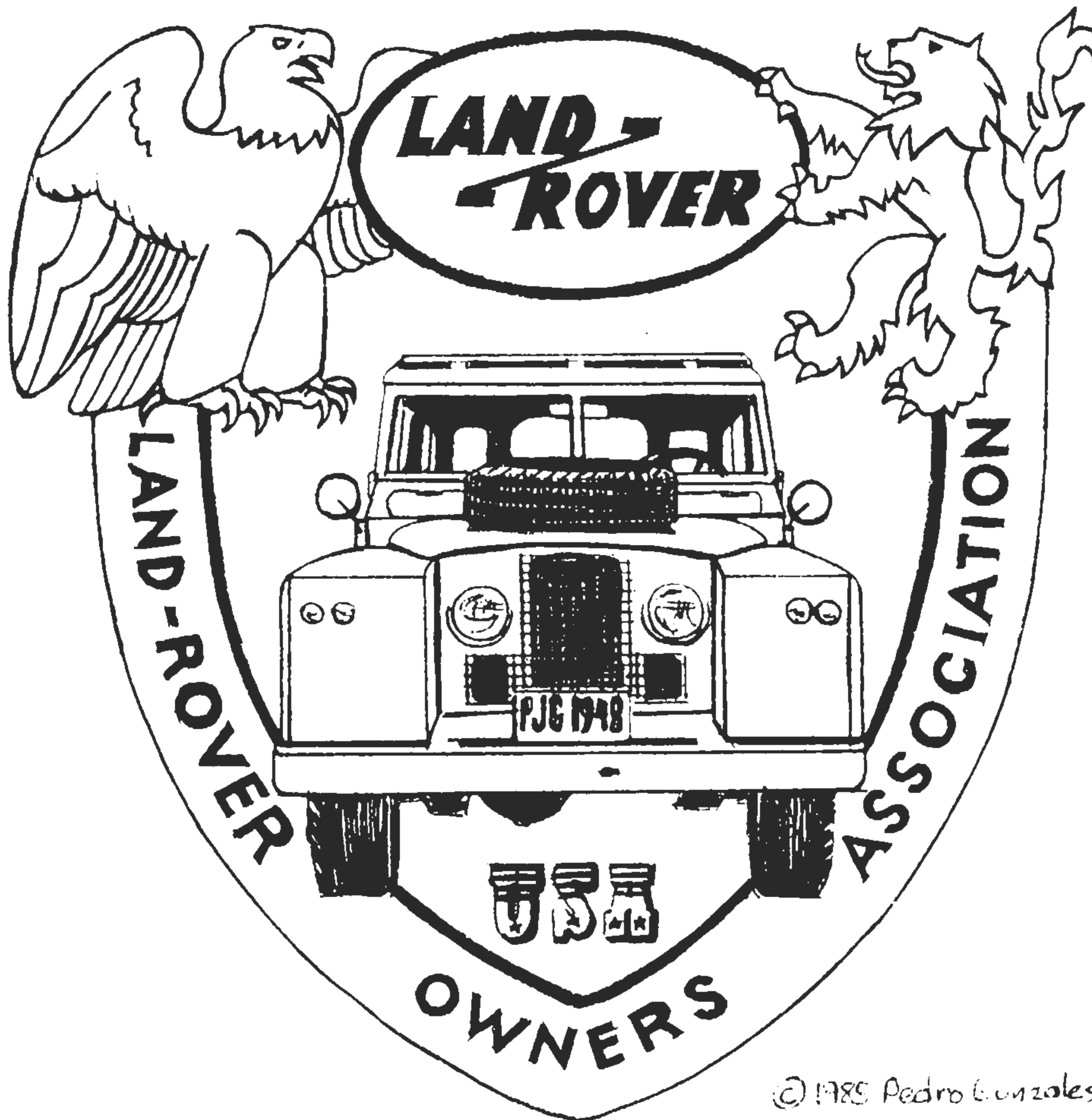


# The ALUMINUM WORKHORSE

THE OFFICIAL PUBLICATION OF THE LAND ROVER OWNERS ASSOCIATION

VOLUME II, NUMBER II, APRIL/MAY, 1985 - COPYRIGHT 1985, ALL RIGHTS RESERVED



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# LROA news ...

APRIL/MAY, 1985 - - LROA, P.O. Box 162201, Sacramento, CA 95816

## CLUB EMBLEM

On the cover, in all its splendor, is our new club emblem. Pedro Gonzales (#65), a professional artist/illustrator, produced this stunning design for us and devoted many hours of valuable time to the project. The full color version is spectacular! Pedro has also agreed to make the emblem design camera-ready which will save time and money at the printers.

We received many good ideas and to those who contributed your time and energy to the project, many thanks! Some of these designs may be used at a later date on other projects, so keep a look out. Good show, chaps!

## MEET YOUR REGIONAL COORDINATORS

Here are the first four fearless-leader types who have enlisted to be Regional Coordinators in their respective areas. If you live near any of these men, watch the newsletter for events in your area. Feel free to contact your R.C. for more information. Here they are:

NORTHEAST REGION - Ron Mowry  
P.O. Box 1023  
West Lebanon, Maine 04027  
(207) 658-9064

NORTHWEST REGION - Gord'n Perrott  
119 N.E. 60th Street  
Seattle, Washington 98115  
(206) 523-8257

SOUTHERN CALIF.  
REGION - John McDonald  
11042 Lambert Avenue  
El Monte, California 91731  
(818) 443-1584

MOUNTAIN STATES  
REGION - Kerry Oldham  
4271 S 4850 W  
West Valley City, Utah 84120  
(801) 964-2388

- - ACTIVITIES CALENDAR - -

July 12 & 13 - Overnight Trek, Northeast Region  
See Trek Ads section for details.  
TREKMASTER: Larry Davis.

August 31 - September 2 - BLACK ROCK DESERT RUN!!  
TREKMASTERS: "Scotty" Howat & Marvin Mattson

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# LETTERS

HILSEN AF DANMARK!  
(Greetings from Denmark!)

It is wonderful to be home again after so many months, but it wouldn't take Frede and I long to pack a bag again and get going! We loved to read your newsletter and I promise to write something about our trip around the U.S. very soon. I'm finally getting my slides in order; maybe a couple of them could have your interest.

We have had the worst winter here since 1942. The waters froze completely in 8-10 days and the smaller ships had to be helped by ice-breakers. We still have snow and ice even though the days are getting longer. The light is supposed to bring us spring but I suppose we'll have to wait a bit longer. So much for now, but you will be hearing from us soon!

Frede & Susanne Elsborg (#87)  
Horsholm, Denmark

Good to hear from you two! Does this mean you won't be needing the ice machine I was going to send you?

BRING BACK LAND ROVER!

Getting the Land Rover and Range Rover back into this country would be most beneficial to all Land Rover people as it would give us all a vastly superior dealer network for purchasing parts and getting our vehicles serviced, as well as making it possible for us to buy a new "white market" vehicle.



LETTERS (continued)

If you are interested in helping to get Land Rover Limited back into the United States and feel that my suggestion is valid, please write to the following address:

Mr. Richard Ball  
Manager, Sales and Marketing  
Land Rover Limited  
Lode Lane  
Solihull, West Midlands  
England B92 8NW

Andrew McKane (#106)  
San Diego, CA

I'm sure most of us would be happy to see Land Rover back in this country. If it comes to pass, let us hope that they do a better job of marketing the vehicles and building a dealer service and parts network that is worthy of the name.

LAND RANGER?

Enclosed are some recent photos of my 109" (see ROVER REVUE). Any sharp-eyed Rover fanatic will pick up on the meaning of the photo. The stock 4-cylinder is not in the picture. Yes, that is a brand-new Range Rover V-8. I have tried the two-stage Weber carburetor and even considered turbocharging the 4-cyl. This engine kept creeping into my mind until the big decision was made. It will have a custom made set of headers so the engine will sit down in the frame. All work is being done at D.A.P. Enterprises. Here at home, I patiently bite my nails!

Glen Foster (#19)  
Hingham, MA

Wow! That'll be a fine rig when it's all done. I hope you are documenting the work as it is done so that we may all share in the experience. When it is completed, be sure to give us an evaluation its new performace.

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(916) 722-0401

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COORDINATOR - STEVE HILL  
(916) 393-3767

SECRETARY/  
TREASURER - STEVE ZEDEKAR  
(916) 391-1643

## LROA TREK REPORT



# Winter Safari

by Ron and Bernie Mowry

After a long, cold winter and at the point where cabin fever usually sets in, several of the local hardcore Land Rover owners agreed to participate in a cross-country safari. Fortunately, here in the Northeast, we had a week of unseasonably warm weather (above freezing!), with several days of rain that decreased the amount of snow to below differential height without melting out the frost and giving us an early "mud season."

The first prerequisite to attending the outing was meeting at our home at the top of "Mowry's Mountain." This is a chore almost equal to any leg in our safari. The unimproved path up the mountain makes Land Rovers a necessity for the Mowry family. After delivering the kids to the babysitter and loading provisions into the "Beastie", the participants began to arrive. After a short wait, some coffee and conversation, we migrated down the mountain to await two tardy 88" pick-ups from Portland, Maine.

The two latecomers arrived amidst cheers and we closed in for a closer inspection. These highly modified Land Rovers sported tall tires and a dazzling display of extra equipment.

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(RIGHT)  
One of the Portland Land Rovers at the "Poor People's Pub" in Sanbornville, New Hampshire, prior to departing.





Underway, we convoyed through the countryside of West Lebanon, Maine to Milton, New Hampshire and up Route 16 to Union and then into Sanbornville where we grouped in front of the "Poor People's Pub" to compare notes and Land Rovers. Our trailbreaker, Gary Gosselin, met us there with his '69 88". At this point, the two Portland Rovers had to make their way back home.

Off we went, with Gary in the lead, followed by Larry and Linda Davis in their NATO 88", John Schaaf and Family in their lightweight 88" and we Mowrys in our '71 88". The weather was getting unseasonably warmer and the temperature must have approached the mid-50s on the way to Brookfield, NH. When we reached Tumble Down Dick Road, we were delighted to find the trail conditions were as perfect as the temperature. There was



(ABOVE)  
The line awaits as Gary breaks trail ahead.

ample snow to deflect the trucks around in the ruts and interesting patches of ice where streams had cut "V" notches in the road and frozen over. Where the water had run down the center of the road, frost had not yet allowed it to turn into goo. Even where the log skidders had been at work, the frost was still holding the impending goo together.

