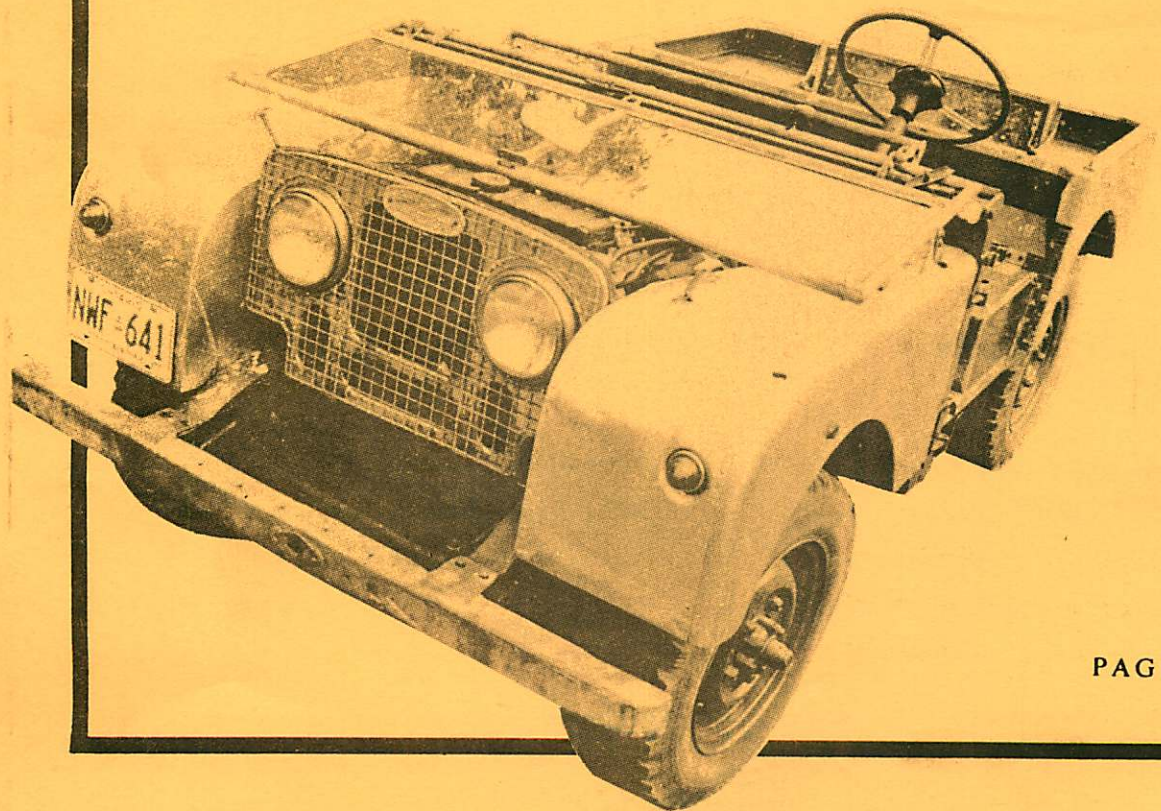


NO.10
FALL 81

TRANSFER BOX

TIME(LESS)
MACHINE



Transfer Box is published three times a year by the Association of Land Rover Owners of Canada (ALROC).

Editorial material, including stories, technical tips, letters, photographs and anecdotes concerning Land Rovers, is invited from readers. No payment can be made but we'll print as many submitted articles space permits.

Members may place personal "for sale" and "want ads" free of charge. Separate ads must be submitted for each issue. Display advertisements will be printed at a rate of \$5.00 per half-page illustration. We'll put them together for you but appreciate pre-designed layouts.

Items must be received no later than the last day in May, August or December to make the spring, fall or winter issues.

ALROC is a non-profit organization dedicated to the preservation of the Land Rover. Application for membership in the association is invited from owners and enthusiasts from any part of the globe.

The \$5.00 annual membership fee covers the publication and mailing of Transfer Box, membership processing and office supplies. Financial reports will be published in Transfer Box annually following the general meeting.

Make cheques and money orders payable to: Transfer Box, Apt. 1, 95 Fourth Ave., Ottawa, Ont., K1S 2L1, Canada.

TRANSFER BOX

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ALROC DIRECTORS

President...Harold C. Huggins
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TRANSFER BOX:

A LITTLE WHEELSPIN BUT PICKING UP SPEED

Hello again.

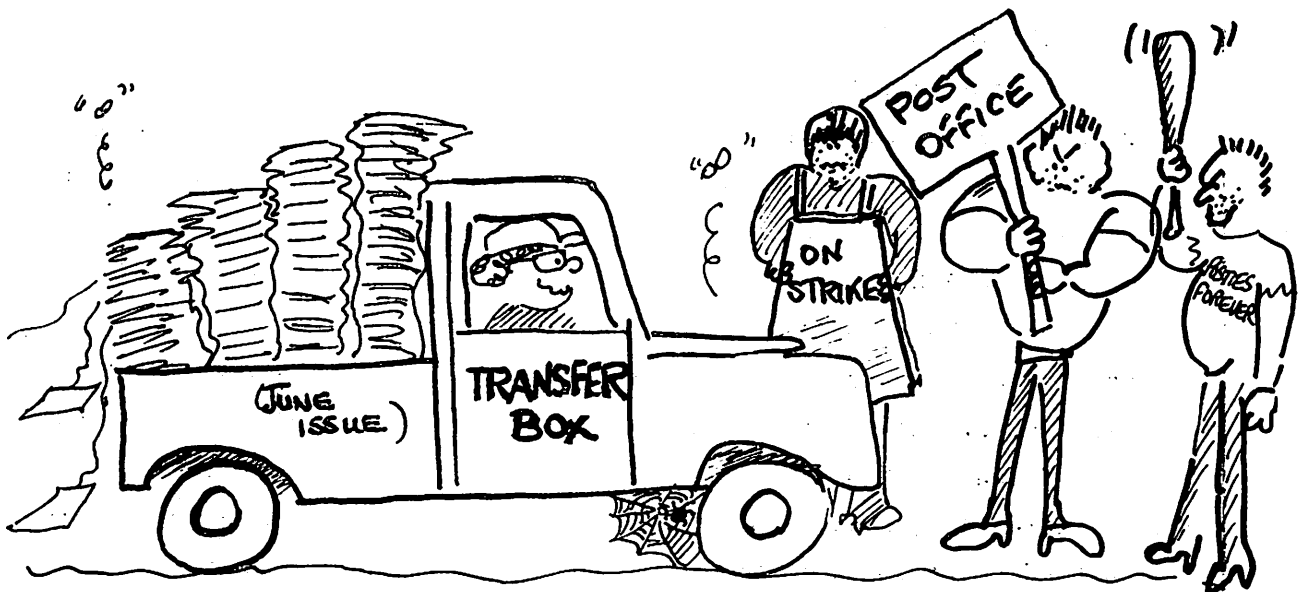
In keeping with our plan to have a theme each issue, this fall offering is dedicated to the "tinkerer" that lives within most Land Rover owners.

Among the following pages you'll find articles ranging from a simple tune up to a complete engine exchange. Check out the overdrive installation and test or gather tips on fighting rust or re-chroming swivel balls.

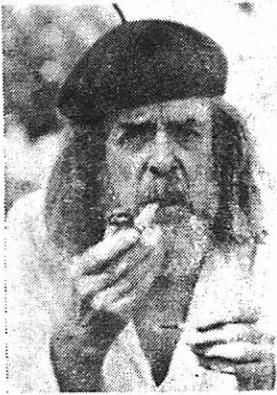
Not forgetting the "un-mechanical" members, we also have a report on the summer Tweed Rally, a Yukon tour in a diesel LR and a little humour from Ile Bizard, Quebec.

NEXT ISSUE we'll bring you news from the makers of Land Rover and report on the annual ALROC meeting. We'll introduce you to several Land Rover clubs we've met through Transfer Box and spin a tale or two of LR glories past to warm your hearts through winter's frosty gales.

Special thanks this issue to Mark Pankhurst, Simon Skuse, Kelsey Anderson, David Smithers, Gil McDermott and Linda Marchand.



We're not blaming anyone else for our tardiness mind you, but last issue we had a little help from the Post Office. Pony Express uses Land Rovers.



THE PREZ SEZ:

TOGETHER WE STAND,
DIVIDED_ _ _ _ ?

BY HAROLD HUGGINS

It has taken five years in the engine room of ALROC to penetrate my nut that my grand plan for a 17-jewelled-watch type of organization just won't fly. For one thing, this country is too big physically (much, much larger than the USA, for example) for well-oiled communication between its several parts. For another, not every LR owner is infected with the same degree of passion for LR and its mystique, so have no inclination to support us. Too, considering in absolute terms the minute proportion of LRs on Canada's roads and in the bushes, my dream is all the more laughable. In other times there was the ducking-stool for those with such outrageous vanity!

The alternative, then, as many heads wiser than mine have contended all along, is to commit ourselves to delivery of the immediately useful and realizable and let the rest go hang. This means the production of the best possible information publication devoted to the proper care and feeding of Land Rovers wherever they may be in Canada and elsewhere for anyone interested. Period. Amen and so be it. We hasten to add, the Annual ALROC Rally held in Ontario will be continued.

I am very pleased to say that we've never been better equipped to provide this service than the present time. It perhaps would be invidious to spell out names for this; suffice to say there is in Ottawa a small working-party of dedicated and seasoned ALROC members who have as their goal a yet more attractive, readable and useful TRANSFER BOX than ever before.

It was my pleasure to share a work-session with this group recently and I came away feeling deservedly buoyant and sanguine over reaching the declared goal.

But (there's always a "but" in these affairs) if we are to attain to the objective it will require, nay, demand, pulling on the oars from members "out there". There is not a Land Rover owner anywhere who has not got something interesting and useful to contribute to our columns.

