at the next council meeting, 21 March 1991.

As you will have seen in last month's newsletter in an article sent by Bill Fraser, a rerun of the 1968 London to Sydney Marathon is planned for 1993. Organizer Nick Brittan has already confirmed that Andrew Cowan, Paddy Hopkirk and Ian Vaughan (the original first, second and third respectively) will be taking part. Paddy Hopkirk's original Austin 1800 will be entered courtesy of the British Industry Heritage Trust, the current owners. Incidentally, this landcrab still has only 21 500 miles on the clock. This nostalgic rerun of pre-1968 cars will consist of 80 drivers travelling the 12 000 miles over 3 continents in 21 days, and closely follows much of the original route (with the exception of Iran, Pakistan and Afghanistan). Instead the rally will follow the old silk route through the USSR to Samarkand and Tashkent with surviving cars airlifted to Australia by a Soviet transport plane. I have no doubt whatsoever that a landcrab will be in there.

Bill Fraser commented that both our clubs should give this classic event some thought on how to combine efforts and possibly enter our own car. Any ideas or suggestions?

Probably not many of you are aware that 3 years previously, in 1965, an Austin 1800 participated in an endurance test consisting of a 12 600 mile figure-of-eight journey around Australia testing a new oil put out by Castrol. In my opinion, this journey made the London to Sydney Marathon look like a bush picnic. The route started in Sydney and headed north to Rockhampton in Queensland. From the Pacific Ocean the route headed due west and out to Emerald, Longreach, Boulia and Urandangie, over the Northern Territory border and down to Alice Springs. After a rest and maintenance in the Alice, the team made for Ayers Rock and the Olgas, then turned due west on perhaps the most tortuous stage of the trip on the Gunbarrel Highway and the Gibson Desert, past the Giles Weather Station and on to the Warburton Aboriginal Mission in Western Australia. The route continued to Laverton, where it then headed northwest to Wiluna and Carnarvon, meeting up with the Indian Ocean on the west coast.

With the morning sun now behind them the team headed north and east through the Kimberleys, Broome, Kununurra to Katherine, then north to Darwin, meeting the sea again. Following a rest and more maintenance, the route headed due south the 1 000 miles to Alice Springs, the crossroads, and continued the further 800 miles to Port Augusta before turning due east and returning to Sydney. This endurance test commenced in November 1965, in keeping with the worldwide testing and release of Castrol's new oil, and coincided with the Australian summer and the imminent onset of the northern wet.



This journey experienced desert and flood, washaways and flooded creeks/ivers, not to mention the oppressive heat and the flies. Temperatures of up to 35°C/117°F were not uncommon. Remember too that 26 years ago the majority of the route was gravel road, infrequently graded. The drivers of this endurance run were Jack Murray ('Gelignite' Jack) and Evan Green. The latter wrote a book, **Journeys with Gelignite Jack**, highlighting the hilarious and dramatic trip through the Australian outback. Incidentally, the then-new Austin 1800 completed the trip unaided and without major incident or breakdown.

Perhaps our club should give some serious thought to staging a rerun of this figure-of-eight endurance run to coincide with the 1993 rerun of the London to Sydney Marathon. Maybe Castrol would be interested in sponsoring us... Wouldn't it be great for one of the Aussie landcrabs to rendezvous with one from the UK at Port Augusta and travel together on the final leg to Sydney?

In seeking new and used parts for our landcrabs, here is another contact in New Zealand: **Atlas Auto Dismantlers**, 3 Brandon Street, Dunedin, phone (024) 551 224. Please address inquiries to Richard Cathro.

The following 1800 trivia/landcrab information was sent in by Peter Jones:

- Andrew Cowens' first victory in the Southern Cross International Rally was in 1969, driving an Austin 1800. His navigator was D. Johnson.
- During the 1968 London to Sydney Marathon, Evan Green's 1800 was one of the quickest cars down the Latabin Pass in Afghanistan, helped by a total loss of brakes! This car also had the fastest time from Menindee to Sydney, but only finished in twenty-first place.
- After the 1968 marathon, Castrol announced the results of a competition it had run to pick the first five place getters. These were selected by British motoring writers and team managers. The results included two 1800 drivers — Rauno Aaltnen (first) and Evan Green (third).
- Only one car hit a kangaroo during the Australian section of the marathon; this was Jack Murray's 1800 and it happened very near Perth's suburbs.

Landcrab Body Part Changes during Production:

- Mark I
- Bonnet lock changed at body no 15119, internal release added.
 - Motif bar assy changed at body no 10111, from 2- to 1-piece.
 - Badge surround (grille) changed at body no 10111.
 - Grille badge fixing changed at body no 10111.
 - Over rider (front) changed at body no 17612.
 - Hose to expansion tank changed at body no 19585.
 - Boot handle assy changed at body no 23598.
 - Latch assy changed at body no 23598.
 - Boot hinges changed at both body no 2445 and 23662.
 - Over rider (rear) changed at body no 17611.
 - Gutter liner changed at body no 13670.
 - Door check arms changed at body no 12781.
 - Lock striker and lock plates changed at body no 4715.
 - Door glass channel changed at body no 26209 (manual) 2128 (auto).
 - Road wheels changed at body no 9645,2222.
 - Roof liner changed at body no 25661 (manual) 813 (auto).
 - B & C post liner changed at body no 13661.
- Mark II
- Boot lid hinge assy changed at body no 3522.
 - During production the rear bumper was changed from a single piece (MkI type) to a 3-section bar.

[All the above information is from the BMC Body Repair Guide.]

Our technical article this month deals with a clutch repair. The article is one with a difference in that it shows how to replace an 1800 clutch without removing the engine. The idea is interesting and ingenious, but one I personally do not go along with as I fail to see how the engine mounts would not be seriously damaged or stressed. However, what is one man's meat turns out to be another man's poison and any information and/or method on fixing the landcrab is what our club is all about.

Ken Patience sent in a wiring detail designed to overcome the frustrating difference between wiring of 5- and 7-pin trailer connectors. They are interchangeable but differ in electrical destination; by inserting simple links within the receptacle or 'car end' connector, both 5- and 7-pin configurations will work effectively.

Les Lenny wrote with a possible simpler solution to fitting a Falcon oil filter (Z9) to an 1800. He suggests the existing nipple has enough metal to allow it to be rethreaded to SAE $\frac{3}{4}$ inch on one end. This would save an enormous amount of work in making a complete new nipple. The original nipple is $\frac{1}{2}$ inch-pipe each end.

On the subject of the rusting of the front edge of the bonnet mentioned last month, Les says the bonnet is a double skin and the edges are just spot welded down the side. The water gets in on the edge and gravitates down to lie on the bottom between the two edges and rusts. Early Mkl cars were better because there was more tarry gunk between the two layers which prevented water entry. The whole thing was made worse by the pop rivets holding the trim strip to the bottom edge of the bonnet.

Several members have written in congratulating the excellence of the newsletter — thank you! The newsletter belongs to all of us and I try to keep it interesting and as informative as possible, which is important with our membership being so spread out. The ultimate aim is to gather as much information as possible from everywhere in order to keep our beloved landcrabs on the road. The articles sent in by Ken Patience, Peter Jones, Les Lenny, Ken Lyle, John Johansen, Pat Farrell, Daryl Stephens, and Neil Melville — to mention a few — go a long way towards meeting this goal.

Our club now boasts 58 members and our balance of funds currently amounts to \$247.63. In reply to several queries, next year's **MEMBERSHIP FEE OF \$20 IS DUE 1 JULY.**

The **NEXT MEETING** will be: **Monday, 8 April 1991, 7.30 pm**
The Canberra Yacht Club.

Have a happy and safe Easter!

Mick

FOR SALE

Mkl Utility: With tonneau cover, new paint and registered. \$1100. Contact Paul Anthes (w) (06) 295 2566 (h) 295 5920.

1970 Austin 1800: Manual, powder blue colour, twin carbies, car in need of minor restoration, no rust, some new parts go with sale. \$300. Pat Toohey (077) 874 118 (Charters Towers, QLD).

Couple of Kimberleys: Together with some special tuning equipment. Selling as is and in one lot. \$50 approx. Further details from Pat Toohey as above.

Mkl Sedan: Green with matching interior, reconditioned cylinder head, good condition. ACT rego until 7/91. \$800. Contact Les Low (06) 282 1313.

Austin 1800: Good condition throughout. Automatic faulty, no forward gears, only reverse. Price negotiable and cheap in exchange for good home. Enquiries to: 117 View Street, Glenroy VIC 3046, telephone (03) 374 2257 (work) or (03) 300 2138 (home).

BMC Grille Bugscreen: To suit Austin 1800 Mkl. \$50. Contact Peter Jones (046) 262 094.

WANTED

Bonnet badge for Mkl Austin 1800. Phone Mick (06) 282 5262.

To complete my photo collection of BMC cars, I need photos of the following Landcrabs:

Austin 1800 MkIII & 2200

Morris 1800 Mkl, II, III & 2200

Wolseley 18/85 & Six

as well as the Austin Maxi & 3-litre.

If any member could help, please write to: Peter Jones, 26 Leichhardt Street, Ruse NSW 2560.

Landcrab Owners Club of Australasia, 3 Mahon Place, Hughes ACT 2605 AUSTRALIA

K-G P



Hella and
UTILUX

7 + 5 POLE TRAILER CONNECTOR

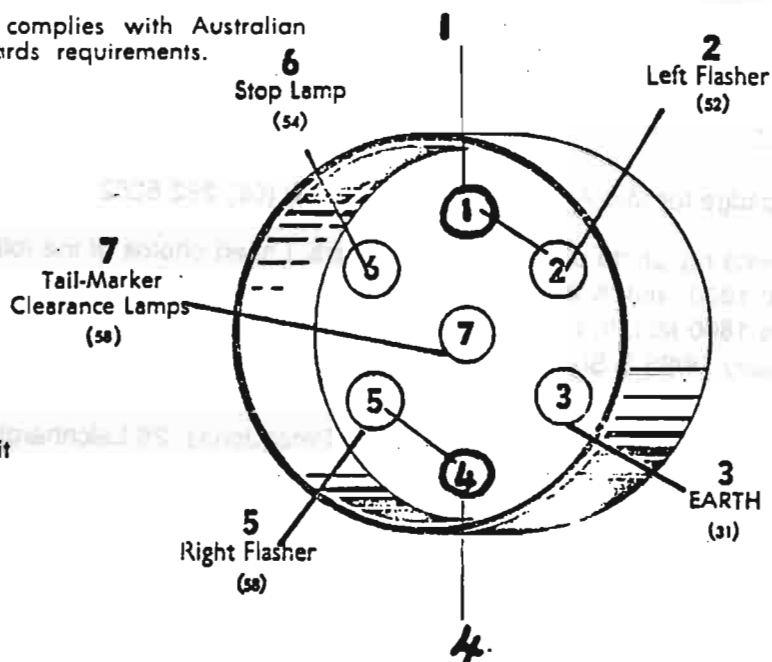
Plug and base are Interchangeable with all types of Continental 5 Pole Connectors.

Base provided with an attached weather tight cover.

Plug incorporates Index Lug, strain relief device, and dust cover.

Circuit wiring Code complies with Australian Motor Vehicle Standards requirements.

With
FLAP LOCKING DEVICE



Cat.

H 1711 Complete Unit

H 1712 Base only.

H 1713 Plug.

H 1717 Dust Cover

CODE No.		WIRING CODE	
UTILUX	CONTINENTAL EQUIVALENT	CIRCUITS	COLOUR
2	52	Left Flasher	Yellow or Purple
3	31	EARTH	White
5	58	Right Flasher	Green
6	54	Stop Lamp	Red
7	58	Tail-Marker Clearance Lamps	Brown
1	-	LINK 1 TO 2	YELLOW
4	-	LINK 4 TO 5	GREEN

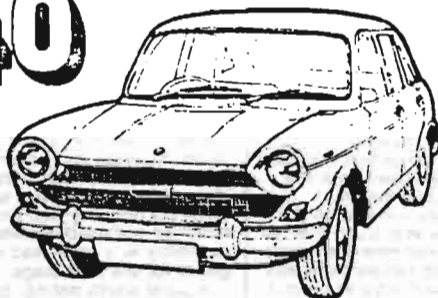
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Wiring code for interchangeability of 5 and 7-Pin Connectors. (Simply place a wire Link between Pins stated.)

1800 MINUS £40



**That's the
sort of saving you can
expect if you change the
clutch PM's way**

Of all the British Leyland cars with transverse engines, the 1800 is by far the most awkward when the clutch needs to be replaced. The reason for this is because (officially) the entire engine has to come out of the car to get at the clutch — unlike the Mini and 1100/1300s, where there is enough room to get the clutch housing cover off without disturbing the engine. Because of the work involved on the 1800 garage labour charges are high — a large BL dealer in Surrey quoted us over £60 to do the job, including parts.

Taking the engine out means that you need a garage beam with sufficient headroom, and a hoist capable of lifting the 550lb. of engine and gearbox. And few modern house garages these days have either sufficient headroom or a roof beam strong enough to take the weight. So d.i.y. clutch repairs on the 1800 by the official method are out.

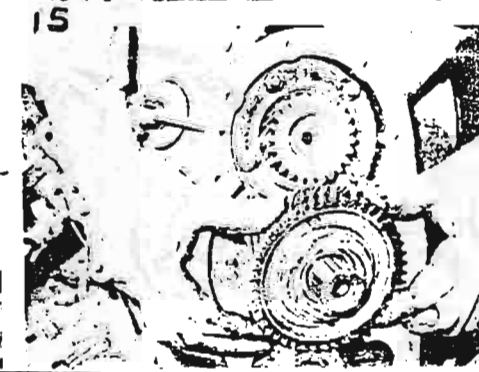
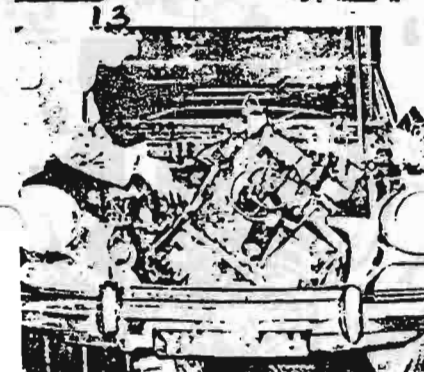
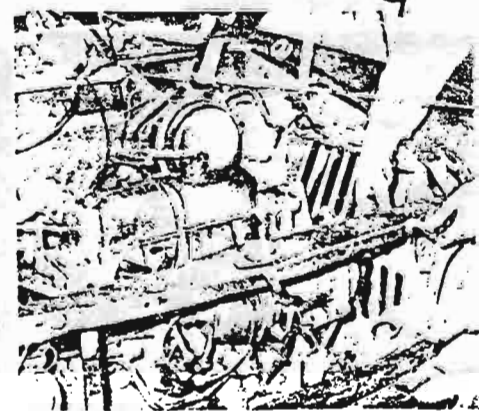
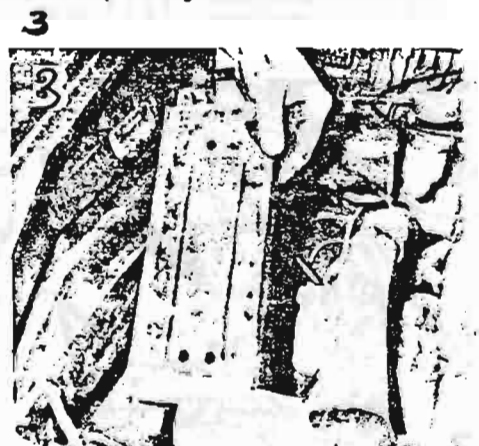
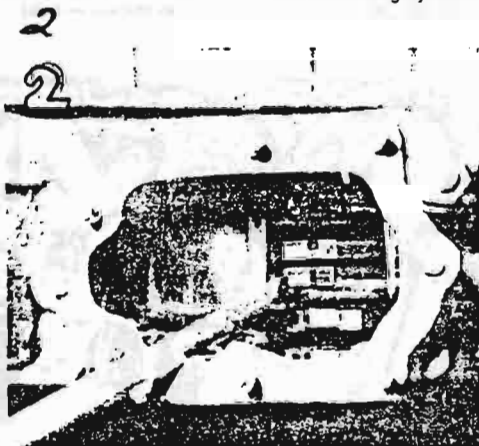
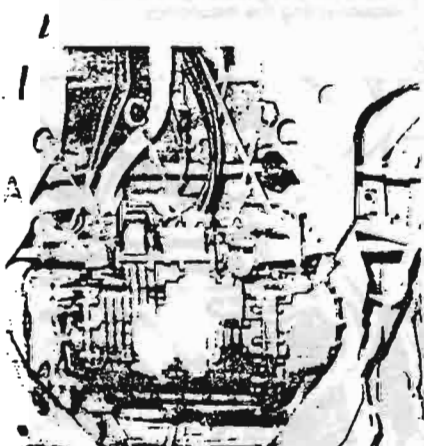
Ever-resourceful d.i.y. mechanics are full of "unofficial" ways to do things, including alternatives for the 1800 job. One way — a dangerous way — which we have heard is used by some smaller garages — is to lower the clutch end of the engine into a pit, so that the entire engine weight hangs on the front mountings at an angle. The clutch cover is then removed and the clutch replaced from below. If a mounting rubber breaks the engine can fall...

We prefer a variation on this theme — our way the engine is raised at the clutch end with a jack under the transmission casing. It's still hard work and really needs two of you to do the job in a reasonable time. But it can be done, and it saves you money — about £40 in labour charges.

working on the engine

THIS is what it looks like from under the engine (1). Having drained both the engine oil and the cooling system we undid the

lower engine attachments, starting with the drive coupling "A" and the exhaust pipe bracket "B". With the gear lever in neutral we removed the gear change cable housing "C" next, followed by the other drive coupling "D". Finally, we removed the bolt from the engine stabiliser rod "E".



So that the primary drive nut could be unscrewed later on we locked the gear shaft by pushing two of the gear selectors into engagement (2) at one time, using a screwdriver poked through the selector housing. On top of the engine, we removed the battery and its carrier tray (3) from the inner wing panel, then disconnected the wires and removed both the horns. Next, we detached the air-cleaner and removed the four 1/2 in. AF carburettor flange nuts and detached the carb. from the manifold (4), placing it to one side in an upright position giving us room to get at and remove the exhaust pipe manifold clamp.

We made a note of which wires went where before disconnecting them and the starter solenoid (5) from the rear mounting crossmember.

Leaving the hydraulic pipes attached, we removed the two bolts securing the clutch slave cylinder and detached it from its push rod (6). At the other end of the engine, the quickthread screw holding the radiator cowl to the matrix were undone with a

short 1/2 in. AF ring spanner. Then with the thermostat housing bracket nuts removed we pulled out the upper half-cowl (7). At the bottom end, we unscrewed the lower support bracket from the rad. so that the radiator could be lifted up (8) and out of the car. To avoid possible damage to the fan assembly later on when the engine was tilted, we unscrewed the bolts and detached the fan now.

Because it would give us (and the photographer!) more working room we removed the front grille and the support panel (9) which was attached by three 1/4 in. AF bolts at either end.

Now, with room alongside both front and rear engine mounting brackets we removed the lower nuts and bolts, replacing them with a 2 1/2 in. long x 1/4 in. dia. slave bolt (arrowed) before removing the upper nut (10).

Our jack was now placed under the engine at the clutch end and raised to just take the weight off the end mounting. Then with the mounting and crossmember attachment bolts undone we detached the crossmember (11).

Next, we removed the starter motor and the top bolts around the clutch housing, noting where the wiring brackets were positioned. Then with two spanners as shown we removed the damper lower bolt (12).

We now came to the difficult part — raising the engine high enough for the clutch housing to be removed. This operation was done in stages, making sure between each stage that the jack had a firm purchase under the engine and that there was sufficient clearance around the unit. We found eventually that we had to raise the engine to an angle of about 40 deg. before there was clearance to withdraw the clutch housing (13).

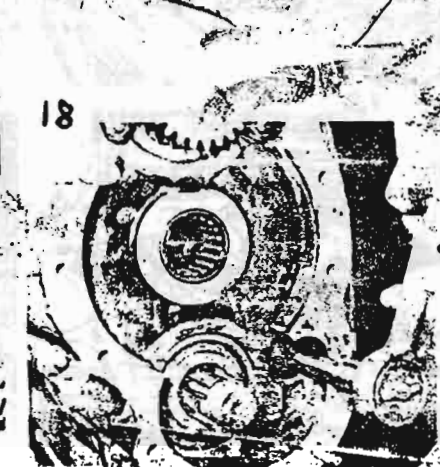
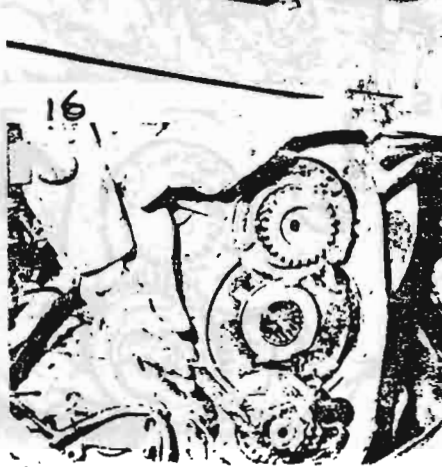
With the hard part over, getting to the clutch was now merely a matter of unbolting and removing the primary drive cover (14) to expose the transfer gears inside. Next, we detached the centre idler gear (15) then unscrewed the primary gear nut. Because we lacked the correct size spanner, we used a hammer and cold chisel (16) to undo both the lockwasher and the nut as shown — a bit

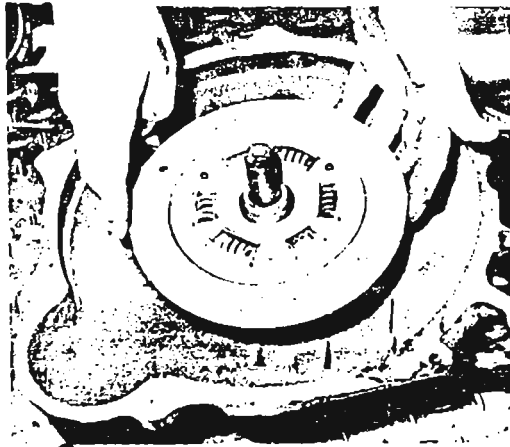
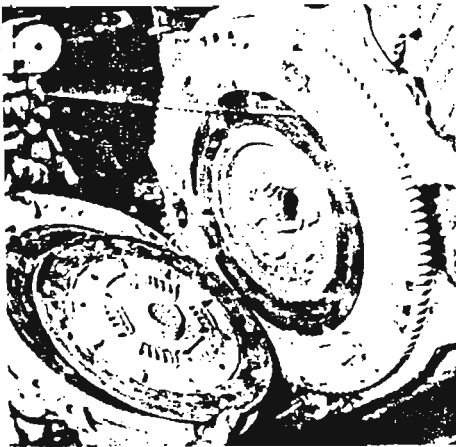
brutal, but it works. With the nut unscrewed, the cog was withdrawn from the shaft (17). Having removed the remainder of the lower clutch housing bolts we found there was yet another nut to take off — not mentioned in the manual — deep down inside the housing (18) and needing a 1/4 in. AF socket and extension to get it undone.

Now we were able to pull the clutch housing away from the engine until the clutch shaft cleared the driven plate splines. Then the housing was finally removed and the complete clutch assembly was now dead easy to get at for the next stage.

A point worth noting, by the way, is that even though you've drained the engine oil, a small amount is still trapped in the bottom of the clutch housing which will be released when the housing is withdrawn.

Reassembly once the clutch has been replaced is a straightforward reversal of dismantling, although a second (smaller) jack can be useful to help in aligning the engine when reconnecting the mountings.





replacing the clutch components

The clutch pressure plate, the outer one, is attached by six AF bolts and spring washers. Undo them to separate the assembly from the flywheel.

Having cleaned the clutch shaft splines, lightly lubricate them with HMP grease and check the new plate for free movement without stiffness.

Even though the release bearing may not be noisy it's wise to replace it now. Just fit the spring pins (arrowed) into the shaft end and clip over to fix.

Remember to fit the clutch plate the right way round - it's marked 'flywheel-side' - then assemble it using a finger to move the plate whilst aligning it by eye.



1800 MINUS £40

FLYWHEEL

CLUTCH DRIVEN
PLATE

THRUST OR RELEASE
BEARING

SHAFT LOCKING
COLLAR

IDLER GEAR

FIRST MOTION SHAFT
DRIVE GEAR AND NUT

FIRST MOTION
SHAFT

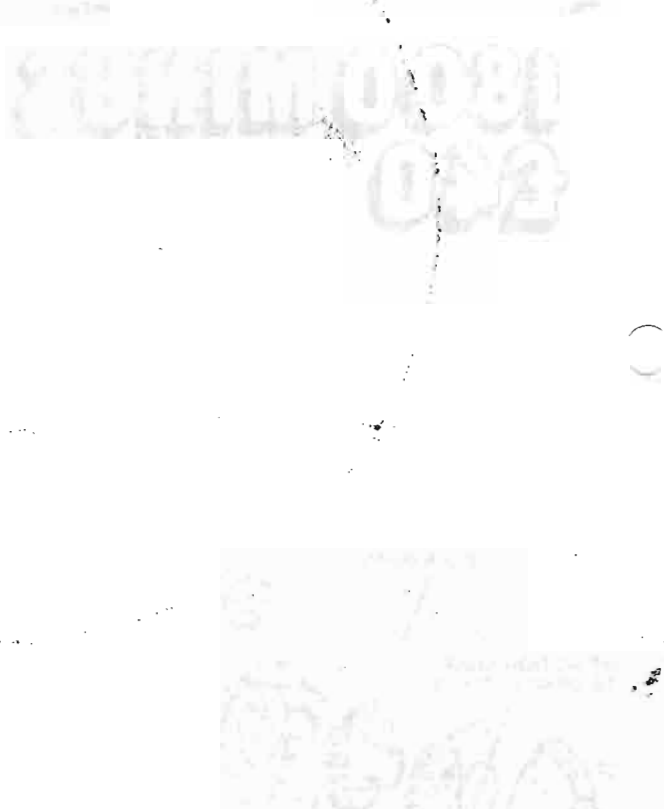
LOCK WASHER

PRIMARY DRIVE
COVER

FLYWHEEL HOUSING

PRESSURE PLATE
ASSEMBLY

Practical Motorist



LANDCRAB



Number 34

Landcrab Owners Club of Australasia

March 1991

Last month's meeting coincided with the Union Picnic Day holiday and resulted in the closure of the Canberra Yacht Club on that Monday night. The Yacht Club notified me late on Friday evening which left it a little late to notify members. Six of us turned up and we spent an enjoyable evening talking landcrabs on a lit verandah at the rear of the club.

We have two new members and at long last we have recruited our first New Zealand member. Please welcome:

Brian and Elaine SMITH	Chelsea Lodge Glentunnel, Canterbury NEW ZEALAND	0011 64 51 667 700	1800 Freeway MkII MkII Utility Austin 3-litre V8
Fred TYLER	5 Naylor Street Queanbeyan NSW 2620	(06) 299 3648	MkII (sedan)

I did write to Brian several months ago at an address shown in the UK **Landcrab News**, inviting him to join our club; I later found out the address was incomplete which is why I never received a reply. Thanks to Daryl Stephens who managed to contact Brian and inform him of our existence. As you may have noted, Brian has a 3-litre Austin with a Rover V8 motor. I wonder how many of you would like to drool over that? Fred Tyler, our other new member, does a bit of panelbeating and paint spraying in his spare time and can be approached regarding help and queries with repairs.

The date for our Goulburn trip is set for 20 April (Saturday) and Rick Hopkins will finalise a venue for a barbecue/picnic to meet our Goulburn members. Those of us in the Canberra region will meet at 9.00 am that morning at the National Exhibition Centre.

Rick visited Canberra recently and we spent an enjoyable afternoon talking landcrabs. Although it is early days yet, Rick proposed our club should organise a trip over to Perth to form a welcoming committee for any UK landcrabs disembarking at Fremantle in 1993. Bill Fraser has already suggested both our clubs get together and enter a combined club landcrab. I am sure that many technically-minded members of both clubs can come up with many ideas and suggestions... but more of that in a future newsletter. As far as I know, the Australian section of the marathon rerun is identical to that of the 1968 rally; any support we can give landcrab entrants while accompanying them to Sydney will surely be appreciated.

If any member has any key problems — whether it be a lost key or not having a key for the boot/an odd door/etc — both Tom Malins and I have keyrings with many assorted keys in the FM, FP and FS series.

695.78

42

Our order for the polyurethane bushes has finally arrived. The contents and prices are as follows:

12 lower fulcrum bushes for MkI	\$2 each	2 Bushes
12 lower fulcrum bushes for MkII	\$2 each "	
42 tappet cover grommets	70¢ each	
10 pair radiator grommets	50¢ each	
(radiator to cyl head outlet plate)		

Also included was a sample for the nylon Quinton Hazel type of universal joint. Should any member wish to avail himself of any of these items, please write. In fairness to our interstate and overseas members, the closing date for orders will be 22 April and any order exceeding stocks will be decided by ballot.

Before moving on to things technical, here is a useful tip sent in by Rick Hopkins for those of us who have converted their 1800s from automatic to manual. By leaving the auto gearchange mechanism on the dash in place, it is still possible to immobilise your car by selecting any position other than 'P' or 'N'. This isolates power to the ignition switch. Rick has also photocopied a parts list and illustrations for both the MkI and MkII for club members' use. I think we should nominate Rick as 'Member of the Month'.

Our technical feature this month is for the not-so-technically-minded and deals with jump starting a car with a dead battery. This operation is regarded by many as easy and a straight-forward job, but there are a few DOS and DON'TS that should be adhered to. Also included is a very comprehensive article on overhauling SU carburettors sent in by Peter Jones.

Our membership has more than doubled over the past couple of years and many of our newer members are unaware of some interesting articles which appeared in earlier newsletters. I shall therefore be repeating some of these from time to time for their benefit beginning with the overhead audio console [see N/L 15, Aug 1989]. Roomy though the 1800 is, there is a problem in conveniently fitting the speakers. Difficulty is experienced fitting them to either end of the parcel shelf as this takes up too much space. Placing them on the ledge just forward of the front doors can result in damage from your feet, not to mention the diminished sound quality. Mounting them into the doors is possible but entails cutting holes in the metal panels and door trim, both undesirable.

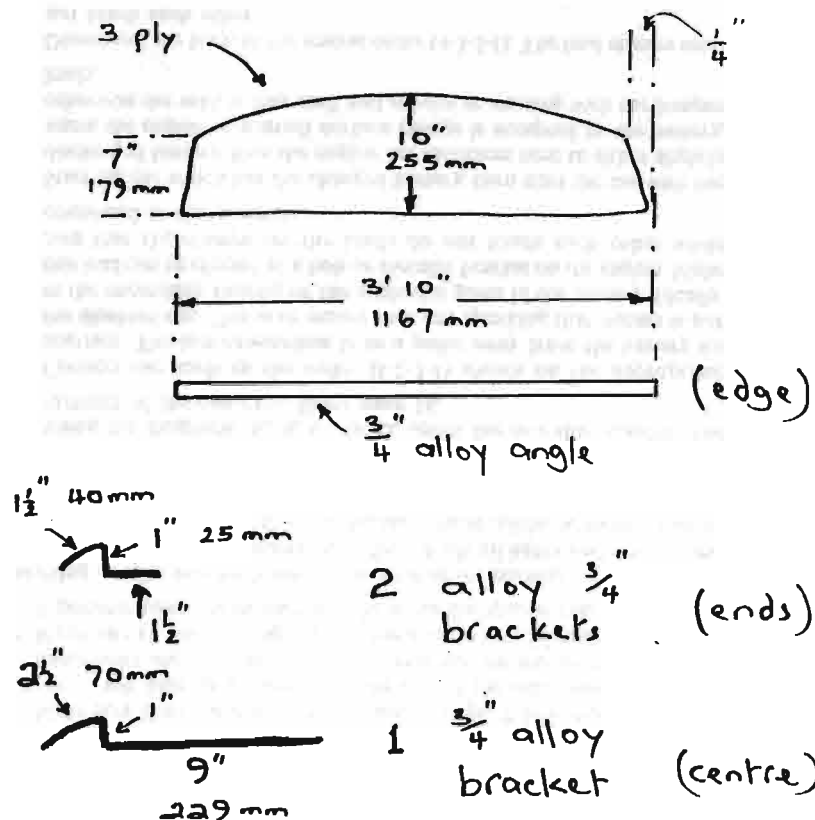
Browsing over the problem I came up with a very simple and effective console mounted on the roof. This overhead audio console is very easy to make up and requires absolutely no drilling of holes in the 1800. When made up it simply clips into place either side in the gap between the trim, and the flat 'tongue' can be slipped directly into the gap immediately above the rearview mirror. The mirror and sunvisors are unaffected and left in place. It is virtually impossible to hit your head on it although a strip of fairly thick rubber (available from Clark Rubber) glued to the front edge is recommended. The result is superb audio sound with the speakers being directly above your head. An added advantage, in addition to the ease and cheapness to make, is that your sound system is hidden from view and out of sight to would-be thieves. The cost of materials is approximately \$10 and a plan is included with this newsletter.

As you know, we altered the name of our club a few months past and the name change has been duly registered with our bank in Curtin (ACT). Would members therefore be sure to make any future cheques payable to: **THE LANDCRAB OWNERS CLUB OF AUSTRALASIA.**

The **NEXT MEETING** will be: **Monday, 8 April 1991, 7.30 pm**
The Canberra Yacht Club.

See you there!

Mick



Material

- 3 ply - 3' 10" x 10" (1167 x 255)
- 3/4" alloy angle - 3' 10"
- 3/4" " flat - 20 1/2"

OVERHEAD AUDIO CONSOLE

Motoring Hints

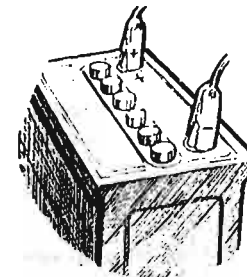
Jump start your car safely

Jump starting a car is a fairly straight forward operation, but there are dangers if it is not carried out carefully and correctly. You are dealing with batteries which contain lead, acid and explosive gases, and very high electrical currents during starting. That current if wrongly handled can cause injury, and damage the vehicles. So take time to ensure it is carried out correctly.

Firstly, some preliminary steps are needed to familiarise yourself with the basic electrical system of your car and the car being used to assist.

All batteries have two terminals, one called POSITIVE (+) and the second called NEGATIVE (-). They are identified usually by a plus (+) and a minus (-) sign, or the words POS and NEG near the terminal. These signs are usually moulded into the battery case. Also the positive terminal is generally larger in diameter than the negative terminal.

On all cars one of these battery terminals is connected by a heavy lead directly to a point on the car's body or frame, or to some attachment point on the engine. On most cars today, this lead called the "EARTH", comes from the negative (-) terminal. The other terminal is connected to the starter motor switching mechanism located low down on the side of the motor near the transmission.



Identifying the EARTH on your car is the first most important step to jump starting.

Secondly, identify the POSITIVE (+) and NEGATIVE (-) terminals of the assisting car's battery. In all cases during jump starting, the electrical connections made by the jumper leads must be made to the same electrical sign. That is, a NEGATIVE terminal **must** be connected only to a NEGATIVE terminal or connecting point; and a POSITIVE terminal **must** be connected only to a POSITIVE terminal or connecting point. If unmatching electrical connections are made, very heavy currents will flow and will cause excessive sparks and flashing at the terminal and dangerously overheat the electrical connections and system.

Motoring Hints

Jump start your car safely

Precautions—A few other precautions should make the jump starting completely safe:

- * Do not smoke in the vicinity of the engine compartment.
- * Remove all metallic items from your hands and wrists—i.e. rings, wrist watches and bracelets. This is a safeguard against injury through contact with battery terminals and leads.
- * If you have glasses available, wear them for eye protection.
- * While the two vehicles must be placed close enough together for the jumper leads to reach the batteries, the vehicles must not touch each other.
- * Make sure both batteries are the same voltage. While most cars today use 12 volt batteries, yours could be one of the odd ones out. Owner handbooks and workshop manuals give this information.
- * Make sure all water filling caps on both batteries (if fitted) are in place, if possible cover them with an old water dampened rag.

Starting—Make sure both cars are in **neutral** for manual transmission or **park** for an automatic transmission. Switch off all lights and accessories, although the park lights on the assisting vehicle might be used for some illumination in the dark.

The steps taken are:

1. Using the diagrams A, B, C, or D, select the one that matches the earthing of the two cars. **Refer page 18.**
2. Connect the leads in the order (1-2-3-4) shown on the appropriate diagram. **The last connection is to a point away from the battery on the disabled car.** This is to ensure that any sparking that occurs is not in the immediate vicinity of the explosive gases in the battery. Ideally, this lead can be clipped to a bolt or metallic bracket on the engine. Make sure that the clamps on the leads do not touch each other while connected to the batteries.
3. Start the car which has the charged battery, then start the car with the discharged battery. Run the engine for sufficient time to either slightly warm the engine or a small surface charge is accepted by the battery, otherwise the vehicle may stall and require re-starting with the jumper leads.
4. Disconnect the leads in the reverse order (4-3-2-1). **The lead clamps must not touch each other.**

Motoring Hints

Jump start your car safely

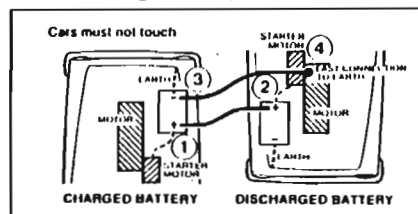
Be careful when removing the leads as both engines are now running and the leads could become tangled in the moving parts.

Note: Damage may occur to some electronic components if jump starting is not carried out carefully.

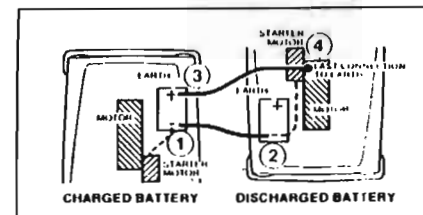
Make sure that the leads are connected and disconnected without causing sparks. Grasp each connecting clamp firmly and make the connection or disconnection without hesitation.

Remember if unsure, do not attempt to jump start, call NRMA Road Service or contact a qualified mechanic and seek assistance.

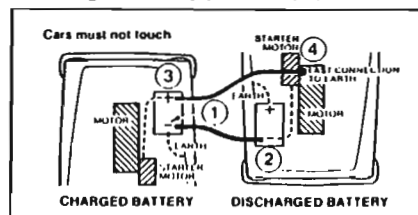
SITUATION A:
Both cars negative (–) earth



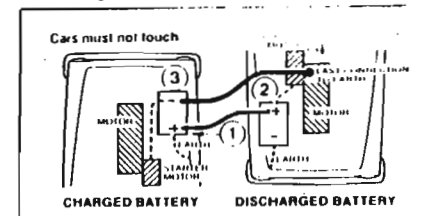
SITUATION B:
Both cars positive (+) earth



SITUATION C:
Charged battery negative (–) earth
Discharged battery positive (+) earth



SITUATION D:
Charged battery positive (+) earth
Discharged battery negative (–) earth



FOR SALE

Contact G. Gray [7 Miriam Road, Denistone NSW 2114], tel (02) 858 2837, for the following:

- 1967 Austin Mkl. \$800 ono.
- 1970 Austin MkII: Ready to drive, had \$1500 spent on auto transmission. \$1000 ono.
- 1970 Austin MkII. \$100 ono.
- Lots of Austin Mkl and MkII parts.

1968 Austin 1800 Mkl: New duco, new carpets, very good condition, ACT rego expires July 91. \$1200. Contact Tom Malins pH (06) 247 5805.

BMC APPROVED ACCESSORIES—KIT CONTENTS		
KIT HYL3065 BODY MOULDING HYL3066 Front Mudguard—R/H HYL3066 —L/H HYL3067 Front Door—R/H HYL3067 —L/H HYL3068 Rear Door—R/H HYL3068 —L/H HYL3069 Rear Mudguard—R/H HYL3070 —L/H Moulding Clips	KIT HYL3942 WING EXTENSION HYL3943 Front Mudguard—R/H HYL3944 —L/H HYL3945 Rear Mudguard—R/H HYL3946 —L/H KIT HYL3962 BODY MOULDING HYL3066 Front Mudguard—R/H HYL3066 —L/H HYL3067 Front Door—R/H HYL3067 —L/H HYL3068 Rear Door—R/H HYL3068 —L/H HYL3964 Rear Mudguard—R/H HYL3964 —L/H Moulding Clips	AUSTIN 1800 Mk II BODY MOULDING HYA6738 Front Mudguard—R/H HYA6738 —L/H HYA6734 Front Door—R/H HYA6734 —L/H HYA6735 Rear Door—R/H HYA6735 —L/H HYA6740 Rear Mudguard—R/H HYA6741 —L/H HYA7511 Moulding Clips
KIT HYL3431 BODY MOULDING HYL3442 Front Mudguard—R/H HYL3443 —L/H HYL3444 Front Door—R/H HYL3444 —L/H HYL3445 Rear Door—R/H HYL3445 —L/H HYL3446 Rear Mudguard—R/H HYL3553 —L/H Moulding Clips	KIT HYL3963 BODY MOULDING HYL3066 Front Mudguard—R/H HYL3066 —L/H HYL3067 Front Door—R/H HYL3067 —L/H HYL3068 Rear Door—R/H HYL3068 —L/H HYL3967 Rear Mudguard—R/H HYL3966 —L/H Moulding Clips	
KIT HYL3937 WING EXTENSION HYL3938 Front Mudguard—R/H HYL3939 —L/H HYL3940 Rear Mudguard—R/H HYL3941 —L/H		

3
7
2
406
401 4622

PRODUCTION CHANGES 1800 MKI:

- The camshaft was changed at body no 14873 and at engine no 18Y6510.
- The camshaft locating plate was changed at engine no 18Y6510.
- The timing chain cover and oil seal were changed at engine no 18Y3730.
- The oil pump was changed at body no 14863.
- The carby drain pipes were changed at engine no 18AMW/h/27678.
- The throttle linkage was changed at body no 8970.
- The engine mounting support (driver's side) and engine mount were changed at body no 10957.
- The other two engine mounts (near side) were changed at body no 7380.
- The engine shock absorber and fittings were changed at body no 14839.
- The exhaust system was changed at body no 17638.
- The accelerator was changed at body no 17504.
- The choke was changed at body no 17586.
- The fuel gauge sender was changed at body no 15180.
- The fuel filler cap was changed at body no 12155.
- The fuel pump was changed from electrical to mechanical at body no 14873.
- The clutch pressure plate was changed at engine no 18AMW/U/H73889.
- The adaptor plate-flywheel housing was changed at engine no 18AMW/U785338.
- The front tie rods and supports were changed at body no 9536 and again at body no 22249.

[All the above information is from the BMC Body Repair Guide.]

SU CARBY NEEDLES AND SPRINGS FITTED TO LANDCRABS:

MODEL	NEEDLE			SPRING COLOUR
	rich	standard	weak	
Australian Production				
MkI	SW	TW	CW	yellow
MkII		SL		yellow
UK Production				
MkI	SW	TW	CIW	yellow
MkII 68/70	SA	ZH	CIW	yellow
MkII 69/72 (Canada)		BAJ		yellow
MkII S	CI	TZ	CIW	red
MkII 71/72, 71/74 auto	SA	ZH	CIW	yellow
MkII (ECE)		BBF		yellow
MkII 72/73		ZH		yellow
2200		BBD		red
220 (ECE)		BBN		red

Note the MkI and MkII carbies must only be changed with the correct manifold because the MkI is 30° semi-downdraught while the MkII is 20°.

OVERHAULING SU CARBURETTORS

Continuing from where we left off last month, where we spoke in general terms about the setting up of a carburettor, I promised that this month we would have something to say about rebuilding carburettors completely. So we will, but before we do there are a couple of minor points to be considered and completed.

Firstly, I cannot stress too strongly the importance of a sequence of setting up an engine when 'tuning'. Some 30 years ago I went to learn the routine in training school, and the same advice is true now: the Rule of Sequence is T-T-C, standing for Tappets, Timing, Carburettor. What this means is that when you are tuning the engine, firstly you check the tappet clearances, next the ignition timing (including the points condition and setting, and the condition and setting of the sparking plugs) and the last part of the tuning sequence is to set up the carburettors. It is no good assuming that the tappets or timing are OK because they were last time you checked, a 'drift' in one of these settings is far more likely than one in carburettor setting. In due course I will deal with the overhaul elements of both valve gear and ignition, and for the present merely suggest that you get the settings correct according to the manual. Incidentally, when checking tappets, for all cars, ensure that there is no drastic closing of the gap: if there is it may be as well to take the cylinder head off, and check that the offending valve has not stretched... if that has happened it is time to change all the valves.

If we are to talk about carburettors, it will be necessary to talk in fairly general terms so that we do not get too boring, but fortunately most MGs built between 1928 and 1955 featured twin SU units, and these were of the H-type pattern, which barely altered except in minor detail. It is not intended that this is a manual of operation, but a set of helpful notes which should be used in conjunction with the car handbook. It will help when you are doing the job if you make notes as you go along of what fits where, because it is essential that



everything is fitted in its correct position... of course it could be that your car was wrong in the first place, but I cannot help with that one in a general article of this type, so I will assume that your car is running, but tired.

The first job is to remove them from the engine, carefully noting where all the various linkages fit, and if you think it necessary write up notes so that things will go back as they came apart. Put each carburettor into a separate box, and work on one at a time, *not* both together.

Preparatory work

Stripping the carburettor is simple: start by removing the float chamber, undo the large bolt under the carburettor body, keeping the washers

with the bolt. Next remove the bell shaped dashpot and its piston, keeping them together at all times, and put aside. Now remove the choke return spring, and remove the split pins from the pin pivots of the choke operating linkage, and then withdraw these so-called clevis pins noting the way in which the linkage goes together. Now remove the jet adjusting nut and its spring and withdraw the jet as you pull this nut off. Place the carburettor body jet orifice uppermost in a vice using soft jaws to protect the soft alloy, and then remove the large nut from the jet head assembly and then carefully withdraw the parts from within, again carefully keeping the washers in place.

The last job in stripping is to withdraw the throttle plate and spindle. Two small screws hold

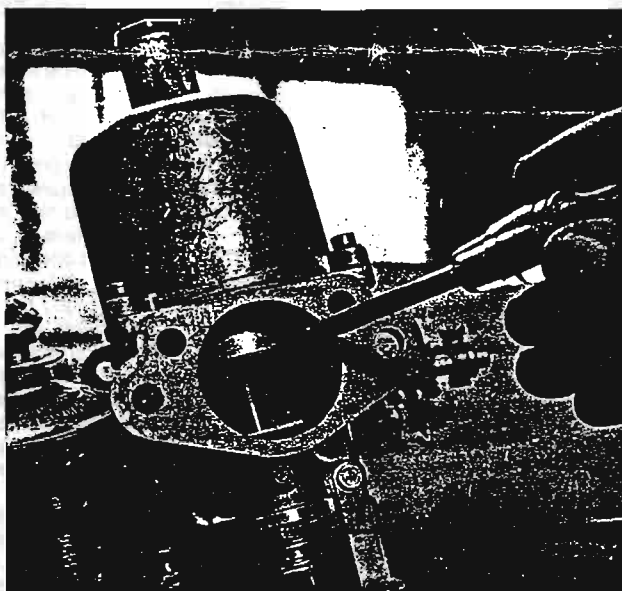
the plate in place and these have a split end to act as locking device. Using a pair of long nosed pliers, carefully close the split ends, and then remove the two screws; then turn the throttle fully open, and with the long nosed pliers withdraw the disc carefully. The throttle spindle can then be removed by pulling it through.