We made our first trail stop at Tumble Down Dick Mountain and hiked to the top where the sun made a 60 second appearance as we gazed down into the fog. When we hiked back down and continued the voyage, we soon turned onto Copple Crown Road where the snow got deeper and changed texture. Trailbreaking got tougher. Gary lowered his tire pressure and this helped. When I reduced my pressure, the combination didn't work for me and since I hadn't brought my air tank, I was forced to "chain up." Voila! We

---

we finally free of that fierce lightweight crowding us from behind as we thrashed thru the snow.

The dirt road finally ran out, and after crossing a little tar, we found ourselves on the muddy tracks surrounding Merrymeeting Lake in New Durham, NH. We drove down to to an open stream below the State Fish Hatchery (with not a fishing pole in the group!), stopped for our cookout, and dicussed possibilities for our next tour de force.

The way back took us thru Farmington and Union and onto a snow covered, rut' strewn old stagecoach trail that looked very much like something the gents back at Solihull might use to test suspensions. Down thru the woods, onto the tar and finally back to Sanbornville where, as we parted company, our conversations trailed off with, "and I know this little place at so and so ..."





-1-



-2-



-3-



-4-

1) Onto Copple Crown Road.  
The Davis NATO 88" just  
ahead.

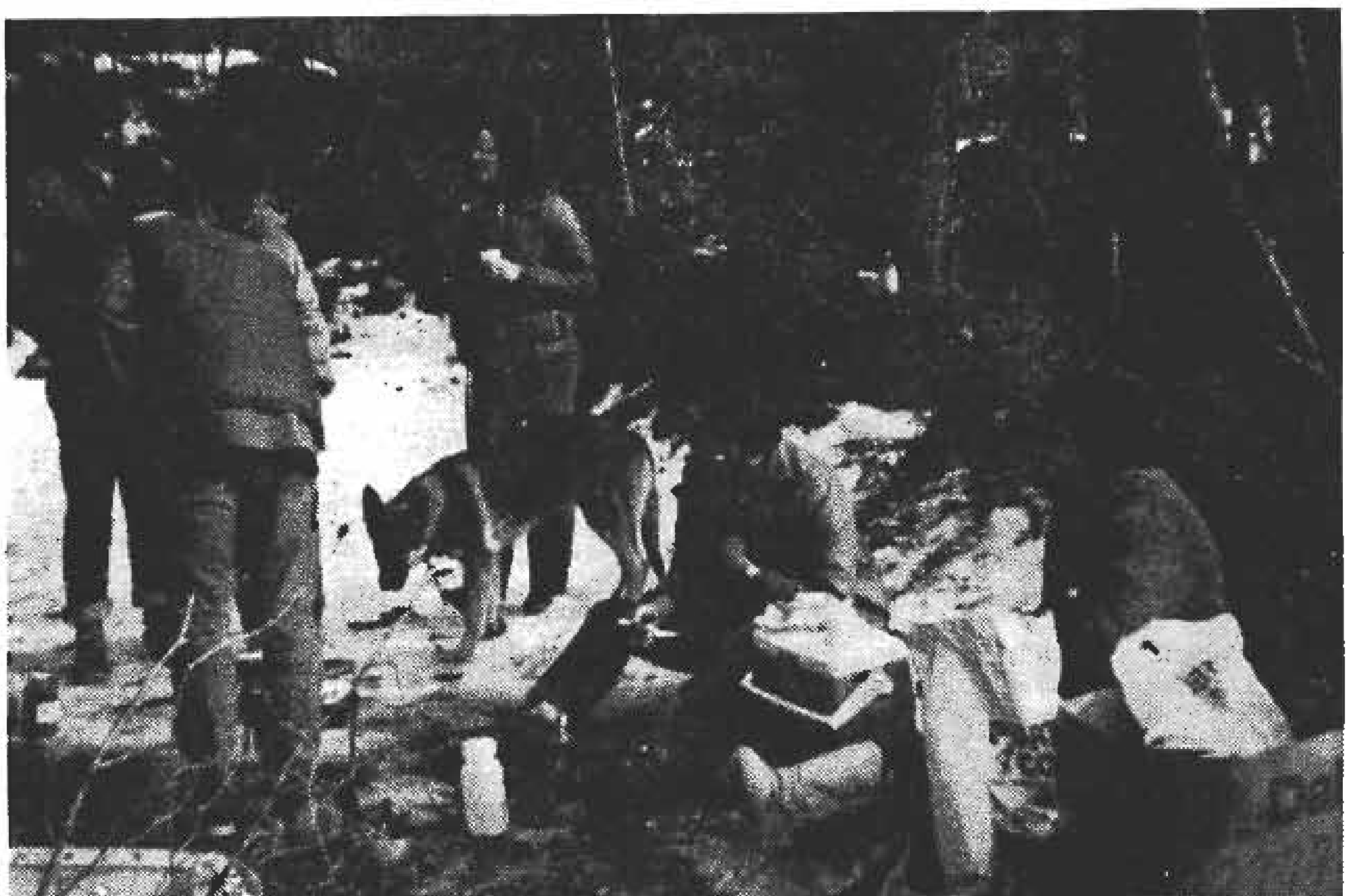
2) "Chaining up" the Mowry  
Land Rover on Copple  
Crown.

3) The Schaaf's "fierce"  
lightweight!

4) Parked at the cookout  
stop; Gosselin Land  
Rover in front.

5) Planning our next  
tour de force.

-5-



-6-

# ⊙ Rover Revue ⊙



(LEFT)  
Glen Foster's military 109" undergoing a "heart" transplant at Al Tocci's D.A.P. Enterprises.



(ABOVE)  
Kerry Oldham's (#6) 88" showing the roof paint that sets his apart from the crowd.



(ABOVE)  
Dan Anderson's new member of the family, a '67 109 SW 6 cyl, which he purchased unassembled.



(LEFT)  
Richard Brengman's (#43) 88" hung up on a boulder after climbing a very steep slope.



# TECH TIPS

## by the numbers

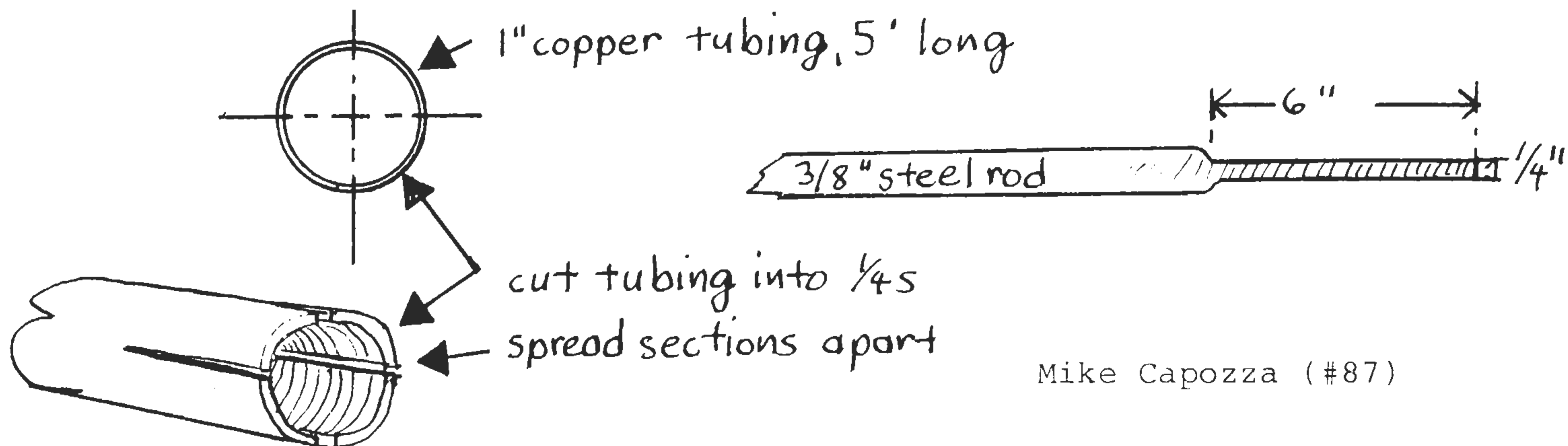
Home-grown tips from the members to the members. If you have found a unique solution to a unique problem or just have an easier way to do an everyday task, share it with the rest of us here in TECH TIPS BY THE NUMBERS. To write in, state the problem and your solution as simply as you can. Drawings are OK. The Editor reserves the right to edit the material, as needed, for space considerations and readability.