Just one submission in a twelve-month period from each and every member would ensure our place in the sun in perpetuum.

After all, the title TRANSFER BOX was no random grab. It was chosen advisedly to head up a vehicle for the transfer of information between Land Rover owners.

Let's hear from you, the member-reader.

In Memoriam

The staff of Transfer Box wishes to extend condolences to the family of ALROC member Jerry Janda who died in a boating accident in June.

Jerry joined the Ottawa chapter about this time last year after acquiring a 1966-109 regular model. He spent the winter rebuilding the Series 11A and had it ready for its off-road debut in the May 24 Jim's Lake mud run featured in the last issue.

He was an enthusiastic supporter of all things Land Rover and his presence in our activities will be missed.

ANNUAL MEETING

ALROC will hold its annual general meeting on Thursday, January 14 1982 in Ottawa. The meeting will get underway at 7:30 p.m. in Room E-120, Block E, Woodroffe Campus, Algonquin College.

The constitution calls for the election of a new slate of officers for president, vice-president, secretary and treasurer. Nominations for those positions will be accepted at the January 14 meeting.

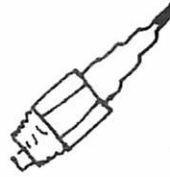
Also on the agenda is the tabling of the financial report, the submission of an association window decal, a discussion of fee increases and the showing of a half-hour movie and slide presentation produced by the Ottawa chapter during several summer bush expeditions.

Written submissions from members at large on nominations or any other item to be discussed at the meeting must be received by January 13. Names of those nominated will be published in the Winter issue of TB along with clip-and-mail ballots.

Deadline for votes will be announced in the Winter issue.

Address nominations and mail for the January 14 meeting to Harold Huggins, president, ALROC, Apt. 1, 95 Fourth Ave., Ottawa, Ontario, Canada K1S 2L1.

TUNE UP:



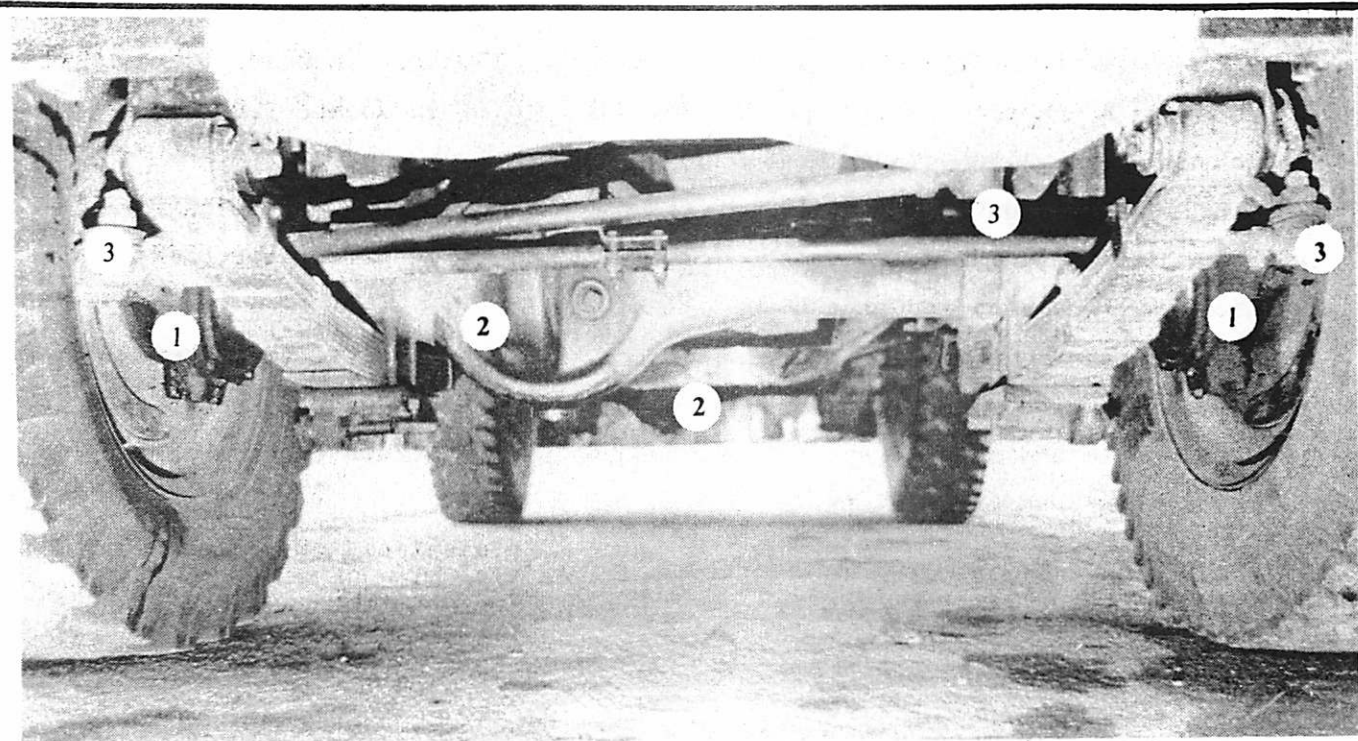
Winter is coming. Time to take wrench in hand, slip into your grubbies and have at it.

Tuning your LR isn't something that MUST be done in a service station. In fact, most long-time LR aficionados wouldn't dream of letting a stranger touch the old girl. With only a few tools and the workshop manual for your model, a simple tune up can be an afternoon's fun.

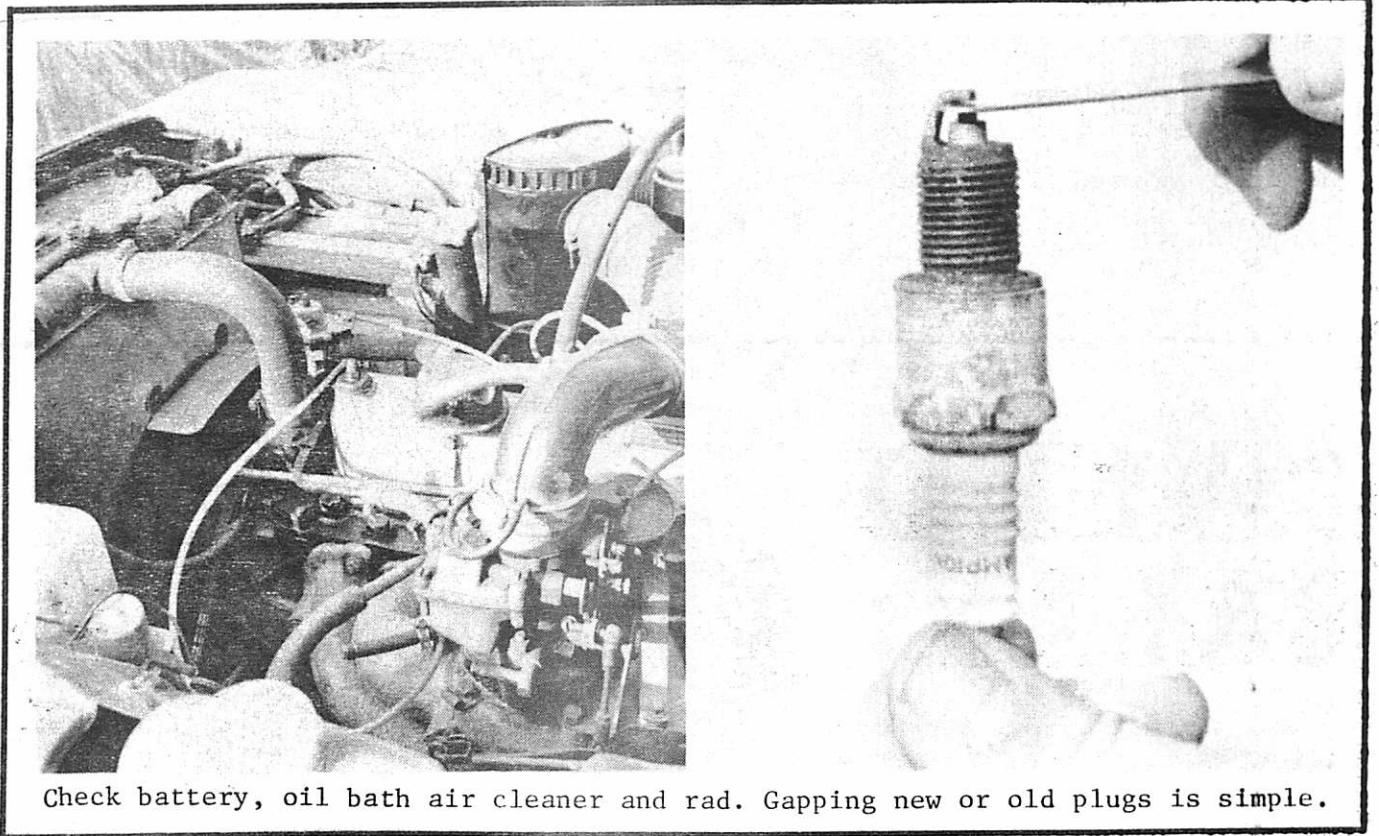
And you could save up to \$75 compared to commercial shop rates.

Take the spark plugs for example. Replacing them takes a socket wrench, a feeler guage and a new set of plugs. The manual will explain how to install and adjust new ignition points without expensive test equipment. Checking or replacing the distributor cap and wires is straightforward. If they're dirty, clean 'em. If they're cracked or broken, replace 'em.

Thermostat is simple. Out with the summer, in with the winter--with a new gasket. Winter normally calls for one that operates about 195 degrees F. Most LR heaters need all the help they can get.



When doing your tune up, don't forget to check fluid levels in the swivel housings, (1) and differentials (2) and check for play in the track rod ends (3) .



