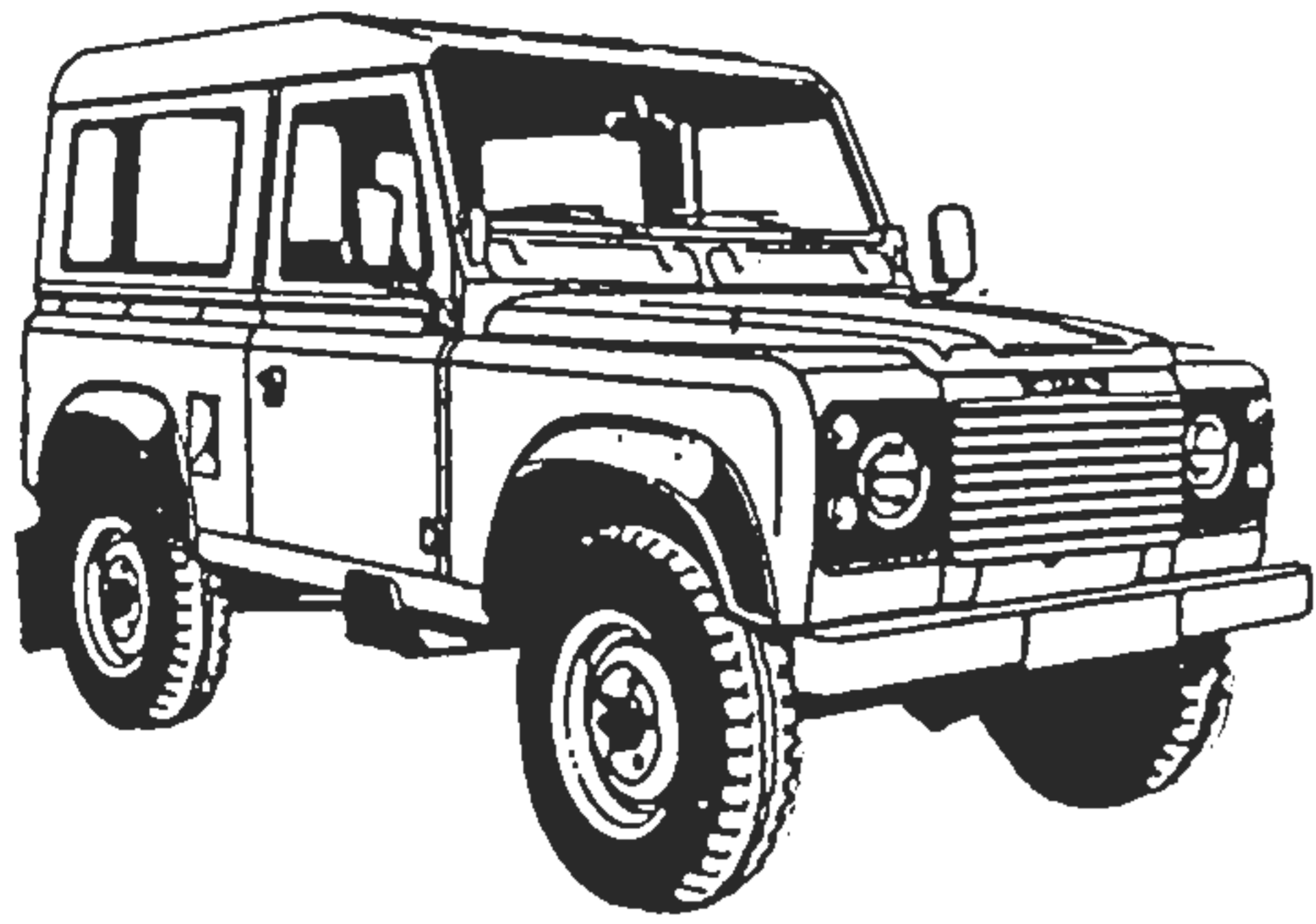


THE **ALUMINIUM**
WORKHORSE ©
MAGAZINE



WINTER 1993



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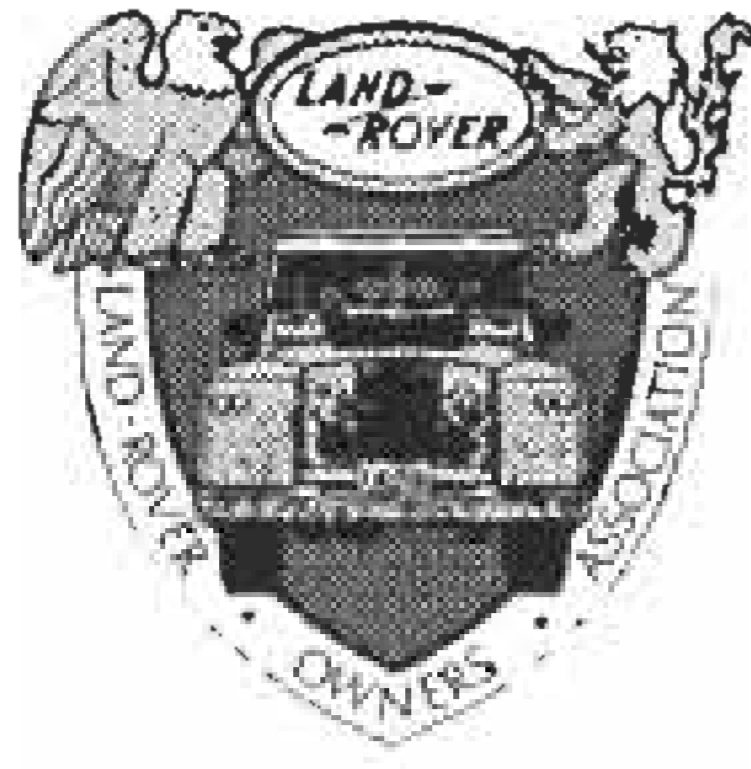
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Volume X, Number IV, Winter 1993
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Deadlines for material: Feb 15, May 15, Aug 15, Nov 15.

Items for publication should be original. If copyrighted, please include permission to print. All contributions: news items, event schedules, articles, tech tips, etc. may be hand written or typed.

The most preferable media is a Macintosh formatted, 3 -1/2" diskette. If using DOS, please save in MS Word, WordPerfect, or as ASCII on 3 1/2" diskette. We can translate to Mac.

The ALUMINUM WORKHORSE is produced using Pagemaker v. 4.2 and Microsoft Word, v. 5.0.

Permission to reprint any material herein is granted to all other Rover clubs as long as acknowledgment is given to the author and publication.

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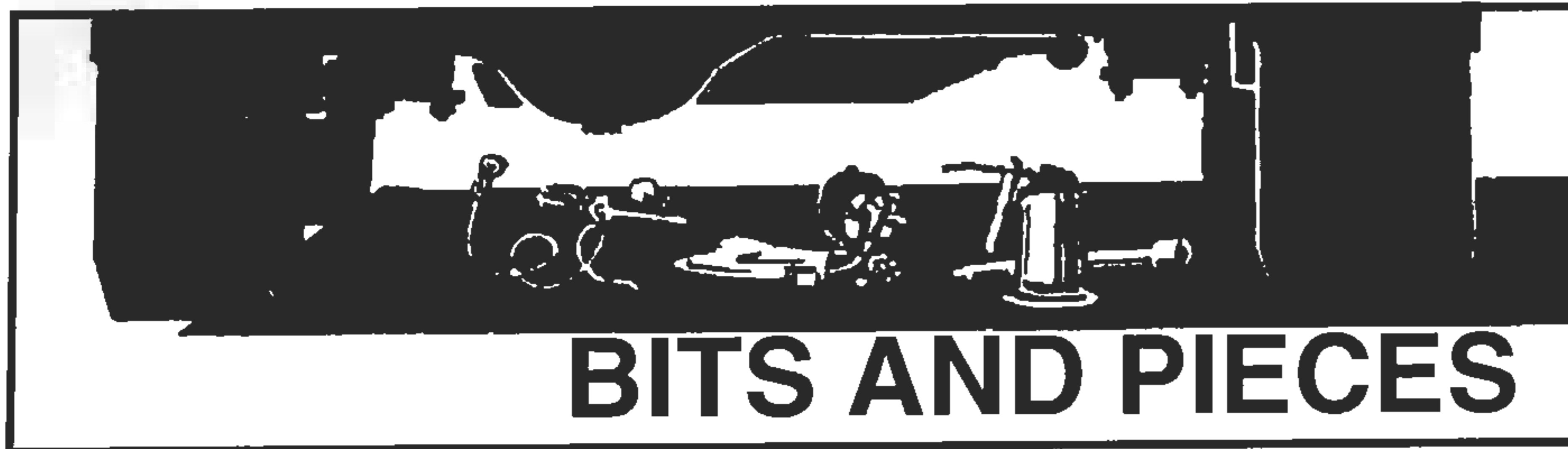
Front Cover: Dom Dias bought himself a Camel Trophy 110 Tdi and had it shipped to the U.S. After months of DOT red tape he finally got it cleared. And what do you think the first thing he did was? Go out & play in the Black Rock Desert, of course.

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Advertising Information:

For advertising rate sheet, please call Brad Blevins at 1-510-687-0955 or write to LROA, PO Box 872, Concord, CA 94522.



BITS AND PIECES

• **NO DUES INCREASE!**... It looked as though there would be another increase in Feb. and we told you so in the Fall, '93 issue of the Aluminum Workhorse. But we've had enough new members and late renewals (due, in large part to our membership drive) that we think we'll make it through the next year (or two!) without an increase. Way to go!

• **MEMBERSHIP DRIVE**... We are already seeing results from our (and your) efforts. But we have a way to go before we can relax. Any way you can help is appreciated. There must be 20,000 Land Rover & Range Rover owners in the US and Canada. Surely you know someone who would benefit from being a member of the LROA.

• **NEW MEMBERS**... We have 4 renewal dates now to accommodate those folks who join at a time other than the traditional Feb. 1. Old members won't be effected by this. The dates will be Feb. 1, May 1, Aug. 1. Nov. 1. Look on your AW mailing label to see when your dues are due.

• **COMPLAIN, COMPLAIN, COMPLAIN**... Please do! If you see something in the Aluminum Workhorse that you don't like, or that you think could be improved, drop the editor a line. He gets lots of praise (which he likes a lot), but he isn't above a little 'constructive criticism'.

• **IF YOU MOVE**... please get in touch with your post office. We've heard that some bulk mail items (like the AW) don't get forwarded unless you specifically request that they do it. There are probably other reasons beyond our control, so if you know of anyone who has paid their dues, but hasn't received a copy, PLEASE LET US KNOW! Call Brad Blevins at 510-687-1188. That's the only way we can know to send out another one.

• **THANKS TO FRED SISSON**... Fred Sisson (GA) sent us pages and pages of Technical tips ages ago that have been showing up in the A.W. ever since. A model member in the eyes of the editor. Thanks Fred.

• **1994 ROVER CALENDAR**... We hear that Myles Murphy has been doing some exceptional drawings of Rovers for a calendar. He's done 50 illustrations of Land Rovers from 1948 to the new ones. 12 will be in color and the rest will be similar to those you've seen in the Aluminum Workhorse. At this point, it looks as though Rovers North will be handling the production & sales.

• **TENTH ANNIVERSARY 1994**... Yes, we had our first LROA meeting way back in 1984. And we have a few ideas about how we can celebrate our tenth birthday. The National Rally in Colorado sounds like a good start. So does a special anniversary issue of the magazine. Maybe we could put a color cover on it. . What do you think?

• **PACIFIC COAST ROVER CLUB**... has been around for quite a while even though we didn't have them listed in our Clubs Listing. Well, they are listed there now, so if you live in that part of the country, get in touch with those folks. You'll be glad you did!

• **YUKON**... Those of you thinking about taking your vacation time trekking through Canada's Yukon might want to get in touch with our British Columbia RC, Gordon Kallio. He recently took his Range Rover up and has a wealth of information for you.

• LROA WINDOW STICKERS

The sticker is black on clear (frosted) self adhesive and measures 4.25" x 5.5". It is printed in reverse so that you can put it on the inside of your window and it will 'read' from the outside. Please send a check for \$1.50 to:

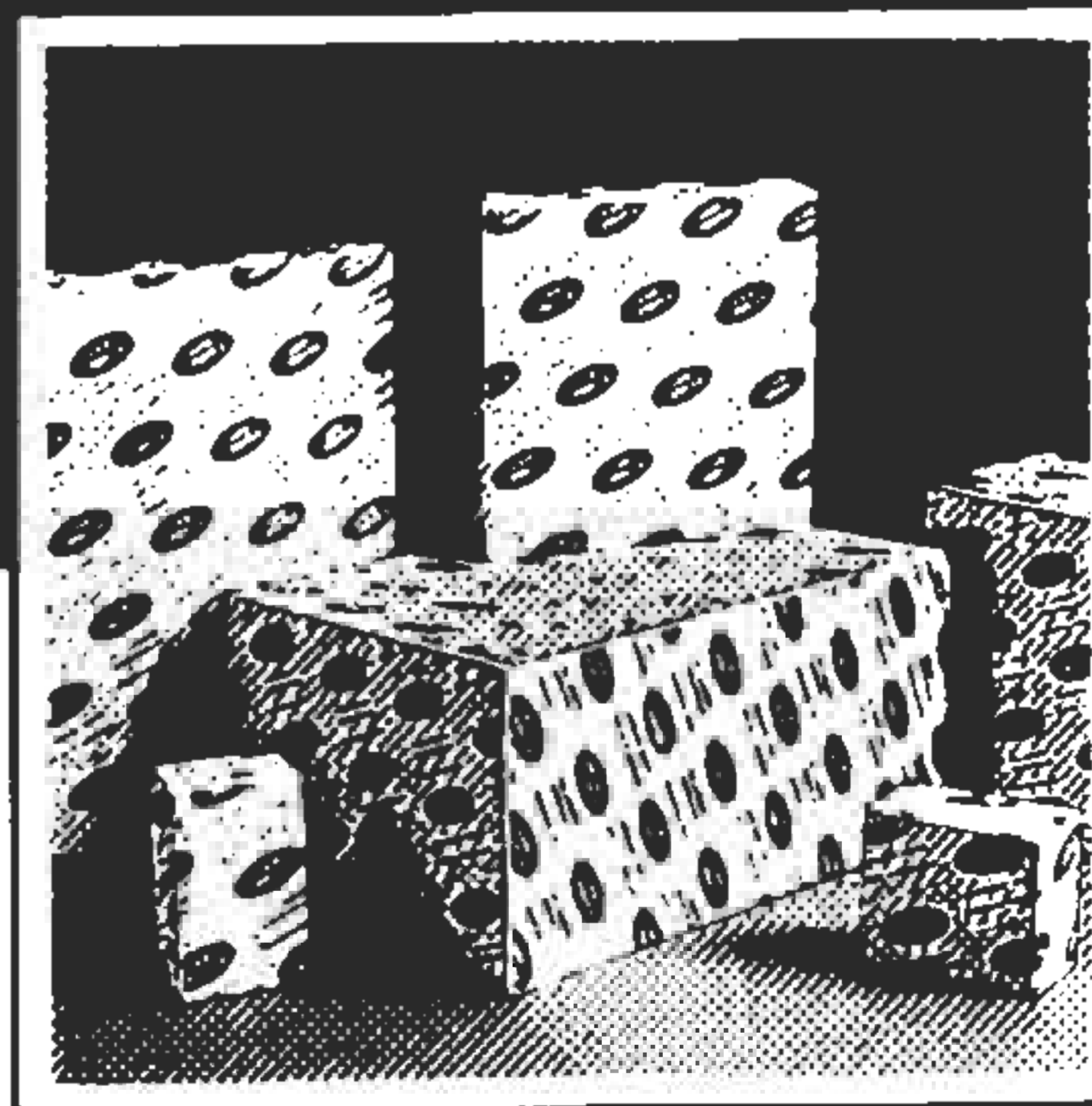
LROA
PO Box 1144
Paradise, CA 95967

• **LROA KEY FOBS**... we still have LROA key Fobs. David Ducat of CT is handling them for us. They are made of pewter with the front of a Land Rover series IIA on one side and the back on the other side:

The price is \$4.00. That includes shipping. Send a \$4.00 check (made out to LROA) to:

David Ducat
1006 Goshen Hill Rd.
Lebanon, CT 06249

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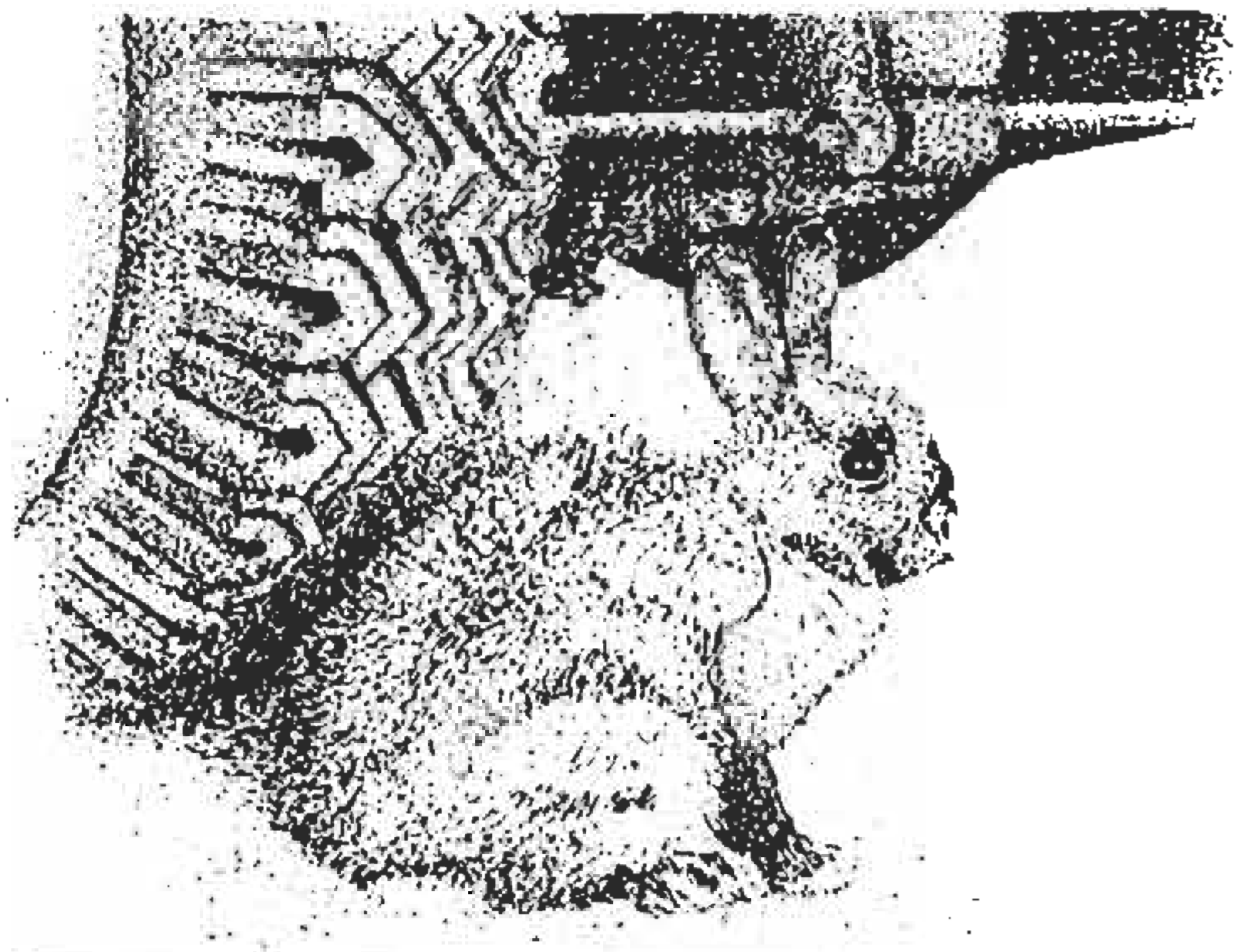


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TREAD LIGHTLY!

This will be a new column to appear regularly in the AW. As you can see by the heading, it will deal with issues concerning our use of public lands and not losing that privileged by inconsiderate acts. It seems that the breed of individual who would own a Land Rover (in most cases) would not deliberately do as some X-brand 4X4 owners do. But there is more we can do to "tread lightly".

There are many different aspects in the meaning behind TREAD LIGHTLY, and I intend to cover some of them in future articles. I welcome any input from Regional Coordinators and members in general as to what is happening in their own areas. Be it good, as something done to protect the environment they travelled through, or bad, as in threatening legislation to take away off-road trails they now enjoy.

For me, the most important aspect of the TREAD LIGHTLY theme is image. Earlier this year, Lynn Helm, Geoff Tobin, and I were out at our favorite area, the Black Rock Desert. It was a holiday weekend as we drove out 447 from Gerlach to check out the status of the "Fly", a natural geothermal hot spring/ geyser. The year before, we discovered that the owner had fenced off the entrance. This was inevitable. The place had been trashed and vandalized, most likely from locals out of Reno. But sometimes the gate could be found open. This time it wasn't. But that didn't stop the locals, as much of the barbed wire had been pulled down to gain access around the already bent up steel gate which had been rammed by some huge 4X4.

We respect the fact that the gate was locked and didn't drive around. I suggested, "Let's fix up the barbed wire and see if it survives the holiday weekend." My two partners agreed. After about half an hours work we had it strung up fairly well, posed for a photo, and then went on our way.

As the weekend drew to a close, we stopped by the gas station in Gerlach at the same time three BLM personnel were there. Two of them were archeologists and the third, the ranger assigned to the area. In the course of our conversation, I asked them if they had been by the Fly. They hadn't, but added that it was closed off. We told them we knew that, but were just curious to know if the fence was still intact, as we had fixed it up last Friday. The look on their faces said it all. Disbelief. They turned around and took a closer look at our Land Rovers, looked back at us, and seemed to be at a loss for words. Lynn pointed to the TREAD LIGHTLY sticker in his window. No more needed saying. No doubt, the next time any of them sees one of these strange vehicles, the thought of that day in the Black Rock Desert will come to mind.

With our Land Rovers, we stand out so much more than your everyday 4X4. We attract attention. We are more memorable. We need to leave a good image behind when in our Rovers.

For more information about the TREAD LIGHTLY program, call 1-800-966-9900 or write: TREAD LIGHTLY, Inc.
298 24th St., # 325 C
Ogden, UT 84401

Any information or stories you wish to contribute to this column, write to me: John L. Kim
216 Triplett Dr.
Cloverdale, CA 95425

From the President

It is hard to believe that almost an entire year has past since volunteering to work as Club president. In that time, much has been accomplished by many members of the Club. So, at the invitation of the WORKHORSE editor, I am submitting my first column for the magazine. It is logical to outline, for you, the changes that have taken place within the Club. The most obvious is the ALUMINUM WORKHORSE which, I'm sure all members will agree, is much like the marquee; It looks the same, but there is refinement in every issue. It has become the direction of the Club to provide not only to members, but also other smaller clubs, the opportunity to advise all owners of events.

Membership and financial matters are now computerized and a better follow-up for both new and renewing members has been established. As members of the LROA, we will be making available a new tri-fold brochure for your use in attracting new members.

Club ability to become more involved in promotion of the Land Rover product is now beyond the planning stages in many regions. It is apparent to owners of Land Rover products that all models need to belong to the Club. However, it is still a sad fact that many owners, especially of Range Rovers, do not have knowledge of, or understand the unique heritage of Land Rover Ltd. I would like to see our members change that condition at every opportunity.

Finally, in celebration of the Club's tenth anniversary next year, I have asked the Club secretary to begin plans for at least three separate regional rallies. This will allow all club members to participate in an LROA,NA-sponsored event to commemorate the occasion.

Steve Hill, President

THE LROA DEPARTMENTS & OFFICERS

Send your mail directly to the person who can make the most of it. You can find the list of Departments & Officers on page 1.



Pascal Saint Maux and his Range Rover got caught in the floods down in San Diego last March. Maybe they *do* have limits. Ken Fritz found the photo in the Sacramento Bee (CA.)

Events

CALIFORNIA

• Dec. 4: LROA Christmas Party. Steve Hill's house; 7701 Manon Way, Sacramento, CA. Potluck... bring something to share. Steve's library of Land Rover movies will be open... they have 2 TVs. Lots of interesting Rover discussions take place at these events. And you'd be amazed at the Rovers that show up.

Give Steve a call at 1-916-393-3767.

COLORADO

• Jan 22: Solihull Society Winter Rally. It'll either be Ice Racing in Georgetown or Skiing Loveland Pass using Land Rovers as Shuttles. There's terrain for all ability levels and there's beginner levels for ice driving.

• Aug 15-22: National Land Rover Rally sponsored by LROA, NA, Solihull Society, Blue Ridge LR Club. Mark your calendars now. More info next issue.

• June 24-26: Colorado Safari Triathlon. Participants will be judged on their off-road driving & navigation skills, canoeing, and bicycling abilities. 1st place winner will receive \$1,900 & trophy. 2nd, \$1,125 & trophy. 3rd, \$775 & trophy. The Team Spirit Award consists of a trophy.

Call Bill Burke of 4-Wheeling america at 1-303-778-9144.

MICHIGAN

• Oct 3: Mt. Clemens. British Car show at Brodies British Pub. All British cars welcome. Awards, door prizes, entertainment, British food & beer, darts. Hughe Vandervord, 313-740-4703 before 8pm.

OREGON

• April 16-17: Northwest Challenge '94. The '94 Challenge will be held outside of Portland, OR. Contact Gord'n Perrott, 1-206-361-5766.

OTTAWA

- Dec 4: Christmas Party. RCN Mess.
- January 5: Annual General Meeting. Election of officers.

OVLR
1016 Normandy Crescent
Ottawa, Ontario
Canada K2C 0L4

WASHINGTON

• Dec 4: Winter Run and Party. Contact Gord'n Perrott, 1-206-361-5766.

• April 16-17: Northwest Challenge '94. The '94 Challenge will be held outside of Portland, OR. Contact Gord'n Perrott, 1-206-361-5766.

WEST VIRGINIA

• Jan 14 - 17: Blue Ridge Land Rover Club Winter Meet. Technical Session.

• May '94: BRLRC Spring Meet. Blue Ridge Parkway, Mabry's Mill, VA to Crabtree Meadows (MP 340), NC.

• Summer '94: BRLRC Summer Meet, Hendersonville, NC.

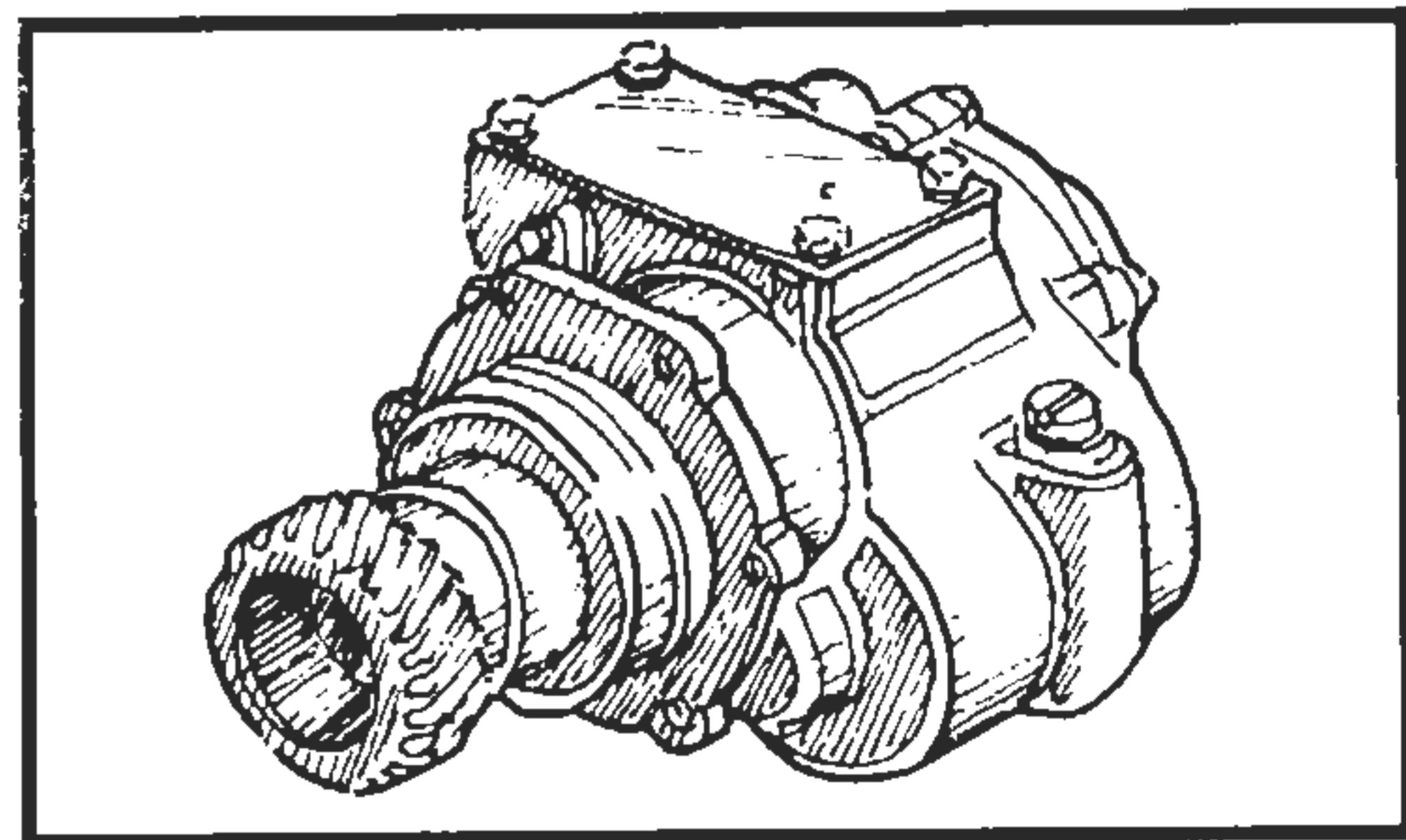
• Fall '94: BRLRC Fall Meet, Roanoke, VA.

BRLRC
PO Box 507
Parkersburg, WV 26102



LROA president, Steve Hill (L) congratulates Eric Cope (CA) for 'Best Land Rover of Show at the All British Car Meet in Palo Alto, CA. Hubacher Range Rover in Sacramento donated prizes.

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Vince von Frese sent us some good photos of the rally in Wichita, Kansas during the Spring of '93. Here are a few.



This Series III 88 belongs to Mike Hoskins, owner of Mid American Rovers in Kansas City, MO.



James Merriam's 88 in the foreground. James was the organizer of the event.



This military 88 from Maine was recognized as the Rover in the best condition. Guess who's?