All parts should be cleaned thoroughly, I normally use methylated spirits as a solvent, and a toothbrush to work the solvent into the awkward corners. Cleaning all the parts with metal polish will give a nice touch, and these can be buffed up well if you have the time available. Do not use metal polish anywhere internally however, as it is difficult to remove completely, and can do untold damage if not removed!

One last point, it is quite impossible to carry out an 'overhaul' if you are just going to put back a lot of worn out parts. Everything which moves can be assumed to be worn, and should be replaced. Similarly all washers and gaskets should be replaced as a matter of course. All the parts you will need are available from MG specialists who deal in the type of car you have at reasonable prices. Right we are now ready to start work.

Overhauling the throttle spindle

In all probability the spindle and the area of the carburettor body it bears in will be badly worn, and the best answer to this is to have the body bushed with aluminium and bored to standard size: it is important to have this work done in an accurate mill, not freehand drilled at home, since the accuracy of this boring will determine the future performance of the car. The fit of the spindle, which of course should be new, should be a nice light press fit, so that the spindle will turn on its axis easily, but with no slog at either end. The throttle disc can now be refitted, taking care to ensure it is the right way round: it has a bevelled edge to allow the disc to close completely, even though it is at a slight angle. Later carburettors are marked on the body and disc, but with the pre-war units you



SU carburettors are featured on most MGs built between 1928 and 1955.

Continued on next page.

Continued from page 40.

OVERHAULING SU CARBURETTORS

is expensive, but it has the merit that it does work, and is impervious to petrol and oil.

Finally reassemble the float chamber and replace it onto the carburettor body, using the correct bolt and washers. There should be a single fibre washer above the float chamber, and a set of three washers, two fibre separated by a copper one under it, next to the bolt head. The alternative arrangement shown started to be fitted during the production of the TF.

Refitting to the car

The carburettors can now be replaced onto the car, ensuring that the throttle and choke linkages are fitted as they were. It may be necessary to reset these... do not bend them to make them fit, they are fully adjustable. At each end there are either fork-ended couplings or ball-joints which are locked onto their shafts with axial locknuts. Loosen the locknut, and then the end can be moved along its shaft by turning it on its axis. It is permissible that once fitted to leave the locknuts loose for the time being, since further adjustment may be necessary. Top up the dashpots with oil: undamped types will need SAE10, such as 'Three in One', while damped types, with the oil piston, need SAE30: *not*, please note, 20/50 multigrade engine oil, which is far too viscous, or 'thick'. It need hardly be added that the fuel lines should be refitted, and then we are ready to start the engine.

Setting the carburettors

Allow the engine to warm up to normal running temperature before adjusting anything. Try to keep the idle speed at

around 1,000 rpm once it is warm, slacked off the nut securing the coupling rod on the throttle spindles and then carefully adjust the airflow through each carb to be the same adjusting the throttle stop screws, and checking, with the aid of a piece of piping (rubber is most convenient, about one quarter inch bore), the hissing noise at each choke until this is the same at each intake. Once this

is done, tighten the shaft coupling rod, and re-check the airflow: it should not have changed, and will need resetting if it has.

Now, using a long small diameter blade screwdriver raise the dashpot piston by one-thirty-second-inch, when the idle speed should rise, further lifting of the piston should result in the idle speed falling again. If there is no rise in idle speed, the mixture is too weak, and if it rises and does not fall it is too rich. Adjust each carburettor to achieve this, but you need a light touch with the screwdriver, and sensitive ears to idle speed, because the change in speed is quite small... between 50 and 100 rpm, and it is much easier if you use a sensitive electronic tachometer as speeds sensor.

Having done this it is time to set the choke linkage, which should be done with engine stopped. Pull the choke control fully out, and check that both jets have been withdrawn an equal amount. Adjust the linkages to achieve this, and then

push the control back until the jets have just returned to their seating. At this setting the throttle should be opened a fraction on all but the oldest types of carburettors to give a fast idle position of around 1,500 rpm on a warm engine. Adjust the fast idle screw to give you this speed (yes, restart the engine) and then the job of setting up the engine is finished.

Engine starting procedure

The correct procedure for starting a cold engine, is to pull the choke right out, turn on the ignition and operate the starter motor. The engine should fire almost immediately, and the choke control can be pushed in to the fast idle position, but if you have a Triple-M or Vintage model you will need to operate the hand throttle to give an even idle speed. There is no need on an MG to drive with the choke in operation beyond the fast idle position: if you do have to then your mixture setting is too weak.

To start a warm engine, there should be no need to use the choke control at all. If the engine is very hot, and it is a hot day, and the engine refuses to fire, press the accelerator right down to the floor and operate the starter... obviously letting the accelerator go as the engine fires up!

Conclusion

By now, you will appreciate that the SU carburettor is a precision instrument: it is probably the most maligned piece of equipment on the MG, and yet it is my experience that the only time they 'go wrong' is when someone fiddles with them not really knowing what he is doing... I hope that what goes above helps to get your carbs to work as well as mine do. Since we are speaking to the MG fraternity, all through I have assumed that we are dealing with a pair of carburettors but should you have a K-type fitted with three, the routine is exactly the same, but with fifty per cent more work to do. If you have a pre-war racing car fitted with four or even six carbs, then perhaps you should not be reading this article at all, but writing it!

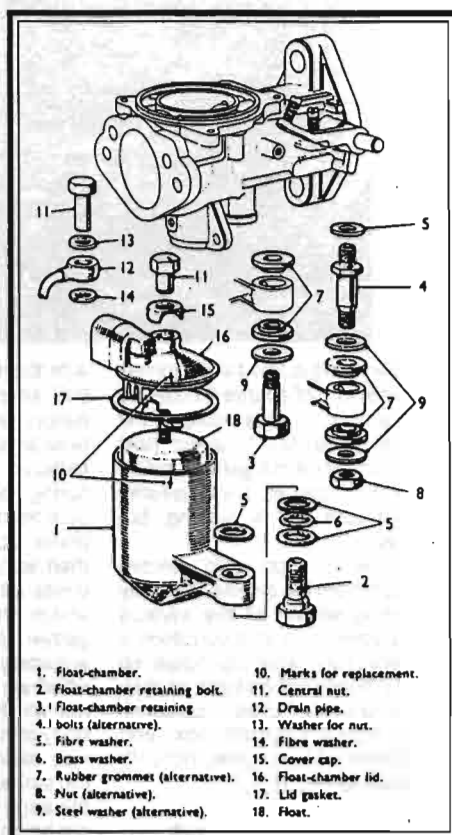


Fig. 3: The Float Chamber

Fault diagnosis: The following is the table of faults most commonly found during running a car fitted with SU carburettors: If you have carried out your rebuild properly these will not happen for a considerable mileage!

SYMPTOM	CAUSE	REMEDY
Erratic running	1-4 all caused by:	
Stalling at speed	Dirty piston/dashpot	Clean thoroughly
Lack of power	Jet out of centre	Re-centre
High fuel consumption	Bent needle	Fit new needle
Too rich at idle	Incorrect needle	Fit new needle
	Jet gland leaking	Fit new gland washers
	Dirt under top washer	Clean
Fuel leak	Faulty bottom gland	Fit new gland
Float chamber floods	Incorrect float level	Check and reset
	Dirty/worn float-needle	Replace
	Punctured float	Replace

Continued from previous page.

have to use your common sense. One small touch which I like to see is to fit an axial throttle return spring: these are unobtrusive, but so much more effective than other types.

Overhauling the jet assembly (Fig. 1)

Needless to say you will use a new jet assembly, which should include in the kit new sealing glands and a new cork and aluminium seals. The assembly was covered briefly last month, but reference to the

carefully lower this onto the top of the jet. With great care, holding the carburettor body the 'right' way up in your left hand, raise the jet assembly in your right hand and push it into place, starting the thread of the locking nut (4), but *do not tighten*.

Overhauling the suction chamber (Fig. 2)

The suction chamber is commonly referred to as the 'dash-

gether.

Under no circumstances use metal polish or grinding paste. If the problem is one of damage, then you have no alternative but to try to find another piston and bell: please remember that these parts are paired and should not be mixed. If your car was originally fitted with an oil damped piston and a return spring, these should be checked and refitted. If these parts are not called up in the original specification, then there is nothing to be gained by fitting them.

When you are satisfied that all is well you can fit the dashpot onto the carburettor body, checking as you tighten the retaining screws that the piston still rises and falls freely. When it is quite tight, you can tighten the jet retaining nut, one flat at a time until it is locked solidly in place, checking the piston rise and fall at each 'flat'. This will ensure that the jet is correctly centred. When the jet is fitted in position, raise the dashpot and check that the jet head, and the upper jet bearing are flush with the alloy 'bridge', and turn the

A final check that the choke works smoothly, and that the dashpot piston rises and falls freely will ensure miles of trouble free performance.

Overhauling the float chamber (Fig. 3)

The last area of attention is the float chamber. This is quite straightforward, remove the top nut and then the lid. Remove the float, and drop this into a pan of water... it should float! Warm the pan on the cooker, having first got permission from the kitchen department, and hold the float submerged. If there is any sign of air escaping from the float, note the position of the leakage, and then remove from the pan, and repair with solder. Replace the float needle and its seating, and then check the float needle section setting as described last month.

If you have one of the early types of float chamber where the centre post is screwed into the base of the float chamber, it is possible that this will have become detached. The most

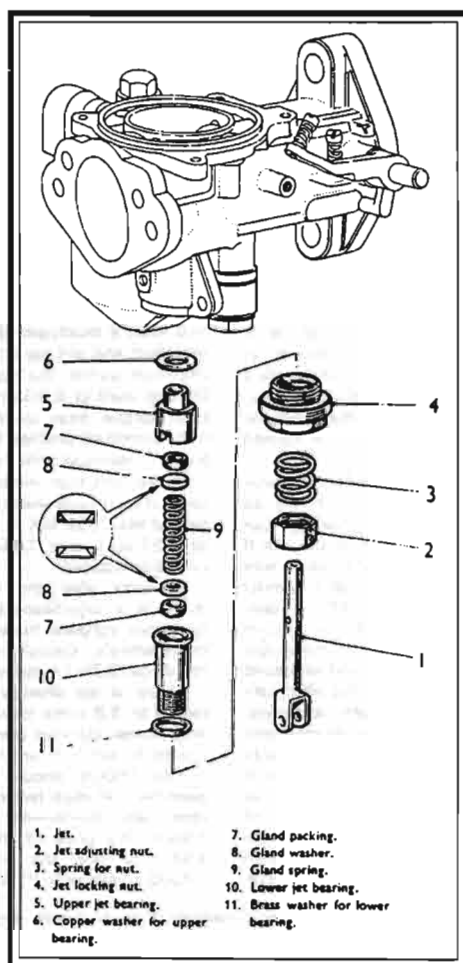


Fig. 1: The Jet Assembly

diagram will ensure the correct assembly. My recommended method is to fit the thin washer (11) to the lower jet bearing (10) and then drop this through the locking nut (4). Now fit the spring and nut (3 & 2) screwing the nut up the thread as far as you can, and then push the jet (1) into place, then slide the washers and spring (7, 8, & 9) into place down the jet barrel. Pop the washer (6) onto the upper jet bearing (5) and then

pot'. Undo the small screw and then withdraw the needle, and replace it with a new one of the correct type. The piston should be a free sliding fit in the bell, and fall out under its own weight within five seconds, although this time varies according to carburettor type. The important thing is that it does fall all the way out without snagging. If there is a tight spot put a little oil in the bell and then carefully lap the two parts to-

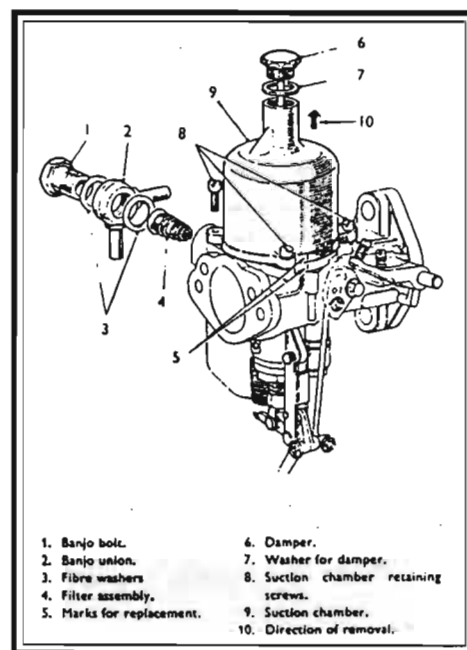


Fig. 2: The Suction Chamber

jet adjusting nut to achieve this. Again ensure that the piston rises and falls freely. Now undo the jet adjusting nut eleven flats, thus lowering the jet to its datum position. Lastly refit the choke mechanism, using new split pins if these are at all worn.

successful repair I have achieved with this is to refit the rod using 'Belzona' metal, which is an epoxy material designed for use in repairing Mini sumps and the like, and is available from Rover dealers: it

Continued on page 42.

NEW
FOR **69**

MORRIS 1800 Mk II S

**More powerful 1800
with 96bhp and
twin SU carbs:
Better brakes**



Below: The only identification. There is none at the front or on the sides of the car.



PRICES

Basic	£825	0s	0d
Purchase Tax (in GB)	£231	5s	0d
Total (in GB)	£1,056	5s	0d

EXTRAS

Power assisted steering	£41	4s	2d
Reclining front seats	£19	3s	4d

HELPED a little by the fairly extensive rallying programme of the 1800, but by no means incorporating all the lessons therefrom, BMC have now released a more powerful version of the Mk II 1800 to be called the Morris 1800S. Basically, this is the familiar 1800 saloon unchanged in all major respects except the engine and the brakes. There is only one recognition point at all—that

of the badge on the boot lid—and the car is being sold only under the Morris banner at present. The S nomenclature does not signify a car as substantially tuned as the Mini-Cooper S, as it is—in truth—a “conversion” that many an enthusiastic 1800 owner might have carried out for himself.

The changes to the 1,798 c.c. four-cylinder transversely-mounted B-series engine are all to the cylinder head and manifold. Coincident with the announcement of the Mk II 1800s in May this year, the opportunity was taken to sort out the basic crank and cylinder head for more power, and the 1800S conversion is a simple one. The cast iron cylinder head has been given a higher compression ratio—9.5 instead of 9.0 to 1—and reshaped porting. Twin semi-down draught SU HS6 carburettors with 1½ in. chokes are specified, drawing in their air from a box air cleaner with inlet tube adjustable to point towards or away from the hot exhaust manifold. The cylinder head still retains three exhaust ports for its four cylinders—not an ideal arrangement, but Mini-Cooper S experience has led to the development of a satisfactory three-branch layout providing as little back pressure as possible,

and even a modicum of extraction effect. Thus modified and set up to run on five-star Super Premium petrol, the power output is up from 86 bhp (net) at 5,300 rpm to 96 bhp at 5,700 rpm; torque goes up from 101 lb.ft. to 106 lb.ft. Camshaft profiles have been revised, and are now identical with those of the MGB.

There have been no transmission changes, as second gear ratio was raised with the introduction of the 1800 MK II. Final drive ratio remains at 3.88-to-1, and 165—14in. tyres on 4.5in. rims are retained.

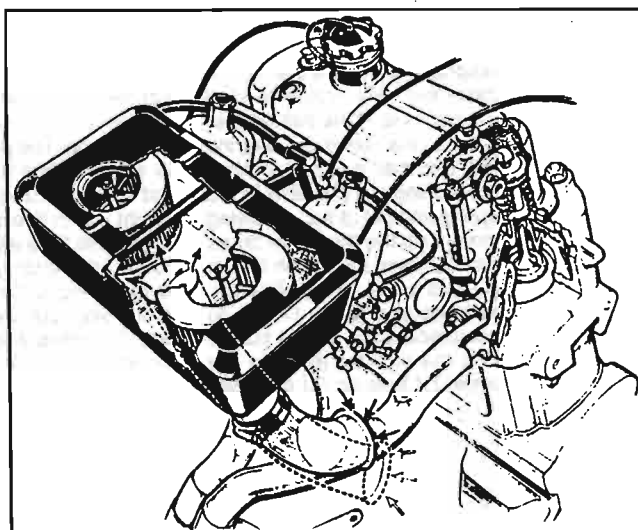
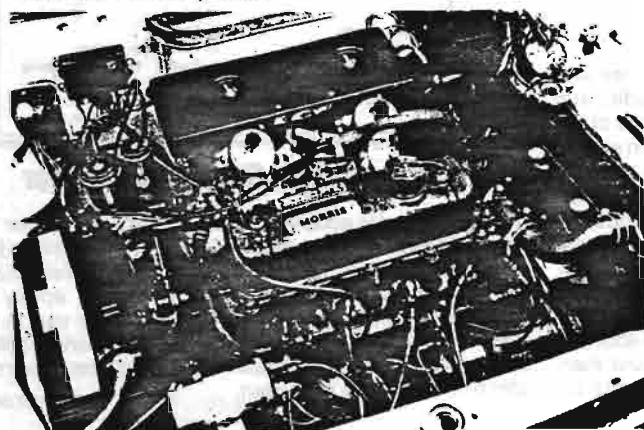
To look after the improved performance, there is a significant braking change. Girling four-spot calipers have been adopted for the front wheels, though the outside diameter of the discs (9.7in.) remains unchanged.

There is no change to the steering ratio, raised to 3.8 turns lock-to-lock on the Mark II, and power assisted rack and pinion steering is optionally extra, as are reclining front seats.

The 1800S should just be capable of a genuine 100 mph (which corresponds to 5,500 rpm), and 0—to-60 mph sprints in under 15sec. The price of the extra performance is £57 10s. over the ordinary saloons, as the 1800S retails with PT at £1,056 5s. □

Left: Twin SU carburettors and inlet manifolds similar to those of the MGB, with a three branch exhaust manifold of tuned length, help to boost the 1800 power output to 96bhp in the 1800S. There is no Austin version at the moment.

Right: The air cleaner and exhaust manifold arrangements can be seen clearly in this section of the 1800S cylinder head. The air cleaner's inlet pipe has “winter” and “summer” positions.



LANDCRAB



Number 36

Landcrab Owners Club of Australasia

May 1991

The April meeting was the best we have had in some time with a good turnout of members, fifteen in all. Rick Hopkins and Ed Lenny came all the way from Goulburn and Rick gave us the drum on the **Austins Over Australia** Easter meeting at Tamworth. He set out for Tamworth in his A40 but only got as far as Berrima where the front universal joint broke. Undeterred, he returned to Goulburn and jumped in his landcrab and reached Tamworth without incident. The weekend was a great success though I suspect the organisers — the AMVC QLD — would have wished for a few more entrants. Landcrabs were there in small numbers together with a Kimberley X6.

Ed Lenny used to be the workshop foreman at **Low's Motors**, the BMC dealer in Goulburn, before they closed. Ed is retired now but remains active with landcrabs and is very knowledgeable. Incidentally, he will completely overhaul your steering rack for \$60.

The club continues to grow with three new members this month. Please welcome:

Joan and Bob WYERS	36 Tanumbirini Street Hawker ACT 2614	(06) 254 2425	MkII Sedan (manual)
Max WARREN	13 Hawkins Road Montrose VIC 3765	(03) 736 3529	MkI Sedan (manual) MkI Ute
Albert ENGLISH	M/S299 Quarry Road Bundaberg QLD 4670	(07) 578 191	MkI Sedan (manual)

Bob Wyers can truly claim a former link with the **Austin Motor Company** in that both his grandfather, James Rone-Clarke, and his father worked for them in the United Kingdom. A copy of his grandfather's obituary follows:

Appeared 3 July 1964...

VETERAN RUBEY GARAGE OWNER

Almost an institution in Rubeys where he kept a garage for 45 years, Mr James Rone-Clarke died on Tuesday at the age of 98.

In his life he achieved many "firsts". He was the first foreman at the Austin factory when it opened around 1902. He ran the first driving school there, teaching former coachmen how to handle cars, and his pupils included the chauffeurs of Rudyard Kipling and Lord Coventry. He opened the first garage on the main Birmingham-Worcester Road, and was the first person locally to get electric lighting installed. He also organised the first local taxi service during World War I.

But even to the younger generation in Rubeys who did not know of his earlier accomplishments, Old Jim, with pipe and bowler hat, was a familiar figure outside Swanbrook Garage and the Amateur Gardeners Club he built with very little outside aid.

Condensed by By-Pass

When the village by-pass road condemned the garage nearly 3 years ago, he moved for the first time in 50 years to the house which was his last home. He spent the last 2 years with his son, Edwin, at 16 Beacon Hill.

Married twice, Mr Clarke had 6 daughters and 4 sons, 2 of whom he survived. Except for a daughter, now in Gosport, all his family live locally.

He was born in central Birmingham in June 1866. When he was a boy, the family moved to Selly Oak, where some relatives still live. In 1888 he married and had several engineering jobs before going to work for the Lanchester Company. They claim to have built the first motor car in England and Mr Clarke was foreman of the engine assemblers. He always kept a reference from the Lanchester Company describing him as "industrious, sober, straightforward, and a capable man".

First Day at Loughbridge

He moved to the Austin factory on the day it opened and became a foreman in the repair shop. He was a personal friend of Mr Herbert Austin, who lent him a car for his second wedding in 1915.

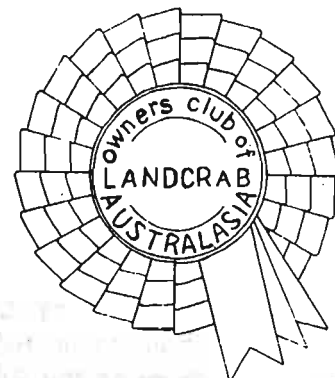
He was at the Austin factory for 15 years and left to start his own garage in 1917. He was given the contract to service the engines of the first BBC experimental wireless station at Frankley.

Mr Clarke had a great love of dogs and, until just before World War II, he always kept a bulldog — his favourite breed. Just after the turn of the century, he won a medal for having the best dog in the Midland Counties' Bulldog Show.

It was a sad day when the vehicle he had helped to establish demanded that his garage and club be pulled down in the quest for more road space.

Daryl Stephens wrote in with an enquiry on the Austin 1800 Freeway owned by our New Zealand members, Brian and Elaine Smith. Apparently a certain number of Austin 1800 Mk1s were imported into NZ from Australia but the sales figures fell short. To overcome this and with arrangement with the Australian/New Zealand governments, the remaining Mk1s were rebadged and named 'Freeway'. Freeway badges appeared on the front grille, bonnet, boot lid and steering wheel boss.

Peter Jones writes to our club once a month and always includes an item of interest. This month his included material is a swap meet list and a possible suggestion for a club logo. The club logo is basically the BMC rosette in red, white and blue and, in place of BMC in the centre, Peter has substituted **Landcrab Owners Club of Australasia**. I personally think its perfect as it encompasses all versions of the BMC landcrab.



As you know, Peter is compiling a history of BMC vehicles in Australia and is currently researching chassis prefixes. In addition to this, he has also drafted a datasheet and has requested all members complete and return the form to him or the club by July. His address is 26 Leichardt Street, Ruse NSW 2560. A datasheet accompanies this newsletter and all information will be kept in strict confidence.

The latest issue of **Landcrab News** arrived from our sister club in the UK together with the announcement that both Bill Fraser and Ian Ingram have entered a landcrab in the forthcoming 1993 re-enactment of the London to Sydney Marathon. However, one of the drawbacks is that the entry cost per member per vehicle is £ 12 000. That is about \$30 000 Australian. With this seemingly insurmountable hurdle in front of them, the UK club is pulling out all the stops to raise the combined £ 24 000 needed to get the cars to the finishing line in Sydney. Bill and Ian already have the cars to be entered: one is a 1968 Morris 1800 Mk1 (to be driven by Bill) and the other is a 1967 Austin 1800 Mk1. Although both cars are entered separately, this is very much a team effort; Bill and Ian are to call themselves 'Team Landcrab' and are looking for sponsorship from any company or individual willing to support them. As a sister club, albeit a small one, we should put our skulls together in order to help with raising funds. As this is no mean task, perhaps one of you might volunteer to set up and manage a 'Marathon Fund'. Apart from cash, the UK club will need help with fuel, tyres, spares and supplies for the event. Not having much to do with fund-raising ventures personally, I realise there must be many sources of finances. I therefore throw open the door to all of you for suggestions and any help you may be able to provide. Bill sent a copy of the first Competitor Information Bulletin (reproduced with this newsletter) and it includes a list of entrants to date. Pat Farrell has since advised me that John Taylor of Medindie SA has entered his original London to Sydney Marathon 1800, Car No 61, and the only BMC 1800 from downunder. Further updates will appear in future issues.

Our technical topic this month deals once again with those awful inner rubber type universal joints. Two of our members have recently experienced premature failure of these joints following replacement of worn ones. Barrie Turner replaced both universals on his Mk1 and one failed after less than three weeks use. Similarly, Ken Patience's daughter went through a similar experience. The genuine BMC item disappeared years ago and it is very obvious that the 'look-alikes' are inferior poor quality material. It is interesting to note that many of the original universals still survive either due to low mileage or careful drivers. They are easy to spot, being painted in the old BMC green.

Solution time! I personally have converted my landcrabs with the automatic type driveshaft which utilise the steel needle roller bearings. These are not popular with all members, some commenting that the drive is 'harsh' or 'noisy'; others have said they destroy the oil seals where the shaft enters the differential. I have used the auto type driveshafts for more than a few years now and I can honestly say that I have not experienced any detrimental effects... they

last for years too! Another way to go is to use the Quinton Hazell nylon type universals which are the same size as the rubber type, but utilise steel needle roller bearings. Again, these were not popular and were never sanctioned by BMC. Bill Wood of **Morwood Motors** and others I know in Queensland never stocked them. They claim that, if and when the joint fails, there is a very great danger of the driveshaft yoke smashing a hole in the lower rear of the gearbox. This may well be true but I have only seen it on one occasion and, again, I have used these joints in the past with no problems. I am led to believe that a primary reason for the failure of the nylon type universal joints is overtightening of the 'U' bolts. Ken Patience uses the QH type but reports they are now very difficult to obtain and believes they are no longer made. Surviving units are very expensive, costing over \$100 per side.

Ken has come to the rescue with a prototype joint which I believe could very well be the answer to our problems. Following the collapse of a near-new universal joint on his daughter's vehicle, he immediately began designing a prototype, the need for a better design very apparent. He sought suitable sources of the cross joint; for example, manufacturers part numbers, local Hardie Spicer, Japan and the UK, Bedford truck units, etc. Ken has already designed a prototype endpiece/cap to suit available cross units and Dale McShane has made one up in polyurethane. Dale says he can vary the endpiece to suit available cross units as the only critical dimension is the overall length. Ken's design concept, using a polyurethane endpiece/cap **WITHOUT** needle rollers, may create a bit of discussion among club members but a very good feature of polyurethane is its bearing quality in hinging situations, areas of poor lubrication and high pressure/velocity forces [see N/L 28, Sept 1990]. He made up a drawing and it is included with this newsletter. Maybe the information provided will enable landcrab owners to identify suitable universal joint substitutes commonly available.



1800 Trivia:

- Did you know you **CAN** bolt a MkI cylinder head on to a MkII engine block... but **CANNOT** bolt a MkII head on to a MkI block. The reason for this is that the MkII block has small recesses for the exhaust valves.
- The MkI Austin 1800 was released on 22 November 1965. This was followed by the automatic version on 19 February 1968. The ute followed a few months later with a release date of 19 July 1968. The MkII version of the Aussie landcrab was released on the 25 October 1968.

- The tax inclusive price for the 1800 ute at time of release was

Manual	\$2 040
Automatic	\$2 280
Basic Cab/Chassis	\$1 992

- BMC used Janspeed exhaust manifolds on most of their works 1800s. BMC confidence in Janspeed was so great that they trusted them with the preparation of the four works 1800 entered in the 1968 London to Sydney Marathon. Janspeed produced an eight-port cylinder head for the landcrab. This company deals in speed equipment and has been in business for 30 years [see Thoroughbred & Classic Cars, Feb 1991].
- In September 1967 a BMC 1800 broke seven international class 'E' (1500–2000 cc) production car records at Monza (Italy):

1. 4 Days at 93.9 mph.
2. 5 Days at 93.42 mph.
3. 6 Days at 93.24 mph.
4. 7 Days at 92.8 mph.
5. 15 000 miles at 92.64 mph.
6. 20 000 kilometres at 93.38 mph.
7. 25 000 kilometers at 92.78 mph.

... In total 15 589.76 miles of almost non-stop driving...

Our current membership is now 83 (including the womenfolk) and 104 landcrabs, 14 of them utilities. Quite a number, eh! The current balance of club funds stands at \$106.18.

The **NEXT MEETING** will be: **Monday, 6 May 1991, 7.30 pm**
The Canberra Yacht Club.

Yours in first class motoring...

Mick

SWAP MEETS

Date	Place	What	Further Information
27-28 April	Melbourne VIC	Melbourne's major swap meet. At Fresh Centre, Footscray Road, Footscray.	Tony O'Shea (018) 354 298.
4-5 May	Gympie QLD	Gympie swap.	(074) 823 810 or (074) 821 072.
26 May	Maitland SA	Annual Swap at Maitland.	Nick Larcombe (088) 322 548 or Andrew Schmidt (088) 212 201.
15-16 June	Gold Coast	Gold Coast swap at Carrara Sports Complex.	Adrian Ross (075) 522 271 or Bob Cook (075) 525 140.
30 June	Central Coast	At Stockland Mail, Gosford.	Cecily Prontic (043) 418 088, Ron Allmoy (043) 251 058 or Terry Elliott (043) 232 899.
27 July	Nambour QLD	Nambour in Queensland's Sunshine Coast at the Showgrounds.	(07) 442 1382.
24-25 August	Newcastle NSW	Swap at Newcastle Showgrounds.	Eric Clark (049) 434 015 or John Taylor (049) 467 268.
October	Sydney NSW	British Display Day, Sydney. More details later.	
16-17 November	Bendigo NSW	Bendigo swap.	

FOR SALE

Two 1800 Sedans: MkII auto needs exhaust system, mechanically sound. MkI manual right side suspension collapsed, driveshaft problem, engine sound. Offers. Ring Bob Hull (06) 295 8094 evenings.

1969 Austin 1800 MkII: White, minimal rust, good body and lights, lenses, etc. Genuine 150 000 miles c/w logbook showing all repairs, etc. Seat upholstery and gearchange cable (1st to 2nd gear) need repair. Windscreen scratched. Suitable for restorer. Registered until Oct 1991. Best offers below \$200. John Wright, 1 Wilkins Street, Newport VIC, tel (03) 391 0853.

WANTED

Ute Carpeting: Tan or brown carpeting to suit 1800 utility. Contact Pat Farrell, 4 Wayne Avenue, Boronia VIC 3155, tel (03) 565 6500.

To complete my photo collection of BMC cars, I need photos of: Austin 1800 MkIII and 2200; Morris 1800 MkI,II,III and 2200; Wolseley 18/85 and six; as well as the Austin Maxi and 3-litre. If anyone can help, please write to: Peter Jones, 26 Leichhardt Street, Ruse NSW 2560.

DETAIL OF PROTOTYPE AUSTIN 1800 INNER UNIVERSAL JOINT SUBSTITUTE

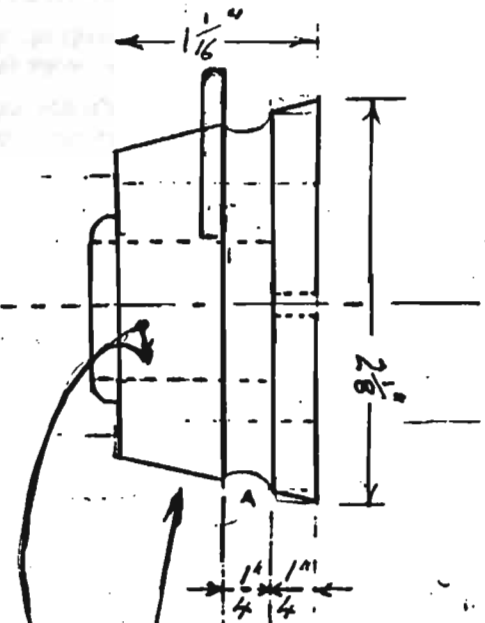
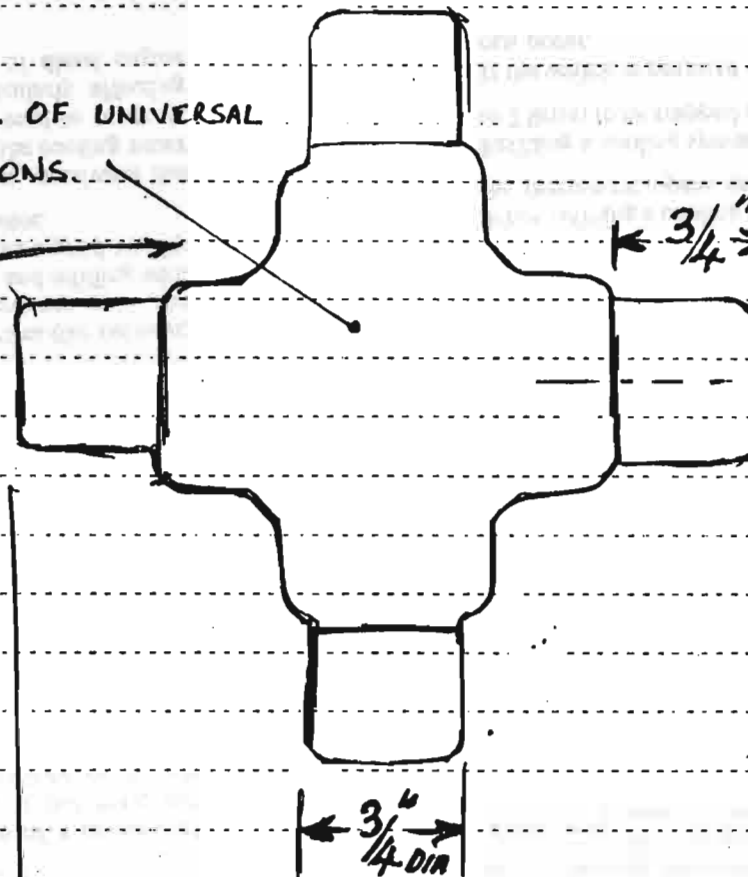
SKETCH OF
CENTRE DETAIL OF UNIVERSAL
JOINT DIMENSIONS.

NOTE (1) SUITABLE UNI/EQUIN
P/Nº + MAFR DETAIL
PRESENTLY BEING
INVESTIGATED

NOTE (2)

ANY JOINT
OF OTHER DIMS MAY
BE USED AS END PIECE
CAN BE BUSHED TO
SUIT IE WITH VESCONITE
BEARING MATERIAL.
IE $5\frac{1}{8}$ " DIA SPIROTS

IE
HARDIE-SPICER
HAS $5\frac{1}{8}$ " DIA



ML SHANE ENG
POLYURETHANE END
PIECE (QTY 4 OFF)
PER UNIT.

* SEE NOTE REGARDING
INTERNAL BUSH/SLEEVE
USING VESCONITE.

Motoring Hints

Cooling Systems

Without question, the single major cause of engine failure is overheating. Modern cooling systems are highly efficient and transfer enormous amounts of heat away from vital engine components.

Unfortunately, the engine cooling system is made up of a number of dissimilar metals, such as cast iron, aluminium, steel, copper, brass and solder. In contact with each other, as in the cooling system, they can corrode dramatically.

There is a reaction between aluminium and copper and aluminium is sacrificial to iron. This means that the white aluminium oxide corrosion builds up on the cooler copper surfaces in the radiator and in a few months, has been found to reduce radiator efficiency by more than 50%. Aluminium is sacrificial to steel and areas around welsh plugs are particularly susceptible to crevice and galvanic corrosion. Crevice corrosion (sometimes called gasket corrosion) occurs also between the aluminium cylinder head and its gasket to the block.

Unfortunately, it is almost impossible to totally seal a combustion chamber and under the best of conditions, there is a minute leakage of combustion gas, together with oil particles, into the water jacket. This tends to turn the cooling water acidic and accelerates corrosion.

How can we stop all this? By washing out the cooling system (the radiator, engine and cylinder head and car heater) in accordance with the manufacturers' instruction (or at least every 12 months) and refilling with good clean soft water (demineralised if possible) and using a good quality inhibitor. N.B. Anti-freeze is not, on its own, an inhibitor.

An effective inhibitor combines with the metal surfaces, passivates the surface and actually improves heat flow. It should keep the cooling water slightly alkaline, i.e. a pH factor of 7+ and will also tend to suppress cavitation, a highly active form of 'corrosion', particularly affecting aluminium water pump housings and the water side of diesel engine cylinders.

Unfortunately, over a period, inhibitor concentration becomes depleted and cannot be rectified by 'topping up' with more inhibitor. A greenish-yellow colour in the cooling water is not an indication that the inhibitor is still active.

Motoring Hints

Cooling Systems

Different inhibitors are frequently not compatible and if mixed, may cause severe damage. Generally speaking, a pressurised cooling system should require virtually no water added where there is an overflow recovery jar fitted. In this case, do not rely on the jar—check water in the radiator when cold, when the radiator should be completely full.

Where no overflow recovery is fitted, the radiator should require very little topping up—never completely fill the radiator when cold—the water level should be approx. 25mm below the bottom of the filler neck. Full topping up will result in expansion when the engine is next operated with loss of water and inhibitor out the overflow. Constant topping up dilutes the inhibitor.

If water in the radiator becomes discoloured or if there is need for frequent topping up, then a problem exists.

Maintain all water hoses in good condition (including heater hoses) and open the heater water cock for a few minutes once a week, even in summer. This will replace the stagnant water in the heater core and help to eliminate corrosion.

Never operate the engine without the thermostat—some vehicles can very quickly suffer major engine damage if operated without a thermostat.

Make sure the radiator cap holds pressure—it improves water pump efficiency and maintains a higher margin of safe operating temperature.

When refilling a cooling system after draining, always run the engine until the thermostat opens and then top up the radiator.

Refilling a cooling system may allow an air-lock (a large bubble of air—1 to 2 litres) to be trapped under the thermostat until the thermostat opens.

If the vehicle is operated without this precaution, extensive engine damage can occur.

Competitor Information Bulletin

NUMBER 1 - MARCH 1991

This is the first of a series of bulletins which will be published as and when there is official information to impart to competitors. These should be read in conjunction with the Competitor Information Pack (Jan '91).



LONDON-SYDNEY MARATHON 1993

NICK BRITTON

EVENT DIRECTOR

9 Sussex News East
London W2 2TS England
Tel: 01 723 7280 Fax: 01 706 3595

The Regulations

Following a recent meeting with aspects of the Regulations have been decided. The publication of the full Regulations should be delayed thought that it would be helpful to assist competitors in their planning to produce the following Pre-Regulations.

Pre-Regulations

1. ORGANISING COMMITTEE

Event Director: Nick Britton
Secretary of the Meeting: John Horton
Clerk of the Course: Fred Gallagher
Deputy Clerks of the Course: Europe & USSR: Les Needham
India: Nazir Hossain
Australia: Bob Watson
Communications: Mike Summerfield
Technical Consultant: Neil Eason Gilbeon
Administration & Logistics: Peter Lebus

2. VEHICLE ELIGIBILITY

- Any 4 wheel passenger vehicle constructed or first registered before 1.1.89 with not more than 6 seats including estate car derivatives. Commercial vehicles, motorbikes and 4WD vehicles are NOT permitted.
- All competing cars must be properly licensed for use on the public highway. Any form of trade plate is NOT permitted.
- The mechanical specification of the vehicle is free subject to the following restrictions:
 - The engine must have come from the same manufacturer as the vehicle and must be of the same number and configuration of cylinders as original.

- A replacement engine or gearbox may NOT be more than 5 years older or younger than the vehicle.
- All competing cars will be required to have a 12-page RAC MSA Historic Vehicle Identity Form. (This will be furnished to competitors six months before the start of the event.)
- The following components will be marked at pre-event scrutineering and may not be changed throughout the event:
 - Engine block
 - Coverbox
 - Bodyshell

Checks will be made at various points along the route.

3. CLASSES AND CATEGORIES

There will be no classes, categories or groups.

4. ADVERTISING ON COMPETING CARS

There will be no limitations as to the amount or size of advertising or signwriting save for the following restrictions:

- Tobacco, beer and alcohol advertising is NOT permitted.
- Provision must be made for organisers to place on vehicles (a) serial identification plates on bonnet and boot lid, (b) the event name and competition number on both front doors occupying circa 60 x 45 cms, (c) such other advertising for the benefit of event services suppliers as the organisers may determine.

London-Sydney Marathon 1993 Competitor Information Bulletin

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Pre-Regulations (continued)

Before Sept 15th '92 30% refund.
After Sept 15th 1992 No refund

5. SAFETY

- All cars must be fitted with a rollage to drawing No. 3 including lateral door bars.
- All cars must be fitted with a plumbed-in fire extinguisher of a minimum capacity of 5kg for discharge into the engine compartment. All cars must also be equipped with a circuit breaker capable of isolating all electrical circuits (with the exception of electrically operated fire extinguishers). They must both have two operating switches, one accessible to the driver and co-driver when normally seated, and the other accessible from outside the car, both of which must be situated adjacent to each other immediately in front of the windscreen. In addition each competing car must be equipped with 2 hand-held extinguishers of not less than 2.0kg each which must be accessible to the driver and the co-driver when normally seated.

- All cars must be fitted with full harness seat belts for all occupants.
- Have the windscreen only of laminated type glass.

6. TEAM ENTRIES

Drivers within a nominated team may be cross-entered conditional upon:

- The Number One driver must always remain in his nominated car.
- Only the Number Two driver may change cars.
- Any such changes must be notified to the Organisers the evening before the proposed change and the change must be for the complete day.
- In the event of the car retiring from the event the crew in the car on the day retires with the car.

7. PAYMENT OF ENTRY FEES

The entry fee is £1200. If the R11 increases beyond 8% per annum between now and the start of the event the Organisers reserve the right to increase the fee by such proportionate amount.

On application £300
Due before June 1st 1991 £1500
Due before Dec 1st 1991 £3000
Due before June 1st 1992 £6000
Due before Dec 1st 1992 £3000

An entry is deemed to be the property of the first named driver while it is fully paid up as detailed above. At the point it ceases to be fully paid the entry reverts to become the property of the organisers. At no time may the entry be passed on or transferred to another party without the written approval and permission of the Event Director.

8. CANCELLATION AND FORFEIT OF ENTRY FEES

If the event of competitor cancellation or non-payment of payment of due fees:

Before Dec 15th '91: Full refund

- Have a protective bulkhead of non-inflammable material between the engine compartment capable of preventing the passage of fluid or flame.

1A. BODYWORK

Original bodywork material and shape must be retained.

End of Pre-Regulations

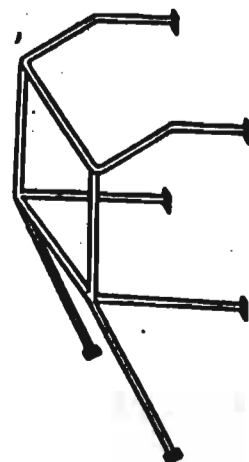
Licences

All drivers on the event must have a Competition licence issued by their motor sport governing body valid for an International Historic event.

If you do not currently hold such a licence I suggest that you make contact with your governing body and sort out the details now.

In Australia the men to talk to at CAMS in Melbourne is Bruce Keys on 08 29 2746. Fax 08 299 1862.

In England the men at the RAC MSA are Les Needham, Tony Newman or Neil Eason Gilbeon on 0753 68274. Fax 0753 68238.



Drawing No. 3

Design of rollage - SEE 9. SAFETY

London-Sydney Marathon 1993 Competitor Information Bulletin

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Hunting for a Sponsor?

In the six weeks since the event was launched to the media we have accumulated a large number of press clippings.

I have had 24 pages of them bound into a spiral-bound A4 book - quite impressive.

Potentially quite handy to show to a sponsor demonstrating the media exposure opportunities that exist.

I'm happy to have copies made and pass them on at cost.

If you wish to have one send a cheque for £5.00 or A\$13.50 which includes postage.

The Marathon Movie

Yes there was one. It was a one hour documentary shown on Australian Channel 9 back in 1968. It was scripted and produced by Evan Green and voiced by a youthful John Laws. It really does tell the story of the event all the way from London to Sydney. It's a classic piece of motoring history in black and white - wonderfully nostalgic. Evan obtained a copy for me recently and I've entertained myself and friends with it repeatedly. For anyone who wants to get the feel of what it all was about back in '68 it's a must. At this distance in time I doubt anyone will object if I pirate copies of it and pass them on at cost.

If you'd like one send a cheque for £8.50 or A\$24.00 and, as they say in the mail order business, allow 28 days for delivery.

Competitor Numbering

We have decided to recognise the original entrants from the '68 event by allocating them red competition numbers from 1 to however many there are of them.

All other entrants will carry conventional black competition numbers.

Andrew Cowan, as the original winner will start as (1), Paddy Hopkirk and Alec Poole as (2) and third place man from '68 Ian Vaughan as (3). Roger Clark will run as (4).

Gerry Lister, the first Australian to enter in '68 and first again this time again around the globe (5).

There will be numbered in the event from 1 - 81. Anyone with strong superstition or preferences based on luck or Chinese numerology should apply for special consideration, first come, first served.

The Good Ol' Boys (and Girls) are surfacing

The list of accepted entries accompanying this bulletin shows who is already entered.

Amongst those who have been in touch and who have stumbled off numbing and threatening to do something about it are Keith Schellenberg who drove the old 1900 Bentley.

Jenny Tudor-Owen who wrestled the Volvo Estate 4-up to the finish.

Terry Hunter says he's found his old Porsche in a museum in Germany and is trying to put a

deal together to use it again.

Sidney Dickson, the only American entry in his Nash Rambler, rang to say he'd dragged it out of his barn in Maryland and fired it up and he was putting his cheque in the post any day now. It had apparently been home to a family of raccoons since 1969.

Frederick Patrick Vanson, now resident in Sydney, drove a Citroen in '68 and is trying to persuade the Citroen bosses in Paris to help him put a replica together.

James Ireland and Mike Taylor whose Mercedes expired in the middle of the Nullarbor are giving serious thought to doing it again.

Evan Green who led the Aussie BMC Landcraab team is working with his son Gavin to put one together and run it as a Dad and the Lad team.

Tony Fell, another of the works Landcraab boys, says he'll be back too.

Peter Hall who ran a Cortina in '68 owns a Triumph that was driven by father and son Goulden on the event and plans to enter that this time around.