### FROM #87 QUICK BROKEN AXLE CHANGE

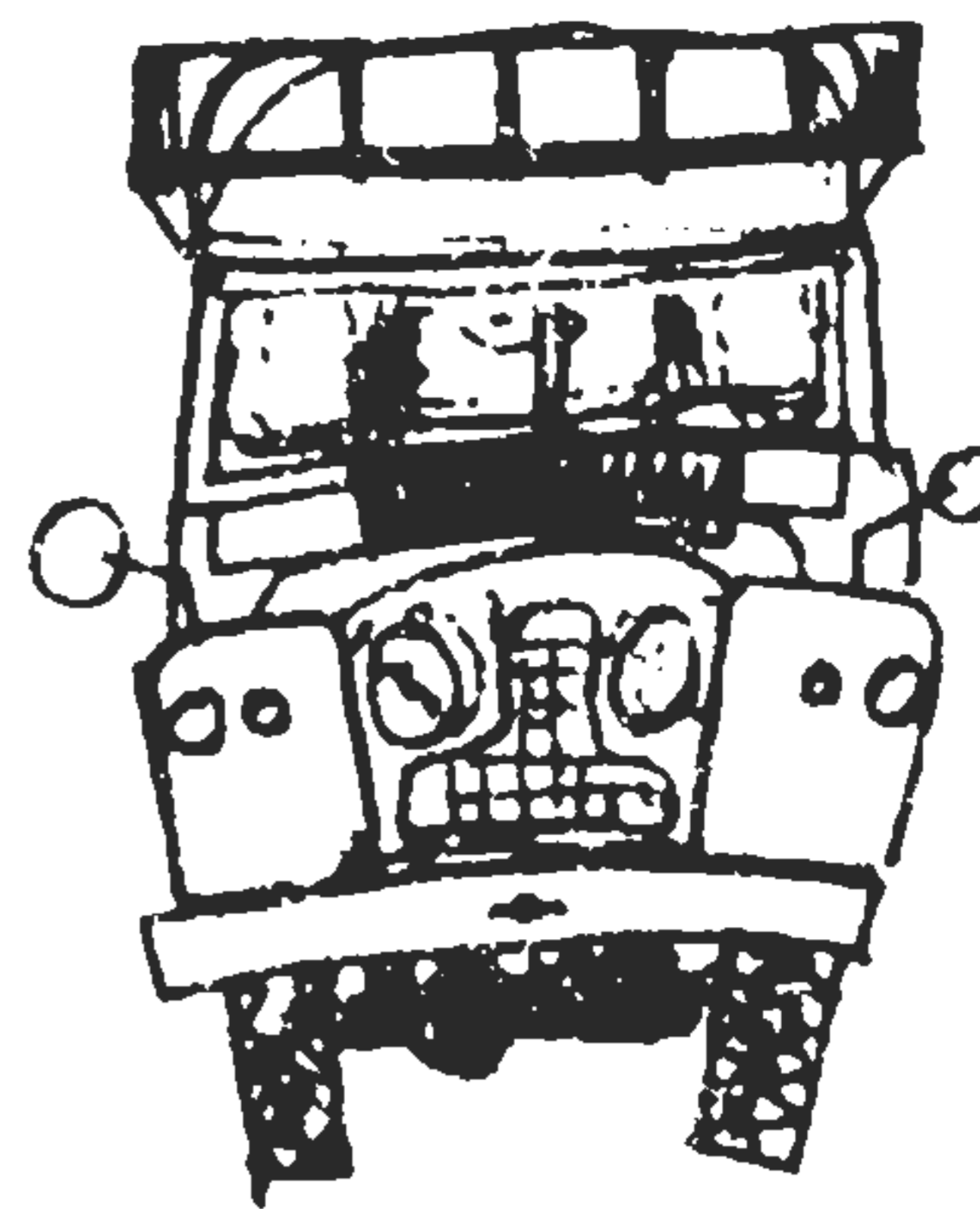
For quick emergency axle changes without pulling the diff., get yourself five feet of streamline copper tubing, one inch in diameter and five feet of 3/8 inch steel rod.

Cut the end of the copper tubing as shown in figure 1 and slightly spread the sections. Then grind the end of the rod as shown in figure 2.

To remove the broken off section from your diff., first remove both drive flanges and axles. With a helper shining a light from the other side, slide in the cut end of the copper tubing and align it with the broken stub of the axle. Hold the copper tubing in place while the helper slides the steel rod in from the other side and taps out the broken stub into the copper fingers on the tubing. Be sure to drain the oil and dig out any chips of metal you can reach thru the drain hole. Refill the unit with fresh oil, install the axles and flanges and be on your way. This trick only works if you had the foresight to carry spare axles, oil, flange gaskets (or silicone sealer) and enough tools to get the job done.



# Land-Rover



## UNLEADED FUEL UPDATE

by Jim Allen

It looks like unleaded fuel may be a certainty in the very near future. If so, we're going to have to learn how to deal with the problem of using it in vehicles that were designed for leaded fuel.

The reasons for the elimination of lead are many. The EPA is concerned about the levels of lead appearing in our environment, particularly the bloodstreams of those living in the densely populated areas of the U.S. The fact that there are many people putting leaded fuel into "unleaded only" automobiles has aggravated the problem. The EPA estimates that leaded fuel is being used in about 13% of the vehicles designed for unleaded. They are also concerned with the fact that leaded gas sales are 45% of the total amount sold. This figure is alarming since cars designed to run on unleaded greatly outnumber those who do not.

The Land Rover will run just fine on unleaded. With its low compression ratio, detonation is not the problem. The problem is accelerated valve, valve seat and guide wear from the lack of the cushioning effects of the lead. Some estimates run as high as a 50% decrease in the life expectancy of the valves. Unfortunately, Land Rover engines, with their cast iron valve seats, are particularly vulnerable to damage. What actually occurs is a gradual sinking of the valve in the seat. This process is called "valve seat recession." As the valve pounds against the seat without the protection of the lead, metal is transferred from the seat to the valve, where it then flakes off. The valve sinks deeper and deeper into the head and it isn't long before any semblance of good performance is lost.

The timetable for the phase-out of lead begins with a reduction from the current 1.1 grams per gallon to 0.5 grams per gallon in July of this year. By January, the EPA mandates a reduction to 0.1 grams per gallon. Research by Union Oil Company shows that 0.5 grams per gallon lead content provides adequate protection but consider this value as a minimum.

Now the question arises, "What can I do to protect my Land Rover from the ravages of a lead free fuel?" Since every engine reacts a little differently, it will be some time before we know exactly how fast your Rover's valves will deteriorate. How hard you run the engine will have a definite effect on it, but here are a couple of positive steps you can take to protect your engine. The first solution is to use an octane booster. These chemical fuel additives contain lead and will provide enough lead to



(UNLEADED CONTINUED)

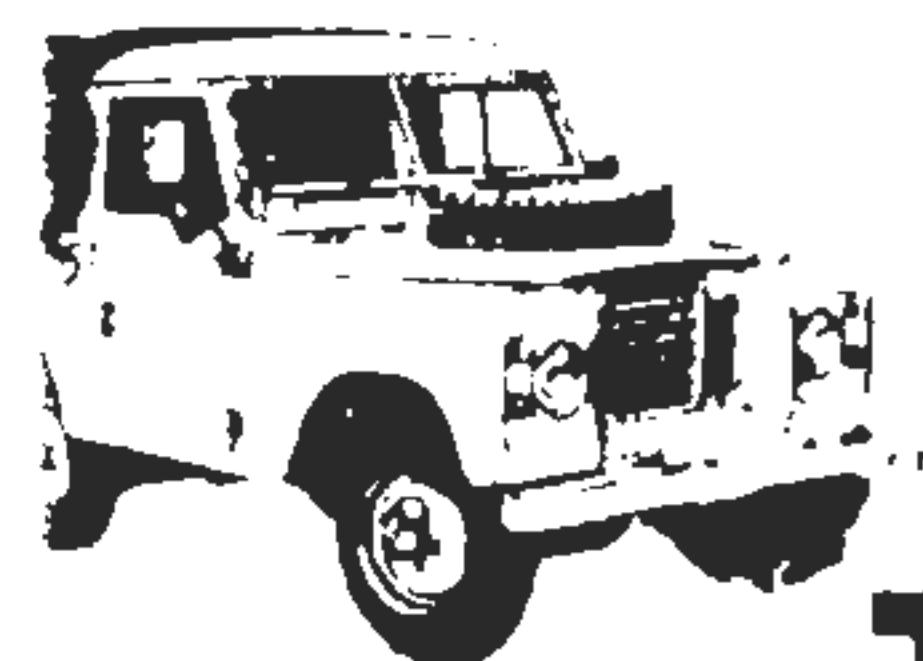
protect your valves. It will cost an extra five to seven bucks every tankful from now on. The second alternative is to have your valves updated to unleaded standards. This can be accomplished by the installation of hard steel seat inserts in the cylinder head by a machinist, stellite faced valves, and bronze valve guides. Expensive? Yes, but you end up with a much stronger setup that is "unleaded proof."

Probably the best advice for now is to wait and see. The furor over the elimination of lead is increasing. Old car collectors are particularly outraged. It is possible that as the pressure mounts, an environmentally safe additive will be developed. As the facts emerge, we will keep you informed how the situation relates to your Land Rovers' continued good operation.

---

#### NEW MEMBERS

- #82-Athole & Patricia Lennie, Carmichael, CA  
'67 109"
- #83-D.A.P. Enterprises Inc., W. Wareham, MA  
Lots-o-LRs
- #84-David & Lisa Fischer, Pittsburg, CA  
'72 88"
- #85-Larry Davis, Dover, NH  
'66 & '73 88"s
- #86-Michael Capozza, Portland, ME  
'61 & '73 88"s
- #87-Frede & Susanne Elsborg, Horsholm, DENMARK  
'83 Range Rover
- #88-Rovers North, Westford, VT  
Numerous LRs
- #89-Joe & Kathi Park, Laytonville, CA  
'60 88"
- #90-Dale Bennett, San Leandro, CA  
'56 88"
- #91-Bruce & Shelly Marler, San Diego, CA  
'66 109"
- #92-Nelin & Betty Head, Central Valley, CA  
'62 109"
- #93-Kenneth & Theresa Lam, Oakland, CA  
'66 109"
- #94-Larry Smith, Reno, NV  
'69 88"
- #95-Joe D. Herman, Mesilla Park, NM  
'66 88"
- #96-Barry Smith, Salt Lake City, UT  
'69 109"
- #97-Connor Murphy, Bethel, AK  
'65 88", '68 109"
- #98-Bob & Rob Land, Santa Cruz, CA  
'65 109"
- #99-George & Rilla Babits, Salmon, ID  
'60 & '66 88"s, '60 & '66 109"s
- #100-Mike Irwin, Sacramento, CA  
'61 88"
- #101-David Katsma, Valley Springs, CA  
'73 88"
- #102-Rick & Julie Stewart, Hoopa, CA  
'72 88"
- #103-Jeanette Dozier, Walnut Creek, CA  
'63 109"
- #104-Kip & Jacquie Dozier, Walnut Creek, CA  
'60 88"