'93 Colorado Safari Triathlon

Bill Burke

reprinted from Solihull Society newsletter

The full-sized GMC pick-up with the 40" Swamper TSL Boggers looked lost as it flailed away in the seemingly bottomless mud hole, but the good-natured team of Nolkemper and Burt from Missouri literally dove in and shovelled the mud out of the way and watched as the winch on the big Alabama scrambler struggled to pull their truck from the sticky mess. Nolkemper looked at me and said, "You were right, Bill. This is a good mud hole. What's the rest of the trail look like?"

The 1993 Colorado Safari Triathlon began innocently enough when Craig Melby called me from Florida seeking rally information, ideas, and the Camel Trophy rules and regulations book. He asked if I would like to present a Safari Triathlon in Colorado. Being the glutton for punishment that I am, and not really knowing the millions of details involved, I said, "Sure. Why not?"

After approximately 500 hours of preparation, hundreds of hard, fast miles scouting routes, and many sleepless nights, my wife, Rachel and I welcomed the teams to the opening ceremonies and finally could place the names of the people who came from far and near, seeking the first prize trophy and \$1,000 purse.

The first true 4-wheel drive triathlon in the Western United States, the Colorado Safari Triathlon would test competitors in canoeing, mountain bicycling, and 4-wheel drive time/speed/distance rally. The 114-wheel drive vehicles with canoes on top and bikes on the back lined up in downtown Fort Collins on June 26, 1993 looking ready for anything or, as we say, "loaded for bear." The old Land Rover stood proud between the big black Chevy with 44-inchers, which stood in back of the race-prepped Scout and the local club-sponsored Jeep CJ-7. The new Defender 110 standing nimbly on the Michelin XCL tires belied the intense training the driver and navigator undertook the weeks before to prepare for the competition after hearing stories of the big trucks from Missouri, Alabama and Wisconsin with 44" tires and mud-romping V-8 big blocks.

I had promised all the competitors a hard course for both human and machine, and it proved to be just that. The 7 miles of open water canoeing with a short, but sweet portage,

was only the beginning. As the teams entered the water at two-minute intervals, running down the rock-strewn path and into the cold water of Horsetooth Reservoir, some felt more of the water than others, but they managed to dump out the swamped canoes and keep paddling.

At the end of the canoe section, the teams were handed an apple and a bike helmet, and led by Ed Roberto, to the start line of the torturous 6-mile bicycle trail. Down the switchbacks they went! I'm glad I required bicycle helmets 'cause the spectacular endos made even me grimace with pain. But these guys were serious about getting down that trail. Shortly into it, Nolkemper's bike seat post broke, but he still managed to pull a good time. More importantly, he showed the mettle that won his team the Team Spirit Award.

The bicycle finish line marshals were given a show as the team from Durango, Matt Tanner and Lynn Parks, failed to negotiate the last turn from the off-camber dirt road onto the final stretch across the reservoir dam. I'm happy to say that the First-Aid team of Ethan Gannett and Chris Collins from Larimer County Search and Rescue were on hand to clean up the 'gravel knees' and minor scrapes. As the bicycle section finished up, the Event Staff handed out Gatorade, Power Bars, apples, Oranges and granola bars.

Once the competitors cooled off and rehydrated, they loaded their canoes back onto their vehicles and lined up for the 4-wheel drive rally sections. My partner from the 1991 Camel Trophy in Africa, Webb Arnold, had helped me chart and time the entire 4-wheel drive rally section, and only we knew what was in store for the teams. Each team was started at two-minute intervals and given only one minute to review the instructions before starting. Following the tulip charts' navigational instructions and keeping time proved a formidable task for the navigator and certainly tested the communication skills of each team. At this point, I said good-bye to Rachel as she drove the rental truck back to town filled with the teams' bicycles to store them at Fort Collins 4X4 until the event finish.

The warm-up rally was a pretty drive through the horse ranches and foothills West of Fort Collins. It got the teams' blood stirring and set the pace for the rest of the weekend. I planned to expose all the competitors to the best 4-wheeling Colorado has to offer – great views, rugged country, big rocky hills and deep muddy troughs. The volunteer marshals from Larimer County 4-Wheel Drive Club suggested that I use Kelly Flats Trail, as they felt it embodied all that I wanted in a 4-wheel drive trail, and they were right. The long, steep rocky hill tested both vehicles and drivers.

The old Landy 88 just didn't have enough horsepower to pull the hill and was the first to use the bypass, costing them precious time that they had to make up on the flatter trail sections. And the lofty black Chevy with the 454 big block and 44" tires driven by Skip and Scott from Wisconsin was running rich due to the 8,700 foot altitude. Flooding near the top, they restarted and let the big block roar, only to twist both drive lines out from underneath the axles. This was interesting. I got a call on the radio to please come up to the hill and render a decision for the

marshals keeping time. The teams all worked together to winch the big truck up over the apex and out of the way, and I stayed with Skip and Scott as they attempted to repair the drive line. However, the Wisconsin team realized that their truck wouldn't be able to finish the event. Sadly, but with good spirit, they turned the truck around and, with my winch holding them back, slowly descended the steep hill. Once again, the trusty old Superwinch Husky on my Jeep came through a crisis! On the other hand, the sleek Defender 110 glided up the hill like it was attached to a magnet. A beautiful sight to behold!

As it got toward evening, I met Webb at the special task area where the teams would have to drive and navigate a maneuverability task. At the start line, each team was given 10 seconds to review the task map, and then start. The steep, winding, rutted trail masked the dense forest that would require a great deal of skill to maneuver the vehicle into and out of the "garages." This task seemed to be enjoyed by all competitors as a unique and taxing drill.

After supper and some free time to pull maintenance, the teams milled about, getting to know each other and checking out the vastly different rigs each team was competing in. By now, they knew that I meant what I said about a one-class event – that true teamwork and skills

were the deciding factors for this Safari Triathlon. As the moon crested over the pine trees and the campfire flickered, the drivers adjusted their KCHiLites to light up the night because the night rally was ready to start. Webb and I were looking forward to this.

There were lots of intersecting trails and turns, lots of whoop-de-dos in the dark, and the ever-confusing aspect of other competitors coming back on the trail from different directions. Sixteen miles of strange roads at night – what a concept! What fun! Everybody had a great time, marshals and competitors alike. I did have to go out looking for one team, though. But they were able to finish and about 1:30am, all the teams moved quickly to the sleeping bags. After a very long, hard day, though, they were not about to forget the next day's promise of 14 miles of muddy, rock-strewn trail and deep mud holes.



Robert O'Donnell (L) and Clarence Harrison won the 1993 Colorado Safari Triathlon in a 1993 Defender 110.

As Rachel and I pulled into the County Cork Irish Pub for the Awards Dinner on Sunday night, I looked over the parking lot at all the mud-spattered trucks with canoes on top. Rachel remarked that all the teams made it back for dinner, albeit minus an alternator or a rear drive line or flat tire, but present and ready to eat. I thought of the fantastic winching technique of Greg Hall and Eric Crain from Alabama, of the follow-through attitude of Corky Spica and his three sons in their green Scout, of Fred Deffenbaugh getting stitched up and coming back to finish out the event, of Rachel's calm and patience through the months of planning, and I realized that it was all worth the effort. And now the finale was at hand.

The atmosphere was jovial. There had been a competition, yes, but also a team building, bonding and tough trials that all had made it through one way or another. The competitors nervously gazed at the trophies as I uncovered them and as Webb, George, Rachel and I finalized the scores and got ready to announce the winners - 1st Place Winners, Clarence Harrison and Robert O'Donnell (Boulder, CO), driving a 1993 Land Rover Defender 110; 2nd Place, Lynn Parks and Matt Tanner (Durango, CO), driving a 1974 Jeep CJ-5; 3rd Place, Everette France and Jim Weed (Aurora, CO), driving a 1980 Scout; and Team Spirit Award, Jim Nolkemper and Andy Burt (Marthasville, MO), driving a 1983 GMC pick-up.

As I handed out the awards, my mind thought of all that went into bringing us to this moment. Although I planned the event, I planned it for the competitor, from a competitor's perspective, as being a competitor is what I knew best. I jumped into the planning and the organization for the Colorado Safari Triathlon with both feet, not knowing a thing about it from the other end! For once, I was on the outside. But I realized I had as much fun as the teams did. The icing on the cake for me came from all the competitors and spectators who said to me, "What an excellent job you did organizing... Very professional logistics... Well arranged and planned special tasks... The 4-wheeling was tougher than I expected and the bike & canoe sections were well laid out and coursed... Very good, great fun... I'll definitely be back next year!" This made it all worth it.

My heartfelt thanks go to the sponsors of the 1993 Colorado Safari Triathlon: 4-Wheeling America, Superwinch, Rancho Suspension, KC HiLites, Steele's Markets, Mile Marker, Jacob's Electronics, Robert and Kim Schleppey of Fort Collins 4X4 Performance, and Jake Maas and his staff at the Cork County Irish Pub and Restaurant. See you all at the 1994 Colorado Safari Triathlon

Note: The 1994 CST will be June 24-26 at Horsetooth Reservoir & Roosevelt National Forest, Colorado.

Contact Bill Burke at 1-303-778-9144.

4-Wheel Driving Tips

Bill Burke (CO)

- Drive as slow as possible, but as fast as necessary.
- Get to know your vehicle and it's performance potential. **SQUEEZE** the accelerator gently to avoid wheelspin, backing off the pedal when spin does occur, then gaining traction again.
- Survey the trail ahead to avoid any "surprises." When in doubt, get out.
- Select low range in the transfer case and the proper gear before driving into a difficult section. Don't use a lower gear than needed, and keep the wheels from spinning. Usually second or third work better than first.
- Keep the use of brakes to an absolute minimum to keep the wheels from locking up on wet, muddy and loose rock. Descend steep slopes in low range and first gear.
- Reduce the tire pressure to improve traction in all conditions, especially sand. Remember that ground clearance had been compromised. Re-inflate before driving on pavement.
- Drive directly up and down hills. Travelling diagonally may result in a sideways slide - worst case, a rollover.
- Do not oversteer while in ruts or deep tracks. The steering wheel may look centered, but the tires may be at full left turn. Murphy's law says that when traction is gained, there will be a big tree or rock at that point.
- Cross ditches or logs at an angle so that one wheel at a time goes over the obstacle; the other three help the one wheel to climb over.
- Make slow, steady progress through deep water to create a "bow wave" and an air pocket in and around the engine compartment and front wheels. This minimizes risk of water drowning the engine. Check the brakes after coming out. Don't let hydrostatic lock ruin your day. Water does not compress as well as air.
- Do not wrap your thumbs around the steering wheel. Your thumbs could break if the wheel kicks around from rocks or other obstacles.
- Avoid lengthy wheel spin; digging into the track only gets you more stuck and ruins the environment. If stuck into the track, use a jack to lift the vehicle. Build up the ground under the tires. Placing brushwood and blankets, etc. under the tires will sometimes help with clearance.
- Please **TREAD LIGHTLY** on public and private lands. Drive only on trails designated for 4WD.

Bill Burke was one of the two-man team to represent the U.S. in the 1300 mile 1991 "Camel Trophy" in Africa. He has trained individuals and groups in 4-wheeling, orienteering and outdoor skills for more than 25 years and is now the owner of 4-Wheeling America, guiding trips and instructing Off-highway techniques in Colorado's Rocky Mountains.

News and Info

Discovery in Japan – by Honda

Some of our readers may not be aware that Honda Motor Co. made a deal, last Summer, to sell the Land Rover Discovery in Japan with a Honda nameplate.

1,000 vehicles are expected to be sold the first year. And, even though Honda presently sells 3 Jeep models and the Isuzu Rodeo in Japan, this will be the first time the company has put its own nameplate on a 4x4 built outside the country. Not surprisingly, Honda is currently developing its own Sport-Utility.

The Discos that are going to be sold in Japan are 3-door & 5-door four wheel drive models with the V-8. They will go for just under 4 million yen, or about \$36,450.

Tread Lightly Film to Air on ESPN

A new video produced by Tread Lightly, titled Where the Pavement Ends is scheduled to air on ESPN in February of '94. The 1/2 hour program is the first to spread the Tread Lightly message. Here's hoping it will be one of many successful future Tread Lightly videos.

New Tread Lightly Executive Director

Cliff Blake has left Tread Lightly "to pursue other interests." Former Assistant Executive Director, Lori McNeely will replace him. We hope she reads the AW.

Canada's 1st Off- Road Driving Course

Canada's first off-road driving school commenced operation this last summer. Patterned on the very successful off-road driving schools in the UK, THE 4X4 EXPERIENCE will initially offer one day courses that teach the 'basics' of off-road driving to 4X4 owners and operators.

The level of instruction is aimed at drivers of normal production models of 4X4 vehicles in the increasingly popular 'sports utility' section of the auto market place. Emphasis is given to techniques that make off-road driving safe for the driver and passengers, non-damaging to the vehicle, and environmentally 'sensible', while still being fun.

Chief Instructor, Andy Philpot has 5 years of off-road driving experience in Africa, 4 years in Canada, and has attended various off-road driving schools in the UK including Land Rover's own school in Solihull, England. For more information, call 1-416-383-8785 or write:

THE 4X4 EXPERIENCE
15 Brucedale Ave East
Hamilton, Ontario L9A 1M9
CANADA

New Rover Shop in Salt Lake City

The newly opened Great Basin Rovers is the only independent Land Rover shop in Salt Lake City, Utah. Bill Davis, the owner (and LROA member) has been a Land Rover enthusiast for many years. LROA members may recognize his name, as he has long been the LROA Regional Coordinator for the Mountain States Region.

Great Basin Rovers services Land Rovers and can provide used parts at reasonable prices. The company will also be offering a line of specialty parts and accessories which will be available in 1994.

You can call at 1-801-966-4119 or write:

Great Basin Rovers
342 West 1700 South
Salt Lake City, UT 84115

Parts Catalogues

The new **Rovers North catalogue** has been out since June. It features 70+ pages of Land Rover facts & figures along with exploded views of just about every component. The prices are printed right next to the part number where you can easily find it.

The '93 catalogue is illustrated. R.N. customers' Land Rovers appear throughout. LROA member, Gordon Kallio's ex-military 109 is on p. 33 sitting with what looks like Dave Tallichet's Boeing B-17E 'Flying Fortress'. Mark Marshall's 88 can appear on p. 37 and Peter Goldberg's late IIA ex-military 109 can be found on the rear cover.

Pages 68, 69, & 70 feature a 'how to identify your Land Rover' section. There are 30 views of the more common Land Rover models from the prototype of 1947 through Series I, IIA, III 88s and 109s, military and civil, right up to the 1993 Defender 110. These 30 drawings, as well as the smart looking IIA 88 on the cover are all from the hand of LROA member, Myles Murphy

The **British Northwest Land Rover Company's catalogue** is also out. It consists of 113 pages, many of which have parts illustrations and line illustrations of Series I Land Rovers. Also found in these pages are 'Mechanic's Notes'; helpful one or two paragraph tips on making certain jobs safer or easier. Page 1 helps you identify what year & model of Land Rover you Really have, and provides space to record your Rover's 'vital statistics'.

The catalogue has been designed to be easy to find in a myriad of paper piles as well as easy to read. It is printed on yellow paper (Black on yellow is the best combination for readability. That is why most road signs are in those colors.) and the type is fairly large. There is a separate price list which accompanies the catalogue.

Club Reports

This section will introduce you to and keep you abreast of what's going on with Land Rover clubs throughout North America.

'93 National Rally-Crested Butte, CO

David Ritchie

Reprinted from Blue Ridge Land Rover Club Newsletter - Autumn '93

It has been warm and unreasonably dry in Colorado this summer- until the Ritchies arrived! Thursday morning found us at the Nordic Inn, in Crested Butte, awakening to clouds and a brief shower here and there, but with just small bits of bright blue sky showing in between the darkest clouds. Another beautiful day in paradise! As is usual practice, this first morning was spent



Part of the '93 National Rally group at the top of American Flag Mountain.