Check battery, oil bath air cleaner and rad. Gapping new or old plugs is simple.

Drain the cooling system. Replace with the proper mix of anti-freeze and water for your area's lowest temperature. The formula is on the back of the anti-freeze can.

Check oils in the differentials, steering relay, swivel balls, transmission and transfer case. SAE 90 weight oil is good.

Engine and oil filter is easy. Drain the engine from the pan, replace the filter and refill with new oil.

The manual will tell you which is the best grade for your climate but rule of thumb is a lighter grade in winter (10W-30) compared to summer (20W-40)

Change or clean your fuel filter. If the air cleaner is the oil bath type, replenish it with the same stuff you put in the engine.

Check the fan belt for cracks or fuzzy bits at the edges. Install valves caps on your tires. They keep salt and ice from jamming up the valves. Inspect the axle breathers (they sit on both axles). Unscrew, soak 'em in solvent until they rattle when shaken, then replace.

Look for oil leaks in the wheel areas. Now's the time to get a faulty seal replaced. Don't wait until January for the brakes to seize in the snow because the dif oil is leaking all over them.

And buy a \$10 grease gun, jam it on every nipple you can find and squeeze until the stuff squirts out the other end.

And that, as they say, is that.

TB-TIPS

A workshop manual for your model is the most useful tool in your box. They're available through LR dealers and mail order houses. Check advertisers in this issue.

TWEED RALLY:



BY JERRY DOWELL

The annual gathering of Land Rover enthusiasts once again took place at the Hayloft Campground located near the tourist town of Tweed, Ont.

The event, held on the August first weekend, attracted 17 Land Rovers from as far away as Montreal, Ottawa, Toronto and surrounding areas.

Highlight of this year's event was a beautifully restored 1957 Series 1-88 and a seldom-seen 109 Dormobile..

The Ottawa contingent arrived at the site Friday night to find three other Land Rovers and their keepers dotting the campground hills.

The evening was spent setting up camp and sharing introductions and stories around a cosy campfire to stave off the night-time chill.

Saturday morning saw the arrival of the Toronto area group. After a few more glad-to-see-you-agains, it was suggested that a trundle through a nearby hydro right-of-way was needed to stretch the muscles and suspensions.

Hubs locked in, yellow knobs depressed, and we were off.

From the main road it was up and over a ridge, a hundred yards through the tall grass and right smack into a massive swamp.

Simon Skuse, in his 101-inch L-R, had a go at the bog but, after several attempts, had to be winched out rearwards by a vehicle on more solid ground.

A second charge saw him get a little further into the slop before meeting the same end. With nothing in front to be winched to, the 101 had to once again be dragged back in disgrace.

Another brave--but foolhardy--soul tried it in his '88 but got only a few feet into the muck before he was stopped.

Then it was back to camp, clean up and, after a hearty meal, an evening of relaxation highlighted by a 28-minute movie of the now famous Jim's Lake safari.

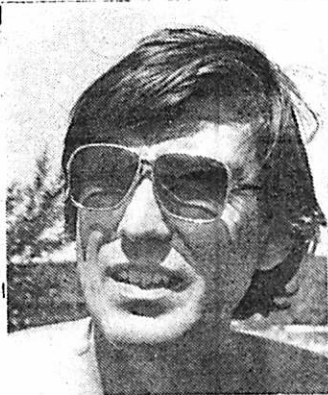
The film is the Ottawa chapter's version of the Darien Gap expedition

On Sunday, small groups gathered for an informal technical seminar followed by another Hydro line trek by members of the Ottawa gang. They returned to camp several hours later to find most of the others had already left for home.

As the sun set on the weekend, organizer Paul Socholotiu was already making plans to hold next year's event in the Toronto-Hamilton area, closer to the bulk of southern Ontario's L-R owners.

Attendance at this year's event was hampered by the postal strike with kept Transfer Box from reaching members in time with details of the rally. (Also, it didn't help much when we printed an incorrect telephone number for Paul , making it rather tough for people to get details over the phone. Sorry about that. His proper number in Toronto is 284-7103).

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BALLS :

SWIVEL of course

PROJECT: Swivel ball reconditioning.
 ITEM: Swivel pin rebuild kit,
 PURPOSE: To renew balls and seals.
 INSTALLATION TIME: Three hours.
 COST: About \$175

Leaking balls?

It's a common problem with Land Rover owners. But for a relatively small investment (time and money), your driveway can stop collecting all the drips.

Leakage problems from the swivel ball units are normally caused by pitted or rusty chrome finishes on the ball units. Oil passes by the large oil seal in the ball housing.

Here's a step-by-step solution:

Remove and dismantle the units, as described in the workshop manual. At the bench stage, use a hammer and drift to knock out the upper Railco bushings, the lower bearing race and the large drive shaft bearing at the inner end of the ball units.

File rough and pitted spots on the ball finish until the surface is rough but clean. Be careful not to make flat spots. File in a different angle or direction around pits. Don't miss any bad areas on either ball.

Re-install lower bearing races and Railco bushings. (The Railco bushings can be substituted with an old lower bearing race.)

Clean both swivel balls thoroughly.

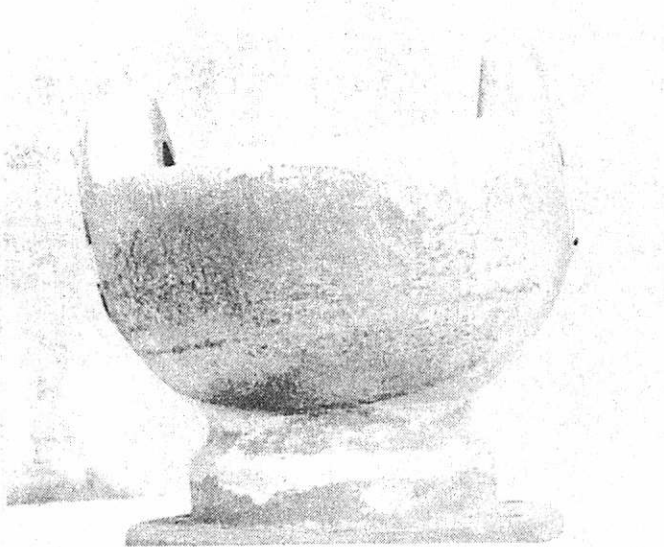
Contact a metal refinishing company, or any business that can carry out triple chrome finishing. (The local hot rod club may prove helpful). Instruct the company to apply several layers to the ball units, two or three will be needed to fill deep pits. Cost should run between \$35 and \$60.

Start re-assembly. Knock out the old Railco bushings and bearing races. Obtain swivel pin rebuild kit (check Transfer Box for suppliers). The kit included everything needed to renew the swivel pins, including new Railco bushings. New lower swivel pin bearings and races should also be installed.

Again follow the workshop manual for re-assembly of the swivel ball units. Be especially sure that the large oil seal is properly seated in the housing. Test this by turning the swivel ball, watching that the seal wipes the ball surface evenly.

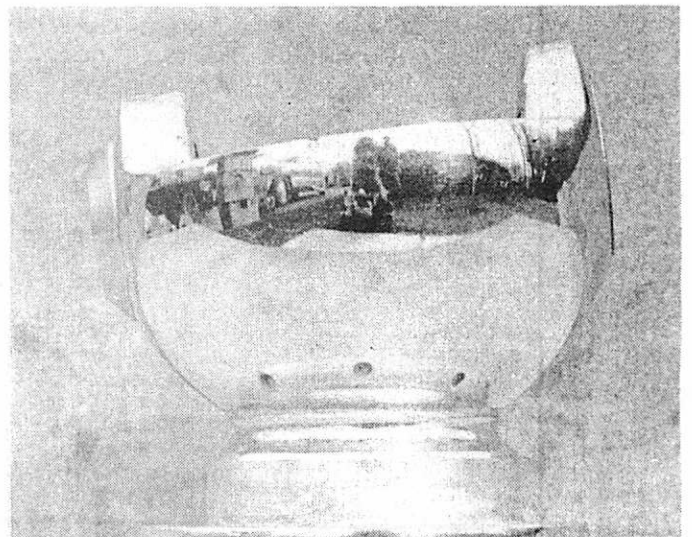
Patience is essential. Preparation before the re-chroming process is the key to success. Chances are good that, with care, the ball units will still shine when the new swivel pins start to wear years from now.

Years of road salt, dirt and gravel have left this swivel ball looking like a cratered moon. In this condition, the large rubber seal cannot keep the EP 90 weight oil inside the housing nor keep the dirt out.



A thorough cleaning with wire brush and solvent before much elbow grease and several files is needed to get rid of the crud and ready the ball for chroming. Be careful not to score the ball with a deep file mark. It just adds to the repair work.

Photographer's reflection is mirrored in the super shiny surface of this re-chromed ball. The \$50 price tag for the chrome job may sound high but it's about one third the cost of getting one new ball. Put a new seal on right and no more leaks.



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GAITER-AID

PROJECT: SWIVEL BALL GAITER INSTALLATION.

Item: Leather, lace-up covers for L-R front ends.

Purpose: To protect chrome-plated swivel balls

Installation time: About three hours.

Price: \$68.

The British have a name for it:

"Encountering arduous conditions" is the quaint way the good people at Land Rover suggest protection for those swivel balls that hold the front axle universal joints and wheel bearings in a bath of oil.

Road salt, grunge, gravel and just plain dirt are more familiar to most of us, but the message is the same.

Covering the shiny chrome balls will make them last a lot longer.

Introducing the gaiter.

These leather covers protect the spherical housing surfaces as well as the large oil seal, both expensive and time-consuming items to replace.

To install the gaiters, the front wheels are removed and the swivel housing drained of the 90 weight oil. It is important to thoroughly clean the area around the housings before going any further to prevent dirties from falling inside the housings.