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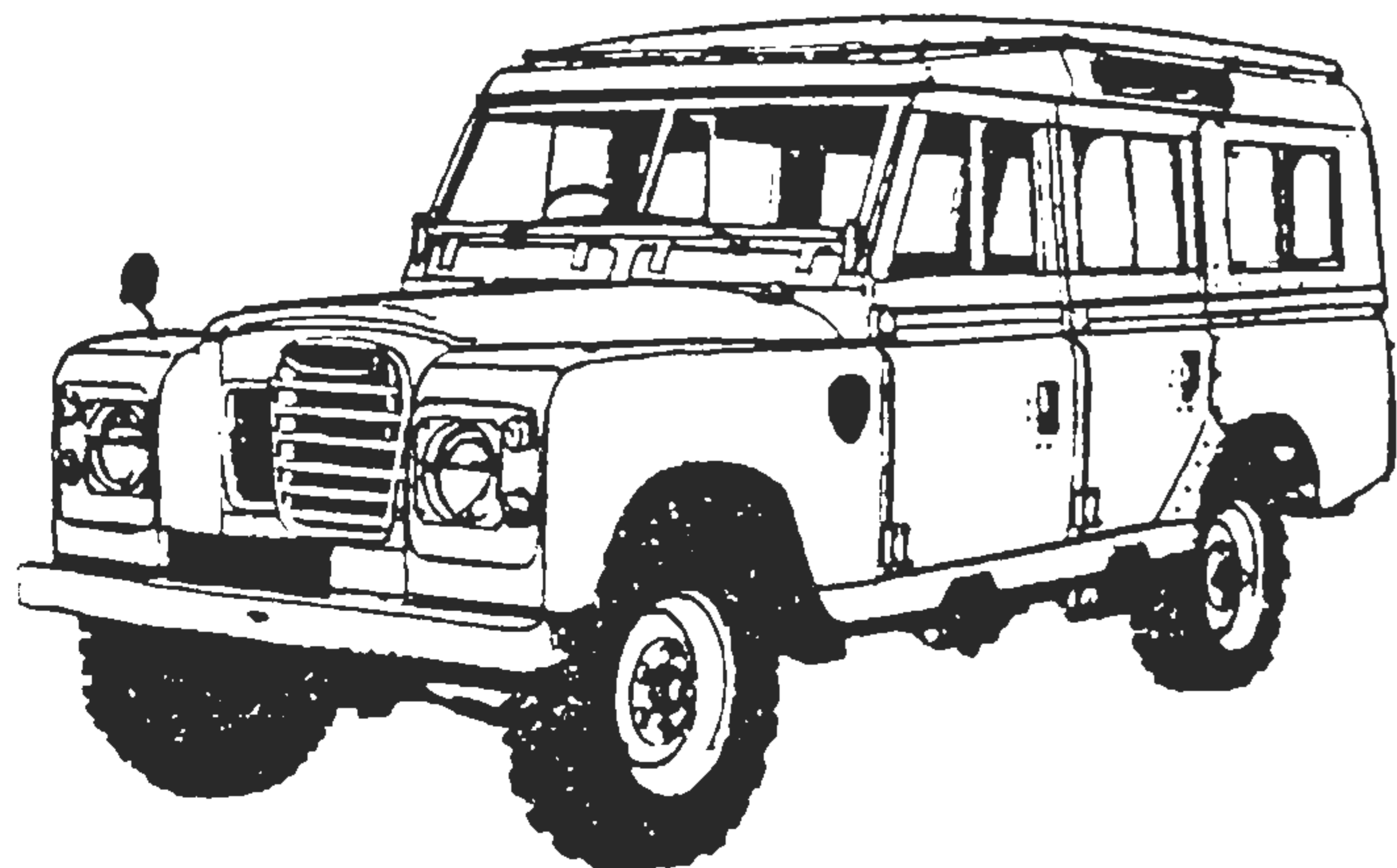
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A close-up view of the Rover's mystique from both sides of the coin.

By Paul Davies in England  
Marshall Spiegel in New York

# The '74 Land Rover

## BRITISH

*The Land Rover, being what it is, unusual, we thought it appropriate to conduct a rather unusual road test. Consequently, we viewed this year's Rover from two opposing angles. First, Paul Davies, a well-known journalist from England, gives us his impression of the '74 Series III from its native soils. Next, Marshall Spiegel, our East Coast Editor, takes the Series III on safari here in the colonies.*

The world's most versatile vehicle—a tough claim for any manufacturer to make but in the case of the Land Rover not far from the truth. After 26 years production with nearly a million vehicles made, the British four-wheel-drive workhorse has a pretty good claim to that title.

The Land Rover is not just a practical, off-road, four-wheeler but a complete range of do-anything vehicles with no less than 27 basic models evolved around two chassis lengths and three engines. It's a bit of a rare horse in the U.S.A. but elsewhere in the world it is probably the most widely used of all utility vehicles. Developed just after World War II for military and agricultural use, it is

currently serving with the armies and police forces of no less than 65 countries, is used by construction companies, jungle expeditions, desert bus operators... in fact, you name it and the Land Rover—in one of its many forms—is probably doing it.

The whole range is remarkably similar, it's the options that make the difference. Chassis lengths are either 88 inches (Regular) wheelbase, or 109 inches (Long). There are two four-cylinder 139.5 cubic inch engines, petrol and diesel, and a *big* 160.3 cubic inch six-petrol unit. All models have a manual gearbox with synchromesh on all four forward ratios, driving both front and rear axles through a transfer box which has high and low ratios. In effect all Land Rovers come with eight forward and two reverse gears.

Body options range from a straight Jeep-type open model with canvas rear hood, through hardtop and pickup truck models to long wheelbase 12-seater station wagons. Attachment points on the transfer box and crankshaft allow the use of numerous powered tools and hydraulic equipment.

When the Editor of OFF-ROAD asked me to test one of the more typical Land Rovers the choice was not easy. However (as I also plan to tell you about the top

model four-wheel-drive Rover vehicle in a future issue), the choice fell right at the bottom end of the range on the regular (88 inch) four-cylinder petrol version.

In its most popular hardtop form with rear station wagon door, additional seating and de luxe trim, the test vehicle sells at around the equivalent of \$4000 in Britain.

The small, by U.S. standards, four-cylinder engine develops no more than 70 bhp at a lowly 4000 rpm but more impressive is the 120 ft.-lb. at 1500 rpm torque figure. These figures are, of course, for an engine without any form of anti-pollution gear. With 16-inch diameter wheels and 4.7-to-1 final drives, the gearing allows 15 mph per 1000 rpm in high transfer and top gear; and 7.2 mph in low transfer top. Gearbox top is direct, the two transfer ratios being 1.15-to-1 (high) and 2.35-to-1 (low). In high ratio on the transfer box, drive is to the rear wheels only unless the 4WD control is set, while selecting low transfer automatically puts drive to front and rear axles.

Rover does not fit free-wheeling front hubs to any of their models but a conversion for this is available from a specialist manufacturer.

These front and rear axles are good old solid type, suspended on underslung



Photos by Al Kirschenbawm, Steve Joseph, Paul Davies

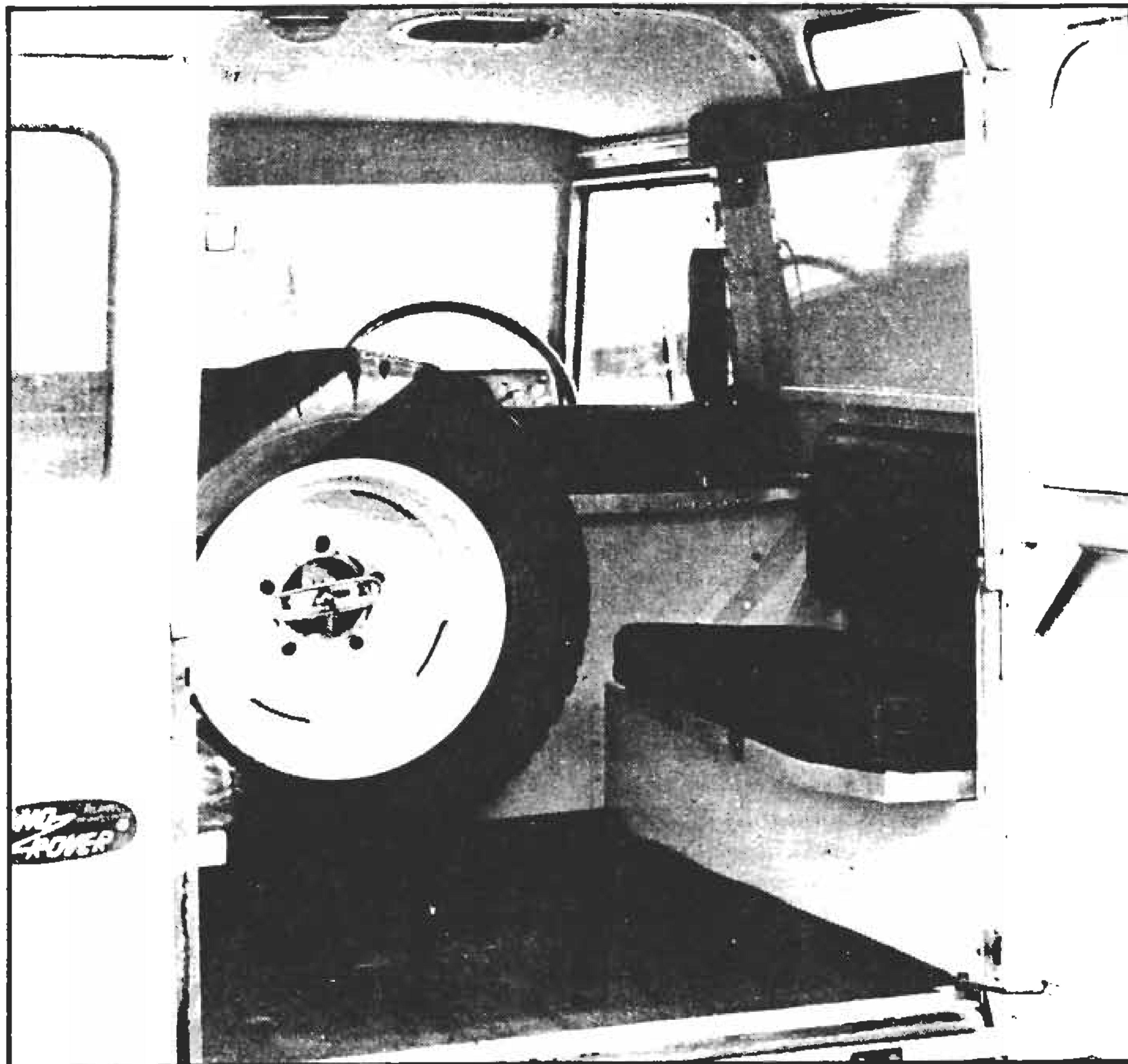
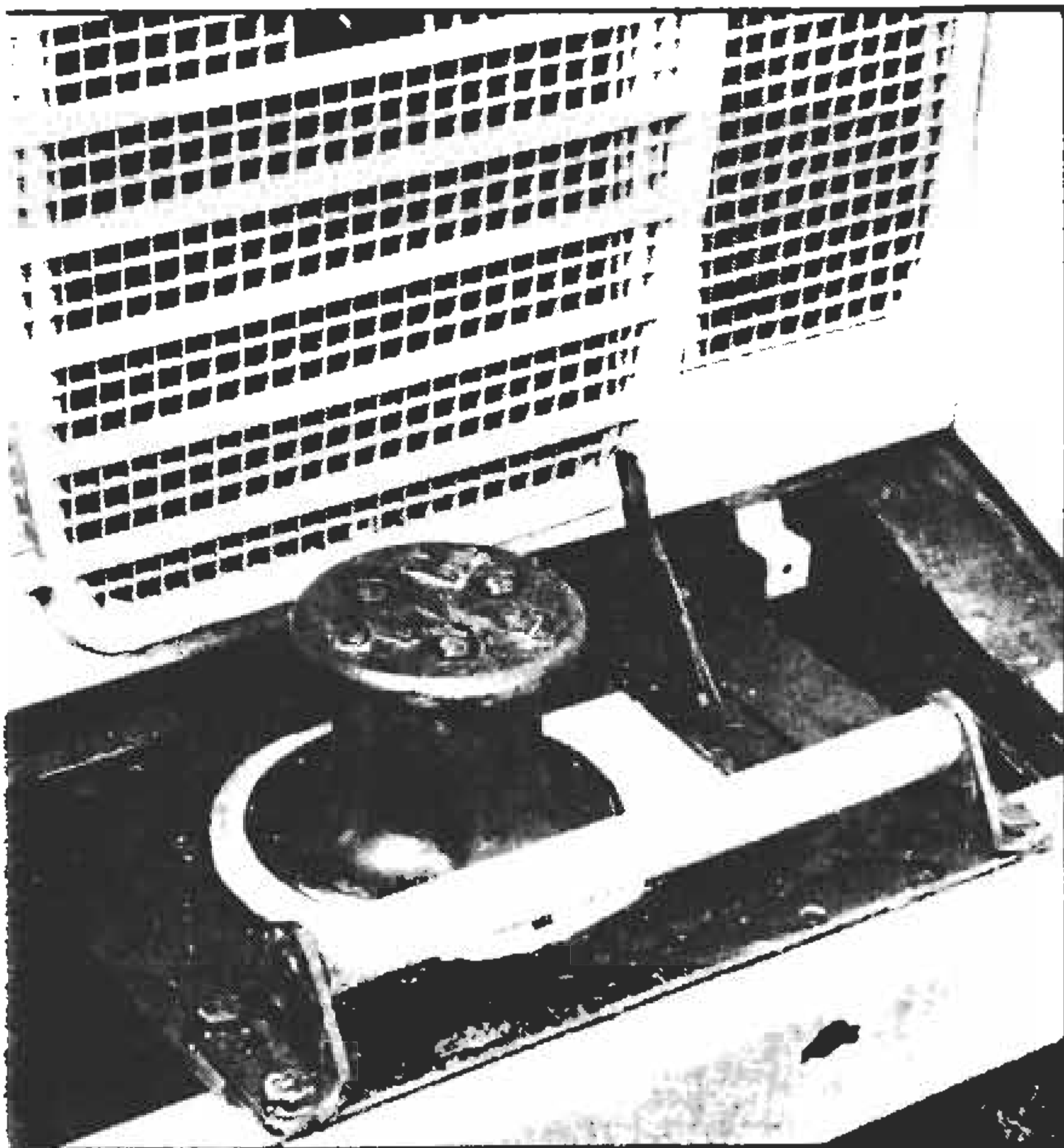