Terry Mitchell tests axle articulation on Taylor Pass Road.

renewing old friendships and meeting the newest arrivals. Greg was anxious to get started, as was our guide for the day, Nordic Inn owner, Allen Cox. Allen has lived in Crested Butte for 21 years and knows the surrounding mountains like no other. And the fact that he would be leading us in a Jeep only whetted our appetite for what might come later - a chance to show what our intrepid vehicles could do. All ribbing aside, Allen led our band of 15 Land_ and Range Rovers out of the parking lot into clearing weather and plenty of hot sunshine. A few miles on pavement, then we turned off onto Cement Creek Road, and headed for American Flag Mountain

It seemed that we had no more started up this road when we padded a frantic female trail-bike rider, who explained that her husband had driven off the road and was now well and truly stuck just a few hundred yards further along. In no time at all, we pulled to a stop in front of a young man in front of a Chevy Celebrity station wagon, which was sitting on front wheels and frame. But the back wheels were hanging over the edge of the road. He had the foresight to pile some rocks against the back wheels to keep the car from sliding totally over the bank (which, I must admit, was only a few feet to the bottom of the creek-bed).

The delay was measured in seconds while we hooked up a snatch strap to Grady's Range Rover which made quick work of pulling the Chevy back up on the roadway, and at the same time insuring the young owner would never again try to turn his car around in the middle of a narrow road without the benefit of a driveway or other wide spot.

We quickly resumed our trek, ever upward. At our next rest stop, the first signs of trouble appeared. The dreaded VAPOR LOCK! Mike Smith and fellow BRLRC member Geoffrey Link were quick to get their 88 running again, and we were off. At the next intersection, we were on Italian Creek Road (maintained by the Gunnison Co. 4 Wheelers Club), a beautiful drive through tall pines that would sometimes remind us of our roads in the Virginias. Then we would come to a real mountain view... and lunch.

Next stop was lunch at an old mine site, at 11,540 ft. altitude. And now we were back in the clouds and mist. We spent a few minutes

discussing the weather and the effect it would have on our assault on American Flag Mountain. No worries! The rain stopped before the ascent and we had dry going for the rest of the climb. This was a very steep grade, with rock and loose gravel to contend with. The arrival at the top was worth the climb, however, with a beautiful panorama of Colorado stretched out before us. We were well above timberline here, and the colors in the rocks were beyond description. This was truly the top of the world. But mother nature will have her way, and we hurried off the peak before the next storm arrived.

The trip back to Crested Butte was a little hurried because we had a cocktail party/ reception to attend! However, that did not diminish the breathtaking scenery we passed through on the way.

Allan Cox treated us to a grand party on the sundeck of the Nordic Inn, complete with beer, chips, salsa, polish sausage, bright sunshine, and a raffle for Rover goodies!

Friday – Today we started quite early (8:15), as we had a long climb and busy afternoon ahead of us. We would be meeting a new Defender 90 and Discovery in Aspen at 2:00pm. Highlight today would be Taylor Pass. But we must first get up the mountain. If you remember Mr. Beasley's rally, you know about rocks. Well, Taylor Pass Road has RROOCCCKSS!! And a few water crossings, one of which is shown in the Range Rover video, The Great Divide Expedition. It is about 1/4 mile of creek bed, running about 6–8" of water – more in spots, with very large ROCKS and extremely



Taylor Pass Road – 1/4 mile of steam bed, turned road!



Another group shot – this time at the top of Taylor Pass.

light spaces and a severe climb–out at the end. We all made it with no damage, although some of us were quite slow in the undertaking. Taylor Pass was another typical Rocky Mountain pass – beyond description. But now we were late for our Aspen engagement. So, down the mountain with all possible, while careful, speed.

We met up with Jim Allen and the Defender 90 at Aspen Highlands Ski Area. No, this was not the white 90 that we have had on the BRLRC rallies, but a green US spec'd model, complete with soft top and high-mounted rear stop light! This certainly attracted much attention.

Next up was DISCOVERY! And who do you suspect was driving the Disco into the lot? None other than BRLRC's Garrett Bailey! What a surprise for both of us. It was like old home week. (By the way, the sun was now beating down on us with a vengeance – an SPF30 day at least.)

The day's activities were marred by a few mishaps: The ever present vapor locks (good reason to use electric fuel pumps), broken front axle, locked up starter, punctured fuel tank, and a blown differential (these last three on the same vehicle!). Most everyone made it back to Crested Butte tired but happy.

Saturday again brought us more rain and low clouds but it was a good day for Rovers. Six Range Rovers, seven Land Rovers and a Defender 110 left the Nordic Inn heading for Tincup. At the historic town of Tincup (still a small, thriving community), we paused for a strategy session. It was decided that we would lunch first at an old gold mine just past the cemetery mentioned in The Great Divide Expedition tape. Then back to the road to Tincup Pass. Finally, at an elevation of 12,540 feet, we reached the Pass. I'm quite certain it was very beautiful, but we were socked in by the clouds and rain. On our return down the mountain, four of our intrepid group decided to try Old Tincup Road. This was a real adventure, with giant rocks and close quarters all the way. But with two Camel Trophy finalists to act as spotters, the Rovers made it with minimal damage. I'm sure that if we had dry weather, there would have been no damage and we all would have tried the alternate route. But there is always next time.

Our awards dinner was held at Donita's Cantina in Crested Butte; a very nice restaurant. Yours Truly won 2nd place for longest distance travelled in a Range Rover and fellow BRLRC member Geoffrey Link, from the St. Louis area, won for longest distance in a Land Rover.

The 1993 National Land Rover Rally was a complete success. I'd like to express my thanks to the Solihull Society, Greg, Terry, Bill, and Allen for making it so enjoyable. We're certainly looking forward to next year!

Letters

The following letters are the opinions of their authors and not necessarily those of anyone else.

...and so there Jane and I sat in a typical California type Mexican restaurant in the city of Vacaville. We listened to the other members of the steering committee discuss the problems of deadbeats among the ranks of the LROA membership who continue to receive the Aluminum Workhorse without having paid their dues on time. And we quietly sipped our margaritas thinking, "the scum-sucking dogbreath lowlifes." (as Captain Camo would say)...

Today, the Summer issue arrived and taped neatly inside the front page is the postcard advising that I had missed the last issue because my dues were not paid. "What's this?" I thought. "Oh, they must have included this in my issue so as I could see what they came up with. Nice touch.", and went on to enjoy the magazine. Part way through, I began to think, "perhaps that card was there for another reason. "Naw..." I looked at my address label... 2/93! I scoured through checkbooks of old and nowhere could I find a check for LROA. Is my face red? Do Land Rovers leak oil?

I was too involved in getting the Baja trip together. Is that a good enough excuse?

John Kirn

Dear Rover Owners,

We look forward to a long association. As of now we rove alone. Here we are on Mt. St. Helens this past Spring. While at that point not equipped to push ourselves, we enjoy exploring our surroundings.

Now, several months later, we are about ready for more challenging adventures. We hope, through this association, to find like-minded companions. Looking forward to such a meeting.

Shelby Schefstrom, Haralee Weintraub & "Capt. Hastings"



Shelby Schefstrom, Haralee Weintraub with their 110 Defender on Mt. St. Helens, WA.

G'Day to ya , Mates!

I've owned my '67 88 Series IIA since October, '92 and even though I've replaced over \$2k worth of suspension, drive train, and engine parts (door & window seals are next), I wouldn't give her up for a million pounds. When I bought her, she was sitting on 2 flat tires with collapsed road springs, rotted seats, leaky gas tank, worn out swivel balls, tired old generator, stuck thermostat, cracked exhaust manifold, and a blown head gasket. But in two days I had her going down the road (amazing what you can do with duct tape, WD-40, & twine).

Almost one year, 15,000 miles, and all that work in the beginning, and she's never let me down She's as dependable as the sunrise. And

there's nothing else manufactured on this planet that will climb as good. She'll never give up and I'll never give her up.

I've fallen in love with the Aluminum Workhorse, the most incredible, useful, versatile and classical vehicle on earth!

I've got to join your club. Just let me know what to do.

P.S. I'm thinking about trekking from Alaska to Argentina in my Rover in about 6 years wit a couple of other Rover owners here in my area and we are in need of sponsors. Could you pass the word?

Steve O'Niel, NC, 126 Azalea Way, Hendersonville, NC 28792

Dear AW,

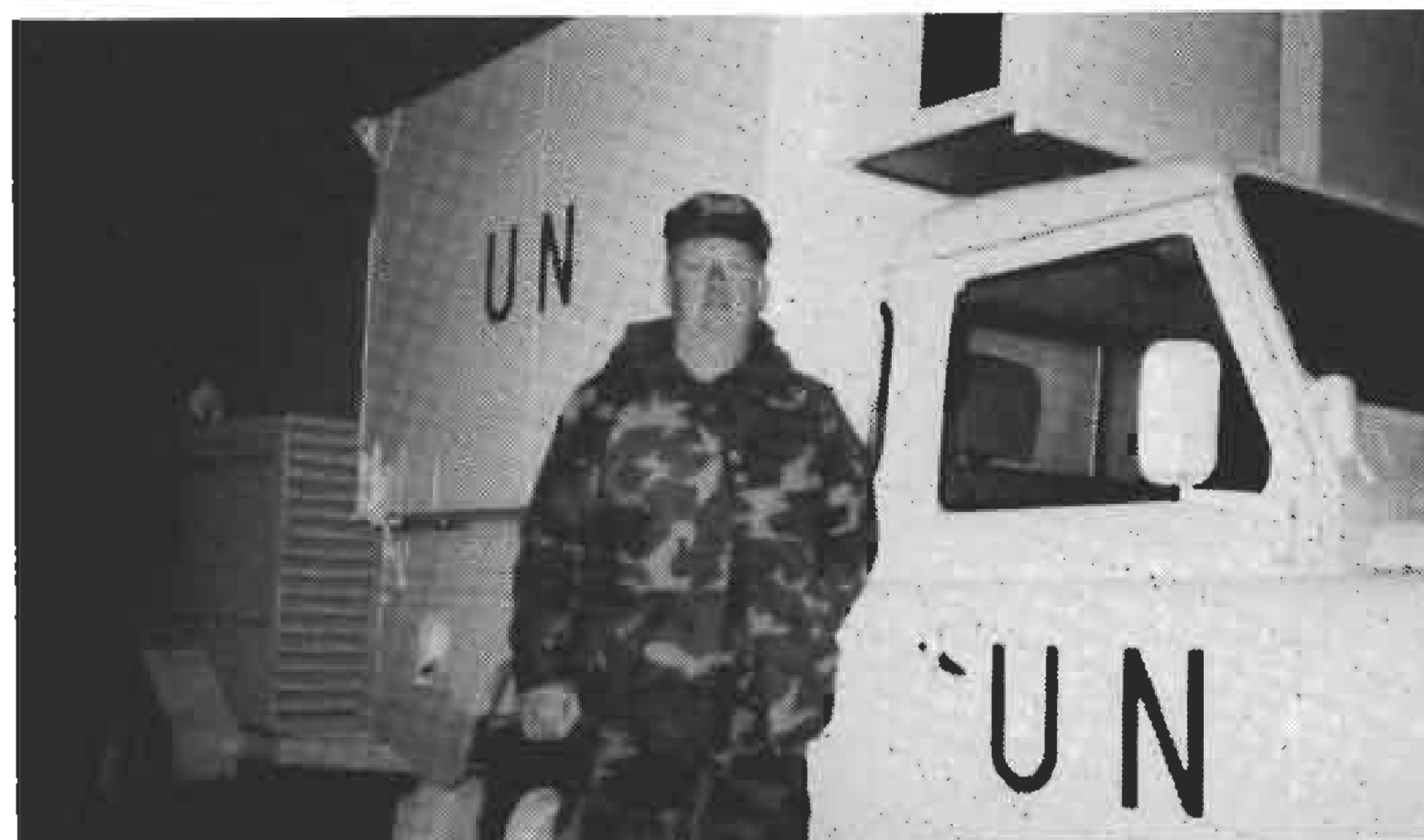
Just thought I'd drop this shot into the mail. It's my '66 109 in front, with my buddy's '69 88 following. We were taking a trail trek in the mountains of middle Oahu, Hawaii. Will try to get another group shot when we go on a run with some of the other Rover owners here. There is a '62 109 pick-up & a late Series III ex-British Army 109 regular.

I bought the '66 from Tom C. of Fort Bragg, CA in 1988 out of an ad in the Workhorse. Rick Callow turned me on to the whole Rover experience. Love it!

Aloha! Steve Kitterman, HI



Steve Kitterman & pal rove Helemanu Trail in the mountains of middle Oahu.



Major Cliff Johnson, USAFR NATO Operations in Europe with the Rover assigned to him by RAF.

Dear Brad,

Dream come true! Assigned to RAF. Will have Land Rover!
Cliff Johnson, WA

Land Rover Factory Trip

by Doug Shipman (OR)

What could I say! Here I was after nearly 20 years around Rovers, finally getting to the Land Rover factory, where it all started. My wife, Jean, wasn't quite sure what to make of it yet, but was approaching this part of our England vacation with refrained optimism. Cliff Johnson, from Warrenton, OR or Chicago, depending on where you happen to catch him, met us in London and was approaching this with all the zeal of my son, Neal, when he gets a new Nintendo game.

We arrived at the Solihull station just before noon on November 23 by way of train from London. We couldn't complain about the service, because as we walked out of the station doors, there was a new Discovery waiting to whisk us off to the factory. With a few connections and a few words from Rasmussen Range Rover in Portland, we were able to get first-class treatment. The first thing we noticed was how close we were to the factory; it took all of about ten minutes to get there. As we entered the gates, we were surrounded by new Land Rovers, Range Rovers, and Discoveries. For once in my life I knew what my wife feels like in a clothing store. Hundreds of vehicles of all imaginable styles—oh, if only I could have my pick! But it just wouldn't work out.

We were driven on through the plant to the office area. It was here that we met our guide, Vincent Hammersley, Public Affairs Executive. We started off seeing a short Land Rover video and it was here that I noticed an interesting brochure on the desk. It contained not only the Land Rover line, but also the Rover car line. This, I found out, is because all Rovers are now under the Rover Motor Group. After all these years they have become one again. I can only guess that this will affect Land Rover in the future, despite what they say. For one, the car division has always been a big money loser and can only serve to limit the money spent by Land Rover on development. It can, however, only help the car division, as we all know the quality problems that seem to plague them during assembly. We were told that the Land Rover management philosophy is being integrated into the Rover car line.

Our first stop was the Land Rover line. To our delight, the last U.S.-spec Defender 110 was rolling off the line. It had taped on the windscreen, "LAST ONE" and the number "525." Yes that's right—they had squeezed out a few extra for destinations unknown. I can only guess that these extra twenty five were possibly for Canada, for some execs, and a couple for DoT tests. We were told, to our surprise, that we could take pictures in the plant, and this was a one-of-a-kind photo.

The first thing I noticed on the assembly line was the lack of robotics. For a modern-day assembly line to pretty much hand assemble vehicles is amazing. As they stated, it is better to keep quality up, demand high, and make a profit. The workers all seemed at ease in their work. I asked

if they got production incentives or profit sharing. We were told that until they were grouped with Rover cars, the bonus checks looked really good. Jean was surprised at it all and was enjoying the tour.