That done, unbolt the oil seal retaining ring, taking care not to dislodge the oil seal. Work vaseline into the leather gaiters until thoroughly coated. That'll help it remain waterproof.

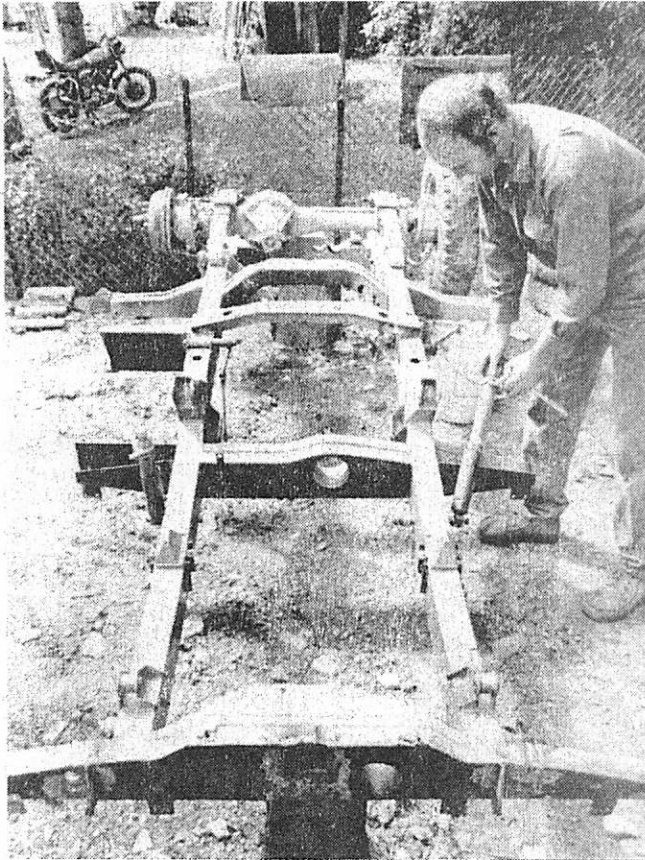
Wrap the gaiter around the housing and axle casing and tie it up tight with double lacing.

This is the fun part of the job and is reminiscent of catching a greased pig. Then, in this order, simply bolt the gaiter retaining ring, gaiter and oil seal retaining ring to the outer swivel ball housing using the original bolts.

Secure the inner end of the gaiter to the swivel ball shoulder where it meets the axle casing with the large hose clamp supplied. Refill the housing with new oil to the level plug--about one pint--and repeat the whole show for the other side.

And that's the name of that tune.

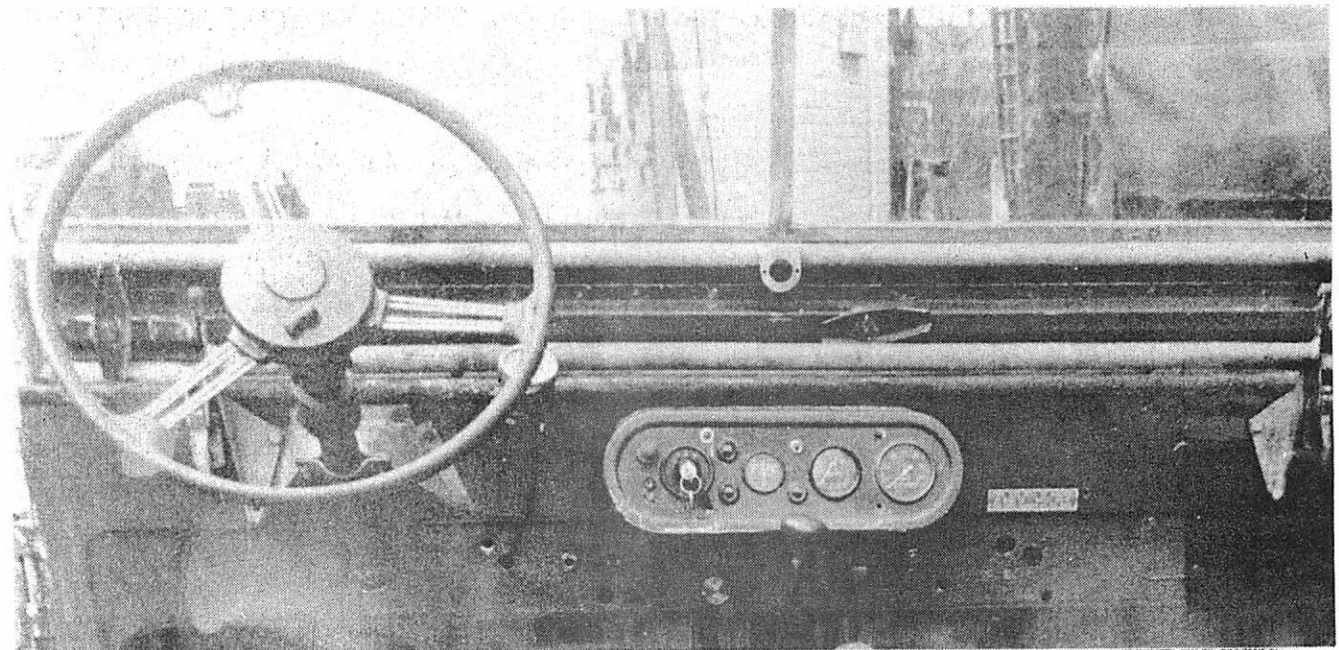
BORN AGAIN AT THIRTY



One day on the way home from a buying trip to ABP in Waterloo, Que. an odd-looking vehicle was spotted lying despondent in a Vallyfield, Que., construction yard. Confirmed Land Rover nuts Andrew Finlayson and Simon Skuse stopped to investigate. The bait was set and the hook cast.

Simon at first confirmed the vehicle to be a Jeep, due to the extremely short wheelbase, the 90 degree bulkhead with small guage panel and pedals that went straight through the floor.

Back home in the manuals it was confirmed as a 1951-80 inch L-R. Another trip, a \$900 exchange and it was whisked away to be joined soon after by a second oldie--this time a 1953 model found near Pembroke, Ont., Both soon arrived at Simon's Ottawa home and the rebuild began.



The 51, stripped to the frame, was sandblasted, patched and welded where it was crusty. Several coats of paint came next then reworked springs were mounted to suspend the rebuilt differentials, swivel pins and hubs.

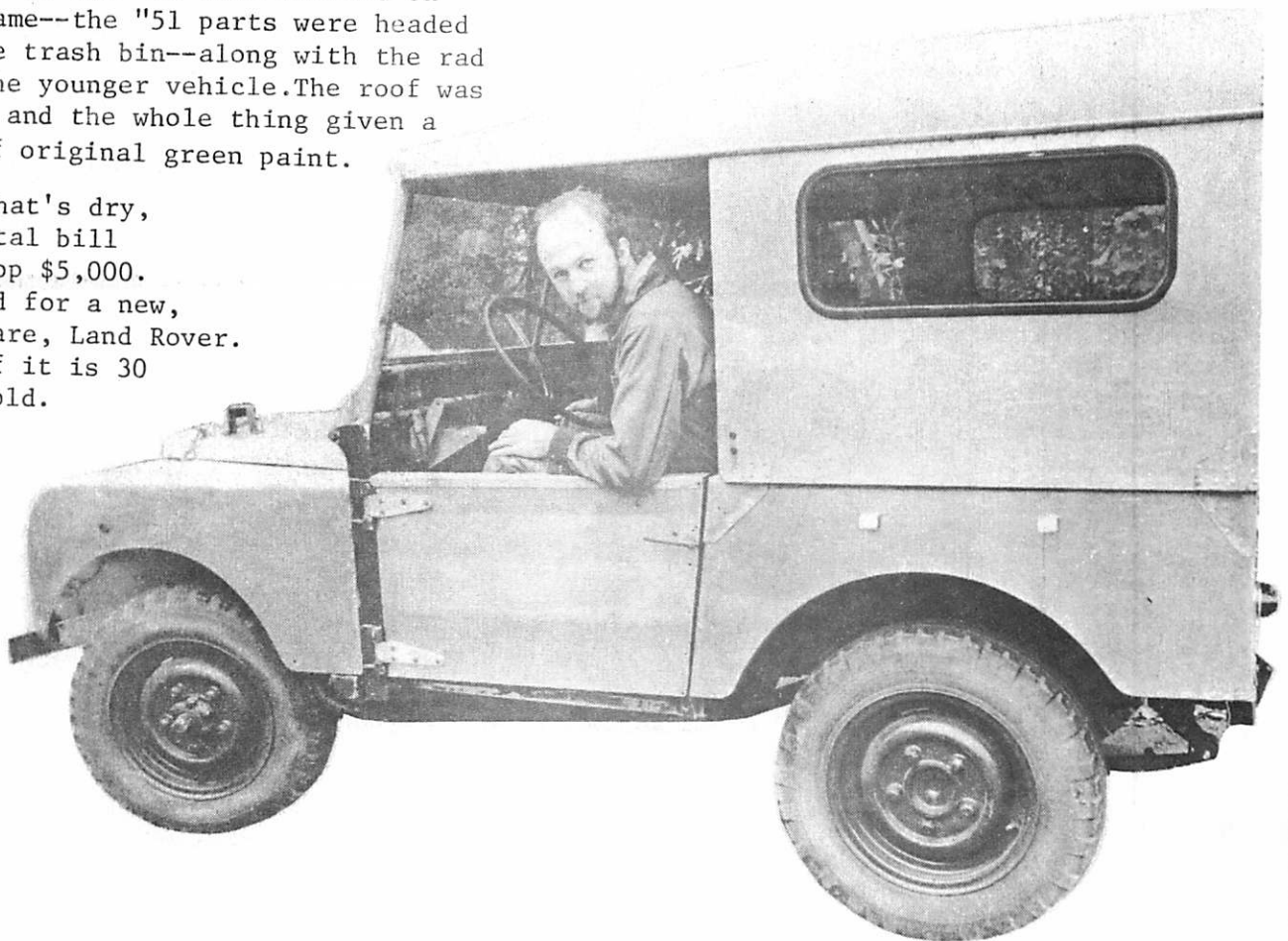
The transmission was disassembled, cleaned, rebuilt and mated through a rebuilt clutch to the 1,600-cc engine which had been reconditioned six years earlier and was running just fine thank you very much. Then the bulkhead was primed and painted and a new wiring harness was connected. On top of that went a new windshield.