Hardtop has station wagon rear door option and side seating which takes four people. Spare can be mounted on a door bracket.

BELOW— Capstan winch is an option and drives off the crankshaft nose. Note clutch lever on right.

BELOW RIGHT— The Land Rover chassis is a steel box section frame with six cross members and the body is all aluminum.



semi-elliptic leaf springs with telescopic shock absorbers to provide the damping. Brakes are drum all around with a parking brake operated by hand and working on the transfer box output. No servo assistance for the brakes was fitted on the test model but this is an available option.

Steering is worm and nut pattern with a total of 3-1/2 turns lock-to-lock and a rather poor turning circle of 38 feet. Ground clearance is seven inches.

The Land Rover chassis is a steel box section frame with six crossmembers and the body is all aluminum which not only helps to keep weight down but at 3000 pounds unladen, the regular model which could hardly be called a lightweight, is also non-rusting. Ideal, as the catalogue says, for the carriage of manures, fertilizers and similar substances. Payload on the short wheelbase is 1000 pounds.

Despite the fact that the Land Rover is no fun car but a serious and very practical workhorse, it is surprisingly easy to drive. Visibility is good from the high seat and, even without power steering, the effort on the big 17-inch diameter wheel is not too much. Gear changing is easy, synchromesh being virtually unbeatable, but the clutch needs a hefty push from the left foot.

Instrumentation consists of speedo, fuel and water temperature gauges in a panel directly in front of the driver and adjacent switches include a two-speed heater blower and electric screenwash. Both these items are fairly new to Land



Rover specification. A neat idea on the panel is a two pin socket for an inspection lamp or other electrical equipment.

On the road, the small-engined Land Rover has a top speed of just under 70 mph and acceleration is best described as being the sort you don't bother to talk about. Leave it at this: the vehicle managed to keep pace with British traffic

streams limited to 50 mph because of the, by now, famous energy crisis. The manufacturers advise using two-wheel-drive only for traffic use—a wise move as engaging all four increases understeer considerably and, with the short wheelbase, handling becomes tricky on tight bends at anything near speed.

Off-road the Rover—as it is known



among enthusiasts in its home country—really starts to earn its keep. Four-wheel-drive engages easily as does low range and with this combination you get the feeling the vehicle would go up the side of a house if necessary. In fact British Leyland (Land Rover is a subsidiary company) claim it will climb a gradient of 1 in 2 and will operate on a 45-degree sideways slope. Ride is fairly harsh but allows the vehicle to cover really rough terrain without any dramas although, even with de luxe seating, the driver and passengers don't actually travel in comfort!

The performance of the Land Rover is sure footed rather than shattering and the general impression is that—however slowly it may do some things—it will always get you there in the end. While the engine appears noisy and, obviously, runs out of breath at low rpm, there is always power there to take you up a hill or get you out of a muddy situation. Solid and reassuring is the overall impression.

But as I said previously, the Land Rover is not a leisure machine—that's the province of the high power Land Rover—but a workhorse and as such it excels. The range of optional equipment is almost endless, the test vehicle being fitted with perhaps the most simple attachment—a capstan winch mounted on the front and driving direct off the crankshaft nose.

In addition to the crankshaft power take-off, the Land Rover can drive equipment from the center and bottom of the transfer box and also from an additional gearbox which mounts to the rear of the vehicle and is driven from the center take-off. This rear drive is particularly useful for powering machinery (such as a generator) mounted in the rear of the Rover and it will also take an extra prop shaft to drive the wheels of a trailer, giving six-wheel-drive and an additional load capacity.

Both of the center take-off points can be supplied with hydraulic pumps. A hydraulic drum winch mounted at the front can be driven, like the capstan, from the crankshaft.

Reading the Land Rover specification, you'll notice a similarity with that other well-known old-timer, the Jeep. In fact, the six-cylinder Land Rover can offer the same sort of performance as a six-banger Jeep but there are no V-8 options for the British vehicle. Like the Jeep the Rover has that simplicity and ruggedness that make you know it's probably going to go on forever.

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## COLONIAL

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By American standards, the '74 Series III Land Rover from British Leyland ain't a pretty vehicle. But it enjoys a certain indefinable mystique unmatched by other fourwheelers. It conjures up

visions of the Serengeti Plain of North Tanzania and the banks of Zambia's Kafue River. It is in places like these that the Land Rover is most at home. Soon after I received my test Rover, I learned that Great Britain's premier off-roader can be at home wherever the going is roughest.

The '74 Rover appears identical to last year's model. The basic design has remained unaltered for many years, a fitting tribute to its original concept. The Series III was introduced in October of 1971 incorporating a number of changes meant to generally improve safety, service, and dependability. Outwardly identified by a restyled grille, the new models offered an improved gearbox with fully-synchromesh four-speed shifting and several safety improvements.

The interior is business-like, to say the least. Seating for seven occupants is provided on rugged, fire-retardant seats. Only the driver and front passenger enjoy *real* seats. The five other occupants perch on benches and/or cushions, but a total of five places is available for occupancy, one in the center of the front seats and two on each side of the rear compartment. My test rig was equipped with the spare tire stowed behind the front seats rather than on the hood. Although interior mounting of the spare has obvious anti-theft advantages, it does cut down on storage space and passenger comfort.

The instrument panel is both austere and functional. There are two large round pods centered on the panel directly in front of the steering wheel. One pod contains the speedometer, accurately calibrated in both miles per hour and kilometers per hour, and warning lights indicating low oil pressure, high beams, and choke mode. The oil lamp serves as a back-up for the oil pressure gauge. The oil pressure gauge is calibrated in both pounds per square inch and kilograms per square centimeter.

The second pod on the instrument panel contains the fuel level indicator, the water temperature indicator, and the charge/discharge light. The major controls are activated with rugged, solid toggle switches. In keeping with the Land Rover's origin, my left-hand-drive demonstrator came equipped with features usually found on right-hand-drive vehicles. For example, the turn signal indicator stalk sprouts from the right side of the steering column rather than the left. This lever incorporates the horn button, the headlamp flasher, the headlamp dimmer, and the directional turn signals. With this lever located on the right side along with the handbrake lever, the shift lever, and the two transfer case levers, I found my right arm straining and my left arm resting during most of the test.

The Land Rover handles like most 4WDs with a high center of gravity.

Both on the road and off, I was constantly aware of the machine's cornering limitations, but I found the built-in understeer easy to live with. The steering system itself is not power-assisted, but it is a variable ratio unit utilizing a worm and nut mechanism for accurate response and a recirculating-ball mechanism for lightness. Straight line trucking provides 15.6-to-1 ratio while a hard-over, full-lock maneuver results in a 23.8-to-1 steering ratio. This produces good road feel at speed and quick response to inputs in cornering and parking situations. It takes a total of 3.5 turns to run the steering gear from lock to lock, resulting in a 38-foot diameter turning circle.