Paddy McLintock who got to the finish in his Peugeot 404 in '68 is making serious noises about coming back.

It has all the makings of a great motofest reunion!

Priority entries for original '68 drivers

Any driver who was on the '68 event has the automatic right to an entry on the '93 event. However, this must be claimed before May 28th 1991.

Such is the pressure of applications for entries that this cut-off date seems fair to all concerned.

London-Sydney Marathon 1993 Competitor Information Bulletin

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Accepted and confirmed entries

Following a recent meeting of the selection committee the following list consists of those confirmed as accepted entries for the London-Sydney Marathon 1993

ORIGINAL '68ers

Andrew Cowan/
Paddy Hopkirk/Alec Poole
Gerry Lister/Andre Wettkin
Roger Clark/
Jenny Brittan/Triah Lelus
John Hemsley/
Michael Bailey/

AUSTRALIANS

Rose Lamb/Gary Medina
Ray Lintott/
George Gashos/Spencer Martin
Georgina Chaselling/
Graeme Furness/Len Vase
George Bevan/Virginia Bevan
David Ryan/Cregory Stevenson
Jeff Stevens/Lambros Kouriefs
Norman Framstead/Brian Ginger
Warwick Long/John Hills
Les Johnson/
Grant McAlpine/Hugh Savage
Norbert Wyzenbeek/Daniel Castro
Gordon Keteibey/Kim Keteibey
Bruce Hogarth/Tony Worth
Bob Almond/Lance Fisher
John Campbell Hamilton/
John Hunt/John Williams
Ron Verschuier/
Michael Ellis/Berry Rowe
Rowan Quill/Bob Morrow
Tim Pearce/Miles Pearce
Ian Rennison/
Ian Geoghan/Howard Laughlin
Dean Rainsford/
Paul Naughton/Yves de Mahenge
John Peaty/

BRITISH

Adrian Hamilton/Paul Vestry
Howard Paterson/Ian North
Ian Donaldson/
Bert French/
Rob Grant/
Francis Tuthill/Anthony Showell
Jonathan Radgwick/
Martyn Griffiths/Max Harvey
David Wilks/Ken Peachey
David Bennett/David Astle

Hillman Hunter GT
BMC 1800
Volvo 144S
Ford Cortina
Ford Lotus Cortina
Rover 2000 TC
Rover 2000 TC

Holden HR
Ford Falcon GT
VW Beetle
Volvo 122S
Holden EH
Volvo 122S
Ford Falcon XT GT
Holden EH
Ford Falcon
Triumph 2000 MCI
Aston Martin
Holden EH
Porsche 911L
Ford Mustang
Ford Falcon XT GT

TBA
Austin Princess VDP
Holden HR
MGB 1964
MGB GT 1967
Ford Falcon GT
BMW (M10/M11) 2000
Ford Lotus Cortina
Holden EH
Holden EH
Ford Lotus Cortina MK1
Citroen CX
1963 Ford Galaxy Convertible

Hillman Hunter GT
Volvo 144
TBA
TBA
Datsun 510
TBA
TBA
Ford Lotus Cortina
Ford Cortina MK1
TBA

This list is as at March 5th 1991. The next meeting of the selection committee is on May 28th 1991.

Road Book

In answer to the often asked question, "How do we find our way? Is it going to be a big map reading Exercise?"

The answer is by Road Book. Our European competitors will be familiar with this device. It will doubtless come as a pleasant surprise to our Aussie competitors who are more used to receiving a single piece of paper each morning containing instructions along the lines of....

"Turn left out of Bourke and head for Oodnadatta Creek. See you there this evening, dinner is in the Community Hall."

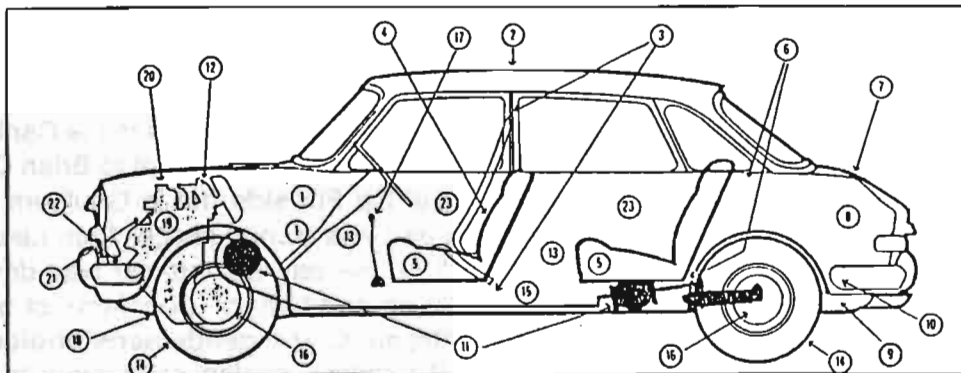
On the following page is an example of a page from the Road Book created on our route of the Indian sector.

The distance language of the route is Kilometers. So you'll need a Halda or a Tetratip calibrated in Kms.

If it's calibrated accurately there is no excuse for becoming lost, provided the man in the other seat stays awake.

Sorry, that should have read *person* in the other seat. Although this is described as a Gentlemen's event we are accepting entries from the distaff equivalent of same.

LANDCRAB



1. Fully controlled heat/dewmist ventilation unit. 2. Strongest bodysell in any Australian production car.
3. 3-point seatbelts standard equipment. 4. Front seat fully adjustable forms camping body. 5. Deep foam seats, leatherlike upholstery. 6. 3 in-built anchorage points for rear seats. 7. Automatic boot light.
8. Large uncluttered boot. 9. Separate spare wheel compartment under boot. 10. 10 1/2 gallon fuel tank.
11. Hydroelastic suspension. 12. Deceleration-sensitive pressure reducing valve. 13. 4 Rigid door pockets.
14. Radial ply tyres. 15. Tufted pile carpet. 16. Front disc and rear drum servo-assisted brakes. 17. All synchromesh 4-speed gearchange. 18. Sump guard. 19. East-West 1798cc 5-bearing engine. Develops 84 bhp.
- Leaves 75% of car's length for passengers and luggage. 20. Sealed radiator. 21. Additional turn indicator flash on each wing. 22. Dual wind tone horns. 23. More inside space than any other major family saloon.

Number 37

Landcrab Owners Club of Australasia

June 1991

This issue of Landcrab sees the start of our fourth year. In that time the club has grown from an inaugural membership of 14 to 68 which is very encouraging. We all accept and use the word landcrab, but I wonder just how many of you know how the BMC 1800 inherited that nickname. I am willing to bet that there would be very few and, surprising as it may seem, I have never included the reason in any of the newsletters — up to now. During the early days when 1800s were becoming popular for their rally capabilities and in particular the London to Sydney Marathon, the BMCs were nicknamed 'Post Office Land Crabs' because of their bright red livery and uncanny knack of travelling sideways for some considerable distance... fast, and the name stuck.

Yet again our membership has increased with this month seeing the addition of a very nice Austin Kimberley and another MkII sedan. Please welcome:

Ron and Kerry 11 Lagoon Street (048) 211 439 Austin Kimberley MkII
GERSBACK Goulburn NSW 2580

Dave KING 75 Greenwood Road (02) 629 2794 MkII Sedan (automatic)
Kellyville NSW 2153

Peter Jones, in his monthly bulletin to the club, has included some details of landcrab history for both UK and Australian models listing the various prototypes and release dates together with some information gathered from the datasheets he has received to date. Peter would like to thank all the members who have filled in the datasheets. So far, information has been received from about 25% of the membership so, if you have not sent yours yet, could you please do so as soon as possible as some interesting information is coming to light.

The day out at Goulburn last month was a total success and must be the best club outing to date. The weather could not have been better and the half dozen of us set off for Goulburn on a perfect sunny autumn day. On reaching Goulburn, we were confronted by a long line of landcrabs queued up against the kerb just before the 'Big Sheep'. A jovial Rick Hopkins welcomed us and introduced the local members (and others). We then received a buff-coloured envelope...no, not a traffic infringement...to be opened once we were back in our cars. At two-minute intervals we all set off on a landcrab observation run. There were 56 questions to be answered along the route and not all of them easy, especially when arriving at Q17 'Where is the windscreen?' only to find out later that the first car (and incidentally the winners) had picked it up and carried it off. However, we all thoroughly enjoyed the hour and a

half meandering through the highways and byways of old Goulburn town, sampling the beautiful views and oddities before ending up at Marsden Weir. It was here that we had our barbecue beside the river, at the same time taking the chance to appraise the various landcrabs and noting our opinions on the voting sheet provided.

After the barbecue, Rick announced the prizewinners — a surprise to the Canberra members. First prize was for the **best and most correct rally entry** and went to Brian Coates and Ron Baxter with the prize being a dinner for four at the **Fireside Inn** in Goulburn. The award for **most original Austin** went to Norm Patten who has owned his car from new. Unfortunately Norm, who is 78, was feeling a little unwell on the day and his car was driven by Helena, Rick's other half. The prize was a floating torch and battery. Four litres of oil went to Leon Green in a lovely Morris 1100 for the **best Brand X**. The **gentlemen's choice** went to Norm Patten with a socket set being the prize. The **ladies choice** again went to Norm though I don't know whether it was for him or his car... nevertheless he won a set of jumper leads. The award for **longest distance travelled** went to Mick and Karen Oates (Canberra at last!) and they won a \$20 gift voucher at the main Shell garage. The last prize was awarded for the **best hard luck story** and was won by Tom and Rhonda Bray because the exhaust pipe fell off as they were about to leave Canberra. The prize, would you believe, was a chrome exhaust end and four litres of oil. Before the proceeding wound up two further awards were presented: one to Michelle (my other half) for producing such a great newsletter and one to myself for club groundwork.

The next event on the agenda was a landcrab parade through the main street of Goulburn — and turned a few heads I might add — and a stop at Norm Patten's to present him with all his prizes. We lined the landcrabs along the kerb opposite his house for him to wonder at and many many photographs were taken. We all ended up at Rick's house for afternoon tea and snacks, where a couple of hours rapidly disappeared with us talking landcrabs and poring over the 1800s in his backyard in varying states of repair... note, I did not say disrepair. All in all, it was a fabulous day and we had a ball. As Rick reminded me before leaving... next time, it's Canberra's turn.

We would like to thank the sponsors of the Goulburn Landcrab Observation Run: Lee and Thomas Natrad, Superline Auto Spares, Pater and Helens Shell Service Station, Warwick Burrows (Hire), Tom Hunt Spares, Warwick-B.J. Hire, Fireside Inn, Goulburn Muffler Centre.

Did you know that a four-wheel-drive Austin 1800 existed? There was one and the details originally appeared in the March 1969 issue of the (UK) **Motor** magazine. This, in turn, was reproduced and included with N/L 11 (April 1989). I have included it yet again for the benefit of those members who have joined our club since.

Daryl Stephens recently came across a really old Mk1 in a wreckers yard which had the early anti-roll bar fitted to it and, naturally, he bought it. Daryl says it can easily be fitted to all landcrabs following drilling and tapping of two holes in each of the rear trailing arms. If anyone in the club would like a replica of this anti-roll bar, Daryl is only too pleased to get one made before he fits it into his Mk1. He estimates the cost to be in the region of \$70. You can contact Daryl in Melbourne, telephone (03) 873 3038.

Geoff Dow's MkII failed the rego inspection recently due to split CV joint rubber boots on both sides. He contacted **Morwood Motors** (Fyshwick) who had some in stock for a very reasonable price of \$16 per side (including the special CV grease). Manufacturers are **Bell Auto Parts**.

I guess that leads us into this month's technical article, which was sent in by Ken Patience. You may remember that some time ago Ken reported he was experimenting with a substitute polyurethane bush used in the rear suspension of his MkII in place of the Slipflex type (see N/L 28, Sept 1990). He reports that tests to date show the polyurethane bush to be a complete

failure. Remember that we are talking high pressures here, ie 230 psi plus road conditions. However, Ken has now gone to phase 2 and, upon examination of the original Slipflex bearing, discovered it was a DX series bush of 'Glacier' manufacture. The DX bearing features very good characteristics (pressure, velocity, slipperiness, etc) and any heat generated is transmitted to mating steel components. Checks on the availability of these bushes revealed they are in short supply. However, Glacier DU series bushes are plentiful and even better performers if the catalogue is to be believed. Ken has since fitted a set of DU series bushes to his landcrab for a trial period and will report on the success or failure of this experiment. He has supplied a drawing which is included with this newsletter.

With reference to last month's comments on the inner universal joint, Ken states the polyurethane end cap will now be machined out to accept a needle roller bearing as he suspects the original concept could fail with the constant high pressures and oscillation frequencies. Heat also exists here. To date, Ken has not tracked down a suitable universal joint.

While on the subject of polyurethane, Ken would like you all to know that the rocker cover seals and inner front end fulcrum bushes have been on his 1800 for a very long time and show excellent results. He also owns an Austin Westminster and mentions that every suspension bush on the front end and the rear spring assemblies have been replaced with polyurethane with excellent results achieved over six years. He has also renewed gearbox mounts and coil spring bump stops with no evidence of deterioration at all. The Westminster is a very heavy vehicle and the bushes used therein are performing better than the original rubber components.

You may think that this newsletter is a little late this month — there is a very good reason for that. We have just spent a couple of weeks over on the South Island of New Zealand on holiday. As expected, there are lots of older cars still on the road there — Austin, Morris, Wolseley, Hillman, Ford, Triumph, Vauxhall, to mention a few. Surprising as it may seem, the most popular BMC car we saw there was the Austin/Morris 1100 and 1300, closely followed by the Mini and Morris Minor. The Hillman Hunter was very popular as are many of the older BMC models such as the Oxford and Cambridge. But... as for landcrabs... alas, very few and what we did see could be counted on one hand. We only saw two Wolseley 18/85 and one MkIII. Even the wreckers (sorry, auto dismantlers) crushed them with very few available for parts. It was a similar story in the dealerships where very few new parts remain for the 1800. In contrast, Austin Maxi new parts were readily available. I do not know why the landcrab is so rare there now and can only guess that the reason is the same as in Australia — the prohibitive cost of replacing the clutch.

While in New Zealand, we paid a visit to club members Brian and Elaine Smith of Glentunnel. The area in which they live is very peaceful and the scenery most picturesque. Brian and Elaine own Chelsea Lodge (a very lovely and comfortable older-style guesthouse for overnight accommodation) and the local garage (with Brian's expertise in BMC vehicles). Brian owns a FEW old cars — a 26 Ruby, a Ford, a rare A40 coupe, together with an Austin 1800 Freeway, Morris 1800 ute and a very lovely 3-litre Austin fitten with a Rover V8 motor.

The 3-litre resembles the landcrab but has a longer boot and bonnet. The interior has the room of an 1800 and resembles a Wolseley 18/85 with extensive walnut veneer. He took us out for a spin and the powerful V8 immediately became apparent — very smooth and fast — featuring overdrive on third and fourth gears. Brian demonstrated the low-down torque of the engine when accelerating smoothly away from 10 mph in top gear. His 3-litre Austin is one of 6 remaining in the country (out of 40 originally imported).

With the exception of those new members who joined our club from March onwards this year, members are reminded that CLUB FEES ARE DUE FOR RENEWAL ON 1 JULY and a renewal form accompanies this newsletter. THIS IS THE FIRST AND ONLY REMINDER and

renewals not received by the end of July will see those members deleted from the mailing list.

The **NEXT MEETING** will be: **Monday, 1 JULY 1991, 7.30 pm**
The Canberra yacht Club.

Yours in first class motoring...

Mick

WANTED

PERFORMANCE EQUIPMENT: For Austin Kimberley. Contact Pat Farrell, 4 Wayne Avenue, Boronia VIC 3155.

EVENTS

CONCOURS D'ELEGANCE: 30 June 1991 (beginning at 10am), the Austin Motor Vehicle Club (NSW) is holding its annual Concours D'Elegance at 110 Attunga Road, Yowie Bay. If you are in the area or looking for something to do that day, come along and give the landcrabs some support. See you there.

COUNCIL OF ACT MOTOR CLUBS EVENTS:

- National French Car Gathering — Forecourt of Old Parliament House, 14 July.
 - Economy Run — To be organised by Peugeot Club, 8 September.
 - German Day — Date to be fixed (September/October).
 - Breakfast Run — To be organised by CHACA, 13 October.
 - British Car Day — November?
 - American Day/Week — ?
-

INFORMATION FROM DATASHEETS

Oldest Mkl	YAHS2/3422	Leslie Lenny	Bundanoon
Oldest auto	YAHS4/925	Mick Street	Hughes
Oldest MkII	YHS5/2782	Michelle Moravec	Hughes
Youngest MkII	YHS5/15064	Pat Farrell	Boronia
Oldest and Youngest Utes	both belong to Pat Farrell		Boronia

Also listed is one imported Austin 1800 Mkl which belongs to W. Wheeler of Queanbeyan (chassis number AHS10/109554) and one imported Morris 1800 MkII belonging to Pat Farrell of Boronia (chassis number MHS8/1465).

Paint Colour Codes:

HM 5478 Indigo Blue
HM 5002 Sugar Cane

BMC/LEYLAND PUBLICATIONS (Australia)

TP750 Mkl Handbook
TP805 MkII Handbook
TP818 Workshop Manual

AKD 4138 Workshop Manual
AKD 4942 Auto Gearbox Supplement
HYL 3342 1800 Mkl Parts List

BMC Body Repair Guide Vol 2 Supplement 16 1800 Mkl
BMC Body Repair Guide Vol 2 Supplement 17 1800 MkII

Restarting on an icy slope—no trouble. Altered petrol tank and spare wheel well are the only visible differences from standard



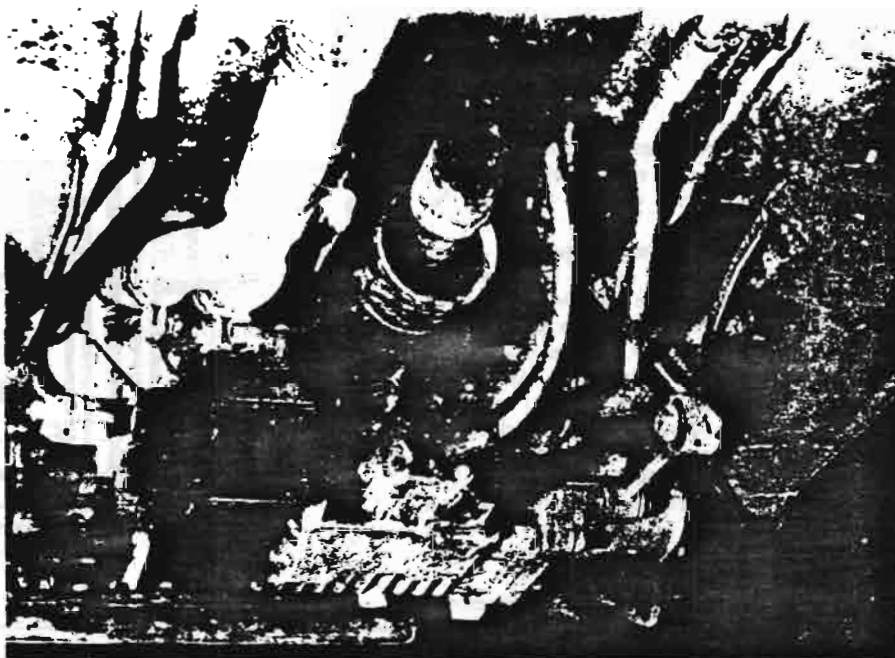
IN THE past few years I have described several practical applications of the Ferguson four-wheel drive system in *Motor*. Except in the case of the Ferguson car—which was designed from the word “go” as an all-wheel-drive vehicle—these have consisted of adding front drive to cars normally driven through the rear wheels.

I have just spent a week-end with a car representing the opposite technique—adding rear drive to a front-wheel-drive car. The model concerned is an Austin 1800 and I should make it perfectly clear that the conversion was carried out purely as an engineering exercise designed to investigate the problems involved. The car I drove was in no sense a prototype and you will find nothing like it in Austin catalogues at the next Motor Show.

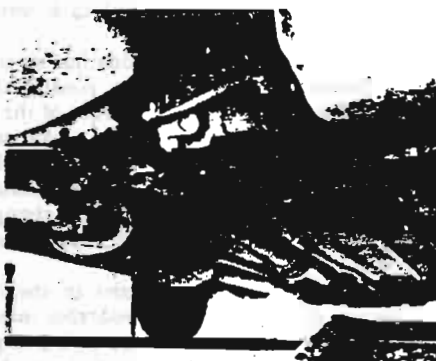
In one way, the problem was an easy one as there was no question of finding room alongside the engine for a forward propeller shaft and final drive or of threading half-shafts through an existing suspension system to drive steered wheels. Against this were the equal or greater problems of finding a spot for a power take-off (especially with an east/west engine), arranging a rear propeller shaft under a floor not designed with anything of the sort in view, and adding a final-drive unit and half-shafts at the rear. In practice, the whole thing has been done so neatly that it might almost have been part of the original design. The amount of what engineers call “cutting and shutting” has also been kept to a minimum.

The layout is illustrated in the accompanying pair of drawings which show the scheme in plan view and side elevation. The BMC 1800 engine-transmission unit is unchanged except that the transmission casing is modified to accept a four-wheel drive unit and a pinion housing replaces the normal cover.

The standard final-drive gear is replaced with a gear of equal size in which the centre is modified to accept two epicyclic differentials. In the first of these (which acts as the centre differential) the drive from the main gear is taken to the planet wheels which pass it on respectively to the annu-



Above: The modified sump and gearbox casing, and the power take-off to the rear wheels.



Left: This view shows the rear drive shaft arrangement as well as the revised fuel tank and spare wheel housing.

1800 x 4

Ferguson four-wheel drive on Austin saloon

by Harold Hastings

lus and the sun wheel; owing to the differences in diameter, this provides an unequal torque split between the front and rear wheels. For reasons which will be discussed later, approximately 60% of the torque is applied to the front.

The second differential takes its drive from the annulus of the first and splits the front-wheel torque equally between right and left-hand wheels; this is achieved by using an epicyclic differential of the type having the planet wheels in meshed pairs, with one wheel of each pair engaged with the annulus and its mate engaged with the sun wheel. Relative movement between the planets of each pair cancels out the effect of diameter differences in sun and annulus and gives the desired equal torque split.

Limitation of Differential action between front and rear is achieved by the special Ferguson system which, in principle, consists of connecting the front and rear by additional gears, the ratios of which conflict with the main drive ratio. The conflict is resolved in normal running by free-wheel clutches which permit over-run to take place. When, however, front or rear drives tend to speed up, this is permitted to the extent allowed for by the discrepancy in ratios; at that point, the appropriate free-wheel clutch locks and no additional

difference in relative speeds is possible, although the percentage difference at the lock-up speed can be continued indefinitely.

Normally, two control units are provided. One limits front spin (or rear locking, which would produce similar speed differences between front and rear); the other controls rear spin (and front locking). In this case, however, it was decided to simplify the installation by using only one control unit, this taking care of front spin and reducing the risk of rear locking.

Applying nearly 60% of the torque to the front wheels is the exact opposite of what has been done in previous installations but these, of course, have concerned front-engine rear-drive cars. In the case of the 1800 the opposite torque split was chosen for three main reasons: 1 the 1800 is a predominantly nose-heavy car; 2 the existing front-wheel drive is already capable of taking 100% of the torque and advantage was taken of this fact to save weight on the rear drive; and 3 maintaining a preponderance of torque on the front meant that the excellent handling of the car would not be basically changed.

The choice of this torque split also led to the decision to use a single-control unit since it was felt that with the torque and

weight distribution involved, neither front-wheel locking nor rear-wheel spin were likely. It was also decided to omit the Maxaret.

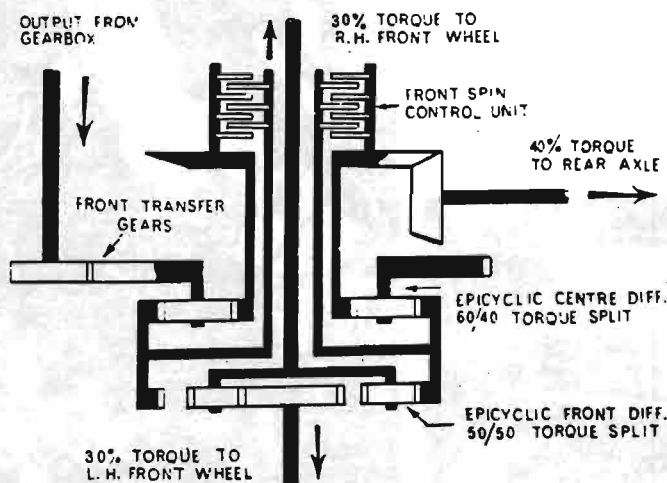
The actual front/rear torque split at the central differential is 64/36, but when the effect of front and rear final-drive ratios are taken into consideration, this gives a ratio at the wheels of 61/39. The necessary front/rear speed difference to keep the control unit clutch free under normal running conditions is obtained by using different final-drive ratios at front and rear. At the front, the standard BMC ratio of 3.88:1 is retained but the combined ratio of the two pairs of bevels in the rear drive is 1.158:1—in other words, a front spin allowance of 15.8%.

A beauty of the rear-drive arrangement is that it has been possible to provide a substantial step down in propeller-shaft speed. Thanks to a 35/19 forward bevel cluster, the shaft speed is reduced by nearly half, with the result that problems of vibration and balance are greatly reduced. At the rear, moreover, a bevel ratio of 15/32 makes it possible to use a crown wheel of very modest size. The actual rear ratio is 4.493 and the resultant overall ratio (front and rear in combination) 4.103:1.

As will be seen from the general arrangement drawings, the short pinion shaft at the front slopes down relatively sharply to the forward universal. This has been done to enable the propeller shaft line to be accommodated in the shallow tunnel in the 1800 floor (normally occupied by the exhaust pipe) and to avoid modifications to the forward foot ramp. The angle involved is 12½° in the static condition and this is taken care of by a special Hardy Spicer offset-sphere, constant-velocity, plunge-joint designed to cater for a permanent change in alignment rather than temporary variations due to relative shaft movements. The latter do not occur in this case as a result of suspension movements, but slight changes in angle can occur when the transverse engine rocks on its mountings owing to torque variations.

Because of the relatively low speed and low torque factors, propeller shafts of only 1½-in. diameter are possible. They are supported by a centre bearing secured direct to the body by metal straps and the rear shaft incorporates two Hook joints. The rear final-drive casing is bolted via rubber mountings to a cross member welded to the floor and there is a rubber-mounted torque arm attached to the floor just forward of the axle. Except for the actual final-drive gears, the casing, differential and half shafts are mainly Mini Cooper parts which, of course, are easily able to withstand the loads involved. The ends of the standard 1800 trailing arms are modified to accept new hubs but the suspension itself is unchanged.

The only other modifications consist of raising the steering rack slightly, moving the exhaust line to one side with a slight loss in ground clearance, swinging the fuel tank through a right angle to provide clearance for the nearside half-shaft and



transferring the spare wheel to a vertical position inside the boot.

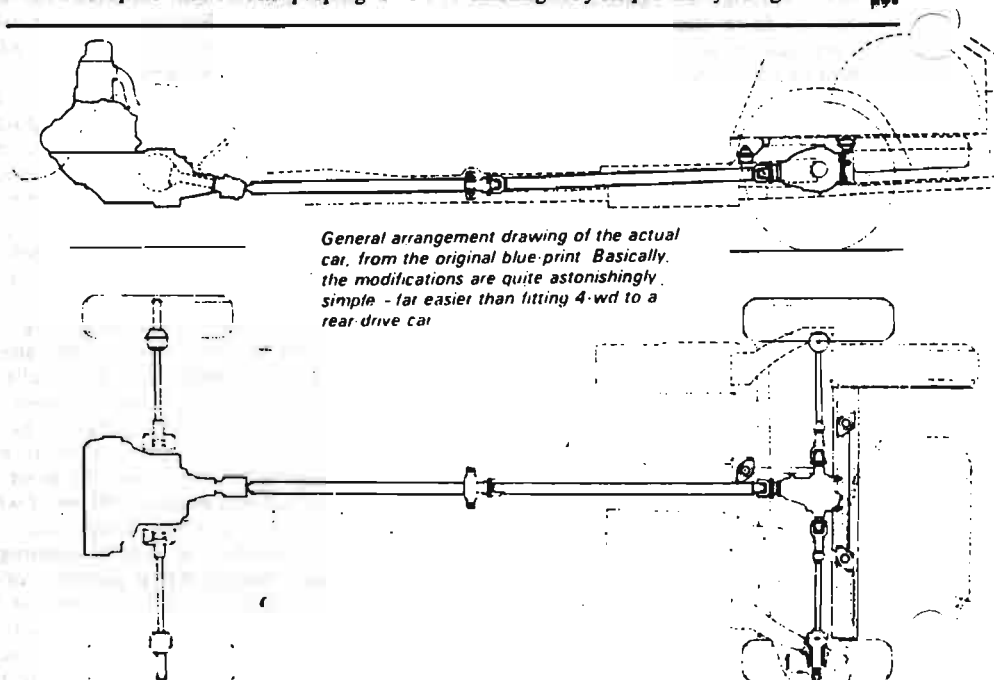
In practice, the installation has involved a distinctly smaller weight penalty than usual, adding 56 lb. to the front of the car and 78 lb. to the rear, giving a total addition of 134 lb. compared with a usual of around 200 lb. In its converted condition, the weight distribution is little changed, giving a static laden front/rear ratio of 56/44.

A run of some 230 miles in the converted car left a very favourable impression. The conversion seemed to me to give all the normal advantages of four-wheel-drive, most of the advantages of the full Ferguson system and no penalties whatsoever in handling. Indeed, it is doubtful if any regular 1800 driver would know the difference if this particular example were handed over without telling him that it was the one and only 1800 in existence which has a rear axle! He would, moreover, need to be rather observant as the only external give-away is a glimpse of the rearranged tank and spare-wheel well peeping below

the rear bumper.

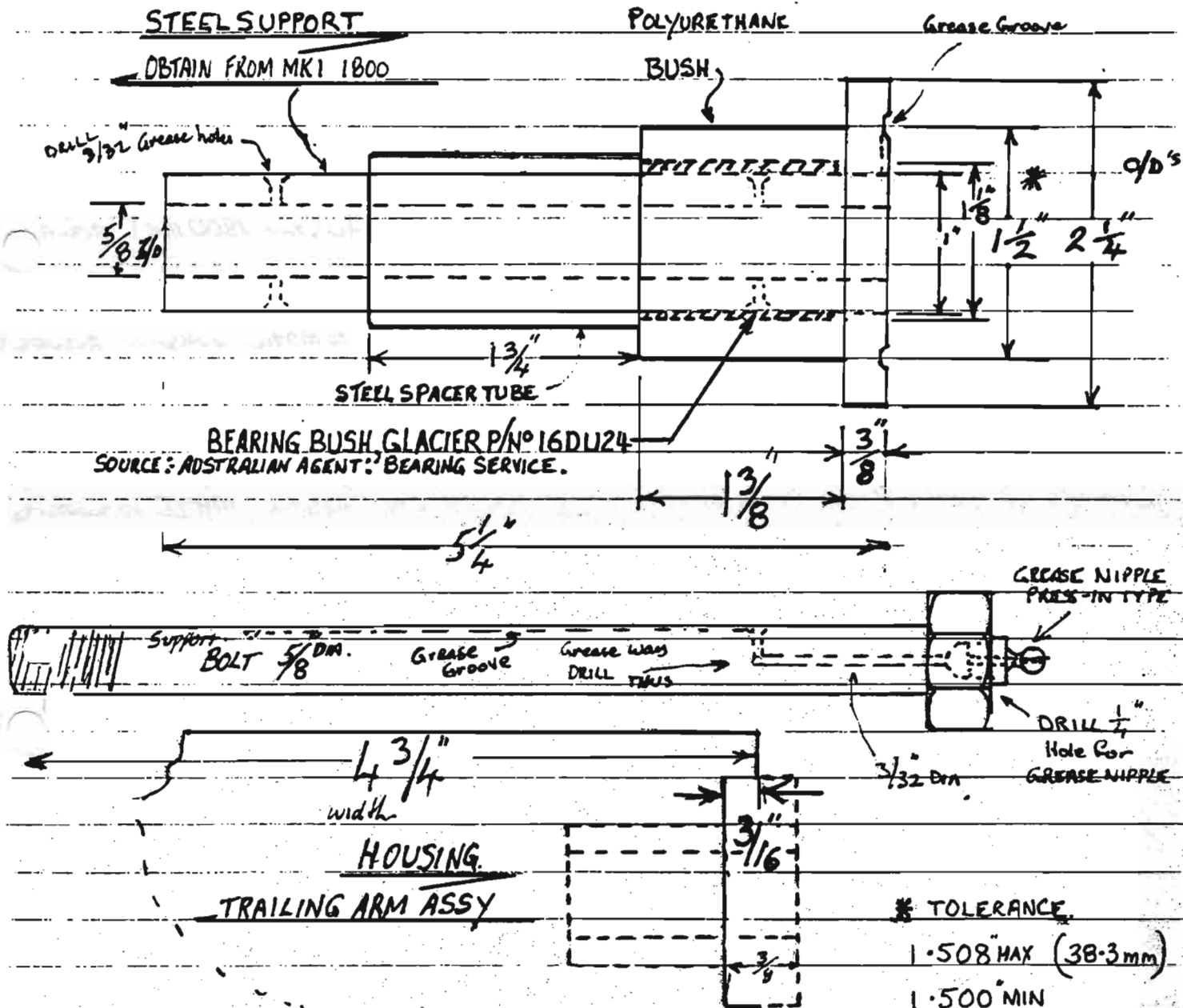
Unfortunately my opportunity to drive this car came on a sparkling winter day when most of the snow had gone, but I did succeed in finding an "Unsuitable for Motors" lane where there was still a good smattering of snow and, more important, the deep ruts were filled with smooth ice. Stopping and starting on this gave absolutely no trouble and called for no finesse in engaging the clutch.

Because this conversion was carried out purely as an exercise, cost cannot be assessed, but if it were ever put into substantial production, the cost would be considerably less than with other installations, thanks both to the simplification of the system and the extensive use of existing manufacturers' parts. In addition to its well-known advantages in traction, the system might also have points as a means of accommodating a much more powerful engine in an 1800 because it would enable the extra power to be put mainly through the rear wheels, leaving the front drive with its existing very ample safety margin.



MACHINING DETAILS
FOR [EXPERIMENTAL]
AUSTIN 1800, REAR SLIPFLEX BUSH REPLACEMENT (ALTERNATIVE)

MATERIAL: POLYURETHANE 90 DUROMETER



DWG NOT TO SCALE

ISSUE 2
APRIL 91.

LANDCRAB HISTORY

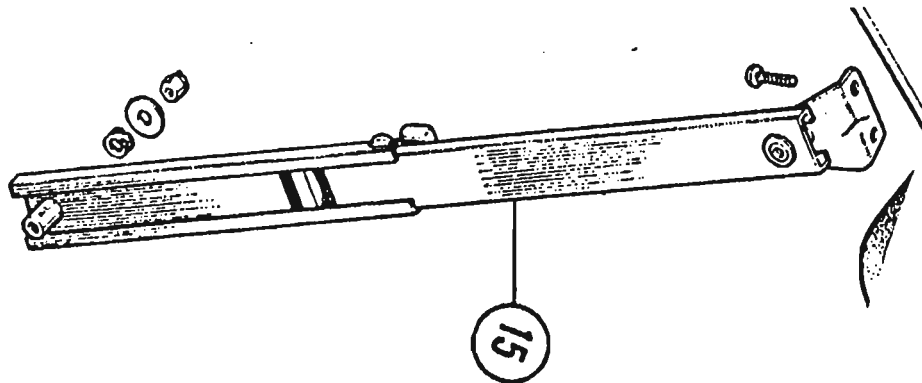
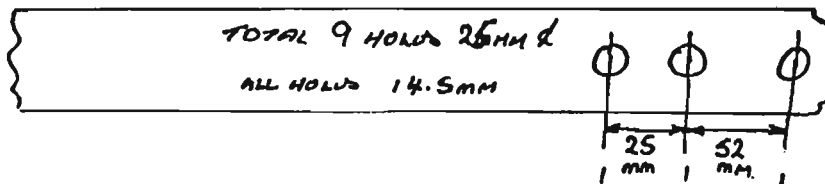
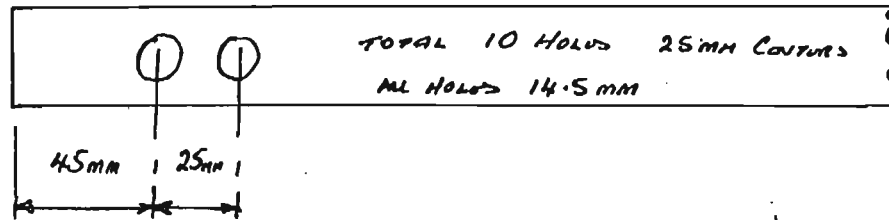
BRITAIN

AUSTRALIA

FEB 56	XC9000 PROTOTYPE	
OCT 58	XC9001 PROTOTYPE	
JUNE 60	XC9004 PROTOTYPE	
MARCH 62	XC9005 PROTOTYPE	
APRIL 63	ADO 17 PROTOTYPE	
OCT 64	AUSTIN 1800 MKI RELEASED	
MARCH 65	MORRIS 1800 MKI RELEASED	YDO 18 PROTOTYPE
MARCH 67	WOLSELEY 18/85 MKI RELEASED	22-11-65 AUSTIN 1800 MKI RELEASED
MAY 68	AUSTIN/MORRIS MKII RELEASED	19-2-68 AUTOMATIC VERSION RELEASED
OCT 68	MORRIS 1800'S RELEASED	19-7-68 UTE VERSION RELEASED
AUG 69	WOLSELEY MKII & S' RELEASED	25-10-68 AUSTIN MKII RELEASED
SEPT 69	AUSTIN 1800'S RELEASED	
MARCH 72	{ MORRIS MK III, AUSTIN/MORRIS 2200 & WOLSELEY SIX RELEASED	24-11-70 1800 REPLACED BY YDO 19
MARCH 72	{ AUSTIN/MORRIS'S MODELS & WOLSELEY 18/8'S DISCONTINUED	
JULY 74	REVISED SPEC ALL MODELS	
FEB 75	1800/2200 MODELS DISCONTINUED	

* YDO 19 USED THE 2200CC ENGINE AND WAS CALLED AUSTIN TASHAN/KIMBERLEY

TOP SECTION

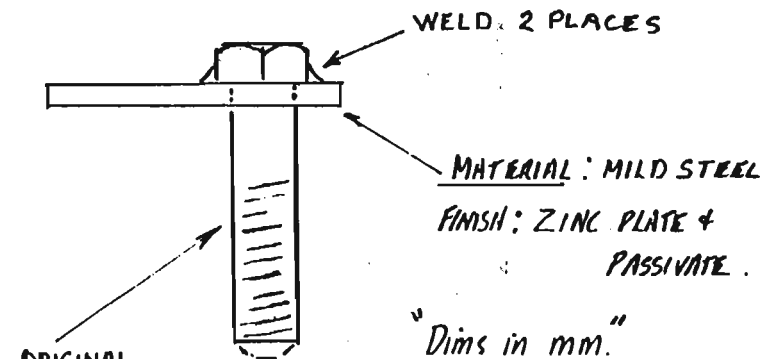
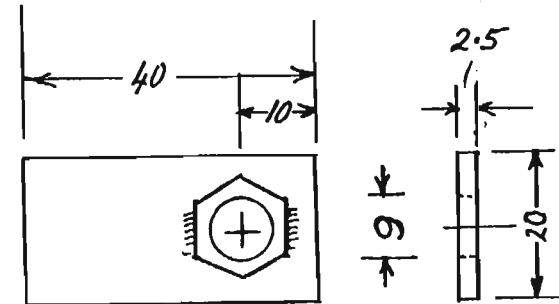


TOTAL WEIGHT SAVED.
APPROX 103.

FLAG HEAD BOLT- FOR AUSTIN 1800 SUMP GUARD FRONT SECURING BOLTS.

"STOPS BOLT FROM TURNING" AND ELIMINATES THE FRUSTRATING
NEED FOR 2 HANDS 2 SPANNERS, WHEN REMOVAL & REFIT
OF SUMP GUARD IS PERFORMED.

BOLT IS PREVENTED FROM ROTATING IN ITS POSITION -
LOCKS AGAINST SURROUNDING BODY CAVITY.



ORIGINAL
SUMP GUARD
BOLT.
(3/8" UNF)

SIMPLY INSERT MODIFIED BOLT
INTO ORIGINAL POSITION -
"WONT TURN WHEN SPANNER
IS APPLIED TO NUT."

K.G.P.

LANDCRAB CHASSIS AND ENGINE PREFIX DATA

AUSTRALIAN PRODUCTION

Chassis No	YAHS2/501 onwards	1800 Mkl	manual	Nov 1965 onwards
	YAHS4/501 onwards	1800 Mkl	automatic	Feb 1968 onwards
	YHS5/501 onwards	1800 MkII	manual	Oct 1968 onwards
	YHS6/501 onwards	1800 MkII	automatic	Oct 1968 onwards
	YJBBU3R/501 onwards	1800 MkII	manual ute	Oct 1968 onwards

Numbers under 501 are prototypes and preproduction models.

Engine No	18AMW/U/H/101 onwards	1800 Mkl	manual sedan	(imported)
	18Y/Ta/H/1001 onwards	1800 Mkl	manual sedan	
	18YA/Rc/H/1001 onwards	1800 Mkl	automatic all	
	18YC/Ta/H/1001 onwards	1800 Mkl	manual ute	
	18YD/Ta/H/1001 onwards	1800 MkII	manual sedan	
	18YE/Rc/H/1001 onwards	1800 MkII	automatic all	
	18YF/Ta/H/1001 onwards	1800 MkII	manual ute	
	18YG/Ta/H/1001 onwards	BMC replacement unit	manual	

UK PRODUCTION

Chassis No	AHS10/101 onwards	Austin 1800 Mkl	Oct 1964 onwards
	AHS11/101 onwards	Austin 1800 MkII	May 1968 onwards
	AH4SE/101 onwards	Austin 1800 MkIII	Mar 1972 onwards
	MHS7/101 onwards	Morris 1800 Mkl	Mar 1965 onwards
	MHS8/101 onwards	Morris 1800 MkII	May 1968 onwards
	WHS4/101 onwards	Wolseley 18/85 Mkl	Mar 1967 onwards
	WHS5/101 onwards	Wolseley 18/85 MkII	Aug 1969 onwards

Engine No	18AMW/ /101 onwards	Mkl	1964-1968
	18C/ /101 onwards	Mkl	1964-1968
	18WB/ /101 onwards	Mkl	1967-1968
	18H/ /101 onwards	MkII	



Suggested Badge for British Rally Team
Sent in by Peter Jones

LANDCRAB



Number 38

Landcrab Owners Club of Australasia

July 1991

Not wishing to start this month's issue of **Landcrab** on a sour note, some members are only remitting a \$10 renewal fee. When photocopying additional membership renewal forms for distribution last month, I inadvertently forgot to alter the \$10 fee to \$20. Those of you who read the newsletter will have noted that N/L 32 [Jan 1991] advised the membership fee increase to \$20. Also sadly, there has been no response to requests for suggestions as to how we can financially assist our sister club in the UK in their efforts to enter two landcrabs in the forthcoming 1993 London to Sydney Marathon Re-Run.

You may remember the publicity surrounding government initiatives to reduce pollution on older and vintage cars [see N/L 29, Oct 1990]. At long last Ros Kelly has seen fit to reply to some of the many petitions lodged by car clubs and others and a letter is reproduced here courtesy of the ACT Council Car Clubs.

As mentioned last month, the poor old landcrab is very thin on the ground over in New Zealand whereas the Austin maxi is still very popular. The reason (I suspect) is that the maxi is very similar in size to the 1800; is a station wagon with hatchback; has a peppier engine (basically a Morris Marina 1750cc OHC motor); and a fifth gear. The maxi is also more fuel efficient with 39 mpg not being uncommon and, with petrol in NZ at 94¢ a litre, it is not surprising that they are popular. However, some new parts for the 1800 are still available; the names and fax numbers of a couple of dealers are included with this newsletter.

You may think that the picture leading this month's newsletter is a little strange...but in fact it is for real...and it goes! Brian Smith told us about it and we were extremely fortunate in tracking this vehicle down in Methven, New Zealand. The car (or cars) were originally Morris 1800 sedans and there were two motors in it (though only one at present) and the vehicle was able to drive in either direction.

Do you remember that article on the 'vacmatic' [see N/L 28, Sept 1990]? These devices are still available in NZ at Repco and other auto accessory outlets. Prices vary and we bought one for our maxi for NZ\$50 (approximately A\$39). Incidentally, there was a very marked improvement in the running of the maxi after only four days following fitting of the vacmatic.

Should you be interested, their address is:

Vacmatic International Limited
PO Box 45145
Te Atatu North, Auckland 8
New Zealand.

This month's issue includes some very interesting technical articles and, in particular, a very

graphic description of the PBR power unit sent in by Peter Jones. You will also find some intriguing facts about lead acid batteries reproduced from UK Landcrab News. The article on front wheel drive was found amongst some old papers Bill Wheeler had and he thought might be of interest to members. Additionally, Ken Patience wishes to advise us all of the identification of the universal joint assembly used within the Quinton Hazell inner universal joint assembly for landcrabs [see N/L 36, May 1991]. SPICER 1410 Series fits a large range of trucks, ie Bedford. The price for the genuine GM part is \$43 each and a non-genuine (Japanese) part is \$21, each price making this project a realistic alternative to the original 1800 rubber units.

Prolonging the Useful Life of a Lead-Acid Battery

[Reproduced from UK Landcrab News No 7, March 1991]

Very few lead-acid batteries are replaced because they stop working; in almost every case the battery is replaced because it does not work WELL ENOUGH. What is not generally realized is that something can be done at this stage which may well prolong the useful life of the battery — quite often by many years. The same treatment, carried out earlier, may well stop the symptoms from occurring in the first place.

To understand what can be done requires a simple appreciation of how a battery works. All lead-acid batteries are a series of cells, the most common the 12V battery which is simply six cells in series. Each cell consists of a plate of lead and a supported plate of lead (IV) oxide, both immersed in fairly concentrated sulphuric acid. The lead (IV) oxide plate is the positive pole, the lead plate is the negative pole. As the battery discharges, electrons flow from the negative to the positive pole; when we charge the battery we simply drive electrons back in the opposite direction.

The reason for a battery failing to work properly is due to the chemical processes which take place within each cell. As the battery discharges, the positive plate can react with the sulphuric acid to produce some lead ions. The negative plate (on dissolving) can also form lead ions in the process — finally leading to the battery's complete failure.

It is the lead ions which are incidentally formed in the discharge cycle which cause problems. They combine with sulphate ions in sulphuric acid to form highly insoluble lead sulphate. When this coats the plates of the battery, it fails to deliver enough power to be of use. The battery may be thoroughly serviceable in every other way — only the 'sulphating' stops the battery delivering enough power to be useful.