The distributor and carb were rebuilt and new track rod ends installed. A used steering box was purchased and a custom-made exhaust system bolted on.

With flaring tool in hand, Simon fashioned quarter-inch brake lines to fit. The flex hoses for the front brakes were made from clutch hoses used on late model L-Rs.

The front fenders and the rear section of the '53 were mounted on the frame--the '51 parts were headed for the trash bin--along with the rad from the younger vehicle. The roof was fitted and the whole thing given a coat of original green paint.

When that's dry, the total bill will top \$5,000. Not bad for a new, very rare, Land Rover. Even if it is 30 years old.

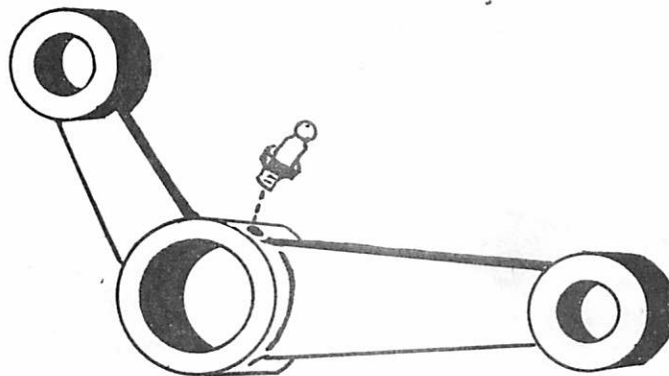


WHY ME LORD?

The following comes to us from Off Road Magazine by way of ALROC member Fred Dawbar of Bizard, Quebec.

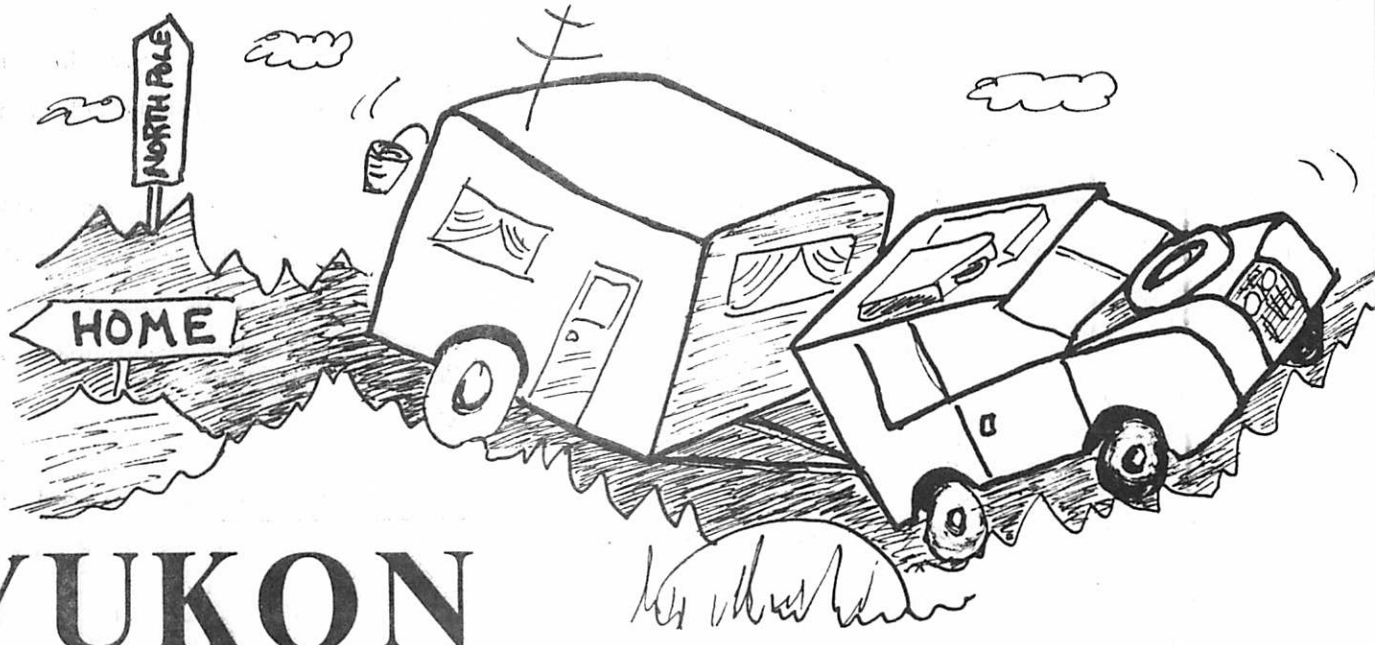
Murphy's Law--as applied to four-wheel-drive vehicles.

1. If anything can go wrong, it will.
2. The availability of any part is inversely proportional to its need.
3. A dropped tool will land where it can do the most damage (also known as the law of selective gravitation).
4. Parts that must not and cannot be assembled incorrectly will be.
5. After an engine has been fully assembled, extra parts will be found on the work bench.
6. Any vehicle, when running, is obsolete.
7. Experience is directly proportional to the amount of equipment ruined.
8. The probability of complete understanding is zero.
9. Nothing is impossible for the man who doesn't have to do it
10. Any time things appear to be going better, you have overlooked something.
11. Nothing is ever as simple as it seems.
12. If one of anything is good, two must be twice as good.
13. Everything always costs more money than you have.
14. If you fool around with anything long enough, it will eventually break.
15. It is a fundamental law of human nature that nothing ever quite works out.



TB-TIPS

A grease nipple fitted to the parking brake relay pivot (mounted on the LR frame) will prevent it seizing up from dirt and salt corrosion



YUKON

There and back on a Bic

BY GORD GODWIN

My wife, two sons and I drove some 8,000 miles round trip via Calgary, along the Yellowhead to Prince Rupert, then north to the Alaska Highway in the Yukon and west to Whitehorse.

My 109 Land Rover is powered by a Perkins Diesel 4-203, and we were hauling a 14-foot house trailer. We carried a full set of tools and spares.

The problem developed one windy evening on the Alaska Highway. The clutch stopped working. Its reservoir was empty. After filling it again, some clutch action was restored but only temporarily. It failed again and we travelled in low range for a couple of miles until we could pull off the highway into a gravel pit.

On closer inspection we could see fluid running from near the clutch slave cylinder. An even closer inspection revealed the cause of the problem--the flexible hose had been rubbing on the firewall and had worn through. And we had no spare hoses.

By 8:30 that night I was in a small town 18 miles away, having hitch-hiked. A local mechanic said he could fix the problem by putting a hose over the old one and clamping it. I hitch-hiked back to the Land Rover and family. Weather conditions were very bad with some campers having slid off the road and turned over

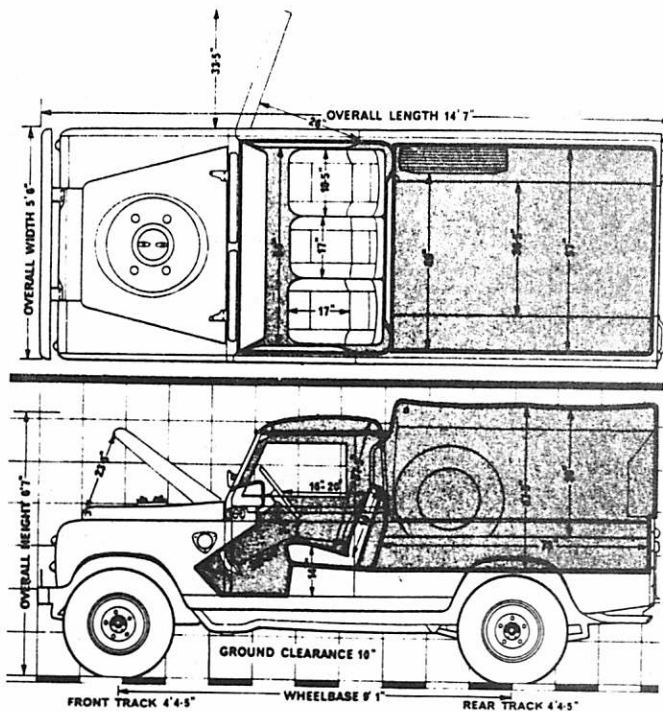
Bright and early the next morning, I put things back together. We bled the system, plunged the clutch pedal and--a loud hissing noise. The patched hose had burst and most of the fluid ran onto the ground.

It was time for breakfast. And more thinking. I decided that a small piece of copper tubing inside the hose would do the trick. I pulled out my pen to do a sketch of the project and realized the ballpoint refill would do the trick. It was perfect. I cut about one inch off the end, fitted in inside the hose and clamped it.

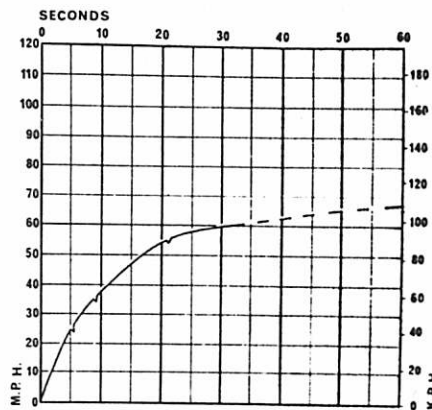
It made a perfect repair. In fact, it took us all the way to Whitehorse and home again. So, if you're off on a long trip, be sure to take a full complement of tools and spare parts--and a ballpoint pen. It's the little things that count.