The Land Rover is suspended at all four corners by semi-elliptic leaf springs, while dampening is handled by four double-acting hydraulic shock absorbers. Power-assisted 10-1/2-inch drum brakes all around do the Land Rover's stopping job most capably. The hand brake is activated by a floor-mounted lever located to the immediate right of the driver. The parking brake unit itself is contained in a small drum mounted on the rear driveshaft where it exits the transfer case. The service brakes themselves were adequate under all conditions during the test except when they got very wet. Although the linings dried quickly, they did not always dry evenly and I experienced some pull for a period of time after they had been thoroughly wet. My test rig was shod with Goodyear Ultra-Grip, 7.10x15 mud and snow tires. They proved to be a good compromise with some off-road limitations and some on-road noise.

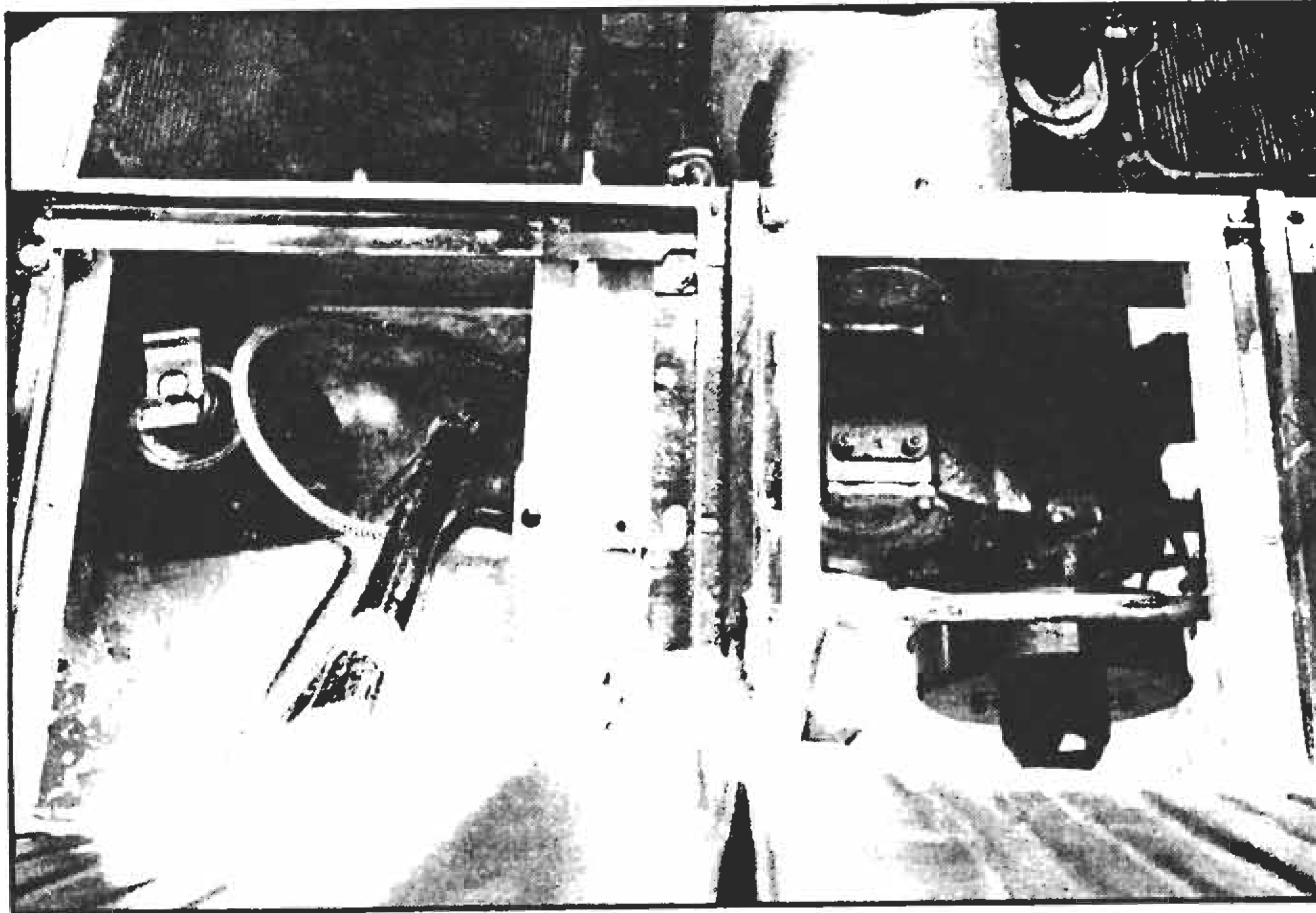
The Land Rover's 139.5-cubic-inch four-banger develops its maximum torque output of 115 ft.-lbs. at a low 1500 rpm. With a first gear ratio of 3.68-to-1 and transfer box ratios of 1.148-to-1 and 2.35-to-1, the Rover's starting ratio in low-low totals 40.70-to-1. The vehicle's low overall gearing tends to limit its top speed as the little 67-horsepower engine screams at speeds over 60 mph. Fuel consumption is also much higher than expected from a 2286 cc mini-motor pulling a 3200-pound machine. Constant and careful fuel checks indicated consumption at a high 14.4 mpg and a low of 10.2. The high figure was calculated from constant speeds over the road while the low figure comes from three 12-gallon tankfuls emptied under heavy off-road conditions.

I found the Land Rover's transfer-case controls to be quite different from and slightly more complicated than other 4WD vehicles I've known. The two-speed transfer-case utilizes two control levers. The left-hand lever with a yellow knob serves to engage or disengage the front differential. A downward push on this control will select four-wheel high range. The lever to its right with a red knob





Overall, the Land Rover trundles along in stately British tradition, providing a tremendous off-road traveler.



With front seats removed, the Rover exposes a storage area and opening to transfer-case for easy repairs.

selects the transfer-case high, neutral, or low range. Four-wheel-drive is automatically engaged when you select low range in the transfer case. Yes, it sounds confusing, but it works fine. Free-wheeling front hubs for low-drag highway driving are available as a dealer-installed option.

I found the Rover's off-road

performance to be practically faultless. Although the unfamiliar might tend to judge this vehicle by its ungainly appearance as I did, the first few moments in the boondocks changes one's thinking. The Land Rover went almost anywhere I asked in four-wheel high. Before I could make full use of the transfer case's low range, I had to be facing some really rugged terrain. First gear ratio in the transmission is so low, I found no practical use for it while operating in low range. Leyland engineering makes a fine compensation

for this almost-too-low ratio by way of its excellent gearbox shifter mechanism. The standard H-pattern will get you all four gears whenever you choose, but the one-two shift throw has to be experienced to be believed. It is shorter and surer than most competition models I've driven. A slight rearward tug on the shift lever and you're into second gear effortlessly. The other throws are slightly longer than the one-two, but they are still quite short in comparison to other vehicles. The Land Rover is no super/stocker, but it certainly shifts like one.