The sulphating can effectively be removed (or prevented) by adding to each cell a chemical called tetrasodium ethylenediaminetetraacetate (often abbreviated to tetrasodium EDTA or just EDTA). This chemical forms coordination compounds with many metal ions, including the lead ions formed in the discharge cycle of a battery. The compound formed by lead ions and EDTA ions is not particularly stable in the acid medium of a battery but, when it breaks down again, any lead sulphate regenerated drops to the bottom of the cell where it lays harmlessly since it does not conduct electricity. Any regenerated EDTA ions are free to continue their work.

As can be seen from above, treating a battery with EDTA is likely to be most effective when the battery (for one reason or another) spends periods when it is not fully charged, and so contains too many lead ions. This is likely to occur if it is used just for short trips, is infrequently used, or suffers from an inefficient charging system.

To treat a battery with EDTA you simply add the powder to each cell — the exact amount is not critical but an average size car battery needs about one heaped tablespoon, smaller batteries proportionately less, larger batteries proportionately more. After addition of the powder, the battery needs some form of agitation for a day or two (using it normally is sufficient) and then a thorough charge to build up on the cleaned plate areas. On the assumption that sulphating has been affecting the performance of the battery, an increased performance will be noted.

K.L. Martin (19 Brookmead, Meppershall, Shefford, Bedfordshire SG17 5SA, UK) can provide you with enough EDTA to treat an average-to-large car battery (or two motorcycle batteries) for £2/A\$5 (which includes postage, packing and instructions). For batteries of other sizes, adjust the amount required; the voltage of the battery does not matter, its the size of the battery (ie the amount of acid) that counts.

Some months ago I mentioned that in order to thiefproof your car a good idea would be to somehow fit a shutoff valve to the fuel line — this would be simpler, cheaper and more effective than fitting an expensive alarm system or 'crooklock'. It seems that the Kiwis have come up with an answer albeit a little expensive. [Please see copy of advertisement included with this newsletter.]

As mentioned in our December 1990 issue of **Landcrab**, one of our members — Andrew McGregor — has set up a small car repair business in Fyshwick. Andrew can now be contacted anytime on his mobile phone (number 018 630 417).

As the workload for the newsletter is ever-increasing and the fact that the newsletters themselves are becoming longer and taking more of my free time each month, it has become necessary to cut the publication of **Landcrab** to every other month. Be assured you will not lose out on the quality. This will simply assure me of being able to maintain my sanity, my job and good relations with family and friends. Because there won't be another newsletter put out until September...

The **AUGUST MEETING** will be: **Monday, 5 August 1991, 7.30 pm**
The Canberra Yacht Club.

and the **SEPTEMBER MEETING** will be: **Monday, 2 September 1991, 7.30 pm**
The Canberra Yacht Club.

Yours in first class motoring...

Mick



FOR SALE

GEARCHANGE CABLE ASSEMBLIES: Two reconditioned assemblies. Suit 1800 manual transmission. \$150 each. Contact Bruce McFarlane (048) 42 1123 (Braidwood).

AUTOMATIC MOTOR AND GEARBOX: MkII. Goes well. \$300. Other parts, grille, bumpers, etc also available. Reasonable prices. Contact Kathleen Phillips (06) 280 5803 (work).

EVENTS: Canterbury Vintage Car Club Swap Meet at McLeans Island, Christchurch, New Zealand. October 12/13.

REMINDER: If you only sent in \$10 renewal fee, please forward the remaining \$10 AS SOON AS POSSIBLE to keep your membership current.

August 2, 1957, 7:30 pm
The Canyon Yacht Club

AUGUST MEETING

August 2, 1957, 7:30 pm
The Canyon Yacht Club

1957



August 2, 1957, 7:30 pm
(Continued from page 1)

August 2, 1957, 7:30 pm
(Continued from page 1)

August 2, 1957, 7:30 pm
(Continued from page 1)

1957

1957

THE use of the East-West engine in the BLMC Morris-Austin range of cars has proved the value and reliability of the Birfield Constant Velocity Joint.

It was first introduced on the Morris 850 in the United Kingdom in the early sixties and shortly afterwards in Australia, in the Morris 850 and 1100. The Birfield Joint is still being used on the current range of models although a Plunge type constant velocity joint is now being used on the inboard end of the shaft. This is in place of the conventional carden-type Universal Joint.

Due to the irregular speed variation with the conventional universal joint operation at high angles the Birfield Constant Velocity Joint was used. These working angles are much less than what is required to permit the driving wheel to satisfactorily operate for steering purposes.

A simple concept of the action of the Constant Velocity (C.V.) Joint is the action of a Bevel Gear as illustrated in figure 1. The line of gear contact with the bevel gear is on the plane AA of the intersection, similarly the steel balls of the C.V. Joint under load position themselves on the intersecting plane AA.

The three typical complete shaft assemblies as used on B.L.M.C. front wheel drive cars are illustrated in figure 2. All comprise the Birfield C.V. Joint at the car wheel end, a solid shaft and an inboard fitting for connection to the transmission. The top shaft Figure 2(a) has a slip yoke and is used on all Morris models with the standard transmission. This slip yoke fits to a flexible universal joint secured by means of four U-bolts to the gearbox fitting.

Shaft 2(b) is the general arrangement used for most automatic models and has a slip yoke, standard universal joint kit and a flange yoke as the connecting device.

Shaft 2(c) is the arrangement used for both models of the Tasman and the Kimberly cars. The Plunge Joint connects directly to the gearbox flange.

PRINCIPLE OF OPERATION

The Birfield C.V. Joint was originally designed on the basis of the US "Rzeppa" Joint the only difference being in the shape of the ball track section. Instead of having a circular track the same radius as the steel balls the Birfield Joint uses an elliptical shape.

The joint itself is basically a ball and socket joint. The "ball" being the inner ball race and the "socket" the outer race or bell as illustrated in figure 3. Both the inner race and outer bell are grooved to accommodate six balls which form the intermediate torque transmitting member. This intermediate member consisting of the six balls is kept on the intersecting plane (Figure 1.) by means of a ball cage. Geometrically designed tracks allow precise ball cage control. This is to allow the balls to steer to their correct position in the tracks. i.e. The operating angle of the joint is always bisected by the plane on which the balls lie as illustrated in figure 1, giving true constant velocity.

The elliptical track section is such a size that when transmitting torque through the joint, the balls are in direct compression as illustrated in Figure 3. A pressure angle (P.A.) of 45° is used. All six balls drive in both directions up to an

FRONT WHEEL DRIVE

by Iain Anderson,
Sales Engineer
Rapun Universal Joints Group.

operating angle of approximately 14°, above this angle, two balls take most of the load for one sixth of a turn, then the proceeding pair of balls position themselves and take the load and so on rotating the load.

The Birfield C.V. Joint gives a working angle of up to 80° included angle and thus is ideally suitable for steering purposes.

PLUNGE TYPE C.V. JOINTS

The Birfield C.V. Joint is a high angle type joint suitable for steering, while for the inboard (transmission) end of the shaft, a Low Angle Plunge C.V. Joint which has axial slip movement, is incorporated on Tasman and Kimberly car driveshafts. The axial movement permitted by this Plunge C.V. Joint is needed to avoid possible damage to the suspension linkages and the support bearings. It is of similar mechanical design to the Birfield C.V. Joint but the tracks instead of being curved are straight. Its construction is shown in Figure 4.

SERVICING OF SHAFTS

The drive shaft is intricate, but of exceptionally robust construction which allows a long service-free life. Nearly all signs of wear may be quickly detected by the driver in the form of vibration. In many cases the vibration need not have occurred if early warning signs had been detected by the owner or the service mechanic.

Driveline problems may be listed as follows:

1. Where wear has occurred on the bell end, its cause is often pin-pointed to a lack of lubricant during service. The service mechanic should therefore inspect the rubber boots on both ends of the half shafts for leakages.

Wear due to a long service life may also be found at the ball track. This can usually be detected by a prominent tapping sound inside the joint when running on full lock. This is due to the balls embedding on the line of contact—the noise being emitted when the ball is released under load.

2. Worn Universal Joints. Universal Joints on all vehicles should be checked for end play and looseness during the normal servicing.

3. Spline wear. The sliding spline should also be checked for wear during normal servicing.

SERVICE KITS

Repairs may be quickly and efficiently completed using a component service kit such as illustrated in figure 5. For every model there is a complete range of shaft component kits. All shaft component kits are supplied with a weighed bubble pack of grease in accordance with the BLMC specification.

Chris de Fraga drives a . . .

Q-SHIP AUSTIN 1800

IT IS A Q-SHIP in the finest tradition and it runs a hot 100 mph — in the style of the marauding Q-ship it is almost impossible to pick from its more sedate brothers. Only a rubber securing strap on the bonnet lid warns that all may not be as it seems with this latest Repco research car — the Austin 1800.

The car is an English model and this is clear from the leather upholstered seats to the thin black pin stripe along the body's creased flanks.

But as soon as a door is opened, it is obvious this is no standard car. On the driver's door is a black box with a couple of toggle switches. A matching smaller box with one switch on the passenger's door confirms that the front door windows of the car are raised and lowered electrically.

"Well it is rather a long stretch across to the passenger's window winder for the driver of an Austin 1800 and the ventilation in standard form can't cope well with Australian heat", said the man from Repco-Brabham, Frank Hallam.

Beneath the 1800's standard instruments were three extra instruments — tachometer ("I think it reads a little fast"), temperature and oil pressure gauges.

Changes inside the car were minor compared with those under the bonnet, the changes which made the car into an entertaining Q-ship.

As soon as the bonnet was opened it was obvious why there was a rubber strap added — there was no bonnet catch! Instead, the panel where it normally mounts was eroded to clear the air cleaners of an impressive pair of Weber 40 DCOE carburetors. They were sitting on the front of the motor because — that's right, it had a cross flow head.

The head was a light alloy HRG part intended for MGB's. Repco fitted it because they wanted four inlet ports instead of the normal Siamesed pair to test fuel injection equipment on the 1800.

When the injection equipment didn't materialise they doubled up a pair of Webers to get the car mobile. SU carburetors were considered but wouldn't fit in the space.

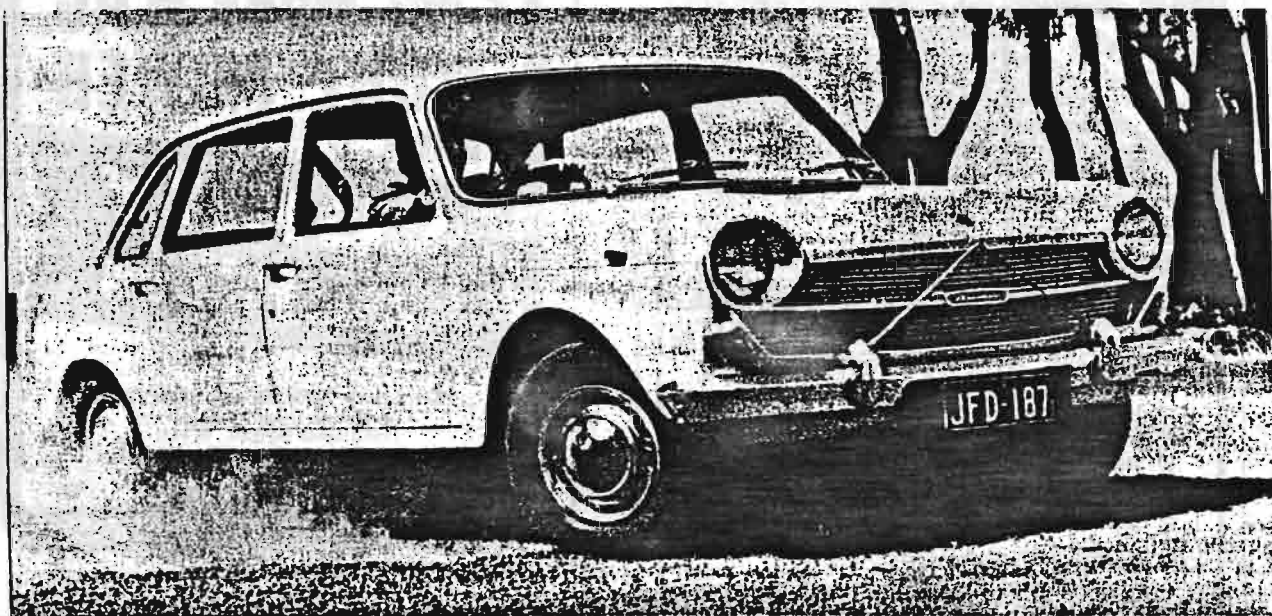
The manifolding for the Webers is sharply angled to the ports — again because of space limitations.

The disc front, drum rear brakes of the standard car retained a vacuum booster with the takeoff for the vacuum coming from each inlet tract, and forming the balance pipe between them, a neat touch that marked the conversion to carburetors and cross flow head as more than just a casual affair. The whole engine had the air of a professional approach to the performance improvement.

The Austin began life as a workhorse research vehicle. The bores of the motor in original form, were in Siamese pairs like the inlets and there were no water spaces between cylinders 1 and 2, 3 and 4. To see what effect this had on the wear pattern and rate, Repco carefully altered the motor, drilling between the bores and fitting new water passages directly to the drilled passages from the water pump.

The effect of the modified motor on the car's performance was astonishing. A good bootful of revs. and a dropped clutch saw the front of the 1800 climb into the air as the wheels spun in enthusiasm to get under way.

A grab to second gear, the lever's knob came off in my hand, and the car surged away again as I tried to feed the knob back onto the lever.



B.L.M.C. (Front Wheel Drive) DRIVE SHAFT ASSEMBLIES

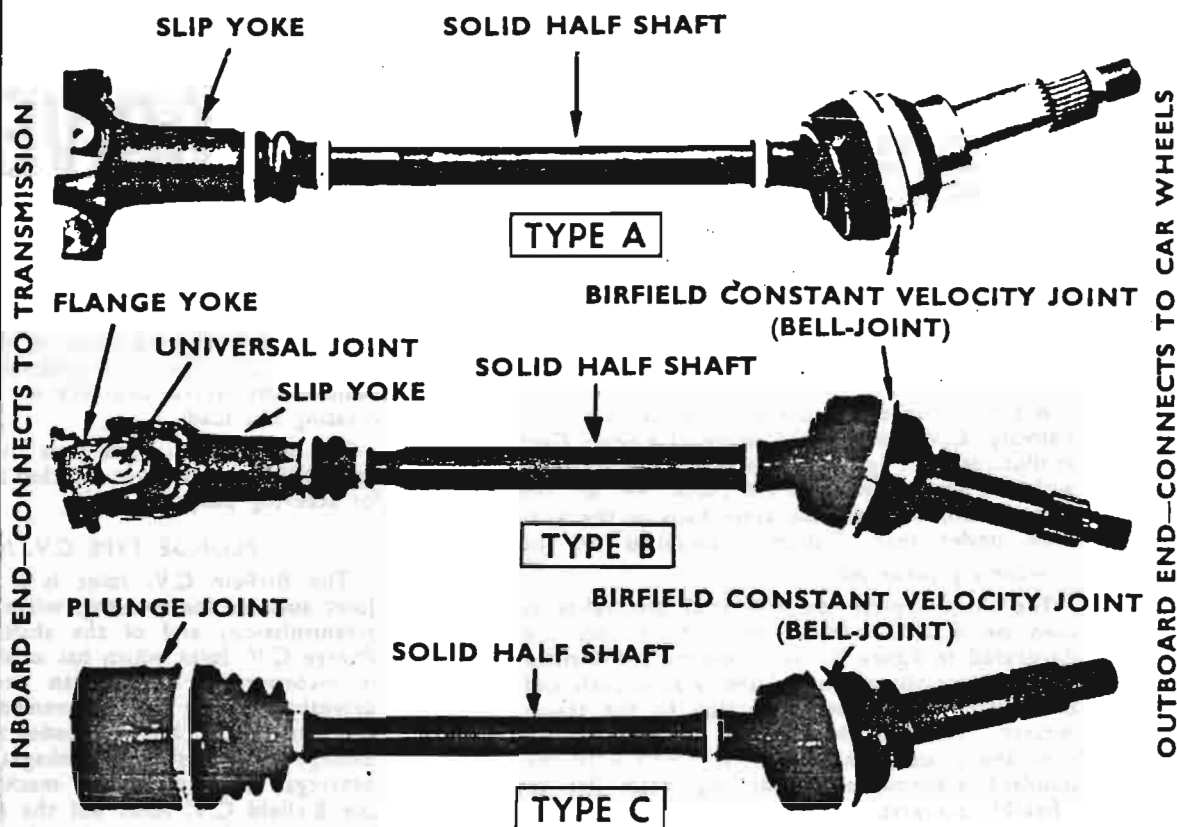
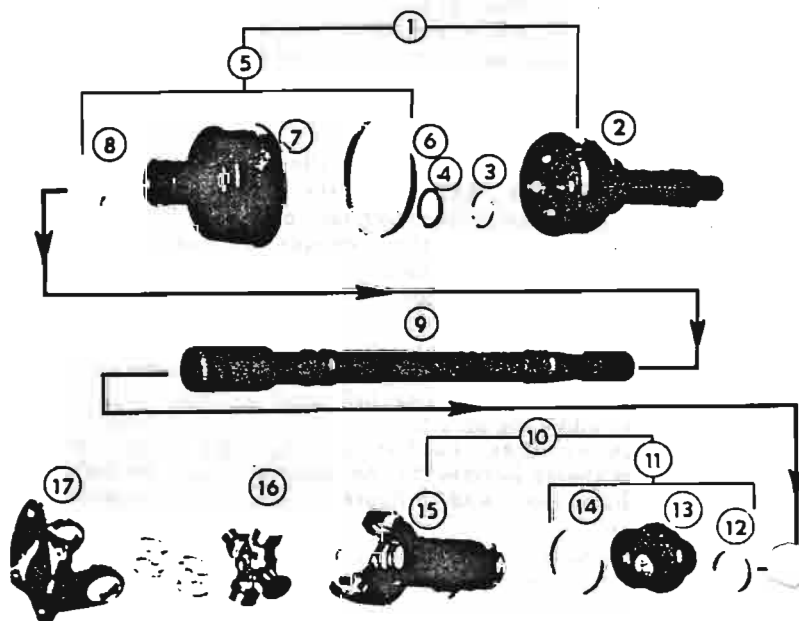


Figure 2: Typical drive shaft assemblies as used on B.L.M.C. front wheel drive cars.

(a) This shaft has a slip yoke which fits to a flexible universal joint—which in turn is secured to the gearbox drive. It is used on all Morris models with standard transmission.

(b) This shaft represents the general arrangement used for automatic transmission models. In variation from (a) above it is connected to the transmission drive by means of a flange yoke.

(c) This is the shaft arrangement used for both models of the Tasman and Kimberly cars. The Plunge Joint connects directly to the gearbox drive flange.

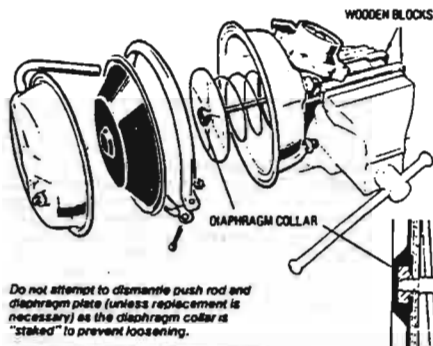


POWER BRAKE UNITS:

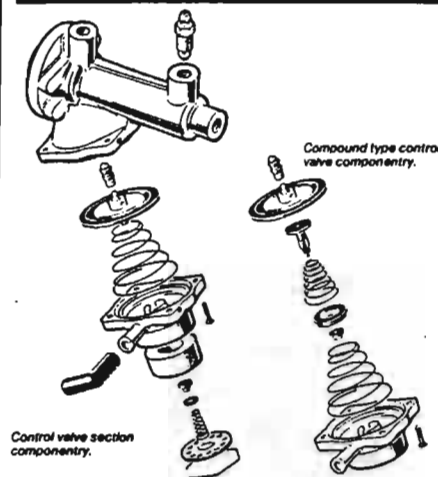
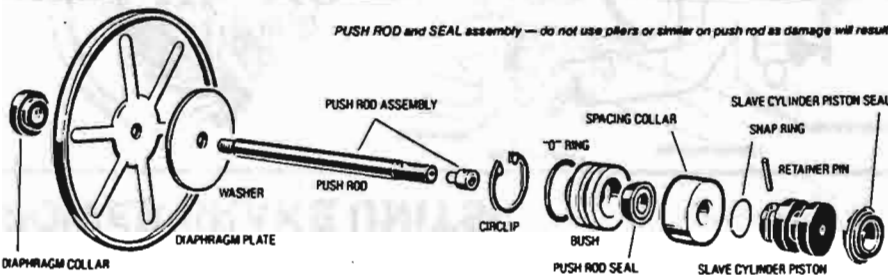
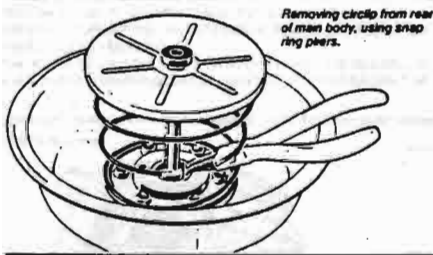
DISASSEMBLY:

Note position of each part during disassembly. Remove clamp ring and disengage vacuum pipe at rubber elbow. This allows removal of power chamber parts.

CAUTION: Do not attempt to dismantle push rod and diaphragm plate unless replacement is required. The round collar on rear half side of the plate is "staked" in place to prevent loosening and removal will result in damage to the threads.



Using bent nose snap ring pliers, remove the circlip from rear of main body. Now remove diaphragm plate and push rod assembly and the return spring. To remove the seal assembly from the push rod, grip the seal body in a vice and by twisting the diaphragm plate the seal assembly can be removed.



CAUTION: Do not grip the push rod in a vice or use pliers or similar, as damage will result to the push rod operation. Separate power chamber from the main body by removing the six self-tapping screws. Remove snap ring and carefully disassemble control valve ensuring no water or oil enters the unit, if an air line is used.

CLEANING:

When disassembly is complete, wash all parts in methylated spirits. Mineral-base cleaning solvents must not be used as contact with the rubber parts causes swelling and distortion, resulting in erratic operation or failure of the unit. After washing, use an air hose to blow out all internal passages and ensure the restrictor port is clear. Ensure the bores of the slave cylinder and the control valve are clean and dry.

INSPECTION: If any parts are found to be defective, they must be replaced.

MAIN BODY: Check the bores of slave cylinder and the control valve for scores and excessive wear. As the body is aluminium, the bores cannot be honed. If slightly marked they may be lightly polished with "400 grit" wet or dry paper.

POWER BRAKE UNITS:

Replace the main body when the slave cylinder bore measures .007 oversize or the control valve bore measures .004 oversize.

SLAVE CYLINDER BORE SIZE

VH44, VH44B .750
VH40 .625

CONTROL VALVE BORE SIZE

All models (except VH40A, VH40AL) .312
VH40A, VH40AL .375

Check for damaged threads, seats or circlip grooves and replace cylinder if necessary. Do not attempt to repair.

SLAVE CYLINDER: Check piston for excessive wear or scoring on outside surface. Ensure the retainer pin hole is not elongated. Check push rod seal seat at the inlet port of the slave cylinder piston for wear and damage. Replace the piston if necessary. Check bush and spacer bores for wear.

CONTROL VALVE: Check the piston for scores to the outer surface. Check the diaphragm for cracks, tears, etc. If the diaphragm is swollen, it indicates petrol or oil has entered the control section of the unit. Ensure the poppet valve seat is free of nicks, burns, distortion and excessive wear. Also check the control valve body for warping and distortion at the mating surfaces. Check snap ring grooves for wear.

VACUUM POWER CHAMBER: If there is any damage, distortion or holes in the metal parts, they must be replaced.

Do not attempt to straighten distorted parts as it may result in vacuum leaks and erratic operation.

Check the mounting studs for thread damage or looseness.

A loose transfer tube results in erratic operation.

Check the diaphragm for cracks and worn spots where it contacts the rim of the pressure plate. A swelling in the diaphragm indicates petrol or oil has entered the power chamber.

Check the clamp ring for distortion. Check the diaphragm pressure plate for nicks or burns around the rim.

PUSH ROD: If distorted or loose on the push rod, replace the diaphragm pressure plate. Ensure the push rod is free of wear and scores where it operates through the bush and spacer. If the push rod is bent, do not attempt to straighten — it must be replaced.

ASSEMBLY:

The assembly procedure is the reverse of disassembly but with the following points to keep in mind.

The slightest trace of mineral oil or grease on rubber parts will result in erratic operation or failure of the unit. Use brake fluid for assembly. To

simply the assembly, assemble parts into sub-assemblies and then combine these sub-assemblies to form the complete unit.

MAIN BODY AND FRONT POWER CHAMBER SHELL: Remember to align previously scribed marks on main body and shell to ensure correct assembly.

Tighten the six self-tapping screws to 50-70 lbs. in. torque.

CONTROL VALVE: Remember the correct direction the seal lips must face (away from the diaphragm).

Assemble control valve body to main body correctly aligned to previously scribed marks.

Tighten the four Phillips head screws to 50-70 lbs. in. torque.

PUSH ROD: Use hand pressure only to press the stem of the push rod seal into the recess at the end of the pushrod. The seal should be a firm fit or erratic operation will result. If the seal is not retained tightly enough a "Loctite" compound may help to achieve the required effect. To check the minimum clearance of .020 in the retainer pin hole, temporarily place the slave cylinder piston in position on the push rod and insert the pin. Then press the push rod seal firmly against piston seal and check the clearance.

Remember the direction the seal lips face.

Do not use a sharp instrument for assembling the seals.

POWER CHAMBER: After installing the diaphragm, rotate several times to ensure correct seating over the collar.

Check the rim of the diaphragm for correct seating in the rim of the power chamber front shell.

Align previously scribed marks to assemble rear shell ensuring correct seating of rim on the roll of the diaphragm.

Assemble clamp ring and tighten to 20-25 lbs. in. torque.

TESTING:

Set up Hydropower for testing, using the equipment as illustrated.

VACUUM LEAKAGE TEST: (Hydropower in "released" position) Apply 20" of vacuum and shut off. Leakage should not be greater than one inch of vacuum in 15 seconds.

Continued leakage indicates one or all of the following.

Main diaphragm not correctly sealed.

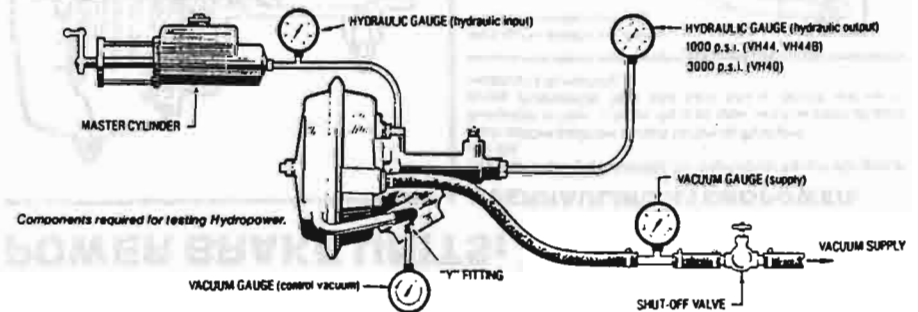
Damaged control valve diaphragm.

Defective poppet valve or seal.

Loose transfer tube or rubber connecting elbow.

HYDRAULIC LEAKAGE TEST: 15 P.S.I. LOW-PRESSURE CHECK.

Attach hydraulic line from master cylinder to Hydropower inlet port. Fill reservoir of master cylinder with brake fluid and bleed system. Attach a 30 lb. hydraulic gauge to outlet port. Apply 15 lb. pressure and hold. If no leak is indicated, approve unit. If leak is indicated, continue test for



Components required for testing Hydropower.

Fifty mph whooshed past in less than eight seconds and the car was still accelerating strongly in third. Into top and the urge was still there. The tachometer needle swung to 6100 rpm in top and the car was fairly whistling along. Then I remembered this car had special gearing, not for acceleration, though.

It came from England with a final drive ratio which gave approximately 16.5 mph per 1000 rpm. — the Australian version has an even lower mph figure. An alternative ratio in England was 17.7 mph per 1000 rpm — and so this was fitted to the test car.

In 16.5 mph form, it lost interest very quickly at about 83 mph instead of the standard 87 mph. With the tall gearing and modifications, it swept past 90 mph with insolent ease.

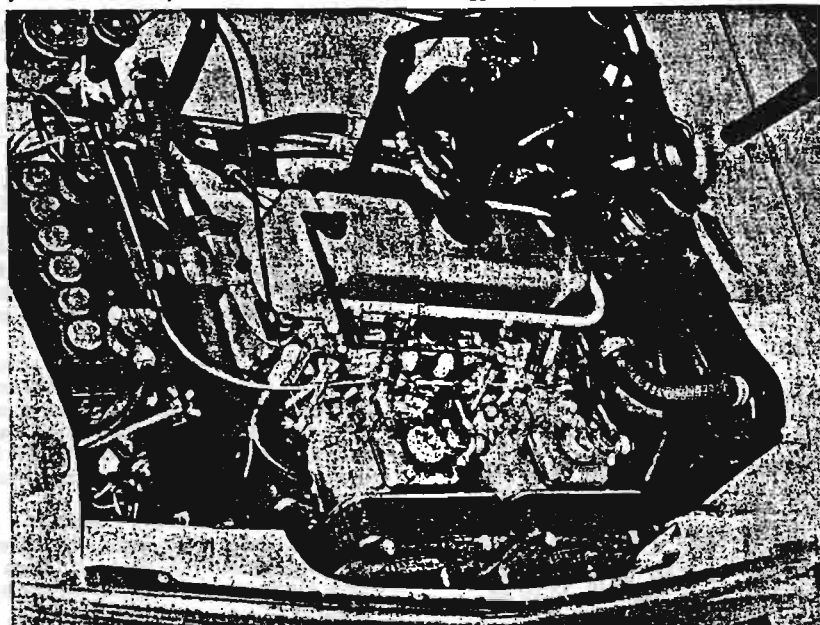
At high speeds, the car proved stable with its Pirelli radial ply tyres, hydro-lastic suspension and the slower gearing of the English steering.

BMC Australia are to be congratulated on their choice of a faster steering ratio for their Australian models. Wheel twirling for parking with the English model was annoying and wrapping on correction took many bites of lock. Exhaust note of the Repco 1800 was subdued so it was no wonder we saw some surprised faces as the car slipped silently past.

In standard form, the 1789 cc four cylinder Austin 1800 motor turns out

80 bhp net and the MGB version 95 bhp net. The crossflow model in the Repco car must have been pumping out better than 95 bhp to haul the 22.7 cwt. body along like that. (It hasn't seen a dynamometer as yet).

At 90 mph, the gauges of the car indicated it was not straining and if this is the performance with a pair of Webers, the fuel injected model will be a tyre smoking fire eater worthy of a dragger's pride.



Now there's a big heap of carburettion for you, twin Webers even yet. When the engine is further modified with fuel injection it should be the original rubber burner.

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POWER BRAKE UNITS:

an additional 30 seconds. The unit should not leak more than 1 p.s.i. in the full minute.

2000 P.S.I. HIGH-PRESSURE CHECK. Release hydraulic pressure and replace 30 lb. gauge with 3000 lb. gauge. After bleeding gauge line, apply 1800-2100 p.s.i. and hold. The pressure should not drop more than 200 p.s.i. in 15 seconds. Do not release pressure.

1000 P.S.I. PRESSURE TEST. Decrease hydraulic pressure to 900-1100 p.s.i. (Do not let pressure drop below 900 p.s.i.) If no leakage is indicated in the first 30 seconds, approve unit. If leakage is indicated, continue test for additional 30 seconds. The Hydropower should not leak more than 25 p.s.i. in a full minute. Release hydraulic pressure.

If excessive leakage occurs, inspect for faulty slave cylinder bush seats, "O" ring or control valve piston seal.

HYDROPOWER PERFORMANCE TESTS (on the vehicle): With engine stopped and transmission in neutral, pump brake pedal several times to destroy all vacuum in unit. Hold foot pressure on brake pedal and start engine. When vacuum system is working properly, brake pedal will move towards floor slightly. If no movement is felt, vacuum system is not operating.

With engine running, place palm of hand over the air cleaner. Have the pedal depressed and suction should be felt on the hand as brakes are being applied.

Remove vacuum hose from Hydropower and plug end of hose. Pump brake pedal several times to destroy vacuum. Road test car and note pedal pressure required to give a normal service stop. Reconnect vacuum hose and again road test car, checking pedal pressure required to obtain equivalent degree of retardation as before. Pedal pressure should be considerably less with second test.

TROUBLE SHOOTING:

Road test the vehicle by making brake applications at 40 kph. Brake defects will be evident in one or more ways as follows:

With the engine stopped and transmission in neutral, apply the brake several times to destroy all vacuum in the unit. If pedal has a "spongy" feel, this indicates existence of air in the hydraulic system. Hold foot pressure on brake pedal and if pedal moves towards the floor, a leak is indicated in the hydraulic system or faulty master cylinder main cup.

EXCESSIVE PEDAL TRAVEL: Air in Hydropower due to:
Slave cylinder outlet pointed downwards.
Hydropower mounted higher than the fluid level in the master cylinder not fitted with residual line valve.

Faulty residual line valve in the master cylinder.

Open bleeder screw at wheel cylinder; if brakes do not release, trouble is due to over-adjusted brake shoes. (The fault will be either master cylinder or Hydropower if brakes release when bleeder screw is opened.)

A test to isolate the cause of hydraulic build-up is to release connection between the master cylinder and power brake. If brakes release, faulty master cylinder is indicated. If brakes fail to release, check Hydropower for faults.

BRAKES FAIL TO RELEASE: Hydropower fault due to:
Control valve piston sticking.

Excessive residual line pressure. *

PEDAL KICK-BACK:

With engine running, firmly apply brake pedal. If pedal is forced back towards "off" position, Hydropower fault is indicated due to:

Defective slave cylinder cup.

Damaged by-pass port in the slave cylinder piston and/or damaged push rod seal.

Irregular braking, such as "dive" to the right or left, "fade" or loss of pedal reserve due to heat conditions, are in no way affected by the Hydropower. If the pedal travel is excessive, the brakes require re-adjustment or retuning.

GRABBING BRAKES:

Hydropower trouble-all four wheels grab due to:

Defective control valve — inspect piston for excessive friction.

HARD PEDAL:

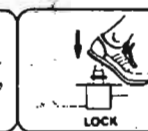
Vacuum failure due to:
Restricted vacuum line.
Faulty check valve.
Low engine manifold vacuum.

Hydropower trouble due to:
Faulty poppet valve pad.
Fractured control valve or main diaphragm (air continues to run through the air cleaner), when pedal is depressed.

CAR THIEVES HAVE HAD IT TOO EASY TOO LONG.

PETRO LOK

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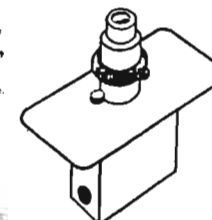
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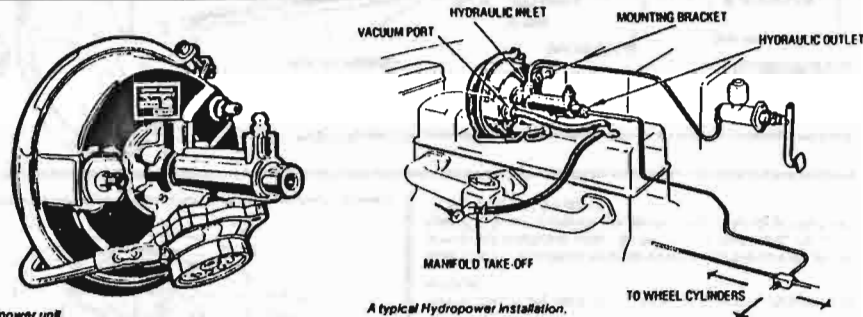
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*
The residual line pressure valve is located in the master cylinder and has the function of holding 6-12 p.s.i. hydraulic pressure in the system while the brakes are in the "off" position. The amount of pressure held in the system is governed by the tension of the return spring in the master cylinder exerts on the valve assembly.

POWER BRAKE UNITS:



Hydropower unit.

A typical Hydropower installation.

Another form of powerbrake is the Hydropower — a vacuum-hydraulic unit which also utilizes intake manifold vacuum and atmospheric pressure for its operation. The Hydropower is a self-contained unit, mounted in the hydraulic line between the master cylinder and the wheel cylinders.

OPERATING PRINCIPLE:

Brake fluid from the master cylinder enters through the inlet port and passes through piston into the slave cylinder. At the same time fluid is also directed to the top side of the control valve piston via a restrictor port. Entering through the check valve, intake, manifold vacuum passes from the front power chamber to the rear chamber via the control valve assembly. The unit is thus referred to as vacuum suspended.

RELEASED POSITION: With the engine running and the brake pedal released, vacuum from the engine intake manifold enters the front chamber through the check valve.

Vacuum pressure and diaphragm return spring holds the diaphragm in its rearmost position allowing the pushrod pin to withdraw its pressure on to the slave cylinder piston thus allowing the slave cylinder fluid inlet port to open to "compensate" fluid.

After the hydraulic pressure is removed, the control valve assembly is returned to its released position allowing the poppet valve to seat thus closing the atmospheric port.

As a result vacuum is equal or "balanced" in both power chambers and valve chambers.

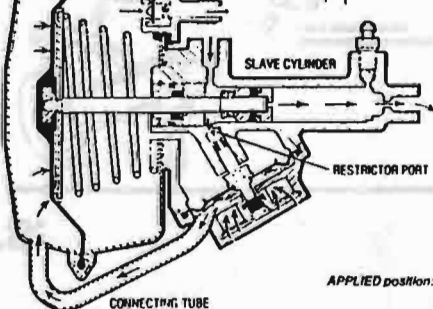
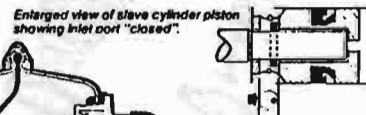
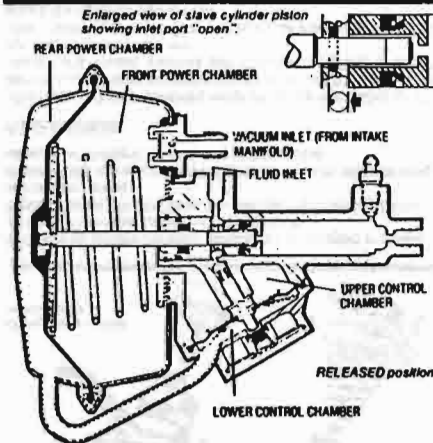
Any air being contained in the rear power chamber and lower control chamber is expelled via the hollow stem of the control valve to upper control chamber and front power chamber and through check valve to the manifold.

APPLIED POSITION: Application of the brake pedal forces fluid from the master cylinder through the Hydropower inlet port to the slave cylinder inlet port and through the slave cylinder outlet port to the wheel cylinders. Simultaneously, the hydraulic pressure forces the control valve assembly to initially seat on the poppet valve isolating upper control chamber.

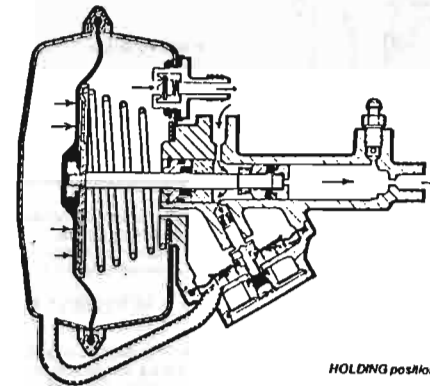
Further pressure forces poppet valve to open to atmospheric pressure allowing this pressure to enter lower control chamber and through the connecting tube to the rear power chamber.

Pressure differential between atmospheric and vacuum forces the diaphragm and pushrod forward to close off the slave cylinder inlet port trapping fluid under pressure. This hydraulic fluid pressure is then transmitted to the wheel cylinders.

HOLDING POSITION: When the required brake pedal pressure is held constant, the control valve reaches a "holding" position whereby hydraulic pressure above the control valve is balanced by vacuum differential across the control valve diaphragm with the poppet valve seated.



POWER BRAKE UNITS:



No further air is admitted to the rear power chamber and diaphragm/pushrod movement ceases.

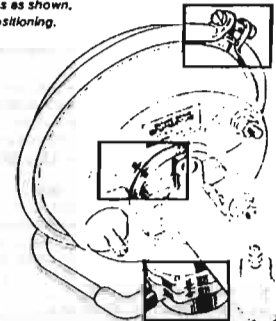
OVERHAULING HYDROPOWER:

Before attempting disassembly, thoroughly clean the unit of all grease and dirt.

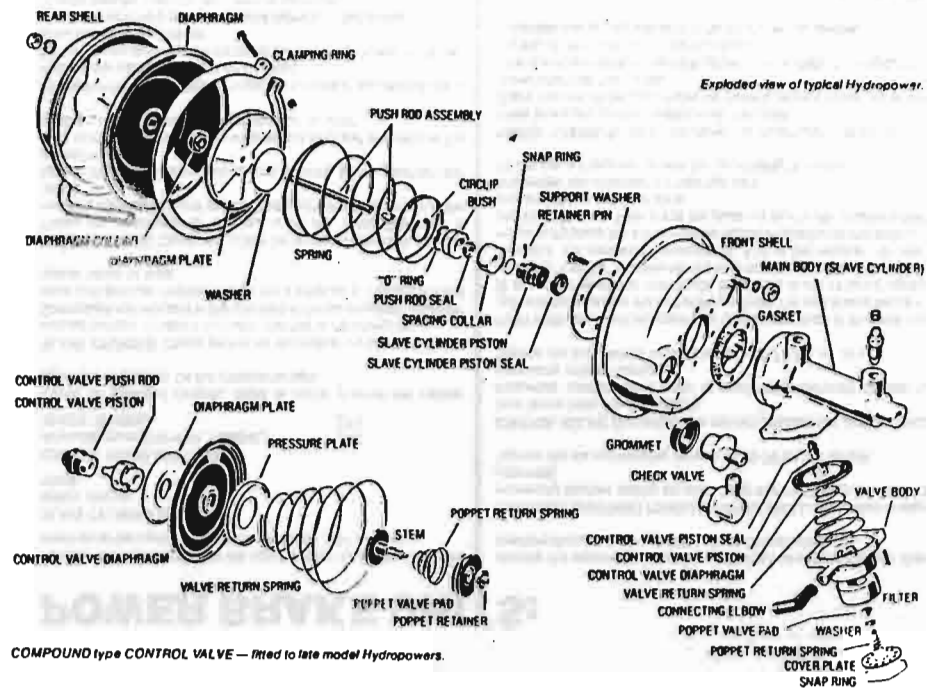
Mark relative positions of each section as illustrated.

Remember to have a clean, dry area upon which to place all parts during disassembly. Note how each part is located and try to understand its working.

Mark relative positions as shown, to assist assembly positioning.



Exploded view of typical Hydropower.



COMPOUND type CONTROL VALVE — fitted to late model Hydropowers.



**MINISTER FOR THE ARTS, SPORT, THE ENVIRONMENT,
TOURISM AND TERRITORIES**

Hon. Ross Kelly M.P.

Phone: (06) 277 7640
Facsimile: (06) 273 4130

2 FEB 1991

Mr George Cook
President
Council of ACT Motor Clubs Incorporated
PO Box 963
DICKSON ACT 2602

Dear Mr Cook

Thank you for your letters of 6 September 1990 and 25 January 1991 concerning reports that owners of old and vintage vehicles were to be penalised under new Government initiatives to reduce pollution and requesting to be included within the consultation process.

These comments were made in the Commonwealth discussion paper on Ecologically Sustainable Development (ESD), released in June 1990 as a means to stimulate broad community debate and comment to assist in the development of an appropriate ESD strategy. However there has been a misunderstanding that the comments and options canvassed in the paper will be adopted as government policies. To clarify the situation I issued a media release of 27 September 1990 on this issue, a copy of which is attached.

In my statement I made it clear that "it was absolute nonsense that owners of older vehicles will be forced by the Government to pay higher petrol and registration costs for their vehicles as a result of the Government's Ecologically Sustainable Development process." I wish to assure you and all owners of old vehicles that the Government has no plans to increase petrol taxes on the basis of the age of cars. I trust that my statement will allay your fears.

Therefore, would you please pass on my media release to members of your organisation or alternatively consider publishing it in your organisation's newsletter.

Regarding your request to be included in the consultation process, I have passed your letter onto the ESD Secretariat to have your name included on their mailing list. Details on public consultation with those community groups not represented on the working groups will be provided in their newsletter.

PARLIAMENT HOUSE, CANBERRA, ACT 2600

If you wish to make contact with the ESD Secretariat their phone number is (06) 272 4183. Also you may wish to note that the Italian Automobile Association (AAA) is represented on the Transport Working Group and you may wish to contact the AAA so your concerns can be raised through that organisation.

Thank you for bringing your concerns to my attention.

Yours sincerely

ROS KELLY

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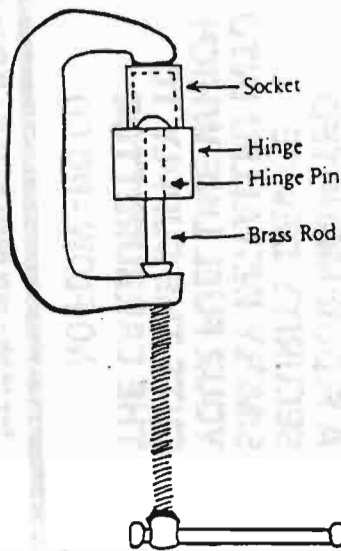
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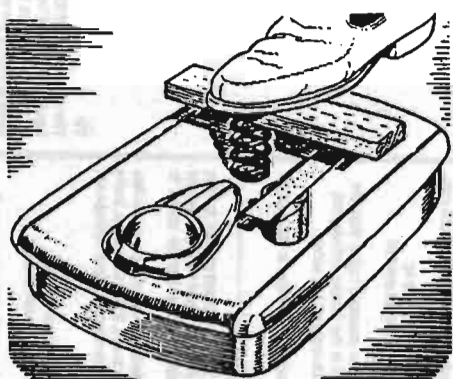
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Hinge Pin removal. Don't pound out those hinge pins. Pounding mushrooms the end of the pin and makes the job harder. To remove the pins, use a "C" clamp, a deep socket and a brass or other soft metal rod to press out the pin. The clamp must be large enough to hold the socket, brass rod and the hinge. On our V8's this means about 6 1/2 inches. The brass rod should be 3/16" or 1/4" in diameter. The deep socket must be large enough to receive the head of the pin without binding and long enough to take most of the pin. A soft metal pin is used to prevent spreading the end of the pin. This can happen even though the pin is hardened steel. First soak the pins in penetrating oil. While waiting for the oil to do its job, examine the end of the pin for mushrooming. This can be removed by filing the end of the pin even with the hinge. Place the socket on top of the hinge so that the head of the pin will go into the socket. Now put the clamp and rod in position to push the pin out. Tighten the clamp and the pin should move up into the socket. If you have an extra stubborn one leave the pressure on and apply more oil. This may take more than a day to work. If the pin still resists your efforts, tap the bottom end of the clamp with pressure on the pin. This will help to break loose the rust holding the pin and allow the oil to penetrate further. Packing the hinge in dry ice can be tried as a last resort if these methods don't work.