ED'S NOTE: Because of space limitations, we had to decide to either shorten Mr. Godwin's story or keep it for the next issue. We decided it was too good to wait any longer. Mr. Godwin lives at Winsley Farm, RR 1, Arva Ont. Nom 1C0.

LAND ROVER SERIES 3 (2,625c.c.)



ACCELERATION



GEAR RATIOS AND TIME IN SEC			
mph	Top	3rd	2nd
	(5.40)	(8.05)	(12.00)
10-30	11.9	7.6	5.5
20-40	12.1	7.7	—
30-50	14.4	9.5	—
40-60	24.5	—	—

HAPPINESS IS AN OIL COOLER

BY JERRY DOWELL

Are you constantly blinded by the oil warning light?

Does your L-R knock and rattle after a busy day under the summer sun?

Are you worried about engine bearings because your oil gets thin after pulling the family house trailer around?

The answer could be an oil cooler.

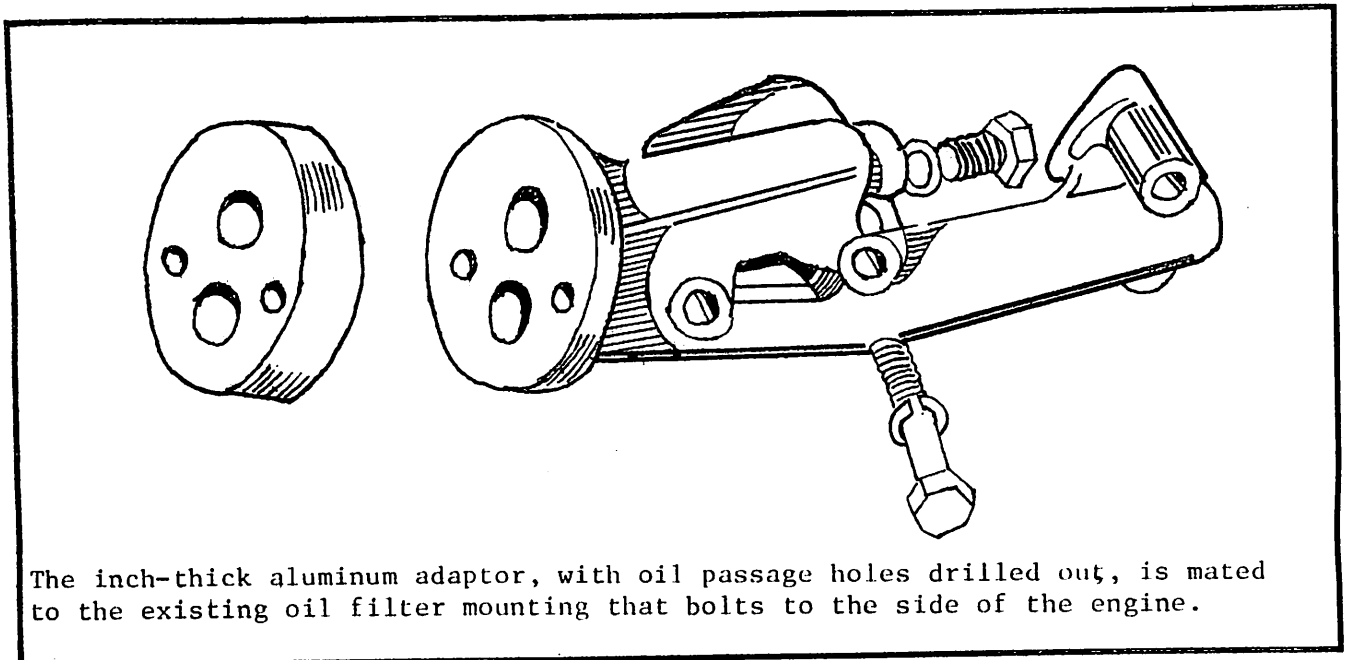
Heavy equipment has used them for years. High performance automobiles employ them for keeping the engine oil from getting too hot and breaking down, causing poor lubrication.

Land Rover sells a model for each series but it's expensive and, out here in the colonies, a little difficult to obtain.

A 12-row cooler from a wrecked MGB was recently given a new life on a 1967 Series 11A-109 to prove the point. The vehicle had been experiencing bearing problems and overheated, thin, oil was considered the culprit.

The cooler was mounted sideways in the rad "breakfast" just in front of the radiator to catch the airflow. The standard oil filter unit was removed from the end of the oil filter arm coming off the side of the block.

An adaptor was machined from a piece of one-inch-by-four-inch aluminum



stock and bolted to the oil filter arm. (Most machine shops will do the work to your specifications for about \$20).

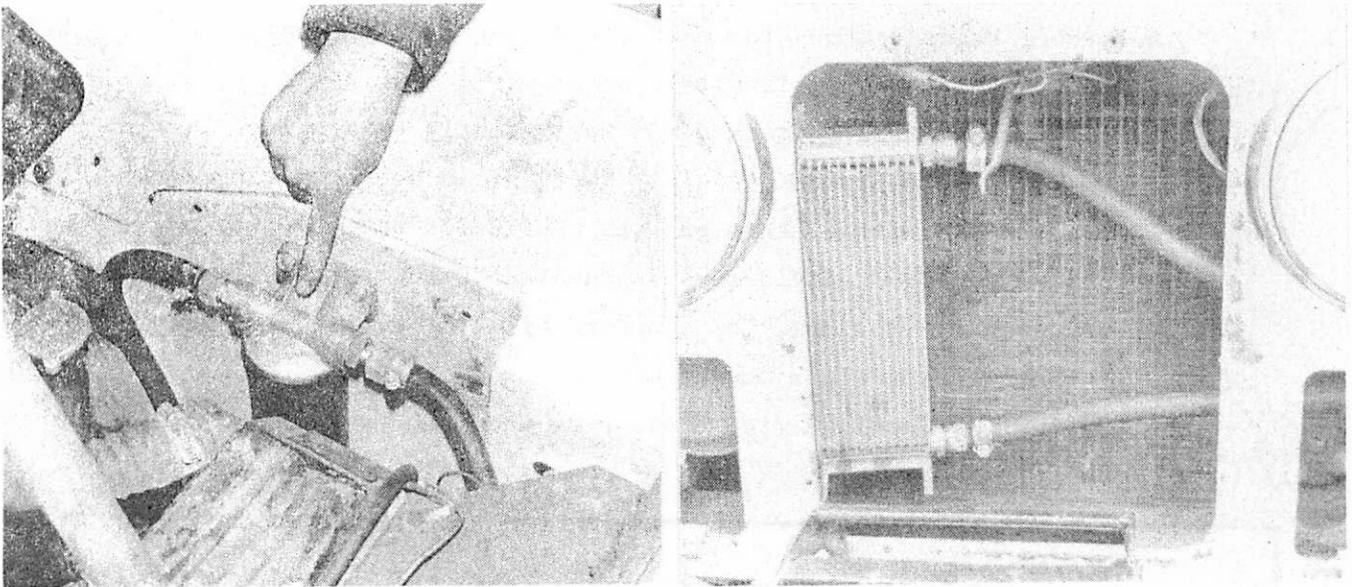
The adaptor allowed connections for two oil lines--one carrying oil to the remote filter and the other bringing lubricant from the cooler back to the engine sump.

The remote filter mounted on the inside left fender was a Purolator model from a Formula Ford race car but more common spin-on filters are available from most auto speed shops.

The fittings and high temperature oil lines were picked up from an automotive shop dealing in hydraulics. About 10 feet of line was needed.

The conversion was completed 10 months ago and the results are impressive. Higher oil pressure at both idle and highway speeds and lower overall oil temperatures.

Only time will tell if the bearing problem has been solved. We'll let you know.



The remote filter was bolted to the driver's fender and the cooler mounted in front of the standard radiator. High pressure hoses make the connections.



MR. PAUL WILLIAMS

The Association of Land Rover Owners of Canada has information of benefit to Paul Williams, former ALROC member at the time located in Sudbury, Ontario.

Our mail addressed to Mr. Williams there is being returned. We are anxious to locate his present mailing address. Anyone knowing Mr. Williams' whereabouts is asked to kindly pass the information along to ALROC, c/o Apt. 1, 95 Fourth Ave., Ottawa, Ontario, K1S 2L1.

RUST

BY HAROLD HUGGINS

The only thing more distressing than a rusted-out LR frame is the thought of that munchable woman Joan of Arc being burned at the stake. Stupid men. Application of common sense would have spared the beautiful Joan and can spare your LR frame from the burning destruction of rust, too. As in medicine, every far-advanced disease was at some point an early, easily-managed ailment. It makes sense to think along this line vis-a-vis the disease of rust in LR frames. In this writer's view there can be no "waiting period" for the symptoms to exhibit themselves. The wise operator will simply assume and take for granted the process of metal oxidation is going on apace anyhow in most sections of this mostly wet, freeze-and-thaw country despite what the travel brochures may say to the contrary. In addition, the presence of salt, in itself an acid, can but compound the evil.

Clearly then, some form of vaccination is badly needed that is low in cost, can be done without expensive gear by the owner at home and which will prove efficacious. There is such a vaccine. It bears the label "Save The Surface And You Save All, Including The Money".

Directions for use:

Annually routinely as soon as warm days are with us I make ready with the most vital components of the prescription; garden hose with a lancet-like nozzle; paint scrapers of varied widths; one or more wire brushes of assorted shapes.