We went from there to the Range Rover/Discovery line. These are assembled in what was the multi-million dollar SD-1 plant. The first thing which caught my eye was a two-door Range Rover on the line. Dummy me, I thought they'd discontinued those. Don't see how my '73 Range Rover can ever look that nice! Oh, if my suitcase was only big enough for one of those TDi engines. The chassis looked nice rolling along with the air bags installed. You've never seen brakes bleed this fast in your life.

We left for the jungle track by way of the Special Projects area. It's here that all those neat conversions are done. You know, where those police trucks, Camel vehicles, six-tracks, etc. are created. The drive to the Jungle track surprises you also. It's right next to the plant! The track is now used quite regularly for the Driving Experience and at a modest fee to everyone else. We loaded ourselves into a 110 TDi Defender and were off for what I've always read about. Although, for my wife and I, the course wasn't that difficult, it was a thrill just seeing what you've always heard of. We talked casually as Vince drove us around. I think he expected a few oohs and aahs out of us, but he had to settle for just Cliff's. Jean, from experience, kept looking down for the water to come seeping in as we went through the deep areas. I'm not sure, but I think she was trying to tell me something about our Rovers. A few more pictures on the course and we returned to the Discovery.

We headed back across the plant towards the office—it was amazing looking out at all the new Rovers. I asked how much of a supply they had. I figured, like mass-produced vehicles, they had a few-weeks' supply of new ones. To our surprise, Vince said that every vehicle had a destination point. In other words, they have a backlog of orders. Must be nice! We talked a bit longer and said our thanks for a well-spent day. My mind was blank more times than it's ever been trying to come up with all the questions I wanted to ask. Just too much to take in at once, for the first trip over.

We were driven off to the station and said good-bye to Vince. As we rode the train to London and then up towards Scotland it was beginning to set in just what I'd seen. This was my first visit to the plant, but I don't plan on it being my last.



Doug Shipman poses with the very last U.S. Spec. Defender 110 (#525) to roll off the assembly line at Solihull.

The Little Can That Could

by Richard M. Daniel

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During World War II the United States exported more tons of petroleum products than of all other war matériel combined. The mainstay of the enormous oil-and-gasoline transportation network that fed the war was the oceangoing tanker, supplemented on land by pipelines, railroad tank cars, and trucks. But for combat vehicles on the move, another link was crucial—smaller containers that could be carried and poured by hand and moved around a battle zone by trucks.

Hitler knew this. He perceived early on that the weakest link in his plans for blitzkrieg using his panzer divisions was fuel supply. He ordered his staff to design a fuel container that would minimize gasoline losses under combat conditions. As a result, the German army had thousands of jerrycans, as they came to be called, stored and ready when hostilities began in 1939.

The jerrycan had been developed under the strictest secrecy, and its unique features were many. It was flat-sided and rectangular in shape, consisting of two halves welded together as in a typical automobile gasoline tank. It had three handles, enabling one man to carry two cans and pass one to another man in bucket-brigade fashion. Its capacity was approximately five U.S. gallons; its weight filled, forty-five pounds. Thanks to an air chamber at the top, it would float on water if dropped overboard or from a plane. Its short spout was secured with a snap closure that could be propped open for pouring, making unnecessary any funnel or opener. A gasket made the mouth leak-proof. An air-breathing tube from the spout to the air space kept the pouring smooth. And most important, the can's inside was lined with an impervious plastic material developed for the insides of steel beer barrels. This enabled the jerrycan to be used alternately for gasoline and water.

Early in the summer of 1939, this secret weapon began a roundabout odyssey into American hands. An American engineer named Paul Pleiss, finishing up a manufacturing job in Berlin, persuaded a German colleague to join him on a vacation trip overland to India. The two bought an automobile chassis and built a body for it. As they prepared to leave on their journey, they realized that they had no provision for emergency water. The German engineer knew of and had access to thousands of jerrycans stored at Tempelhof Airport. He simply took three and mounted them on the underside of the car. The two drove across eleven national borders without incident and were halfway across India when Field Marshal Goering sent a plane to take the German engineer back home. Before departing, the engineer compounded his treason by giving Pleiss complete specifications for the jerrycan's manufacture. Pleiss continued on alone to Calcutta. Then he put the car in storage and returned to Philadelphia.

Back in the United States, Pleiss told military officials about the container, but without a sample can he could stir no interest, even though the war was now well under way. The risk involved in having the cans removed from the car and shipped from Calcutta seemed too great, so he eventually had the complete vehicle sent to him, via Turkey and the Cape of Good Hope. It arrived in New York in the summer of 1940 with the three jerrycans intact. Pleiss immediately sent one of the cans to Washington. The War Department looked at it but unwisely decided that an updated version of their World War I container would be good enough. That was a cylindrical ten-gallon can with two screw closures. It required a wrench and a funnel for pouring.

That one jerrycan in the Army's possession was later sent to Camp Holabird, in Maryland. There it was poorly redesigned; the only features

retained were the size, shape, and handles. The welded circumferential joint was replaced with rolled seams around the bottom and one side. Both a wrench and a funnel were required for its use. And it now had no lining. As any petroleum engineer knows, it is unsafe to store gasoline in a container with rolled seams. This ersatz can did not win wide acceptance.

The British first encountered the jerrycan during the German invasion of Norway, in 1940, and gave it its English name (the Germans were, of course, the "Jerries"). Later that year Pleiss was in London and was asked by British officers if he knew anything about the can's design and manufacture. He ordered the second of his three jerrycans flown to London. Steps were taken to manufacture exact duplicates of it.

Two years later the United States was still oblivious of the can. Then, in September 1942, two quality-control officers posted to American refineries in the Mideast ran smack into the problems being created by ignoring the jerrycan. I was one of those two. Passing through Cairo two weeks before the start of the Battle of El Alamein, we learned that the

... continued on page 14

Snow Rovers

by Randall Clarke (OR)

Saturday, January 9 rose sunny and bright with promise of a great day of Land Roving in the newly-fallen snow of the Coast Range. Well, actually it started cold and dark at 6:30 am and the thought of not going was strong until we got out of bed. Once on the road it truly was sunny and bright and the newly-re-cored Kodiak heater in my 88 was pushing out the heat. It was a beautiful scene greeting Sharon, Jacob, Rose, and I as the road to the west from Portland kept getting whiter as the miles went by. The cold wind leaking in past the door seals reminded me of another project that I hadn't gotten to yet.



"Breaking in" a Defender... hardwood style

Once within sight of the Log Cabin Restaurant on Hwy 6 the first Land Rover was sighted; it was Pat Conley's new '93 Defender which not many of us had seen, only heard about. Parked next to it was Rick Pope's '65 "Offender," which lived up to its name with the exhaust pipe rusted off and the exhaust not making it past the rear frame member, giving it the effect of a self-destructing frame member like the self-destructing tape recorders on old Mission Impossible reruns.

Inside the restaurant was Pat and his friend, Rob, along with Rick and Jonas. Within the next hour, four more rigs arrived, including John and Stephanie Cisneros in their Series III 88 and Loren and Gretchen

... continued on page 14

Snow Rovers...

Stelzenmueller in Gretchen's '69 88. After breakfast everyone chained up except for me, since getting chains is another thing I haven't gotten around to yet. Our first foray (i.e., plunder, pillage) into the snow was at Forest Camp, site of the 1991 Challenge. We headed out on Roundtop Road with Doug, Jean, Katie, and Neil Shipman taking the lead in their '67 88 with two feet of unbroken snow being bulldozed up and on to their windshield. Some of the hills required more than one run to get up them.



Franklin Simpkins Roving in a winter wonderland

Finally Doug, who was only chained up with one set of chains, let Franklin Simpkins with Susan and Maggie take the lead with his fully chained '69 VM diesel 109. That got us a bit further up the road, but since we were going up in altitude and the snow was getting deeper it was soon time to turn around.

After a bit of sledding, and losing one eleven year old for a short time due to his sledding off the downhill side of the road and the convoy driving off without him, it was time to go to a different area. That turned out to be Brown's Camp off the summit of Hwy 6. The short loop we took from there proved to be lots of fun. Pat's new Defender got broken in the right way by sliding into a couple of trees. It was stuck but good. We positioned one winch at the back to keep the Defender from falling further into the abyss, and one winch at the front to pull it out. Soon we were on our way out of the woods and on to a clear-cut hill that never looked so good other than when seen covered with two feet of snow.

And so with the winter sun setting lower into the sky, we headed into the east with the fast-approaching darkness rushing to greet us.

Little can...

British wanted no part of a planned U.S. Navy can; as far as they were concerned, the only container worth having was the jerrycan, even though their only supply was those captured in battle. The British were bitter; two years after the invasion of Norway there was still no evidence that their government had done anything about the jerrycan.

My colleague and I learned quickly about the jerrycan's advantages and the Allied can's costly disadvantages, and we sent a cable to naval officials [sic] in Washington stating that 40 percent of all the gasoline sent to Egypt was being lost through spillage and evaporation. We added that a detailed report would follow. The 40 percent figure was actually a guess intended to provoke alarm, but it worked. A cable came back immediately requesting confirmation.

We then arranged a visit to several fuel-handling depots at the rear of Montgomery's army and found there that conditions were indeed appalling. Fuel arrived by rail from the sea in fifty-five-gallon steel drums with rolled seams and friction-sealed metallic mouths. The drums were handled violently by local laborers. Many leaked. The next link in the chain was the infamous five-gallon "petrol tin." This was a square can of tin plate that had been used for decades to supply lamp kerosene. It was hardly useful for gasoline. In the hot desert sun, it tended to swell up, burst at the seams, and leak. Since a funnel was needed for pouring, spillage was also a problem.

Similar tins were carried on Liberator bombers in flight. They leaked out perhaps a third of the fuel they carried. Because of this, General Wavell's defeat of the Italians in North Africa in 1940 had come to naught. His planes and combat vehicles had literally run out of gas. Likewise in 1941, General Auchinleck's victory over Rommel had

withered away. In 1942 General Montgomery saw to it that he had enough supplies, including gasoline, to whip Rommel in spite of terrific wastage. And he was helped by captured jerrycans.

The British historian Desmond Young later confirmed the great importance of oil cans in the early African part of the war. "No one who did not serve in the desert," he wrote, "can realize to what extent the difference between complete and partial success rested on the simplest item of our equipment—and the worst. Whoever sent our troops into desert warfare with the [five-gallon] petrol tin has much to answer for. General Auchinleck estimates that this 'flimsy and ill-constructed container' led to the loss of thirty per cent of petrol between base and consumer.... The overall loss was almost incalculable. To calculate the tanks destroyed, the number of men who were killed or went into captivity because of shortage of petrol at some crucial moment, the ships and merchant seamen lost in carrying it, would be quite impossible."

After my colleague and I made our report, a new five-gallon container under consideration in Washington was canceled. Meanwhile the British were finally gearing up for mass production. Two million British jerrycans were sent to North Africa in early 1943, and by early 1944 they were being manufactured in the Middle East. Since the British had such a head start, the Allies agreed to let them produce all the cans needed for the invasion of Europe. Millions were ready by D-day. By V-E day some twenty-one million Allied jerrycans had been scattered all over Europe. President Roosevelt observed in November 1944, "Without these cans it would have been impossible for our armies to cut their way across France at a lightning pace which exceeded the German Blitz of 1940."

In Washington little about the jerrycan appears in the official record. A military report says simply, "A sample of the jerry can was brought to the office of the Quartermaster General in the summer of 1940."

Letter in Spring 1988 issue of Invention & Technology

Richard M. Daniel alters the circumstances of the development of the U.S. version of the jerrycan in "The Little Can That Could."

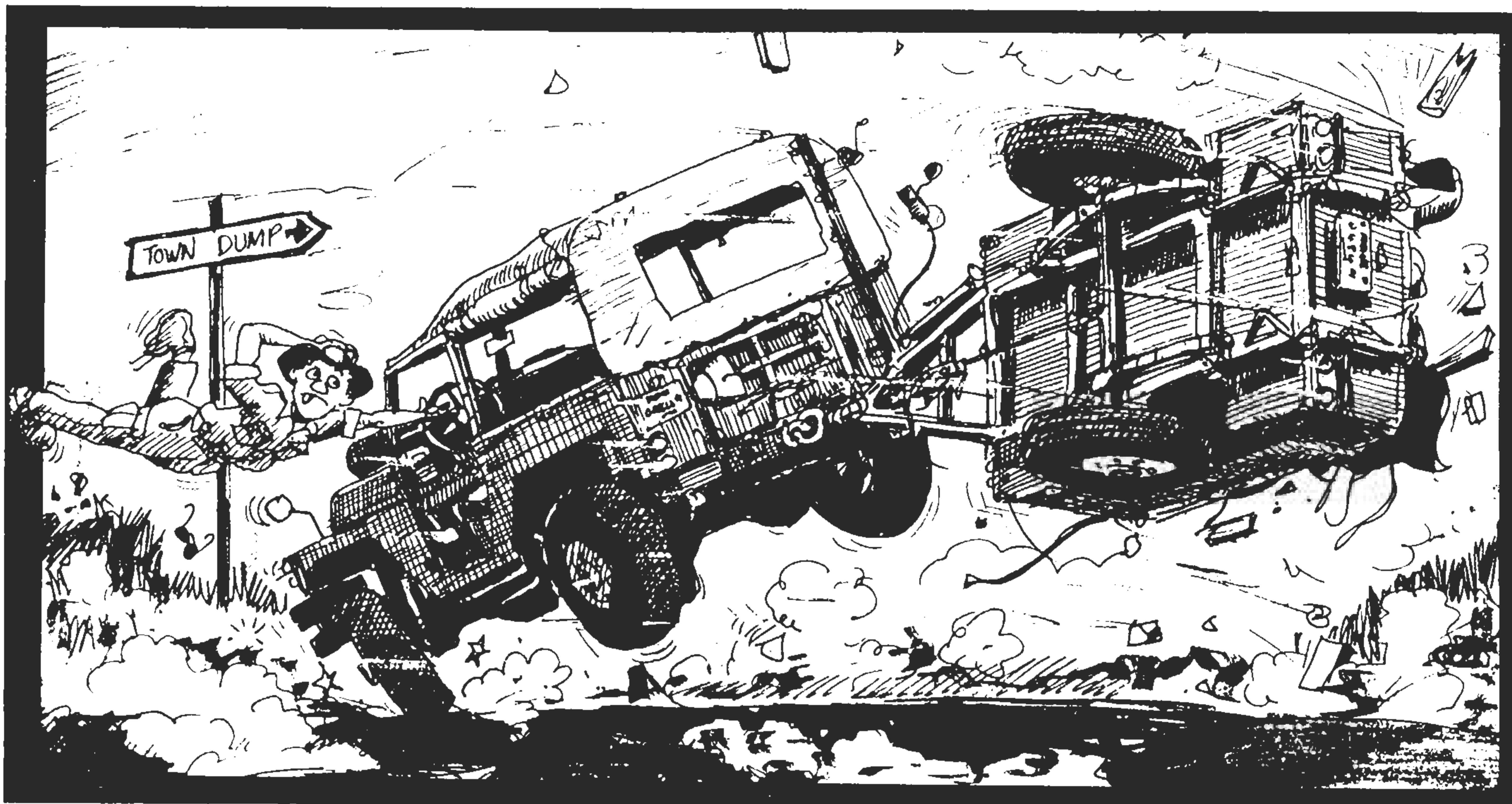
Britain captured samples of Wehrmacht fuel containers along with other Nazi equipment in 1940. The handiness of these cans was apparent at once, so some were sent to the U.S. office of the Quartermaster General. They were found to be stackable, light, strong, and useful with any fuel, have an excellent handle and spout, and need no accessories. But it became obvious that the can was designed to be assembled by hand labor in small shops rather than on a mass scale in large factories. This did not suit American industrial methods or the urgent need for the cans, so the Quartermaster Depot opted for a can to be built the American way.