Tom O'Donnell V8 Times "Newsletter" Northern Illinois R.G. April '79.

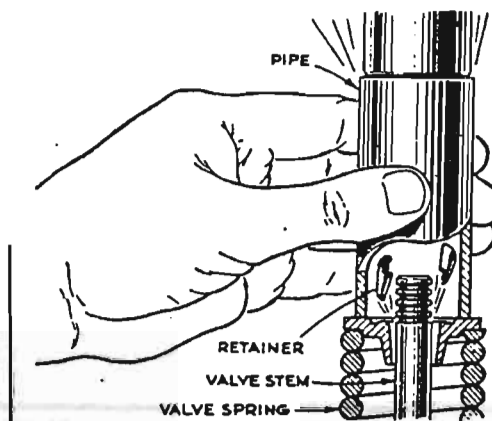


Check valve-spring tension with a bathroom scale. Cut cardboard tube to length specified for compressed spring. Lay cardboard strip over tube, and block of wood over spring. Step on wood. When the strip starts to tip, take a reading on the scale. Popular Science 1963.

IAN DAWSON



Paddy Hopkirk's BMC 1800 finished second in 68' rally



Overhead-valve retainers pop off with a minimum of fuss if you force them out with a piece of pipe. Slip the pipe over the valve stem onto the retainer washer. Strike the pipe a solid blow with a hammer. The retainers will jump out inside the pipe. Popular Science 1963.

Methylated spirits makes an ideal and cheaper cleaner for brake master cylinders and wheel cylinders when you overhaul them. Its better than petrol or degreasers because it is compatible with brake fluid. If there is any residue of mineral solvent left on the parts, it will contaminate the brake fluid and attack the rubber seals. The VCCC News Jan 1991.

London/Sydney rally in 1993

The most ambitious old-car rally seen so far has just been announced. It's the 1993 London/Sydney Marathon, planned as a 25th anniversary celebration of the 1968 event, won by Andrew Cowan in a Hillman Hunter.

That car still exists and will be driven by Cowan, while Paddy Hopkirk will run in a replica of the BMC 1800 that finished second. Australian Nick Vaughan will participate in the

Ford Falcon that finished third, and Roger Clark will run in a Lotus Cortina.

Organiser Nick Brittan has reced the event, and the route will be as for 1968, 'where sensible'. Having spent five days holed up in Kabul, still in the grip of a civil war that the western media seems to have forgotten, Brittan has cut out Pakistan, Afghanistan and Iran.

Instead, it will go into the Soviet Union, cross the Caspian

Sea and follow the old silk route as far as Tashkent, where 68 cars will be airlifted to Delhi. They will then run to Bombay, before being flown to Perth in western Australia.

Unlike the original event, this one will stop every night, have generous road time allowances and one competitive stage per day. It is anticipated that total running time will be 23 days. Servicing arrangements have yet to be finalised.

The entry will be limited to 80 pre-'68 cars. (However, a 1970 car of a type in production before 1968 will be allowed.) Hotel accommodation and all air/sea travel are included in the entry fee, which is a whopping £12,000.

Only two drivers are allowed per car, and anyone wishing to take part should apply to London-Sydney Marathon, 9 Sussex Mews East, London W2 2TS. Priority will be given to competitors from the original event, and all entries must be accompanied by a returnable £500 deposit.



Grip the pin, not the rod

If you ever have to strip the pistons off the con rods of an Austin or Morris A- or B-series engine you'll find that the little end of the con rod is clamped to the gudgeon pin, and the bosses on the inside of the piston stop the whole thing from moving sideways enough to score the cylinder walls. I've seen people grip the con rod in a vice while they undo the clamp bolt but this is dangerous because the vice jaws could raise stress marks on the rod which might then fracture and seek escape through the side of the block - it has happened. Instead, you ought to grip the pin in the vice.

Austin and Morris used to list two special tools for holding the ends of the gudgeon pin. They were like small bolts without threads and you pushed them into the hollow ends of the gudgeon pin and clamped the heads between the jaws of the vice. A substitute? Yes, you've guessed it. Use a couple of ordinary bolts with heads small enough to fit inside the gudgeon pin hole in the piston so that, when you tighten the vice, they grip the pin without damaging anything.



Ros Kelly

Minister for the Arts, Sport, the Environment, Tourism and Territories

58/90

ROS KELLY SAYS OWNERS OF OLDER VEHICLES WILL NOT BE PENALISED

The Federal Minister for the Environment, Mrs Ros Kelly said today it was absolute nonsense that owners of older vehicles will be forced by the Government to pay higher petrol and registration costs for their vehicles as a result of the Government's Ecologically Sustainable Development process.

Mrs Kelly made her comments after reading reports that some groups were claiming that the Federal Government was considering this action as part of this process.

"I can assure all owners of older vehicles that the Federal Government has no plans to increase petrol taxes on the basis of the age of their cars," Mrs Kelly said.

"These reports are misleading. The Federal Government has set up a process to ensure Australia is placed on an ecologically sustainable footing. It is about integrating environmental and economic factors in the decision making process to ensure that our environment is enhanced and our quality of life improves.

"Ecologically Sustainable Development is not about making arbitrary decisions that will disadvantage large numbers of people. The Government has established nine working groups comprising representatives from business, trade unions, conservation groups and other community groups to ensure all issues are properly considered before any decisions are made," Mrs Kelly said.

"It has been suggested that the Commonwealth's discussion paper on Ecologically Sustainable development recommended that petrol prices are increased for owners of older vehicles. This is incorrect. The discussion paper canvassed a number of issues in very broad terms that will need to be examined in the Ecologically Sustainable Development process but made no recommendations.

"The Government recognises that that we must develop a more efficient transport system. It is important that we take steps to ensure our new cars are more fuel efficient and are more environmentally friendly.

Contact: David Lording (06) 2777 640

27 September 1990

POWERTONE EXHAUST CENTRE

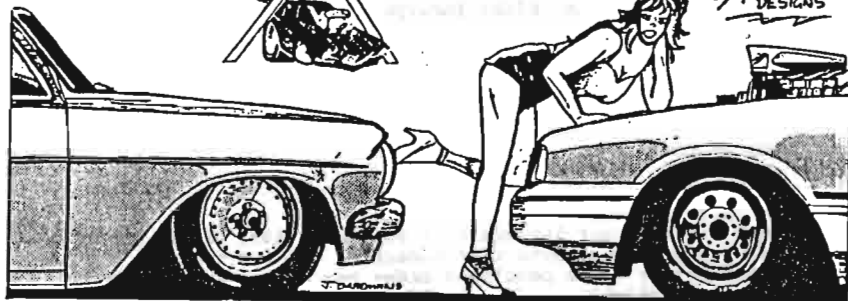


Show 'n' Go

HOSTED BY —



ARTWORK & DESIGNS



10th — 11th AUGUST 1991

At Natex Flemington Road Mitchell ACT

HEY! CHECK THIS OUT

THE ACT STREET MACHINE CLUB invites the owners of outstanding —

- | | |
|-----------------|---------------------------|
| Street Machines | Four wheel drives |
| Hot rods | Sports cars |
| Boats | Special interest vehicles |
| Bikes | Go carts |
| Trucks | Race cars |

- Vehicles can be demonstrated to the public.
- Clubs can set up displays.
- Traders invited to set up and sell.
- Outside spaces free. Fee payable for inside spaces.
- Set up (inside) Friday and Friday night.
- Set up (outside) Saturday from 6.00am.
- Show 'n' Shine on Saturday (show closes at 6.00pm).
- Awards function Saturday night - Driving events Sunday.

ENQUIRIES ABOUT PARTICIPATION. ASK FOR GEOFF OR CHIC ON (06)2417992.

LANDCRAB



Number 39

Landcrab Owners Club of Australasia

Aug/Sept 1991

As we launch ourselves into our fourth year, 20 members have not seen fit to renew their membership. The 47 members who have done so were rewarded with a new booklet on the BMC 1800. Each new member will receive one of these and those of you who have not yet received a copy... be patient. It takes quite a lot of time and effort to produce 60-odd copies. We do have new members this month — please welcome:

Glenn RHODES 40 Warrimoo Drive (02) 626-093 MkII Sedan (manual)
Quakers Hill NSW 2763

John HINCKS 6 Arara Street (Box 31) (070) 937-335 MkII Sedan (manual)
Kuranda QLD 4872

The latest from our sister club in the UK is that unhappily all 5 of the club entries have been rejected. They have been allocated places on the reserve list but, considering the highest of those numbers is 63, it seems unlikely that any will get a start in the event. LOCI (UK) went to considerable trouble to locate 2 major sponsors and it has come as a disappointment not to have any representation. I recall Bill Fraser telling me that one of the reasons for rejection was that they had no rally experience.

According to Bill, the 'Red Arrows' (the RAF flying display team) will be entering 2 landcrabs in the marathon and will be known as 'Team Landcrab'... so I guess all is not lost. It is unclear at the moment how many other Landcrabs are entered. Paddy Hopkirk, I believe, is driving one but not the original car. [The Heritage Association, who now owns the car, will not allow it to be entered.] I believe there are 2 entries from Australia, one being John Taylor in his car No 61. Perhaps the threat of a landcrab entering this event — and winning — is a bit too much for the organisers.

Bill Fraser located 2 more of the original 1968 London/Sydney landcrabs. The first was the Royal Navy entrant which the UK club was privileged to display on their stand at the recent NEC exhibition. The second was located by another member of their club in a small and little known museum at Mouldsworth near Chester. Quoting from their newsheet: 'One special exhibit is 00H 745G, a 1968 1800S (there is a little uncertainty whether it is an Austin or Morris). This is not a standard car but the RAF entry in the 1968 London/Sydney marathon

which finished eighth. This car has been through a number of owners and is now with the owner of the museum, James Peacop. The car is fully restored and a very interesting vehicle to we landcrab owners.'

Keep your eyes open at your newsagent for the July or August edition of **Popular Classics**. LOCI (UK) was invited to a day out at Silverstone Racetrack in order to do a write up on the cars the club use and a bit about the club. Eight cars were used, ranging from a Mkl Austin; MkIIS Austin; MkIII Austin; Wolseley 18/85; Wolseley 6(2200); an Austin 2200; and included the mockup Bill was preparing for the forthcoming 1993 rally. He estimates the spread from 3 to 6 pages and our club will probably even get a mention.

The UK club now boasts in excess of 340 members (what an administrative nightmare thinks !!) and their club has broken down its membership into models:

30 Mkl Austin (manual); 9 Mkl Morris (manual).

34 manual, 7 automatic Wolseley 18/85.

58 MkII Austin (1 auto); 27 MkII Morris (3 auto).

6 MkIIS Austin (2 auto); 7 manual, 1 auto Morris MkIIS.

31 MkIII Austin; 20 MkIII Morris.

17 Austin 2200; 7 Morris 2200.

57 Wolseley 6.

PLUS 2 Utilities, 2 Limousines, 1 Wolseley 6 (Crayford Hatchback), 1 3-litre V8, and 2 Marathon cars.

This makes a total of 334 vehicles in their club (as compared to 104 in our club) [see N/L 36, May 1991]. We aren't doing too badly, eh?

Those of us living in the Canberra region who listened to ABC Radio on Friday, 26 July, would have heard references to the Austin 1800. Matthew Abraham was interviewing Evan Green about his new book on Gelignite Jack [Hit the Road, Jack published by Pan Books, \$14.95] and their exploits together. Matthew must have a soft spot for the old landcrab because he made favourable comments in his final analysis reminding listeners just how comfortable these cars were and how well they took corners. As you all know...they still do. [You will not be blamed for thinking that Evan's new book closely resembles his other book published a few years ago, **Journeys with Gelignite Jack**.]

As if that wasn't enough, on the same day in the 'Weekend' motoring segment of the **Canberra Times**, a feature appeared about the forthcoming 1993 London to Sydney Marathon event and referred in particular to Victorian driver Tony Wilson who was one of the original entrants driving an Austin 1800 car No 70. Tony and his co-driver, David Henry, will be participating in the 1993 marathon although the car they will be driving is so far a secret. Tony and David are chasing photographs of the original 1968 marathon entrant — the Austin 1800 car No 70. If anyone has a photograph, they can contact Tony or David via PO Box 385, Mount Eliza VIC 3930 or telephone (03) 787 7633.

Ken Lyle wrote advising that he has 'Hot Run Tested' stickers at \$1.25 each. He also included a swag of photographs showing his own and customers' cars in various stages of repair and renovation. The pictures show a factory-type complex which I estimate would house 5 or 6 cars together with a fenced yard out back. Ken is a motor trimmer by trade and I presume he still does it for a living — along with working on other projects in between. He is very competent and tackles any job on a landcrab; neither does he do things by halves, as his pictures prove. Most landcrabs are stripped right back to the basic bodyshell and thoroughly painted. Past newsletters also attest to his skills in his rebuilding engines and automatic gearboxes. Altogether Ken and Paula have 13 vehicles (either in going order or awaiting restoration), including an 1800 'Princess' [see N/L 29, July 1990].

Together with Rick Hopkins, Ken Lyle has proposed our club stage an inaugural rally from Perth to Sydney coinciding with departure of the 1993 London/Sydney Marathon cars. There might even be a landcrab or two! Ken felt this would be a great opportunity for all our members and would do much to promote the landcrab and gain much-needed publicity. Since the rally is in competition stages, there should be no problem with departures and arrivals as bulk accommodation could be arranged. Our departure could be close to the rally start in order to maximise media coverage. Ken visualises over a hundred landcrabs in a line and says IT IS POSSIBLE. Wouldn't the media love that?

Although it seems unlikely that our sister club will be running a landcrab in this event, further details of the 1993 London to Sydney Marathon are included with this newsletter.

The following excerpt (by David McGonigal) is taken from 'Click Go the Years' in the 27 April issue of **Good Weekend**, the **Sydney Morning Herald** magazine. The article reminisces about Australia's vanishing cultural icons as seen through the eyes of 8 different writers.

Screens Idle

Unlike the suspiciously enclosed panel van, an Austin 1800 was a lethargic performer that lulled the most apprehensive father into a false sense of security. It may have taken all day to get to the drive-in in one, but once there, the seats quickly converted into a double bed. When the 1800s rusted away, drive-ins lost their market.

I grew up in Singleton in the Hunter Valley of NSW. Most of my early driving experience was along the road to the Heddon Greta drive-in 60 kilometres away. Its canny owners always showed the main feature first in case our interest flagged (or was distracted) and occasionally the show had to be called off when rising fog obscured the screen.

Once Australia had some 200 drive-ins. By 1980, there were about a dozen in Sydney and almost twice as many in Melbourne. Now there are two in Sydney (Bass Hill and Blacktown) and one in Melbourne (Coburg). Nevertheless, the stayers report a mini-renaissance. Sydney's drive-ins hold 700 cars each and have 2 screens. The traditionally low-fi speakers are unchanged, but the children's play areas have gone. Future generations will miss the chance to first taste the magic of movies while sitting in pyjamas on a squeaky swing on a steamy summer evening.

Despite these anomalies, I convinced myself that little had changed when I visited Bass Hill drive-in to see *Ghost*. People still emptied their car ashtrays near the speaker stands. Then a second glance ended the time warp: the scattered white objects were not cigarette butts; they were pumpkin-seed shells. And there wasn't an Austin 1800 in sight. . .

In the course of my work duties in Canberra, I had occasion to visit the residence of the British High Commissioner and had a most enlightening talk with his chauffeur (a pommy, of course) and he told me that when he first began his job in 1973 there were 4 landcrabs in use. The main vehicle was a MkIII Austin 2200 which was white with a red stripe painted along the waistline. In addition, there were 2 black MkII Austin 1800s and a Wolseley 2200 (6). Nothing is known about the Austins, but the Wolseley was often seen in the Manuka area (of Canberra) and believed to be owned by an RAN officer. I have it on good authority that this vehicle is now in Melbourne.

Our Darwin member, Michael Bartsch, sent in a very interesting article on the BMC Vanden Plas and Princess models. The Vanden Plas 1100 and 1300 Princess were very popular and had been in production for more than ten years, carving a worthy niche in a unique market. The Princess name was renowned worldwide, being synonymous with British automobile craftsmanship and quality coachwork.

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- Remove the conductors, retaining the outer white sheath which is made of PVC.
- Cut with a sharp knife to obtain a 'U' shape.

Some cables come in black and grey. According to Ken, it not only works but looks good too.

He also enclosed details of a bonnet release assembly from a Toyota Corolla which can be adapted to suit the landcrab. The Toyota assembly is a bit longer in cable length but the cable can be cut and the outer unwound to desired length and cut with a pair of pliers.

A problem also appears on the landcrab horn earth return circuit — the horn will not work when wheels are straight ahead, only when steering wheel is turned a few degrees left or right. Ken has overcome this problem by installing an additional earth return contact with the steering column. He has installed and time-tested this for 18 months in 3 of his landcrabs and the horns work every time!

Included this month are the results so far of Peter Jones' research into engine numbers and chassis prefixes of landcrabs. [Whilst on the subject of engine numbers, Les Lenny mentioned that during engine manufacture any defective blocks were resleeved, with an 'S' being stamped on the block immediately after the engine number.]

The results are at hand regarding the landcrab data for those members who responded to Peter Jones' datasheet. Our club would like to thank the UK club and, in particular, Stephen Crocker for his efforts in obtaining information from the British Motor Industry Heritage Trust. [CHANGE OF ADDRESS: Peter Jones wishes to notify all members that he is moving and as from 1 September his address will be: 39 MORTERSON ROAD, NERANG QLD 4211. Any outstanding datasheets (and particularly those from new members) should be sent to this new address.]

In a tip sent in by Ken Lyle, anyone having trouble obtaining parts for the PBR VH40 EL power booster can change the entire unit for the VH40 AL, fitted to Valiant cars of similar vintage. The only difference is that the latter has a larger bore size. The piston is different so the VH40 AL kit can be used. The VH40 EL (minus piston cup) is a lot cheaper [Repcor kit VH 40-122].

Rick Geary broke a windscreen wiper cable on his Mkl recently and was faced with the task of removing the dashboard and all its complicated wizardry in order to remove the wiper rack. BUT a chance mention to the manager of his local service station revealed he was once a BMC-trained mechanic. The 'easy' way to replace the cable is remove both wiper arms; after removing the plate on the wiper motor, simply withdraw the old cable. Replacement is a reversal of this procedure.

In reference to the conversion of oil filters from Z23/AYB222 to the Ford filter Z9 [see N/L 30, Nov 1990], Ed Lenny is making up a couple of dozen of the adaptors and they will be made available to club members at a very reasonable cost. He asks that members trade-in the existing adaptor so as to keep a basic stock.

The **OCTOBER MEETING** will be: **Monday, 14 October 1991, 7.30 pm**
The Canberra Yacht Club.

and the **NOVEMBER MEETING** will be: **Monday, 4 November 1991, 7.30 pm**
The Canberra Yacht Club.

Yours in first class motoring... **Mick**

FOR SALE

AUSTIN 1800 UTE BODY PARTS: Left and right near/side panels and tailgate. White. \$250. Other Austin mechanical parts. Frank Gifford tel (06) 288-3340.

AUSTIN KIMBERLEY: Automatic, 63 000 miles, good tyres, 10 months rego. Has been garaged, good condition. Seats, carpets, dash all original. \$1000. Tom Trevithick (Kambah), tel (06) 231-5863.

MKII AUSTIN 1800 UTILITY: Good appearance, mechanically sound. Needs welding work to rusted subframes. Best offer to Warwick Wright, tel (06) 281-3088.

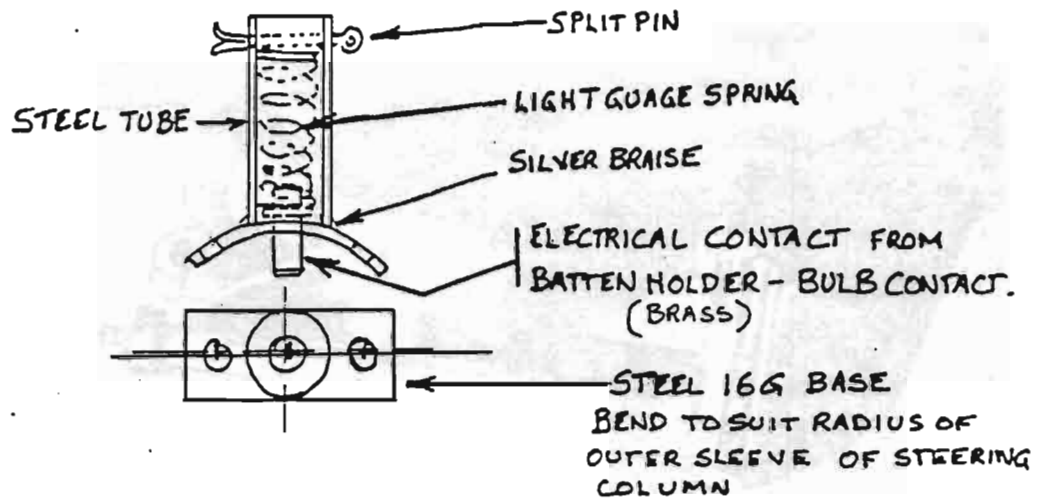
PARTS FOR SALE: Retired gentleman in Sydney has the following for sale: New starter motor; new heater; rear brake units; oil pump; complete set MkII rearlight units; insect grille for MkII; aircleaner; one engine block; one engine/gearbox and clutch; two red back seats; one white rear seat; two radiators; rear window; MkI doors; some odds and ends. Greg Walford will accept any reasonable offers. 20 Elegans Avenue, St Ives NSW 2075.

WORKSHOP MANUAL: British Leyland manual for Austin Westminster A99 and A110; Wolseley 6/99 and 6/110; Vanden Plas and Princess 3-litre. \$25. Mick Street, 3 Mahon Place, Hughes ACT 2605.

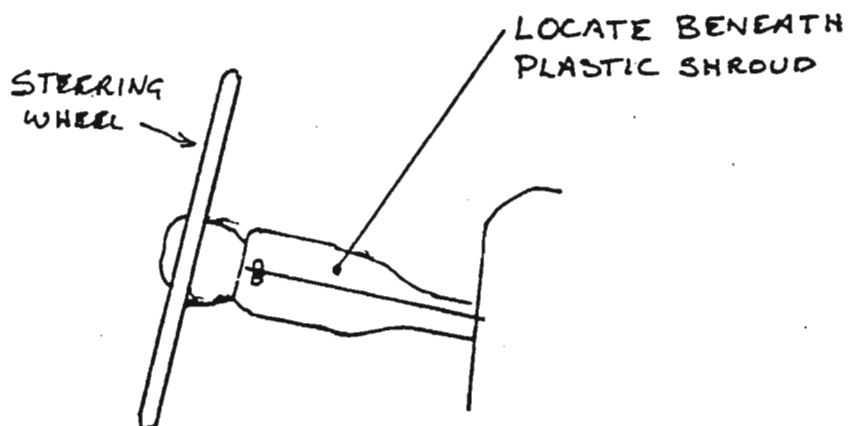
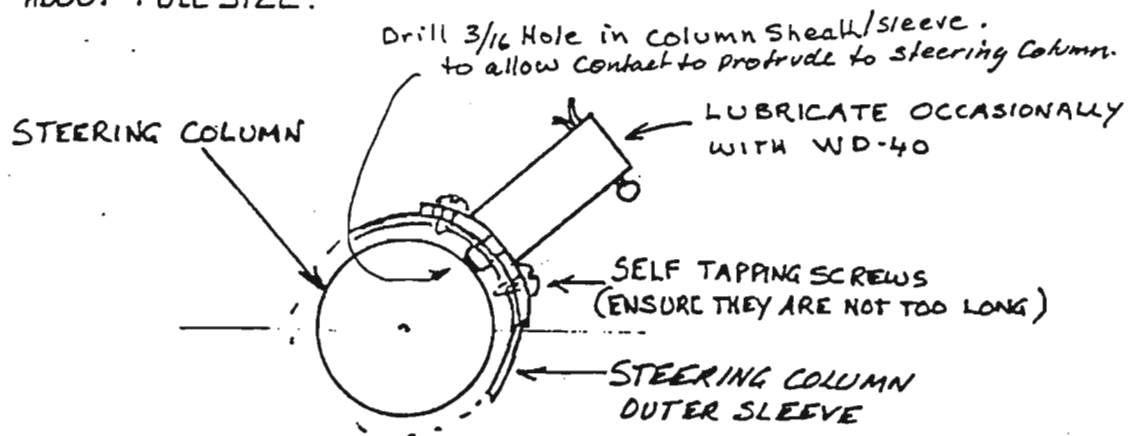
M.E. Street, 3 Mahon Place, Hughes Canberra ACT 2605 Australia, tel (06) 282 5262

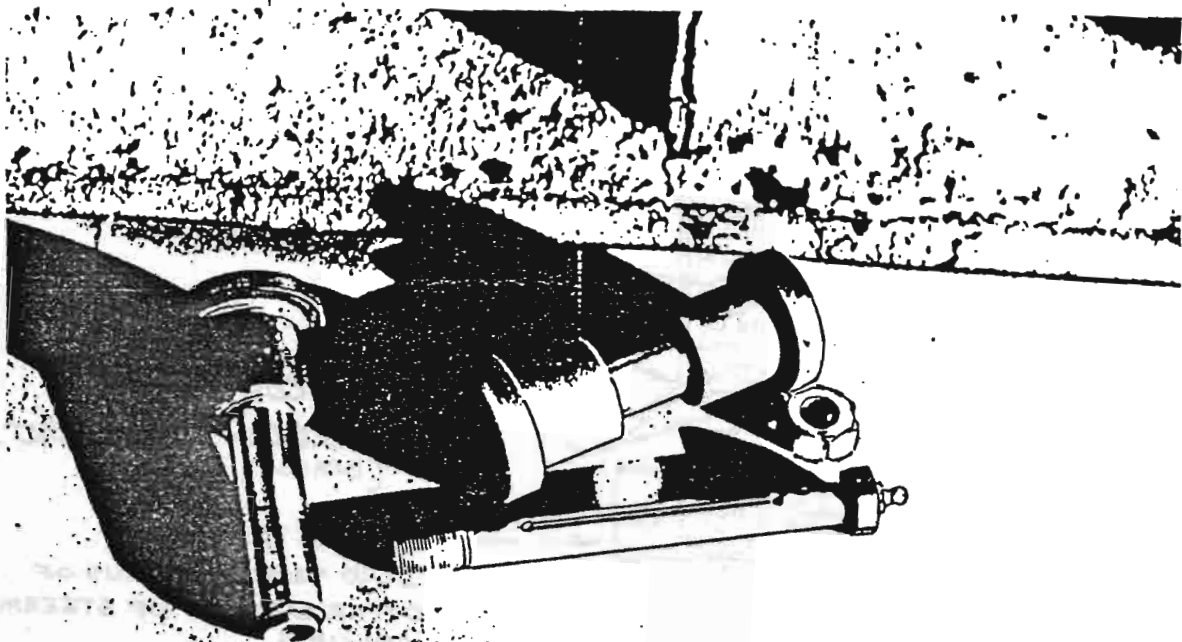
EARTHING BRUSH — AUSTIN 1800 — HORN, EARTH RETURN.

ENSURES CONSTANT EARTH RETURN CONTACT FROM HORN BUTTON WHEN ORIGINAL SYSTEM BECOMES INTERMITTENT.

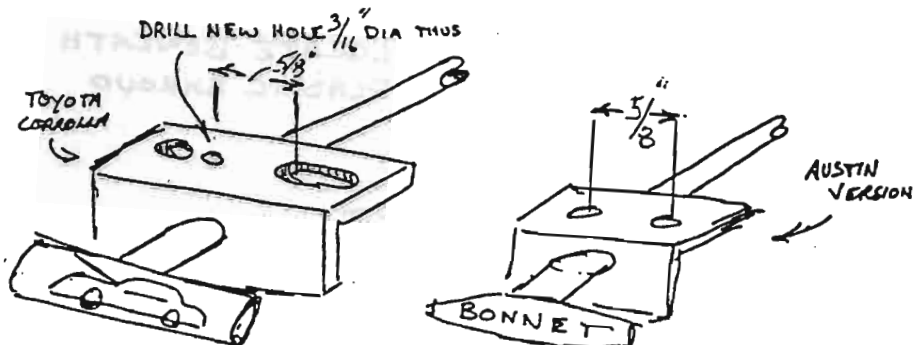


SCALE: ABOUT FULL SIZE.





TOYOTA ^{COROLLA} BONNET RELEASE [MID 1970 to EARLY 1980's]
 WILL FIT AUSTIN 1800, "WITH MINOR CHANGES", IE DRILL
 NEW HOLE TO SUIT AUSTIN SPACING AND CUT CABLE LENGTH TO SUIT.



LOAN OF SAMPLE COURTESY OF MR ROLLA
 RECYCLERS, EAST KEILOR VIC.

(03) 337-3565

KAP

General honing, measuring and cleaning procedure:

Apart from replacing rubber components, the most important part of repairing a hydraulic cylinder is the reconditioning of the bore's sealing surface. The following points are important to remember:

1. NEVER ATTEMPT TO HONE ALUMINIUM CYLINDERS.
2. NEVER INCREASE THE BORE SIZE TO MORE THAN ITS ORIGINAL SIZE PLUS .007".
3. A CYLINDER MUST NOT BE RE-USED IF AFTER HONING TO THE MAXIMUM DIAMETER, PIT MARKS AND SCRATCHES REMAIN IN THE BORE'S SEALING AREA.

ALUMINIUM CYLINDERS:

Because the working surface of an aluminium cylinder is treated to provide wear resistance they CANNOT BE HONED. If this thin surface treatment is removed by honing, rapid wear will take place.

Aluminium cylinder bores can only be lightly polished to remove superficial scratches with "400 wet and dry" paper in the same manner as described later in this section.

NOTE: Use only worn wet and dry paper to retard any cutting action or alternatively, rub two pieces together to remove any sharp edges before polishing.

HONING:

Honing is a reasonably simple, quick and accurate way to remove a small amount of metal. Generally a sophisticated type of hone is not required as the simple three-legged type does the job. It can be driven by an electric drill at approximately 1000 r.p.m. A lubricant must be used during honing — a solvent such as kerosene is suitable BUT REMEMBER all traces of the solvent must be removed before assembly. Brake fluid, alcohol or water can be used as a honing lubricant.

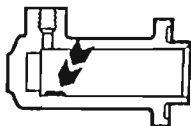
THE WORKING AREA:

The only part of the cylinder bore that must be free from pits and scratches is the sealing area in which the seal "runs". Remove the minimum of metal to clean up the working area. Use the hone in an "up and down" motion checking regularly to see if the pits or scratches have been removed.

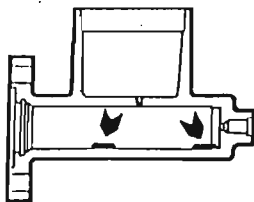
The middle section of a wheel cylinder is not usually covered by a cup. Pitting in this area will not affect the cylinder's operation.



Slave cylinders usually have a very long seal stroke. Because of this, all of the bore, except both ends, should be free of imperfections.



Pitting will be worse in areas where the cup does not clean the bore surface. Disregard pitting in these areas.

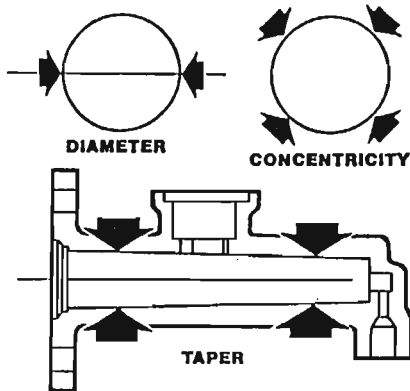


Pin hole size pitting is not a cause for concern as much as longitudinal scratches — they must be removed completely.

MEASURING:

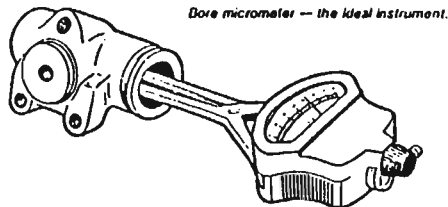
Three aspects of a cylinder bore size should be checked during honing:

1. DIAMETER
2. ROUNDNESS OR CONCENTRICITY OF THE BORE.
3. THE PARALLELISM OR TAPER OF THE BORE.

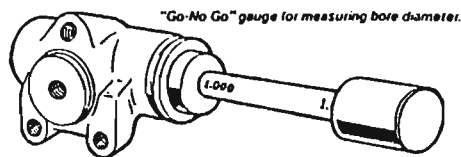


MEASURING INSTRUMENTS:

As this publication is intended for use by a person without sophisticated measuring equipment, some compromise must be made.

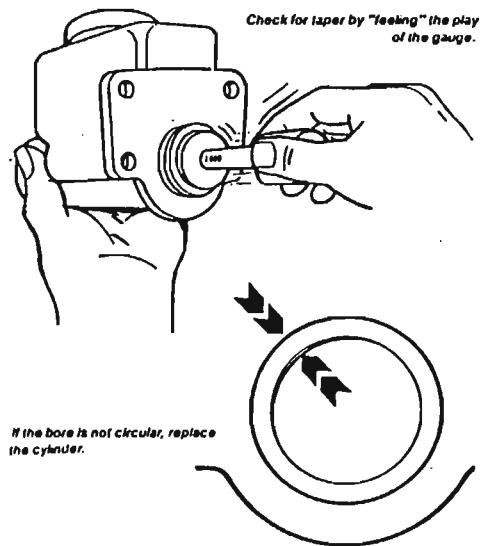


The ideal instrument for measuring would be bore micrometer, as illustrated. Instruments similar to this are available from engineering supply companies. Such an instrument requires skill to use but measures very accurately the three dimensions mentioned above. The second choice would be a "GO — NO GO" gauge, although you would require one for each size cylinder to be checked. "GO — NO GO" gauges have one size end to just fit in a standard size bore and another size end that is standard diameter plus .007". The small diameter end will always fit in a bore to enable the diameter concentricity and taper to be checked in the following manner:



General honing, measuring and cleaning procedure:

Attempt to fit each end of the gauge into the cylinder bore. If only the smaller, standard size end will fit after the cylinder has been honed, the bore is right for diameter. If the larger end fits the cylinder, the bore is oversize and should not be used.

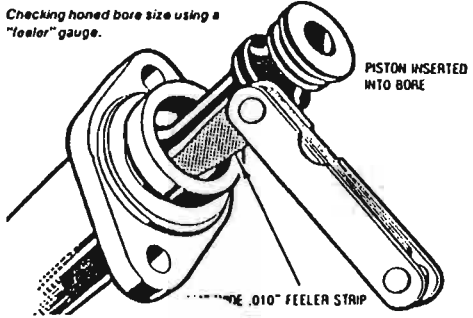


When the small end of the gauge is inserted slowly into the bore and is seen not to follow the shape of the gauge, the bore is not circular and should be discarded.

To check for taper, run the "go" end of the gauge through the full length of the bore and "feel" the play of the gauge. Lack of the same 'feel' over the full length of the bore indicates taper. Care must be taken that a cylinder does not enlarge toward a blind end. If this happens, and the degree of enlargement cannot be accurately measured, reject the cylinder.

THE UNIVERSAL METHOD:

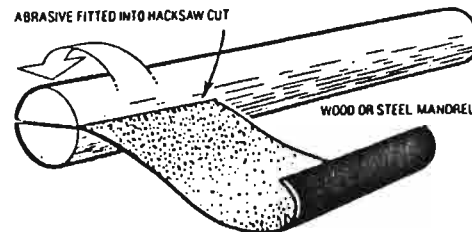
A compromise method that almost everyone could use is to check the honed size of the bore using the cylinder piston and a narrow 1/4" wide feeler gauge strip. This method is a compromise because only the open end of the bore can be checked, but it is better than no check at all.



1. Check that the piston is not obviously badly worn.
 2. Fit the piston into the bore.
 3. Attempt to fit a .010" feeler strip between the bore and piston. If the feeler fits, reject the cylinder. If it does not fit the cylinder should be re-usable.
- The reason for using a .010" feeler strip is to allow for the original bore to piston clearance plus the allowable increase in bore size.

POLISHING:

Honing often leaves a relatively coarse surface finish which should be improved before cylinder is reassembled. The simplest and best method is to use very fine wet and dry paper or emery cloth of 400 grade or finer. This may be wrapped on a steel or wooden mandrel that is smaller than the bore size and built up to size with layers of abrasive cloth or paper. Lubricant should be used while turning the mandrel with a drill chuck. Use methylated spirit, alcohol or brake fluid unless all petroleum base lubricant can be removed.



'Fine' wet and dry paper or emery cloth wound on to mandrel so as rotation tightens abrasive.

SURFACE FINISH:

Fine lines left by honing will remove easily to leave a smooth, dull polished surface.

CLEANING:

All of the cylinder must be carefully cleaned prior to reassembly to remove all traces of oil, grease, petroleum solvent or lubricant, and to clean out dirt traces of abrasive or metal particles. The best solvent is methylated spirits or alcohol and use a stiff brush that can be pushed to the end of the bore.

Too much care cannot be exercised.

Finally wipe out the bore with a dirt-free cotton rag, wound onto a stick or a blunt screwdriver blade.

FINAL INSPECTION:

Final inspection should reveal a perfectly clean surface; free from pitting or scratches to areas in which a seal must run. The cylinder is now ready for assembly.



1. The tool is used for scraping or chiseling the surface of the workpiece. It is held in the hand and used to remove material from the surface.



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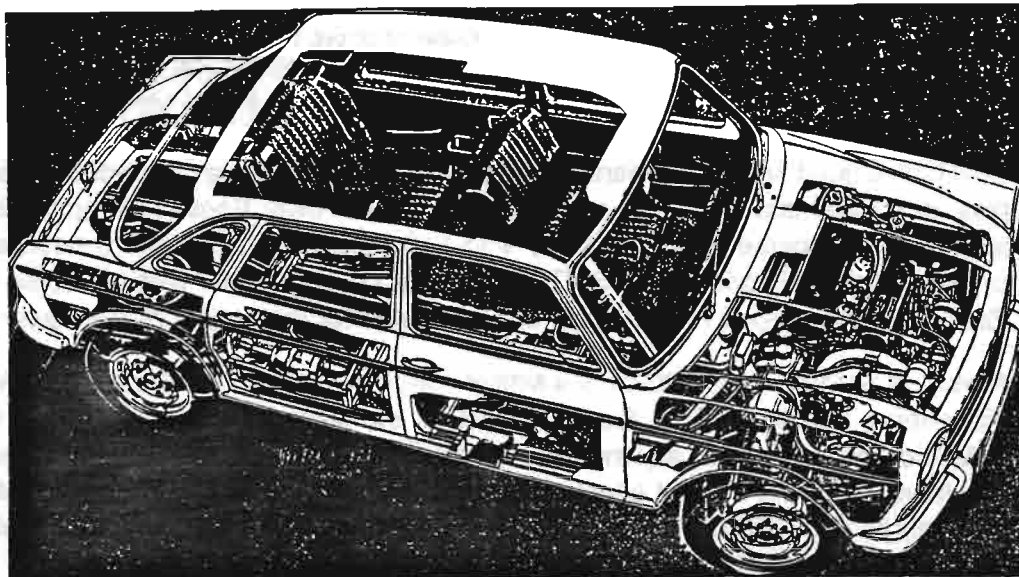
General joining, measuring and cleaning procedure...



General joining, measuring and cleaning procedure...

General joining, measuring and cleaning procedure...

LANDCRAB



Number 40

Landcrab Owners Club of Australasia

Oct/Nov 1991

Currently our club membership is a healthy 54; several existing members have renewed their membership — possibly overlooking the renewal date. Better late than never! We also welcome 2 new members and a returning member:

DON ARNOLD	47 Murchison Street Kaleen ACT 2617	(06) 241-3140	MkII Sedan (manual)
IAN McINTYRE	18 Yondell Avenue Springwood NSW 2777	(047) 514-338	2xMkI Sedans (manual)
KATHLEEN PHILLIPS	PO Box 4058 Kingston ACT 2604	(06) 280-7224	MkI Sedan (manual)

I am often asked the question "What is an 1800 worth these days?" and the answer is not an easy straightforward one. The UK **Popular Classics** does, however, list a price guide each month which is computed from information supplied by classic car clubs and monitoring classified advertisements. The listing is based on private sales and is broken down into 3 categories (A, B and C) as follows:

CATEGORY	DESCRIPTION	LANDCRAB 1967-74	WOLSELEY 18/85 & SIX 1967-74
A. Superb	A car in excellent condition with no major faults.	£950/\$2020	£1200/\$2550
B. Clean	A car that is mechanically and bodily sound and with a roadworthy certificate. No major faults though needing some tidying and general restoration.	£500/\$1063	£600/\$1275
C. Rough	A probable runner but one needing major work to bring it up to a roadworthy standard.	£150/\$320	£200/\$425

Regarding Australasian values, I can only give you my own personal estimate. In my judgement an 1800 landcrab in condition B and with 12 months registration would have to be worth from \$1200 to \$1500. A utility would be worth more owing to the rarity of these now (especially in good condition); so too would be a Wolseley 18/85 if you can find one.

Whilst mentioning **Popular Classics**, I was disappointed not to see (in either the July or August issues) the report on our sister club, LOCI, and the article on landcrabs. Perhaps one day...

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With reference to Moreys Oil products mentioned in last month's newsletter, I have since located 3 Moreys agents in the Canberra region:

- QUEANBEYAN BEARING SUPPLIES, 184 Crawford Street, Qbyn NSW tel (06) 297-8377.
- CANBERRA OFF-ROAD, 85-91 Newcastle Street, Fyshwick ACT tel (06) 280-7475.
- CANBERRA AUTO PARTS, 55 Woolley Street, Dickson ACT tel (06) 247-2122.

Now for the good news — Queanbeyan Bearings will sell Moreys Oil products to our club for trade price plus 20% sales tax. They can supply the Vacmatic Power Booster for approximately \$37 (including tax) which compares very favourably with \$49 quoted in last month's newsletter the 1-litre upper cylinder lubricant is priced at \$13. [The Vacmatic Power Booster was perfected by Lex Payne in New Zealand and his report reappears in this newsletter for the benefit of our newer members.]

A word of warning here... there is a similar company operating in the ACT/NSW region (and possibly elsewhere), trading as 'True Blue'. Sid Green, the sales manager for Moreys Oil distributors based in Melbourne, phoned to say the True Blue product has nothing to do with them and that, in fact, it can have some detrimental effects. Although their logo and advertising are similar to Moreys, it is definitely NOT MOREYS. In fact, I am reliably informed that the Moreys Oil people are currently taking legal action against them.

Peter Jones sent in an article on the Austin Kimberley which may be of interest to our Tasman/Kimberley owners; the article is reproduced in this newsletter. Peter has also compiled a 'Landcrab Listing' which he condensed from the available datasheets he received. This data still only represents half the club membership and those of you wishing to be included in further listings should send completed datasheets to Peter.

Peter wishes to advise members that the exhaust clamp is still available from JRA (or whatever they call themselves these days) and is listed under 'Heritage' part number GEX 7050, selling for \$18. Peter obtained his from Southpart Motors who are the local Gold Coast BMC agent. While on spare parts outlets, I was recently given the telephone number of a BMC parts dealer who has a very comprehensive range of parts for the landcrab: **English Autos**, telephone number (043) 532-844, fax number (043) 532-389, located on the mid-north coast of NSW between Sydney and Newcastle.

Our technical information this month includes an article reproduced from **Car Fixit** and concerns the starter motor, an item most of us take for granted until it starts to play up. The 1800 bendix spring assembly differs slightly to that in the article — the spring plate is held in position by a pin instead of a clip.

YAHS2	3422	L. Lenny	Bundanoon	NSW
YAHS	3829	B. McFarlane	Braidwood	NSW
YAHS2	3988	B. Turner	Melba	ACT
YAHS2	8134	H. Wright	Woodstock	NSW
YAHS2	12063	C. Holmes	Gowrie	ACT
YAHS2	18804	Unknown		
YAHS2	19170	G. Fry	Bondi	NSW
YAHS4	925	M. Street	Hughes	ACT
YAHS2	26383	A. English	Bundaberg	QLD
YAHS4	1999	D. Stephens	Mitcham	VIC
YAHS2	28347	Unknown		
YHS5	909	A. English	Bundaberg	QLD
YHS5	2266	J. Cox	Peakhurst	NSW
YHS5	2782	M. Moravec	Hughes	ACT
YHS5	4998	N. Patience	East Kellor	VIC
YHS6	3863	P. Kemp	Ryde	NSW
YHS5	6558	Unknown		
YHS5	7483	P. Jones	Nerang	QLD
YHS6	6837	J. Lally	Griffith	ACT
YHS6	7202	I. Davey	Goulburn	NSW
YHS6	8082	J. Johansen	Bondi	NSW
YHS6	9086	Unknown		
YHS5	10788	K. Patience	East Kellor	VIC
YHS5	10963	M. Street	Hughes	ACT
YHS5	14517	K. Patience	East Kellor	VIC
YHS5	15064	P. Farrell	Boronia	VIC
YHS6	10069	J. Lally	Griffith	ACT
YJBBU3R	811	P. Farrell	Boronia	VIC
YJBBU3R	1811	P. Farrell	Boronia	VIC
YJBBU3R	1816	M. Frew	Repton	NSW
AHS10	109554	W. Wheeler	Queanbeyan	NSW
MHS8D	1465	P. Farrell	Boronia	VIC

7. Dismantle the brake adjuster and wash in solvent. Smear molybdenum grease on moving parts.
8. Disconnect the handbrake (rod on MkI, cable on MkII). Release strap securing brake line to radius arm.
9. Remove the $\frac{15}{16}$ " AF radius arm pivot bolt. Usually this is easier on the MkI (because of the taper bearings) and removal of this bolt on the MkII can sometimes prove difficult — especially when the slipflex bearing is very worn. The bolt tends to rust inside the slipflex bearing where the whole part of the bearing rotates inside the radius arm.
10. Following removal of the pivot bolt, withdraw the radius arm from the suspension mounting bracket. Examine the inner face of the mounting bracket where the pivot bolt passes through for wear and scoring.
11. Using a suitable socket, place on end of bearing and within the spacer. Tap out the mounting tube. The bearings can now be removed. In almost every case the bearing will fall to pieces, the grease having long since dried out. You may wonder just how the arm operated without collapsing.
12. Examine the bearing cups inside the housing. Almost certainly, they will be rusty looking and deeply rutted. Removal of these bearing cups can be difficult owing to no space available for a drift. Also, there is a nylon dust seal in front of it. You may wish to take the radius arms to a garage or bearing specialist for them to do. [Morwood Motors did mine for a cost of \$20 and I consider it money well spent.]
13. Fit new bearings to the radius arms. These bearings have a special rubber dust seal built into them to exclude road dirt. Molybdenum grease should be used copiously as it is long lasting and has excellent bearing protection qualities.
14. Return to the car and release the clamp holding the hydrolastic hose to the underside of the car. Using 2 large adjustable spanners, undo the hydrolastic connection.
15. Remove the 4 bolts ($\frac{5}{8}$ " AF) securing the suspension mounting bracket and lower to the ground. If you have a trolley jack, this is ideal to support the weight.
16. Remove the hydrolastic displacer unit and examine (paying particular attention to the hose which can sometimes chafe). Remove strut, spring and seat. Again, these will tend to have grown together and will need a vice and a pair of stillsons to separate them. Examine the rubber boot and ball end. This is well protected with the ball end usually found in good condition; however, the strut seat (being nylon) is often found scored and sometimes even holed, allowing the ball end metal-to-metal contact inside the housing of the radius arm. [These nylon seats are no longer available and are just about impossible to replace. As yet, I have not found a suitable replacement.]
17. When ready for reassembly, replace hydrolastic displacer unit within the suspension housing ensuring that the hose faces inwards. Smear strut with molybdenum grease and fit spacers up to (but no more than) $\frac{1}{2}$ ". This has the effect of raising the rear of the car back to normal following pressurization. Liberally grease ball end and nylon seat, ensuring the rubber dust seal is full of grease and fitted securely over the nylon seat.
18. Fit strut seat into radius arm socket. Replace strut spring into displacer unit.
19. Position radius arm adjacent to the suspension housing and slide radius arm within the housing, ensuring the strut fits into the displacer unit. Line up the pivot holes and replace the pivot bolt.
20. Position complete assembly beneath car and place a block (or brick) under pivot bolt.
21. Loosely screw the 2 front $\frac{5}{8}$ " bolts securing the suspension housing, then transfer weight of assembly from the block/brick to a bottle jack (or similar) and jack up to meet underside of car.
22. Replace the 2 rear $\frac{5}{8}$ " bolts.
23. Tighten assembly, refit brake assembly, hub and drum. Replace road wheel.