Let me interject here my firm opinion that if there is any "magic" involved in wrestling rust to the ground, it is in these tools where such is found.

I personally, unequivocally dis-believe all advertising claims except those which say "please allow at least six weeks for delivery", or "Perrier Water feels wet when you sit in it".

Time, for once, is not critical here. Depending on my mood the job may be over and done with within a week, or it may stretch from May to September. Either way is good, is right, is proper so long as you start with full-bore pressure bashing the frame with water. Repeatedly. Until you're satisfied that the hose has worked its peculiar magic and that all the loose crud on the frame is now on the ground.

Next, with scraper and wire brush, I tease and worry, scrape and scratch the metal a quarter section at a time until, hey, presto! there is the frame in all its pristine glory--clean, sharply outlined as you've probably never before seen it. It is also deeply satisfying to realize not one penny has been spent so far, unless it be for tools which should be seen as investment. (this is reason enough for frequenting Sally Ann shops regularly, to come home with a lot of useful stuff at decent prices). For the "taking off" phase I budget not less than three hours per quarter section.

The "getting it on" phase finds me laying on anything labelled "oil", "oil paint", "roofing pitch" and "driveway sealer". For the person who has a floating ten-spot I can think of nothing better suited than one of those large pails of driveway sealer from Canadian Tire. Enough to last through until 1985 at least. (For all I know the costly proofing system may be nothing more than this at base). Again all other jobs in the world are preferable to this, but when it is done and finished you'll never have felt better about yourself for the accomplishment and the dramatically improved appearance of this precious componet of your Land Rover. It is some comfort to know that, with each time round, the job grows easier and less unpleasant.

About cross members: my model 109 affords me space enough to do this: scrunch-up newspaper and old cloths are dunked in old engine oil. After draining, I pack the cross member cavity with this offensive material, firm in the knowledge that rust will not find a welcome host there. Of course, the cavity will have been hosed out and allowed to dry before this is done.

I believe in this treatment wholeheartedly. If you are being indifferent to the condition of your LR frame despite its appearance, then I seriously urge you to inspect the vital member. Every year that passes brings its own toll of rust corrosion. Like the mill-stream, rust goes on forever inexorably.

Save The Surface And You Save All. Including the money.

LAND ROVER EXTRAVAGANZA SALE:

1968 Land Rover 88". Frame rusted. Not running but has many good parts. Offers over \$200.

1967 Land Rover. 2.6 liter, 6 cylinder NADA engine in parts.

One set 15 inch rims.

Land Rover hoods. All styles and conditions. Series I - III.

Many other parts for all models. Series I - III.

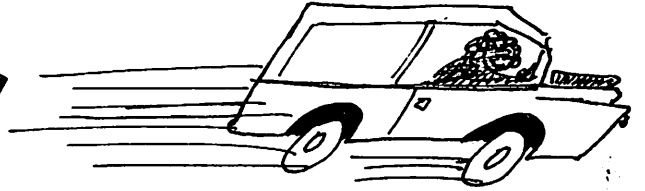
Reply: Andrew Finlayson 1-613-722-2936

Simon Skuce 1-613-722-1143



British Leyland called this little number a "Golf Ball Development Machine" in a promotional photograph taken more than two decades ago. We think that device sitting on four legs at the rear of the Series 1-107-wheelbase Land Rover is hinged at the bottom and folds into the box of the vehicle. However, its role in the world of golf escapes us. Any suggestions????

OVERDRIVE



The \$4 gallon of gasoline is lurking just around the next bend and it won't be long when a tour with your gas-guzzling L-R will mean mortgaging your home (if you can afford that) just to fill the tank.

One way to stretch your gas dollar is to get more mileage with the same amount of gas.

Impossible, you mumble?

Not so with an overdrive.

This small device that bolts to the rear of your vehicle's transfer case reduces engine revolutions by 28 per cent while maintaining the same road speed. Looking at it the other way, the same engine speed will result in higher road speeds, if that's your number.

Installation is a straightforward, two hour job with most of the work done from inside the vehicle.

First step is to gather the required tools. These include an electric drill, 3/8-inch bit, two-inch hole cutter, centre punch, tape measure and socket wrench set.

Land Rover freaks also require Special Spanner number 600300. The rest of us use a large hammer and drift punch.

A little grease and EP-90 gear oil will also come in handy.

After removing the centre seat and seat box panel, the new shift lever bracket is bolted to the transfer flange using existing holes. The transmission tunnel is measured and marked to the correct dimension, depending on whether you have a six or four cylinder engine.

Drill a 3/8-inch hole at the measured point.

Using a pencil to locate and mark the bracket, the correct location for the two-inch hole can now be determined. Accuracy at this point is important.

Now assemble the shift lever and linkage using a little grease at the pivot points and the hard part is finished.

After a brief pause to accept congratulations for getting the first bit done, it's time to remove the circular bearing housing and top cover plate from the transfer case. Then, using that special tool mentioned earlier (hammer and punch to you and me) remove the slotted mainshaft nut.

Slide off the main drive gear and fit the new clutch sleeve using a new lockwasher. Make sure the nut is TIGHT. Pour a little EP-90 on the sleeve for initial lubrication and bolt the overdrive unit to the transfer case using a new gasket and original nuts and washers.

If the overdrive doesn't engage immediately, try rocking the vehicle forward and backward while sliding the new unit into place. If that doesn't work, engage first gear with the transfer box in neutral and spin the engine on the starter until it engages.

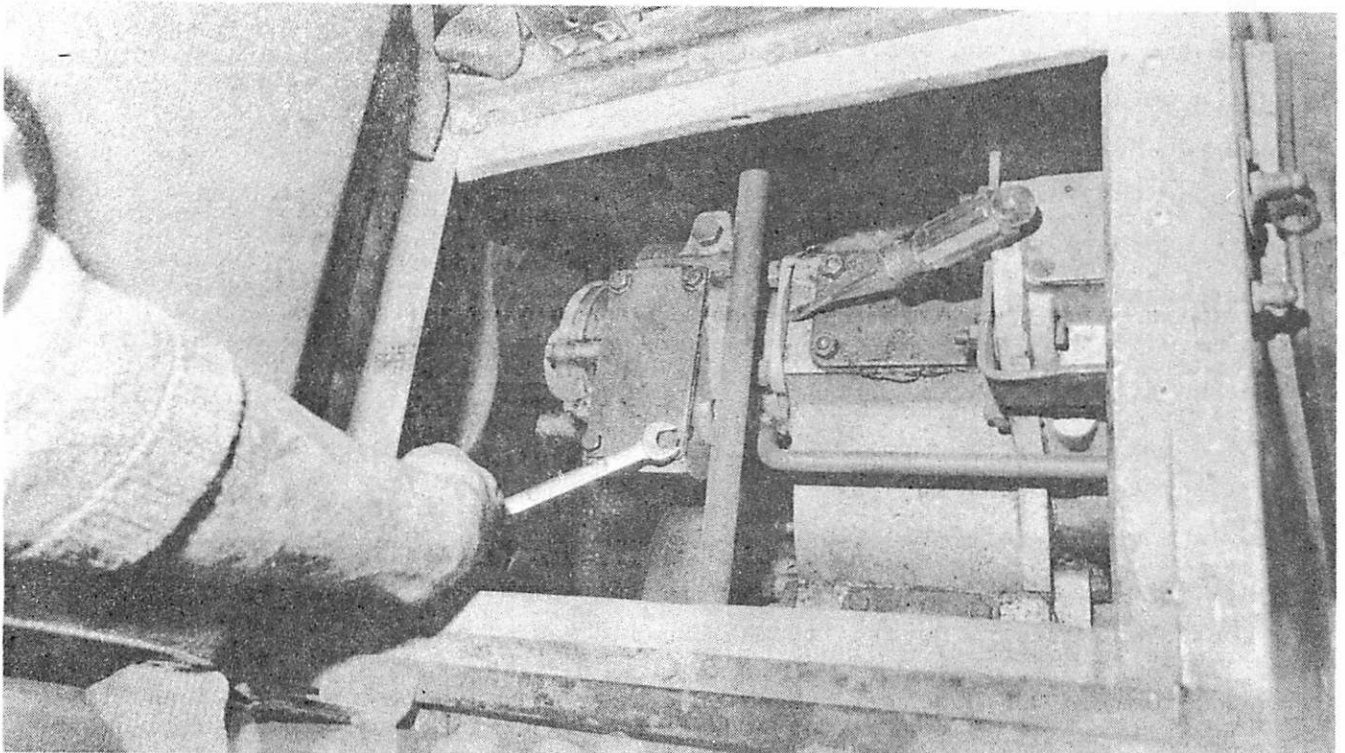
Connect the linkage rod to the selector shaft and adjust the shift lever. Don't forget to fill the unit with EP-90 and replace that oil in 500 miles.

The overdrive was installed with a garage and tools borrowed from Cliff Cochrane of Atlantic British Parts in Waterloo, Quebec where the unit was purchased for \$750.

The 200-mile trip from Ottawa was driven at 50 MPH with an engine speed of 3,000 RPM. On the way home, the 109, four-banger turned 2,400 RPM for the same speed.

As the overdrive can be used in any gear, high or low range, it effectively adds another eight forward and two reverse speed ranges. With it engaged in fourth gear high, for example, road speed is 21.1 MPH per 1,000 RPM compared to 16.5 MPH at the same RPM without the overdrive.

And to the fuel conscious, the fewer times your engine goes round, the less fuel you're using.



The long arm of Mark Pankhurst tightens the final bolt of the new overdrive after it has been fastened to the rear of the transfer box of his 109 L-R.

AXLE SWITCH

If you're the proud owner of a running, pre-series II, you're probably a purist, the kind who wants to keep his Land Rover as original as the day it trundled off the Solihull assembly line.