Because twenty liters meant nothing, the can was redesigned for a capacity of five U.S. gallons. Rather than being made of two similar pieces welded along the center line, it was made of three parts with welded seams and a rolled-on bottom. The German cam-style spout was dropped in favor of the threaded top found on old U.S. containers. In the end there was one feature common to the German and U.S. cans—a three-bar handle on top.

By autumn 1940 the U.S. Quartermaster Corps had awarded contracts to four firms for the new can. Production was high enough that every jeep produced after August 1, 1942, came with a spare gas can attached. During 1943, 1944, and 1945, twenty-two million U.S.-pattern cans were produced. Shortly after D-day, in June 1944, a severe shortage of the cans developed throughout the Allied units in Europe; this was cured by the shipment of millions of British "jerrycans," which were nearly identical copies of the original German twenty-liter can.

The "tin can" construction of the American can proved ideal for a high-volume product, and less than one percent were found to leak. It is true that the German cam-lock was easier to use than the threaded cap and flexible nozzle—except for filling the tank of a jeep. The jeep's filler tube was under the driver's seat, inside the vehicle.

Ray Cowdery, Lakeville, Minn.



A (Not So) Funny Thing Happened on the Way to the Dump

Myles J. Murphy

For those of you who own an ex-British Army cargo trailer—beware. I got the fright of my life not so long ago when heading for the local dump with a load of demolition debris.

I've pulled lots of trailers with Land Rovers and farm tractors. The rule of thumb is "don't put the weight on the back of the trailer—keep the weight on the drawbar." In other words, put the load ahead of the axle.

On the fateful day, the first thing to go into the trailer was several hundred pounds of floor tiles. I gave a helper explicit instructions on where to put them, but he didn't seem to know his front from his rear. Clever me didn't think to check. On top of the tiles (at the back of the trailer, instead of the front) went old plaster and other detritus. A canvas cover was tied over the whole lot and off I went.

On a straight, slightly-downhill stretch of road, without warning or encouragement, the trailer swung a little left. Then a little right. Even more to the left. The Land Rover started to react. The trailer swung right again with screeching tires—then flipped over. It rolled

several times, pulling the rear of the Rover with it. I was looking at the trees, then in the direction I'd come from. The trailer parted company and went its merry way, with me trying to overcome centrifugal force as I desperately tried in vain to get a foot on the brake.

I ended up in a ditch almost on my side.

The whole thing lasted under 10 seconds. The skid marks on the road would give passers-by something to puzzle over for a month or so.

The trailer sat upside down about 200 feet away—surprisingly, with the load still intact. A neighbor helped upright the thing. Due to the rounded load, the trailer rolled easily onto its wheels. The trailer lights plug clamp was broken off, but there was no other damage.

I low-ranged the Rover and effortlessly extricated myself from the ditch—much to the amazement of the gathering crowd. I hitched up the trailer fast and split, having lots of construction debris to shift that day as the dump is only open on Saturday. And I didn't feel like entertaining the local, ever-friendly (not!) state trooper for an hour or two. At the dump, off came the canvas, still complete but full of holes.

I carefully examined the trailer and discovered the front top corners bent. On further examination, I realized that this particular trailer had been flipped more than once.

Later, I phoned two other trailer owners about my discovery and, surprise, theirs were bent too. Then I contacted a surplus military Land Rover dealer in Ireland who sold ex-MOD trailers. Sure enough, flipping trailers was a common occurrence. The root cause was not putting the weight on the drawbar. The trailer has a short drawbar to begin with, and also has a bouncy nature.

Several factors saved the day. Most important, I was wearing my safety belt. Had I not, I'd have been thrown out as the doors were removed. The low center of gravity of the Land Rover prevented it from flipping over. But what really saved the day in my opinion was the military pintle tow hitch and drawbar ring. The trailer ring can rotate 360°, and for some reason I had removed the locking pin from the pintle, allowing it to rotate all 360°.

When you load your trailer (ex-MOD or otherwise—unless the operating instructions are to the contrary) keep the weight up front. Heavily loaded or not, keep the speed moderate: 35-40 mph on winding country roads. Don't make sudden turns, or jerk the wheel to avoid a deceased 'possum on a straight stretch.

The best part of this story is that no one was hurt. All I suffered was a sizeable chunk of embarrassment, a busted plug clamp, a ripped canvas, and the price of a new bumperette for the back of the Rover.

So take care.



Myles' Series III "Lightweight" not long after arriving in Maine late '88, long before the incident described here occurred.

My First Land Rover

by David Eby (CA)

This is the story of how I became a Land Rover owner. While working for a friend one cold wintery afternoon, I happened to notice a very humble looking 88 Series IIA parked next to his work shed. He had told me sometime before of its purchase, but I had never seen it. I wasn't impressed with its condition, but I thought it might be a fun restoration project if one had the time and money. I had little of either so I resumed by task and didn't give it another thought. Months later he suggested that I should buy the unit. I have had a fascination with Rovers since I was about eight years old when I first received a toy Series II Matchbox replica truck. I agreed to trade a motorcycle straight across for it. Little did I know what a task (and deal) I had acquired.

The frame was a wreck, with the front horn practically missing. Fortunately, the truck came with a huge bundle of receipts and invoices that led me to Scotty's repair shop and parts depot in Pittsburg, CA. A call to him was worth more than I can tell in a letter. He was very nice and knowledgeable about what was needed immediately to get me on the road. With his help, I was able to start my restoration.

Step One: The Frame

Peeled off much of the front end sheet metal for access. Used sawzall to remove the nub of frame horn flush with cross member. Rented a buzz box to weld on new horn. Ugly, but strong. Installed floorboards, which came in a pile in the rear of the vehicle, only to find much of them rusted away. Fabricated some with bulk sheet metal.

Step Two: The Electrical System

The fuse block was useless. It had such poor contact hardly anything worked. Repaired it using the handy spade connectors on the box to attach wires with new plastic spade-type fuses across the terminals. Works like a charm.

Step Three: Road trip to Scotty's

I live about sixty miles from Pittsburg. My first out-of-town drive was an adventure. I now needed hub seals, a front drive shaft, a jack, assorted knobs, and much advice. My daughter and

I made it without incident and were greeted warmly with a spot of tea and conversation with the entire family. After a thorough inspection of my beast, Scotty gave me a list of things that required immediate attention. It was quite long. After a fine afternoon of Rover talk, I headed back home with a load of parts and many new ideas.

The trip back in heavy traffic made me sorely aware of the need for an overdrive and brakes. New glass runs had come with the vehicle, but I had yet to get them installed. It rattled like a snake. My two year old didn't sleep much, even though she was tired from making mischief all day.

Step ... Continuous: Get ready for snow country

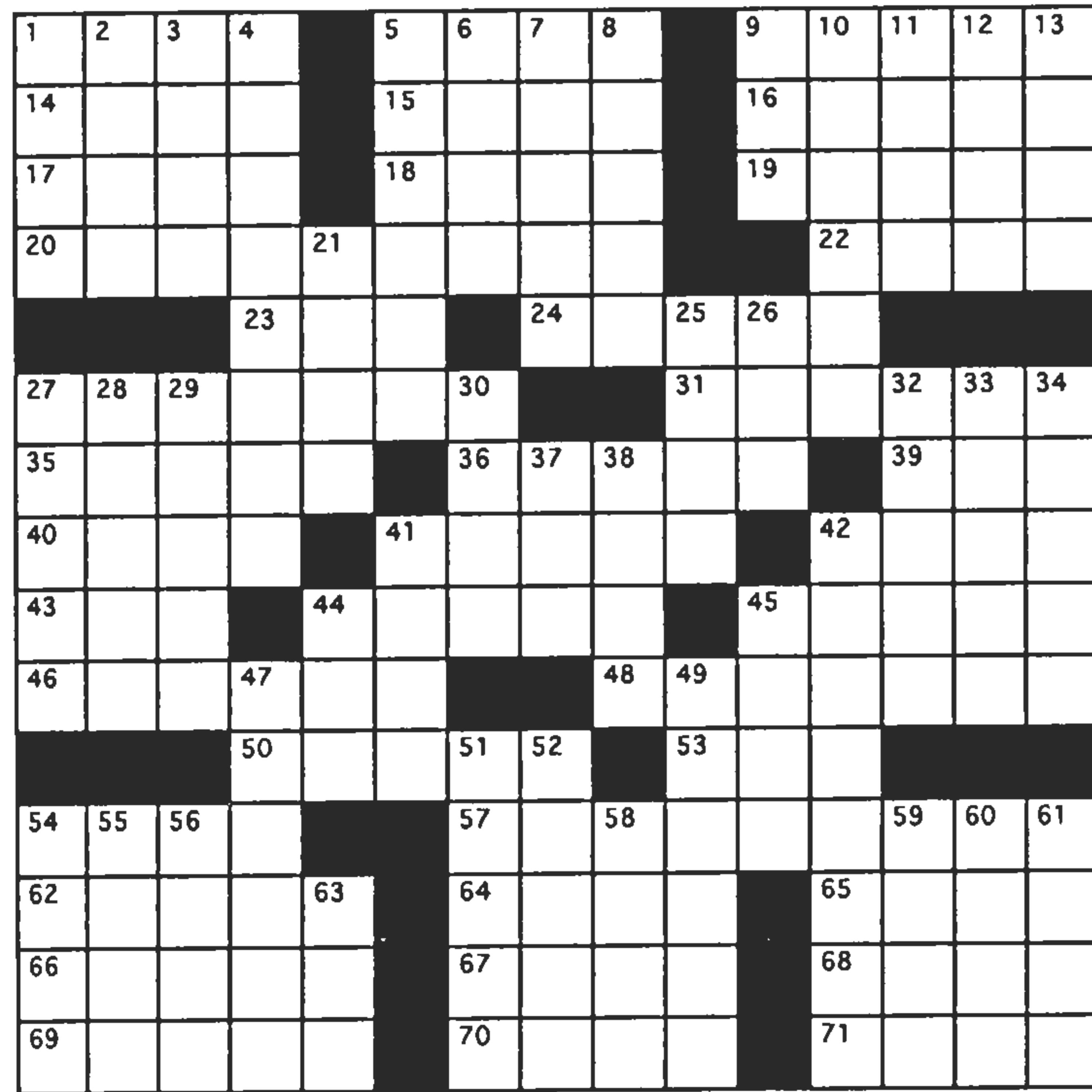
About a year went by fixing up little things that seemed to bug me so much: rattles, squeaks, loose parts—no brakes or overdrive yet. One day I found myself without a fresh project to do! Maybe I was getting close, I thought. My family took a trip to the Sierras and nothing bad happened at all! We did it! Now simple maintenance is all that's required to stay up and running year round.

Now all I need is to find a beater 109 to fix up, since my wife and I have another child on the way. Oh well—my fate is sealed. I'm a Rover owner. Nothing else will do.

LROA Crossword

by Susan McCasland (CO)

- | | |
|---|---|
| 31. Type of 36 across | 8. Ghost |
| 35. Word with X and over | 9. Outside, comb. form |
| 36. Rover "shoes" | 10. Ipanema descriptor "Tall and ___ ..." |
| 39. Direction from San Diego to Las Vegas | 11. <i>Wheel of Fortune</i> request |
| 40. God of war | 12. LR equipment drivers |
| 41. Extreme enthusiasm, as with Land Rovers | 13. Exclamation of surprise |
| 42. Somali gulf | 21. Saharan |
| 43. Test feared by all Brit. car owners | 25. Region |
| 44. Type of LR | 26. Ethiopian prince |
| 45. Star-forming nebula | 27. Chassis |
| 46. Nazi code machine | 28. Moses' brother |
| 48. Rover most likely found Barcelona | 29. Czech town on the Elbe |
| 50. O ₃ molecule | 30. Greek vowels |
| 53. Piston pusher | 32. Another place to find 65 across |
| 54. Box | 33. "I haven't seen you in ___" |
| 57. Best 4 x 4 x far | 34. Town in Oklahoma |
| 62. Type of attitude | 37. Business follower |
| 64. "___ that", pertaining | 38. Bravo and Grande |
| 65. A killer whale | 41. Cat call |
| 66. Micro-micro-micros | 42. Museum patron |
| 67. Pueblo in New Mexico, with "que" | 44. Korean or Vietnamese area |
| 68. Responsibility | 45. "___ about", approximately |
| 69. Animal to see on a LR safari | 47. Singer and actor MacRae |
| 70. Aspersion | 49. Passion in Pembroke |
| 71. Type of stop or room | 51. Coords above the equator |



Across

- Tilt fault
- Curve parts
- Warehouse
- "___ is more lasting than dislike." A. Hitler
- Dread, to JFK
- P. Anthony's land of magic

- A prayer for the dec'd.?
- Hindu hero
- ___-nine
- Lost but not found
- Too
- Jeanne d'___
- Acquire knowledge
- Dashboards in Devon

Down

- You, poetic
- ___ a living
- Of, comb. form
- Supersedes
- One place to find 65 across
- Enlarge, as a hole
- Type of trophy

- Shining ___, terrorist group
- Against
- Coll. in Denton, TX
- Propeller blade
- Australian birds
- Bane of LR chassis
- Bear in Bogotá

Answers to X-Word on page 23

Snivelers Hit the Road

**Jeff Stitt (#385, NV)
photos by Gordon Kallio (BC)**

The Fourth of July 1993 saw gathering of Rovers in Yerrington, Nevada. A trip to ghost towns was planned on short notice. It was really great to see that several of the Snivelers made it to the run. Gordon "Captain Camo" Kallio traveled from his home in Vancouver, BC to this little desert town. Gordon's riders were Lynn Helm and Zigzag the whippet. Lynn's 88 was still under the weather from the Baja run earlier this year. A new enthusiast was Dan Anderson from Susanville, California. Geoff Tobin brought his Range Rover for comfort and his rider was Pete Wong from Sunnyvale, CA. Pete has several Rovers, including one of the only '75 Series III ambulances in the States. I wish he'd brought it with him! Our photographer was the honorable Captain Camo. We pulled out of Yerrington on Friday the 2nd of July with four Land Rovers and one Range Rover. One other LR would be joining us on Saturday. After all were iced down and gassed up, we trundled down main street to display the Sniveler Platoon to all of Yerrington.

I had a few pieces of firewood on my roof rack. At cruising speed they started to fly off. We put them inside the truck where they should have been in the first place. Our first destination was Pine Grove. It's a group of buildings that are a historical landmark to the gold mining there in the 1860s. We left Pine Grove and headed up a small canyon road. The road was littered with little areas of water from many springs. The green overgrowth presented a visibility problem. Some good side hill action was part of the fun. At times I could not see the road at all. We crossed a few creeks and entered a meadow where we could see Pine Grove Summit. Just after Donna and I had crossed a large mud bog, we surprised a large hawk in the road—it gave a real start.

We had climbed from the desert floor at 4300 feet to the cooler climate at 8100 feet. We discussed camping spots for the night and selected an area 1000 feet below Pine Grove Summit in Nye Canyon. The Summit was barren but in the canyon were several large meadows richly green from the several springs along the road. We began searching for a good campsite. Captain Camo and Lynn took up the rear in this search. The forward Rovers took a road to the right, where we apparently lost our photographer and rider down the canyon. As this was my first attempt as a trek leader, I knew that I had to find them. I went back and called out to them on the radio. They had gone another four or so miles and arrived at pavement—not a good sight when you're supposed to be riding on dirt. Fortunately they heard me and returned.