Whilst our newsletter is fairly technical, to date there has not been an article on how to restore or overhaul a landcrab. Most club car owners have above average 1800s with little/no rust; good paintwork and interior; look after the engine maintenance to keep the vehicle in good running order; but how many of you have tackled a complete overhaul of the running gear? By running gear I mean suspension, steering, brakes, wheel bearings and CV joints. For those of you wishing to have a go, I have prepared the following steps in which to do the job based on personal experience and using a good quality set of tools. I can also assure you that it is fairly easy and straightforward, provided you are mechanically competent.

You may ask "Why do the job in the first place?" Considering that even the youngest landcrab is 20 years old:

- It is most probable that the suspension has never ever been serviced, many 1800s looking and feeling tired after well in excess of 100 000 miles.
- Or it may be that the inside of the rear tyre is beginning to chafe against the wheel well (common on MkIIs).
- Or there may be a few odd-sounding noises and squeaks.

Whatever the reason... it is time for an overhaul!

To begin with, it will greatly simplify matters if you can find a MkI in the process of being wrecked. This allows you to remove both the front and rear suspension assemblies in their entirety. Failing this, try to obtain front suspension housings and rear radius arms. This will allow you to overhaul these items completely in your spare time and, over a period of a few weeks, have them ready for substitution for the existing worn ones on your car, thus reducing the time your car is off the road. [The reason I mention MkI is because the front upper support arm bearings and the rear radius arms bearings are taper bearings and therefore easier and cheaper to replace. The slipflex bearings on the MkII need to be pressed out on a special jig necessitating taking them to a specialist or garage. Also, slipflex bearings are expensive and new ones need to be pressed in.] You could, of course, use the Glacier DX series bearings (used by Ken Patience and recently featured in our newsletters). Alternatively, you can use the radius arm fitted to Tasmans and Kimberleys as these have taper bearings.

Now it is time to tackle the job:

1. Remove the split pins and slacken both the front hub nuts whilst all 4 wheels are still on the ground. For this you will need a $1\frac{1}{2}$ " AF socket and preferably $\frac{3}{4}$ " drive. Considerable leverage will be needed in some cases as these nuts are tightened to 140 ft/lb.
2. Support the rear of the car on axle stands; the suspension fluid can now be evacuated. Try to retain the hydroelastic fluid, if possible.
3. Remove road wheel, rear brake drum (2 small Phillips screws). Remove dustcover to rear hub, split pin and axle nut $\frac{3}{4}$ " W. Remember that the lefthand side has a lefthand thread.
4. Remove hub, spacer and bearings. Wash in solvent and check bearings for wear and the inner cup for cracks, discolouring and loss of case hardening. Renew if necessary.
The inner bearing cups can be removed easily using a drift between the two gaps in the hub.
5. Remove and check the rear brake linings and drum for wear and scoring. Replace with bonded linings and have them 'radiused' to the brake drum. The drum can be machined back to a smooth surface for approximately \$10.
6. Disconnect the hydraulic brake line from the wheel cylinder and remove same. Wash in solvent and examine interior bore for wear, corrosion and scoring. Replace if necessary or have them relined in stainless steel (around \$30 each). Relining is well worth having done as they last for years and are less likely to corrode. Replace with new seals.

It has been a while since the spare parts situation has been mentioned and, seeing that we have recruited several new members over the past few months, it is time we had an update. Regarding secondhand parts, the following are available from the club address in exchange for a nominal contribution to club funds:

3 Front and rear windscreens; 4 front and 1 rear bumpers; 2 MkII grilles; boot lid; 5 doors; Mkl exhaust manifold; steering column; 3 pair MkII rear radius arms; 1 pair Mkl radius arms; 5 front and 5 rear hydrostatic displacer units; clutch housing; petrol tank; gearbox; 1 pair front suspension housings; 1 pair Mkl swivel hubs; 2 rear suspension mounting brackets; 1 pair rear Mkl brakes; 1 pair rear MkII brakes; 2 MkII wheels; heater unit; 2 driveshafts.

With regard to new parts, we are extremely fortunate in that Tony Wood (the spare parts member for our UK sister club, LOCI) is still able to procure many new parts. For example: CV joints £15 each; Austin/Morris front and rear lamps £20 per pair; filler strips for screen rubbers (previously unobtainable) £5.50; filler strip fitting tool £10.50; 'Gold Seal' 1800 recon engine £150; front wheel bearing kit £15; nylon driveshaft coupling £16; laminated windscreen £64; 4-cylinder plug lead set (original) £3; Mkl driveshaft c/w CV joint £20; set of 4 pistons £20; 1800 conversion gasket set £5; Mkl, II and III indicator assemblies £15; water pump £10; Wolseley 18/85 lenses from £3.

Regarding the indicator stalk assemblies, these are probably the most sought after item and the club ordered 4 of these. Tony has advised the parcel is enroute and the final cost will hinge on whether we will be liable for customs duty and sales tax. Members interested in purchasing one of these, please let me know. Demand in excess of 4 assemblies will be decided by ballot at a future meeting. Tony has a good stock at present and we can order a few more of these — provided we don't leave it too long.

Tony advised he is currently able to obtain:

- Excellent quality 'Quinton Hazell' rubber universal joints at £44 per pair (plus £21.50 post and packing).
- Good quality Quinton Hazel nylon couplings at £48 per pair (plus £17.50 post and packing).

As pointed out recently, these are no longer available in Australia; even when they were available, they sold at over \$100 each. Lastly, Tony has a limited supply of those cheapy-cheap 'Supra' brand rubber universals at £8 each. [You are lucky to get 12 months wear out of these latter units.]

Club funds were also used to purchase 2 Moreys Oil Power Boosters; costing \$49 each, these have already been snapped up. Further orders can be made by sending money with order to the club address. As mentioned in the last newsletter, Ed Lenny sent 5 oil filter adaptors which allow conversion from the Z23 to a Z9 oil filter. The club still has 2 of these — the cost is \$7 each AND MUST include your existing adaptor for exchange. Incidentally, a 1" socket is needed to remove the existing Z23 adaptor.

The club also has 8 MkII and 2 Mkl lower fulcrum bushes. These are made from polyurethane and sell for \$2 each. Also available are polyurethane bushes for the rocker cover (70¢ each) and for the radiator top plate (50¢ each).

Overhaul of the front suspension, hubs, brake calipers, cv's, and drive shafts will appear in the next newsletter.

Bearing data:

Rear wheel bearings

CBC Bearing Company

Inner 'C' kit

L44649 bearing

L44610 cone

Outer 'B' kit

LM67048 bearing

LM67010 cone

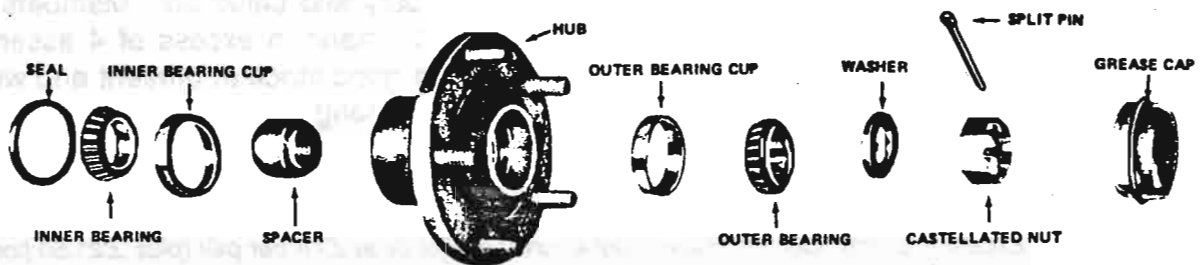
Cost \$30 per hub

Rear radius arm bearing

Timken bearing

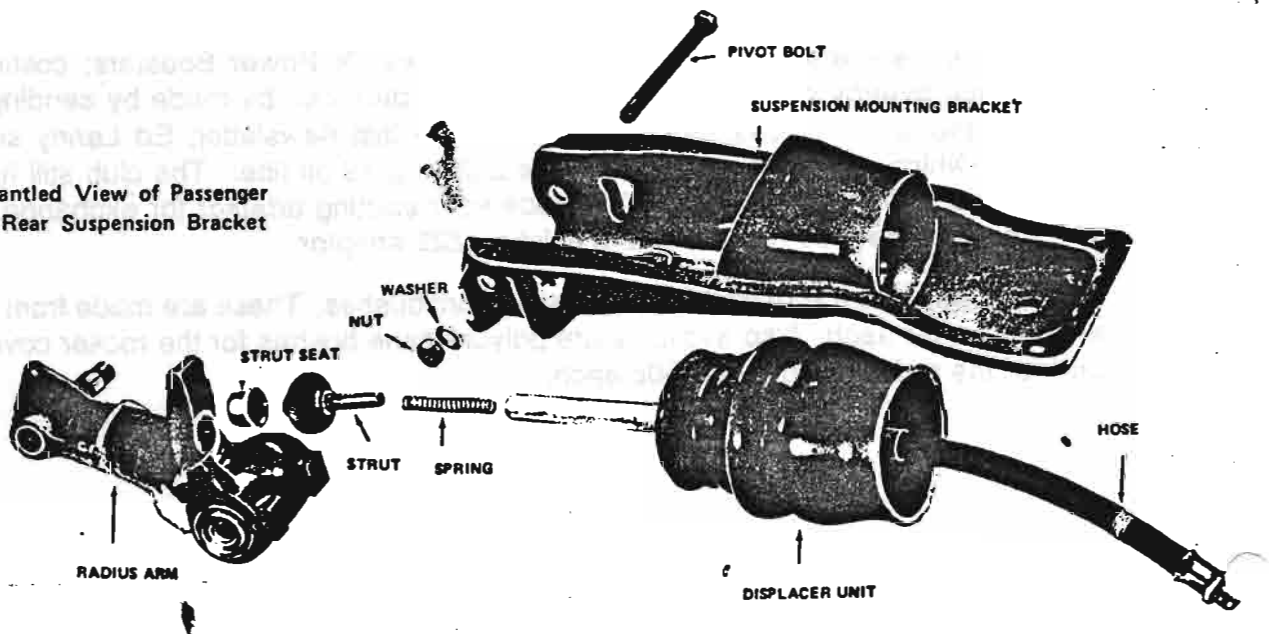
Cost \$13 per bearing

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Exploded View of Rear Wheel Hub Components (Typical of all models)

Dismantled View of Passenger Side Rear Suspension Bracket



CURRENT MEMBERSHIP

MICHAEL STREET	3 Mahon Place Hughes ACT 2605	(06) 282 5262	2 x MkII (manual) MkI (automatic) Austin Maxi MkII Wolseley 18/85 (automatic)
JIM LAITY	35 Cartenz Street Griffith ACT 2603	(06) 295 8900	2 x MkII (automatic)
FRANK GIFFORD	8 Winton Place Holder ACT 2611	(06) 288 3340	MkII Ute
TOM and DOREEN MALINS	11 Bemboka Crescent Kaleen ACT 2617	(06) 241 8646	MkI (automatic) MkI (manual)
TOM BRAY	18 Baddeley Crescent Spence ACT 2615	(06) 258 4825	2 x MkII Ute Tasman Sedan
BILL WHEELER	RMB 123 Wickerslack Lane Queanbeyan NSW 2620	(06) 297 4936	MkI (manual) English model
LEN EASTWOOD	34C Fraser Court Kingston ACT 2604		MkII Sedan (manual)
MICK OATES	31 Attiwell Circuit Kambah ACT 2902	(06) 231 9387	MkI Sedan (manual)
PAT FARRELL	4 Wayne Avenue Boronia VIC 3155	(03) 565 6500 (w) (03) 762 4457 (h) fax (03) 543 8675	2 x MkII Sedans (manual) Morris 1800 Sedan (automatic) Kimberley MkI 2 x MkII Utes
NAIRN HINDHAUGH	5 Rossmore Avenue Coorparoo QLD 4151	(07) 397 6845	MkII Sedan MkII Ute
WARWICK WRIGHT	28 Kidston Crescent Curtin ACT 2605	(06) 281 3088	MkI Ute, MkII Ute MkI Sedan MkI Sedan (w/MGB motor)
GEOFF DOW	197 Namitjira Drive Fisher ACT 2611	(06) 288 7389	3 x MkII Sedans MkI Sedan
ANDREW McGREGOR	10 Tubb Place Pearce ACT 2607	(06) 286 1807 m/phone (018) 630 417	MkII Sedan (manual) MkI Ute
BILL FRASER	Landcrab Owners Club International PO Box 218 Cardiff CF3 9HZ UNITED KINGDOM	0011 44 (222) 770 015	Wolseley 2200 Sedan MkII Sedan
RAY and JOAN WOODBIDGE	73 Morgan Crescent Curtin ACT 2605	(06) 282 3504	MkI Sedan (manual)
PETER HARDING	12 Stieglitz Circuit Kambah ACT 2902	(06) 231 0167	MkI Sedan (manual)
ALAIN ROHAN	3 Echo Place Lyons ACT 2606	(06) 285 2936	

A current membership list is included this month. The date for the **All British Day** event at Weston Park in Canberra is Sunday, 3 November. All are welcome and this will be our third year of participation where we usually show off a few of our best cars.

The **DECEMBER MEETING** will be: **Monday, 2 December 1991, 7.30 pm**
The Canberra Yacht Club.

and the **JANUARY MEETING** will be: **Monday, 6 January 1992, 7.30 pm**
The Canberra Yacht Club.

Yours in first class motoring... **Mick**

FOR SALE

AUSTIN 1800 MKII: White. Good condition. Unregistered. \$500. Contact Jacqui Kelly, tel (06) 292-7643.

AUSTIN 1800 MKI: New red paint job. Good mechanical order but needs a little TLC inside. Unregistered. \$500. Contact John Lloyd, tel (06) 282-4534.

AUSTIN 1800 MKII: Brown. Very good condition. Recently passed NSW roadworthy inspection \$1000. Contact Peter, tel (06) 297-8911.

AUSTIN 1800 MKI: Manual car. Needs new big end. Interior fair. \$200. Contact Peter Westwood, tel (075) 460-686 [Brisbane area].

PARTS FOR SALE: Retired gentleman in Sydney has the following for sale: New starter motor; new heater; rear brake units; oil pump; complete set MkII rearlight units; insect grille for MkII; aircleaner; one engine block; one engine/gearbox and clutch; two red back seats; one white rear seat; two radiators; rear window; MkI doors; some odds and ends. Greg Walford will accept any reasonable offers. 20 Elegans Avenue, St Ives NSW 2075.

WORKSHOP MANUAL: British Leyland manual for Austin Westminster A99 and A110; Wolseley 6/99 and 6/110; Vanden Plas and Princess 3-litre. \$25. Mick Street, 3 Mahon Place, Hughes ACT 2605.

AUSTIN 1800 MKII: Automatic. Reasonable body and motor. Interior excellent. All original. Drives well. Unregistered. \$400 ono. Contact Andrew or Debbie, tel (02) 601-5991 [Sydney region].

AUSTIN 1800 MKII BODY SHELL: Plus assorted parts. Price negotiable. Contact Ron Toussaint, tel (02) 604-8889 [Sydney region].

1972 KIMBERLEY MKII: Manual. Going, but needs work on engine. Body fair. MkI Kimberley for parts. \$500 the lot. Contact Gerald, 138 Logan Road, Woolloongabba QLD 4102.



4th

Canberra

SWAP MEET

BIGGER & BETTER THAN LAST YEAR.
A LOT MORE FOR AUTO ENTHUSIASTS.

SAT 12 OCT



7AM - 4PM

STARLIGHT DRIVE-IN, NORTHBOURNE AVENUE
CATERING FROM 7:30AM - ALL CATERING PROVIDED
(NO OTHER VENDORS - (FOOD/DRAWN) ALLOWED ON SITE)

\$5 SITE - (2 PERSONS & TRAILER/CAR/UTE)

\$2 BUYERS & LOOKERS - ON SITE PARKING

CONTACTS: A.H. (06) - STEVE - 2588747 - BILL - 2581198 -

STEWART - 2586881 - ROD - 2551155 - RAY - 2542161

BRUCE McFARLANE	'Herber' Kings Highway Braidwood NSW 2622	(048) 42 1123	Mkl Sedan (manual/auto conversion)
GRAHAM and MARGARET RYAN	Tunglebung via Bonalbo NSW 2470	(066) 655 152	MkII Sedan (manual)
RICK HOPKINS	77 Albert Street Goulburn NSW 2580	(048) 212 344 (048) 216 577	Mkl Sedan (manual) MkII Sedan (manual) Wolseley 24/80
ED LENNY	51 Prince Street Goulburn NSW 2580	(048) 212 015	MkII Sedan (automatic)
LESLIE LENNY	23 Garland Road Bundanoon NSW 2578	(048) 836 536	Mkl Sedan (manual) Mkl Ute
MICHAEL BARTSCH	c/o ANZ Bank Rapid Creek Shopping Centre Trower Road Rapid Creek NT 0810	(089) 530 269 (?)	No car presently
IMRE SZABO /	3 Hilton Street Craigieburn VIC 3064	(03) 308 3332	MkII Sedan
KEN and PAULA LYLE	10 Morrison Street Maylands Perth WA 6051	(09) 271-3737	MkII Sedan Austin Princess Mkl Sedan
PETER JONES	39 Morterson Road Nerang QLD 4211		1969 MkII Sedan (fully instrumented)
BÉLA SZARKA	10 Eggleston Crescent Chifley ACT 2606	(06) 281 2965	MkII Sedan (manual)
PAUL KEMP	9 Dobson Crescent Ryde NSW 2112	(02) 801 545	MkII Sedan
BARRIE TURNER	65 Bainton Crescent Melba ACT 2615	(06) 258 6420	Mkl Sedan (manual)
GARRY FRY	6/84 Wellington Street Bondi NSW 2026	(02) 306 591	Mkl Sedan (manual) MkII Sedan (manual)
MICHAEL BRICE	26 Fitzhardinge Crescent Evatt ACT 2617	(06) 258 2285	MkII Sedan (manual)
GEOFFREY HOLMES	14 Bruxner Close Gowrie ACT 2904	(06) 291 7196	Mkl Sedan (manual) Morris 1100 Sedan
JON JOHANSEN	5/35 O'Brien Street Bondi NSW 2026	(02) 365 3685	MkII Sedan (automatic)
NEIL MELVILLE	c/- Cowaramup Post Office WA 6284	(097) 555 332	2 x Mkl Sedans (manual) 2 x MkII Utes (manual)
PAT TOOHEY	PO Box 444 Charters Towers QLD 4820	(077) 874 118	MkII Sedan (manual)
KEN PATIENCE /	149 Brees Road East Keilor VIC 3033	(03) 337 4661	2 x MkII Sedans Austin Westminster A99

RICHARD GEARY	3 Amadio Place Melba ACT 2615	(06) 258 7718	Mkl Sedan (manual)
DARYL STEPHENS	22 Davison Street Mitcham VIC 3132	(03) 873 3038	Mkl Sedan Mkl Sedan (modified)
IAN INGRAM	51 Granville Road Hillingdon Middlesex UB10 9AE UNITED KINGDOM	0011 44 895 37496	Morris 1800 'S' Austin Maxi Wolseley 18/85 Mkl & II Kimberley MkII
MAX FREW	c/o Bonville Caravan Park Bonville NSW 2453		MkII Ute (manual) (modified)
TIM HUNT	55 Fraser Court Kingston ACT 2604	(06) 295 6577	Mkl Sedan (manual)
PATRICIA JARRETT	8 Gundry Street Goulburn NSW 2580	(048) 218 547	Mkl Sedan (manual)
BRIAN and ELAINE SMITH	Chelsea Lodge Glentunnel, Canterbury NEW ZEALAND	0011 64 51 667 700	Austin 1800 Freeway MkII MkII Morris Ute Austin 3-litre V8
JOAN and BOB WYERS	36 Tanumbirini Street Hawker ACT 2614	(06) 254 2425	MkII Sedan (manual)
MAX WARREN	13 Hawkins Road Montrose VIC 3765	(03) 736 3529 fax (03) 630-7608	2 x Mkl Sedans Mkl Ute MkII Sedan
ALBERT ENGLISH	M/S299 Quarry Road Bundaberg QLD 4670	(07) 5 8 191	Mkl Sedan (manual)
RON and KERRY GERSBACK	11 Lagoon Street Goulburn NSW 2580	(048) 211 439	MkII Kimberley
DAVE KING	75 Greenwood Road Kellyville NSW 2153	(02) 629 2794	MkII Sedan (automatic)
NORMAN PATTEN	65 Goldsmith Street Goulburn NSW 2580	(048) 213 194	Mkl (automatic)
PETER TOWNSEND	91 Bray Road Lawnton QLD 4501	(07) 285 1973	MkII Sedan 2 x Austin Maxis
GLENN RHODES	40 Warrimoo Drive Quakers Hill NSW 2763	(02) 626-093	MkII Sedan (manual)
JOHN HINCKS	6 Arara Street (Box 31) Kuranda QLD 4872	(070) 937-335	MkII Sedan (manual)
DON ARNOLD	47 Murchison Street Kaleen ACT 2617	(06) 241-3140	MkII Sedan (manual)
IAN McINTYRE	18 Yondell Avenue Springwood NSW 2777	(047) 514-338	2xMkl Sedans (manual)
KATHLEEN PHILLIPS	PO Box 4058 Kingston ACT 2604	(06) 280-7224 (w) (06) 280-7224 (h)	Mkl Sedan (manual)

STEP 1 FIND THE STARTER MOTOR

Starter motor locations vary, but the best clue is to look for the clutch and flywheel housing — the starter motor will usually be nearby (fig 2).

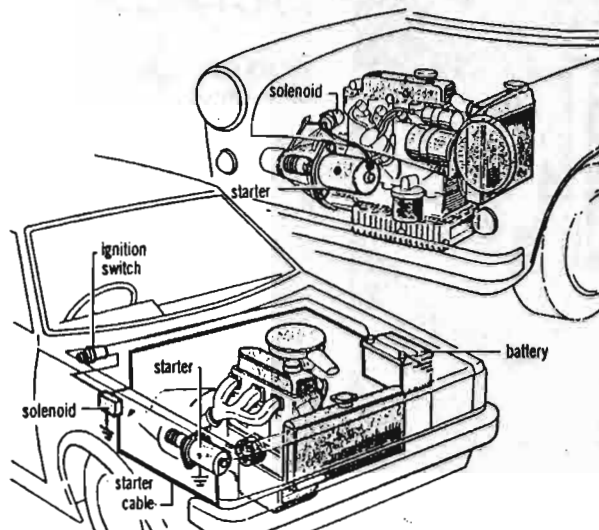
If the location of the starter is not obvious then you can find it by looking for the heavy duty lead from the feed side of the battery. This will guide you first to a small unit — the starter solenoid — which is usually mounted on the inner front wing panel (fig 1). The lead then runs

direct to the starter. If the lead goes directly from the battery to the starter then almost certainly the car is fitted with a pre-

engaged type of starter. You can identify this by the solenoid unit fitted piggyback on the main starter body.



1. A typical solenoid



2. The most common starter motor locations

HOW IT WORKS

Bendix drive starter

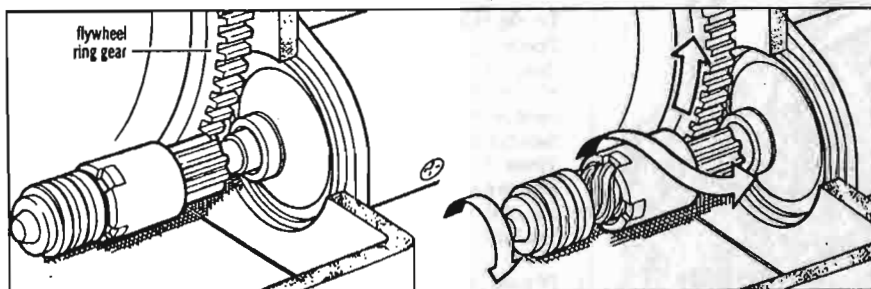
The starter motor is just an electric motor with a gear unit on the end of its shaft. It is the gear unit — the *Bendix drive* — that enables the starter to do its job. This consists of a gear which can move along a coarse-threaded sleeve (the helix). A light spring holds the gear at the disengaged

end of the sleeve when the motor is not being used.

When the starter motor is switched on the armature shaft starts to spin, and the drive gear is 'left behind' by the initial acceleration of the shaft. By 'standing still' it is, in effect, driven up the helix, against the

pressure of the light return spring and into mesh with the ring gear on the flywheel.

When the engine fires, the flywheel spins much faster than the speed of the motor and the gear is thrown out of engagement. A heavy spring cushions the gear as it flies back.



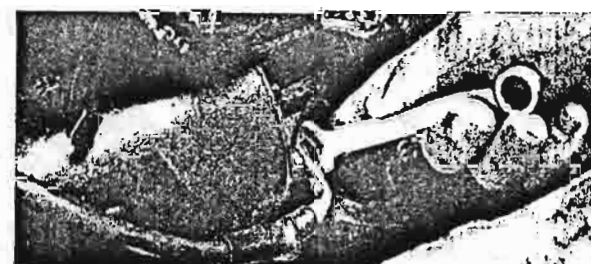
STEP 2 REMOVE THE STARTER MOTOR

Before you try to remove the starter motor look how it is fitted to see whether it will be easier to gain access from above or below the car. If access is easier from below then jack up the car and mount it on axle stands (see Fact File, FY 44). On some transverse engine cars you can improve access by removing the front grille first.

Disconnect the battery terminals (starting with the earth lead) and then disconnect the lead from the starter motor — this is retained by a nut (fig 1).

Remove the two or three bolts holding the starter motor to the engine. To undo at least one of these you will probably have to use a socket set with a long extension to allow sufficient movement of the ratchet handle.

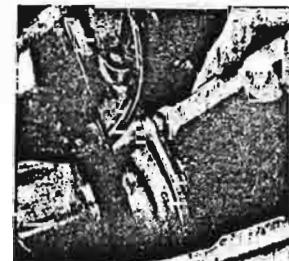
There will normally be enough room to withdraw the starter motor avoiding other



1. Removing the cable to the solenoid

engine features, such as the oil filter, generator and engine mountings. In extreme cases, where multiple exhausts are fitted, it may be necessary to take off the exhaust down pipes to allow removal of the starter.

With all the mounting bolts removed, grasp the starter motor and slowly withdraw it. You may have to give it a sharp knock with a block of wood in order to loosen it.



2. Unbolting the starter bolts

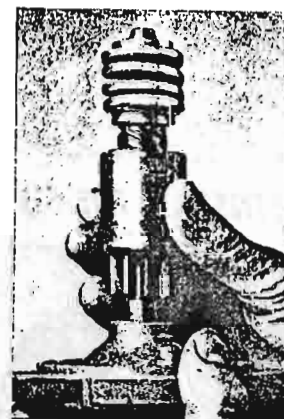
STEP 3

OVERHAUL THE BENDIX DRIVE

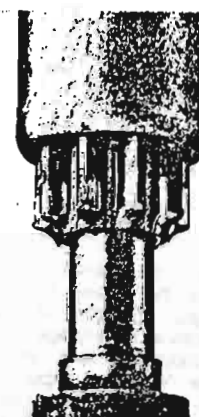
Most Bendix starter motors operate so the drive gear moves toward the motor body; this is to ensure that the gear is as close as possible to the armature shaft bearing while it is under load.

On some cars where there is limited space beyond the engine flywheel the drive gear moves away from the motor body towards the flywheel to its operating position. The motor will then be fitted with an extension housing around one side of the drive gear to provide support for an extra bearing at the end of the shaft. Where this extension housing is fitted you can remove it after undoing the motor through bolts.

Test the action of the Bendix unit by turning the drive gear on the motor armature (fig 1) — the gear should move along the helix. When you release the gear, it should spring back to its original position by itself. If it



1. Checking the helix threads



2. Badly damaged Bendix

feels stiff, wash off the entire assembly with paraffin and try again. Do not try to lubricate the gear — this may well stop it working when you put the motor back. If the Bendix seems to work perfectly it is pointless to

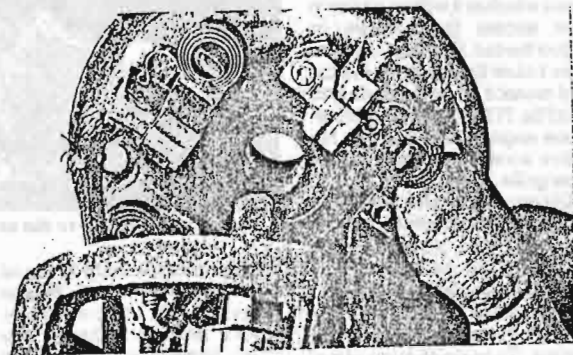
dismantle it for nothing, so make a check for worn components, particularly gear teeth. If these look rounded or chipped (fig 2) or broken you must renew the gear or it could cause expensive damage to the flywheel

STEP 8

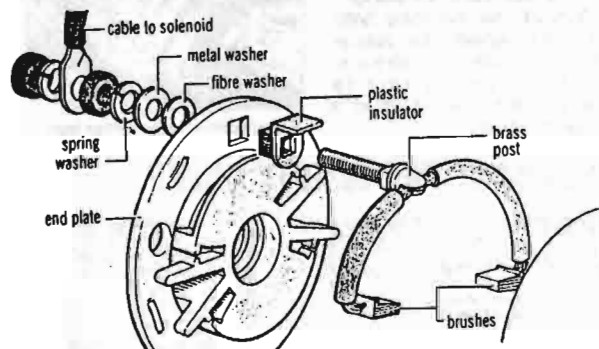
REASSEMBLE THE MOTOR

Fit the motor body over the armature to the front bearing plate. Note that a raised lug on the end of the motor body will engage in a cut-out in the end plate to correctly align the assembly.

Put any thrust washers which you removed back on to the armature shaft against the end of the commutator. Position the commutator end plate on to the armature (fig 1). Pull back the brush springs and install the brushes. Position the ends of the springs centrally on the top face of the bushes. Rotate the end



1. Refitting the end plate - brushes are held back



2. Make sure the insulators are in place when you fit new brushes

plate on the shaft to align the cutout with the lug on the motor body, and possibly the field coil terminal post, which will slip into the hole in the top of the end plate. Push the end plate and armature fully home while making sure that none of the brush leads are trapped between the end plate and the motor housing. Install the through bolts to hold the assembly together. Refit the inspection cover if one is fitted.

Finally replace the insulating washer, metal washer and nut on the input terminal.

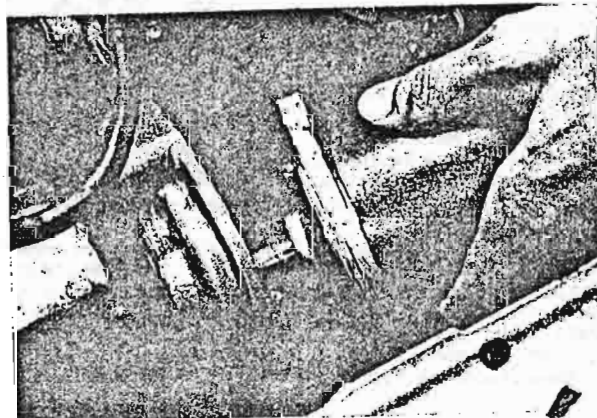
STEP 9

REINSTALL THE STARTER MOTOR

Position the starter on the engine (fig 1) and ensure it engages in the aperture correctly with the flange against the mounting face on the engine. While you support the motor, install all the retaining bolts finger tight and then tighten the bolts progressively in sequence.

Clean the terminal on the starter lead with the edge of a file and then fit it to the starter terminal with the nut and washer. Make sure it is tight or the motor will not work.

Reconnect the battery terminals starting with the feed wire and then the earth connection. Now test the motor.



1. Refitting the starter - it has to go in at an angle

FIX IT YOURSELF

Bendix starter service

If your starter will only turn the engine over slowly or not turn it at all, don't simply replace it — a quick service may be all that it needs

Starters are normally long lived robust units but like any other component they do eventually wear out. The Bendix starter is more prone to wear than the newer pre-engaged ones, but because of its relatively simple design most repairs are easy and can be carried out at home with a minimum of tools. Parts are available at most car dealers

but before you go out and buy any parts give the motor a thorough inspection.

If you find just one part damaged then it is well worth replacing it, but if both the Bendix and brushes need replacing it is possible that the rest of the unit is in poor shape and you should seriously consider an exchange unit.

When to do this job

When the starter is sluggish
When the starter operates intermittently
When the starter does not work at all

What this job involves

Removing starter motor
Stripping starter
Overhauling starter

Related jobs in this handbook

Overhauling a pre-engaged starter motor
Overhauling a generator
Please see Index for page numbers

To do this job

Tools: Spanners; sockets; large screwdriver; heavy duty soldering iron (maybe); paintbrush; wire brush
Materials: Degreasing agent; glasspaper; solder; new brushes (maybe); new bearings (maybe); new Bendix gear (maybe)

Time: Three to four hours

Degree of difficulty: Removing starter can be tricky but once out, overhauling the starter is straightforward, if a little fiddly

If you have the job professionally done . . .

Does the starter turn the engine easily?
Does the starter engage as soon as you turn the key?



STEP 5

INSPECT THE MOTOR

It is worth inspecting all the parts of the motor before deciding whether to overhaul all or some of the parts. Some repairs, while being possible, are not worth the effort as a new replacement motor may be

available at only slightly more than the cost of the parts, so check prices with your dealer before you buy. One factor that may influence whether you replace a part yourself or purchase a complete unit is the

need for special equipment in order to replace parts.

Check the brushes first — if they have worn down to about $\frac{1}{4}$ in. long change them.

Inspect the commutator segments for signs of scoring, burning or pitting. Light scoring can be removed from both types of commutator by polishing the surface with a strip of fine grade glasspaper (fig 1). Do not use emery cloth or abrasives other than glasspaper to clean the commutator as any residue left in the commutator segments can conduct electricity and cause poor operation of the starter. Be very careful when cleaning up a face-type commutator as the metal is very thin and can easily be damaged.

Heavy scoring or damage on the commutator can only be removed with the proper workshop facilities, so the most economical answer will be to obtain an exchange starter.

Check for bearing wear with the end plates in position in the motor casing (fig 2). If the plates rock on the shaft then the bearings are worn and should be replaced — this is a straightforward job and the parts are inexpensive (see Step 7).

Examine the main armature body and the field coil retaining yokes in the motor housing for signs of contact. Marks may be caused by excessive wear of the shaft bearings or a bent armature shaft — in the latter case you should buy a replacement motor.

You should be able to buy replacement bearings for your starter motor separately, but you may find that they are supplied only with the end plate assembly. If this is so, it may be more economical to obtain an exchange starter motor as these can usually be bought for not much more than a new end plate assembly. Ask your dealer as to how each is normally supplied and the cost.

STEP 6

RENEW THE BRUSHES

If the brushes need renewing, take the end plate along to make sure you get the right ones as several types of starter may have been fitted to the same model of car.

The brushes on starter motors are in most cases soldered to terminals on the end plate or field coil. On some starters the brush leads are pressure welded in place. This means that you will have to cut the lead near the brush and solder the new lead to the old one (fig 1).

If you want to solder the new brushes yourself you need a heavy soldering iron as the copper wires in the motor conduct the heat away rapidly. If you do not have the right tools or experience to do it yourself, take the parts along to an auto-electrician to have it done.

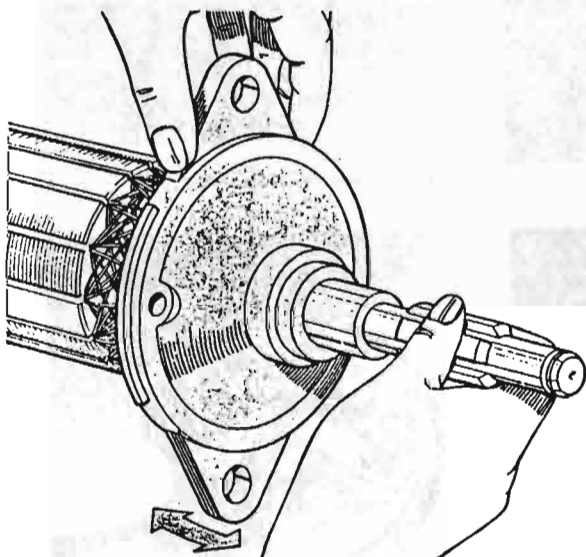
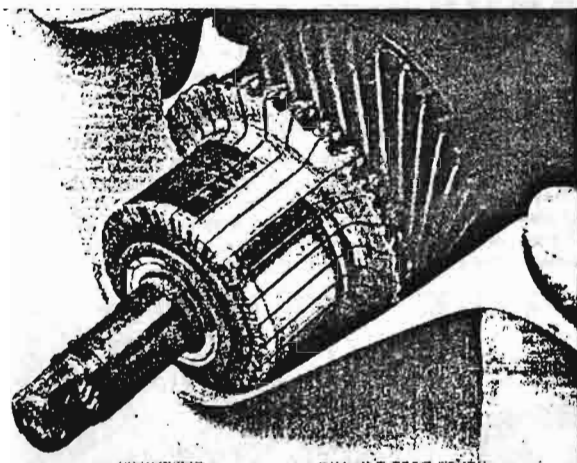
If you own an older type of car, your starter motor may have brush leads held by self tapping screws. If so, the

screws will be very close to the brush — simply undo the screw and slide out the brush after first pulling the spring aside, slide in the new brush and refit the screw (fig 2).

If your starter motor is not fitted with a removable inspection band but you found it

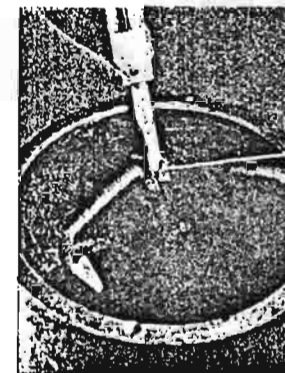
had a drum type commutator when you dismantled it (see Step 4), then you will have to get the new brushes soldered in by an auto-electrician.

Check the new brushes slide freely in and out of the holders. If not, carefully file down the edges.



2. How to check for wear in the starter bearings

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1. Soldering new brushes



2. Fitting screw-in brushes

STEP 7

RENEW THE BEARINGS



1. Drifting out the bearing



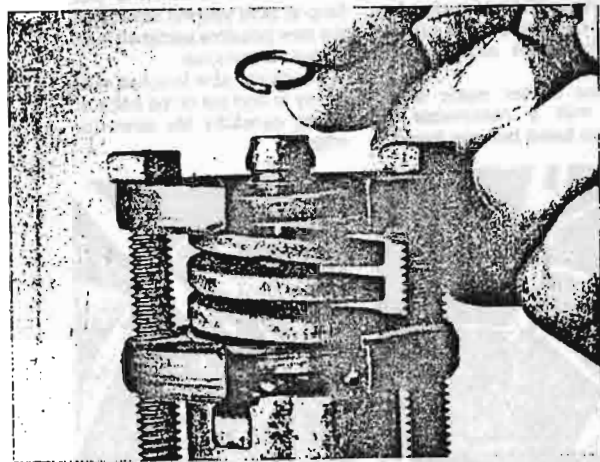
2. Tapping in new bearing

The bearings are alloy bushes push-fitted into the end plates, though some starters may have a ball race at the Bendix end.

To remove a bearing, support the end plate over a large socket or piece of tube, larger than the bearing itself and drift out the bearing using a piece of tube or a socket just fractionally smaller in diameter than the bearing (fig 1). If you are really confident you could use the new bearing as a drift, but use a block of wood to protect it when you hit it with the hammer. Press or drift the new bearing in to position (fig 2). If you have a vice, it is best to press the bearing in using the small socket to make sure that it is fitted perfectly straight and square. When you have fitted the new bearings to the end plates, slip them over the main motor shaft to make sure they run freely, without binding.

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STEP 3 (cont.)



3. Removing the circlip which locks the Bendix in place

ring gear. Check also the helix thread for signs of damage. Do not worry if the sleeve itself feels sloppy on the thread — the parts are made with a lot of play. If all seems good then leave well alone. But while the motor is off the car it is worthwhile looking inside to check brush wear and its general condition as described in Step 4.

To remove the Bendix unit you have to compress the main spring or rubber block (see Tip

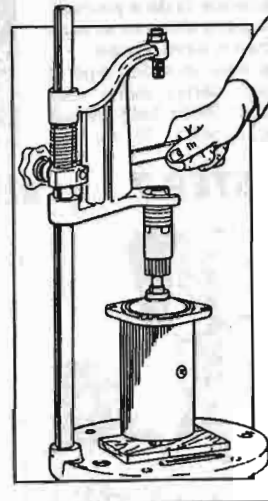
— Compressing drill, or use G-clamps and spanners), so that the retaining ring can be prised from its groove in the armature shaft, and removed (fig 3). The Bendix unit then simply slides off the shaft splines.

Note the order of parts as you dismantle the Bendix unit and clean the components with petrol or paraffin.

If any parts are worn, you will have to replace them. You may find a local spares shop sells the

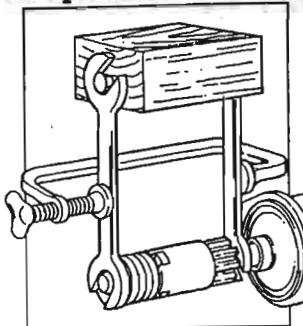
TIP

Compressing drill
A vertical drill bench mount designed to accommodate popular power drills can be used as a spring compressor. If the drill support jaw will not fit the Bendix retaining collar as it stands, use a large washer or socket as an adapter. Pull down on the drill press lever to compress the spring and hold it under your armpit leaving both hands free to remove the clip from its groove.



TIP

G-clamps and spanners
If you have a pair of large, strong open-ended spanners a G-clamp and a block of wood you can use them as a makeshift compressor. Use a piece of wood just slightly shorter than the overall length of the Bendix. Place the spanners one at each end of the Bendix unit and put the block of wood between the other ends of the spanners. Compress the whole assembly with a G-clamp, or in a vice.



Bendix unit separately from the starter motor. They may also sell an inexpensive tool for compressing the spring.

Reassembling the Bendix and refitting it to the shaft is a reversal of the dismantling procedure. However, if you intend to overhaul the motor, do not refit the unit to the shaft until you have completed any other jobs. It is more convenient to replace the entire unit than to substitute individual parts of the Bendix but this may depend on availability.

STEP 4

DISMANTLE THE MOTOR

Clean the motor casing before you dismantle it. Use a wire brush or a grease solvent, like Gunk, to remove any loose surface grease and dirt.

If a brush cover band is fitted loosen the clamp screw and remove the cover band (fig 1). Now look at the brushes to see if they are worn (see Step 6). If they need to be renewed, the motor needs to be dismantled as described below.

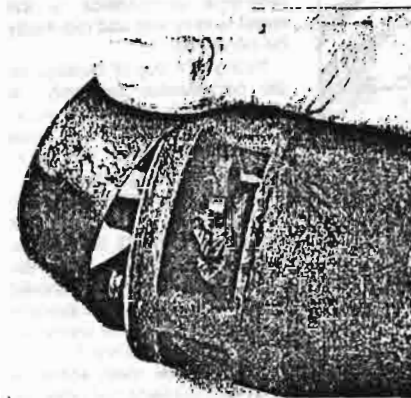
If the main input terminal projects through the commutator end plate, remove the nut and metal or insulating

washers — noting the order in which they are removed — and put them somewhere safe.

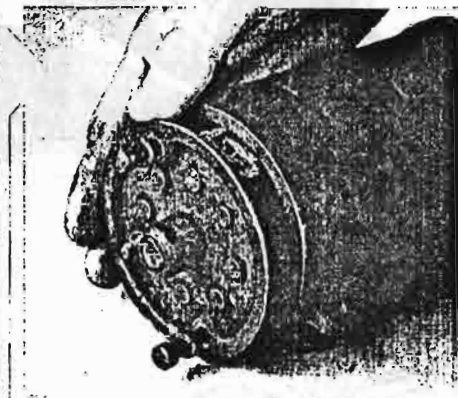
Undo the two motor through bolts and pull the commutator end plate away from the body (fig 2). If your motor has no removable inspection band then it is probably fitted with a face-type commutator. If so, just pull away the end plate slightly. The brushes may come out of their holders, but do not worry as they will stay attached to the end plate by the wires (fig 3).

If your motor has an inspection band, remove it and pull the

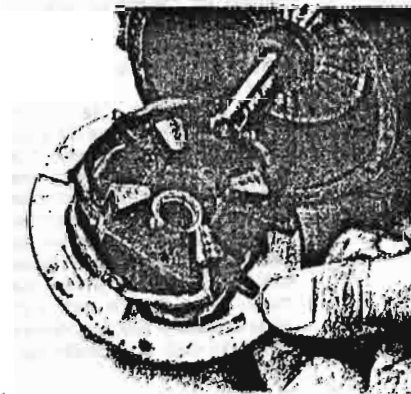
brushes from their holders — hold them halfway out by wedging the spring against the side of the brush. Now pull the end plate completely away from the armature shaft, noting whether any washers are fitted between the end plate and the commutator. The brushes will be left hanging on their leads from either the end plate (fig 4) or the side of the motor casing depending on the design of the motor. In either case it is now easy enough to check the brushes and connections as discussed in Step 5.