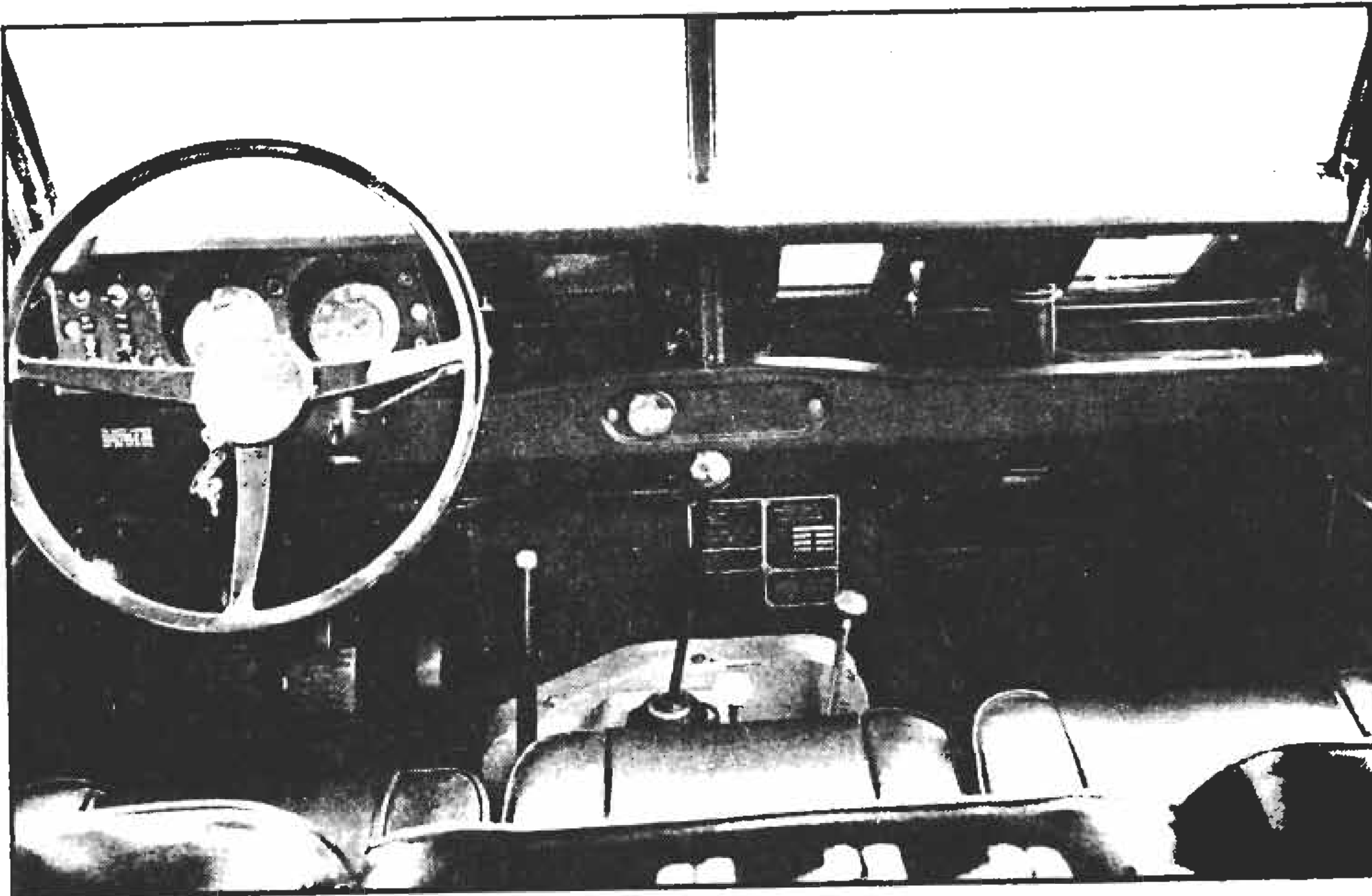
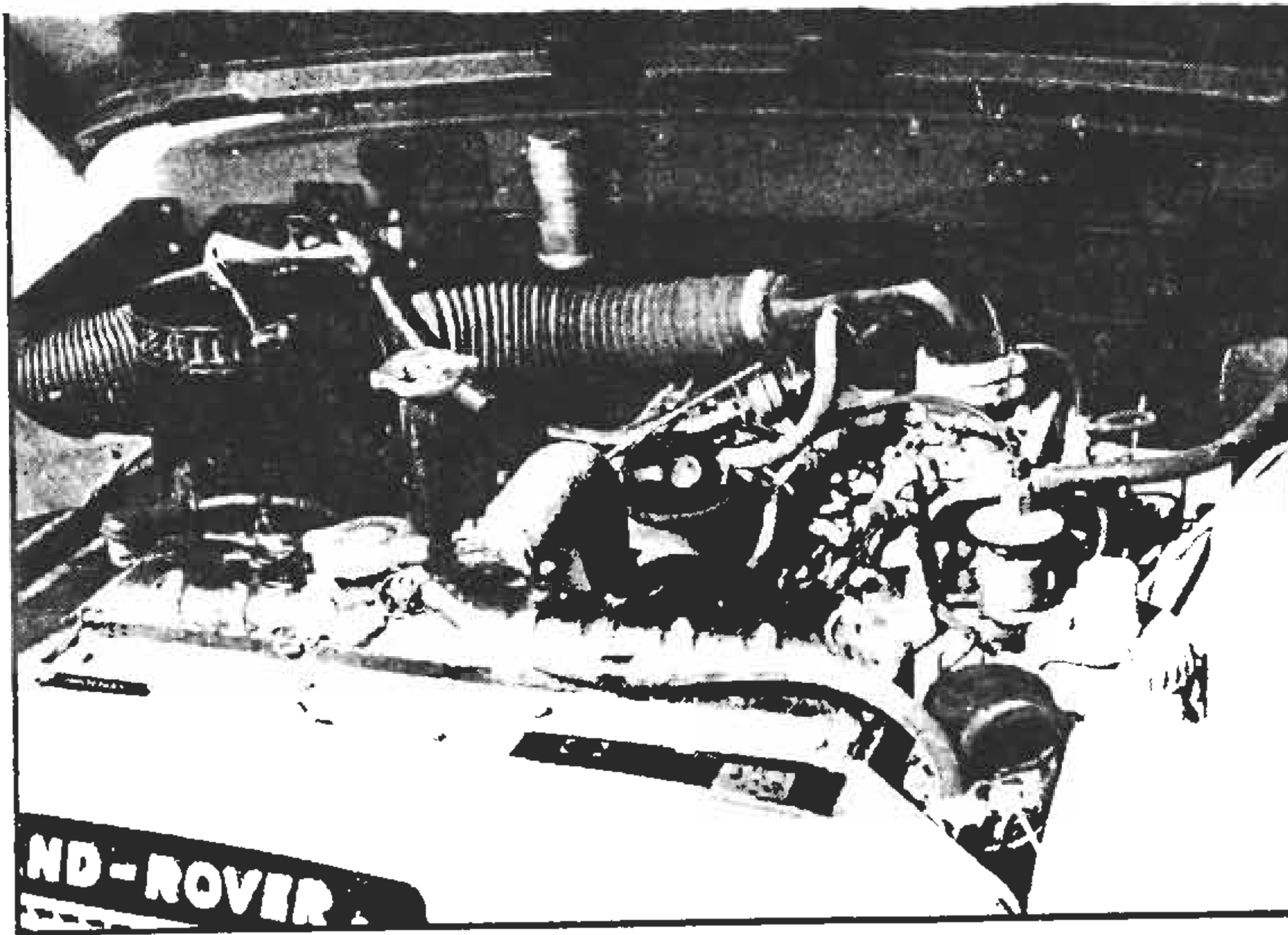
The clutch is a hydraulically-operated, diaphragm-spring, single-dry-plate unit, 9.5 inches in diameter. Even with hydraulics between your foot and the clutch fork, you still have accurate perception of the clutch's in-out function.

On the beaches of Great Kills Park in Staten Island, New York, and in some rough off-roads in Long Island, I was reluctant to really get it on with the Land Rover at first. Skirmish speed performance over the rough was excellent. The rig plodded its way over whatever I threw in its path. But I took a while before trying foot-to-the-floor sand running. For some reason, jumping a sand dune with the Land Rover gave me mental pictures of a Gypsy wagon flying through the air. To all those at British Leyland, I apologize. The Land Rover bounded over some tough terrain with



A 139.5-cubic-inch four-banger develops its maximum torque output of 115 ft.-lbs. at a low 1500 rpm.

The basic design of the Land Rover has remained unaltered for many years. However, the vehicle is extremely functional.



excellent take-offs and landings. It proved to be tighter and sturdier than it appeared. It fit everywhere, went everywhere, and always felt good. No man can ask more of a fourwheeler!

But alas, the Land Rover—like all machines made by men—is not faultless. The number one item on my complaint list is the design of the non-functioning door locks. Perhaps, in the Serengeti they are not important, but in the wilds of Brooklyn, they are a must. When the door locks don't lock, especially in America, an off-roader can lose his spare, his equipment, his supplies, and sometimes even his entire machine.


The Land Rover's noise level is my next complaint. My race-tuned ears conservatively estimate the decibel level at roughly 80 to 85 dba. For comparison sake, New York State Law has an upper limit of 88 dba for motor vehicles while the Rolling Stones usually come across at about 115 dba. About 10 watts of radio power—which my demonstrator didn't offer—might just drown out the Rover's interior din.

The Rover's combination lap and shoulder belt is a frustrating tangle of harnessing. The lap belt is all the U.S. law requires and it's all that this vehicle should have! The shoulder belt is poorly angled for the human neck and there's no place to stow it when it's not in use. The anchor bolt for the harness on the driver's side B-pillar constantly vibrated loose, thereby rendering the restraints useless anyway. Vibration in the Land Rover, by the way, may become a problem as the mileage grows. It would be impractical, for service reasons, to safety wire every bolt, but the outcome of serious loosening could be even more impractical. This problem does not only apply to the Land Rover, but also to many of its stiffly-sprung off-road brethren.

My final complaint involves the basic height and/or angle of the front windscreen. It inhibits upward visibility. Its limited width may be okay in the Serengeti, but in America—the land of traffic signals and road signs—it's a problem. Removing the roof in clear

weather may be the answer. But the traffic signals and road signs will still be there in the rain.

In the real rough stuff, the Land Rover's critical dimension lies between the front differential housing and the ground. There's only eight inches of ground clearance at this point. And at the rear differential, there's only a scant half inch more. The engine's oil sump clears the ground by 15 inches and there are 17 inches between the Rover's expensive transfer-case and level terra. But it's that eight inches at the front differential that demands the driver's concern.

Approximately 1000 Land Rovers are imported into the United States each year. They are priced at approximately \$4599 list. It is difficult to determine who buys them in this country. Like we said at the outset, it *ain't* a pretty vehicle. Then again, the discerning few off-roaders who choose Land Rover will tell you that beauty is in the eyes of the beholder. 

#### SPECIFICATIONS LAND ROVER 88-INCH WHEELBASE REGULAR HARDTOP MODEL

*Engine:* 3.56.2-inch bore x 3.5-inch stroke.  
Displacement — 139.5 cubic inch.  
Compression ratio — 8-to-1.  
Power — 70.5 bhp (din) at 4000 rpm.  
Torque — 120 ft.-lbs. at 1500 rpm.  
Four cylinder, in line, petrol.

*Transmission:* Four speed all synchro gearbox ratios: 1 — 3.68-to-1;  
2 — 2.22-to-1; 3 — 1.50-to-1; 4 — 1.00;  
Rev — 4.02-to-1.  
Transfer gearbox: High — 1.15-to-1  
Low — 2.35-to-1. Final drive: 4.7-to-1 on both front and rear axles. Clutch: hydraulic, 9.5-inch diameter.

*Suspension:* Live axles with semi elliptic leaf springs (underslung) front and rear hydraulic telescopic shock absorbers.

*Brakes:* Drum. 10-inch diameter front and rear. Parking brake on transmission.

*Steering:* Recirculating-ball type. Turning circle — 38 feet.

*Wheels and tires:* Pressed steel 16-inch diameter, 5-inch width. Dunlop dual purpose (road and cross country) tires.

#### *Dimensions:*

Length . . . . . 11 ft. 1.5 in.  
Width . . . . . 5 ft. 6 in.  
Height (to top hood) . . . . . 6 ft. 5.5 in.  
Ground clearance . . . . . 7 in.  
Wheelbase . . . . . 88 in.  
Track . . . . . 51.5 in.

#### *Weights:*

Unladen (total) . . . . . 2953 lbs.  
Unladen (front axle) . . . . . 1640 lbs.  
Unladen (rear axle) . . . . . 1313 lbs.  
Max allowable gross (road work) . . . . . 4453 lbs.  
Max allowable gross (off road) . . . . . 4253 lbs.  
Payload . . . . . 1000 lbs.

#### *Fuel tank:*

10 imperial gallons.



# Trek Ads

WRITE TO: TREK ADS, P.O. BOX 162201, SACRAMENTO, CA 95816

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## OVERNIGHT TREK

DATE: JULY 12, 1985

LOCATION: Sandwich Notch Road, overnight planned for lower Hall Pond with trip through back roads of the White Mountain National Forest all the next day.

STARTING POINT: MEET AT LILAC MALL DRIVEWAY ENTRANCE IN ROCHESTER, N.H. AT 4:00PM JULY 12 FOR THE DRIVE TO THE CAMPSITE

TREKMASTER: LARRY DAVIS (#85)  
CRANBROOK DRIVE  
DOVER, N.H. 03820

REGISTRATION: Pre-registration is required due to the present drought conditions in the Northeast, presenting fire hazards that may require a change of plans. We need to know who is planning to attend in case the conditions worsen to the point of closing the woods. Please register before July 1, to allow for notification of changes in plans. We can also make plans to meet other Land Rover owners Saturday morning.