The site we found was a little small for the entire group. Gordon and Lynn decided to camp up higher in a greener pasture. The close quarters would have been too much for the "Bugman," John Kirn. We all turned in early after a quick supper and a few rounds of target practice with the .22s.

Next morning we found the perfect campsite—we had not taken the time to find it the previous evening. It was an active mining claim with an abundance of crystalline quartz and a couple of tables. John the Bugman was out doing his thing when I spied a very interesting insect. I guarded it and hailed the Bugman to get up here and capture this bug. "You know," he says, "now I'll have to put your name in the collection." That would be just fine with me.

I reminded them that we had a rendezvous with another Land Rover that day, so we headed out to find Gordon and Lynn. We found them and Gordon went off ahead for some picture taking, asking us to wait a few minutes before we moved on. Then we pressed on for Pine Grove Summit. Now back at 8100 feet we could see the majesty of the Sierra Nevada mountains. It was a steep road back to the desert floor at 4300 feet. You could hear some of the vehicles' brakes complaining as we

crept down the twisting road. We passed through another small mining camp called Rockland. The canyon here had steep walls that were a deep shade of red.

As we all know, Rover time is a bit different that reality. Our anticipated arrival for the rendezvous was 9 am. We were about 1 1/2 hours late. Our new arrivals were Louise Orlando and Andrew Barbour from San Francisco. This was the first time we had met them, and we were very happy to see them and have them join the run. This was their first "run" with the Land Rover, purchased about six months previously. They were anxious to test their vehicle for their trip to Africa in the fall.



Some of the participants of the desert run: seated (L to R), John Kirn, Lynn Helm, Jeff Stitt, Gordon Kallio. Standing (L to R), Andrew Barbour, Louise Orlando, Geoff Tobin, Pete Wong



Jeff Stitt leads the group through a section of Nevada's high desert.

The East Walker River, our next destination, was a couple of hours away. We descended into the river valley and could see a very large ranch: the "Flying M." Baron Hilton, of the Hilton Hotel chain, owns the ranch. There is a convention center and a 5000-foot paved airstrip. The ranch is about 500,000 acres. As we pulled up to the edge of the airstrip, we could see someone getting a ride in a beautiful blue and yellow Stearman biplane. The pilot took notice of the group of Land Rovers and did a little show for us. We all took advantage of this great photo opportunity.

The road by the airport was heavy washboards. It became a little more peaceful near the bridge over the East Walker River. Here we had some sandwiches and fruit and took notice of the gourmet spread Captain Camo brings with him for these trips.

We began the 1200-foot climb up the Aldrich Grade. Checking the vehicles at this time was a must—the road ahead was some difficult four wheeling. The first portion was some simple ridge running and went

through large sandy washes. From one of the last ridges, we began a steeper descent onto the sharp switchbacks leading to the river. After crossing a deep wash the road veered to the right and had a steep right side hill. I was in the lead with MYLANDY and the trailer. I entered this side hill with caution and was moving slowly when the entire rig slid off the road into the wash on the right side. The steering wheel spun out of my hands as the wheels hit a large boulder. If such happens to you, take your hands off the wheel to avoid broken fingers. [We all know not to drive off road with our thumbs through the spokes, don't we?—ed] I was really in this one. Everyone got out of their trucks to survey for damage to my vehicle and trailer. The trailer was taken off of MYLANDY and pulled back. We did this with the excellent winch Andrew and Louise had on their 88. It is a capstan winch driven by the gear box—what a jewel. The trailer was positioned so that we could get at my truck to pull it out of the wash. During all of this, the Sniveler road crew was hard at work chucking large rocks and shoveling dirt into the wash behind my truck. Andrew's winch effortlessly pulled MYLANDY back enough to get me heading in the right direction again. Geoff Tobin and Pete Wong were busy taking out some of the side hill. Good work by all. Thank you guys. I'd still be there if the Snivelers had not come to my rescue. I learned a good lesson about tire air pressure that day. If I had aired down, I probably would not have slid on the steep side hill.

After about two hours of sweating in the hot sun, the Sniveling road crew and I headed for the river—including a bent right quarter panel on MYLANDY. It was a race to see who could get into the river first to cool down. It felt great. At the river we set up camp for the night. The sound of the river was very peaceful. Tucked under the giant cottonwood trees was a perfect campfire circle lined with rocks. Tired from the day's work, it was time for a few beers around the campfire. Stories were told about other trips, and a few off-color jokes were slipped in. We decided not to leave camp until noon the following day.

Next day we headed back up the steep switch backs. Going back out was not too bad because of all the road work the previous day. At Aldrich Grade we were on a large plateau that would lead us to the entrance to Del Monte Canyon and Bodie Creek. The road was straight and fast and the dust plumes long as we moved along at about 40 mph. We finally found the little town called Fletcher. There was a natural cold spring there with drinkable water. Some of the group replenished their water supplies. The water from the spring formed two large, swamp-like ponds. Large trees and tall grass made for good photos.

From the entrance of Del Monte Canyon it was about 19 miles to the town of Bodie. Bodie is a California State Park. We turned off the Bodie Creek road before reaching the town. Our destination was a high dry lake bed. As we came over the ridge to view the lake, all we could see were yellow flowers. The entire lake bed was covered with small yellow flowers and had a few cattle grazing.

We crossed the dry lake and set up camp at a large rock outcropping. John's altimeter in his 109 told us it was 8100 feet. After dinner, those with the noise makers shot at targets they had set up. Gordon had his Marauder 12-gauge out and had some fun as well. It was the Fourth of July—a time to celebrate. This was our last evening out. We set a large campfire and all gathered around to listen to the stories. Two members of this run had gone on the trip to Baja in April. A great way to end the run through the ghost towns of Nevada. Gordon brought out an emergency flare piston. The red flares flew into the air about 100 feet over the lake bed and lit up the entire area. It looked great with the full moon and the reflections off the yellow flowers.

An early start for Bugman as he departed before any of the rest of us were up. The remainder left the lake bed about 8 am and headed for Bodie, only 6 1/2 miles away. Those who had not seen the park walked through the dusty streets and peered into the windows. We all exchanged addresses and said our good byes. Thanks for coming up to the desert for a run, guys. Let's do it again.

For information on plans for future desert runs, call Jeff Stitt at 1-702-463-2011 or write:

Jeff Stitt
230 N. Mt. View
Yerrington, NV 89447



Oh, that ditch!



"Keep that dirt off my Nikes!" The sniveler road crew at work.

More Baja and Mexico Adventures

Jim Benny and friend Ulli were the folks that the Snivelers found hitch-hiking through Baja last Spring. The Baja article was in the last issue (Fall) of the Workhorse. Jim thought you'd like to here about the rest of their trip after being dropped off on one of those beautiful beaches...



Lunch in Santa Rosalia. Clockwise from right: Brad & Lynn Blevins, Jane & John Kirn, Jim Benny and companion, Ulli.

This is a mini-update on our fabulous Mexican travels after we separated from the main Baja Land Rover group.

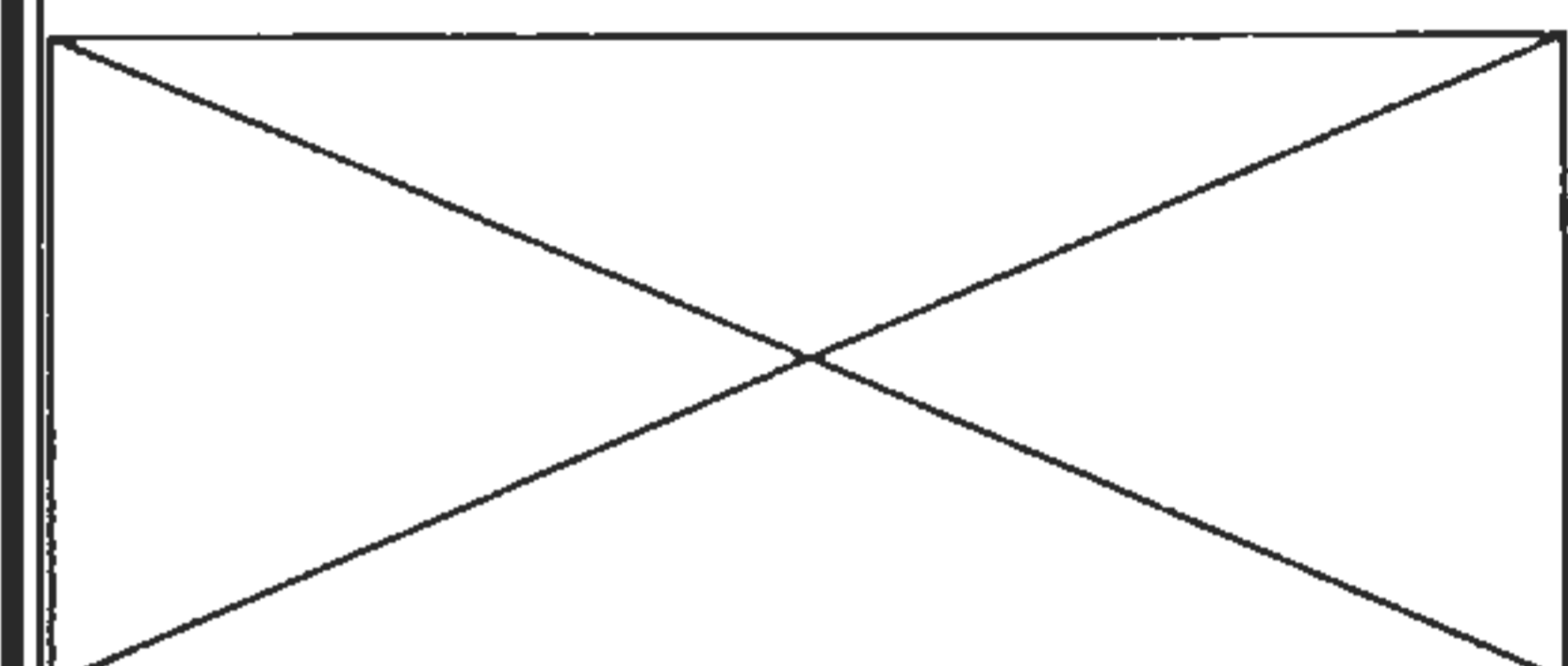
The small beach where we said our good byes was a brilliant little beach. There was a thin stretch of beach leading to a small island; Ulli and I pitched our tent on this small island and within a few hours we found ourselves isolated from the noisy mass of campers on the main shore, because the tide rose in the late evening cutting off passage to the mainland. After a fantastic isolated sleep, I awoke early and went clam hunting. Clams are easy prey here and in no time at all I had my pickets filled with six varieties of clams. They made a good breakfast for me, while Ulli watched in horror as I gulped 'em down.

We decided we had better prepare ourselves for our ferry ride to the mainland and headed out the next day. (One day in that sun was plenty enough.) Confusion was the theme for this day. Hitching to Santa Rosalia was a bungled move—the ferry had left that morning, not to be embarking again for another three days. What to do? We headed back south to Loreto via a Mexican truck driver—a ride that featured little conversation, but heaps of loud blaring Mexican music. From Loreto we took a bus to La Paz. This was an all-nighter which included sleeping in the aisles—dirt, stench, and cramped legs and shoulders—general and specific misery in abundance. Trip not recommended. Misery notwithstanding, it allowed us to take the ferry to Los Mochis on the mainland of Mexico. Another miserable trip featuring cockroach folly and screaming, bawling infants.

Los Mochis—a sooty, dirty city with little to see or do. A distinct contrast to the comforts of Baja's cities. From here we traveled by train to Creel through the Barranca del Cobre (canyon country)—a fantastic trip—beautiful (10 hours, \$3). For all the impressions we had in Baja, Creel probably offered our deepest impressions: 7000 foot altitude, pine trees instead of cactus, and the home of the Tarahumara Indians. Beautiful people, short in stature, weaving baskets out of pine needles, never uttering a sound even amongst themselves, it seems. We stayed in a wonderful place called Margarita's, which caters to young budget travelers like ourselves. A beautiful newly-built double room with bathroom, breakfast and dinner cost \$5 each. If you ever go to Creel, this place is a treasure. Fantastic people.

After a few days in Creel we headed back home. A 54-hour train and bus travelling odyssey. Odyssey is a polite way of saying hell, pure hell. No seats on the train for over half the way. An encounter with a crazed Mexican asking me if I knew my passport number while describing my "wife" as she purchased a Coca-Cola outside the train. An encounter with the Federales—machine-gun-toting officers stepping over me as I lay in my sleeping bag at a transfer point on the train journey. The Federales were arresting three men smoking marijuana about thirty feet away from the supposedly slumbering me, as Ulli and two Germans were safely sitting in a train station restaurant.

Well, aside from our excitement on the mainland, our time spent with the Land Rover Baja travelers remains as a special memory.



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CONVERTING TO ALTERNATOR CHARGING SYSTEM

Cliff A. Watts #676, CA

Before starting the conversion it is necessary to convert the vehicle to negative ground. This is really quite simple provided you have not added any solid state accessories; in which case each of these must be rewired accordingly and should be disconnected during the basic conversion process.

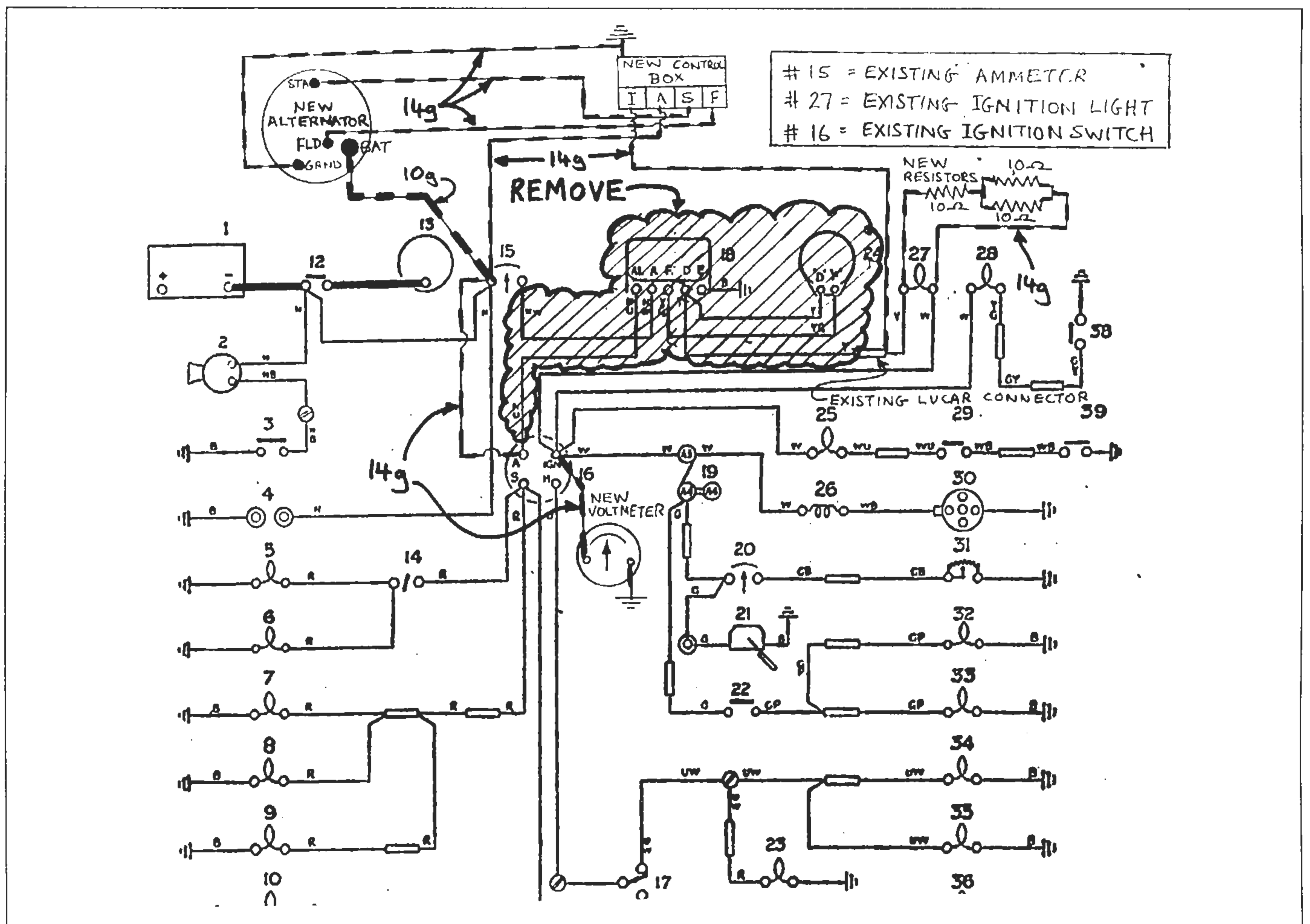
All you have to do is:

- 1) Disconnect both wires at the Generator
- 2) Reverse the low tension wires on the coil
- 3) Reverse the cables at the battery
- 4) Connect a wire to the positive battery terminal and quickly touch the other end to the small (F) terminal on the generator. This should create a small spark. Remove wire from battery.
- 5) Reconnect the generator as originally wired.