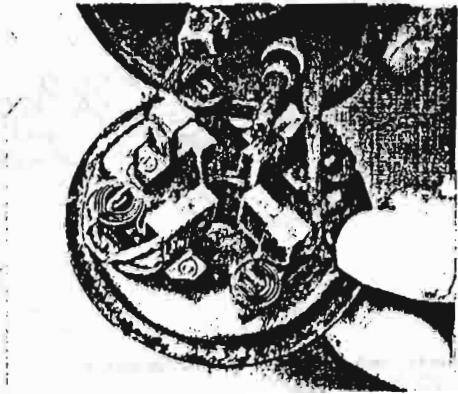
1. Pulling off the cover band



2. Removing the starter end plate

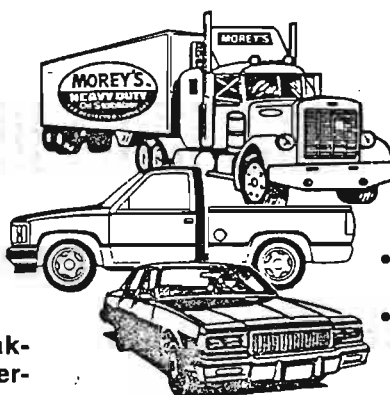
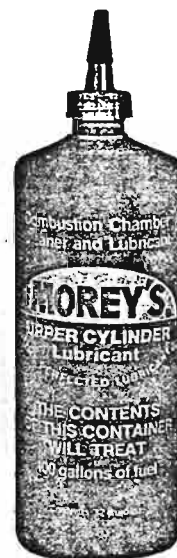
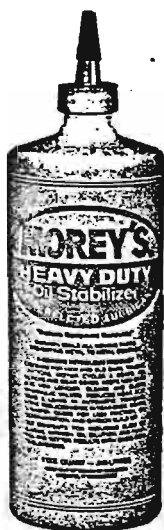


3. Face-type commutator brushes



4. Drum-type commutator has these brushes

OVER 40 YEARS OF MOREY'S PROTECTION



- Slow Oil Consumption
- Stops Blow by
- Raises Oil Pressure
- Insures Against Oil Break-down in case of sudden overheating

Normal lubricants thin out under heavy loads and summer temperatures. MOREY'S resistance to heat allows gear boxes and wheel bearings to operate at normal temperatures even under the most extreme conditions, while its clinging effect completely lubricates to smooth & quieten transmission performance.

MOREY'S Will Not Sludge

Oil treated with MOREY'S does not run off cylinders after shut down. This condition eliminates dry starts, the number one cause of wear in an otherwise well maintained engine.



- Increases power & M.P.G.
- Cleans injectors, valves and spark plugs
- Lubricates valves & injectors
- Adds life to compression rings
- Use full time for increased fuel mileage
- Use at least once a week for preventative maintenance

The lubricants in MOREY'S COMBUSTION CHAMBER CLEANER & LUBRICANT will not burn at combustion chamber temperatures, therefore allowing a film of oil to stay on valves, injector seats, & compression rings at all times.

Ask For MOREY'S When You Have Your Rig Serviced & Add Years Of Life To Your Power Train

Morey's Heavy Duty Oil Stabilizer Is a 100% Petroleum Product and Contains No Metal, Graphite, Teflon, Wax or Detergent Additives, or Chemicals; The Expertise Comes In The Refining

Blends with any Oil, or Grease, Synthetic or Petroleum

Designed for use in all automobiles, trucks, and heavy-duty equipment

SPIN CRANK AND SEE THE AMAZING CLINGING POWER

THE UPPER CYLINDER WAR ZONE

A more in-depth look at the new Vacmatic lubrication system, perfected safely by New Zealander Lex Payne

by Bob Campbell, Editor.

ONLY HALF A BRAIN is needed to figure an engine should have near-equal combustion pressures in its cylinders to deliver the goods, to run smoothly, efficiently, with near its ultimate power and economy. But it's not that easy in the too-often overlooked War Zone of the upper cylinder area.

Look at what happens with the best of engines put together by the world's best mechanics, using the best components, for a medium long-distance race like the Southern 500 or many others of around that distance. Normally aspirated hot-shot units dyno'd at 600HP will be delivering something like 450HP at the race's conclusion.

The upper cylinder area of an engine is where the power is generated, and the lower end does the work to transmit it all. Yet that lower end including camshaft is all getting lubricated by the engine's oil. The upper cylinder area meantime, where it all begins, is "dry". Doesn't that make it damned tough on the valves and rings? Not to mention the spark plugs and the whole combustion area suffering from carbon buildup.

Alternative fuels like LPG and especially CNG are the driest you can imagine, causing undue wear-rates in engines' upper areas and causing users to tear their hair out with head work repair bills. And of course at the lack of power with those dry alternative fuels. And don't feel smug if you're using the old stand-by, our expensive petrol. Because the only "lubricant" petrol has is lead which is doing more harm in other ways, and it's fading out with lead-free petrol becoming more the norm in most of the world. Petrol engines are still suffering in the upper cylinder War Zone.

Remember, if you're old enough, when Dad used to pay an extra few pennies to have a shot of ReDex squirted in his fuel tank at refilling time? That was maybe the start of an awareness that this War Zone was hurting the motorist. It progressed in modern times to the stage where more than one Upper Cylinder Lubricant got on the market.

Some used devices which tapped a vacuum line into the intake manifold, employing various namebrand upper cylinder lubes, but if the canister got emptied while the vehicle was on a long-haul tour the engine lost all its vacuum. Thus more damage could result than the device was designed to avoid. Morey's Oil in USA had an excellent upper cylinder lube derived from a really pure oil base, which was used in the fuel tank. Unfortunately that procedure diluted many of its excellent properties.

The answer was to inject the lubricant as a fine spray-mist into the intake, but guard against the engine losing its vacuum if the lube container got emptied. By 1982, a New Zealander was in the right position at the right time, with the right idea to perfect this. As usual, simplicity was the key.

LEX PAYNE, ORIGINATOR:

As a teenager Lex messed with model airplanes using engines up to 5cc, along with his friends. He graduated to making his own cylinder heads, pistons, and even crankshafts for the little buzzers. His interest in models has remained ever since.

During and just after World War II and just a young lad, he took his turn helping out on the family's central Southland farm, with the natural Kiwi ability in those circumstances of majoring in improvisation. Everything came down to using and adapting what was available, for specialist applications. He could probably have been known by then which grade of molasses to mix with kerosene for certain tractor gearboxes, instead of the age-old banana-skin trick.

His home-learned knowledge of internal combustion engines and lubricants would enable him to think through a remedy for the upper cylinder War Zone, so many years later when it became needed.

After a late-seventies period of running a business servicing small engines, Lex found this led to an association with Morey's oil products. And then with their upper cylinder lube the die was set for the idea to use the right product,

as he was in the right position at the right time.

His own prototype fore-runner of the Vacmatic device got tested on his '79 Falcon with a 250ci six engine, and the results were startling enough for Morey's Oil in USA to get interested.

Lex patented his device, or more correctly the section which controls the lube-feed and guards against vacuum loss, and instantly he had a world-wide network at his fingertips through Morey's Oil distribution contacts.

That was early 1985, when hundreds of Vacmatic units were semi-hand-made and slipped out quietly through Morey's Oil agents in New Zealand. By mid-1985 a large Auckland CNG station using two 302 Ford engines (on CNG) for pumping the main reservoir 15 hours per day locked on to Lex's device, equipped both engines with the system, and within a couple of months they'd recouped 70 percent of their drastic head-work repair costs and downtime.

Many followed, from individuals to private and local body authorities, and while some vested interests weren't interested which is becoming more commonplace these days, an amazing amount of interest was generated in a short time, accompanied by personal and dyno-tested acclaim. Half-way through this quiet but effective program NZ HOT ROD magazine became involved.

One of the magazine's sponsors for its Project T track roadster leaked the news he had one of these devices on his LPG powered V8 utility, which ran a gambit of city work and long distance booting. A very practical man who analyses everything cautiously, he is, and when he began raving we decided the product was worth evaluation.

Lex Payne made sense. We purchased six units, of which three went on our own cars and three on the private vehicles belonging to the crew for Project T. Our evaluations were on the basis of general observation of engines' characteristics, but they still have their meaningful place amongst the dyno-test reports, so they're mentioned in the last section of this article.

As we go to press in late '85 for this Janu-

ary issue of NZ HOT ROD, Lex Payne's Vacmatic device is now being manufactured from high-tech materials on plastic injection dies, assuring any defects are down to 3 in every thousand and those are detected by testing.

Vacmatic units are also being evaluated with success in Australia, U.S.A., Canada, Norway, Sweden, Holland, West Germany, Denmark, Singapore and Malaysia.

VACMATIC'S BENEFITS:

The bold claims are that the Vacmatic dispenser with Morey's lubricant will increase power, economy, performance, plus promote smoother running with less carbon buildup and less spark knock. The claims are valid, because all those spheres of an engine's running are inter-dependent on each other to varying degrees.

Mention was made at beginning of this article that an engine needs near equal combustion pressures in all its cylinders to deliver the goods. Consider what one "lazy" cylinder will do to the others, where its lack of performance is from rings, valves not sealing efficiently. The other "good" cylinders will be retarded by the slack one's unequal pressures during the 4-stroke cycle, and the resultant non-rhythmic firing pulses are hurting the engine's efficiency, additional to the lazy cylinder's shortcomings.

If you had single carburetors and intake runners for each inlet port, and the carburetors weren't equally matched or tuned, you'd need a balance tube linking all the runners to equalize mixtures. That's what the Vacmatic device does. It both lubricates and protects an upper cylinder's war zone components and equalises the combustion pressures. Let's run through each section:

INCREASED POWER: This mainly results from balancing the combustion pressures thus providing more smoothness, via compression ring sealing and valve sealing, as well as promoting a more complete burn of the fuel for more fuel efficiency.

STOPPING SPARK KNOCK: A cleaner engine with less carbon buildup, and with better and more balanced combustion and pressures, avoids knock. Functioning more efficiently with better sealing etc also helps this.

SMOOTHER RUNNING: More equally balanced and lubricated/sealed upper cylinder areas provide this. Another by-product and a pointer to this, is that nearly all engines equipped with the lubricant device gain appreciable RPM's at idle and thus the idle speed, and mixture, can be re-set.

LESS CARBON BUILDUP: Stopping carbon buildup, and especially its reformation, is characteristic of the lubricant. This inter-relates with all other sections, as being cleaner means more efficient, and of course carbon buildup retains heat. Without it an engine runs cooler. An important quote from the manufacturer is that the system will "keep new engines clean and clean up old engines". Tests have proved that it will, indeed, remove carbon deposits in an older engine.

BETTER ECONOMY & PERFORMANCE: These naturally result from a combination of all the former attributes. The same rate of acceleration as beforehand (when the engine was "dry") can be accomplished with less throttle and manually changing up through the gear earlier at less engine rev's. Automatic transmission vehicles with a throttle kick-down

late changes will also change up gears at less throttle, earlier.

TESTS RESULTS:

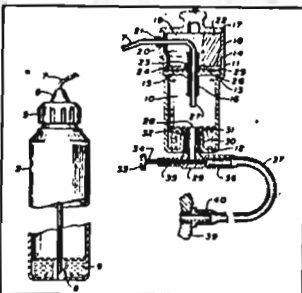
We equipped the following cars with Vacmatic: Two HO Holdens with 202 engines reassembled 6,000 miles previously. 350 Camaro with heads needing a valve job. 318 Valiant automatic in top condition. 4 cylinder Datsun running well at 120,000 miles. HX Holden 202 on 80,000 miles. All these were on petrol.

The test began near mid-winter and all cars immediately showed advantages in cold morning starts. They fired quicker with less or no choke, idled smoother, stalling was eliminated, and with no warm-up time they could be driven off with no choke.

In built-up areas they seemed to have inherited another cylinder. The Holdens only needed 2nd gear for starts, unless uphill. Steep driveways which needed 1st gear before, could now be taken in 2nd. In suburban driving the Datsun could be driven one gear up on corners and intersections, and was one gear up on hilly terrain pulling a trailer load.

For open road commuting, the V8 Valiant had the most consistent daily route and it was in best condition of the vehicles. It showed a 10 percent-plus improvement in economy with a high of 13 percent, saving the owner \$5 per week. Second most consistent route was for one of the Holdens and it averaged a 7 percent gain. The Camaro's shabby idle improved immensely, as did the idle speed, and general road performance improved 15 percent.

Once installed, the only cost of servicing the vacmatic is Morey's upper cylinder lube packs. Discounting the obvious performance benefits and avoidance of head wear and work, the cost of the lube was offset many times by the saving in fuel. Rising from 20mpg to 22mpg may not seem so significant, but that's 10 percent and over each month it amounts to a very considerable saving.



The first photo published of the Vacmatic Lubrication System components and packaging, shown in "Industry" column of NZ HOT ROD November '85 issue. The vital vacuum capillary unit is arrowed near bottom-right.

SIGNED COMPARISON REPORTS:

1973 Rover 3.5 V8 auto, 55,000 miles, on CNG.
before fitting device after
Engine idle speed in Park 525rpm 675rpm
Engine idle speed in Drive 425rpm 625rpm
Measured 1/4-mile hillclimb 45mph 65mph
(72.4kph)(88.6kph)
Full tank range on CNG 128.8km 144.9km

1973 280E twin OHC fuel-inj Mercedes, on Petrol.

	before fitting device	after
3rd gear misfire began at	120kph	gone
3rd gear maximum speed	140kph	160kph
Idle vacuum (inches)	15.0	16.25

Other advantages: better cold starts, more torque, cooler water temp.

DYNO TEST REPORTS:

Holden 1-ton Utility with 350 Chev. Turbo 400, mileage on rebuilt engine 19,263 miles, test by Firms Marine Ltd, Napier.
H.P. output on CNG:

Speed	Y.P. Standard	Morey's in eng & trans	Percent Increase	With Vacmatic	Percent Increase	Total
30mph	68	75	10.29	76	11.76	
40mph	82	89	8.54	93	13.41	
50mph	98	104	6.12	108	10.20	
average 8.32						11.79

Fuel range on full tank improved by 12%

Chrysler Alpine GLS, 103,000 miles, on petrol, test by Firms Marine Ltd, Napier. Before and after adding Morey's heavy duty oil stabiliser to engine and fitting Vacmatic unit, 250km run between tests:

	before	after
Hydrocarbons parts/million	1800	600
Carbon Monoxide percentage	5.5	5.5
Exhaust tail-pipe colour	black	grey
Idle characteristics	rough	smooth
H.P. increase	4.8 percent	

Fuel economy increase approx 15 percent.
Other observations: Reduced tappet noise, exhaust smoke at high rev's eliminated, idle of pressure raised from low to normal, easier starting, improved pulling smoothness from idle, valve guide oil seepage reduced dramatically.

Mitsubishi L300 1600 van, on CNG, test by CNG installations (Onehunga), 200km run between tests before and after fitting Vacmatic device:

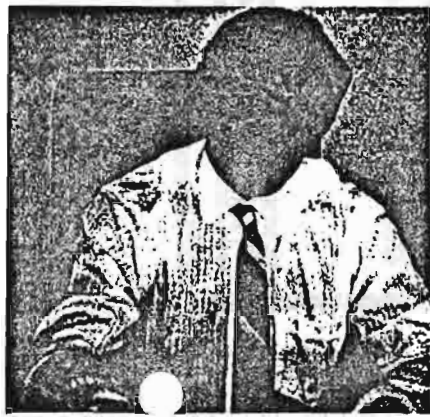
	before	after
Idle speed in R.P.M.	750	760
Carbon Monoxide % at idle	.05	nil
H.P. at 80kph (50mph 4th)	44	45
Torque at 80kph in 4th	280lb ft 295lb ft	
Carbon Monoxide % 80kph	1.1	.6

Local body authority dyno test on Mazda B1600, dual-fuel system, H.P. figures shown before and after fitting Vacmatic device, plus percentage loss of H.P. when switched from petrol to CNG.

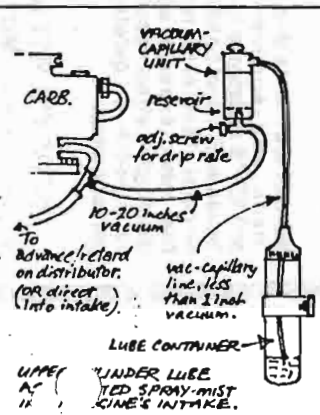
Top Gear	Petrol-H.P.	Cng-H.P.	Petrol-Cng H.P. % loss
Speed before/after	before/after	before/after	
40kph	18 25	13 15	27.7 16.6
50	24 31	19 22	20.8 8.3
60	30 35	26 29	13.3 3.3
70	35 38	31 36	11.4 2.8
80	41 45	37 43	9.7 4.8
90	43 52	41 47	4.6 9.3
100	45 55	41 49	8.8 8.8

Note: Figures in bold print indicate that from 70kph upwards, the vehicle developed more horsepower on CNG with the Vacmatic device fitted, than what it did on petrol in standard condition without Vacmatic or

CONTACT: Vacmatic International Ltd, PO Box 4288, Auckland 1, New Zealand.



Left: Auckland's Lex Payne, originator of the Vacmatic capillary device which allows a regulated supply of upper cylinder lube directly into an engine's intake despite a wide variance in vacuum, and which guards against engine damage from loss of vacuum. A lengthy background of experience in small engines and lubricants enabled him to devise the idea, and perfect it in a practical way.
Right: the basic steps and functions of Lex's system.



Only a thrifty Scotchman could figure out this money-saving device.

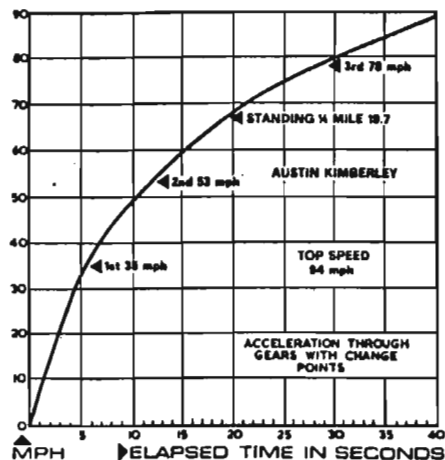
wheels road test technical details

AUSTIN KIMBERLEY

MAKE	AUSTIN
MODEL	KIMBERLEY
BODY TYPE	Sedan
PRICE	\$3166
OPTIONS	Radial ply tyres, radio
COLOR	Brown
MILEAGE START	8791
MILEAGE FINISH	7142
WEIGHT	2813 lb (1185 kg)
FUEL CONSUMPTION:	
Overall	(7.1 kpl) 20 mpg
Cruising	(7.8-8.8 kpl) 22.25 mpg
TEST CONDITIONS:	
Weather	Fine
Surface	Castleshag Drag Strip
Load	two persons
Fuel	Supra
SPEEDOMETER ERROR:	
Indicated mph	30 40 50 60 70 80
Actual mph	30 40 50 58 68 78

PERFORMANCE

Piston speed at max bhp	(867.5 m/min) 2933 ft/min
Top gear mph per 1000 rpm	16.9
Engine rpm at max speed	5650
Lbs (laden) per gross bhp (power-to-weight)	25.6
MAXIMUM SPEEDS:	
Fastest run	(152 kph) 95 mph
Average of all runs	(151 kph) 94 mph
Speedometer indication, fastest run	(150 kph) 93 mph
IN GEARS:	
1st	35 mph (56 kph) (7000 rpm)
2nd	53 mph (85 kph) (6550 rpm)
3rd	78 mph (125 kph) (6450 rpm)
4th	95 mph (152 kph) (5650 rpm)



76 WHEELS, March, 1973

ACCELERATION (through gears):

0-30 mph	4.2 sec
0-40 mph	6.8 sec
0-50 mph	10.2 sec
0-60 mph	15.5 sec
0-70 mph	21.3 sec
0-80 mph	30.4 sec
20-40 mph	2nd gear 4.7 sec
30-50 mph	3rd gear 6.8 sec
40-60 mph	4th gear 9.8 sec
50-70 mph	5.4 sec
60-80 mph	7.6 sec
70-80 mph	9.8 sec
80-80 mph	14.3 sec
STANDING QUARTER MILE:	
Fastest run	16.5 sec
Average all runs	19.7 sec
From 60 mph to 0	3.1 sec

SPECIFICATIONS

ENGINE:

Cylinders	six in line, transverse
Bore and stroke	76.24 mm (3.00 in.) x 81.28 (3.20 in.)
Cubic capacity	2227 cc (136.9 cu in.)
Compression ratio	8.6 to 1
Valves	8, 4 on each side
Carburettor	single SU
Fuel pump	mechanical
Oil filter	full flow
Power at rpm	102 bhp at 5500 rpm
Torque at rpm	(16 kg/m) 116 lb/ft at 3500 rpm
TRANSMISSION:	
Type	manual, all synchro
Clutch	single dry plate
Gear lever location	floor
RATIOS:	
1st	gearbox 3.319 overall 13.783 mph per 1000 rpm (8)
2nd	2.063 8.627 11 (13)
3rd	1.388 5.794 12.1 (19)
4th	1.00 4.187 16.9 (27)
Final drive	4.187:1

CHASSIS AND RUNNING GEAR:

Construction	unitary
Suspension front	independent lateral arms, rubber cone springs
Suspension rear	independent trailing arms, rubber cone springs
Shock absorbers	interconnected hydroelastic system
Steering type	rack and pinion
Turns to l	3.8
Turning circle	39.5 ft (12.37 m)
Brakes type	discs front, drums rear
Dimensions	10.5 (266.7 mm) discs, 9 in. (228.6 mm) drums
DIMENSIONS:	
Wheelbase	108.1 in. (2747 mm)
Track front	56.5 in. (1440 mm)
Track rear	56.5 in. (1410 mm)
Length	174.5 in. (4434 mm)
Width	66.5 in. (1690 mm)
Height	57.2 in. (1454 mm)
Fuel tank capacity	10.2 gal (46.8 litres)
TYRES:	
Size	695-14 (165-14 radials fitted)
Pressures	28F/22R psi (1.97F/1.55 kg/cm ²)
Make on test car	Dunlop
GROUND CLEARANCE:	
Registered	2 in. (50.8 mm)

AUSTIN'S ENIGMA Continued from page 49

Actually the distance between the front seat backrest and rear seat cushion is virtually identical, but the Kimberley's rear cushion is 20 inches deep whereas the Holden's is only 17.

The seats themselves are probably the best on any Australian sedan. The rear bench is simply sumptuous, comparable to any — regardless of price. The 11's new reclining front buckets (standard equipment) are also excellent and provide first class comfort and support alike. The head restraints aren't up to the same standard. They're a fair distance back from the occupant's head and, if raised to suit tall people, inevitably slip down to neck level when travelling rough roads.

Same is true of the restraints on the Tasman's front bench which is also a less comfortable seat due to a hard ridge across the top of the backrest.

Rising from the floor between the Kimberley's buckets is a padded pedestal which serves as an armrest. It's good for that purpose but tends to obstruct the gear lever in second and fourth while also making it difficult to find the loose inner ends of the seat belts.

Though the seat-to-pedals relationship is fine, the general driving position is not. The large flat steering wheel doesn't find much favor outside the ranks of ex-Mini owners. It is uncomfortably truck-like in size, position and effort required. You have to use your shoulders almost as much as your arms and must shuffle it round in short bites rather than turn it in smooth sweeps.

Actually, the Kimberley's turning circle, turns lock to lock, and steering effort are on a par with those of rival conventional six-cylinder models but the wheel diameter and angle make it seem even less direct.

The dash panel remains as on the Mark I edition — a functional but ill-matched assortment of rounds, rectangles and squares.

We thought a ventilation problem may have been peculiar to the test Kimberley — plenty of air from the driver's outlet and only a trickle from the passenger's. However, a Tasman we drove later also displayed the same disparity.

Quality of the carpets and other trim materials has been further improved over the previous model and it is difficult to fault the interior's fit and finish. Even so, the cabin's furnishings and appointments still have a bit of appearance which lacks the style, integration and, well, professionalism of its Detroit-derived competitors.

The bins in the front doors are a welcome carry-over from the Mark I. Same can't be said for the vague, notchy gearshift. Lever travel measures almost nine inches at the knob between the planes of first and third to second and fourth. The knob's lock-nut is irritating when shifting into reverse.

Performance is a questionable factor with the Tasman and Kimberley because there's seemingly quite a lot of variation between engines. We initially drove a Kimberley II which boasted a really crisp and impressive engine. Unfortunately, we were unable to check that particular car against the watches due to conflicting deadlines, and had to settle for another which felt less lively.

The performance checks confirmed it was no fireball. Leyland has given the Kimberley II the same single-carb engine as the Tasman, meaning it gives away 13 bhp and two lb/ft torque over the Mk I. The single-carb engine has been adopted by the Kimberley not so much for economic reasons, Leyland says, as to reduce servicing/tuning requirements and improve flexibility.

While accepting that one carburettor is easier to maintain than two, the performance figures don't substantiate the improved-flexibility claim. Compared to the twin-carb Kimberley we tested in February 1971, the latest edition is quicker to 40 mph from rest, but slower everywhere else — accelerating through the gears and in them. There is 0.2 sec difference over the standing quarter mile.

Admittedly the figures, on paper, tend to be unfair to the Kimberley when compared to the quicker times achieved over the equivalent acceleration brackets by the more powerful Holden, Falcon and Valiant models. In practice, under ordinary give and take cruising conditions, there would be

little between them for the Kimberley — on radials — can give a very good account of itself from point to point.

It gets round corners as though on the proverbial rails, with a minimum of drama providing the turns are not so tight as to need a lot of steering lock to be wound on. In that event the driver has to work fairly actively, shuffling the awkward wheel round as required.

Considerable understeer occurs when cornering hard, but it is not as pronounced or irrevocably stubborn as on the, say, HQ Holden. Though the Kimberley's front-end always feels, and is, predominantly heavy its understeer can be adjusted to some extent with the throttle; easing off on the pedal to tuck the nose deeper into the corner.

The overall high calibre of the handling is matched by the excellent standard of roadholding — again with the qualification that radial ply tyres are fitted. The handling and roadholding are not nearly so competent when the car is shod with crossply tyres. It then becomes discernibly less precise and predictable, while its feel and the limits of adhesion are appreciably lowered.

Though satisfactory with crossplies, the ride too is enhanced by radials. Under most conditions the Kimberley possesses a much better ride than its conventionally-sprung rivals. The old catch-cri about floating-on-fluid really rings true with the big Austin.

The suspension has shortcomings in two areas. Should the front and rear wheels simultaneously and heavily strike large bumps or deep potholes, a sharp shock is sent through the car because of conflict between the suspension at the respective ends. Both sets of wheels are punched upwards, and the body with them.

Conversely, suspension reaction exaggerates the nose-dive during hard braking. As the front-end dives due to weight transfer, so the fluid system pushes the tail up in direct proportion.

At the other extreme, a very heavy load in the superbly capacious boot will cause the tail to droop and the nose to lift.

Nose-dive apart, the brakes are very good indeed, on sealed surfaces — pulling the car up straight and true. The pressure-limiting valve for the rear hydraulic circuit does its thing as it should and prevents rear-wheel lock-up during hard stops even when there are no rear passengers or luggage. But the system is less than ideal on gravel roads for the front brakes are then susceptible to locking.

On rough roads in general and average dirt routes in particular, the Kimberley surpasses its conventional rivals for comfort and ride. It also seems quieter in the body and — on radials — the suspension is inaudible except when working very hard over broken surfaces.

Lack of wind and mechanical noise is conducive to the effortless brisk cruising speeds of which the Kimberley is capable of sustaining as long as you like, but we found a persistent frizzle from the handbrake lever wearisome.

It was with mixed feelings that we completed our test of the Kimberley II. By average standards it's an excellent car — even an outstanding one — in many of the ways that count. It boasts a full share of practical, sensible features and endearing characteristics. And there are several areas in which it clearly shades the opposition.

And yet...

Incredibly accurate 1:6 scale kit 20" long model by FOCHEB
1931 ALFA ROMEO 6 2300 "MONZA"

This magnificent model, together with the latest masterpiece from FOCHEB, a 1931 Alfa Spider Gran Sport, with leather upholstery, are now available after a long delay in supplies, due to a disastrous fire at the FOCHEB factory. These models are the world's finest kits and represent at least 700-800 hours' worth per model, containing 1452 and 1954 parts respectively. The models screw and bolt together and follow the original factory plans. The prices are \$90 for the Monza and \$125 for the Spider plus \$2 P. and P. per model. Send 35c for our illustrated catalogue (including hundreds of car and motor bike models ranging in price from 40c to \$150).

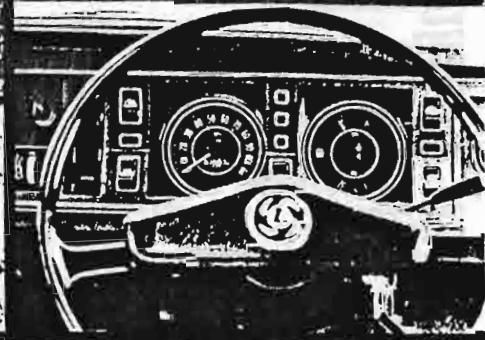
REPLICAS—DAVIS AVE., SOUTH YARRA, VIC. 3141. Phone 266 586

THE HIT-AND-MISS KIMBERLEY II

Austin's Enigma



wheel road test



A better car than its predecessor, the Kimberley II has a lot going for it—including excellent space, comfort, ride, handling and an essentially practical nature. But, as the sales figures show, it still lacks the one thing that spells success—*popularity*.

*There was a little girl, with a nice little curl,
Right in the middle of her forehead,
And when she was good she was very, very good,
But when she was bad she was horrid.*

IT WAS WHILE we were collecting our thoughts about the Austin Kimberley II that the old nursery rhyme came to mind.

Recollection of the lines was prompted by our realization that in many areas the Kimberley is a remarkably good car which clearly equals, if not leads, its class competitors.

Taking stock of the Kimberley's many commendable features, it's easy enough to decide the car deserves better than the token success it has achieved. There is a tangible first impression that the Kimberley must be generally underrated by, and should be more popular with, the motoring public.

Unfortunately, closer appraisal re-

veals that the Kimberley trails disappointingly in many departments. Despite its assets, the Austin suffers telling problems and handicaps and these collectively help account for its weak sales.

Make no mistake — the Kimberley is very good where it's good. Trouble is that there are also areas where it's markedly poor and unable to match its rivals.

It's probably true that the Kimberley/Tasman models, and the 1800 before them, got off on the wrong foot by featuring front-wheel-drive instead of the conventional front-engine/rear-drive layout common to all the big selling family-size cars in this country. The P76 is intended to cure that problem.

Pw drive has some distinct advantages over the conventional arrangement so far as efficient use of space is concerned. It offers a virtually flat floor, for example, and the transverse powerplant intrudes only minimally

into the cabin. Thus the interior is relatively spacious.

The extra room isn't an illusion. We ran a tape measure over the seats of the Kimberley and an HQ Holden. The Holden has several inches more shoulder width.

But the Austin offers an extra inch of front seat legroom and a full three inches more legroom in back.

(Continued on page 77)

Above, left: Front of Mark II differs from previous model only in having a badge at the centre of the grille.

Above, top: Rear of Mark II is identified by the appropriate badge, matt black tail panel and new bumper with full-width rubber insert.

Above: Typical of the car as a whole, the instrument panel — though functional and not unattractive — isn't as professionally stylish as those of its Detroit-derived competitors. Brown paper versus crepe.

Together with Rick Hopkins, Ken Lyle has proposed our club stage an inaugural rally from Perth to Sydney coinciding with departure of the 1993 London/Sydney Marathon cars. There might even be a landcrab or two! Ken felt this would be a great opportunity for all our members and would do much to promote the landcrab and gain much-needed publicity. Since the rally is in competition stages, there should be no problem with departures and arrivals as bulk accommodation could be arranged. Our departure could be close to the rally start in order to maximise media coverage. Ken visualises over a hundred landcrabs in a line and says IT IS POSSIBLE. Wouldn't the media love that?

Although it seems unlikely that our sister club will be running a landcrab in this event, further details of the 1993 London to Sydney Marathon are included with this newsletter.

The following excerpt (by David McGonigal) is taken from 'Click Go the Years' in the 27 April issue of **Good Weekend**, the **Sydney Morning Herald** magazine. The article reminisces about Australia's vanishing cultural icons as seen through the eyes of 8 different writers.

Screens Idle

Unlike the suspiciously enclosed panel van, an Austin 1800 was a lethargic performer that lulled the most apprehensive father into a false sense of security. It may have taken all day to get to the drive-in in one, but once there, the seats quickly converted into a double bed. When the 1800s rusted away, drive-ins lost their market.

I grew up in Singleton in the Hunter Valley of NSW. Most of my early driving experience was along the road to the Heddon Greta drive-in 60 kilometres away. Its canny owners always showed the main feature first in case our interest flagged (or was distracted) and occasionally the show had to be called off when rising fog obscured the screen.

Once Australia had some 200 drive-ins. By 1980, there were about a dozen in Sydney and almost twice as many in Melbourne. Now there are two in Sydney (Bass Hill and Blacktown) and one in Melbourne (Coburg). Nevertheless, the stayers report a mini-renaissance. Sydney's drive-ins hold 700 cars each and have 2 screens. The traditionally low-fi speakers are unchanged, but the children's play areas have gone. Future generations will miss the chance to first taste the magic of movies while sitting in pyjamas on a squeaky swing on a steamy summer evening.

Despite these anomalies, I convinced myself that little had changed when I visited Bass Hill drive-in to see *Ghost*. People still emptied their car ashtrays near the speaker stands. Then a second glance ended the time warp: the scattered white objects were not cigarette butts; they were pumpkin-seed shells. And there wasn't an Austin 1800 in sight. . .

In the course of my work duties in Canberra, I had occasion to visit the residence of the British High Commissioner and had a most enlightening talk with his chauffeur (a pommy, of course) and he told me that when he first began his job in 1973 there were 4 landcrabs in use. The main vehicle was a MkIII Austin 2200 which was white with a red stripe painted along the waistline. In addition, there were 2 black MkII Austin 1800s and a Wolseley 2200 (6). Nothing is known about the Austins, but the Wolseley was often seen in the Manuka area (of Canberra) and believed to be owned by an RAN officer. I have it on good authority that this vehicle is now in Melbourne.

Our Darwin member, Michael Bartsch, sent in a very interesting article on the BMC Vanden Plas and Princess models. The Vanden Plas 1100 and 1300 Princess were very popular and had been in production for more than ten years, carving a worthy niche in a unique market. The Princess name was renowned worldwide, being synonymous with British automobile craftsmanship and quality coachwork.

In 1974 prototypes of an 1800 Princess and Vanden Plas were built, together with a Princess 3-litre. None were put into production, however, possibly due to the 1974 oil crisis which hit the motor industry in various ways.



Pictured is the prototype Princess. Just think what they would have done for the landcr. image had they gone into production — the same applies to the MG!

Whilst in Townsville recently I called in on the local Moreys oil agent and had a yarn with the proprietor, Greg Young. Unlike the southern climes, Moreys oil is selling well in North Queensland — Queenslanders know a good thing when they see it, eh? Greg has several power boosters in stock and will sell to the club for \$49 (which includes freight costs) on a minimum order of 2 units. The normal retail price is \$50 plus freight and tax. Moreys products are first class and were fully described in N/L 28, Sept 1990. The power booster comes complete with dispenser, drip feed, clamps, hoses and fittings; it is quick and easy to fit. Orders (prepayment is required) can be made by writing to the club address.

I also paid a visit to Pat Toohey in Charters Towers, who specialises in rebuilding engines of all types. In the course of his work, he identified a piston for use as a possible alternative to the BMC one — the Datsun 1600 piston from the L16 motor is very popular and used on cars, utilities and 4WD vehicles. The specifications are:

AUSTIN DATSUN

Piston size	3.1595	3.2677
Compression height	1.645	1.479
Length	2.560	3.055
Gudgeon pin	0.8126	0.8266

You will note that, with the exception of the piston length, measurements are very similar. Regarding the piston length, the early MkI engines had a long piston and this should not make any difference. However, Pat suggests that when fitting these pistons you rotate the crankshaft to check that the crankshaft web clears the piston skirt.

Now that we are on to things technical, Ken Patience sent in a progress report on the rear slipflex bearing fitted to his MkII 1800. He included a photograph and one can see where he drilled the bolt and fitted a grease nipple. The sleeve has also been drilled to correspond with the grease holes and groove on this bolt. The inside of the polyurethane bush is now fitted with a Glacier DU series bearing bush. Several thousand miles have been clocked so far using this modification and it appears a success. Ken also included a note suggesting suitable alternative for plastic extrusion for the joint between bumper and over-rider:

- Obtain some electrical cable as used in domestic and industrial lighting circuits.

LANDCRAB



At long last the landcrab has gained stardom — the September 1991 issue of the UK **Popular Classics** contains an article entitled 'Enigma Variations' [page 72]. In it the whole landcrab family is mentioned together with some beautiful colour photos accompanied by details of the various models; Bill Fraser and his Wolseley 18/85 was one of those members highlighted. In his letter to us, Bill said he received over 60 applications for membership in the 2 weeks following the article, bringing their membership to over 400. Speaking of membership, our club has more new members. Please welcome:

ANTHONY ELLINGTON	c/o RESEARCH INSTITUTE RUTHERGLEN VIC 3685	(060) 329-208 (w) (060) 329-857 (h)	MkI Sedan (manual) MkII Sedan (manual)
GEORGE HULLEY	46 McMILLAN ROAD NAROOMA NSW 2546	(044) 762-114	2xMkII Utes
REG McFARLANE	9 CARROLL ROAD EAST CORRIMAL NSW 2518	(042) 847-191	MkI Ute
GERARD JENNETT	PO BOX 139 THIRROUL NSW 2518	Rebuilding Reg's Ute	

Merry Christmas

Bill Fraser also advised that in the November issue of **Classic Cars** he and his Wolseley appear in an article comparing 5 popular cars of similar vintage — Vauxhall Victor, Wolseley 16/60 and 18/85, Ford Corsair, and Hillman Hunter. [The article appears on page 14.]

I attended the November meeting of the ACT Council of Car Clubs and have duly nominated our club to participate in the forthcoming annual **WHEELS 92** display at the ACT AFL Oval in Phillip on Sunday, 9 February 1992. Due to an expected large turnout and entrants from out of town, it is requested that we restrict our display to 5 vehicles. With this in mind, I propose we display a MkI and a MkII sedan, a utility, a Wolseley 18/85 and an Austin Maxi.

Michelle and I recently had the opportunity to visit Victoria and spent a few pleasurable days in that lovely state. Needless to say, we made the journey in one of our landcrabs and it didn't miss a beat. In the course of our travels and in the company of Pat and Sandra Farrell, we were shown some of the BMC 'hidey-holes'. Included was **Northern Jag** [formerly known as **The 1800 Centre**, owned and run by Robert Leonard. This place is a veritable Aladdin's Cave with so many new and used parts. A main list of his parts for sale appears elsewhere in this newsletter and is by far NOT A COMPREHENSIVE ONE. Other parts available are such items as:

Light switches	Complete new interior lights	Pedal rubbers
MkII plastic window winders	PBR twin master cylinder repair kits (rare)	Nylon strut seats
New PBR rear wheel cylinder (obsolete)	— (only a couple available)	New wheel trims

The 1800 stuff is very slow to move and Bob Leonard emphasized that, unless it picks up significantly, he is considering sending all of his stock to the UK.

Whilst on the subject of spare parts, Tony Wood (spares secretary to the UK club) recently wrote to say the following parts are for sale:

- Rubber over-rider gaskets.
- Metalistic (Slipflex) bearing £20.
- CV joints: One new CV joint £32.50 (incl carriage)
Two new CV joints £59.50 (incl carriage)
Four = £111.50 Six = £163.50.

Each CV joint originally cost £15 but, due to their heavy weight, the increased cost includes carriage.

- CV boots £5.75
Rear BL mudflaps £4 each

Due to weight involved these are best ordered in groups. They weigh $\frac{1}{2}$ kg each and the carriage is £2.

New nylon caps (for struts) £40 for 10 plus £5 carriage.	Tie bar pads 15p each.
Rubber radiator bushes 40p for 10.	Spacer tubes for same 60p for 10.
Bottom suspension pin kits MkI and MkII £6.	Rubber bush for same £2.
Radius arm taper bearing (BTB 579) £6 each.	New struts £8 per pair.
Rocker cover bushes £4 for 10.	Pedal rubbers £1.25 each.
Accelerator cable 90p.	Clutch release bearing £7.
Steering rack gaitors £5 per pair.	New door seals £8 each.

With reference to the suspension, rocker cover and radiator bushes, remember that our club can obtain these in polyurethane from Dale McShane in Melbourne.

Another club member, Les Lenny, advises that piston ring sets for the 1800 are becoming rare now and those dealers that have them charge around \$180 to \$190 for them. However, Les has found a place in Sydney who will supply them for between \$60 and \$70.

A company in Liverpool UK manufactures carpet sets for the landcrab. The sets come edged in leathercloth in a non-fray material and with a heel mat. Colours available: Tan, blue, grey, brown, dark red, and black. The cost is £50 plus postage at £5 but I suspect the postage would be a bit higher for overseas customers. [VAT does not apply to overseas orders.] Interested? Contact: Auto Interiors, 56 Norfolk Street, Liverpool L1 0BE, UK.

Last — but not least — did you know that Leyland made a rear bump stop kit for the 1800? The part number is C-AJJ-4125. The kit comes complete with all the fittings (including another brake pipe) and fitting instructions for both of the rear suspension arms. The cost is \$40 a set from: Layco Auto Spares, 2 Macquarie Place, Boronia VIC 3155, tel (03) 729-3066. A drawing is included with this newsletter.

Tom Malins advised that **CLASS Lock and Security Services** [51 Kembla Street, Fyshwick ACT 2609] has an original BMC key catalogue and, by quoting the key number, they will be able to cut a new key. Surprisingly many of us still have the original keys showing the number and perhaps now would be a good time to record them... just in case.

With reference to the indicator assemblies mentioned in our last newsletter, the first 4 have arrived from the UK. These are genuine BMC products and so far only 3 members have expressed interest and placed an order (which surprises me). The cost is \$40 plus postage and represents excellent value considering that this item sold for well in excess of \$100 when available in Australia several years ago. The second 4 assemblies are expected to arrive shortly.

VINYL DASHBOARD TOP RENOVATION [by Les Lenny]

A continual problem with 1800s is the deterioration of the dash covering. The following suggestion may be of interest to some of you. In actuality, recovering the dash is not hard using new vinyl but problems arise on how to finish off around the air vents. A way of overcoming this is to obtain 2 of the air distributors that go under the dash (from a wrecker or another wrecked car you have access to) as you still need your original ones. Cut off the top section about $\frac{3}{16}$ " deep. Remove the 2 captive screws from the moulded cardboard and drill a hole through at these points. After covering the moulded cardboard with new vinyl, fit the section you have cut off on top of the existing dash above and in line with the demister outlets using chrome-headed screws. These should be long enough to attach to the original distributors. The sections you cut off the distributors can be sanded and sprayed black to give a good end product.

Eddie Houghton of the ACT Leyland P76 Club is planning a **Leyland Show Day** at the Phillip Oval on 29 February 1992 and invites other Leyland/BMC clubs to participate. The idea of the show is to raise money for the **Kidney Foundation** and will include trade stalls, a band and even a swap meet. Spectator entry will be \$2 with each club contributing \$50. Your thoughts are invited and this event will be discussed at the next monthly meeting.

Landcrab Trivia/Did You Know?

- The larger front displacer unit WILL fit under the rear suspension. However, the suspension mounting bracket would need to be modified to take the bigger diameter OR you can use the utility suspension mountings which take the large size normally.
- A 200-gram yoghurt container holds $\frac{1}{3}$ pint of oil. . . just the right amount to refill the steering rack.
- There was a MG 1800. No, not a production car or even a prototype but a conversion. The story appears in this newsletter.

The **FEBRUARY MEETING** will be:

Monday, 3 February 1992, 7.30 pm
The Canberra Yacht Club.

and the **MARCH MEETING** will be:

Monday, 2 March 1992, 7.30 pm
The Canberra Yacht Club.

As the Christmas and New Year holidays draw closer, take care on the roads and in your homes, enjoy the fellowship of family and friends, and the best of holiday greetings to you and yours. Never a Christmas morning, never an old year ends but someone thinks of someone, old days, old times, old friends.

Yours in first class motoring. . .

Mick

FOR SALE

AUSTIN KIMBERLEY: Automatic. Runs well. Registered 92. \$600. Tel (048) 211-439.

NEW KIMBERLEY PARTS:

Kimberley grille	\$15
2 Kimberley headlights	\$15 each
2 Front turning lights	\$5 each
2 Top radiator hoses	\$5
1 Bottom radiator hose	\$5

Radiator	\$50
Trafficator switch	\$30
Dash panel (speedo, gauges, switches)	\$30
2 Engine mounts	\$5 each
Fan temperature switch	\$5

Or \$150 the lot. Contact Les Lenny, tel (048) 836-536.

SEATCOVERS: Pair of new front seatcovers especially designed for 1800. Grey colour with red stripe. Contact club address.

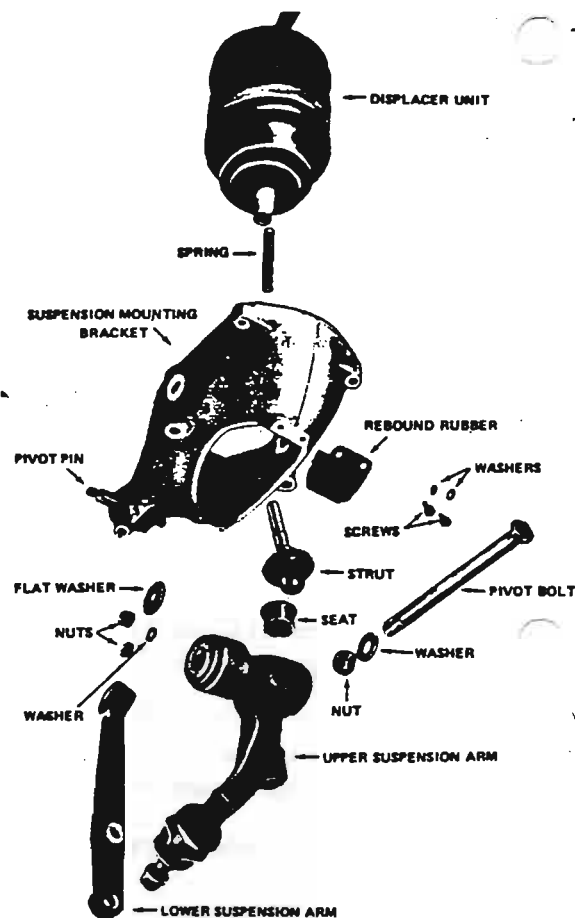
POWER BOOSTER: New Moreys Oil power booster. \$40. Contact club address.