TO REGISTER: RON MOWRY, NORTHEAST REGIONAL COORDINATOR  
P.O. BOX 1023  
W. LEBANON, ME 04047  
(207) 658-9064

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## DAY TREK

DATE: AUGUST 10, 1985

LOCATION: MEET AT THE FOLSOM DAM OVERLOOK PARKING LOT, FOLSOM, CA.

TIME: 10:00AM

This is a short but very (that's very) rugged trail to a river picnic site. Be prepared for low range, gear jammin', wheel twisting fun. Find out what the old Rover can really do!

88" only!

CONTACT: JIM ALLEN  
8176 VILLA OAK DRIVE  
CITRUS HEIGHTS, CA 95610  
(916) 722-0401

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# MARKET PLACE

## VEHICLES FOR SALE

'65 LAND ROVER 109", 4 cyl gas  
new pastel green paint, in good  
mechanical condition - \$3200.  
Ron Mowry, (207) 658-9064

TWO LAND ROVERS: '69 88" Safari Deluxe,  
'62 88" ,locking hubs, tailgate, both  
rigs have new tires & run well.  
Richard Brengman, (408) 262-8249

'71 LAND ROVER 88", 4 cyl gas  
excellant mechanically-needs  
cosmetics, driven daily - \$1800.  
Ron Mowry, (207) 658-9064

'66 LAND ROVER 88", Trop. roof, rblt. eng,  
new headers & exhaust sys., rochester carb.,  
interior redone, recent repaint, KYB shocks,  
\$3000 or trade for 109"PU. James Rowley  
(915) 687-6048

## PARTS FOR SALE

HARD TOP SIDE PANELS, w/sliding glass  
\$125 or b/o. Will consider trades.  
Ted Harwood (818) 988-5241

LAND ROVER SIX CYLINDER ENGINE, Running fine  
when removed three years ago, sitting outside  
since. You pick up in Southern Indiana. \$100.  
Fred Sisson, (404) 564-2788 leave name & #

BILSTEIN SHOCKS, Club member can supply  
other club members with shocks below list  
price. LR-\$60/shock, RR-\$70/shock, shipping  
incl. Bill Davis #44, (801) 363-2390

## WANTED

WANTED: TAILGATE & REAR HATCH  
Ted Harwood (818) 988-5241

WANTED, 88" or 109" LR in very sound  
condition. Rebecca, (415) 342-9070

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- \* ADAPTER KIT TO FIT THE UNIT TO YOUR LAND ROVER
- \* COMPLETE INSTRUCTIONS FOR INSTALLATION

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- \* A VACUUM ELBOW - FITS BETWEEN VACUUM HOSE AND NON-RETURN VALVE
- \* TWO NUTS - TO SECURE NEW CYLINDER TO SERVO

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SEND NO CASH!

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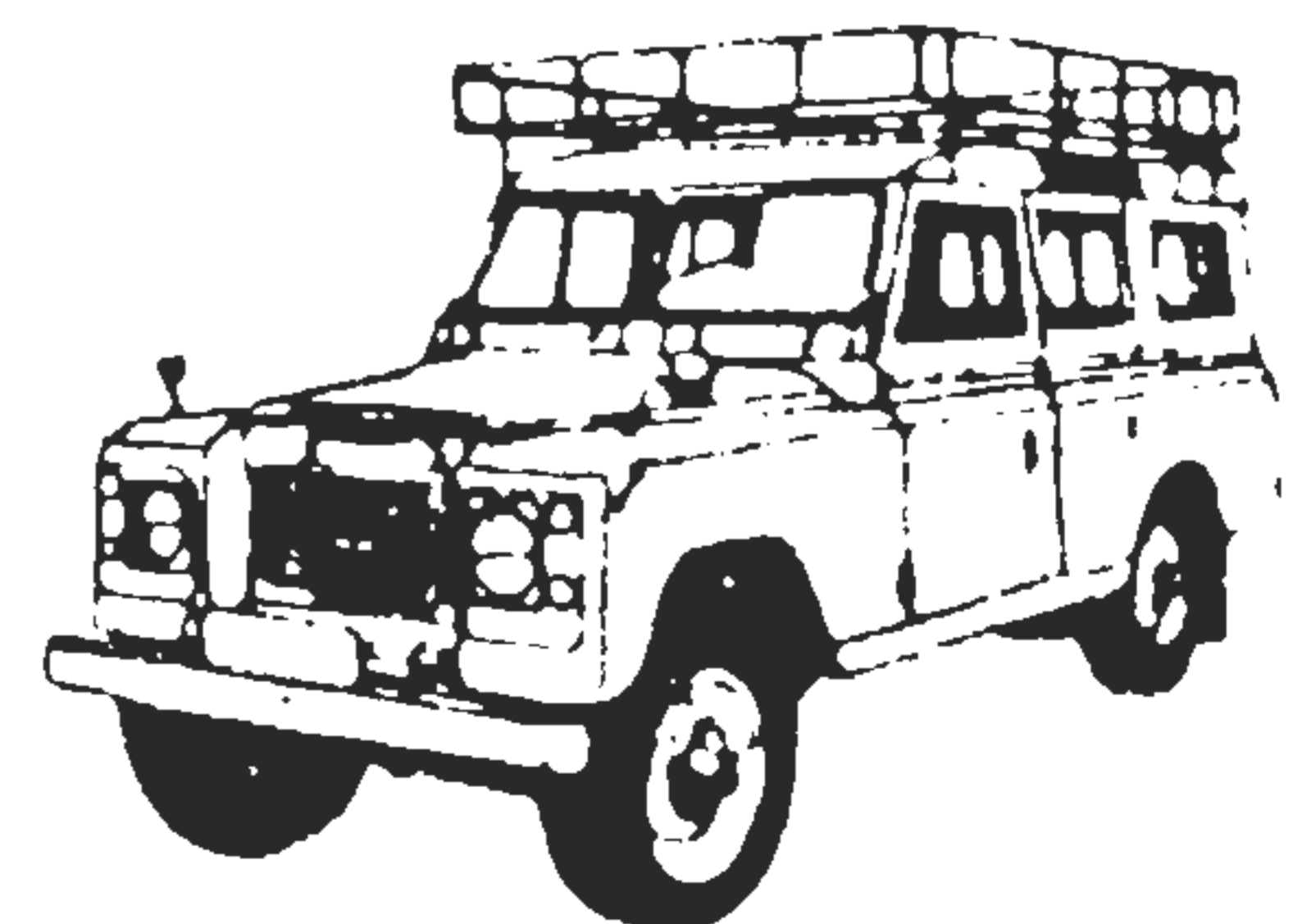
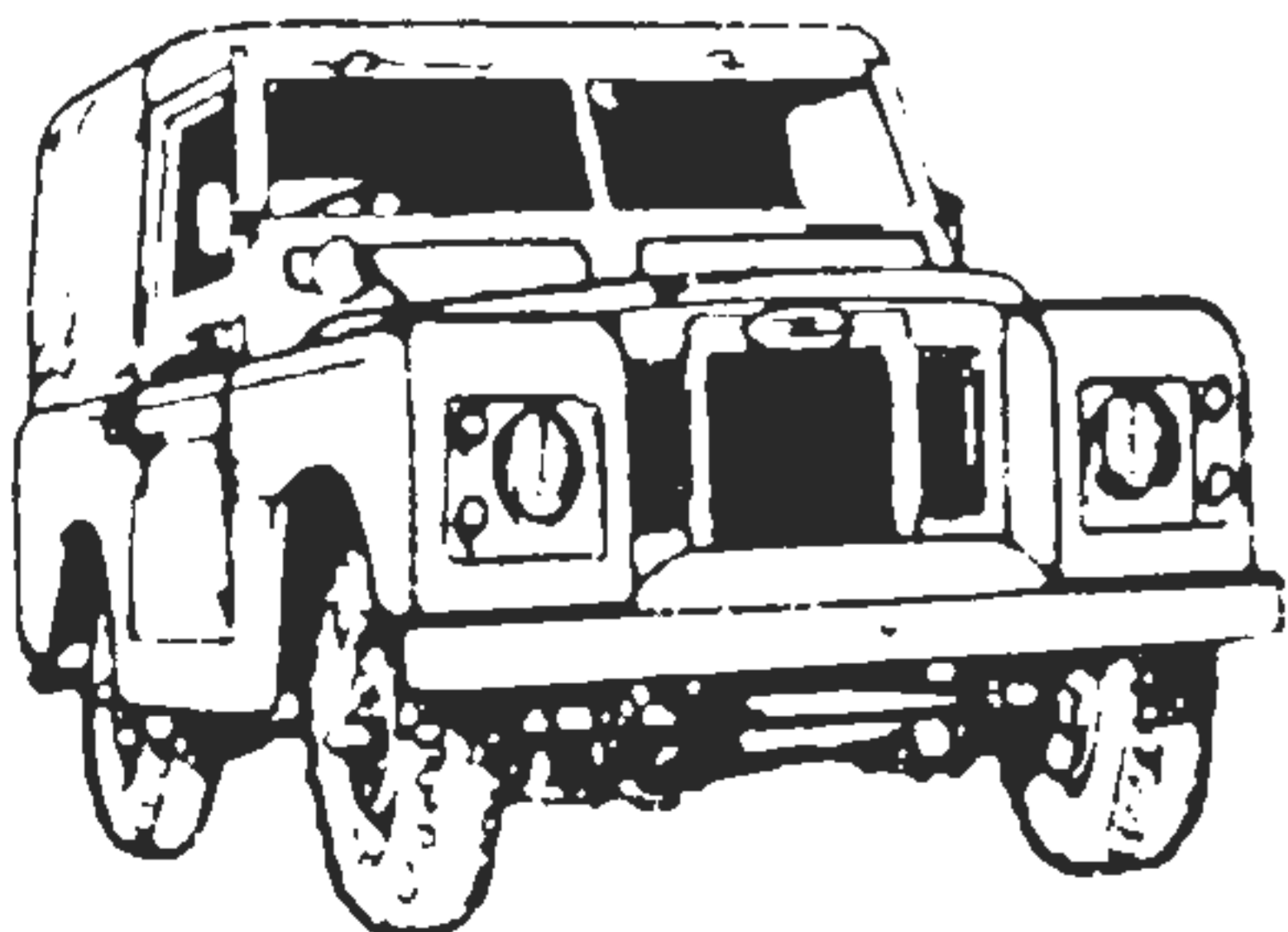
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P.O. BOX 162201  
SACRAMENTO, CA 95816

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(number 1, 1985)

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