Now the vehicle will run on it's generator in negative ground mode while you prepare for the conversion.

I used a American Ford alternator and purchased a matching control box. The first thing is to fabricate a mounting bracket and ensure that the pulley is aligned with the crankshaft and water pump pulleys. My method was to make two short pieces of 1/8" thick steel each with two holes about 1,1/8" apart. One hole being the diameter of the generator mounting bolt and the other the size of the alternator mounting bolt. The generator bolt was used to locate the two steel pieces at the correct locations to mount the alternator. This was achieved using thick wall tubular spacers and a few washers for fine adjustment. A 1/8" bracket was fashioned to attach to two of the water pump bolts so that the slotted generator/fan belt adjusting bracket would work with the new alternator. I found that everything would fit with limited but reasonable clearance between the alternator and the engine mounting bracket at the bottom and the engine block at the side. The big problem was finding the exactly correct size for the new fan belt. You need to have a very patient parts man at your local motor parts store. I think I exchanged belts four times before getting the right one, Gates #7385 was the perfect fit for me, so start with that size.

To make the change from the Lucas regulator to the Ford control box, I found it easier to remove the mounting plate from the bulkhead with the regulator and fuse carriers in place.



To wire the new circuit, proceed as follows:

Disconnect and remove the generator, the regulator and all the wires connected to them which run to the ignition light, ammeter and "A" terminal on the ignition switch. There may be another one or two wires depending on the particular model year you have, you will need to relocate these after consulting the original wiring diagram to determine their use. The ground wire is transferred to the ground terminal (or fixing bolt) on the new control box.

The existing ammeter now only has wires connected on one side. Leave the meter in place, it won't work but this one terminal is used to connect several wires which must be joined at that point.

From this terminal run the following:

- 14 gauge wire to the control box terminal "A".
- 10 gauge wire to the new alternator "BAT" terminal.
- 14 gauge wire to the ignition switch "A" terminal.

Now run a 14 gauge wire from the control box terminal "I" to the ignition light lucas connector where the wire from the old regulator terminal "D" used to be connected.

A fifteen ohm wire wound resistance must be put across the ignition light, I bought three 10 ohm ones from Radio Shack (part # 271-132) and connected two in parallel and one in series to create the desired 15 ohms.

The remaining connections are as follows:

ALTERNATOR		CONTROL BOX	
TERMINAL	to	TERMINAL	
Ground	using 14 gauge wire	Ground	
STA	using 14 gauge wire	S	
FLD	using 14 gauge wire	F	

I was unable to figure out how to get an ammeter to work, I know a 50-0-50 of 60-0-60 meter is required rather than the existing 30-0-30. Does anybody else know how to do it in a U.S. Ford circuit?

However, a voltmeter is easy to install, one side is wired to the "IGN" terminal of the ignition switch (or the corresponding low tension coil terminal) and the other side is simply grounded.

As far as wiring colors go, it is probably not too important if this is the only modification you are doing to an otherwise stock wiring loom. However, if, like many of us, you have a mass of new wiring it is wise to follow a basic protocol so that the inevitable circuit tracing will be easier in the future. A good method would be to copy the color scheme used for the circuit in a later model vehicle. Any Lucas circuit diagram (at least up to mid seventies) will do, even if it is from an MG or other English car.

Basic Lucas protocol:

SOLID COLOR WIRES

- Black—ground
- White—hot, with ignition on
- Brown—always hot
- Purple—fused, always hot (later models)
- Green—as white but fused
- Blue—headlight hi beam
- Red—parking/tail lights

WIRES WITH TRACERS

- Red/White tracer—panel lights
- Blue/Red tracer—headlight low beam
- White/Black tracer—coil to distributor
- Green/Yellow tracer—right turn signal
- Green/Blue tracer—left turn signal
- Purple/Black—horn button (later models)
- Green/Black tracer—gas tank sensor to gauge

This is useful information to have for trouble shooting even if you don't do the alternator conversion.

THE BRITISH NORTHWEST LAND-ROVER CO.

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Catalog & prospective owners kits available.

Marketplace

Marketplace ads are free to members selling or in search of vehicles or parts for themselves. Please limit your vehicle ad to 7 lines. Ads with * ran in the last issue also.

VEHICLES

'64 88. New HD frame with V-8 automatic. New paint on box & firewall. 109 rear axle. Engine, transmission, springs & brakes rebuilt. Acquired Range Rover chassis to build my off-road toy onto.

Take away as is for \$6,500 or I can finish it for you. Intended as a serious off-road machine. John, 1-201-445-0361 (NJ) days.

1985 Range Rover Vogue. Automatic. Metallic blue w/ grey interior. Sunroof. Good shape. 84,000mi. \$9,600. Jack Walter, 1-404-641-0147 (GA).

We have 5 Rovers... all are for sale:

'53 Series I 80. Good body & frame. RHD. \$8,000.

'57 Series I 107 five door. RHD. \$15,000. Collector.

'63 IIA 88. RHD. \$8,000.

'65 IIA 88. RHD. \$10,000.

'66 IIA 88. RHD. \$10,000.

David, 1-916-583-4150 (CA)

'73 88. Overdrive. New clutch, new master & slave cylinders. Valves for unleaded. Custom seat covers. Weber carb. New battery & tires. New swivel balls. Maintenance history & all manuals available.

See photo in AW, Summer '93. Asking \$12,000. Tom, 1-407-627-8752 (FL).

*'63 IIA 88. Tropical top, 16" wheels, locking hubs, hand throttle, original tool kit. No rust anywhere on this CA car. Exceptionally straight, clean and original. Parts car included. \$5250. Allen, 1-916-265-5004.

*3 Rover TC 2000s. \$500, \$1200, \$3000. Plus lots of parts and parts cars. Call Pete at 1-804-233-1341 (VA).

*1987 110 County Land Rover. 50K mi, 3.5L V-8, 5-speed, S.S. exhaust, 3 sets of Hella lights, Michelins, pintle hitch & wiring for trailer.

Serviced regularly by Rovers North \$30,000. 1-603-756-4268 (NH) eves. Jack.

PARTS

3.54 Salisbury (with new gears & brakes) and 3.54 front axle (29K on Range Rover diff, reinforced housing, excellent swivel balls, new 6 cyl brakes, choice of 12 or 24 spline axles & drive members, series III hubs). \$2,500. Possible part trade for engine driven Koenig winch. Gord'n Perrott, 1-206-361-5766 (WA).

88 Safari top, doors, DLX hood, 15" wheels, windshield, rear seats, body panels, much more. Allan, 1-916-265-5004 (CA).

*Canvas truck cab top and tonneau cover for 109. Brand new with fixings, \$230. Also 2 individual inward facing rear seats with fixings. Black & white County cloth. Brand new, \$200. Call Pete at 1-804-233-1341 (VA)

Answers to crossword on p. 12

T	E	A	R		A	R	C	S		E	T	A	P	E	
H	A	T	E		F	E	A	H		X	A	N	T	H	
O	R	I	P		R	A	M	A		O	N	E	O	H	
U	N	C	L	A	I	M	E	D		A	L	S	O		
				A	R	C		L	E	A	R	N			
F	A	S	C	I	A	E				R	A	D	I	A	L
R	A	T	E	D			T	I	R	E	S		N	N	E
A	R	E	S		M	A	N	I	A		A	D	E	N	
M	O	T		D	I	S	C	O		O	R	I	O	N	
E	N	I	G	M	A			S	A	N	T	A	N	A	
				O	Z	O	N	E		R	O	D			
S	P	A	R				L	A	N	D	R	O	V	E	R
C	A	N	D	O			A	S	T	O		N	A	M	U
A	T	T	O	S			T	E	S	U		O	N	U	S
R	H	I	N	O			S	L	U	R		R	E	S	T

WANTED

Koenig Mech. Drum Winch. Crankshaft driven in good working order. Call Tom Searles, 1-619-929-9161 (CA) eves.

'69 "bug-eye. David Ducat, 1-203-642-69903 (CT).

PTO for '73 88. Must bolt on in place of transfer case pan. Not the PTO hole. Mike, 1-702-849-9597 (CA).

2 1/4 petrol short, long or bare block. Smiths round heater. Complete soft top. Tailgate. Koenig crank-driven winch. Allan, 1-916-265-5004 (CA).

*Good California Land Rover under \$5,000. Bob Perez, 1-408-996-7659 (CA).

*Chevy 4 Cylinder adapter. Simon, 1-415-588-1118 days. 1-415-255-8434 (CA) eves.

Land Rover Parts

Cross Reference List

A great many parts which were originally manufactured for other vehicles, will, in fact, fit perfectly into the Land Rover for much less. Sometimes the part is even better than the original.

We are compiling a list of these parts numbers. If you know of parts, please let us know so that this list can be the best possible.

Write to: LROA, PO Box 872, Concord, CA 94522

Include a photo for \$10!

Just write out your ad (we prefer 7 lines or less), put it and your photo in an envelope with a check to LROA for \$10. We will take your photo, and include it with your ad copy. It will run for the usual 2 issues unless you renew it or cancel.

APPLICATION FOR MEMBERSHIP

SEND THIS FORM OR A REASONABLE FACSIMILE AND A CHECK FOR \$20 TO :
LROA MEMBERSHIP, P.O. Box 1144, PARADISE, CA 95967

NAME(S) _____

 ADDRESS _____
 CITY / STATE / ZIP _____

 PHONE (____) _____
 OCCUPATION(S) _____

 ACTIVITIES/INTERESTS _____

DATE _____
 ROVER INFORMATION
 YEAR _____ PETROL _____ DIESEL _____
 MODEL _____ LIC # _____
 ORIGINAL _____ MODIFIED _____
 EXTRAS _____

 OTHER _____

MOVING?

If You move, fill in this form or a reasonable facsimile and send it in to us.
 The Postal Service will not forward bulk mail items unless you make a written request.

NAME _____ MEMBER # _____
 OLD ADDRESS _____ CITY _____ ST _____ ZIP _____
 NEW ADDRESS _____ CITY _____ ST _____ ZIP _____
 EFFECTIVE DATE _____ NEW PHONE # _____

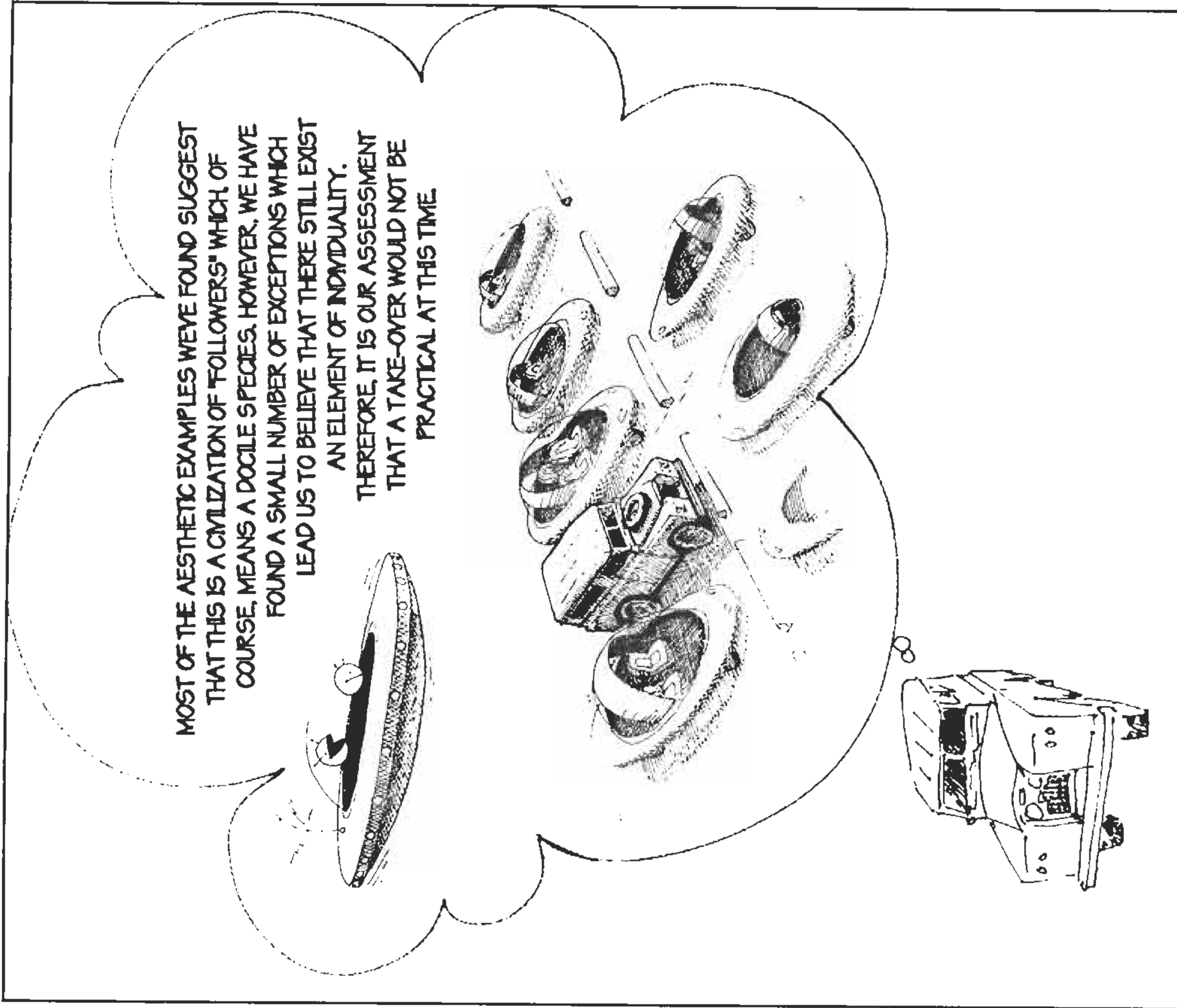
SEND TO : LROA MEMBERSHIP, P.O. Box 1144, PARADISE, CA 95967



Parting Shot— Gordon Kallio got good light in the Nevada desert this last summer. Here is Marvin Mattson's Series III 88 with Chevy V-8 & power steering at rest during the Sniveler desert run. You can read about the trip on page 17.

Wishful Thinking

by Brad Blevins



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