20. Moving on to the suspension, remove the 2 nuts ($\frac{1}{2}$ ") at the top of the housing, the $\frac{3}{4}$ " bolt at the base, then the 2 nyloc nuts ($\frac{3}{4}$ ") at the middle. Remove the front suspension housing.
21. Examine strut, seat, ball and rubber seal the same as for the rear suspension.
22. Remove the $\frac{15}{16}$ " pivot bolt and withdraw the front suspension arm. Note that the nut faces towards the front of the car. Examine the bearings as per the rear suspension. Check the upper balljoint as per item 12. Examine the upper and lower bump rubbers.
23. Check the lower suspension arm pivot and replace the bushes. Polyurethane replacements are available through the club for both MkI and MkII. Replace the rubber pads on the tie bar.



Typical Suspension Tie Rod and Bracket Assembly Removed from Vehicle



Dismantled View of Passenger Side Suspension Mounting Bracket and Displacer

24. Before replacing the front suspension housing, it is a good idea to check inside the front of the displacer housing for signs of corrosion. Treat if necessary.
25. Replace all components in reverse order. Repressurize the hydrolastic system and bleed the brakes.

The reward for all this work is that your 1800 will feel and run very smoothly with a new lease on life — you have virtually brought everything back to as good as new. You will also have the satisfaction of knowing that your landcrab is good for many more thousands of miles.

With reference to the CV joints: If you have to buy any new ones they are best bought from the UK or New Zealand (in view of the exorbitant cost here). The UK cost is very roughly £25 each plus up to £20 for carriage. Then, if you are unlucky enough to be hit for duty by Customs (as I was recently), duty can be up to \$70. Overall, you still come out in front. While in New Zealand earlier this year, I located reconditioned 1800 CV joints for NZ\$95 each [GWD Russells Ltd, PO Box 79, Yarrow Street, Invercargill NZ; telephone 0011 64 3 214 4339, fax 0015 64 3 218 3309].



Buon Natale.....Felices Pascuas de Navidad.....Frohe Weihnachten.....
Joyeux Noel.....Happy Christmas.....Nodhlag Sona.....Sretan Bozic.....
 Gelukkig Kertfeest.....Selamat Hari Natal.....Wesolych Swiat.....Shalom.....
 ...Il-Milied It-Tajjeb.....Chuc Mung Giang Sinh.....Maligayang Pasko...
 Felic Natal.....Kala Hristougena.....Kellemes Koracsonyi Unnebek...
 Kivanok.....Vesele Vanoce.....Veseloje Rozsdestwo Christowo.....

ELECTRIC RADIATOR FANS [by Daryl Stephens]

There are basically 2 reasons for installing an electric radiator fan:

- To aid cooling on a very hot day (purely as an overload).
- As a replacement for the existing mechanical fan.

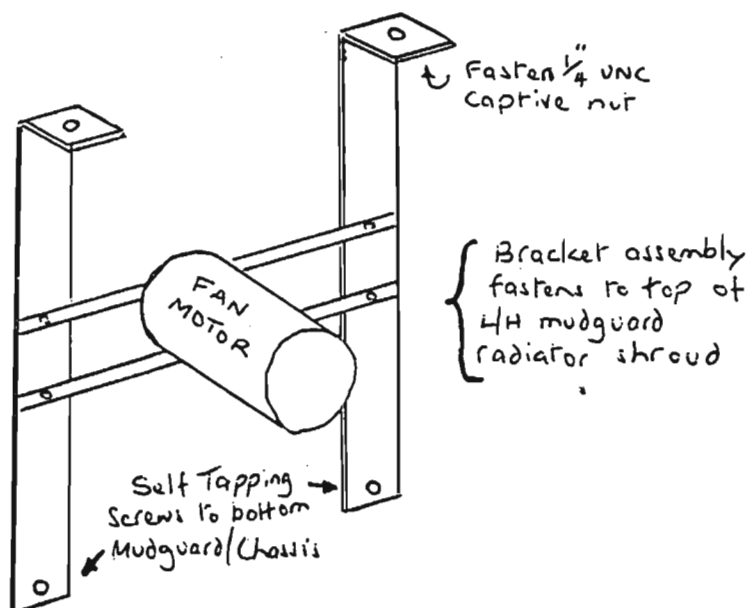
Depending on which reason you choose, installation is very similar:

1. Jack up the passenger side of car and remove road wheel.
2. Remove the corrugated air duct.
3. Remove top radiator hose and radiator bracket.
4. Place a piece of wood between the radiator and inner mudguard. This protects the radiator while you next cut out the grille. An angle grinder works very well.
5. Treat bare metal areas with a stop rust.

There are 2 types of fan you can use:

- Davies Craig fan and motor, part no BC7-P, 320mm, 1400 cu ft/minute of air. Recommended retail price \$170. Unit bolts directly on to the radiator.
- Davies Craig part no SSW 518 with BC 002 fan, 12", 1000 cu ft/minute of air. As a comparison, the Kimberley fan rates 600 cu ft/minute of air.] Daryl bought this fan for \$25 from a wrecker.

The following drawing shows how the brackets are fashioned. When refitting components, be sure the fan clears the radiator.



If you plan to do away with the existing 1800 fan, it is a good idea to replace it with a small plastic fan (ie from a Mini) with at least 4 blades removed. This assists with cooling and helps prevent the electric fan running non-stop.

When connecting the electrics, you will need to decide on whether to use a thermost switch which operates the fan automatically at a preset temperature. If you do, should an override switch be used as well? Daryl used a manual switch not wired directly to the ignition switch but which is independently operated allowing the fan to run with the engine off. The switch was connected to the headlight switch then to the electric fan via the (unused) bottom yellow dashlight (which acts as a warning light). Both the warning light and the fan need to be earthed.

BUDGET PRICE OIL COOLER [by Daryl Stephens]

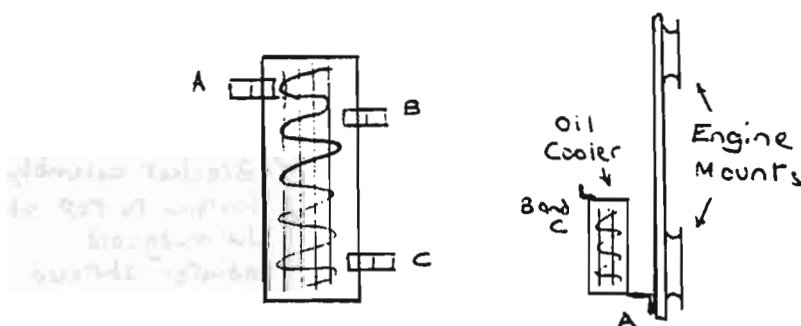
I recently read an article on special tuning (Abingdon UK) which said that an oil cooler should be fitted to an 1800 when fast motorway speeds are encountered. Since we tow a 'Jay Swan' camper trailer on holidays, I thought it would assist with engine cooling.

Oil coolers for the B series engine were fitted to the MGB as well as the Cooper S models. These are just not available secondhand and the price of one new is around \$150. An alternative had to be found — the oil cooler from a Toyota Corona MkII (2½ litre 6-cylinder engine) proved to fit the 1800 very well. One was purchased secondhand for \$10 and given a high pressure test and flush. Heater box and gearbox radiators should not be used as they are not designed for high oil pressures.

About the only convenient spot under the bonnet was occupied by the horns. These were relocated under the front mudguard:

- By using 1 pair of horn bracket holes, one horn bolts neatly into the front of the mudguard facing forward.
- Then, by twisting the horn 90° on its bracket, the other horn can be attached by drilling 2 holes on the horizontal seam inside the mudguard.
- The third and fourth original holes can be used to carry the wiring. Be sure to use rubber grommets.

Now, with sufficient space under the bonnet, the oil cooler (measuring 8" x 5" and 1½" thick) is held by 3 supports. Viewing down onto the cooler it looks this way:



The madeup bracket A is just a straightforward right angle attached to the cooler and bolted to the engine mount. Looking from the drivers seat, brackets A,B and C are viewed this way.

Bracket B bolts onto the battery earth. Bracket C bolts onto the top front bolt of the battery carrier. Brackets B and C need to be bent to fit. Brackets are $\frac{3}{4}$ " x $\frac{1}{8}$ " mild steel.

With regard to the plumbing, the oil pipe from the engine (just above the starter motor) to the oil filter housing is replaced by a flexible pipe which runs via the oil cooler. A thermostat can be fitted (costing \$98) or the cooler can be covered in cold weather.

When fitting the oil pipe into the engine, it is essential that the 2" or so of pipe extends into the block. This prevents unfiltered oil entering the main bearings. The MkI block fitting is preferred as this fits easily into the MkII block. The plumbing was obtained from ENZED (the hose doctor) at a cost of \$40, bringing the total cost of adding an oil cooler to \$50.

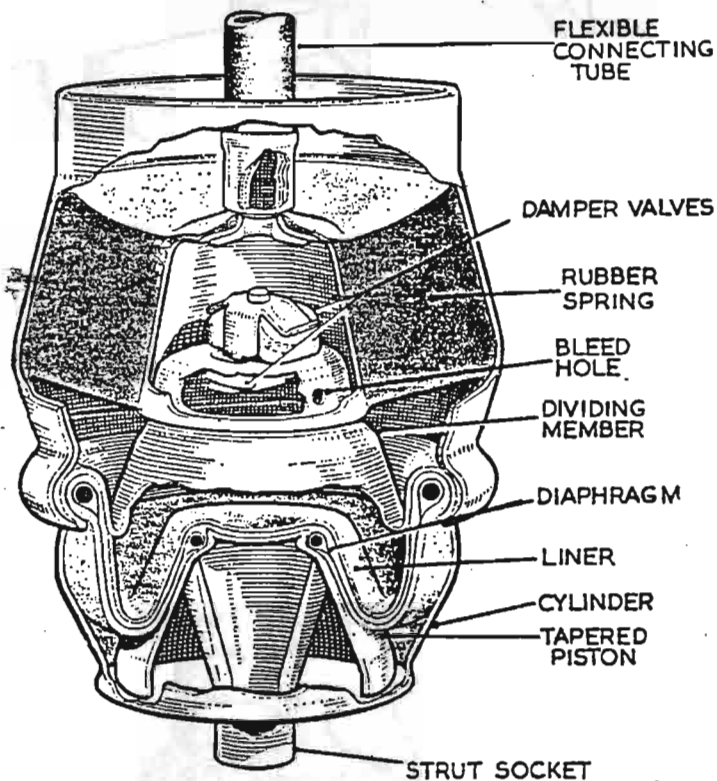


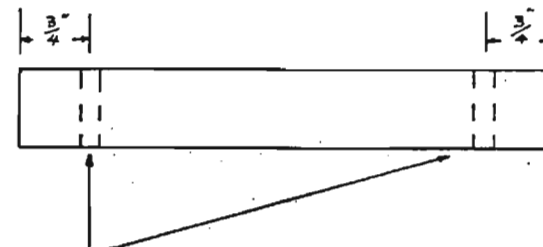
Fig 29 — Cut-away view of a displacer unit showing the various components of the assembly.

**** TECH TIP ****

When working on cars with hydraulic brakes and only having to remove one slave cylinder for repair, it is very helpful if all the fluid from the system is not lost requiring all the brakes to be bled.

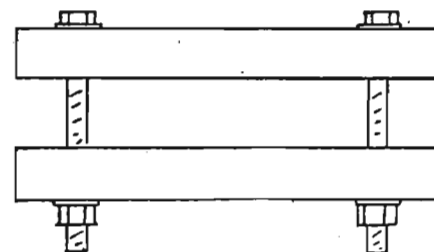
Below is a sketch for a cheap clamp which can be placed on the flexible hose which runs to the wheel being worked on for the front wheels, or the flexible hose between the body and the rear axle for the rear wheels.

All that is required are two pieces of $\frac{3}{4}$ inch water pipe, 4 inches long and two $\frac{3}{16}$ inch bolts $3\frac{1}{2}$ inches long with nuts and 4 flat washers.



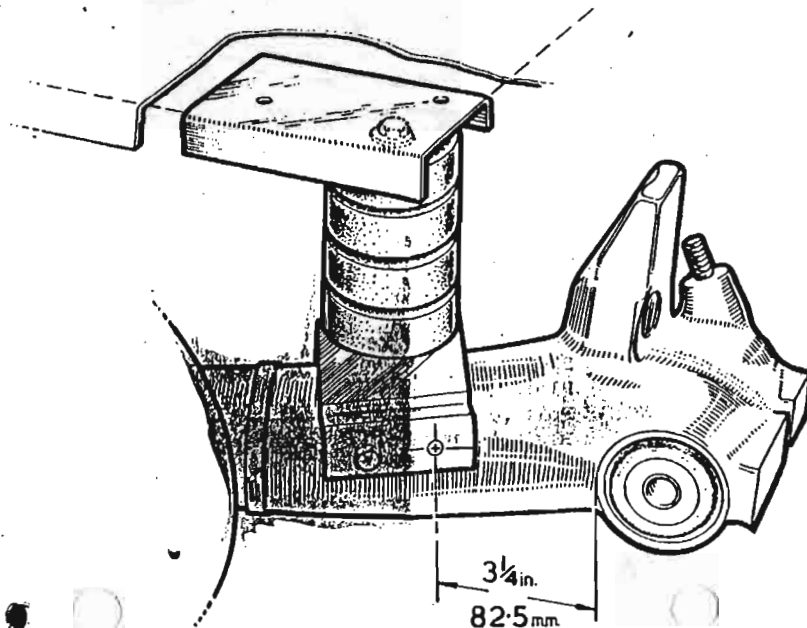
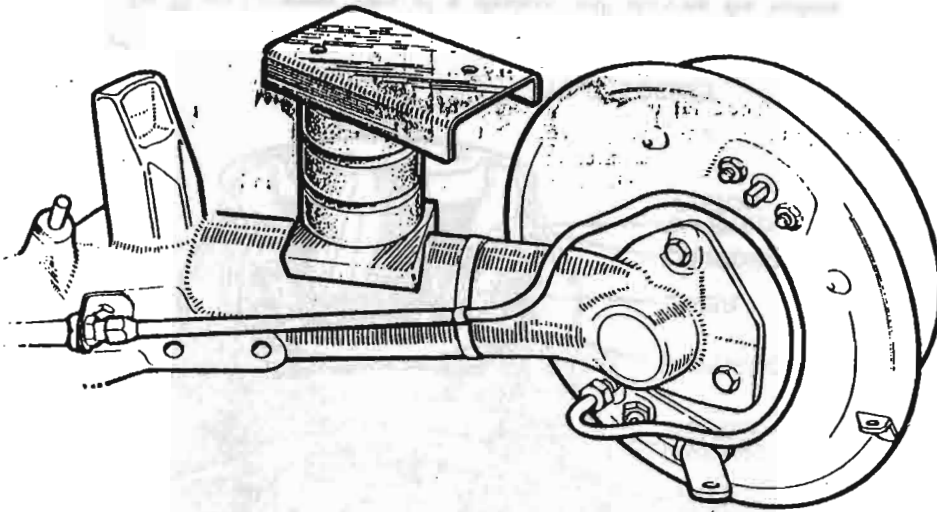
two holes in each piece of pipe drilled to $\frac{3}{16}$ " clearance ($\frac{7}{32}$ ").

Join the pieces as shown below and clamp the hose between the pipes.



P.A.J.
July 86

AUSTIN 1800
NEW, GENUINE PARTS. SOME SCARCE.



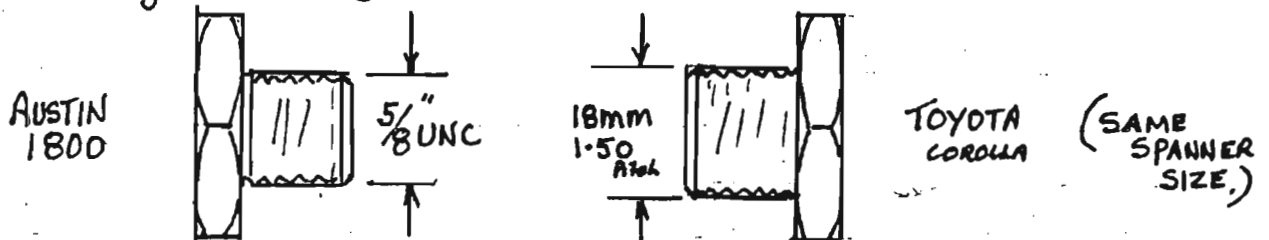
Pistons, with rings, most sizes	\$65.00 each
Ring sets, most sizes	\$49.95 / set
Big end bearings, most sizes	\$42.50
Main bearings, most sizes	\$49.95
Timing chain	\$20.00
Timing chain tensioner	\$22.00
Reco cylinder heads	\$199.00
Top overhaul gasket set	\$33.00
Bottom overhaul gasket set	\$50.00
Oil filter Mk II	\$11.95
Oil filter Mk I	\$9.95
Reco water pump	\$49.95
Engine mounts - rear & front available (approx \$35 each)	please enquire
Front exhaust pipe	\$48.95
Muffler - tail pipe	\$50.00
Accelerator cable	\$11.95
Distributor cap	\$11.95
Points	\$4.00
Petrol pump - electric - new	\$79.00
Air filters	\$9.95
Brand new clutch overhaul kit (Quinton Hazell)	\$189.00
Speedo cables	\$19.95
Drive coupling - UK quality	\$49.95
Auto trans. overhaul kits	please enquire
Wheel bearing kit, front	\$60.00
Rear brake cylinder kit	\$18.00
Rear brake shoes, c/o	\$25.00
Reco steering rack c/o	\$110.00
Tie rod ends	\$28.95
Front ball joints	\$36.00
C V joint repair kits	\$29.95
Front brake pads	\$19.95
Brake booster c/o	\$149.00
Full range of light lenses (approx \$17 each)	please enquire
Wiper blades	\$2.50

THIS IS ONLY A SMALL SAMPLE OF 1800 PARTS IN STOCK
contact BOB LEONARD at

NORTHERN JAG (Melbourne)
32A Korong Road, West Heidelberg ph 459 9285

SUMP PLUG DATA

If you are unfortunate enough to strip the Sump threads within Austin 1800 the following details may be of use:



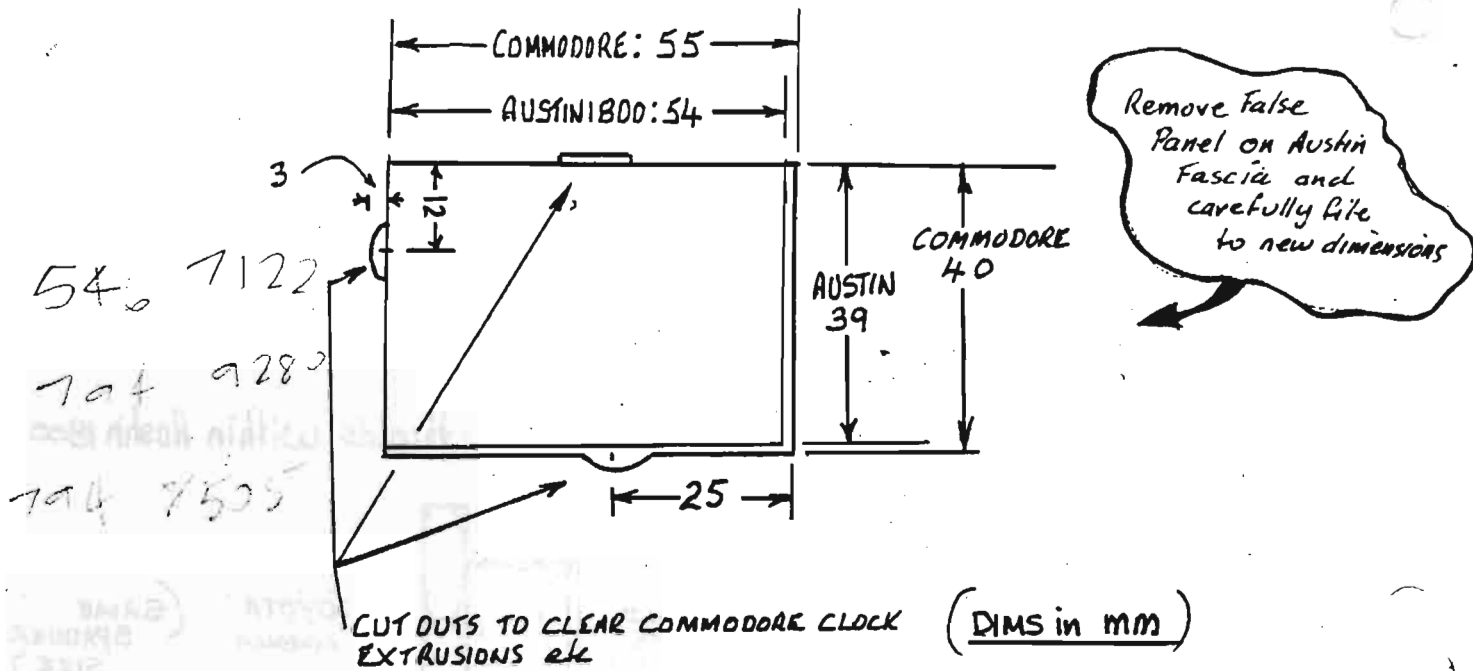
- (1) Tap aluminium Sump with 18mm X 1.50 ISO metric Tap. It will fit into old stripped thread hole without further drilling.
- (2) Withdraw tap often to remove metal shavings - clean with spirit & ensure hole is free of any cuttings before inserting new sump Plug.
- (3) Toyota Sump plugs are available in oversizes if future problems occur.

(*) Remember not to overtighten Sump Plugs.

Note. my thread stripped during Sump Plug removal.

KGP

CUT-OUT DETAILS TO ALLOW CLOCK FROM HOLDEN COMMODORE TO FIT AUSTIN CAR



NOTES

WIRING INFORMATION.

FROM A2 FUSE WIRE COLOUR: PURPLE

ALWAYS LIVE (12V)

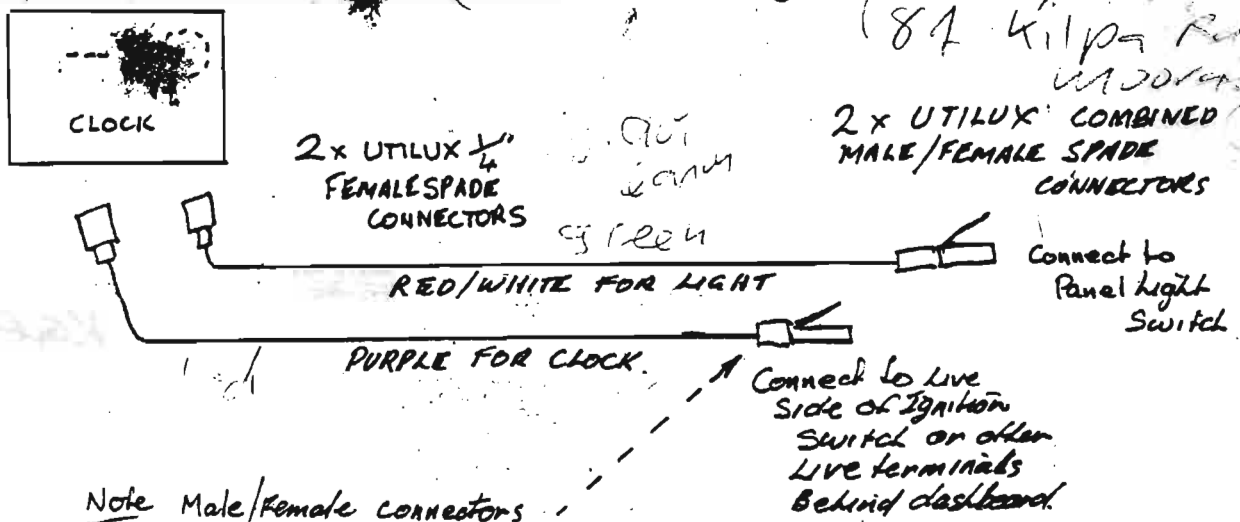
FROM A4 FUSE WIRE COLOUR: GREEN

LIVE WHEN IGN IS ON.

WIRE NO 12 PANEL LIGHT SWITCH COLOUR RED/WHITE LIVE WHEN PANEL LIGHT SWITCH IS ON.

LDDM DETAIL

(About 500 mm long)



Note Male/Female connectors

Remove existing wire from switch
Place on male side of M/F connector
and place assembly back onto switch.

CLOCKS ARE BECOMING AVAILABLE AT SWAP MEETS FROM CLAPPED OUT VH COMMODORES. THEY ARE SIMPLE TO FIT. PERFORM WELL AND LOOK GOOD.

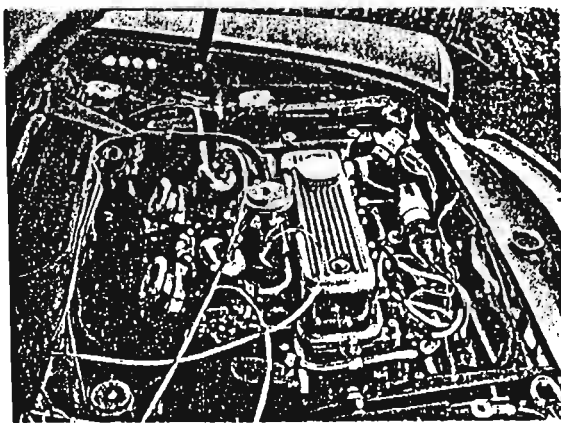
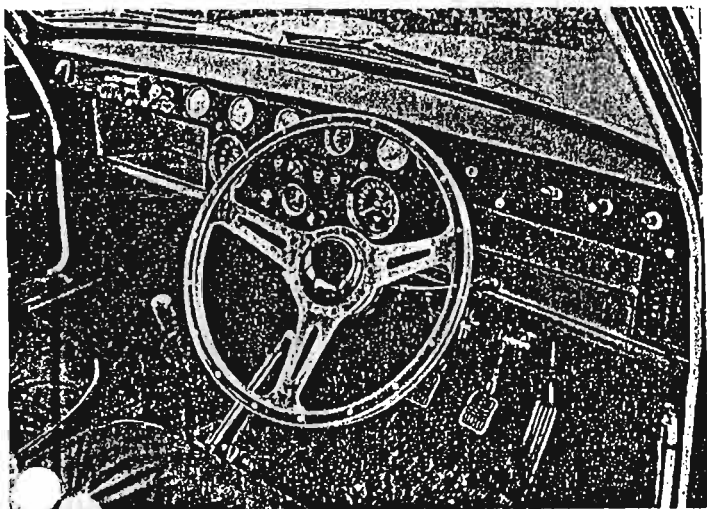
* VB & VC models also

KGP

Photos:
Seager



We parked Rixon Bucknall's car next to a standard Austin 1800 to show how its appearance has been changed



control. A new vertical, central, floor-mounted and ready-to-hand brake lever has been installed in place of the pull-out hand brake under the dash.

A fire extinguisher and a cigarette lighter have been provided together with an ashtray on each of the front doors. The windscreen is laminated, there are shaped and detachable mats over the carpets, there is a pivoted arm-rest on the rear seat, there is a pull-up rear window blind controlled by the driver, and there are dark green Perspex sun visors with padded edges.

On the inside of the boot lid is a pouch for carrying the car's touring papers, the plated wheel brace is clipped to the left side of the boot interior, and there is a case which contains the

jack and the tyre pump. Additionally, there are two zip-up bags, one for tools and the other for spare parts and equipment which is normally carried in the car.

The exterior colour is light naval grey with red wheels which match the upholstery. The underside is finished in Swedish rust-proof Adup Bronze.

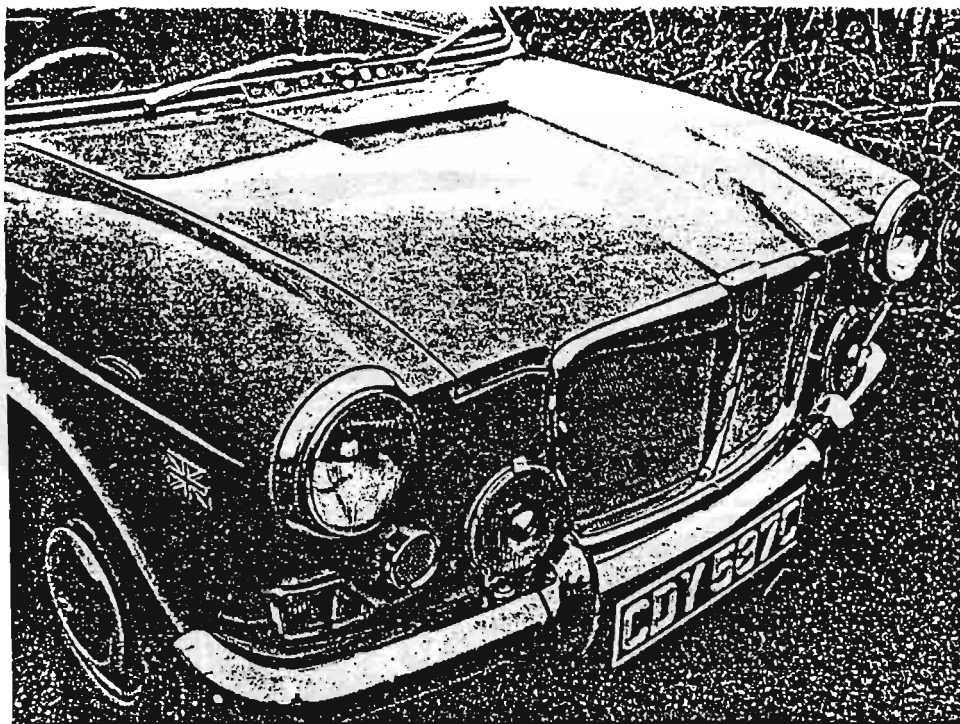
This car has the 3-88 to 1 final drive, giving, at 6,000 r.p.m. (6,500 permissible), 106 m.p.h.; and the performance of a standard 'MGB'. It is approximately half a hundredweight lighter, unladen, than it was when it was purchased—as an Austin.

The frontal reconstruction was effected quickly and expertly by MacMiller Motors and the paintwork by Caffyns

Ltd., both of St. Leonard's-on-Sea; the hand brake and some detail work being done personally by my good friend Bill Slack, who is Messrs. Caffyns' Chief Engineer, and who shared with me the creation of my previous 'special'—the four-seater 'MGB'.

The instrumentation and other detail work was carried out by Mr. D. G. Smith of Sivy's Garage, Mayfield; and the whole of the engine modifications were made by Downton Engineering Ltd., under the personal supervision of Mr. Daniel Richmond.

The result, to its owner, is a very satisfying, responsive and somewhat intriguing saloon car; well-built and well-equipped. 'It looks the part, and it goes the pace.'



THIS car, which was bought new as an Austin 1800, has been turned into an M.G. It has an M.G. front, it carries the M.G. insignia on the wheels, the M.G. octagon is mounted on the boot lid, and no Austin identifications remain.

The engine has been stripped and rebuilt with a new and machined flywheel, crankshaft, and connecting rods, the whole being balanced including the pistons. The camshaft has been changed; so has the cylinder head, which is fully gas-flowed, has a 9.2 to 1 compression ratio and is fitted with larger valves and stronger springs. There is an oil cooler, and the fan has been replaced by a Kenlowe thermostatically controlled electric unit which releases some worthwhile power. Ignition is by a special distributor with appropriate sparking plugs. A matched pair of S.U. HS6, 1½-in. carburettors, without air cleaners but with balanced inlet manifolding, look after the inhaling; and a flowed manifold leads the exhaust gases to a big-bore pipe and a lightweight (4-lb.) stainless steel, straight-through silencer. The result of these modifications is to raise the power output up the range, and from a peak of 84 to a peak of 112 b.h.p.; to maintain harmony a special torque stay has been installed.

In the engine room and ready to hand are a set of spare sparking plugs and also a battery charging socket. The general finish is to a fairly high standard, all alloy and copper being polished and many nuts being domed and plated. The bonnet lid catch can only be released from the interior of the car.

The original front has been cut back and reshaped to take an 'M.G. 1100 grille, but fitted with mesh instead of

'one man's meat ...'

a 'one-off' M.G. 1800

In the first of this new series about very personal cars, RIXON BUCKNALL tells how he modified an Austin 1800 to suit his own highly individual tastes

vertical slats; for it there is an adjustable blanking-off pad, in red, which matches the wheels and upholstery. The neat circular headlamps are Marchal, the fog lamps are Wipac, and there are two plated air inlets for the interior ventilations. Above the leading edges of the front wheel arches are Union Jack plaques, and a panel of miniature club and other badges is mounted across the bonnet top just in front of the windscreen.

An instantly adjustable exterior mirror is mounted on the right screen pillar and plated GB letters are set in the centre of the boot lid. On each side of the rear number-plate is a Wipac reversing light, and the exhaust tail pipe is plated. All doors have rubber buffer-reflectors.

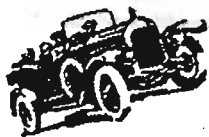
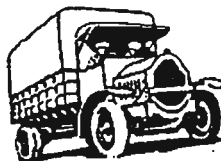
Full instrumentation has been provided, arranged centrally so that the passenger/navigator as well as the driver can make use of it. There is a specially calibrated speedometer; tachometer; ammeter; water temperature, oil temperature, oil pressure, and petrol gauges; and a clock. There is also a live plug, a map-reading light, an over-riding control for the Kenlowe fan, and a switch for a pair of extra loud horns that go on blowing until they are switched off. (Very useful, when overtaking large *camions* with trailers!)

The front seats have adjustable backs and the angle of the steering-column has been lowered, which, coupled with a 15-in. Motortune dished steering-wheel give an improved position and better

THE COUNCIL OF A.C.T. MOTOR CLUBS INC. PRESENTS:-

'WHEELS 1992'

BEING HELD AT THE A.C.T.A.F.L.
OVAL IN PHILLIP, ACT.



**SUNDAY, 9TH
FEBRUARY 1992.**

FROM;- 10 a.m. to 4 p.m.

ALL PROFITS GO TO
LOCAL CHARITIES:-

YOUR SUPPORT BY ATTENDING
WILL HELP THEM ALL GREATLY.



Antique, Veteran, Vintage, Classic, & Historical vehicles, as well as the more modern Sedans, Sports Cars and Motorcycles will be on display, along with interesting special displays by the Police and various other groups.
Something for every one to look at. Come along, and bring the family !

WE WOULD LIKE TO THANK THE FOLLOWING FOR THEIR SUPPORT AND ASSISTANCE:-



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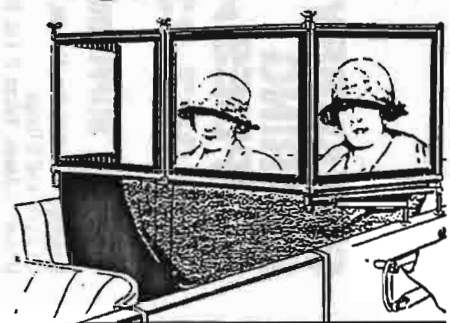
HEY DIDDLE DIDDLE
AS FIT AS A FIDDLE
HIS CAR JUMPS OVER THE MOON
WITH WEATHERSHIELDS COSY
SO SNUG ON ITS NOSE. HE
EJACULATES "OH WHAT A BOON!"



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MADE FOR ANY CAR
FITTED IN THREE JIFFS
ALTERED IN TWO &
TAKEN OFF IN ONE
STATE MAKE, YEAR AND
DEPTH OF RADIATOR TUBES.

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WEATHERSHIELDS LTD.
MOTOR EQUIPMENT.
48 MOOR STREET, BIRMINGHAM

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Fit an Easting Screen
and ensure the com-
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Full particulars from
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Cox Street, Birmingham.
London Office: 29, Foley
St., Ct. Portland St., W.1.
H.P.



The Protecto Shield

Upper half Green, protects the eyes
from sunburn or headlights. Lower
half is open, giving unobstructed vision. per pair.

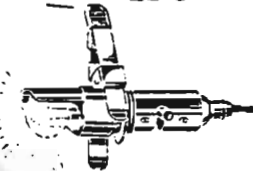


DON'T GROPE ABOUT IN THE DARK.
Save time, temper and trouble by
getting a "CLIPOLITE," the handy
little electric light that every motorist
is buying. It clips anywhere—on
your hood frame, coat lapel, mud-
guards, steering column, etc., etc.
Wherever trouble may occur on your
or the lamp can be clipped on some-
where handy and will lighten the spot.
It is made of solid brass, heavily
nickel-plated, with 3 yards of flex and
revolving hood. Price, including
plug, but without bulb, 15/6, of all
West-End Stores and Dealers or post
free 16/- from:—

The
"Clipolite"

The little lamp that
clips anywhere and
lightens your troubles.

PRICE
15/6



Sole Patentees and Manufacturers:

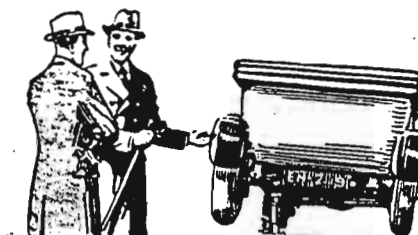
A. R. WILLMOTT & CO., LTD.,
BROOK WORKS, ACACIA RD., NORBURY, S.W.18.

"Dusout"
CAR COVERS (REGD)

Size	Price	Weight
12 ft. x 6 ft.	20/6	60 lb.
12 ft. x 8 ft.	25/6	80 lb.
12 ft. x 10 ft.	30/6	100 lb.
12 ft. x 12 ft.	35/6	120 lb.
12 ft. x 14 ft.	40/6	140 lb.
12 ft. x 16 ft.	45/6	160 lb.
12 ft. x 18 ft.	50/6	180 lb.
12 ft. x 20 ft.	55/6	200 lb.
12 ft. x 22 ft.	60/6	220 lb.
12 ft. x 24 ft.	65/6	240 lb.
12 ft. x 26 ft.	70/6	260 lb.
12 ft. x 28 ft.	75/6	280 lb.
12 ft. x 30 ft.	80/6	300 lb.

Send for List and Samples.

DUSOUT MANUFACTURING CO.
438, Blackheath Street, BIRMINGHAM.
Phone: 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000.



NOW WATCH

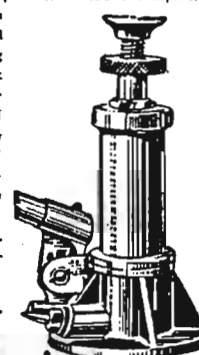
—the car comes gently
to the ground.

EVER seen a car jack like this before? With
hardly any effort and using only one hand,
you raise the car. No chains or cogs, no kneeling
or perspiration. Just push the lever up and
down. THEN when the job is done you simply
slip the handle on to the patent lowering valve,
give it a turn and the car comes gently to
the ground.

What is its secret? Just this, it is *hydraulic*—the
"Enots" Hydraulic Jack. If you are acquainted
only with mechanical jacks, the lifting power of the
"Enots" will amaze you. For the first time a
hydraulic jack has been produced that is as compact,
as simple and as light in
weight as any mechanical
jack—and twice as strong
and reliable. Do not
suffer any longer the
dangers and difficulties of
mechanical jacking. The
price of the "Enots"
Jack is only 50/-
Ask your garage or write
for folder.

THE IDEAL XMAS GIFT
FOR YOUR MOTORIST
FRIEND.

BENTON & STONELTD.
Motor Department,
Bracebridge Street,
BIRMINGHAM.



ENOTS
HYDRAULIC JACK

PRICE
50/-
Complete with
2-piece handle.



A FEW
IDEAS FOR
CHRISTMAS IN
1926

[courtesy of AMVC Queensland]

The UTILITY
Illuminated
Lighthouse
MASCOT
with
Thermometer.

ROSSI'S
Engineering
Works,
EASTBOURNE.

A Few Advantages
at a Glance.

1. It is a self-tale for the rear lamp.
2. It is useful as a parking lamp, as it contains a coloured light.
3. It is attractive and ornamental.

When ordering please
mention colour of
lighting set on car.

Price
£3-3-0
Cash with order.

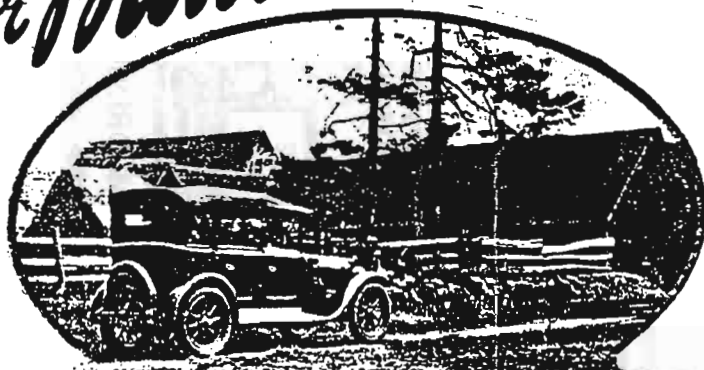
Patented in England and abroad.

A CHRISTMAS PRESENT
FOR YOUR MOTORIST FRIEND



Aero Car Mascot
in beautiful polished alu-
minium, propeller rotat-
on ball races, height 8",
made to fit any radiator cap.
Usual price 2 guineas;
special offer 22/6, postage
9d. extra. If not satisfac-
tory, return within 7 days
and cash in full will be
refunded.
ARDING & HOBBS LTD.
(M.G. Dept.) Clapham Junction, S.W.11

**Presents
for Motorists**

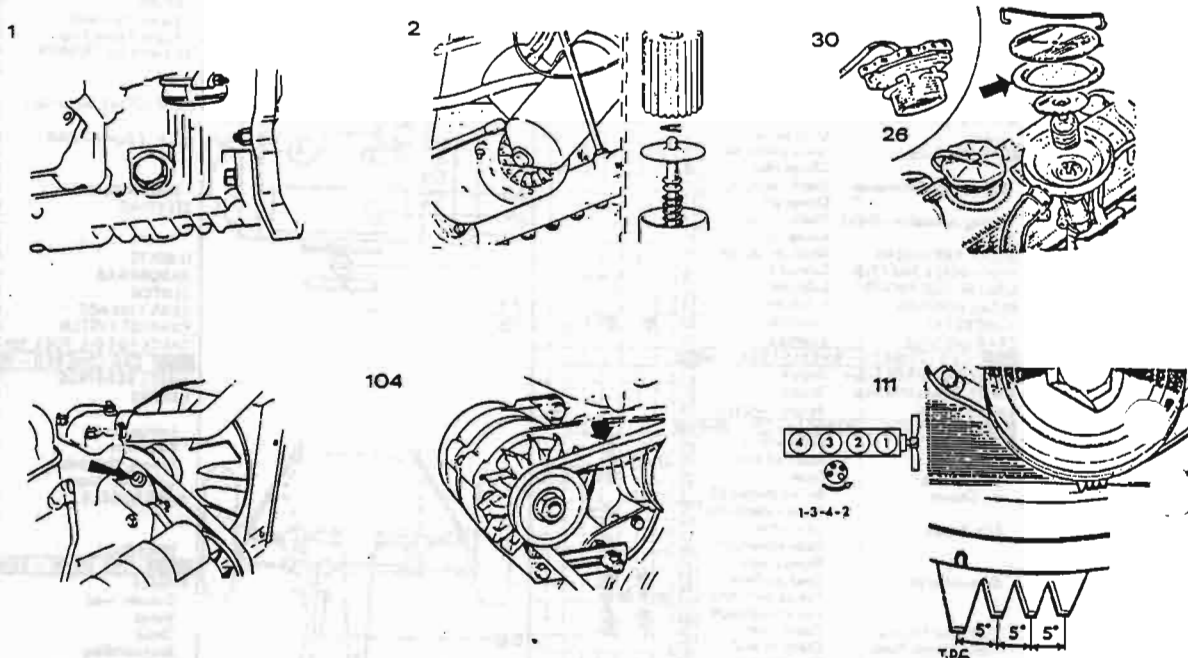


CHRISTMAS IS COMING! Ignorant of their impending fate these turkeys on a
Buckinghamshire farm display great interest in an Austin Twelve.

1964 >

Lubricate and Clean			EVERY			Service, Check, Adjust		
CAR UP			MONTHS			CAR UP		
MI			Miles (1000)			MI		
KM			KM (1000)			KM		
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1964 >



TECHNICAL NOTES		<p>28 - AIR INTAKE - check SUMMER (away from manifold) / WINTER (close to manifold) adjustment.</p> <p>51 - Where alternator fitted - clean the slip ring end cover ventilating apertures.</p> <p>88 - Also check the working surface of the pistons and of the bores of the master cylinder, wheel cylinders, and other slave cylinders. Fit new parts if necessary.</p> <p>108 - Also check function of AUTOMATIC ADVANCE and RETARD MECHANISM.</p>							
ENGINE DATA	COMPRESSION	VALVE CLEARANCE		IDLING SPEED	SPARK PLUG GAP	DISTR. POINT GAP	OWELL ANGLE	STATIC - IGN. TIMING - STROB.	
	kg/cm ² /psi	INLET mm/in.hot(h)/cold(c) OUTLET		rpm.	mm/inches	mm/inches	degrees	degr.-BTDC	degr.-BTDC/rpm.
	12 - 14 / 170 - 195	0,3 / ,015		550	0,64 / ,024	0,3 / ,014	60 ± 3	12 / 600	
TYRES	STANDARD SIZE	FRONT PRESSURE	REAR PRESSURE	OPTIONAL SIZE	FRONT PRESSURE	REAR PRESSURE	BRAKES	MINIMUM THICK.	
	Pressure kg/cm ² /psi	normal/full	normal/full		normal/full	normal/full		SHOE	mm/in.
	165 SR 14 SP 68	2,1 / 30	1,7 / 24						
STEERING GEOMETRY	TEST LOAD	TOE-IN(i)/OUT(o)	CAMBER	CASTOR	KING PIN INCLN.	TOE-IN(i)/OUT(o)	CAMBER	TOE-ON TURNS	
	kg/lbs.	front-mm/in.	degrees/min.	degrees/min.	degrees/min.	rear-mm/in.	degrees/min.	degr.at	degr. LOCK
	NIL	(i) 3,2 /	1° 30' ± 45' pos. PS. 2° ± 45'	3° ± 45' neg. PS. 2° ± 1°	12		30' pos.		
TORQUE VALUES		65	80	84	86	96	98	V-BELT TENSION	RAD. CAP. PRESS.
	mkg/lb.ft.					8,3 / 60	6,9 / 50	mm/inches	kg/cm ² /psi
								13 / ,51	CLUTCH PLAY
									mm/inches
TBA									
	165 SR 14 SP 68	12 V / 57 Ah	CHAMPION N 9 Y		8 G 683	12 H 1172	13 H 503		

AUTOSERVICE DATA CHART

SECTION U

SERVICE TOOLS

This section contains a list of essential service tools which have been developed to prevent the possibility of component damage, ensure correct assembly and achieve minimum operation times.

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	18GA 134BQ	Crankshaft Rear Oil Seal Replacer	U 4
	18GA 134BT	Clutch Shaft Oil Seal Replacer	U 4
	18GA 284	Impulse Extractor	U 4
	18G 284A	Impulse Extractor Adaptor (Main Bearing Cap)	U 4
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	18G 1046	Front Engine Cover Centralizer	U 5
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