That's nice, but it also means you'll have to deal with the drawbacks of Leyland's "we've-almost-got-it-right" technology of Land Rover's formative years.

Well, here's one headache you can dump and still keep your membership in the purists club.

Most Series I Land Rovers came stock with semi-floating rear axles. They're the ones with the driving hub and wheel studs integral with the axle proper and are easily identified by the lack of axle stub sticking out through the center of the hub.

The semi-floating types are great---until they break. When that happens it's park the vehicle and order up replacements--which come in a month or two and cost a gold bar.

And you MUST park it.

Because the semi-floater is one piece with the wheel studs, you can't isolate the broken axle from the rear wheel and keep on chugging.

That means, if it snaps on safari, it's abandon it in the flowers or drive home with the broken axle bits bashing around in the axle casing making love to the differential.

Not a nice thought.

Now for the good news.

Leyland made a fully-floating axle for the Series I that was an option. It didn't appear on many vehicles but it is available from several LR parts order houses and Jaguar, Rover, Triumph Canada, Inc.

And it costs a fraction of the fully-floating number.

Better still, if it breaks, it can be changed in a matter of minutes.

If you don't happen to have a spare axle handy, simply remove the broken axle and pieces (sure it's easier said than done) and motor on your way using front wheel drive.

Like the Series II and III, the wheel stays on.

The trick to making the conversion is used parts. You'll have to buy the axles--which list for a little over \$100 a pair--but the hubs, wheel bearings, nuts and bolts can be garnered from a junked Series II or III.

You'll have to spend another \$10 for a pair of hub oil seals but, compared to the \$200-plus for each side of the semi-floating system, you're on the way to saving a lot of money.

If you have to buy all the bits you'll need for the conversion, it'll cost about the same as replacing the old type axles--but just wait until you break another one in the boonies.

Compare it to the worry, trouble, time and sweat of having to leave the old dear in the high grass, trudge out, order then wait for the replacement axle, refit the bearing and brake backing plate and trudge back in.

Then you get to do all the work on your back in the mud. And you can just bet your transfer case you'll forget some special tool you can't do without.

Compare that scene to a quick half-hour, removing a fully-floating shaft before you're back on the road.

Total exchange time, when all parts are at your side, is about two hours. You'll have to bleed the brakes if you disconnected the lines during the operation.

One more thing: Don't try to sneak by using Series II rear axles. Leyland changed the track width of the vehicle when production on Series II began and those axles are about two inches too long.

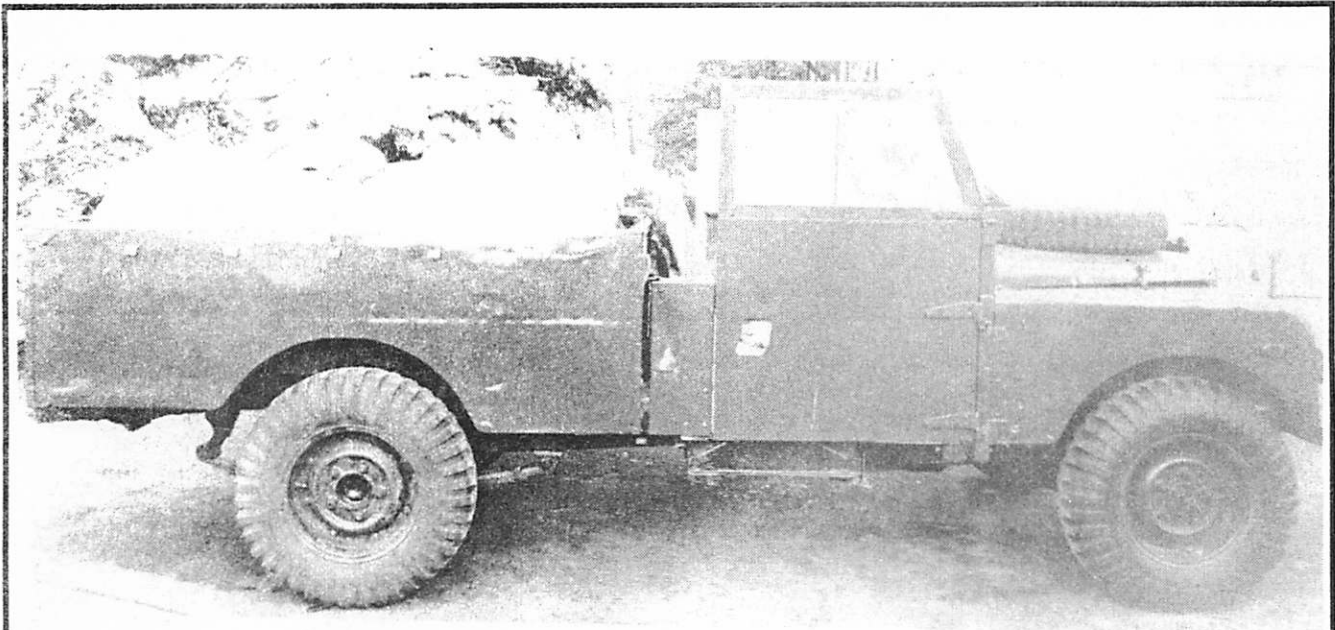
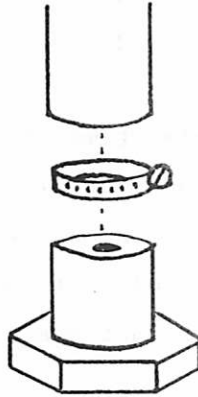
So stick to Series I shafts---and it'll still be pure.



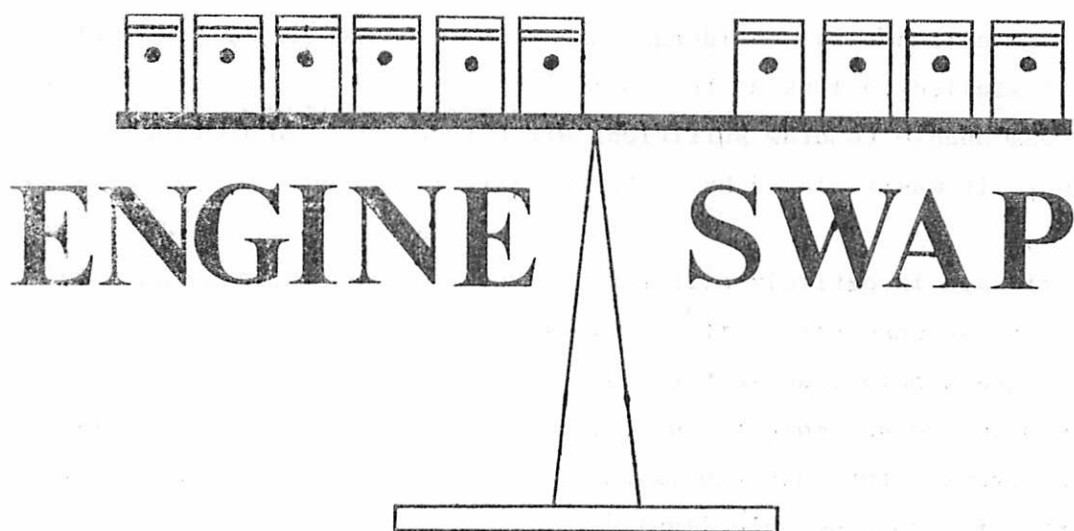
Older, semi-floating axle is at left with integral brake and hub. Newer type is in center with longer, Series II-up type in right. Above photo shows semi-float hub.

TB-TIPS

Axle breathers always clogged? Drill it out vertically, clamp a length of hose over it and install a plastic breather valve from a light GMC truck axle in the other end.



Take a close look at this vehicle. Next time you see it, you won't know it. The vintage series 1-107 "pickup" was rescued from certain death--wearing a chic blue-black-orange-white paint job--at the hands of a Quebec hunting guide last spring. The 1957-model will be "reincarnated" over the winter from the wheels up. Transfer Box will keep you posted with pictures and a story in the next issue.



BY MARK PANKHURST

Two less is better? That's the hunch played by two Ottawa ALROC members in exchanging the Land Rover six cylinder engine for an LR four banger.

Mark Pankhurst and Andrew Finlayson tackled the switch after becoming disenchanted with the 2.6-litre's fuel economy and dependability. The engine had been re-built but a history of problems led to the decision to replace it with a 2 $\frac{1}{4}$ -litre.

First concern was how the rebuilt four cylinder would fit into the engine compartment of the 109-inch regular. The six cylinder model has the transmission moved back 3 $\frac{1}{2}$ inches over the four cylinder to make room for the longer engine.

Using a scrapped, stripped four cylinder block lowered into place in the vehicle as a pattern, it was determined that, with some modification, it would indeed fit.

The four cylinder bell housing was installed on the six cylinder transmission along with the mounts from the clutch slave cylinder from the smaller engine.

Motor mounts were cut from the scrapped frame of a four, carefully measured, and welded into place in the six cylinder's engine compartment.

The rebuilt engine was eased into place on the mounts, the bell housing bolted up after much shoving, prying and jimmying of both engine and transmission to get them to line up properly.

That's when it was noticed that the manifold, which had not been attached to the block being used as a fitting pattern, was resting against the steering box. One of the motor mounts was shimmed up to reposition the engine away from the box and the whole thing bolted down.

An oil bath air cleaner was installed to replace the dry filter type used on the six.

Because the four cylinder is considerably shorter than the six, longer radiator hoses had to be installed to link up the cooling system. The distance also meant the regular fan was unable to draw sufficient air through the rad to properly cool things down so it was replaced by a thermostatically controlled electric fan.

The throttle linkage is entirely different between the two engines and some experimenting had to be done before it was working properly. Turning the carburettor 180 degrees helped solve the problem.

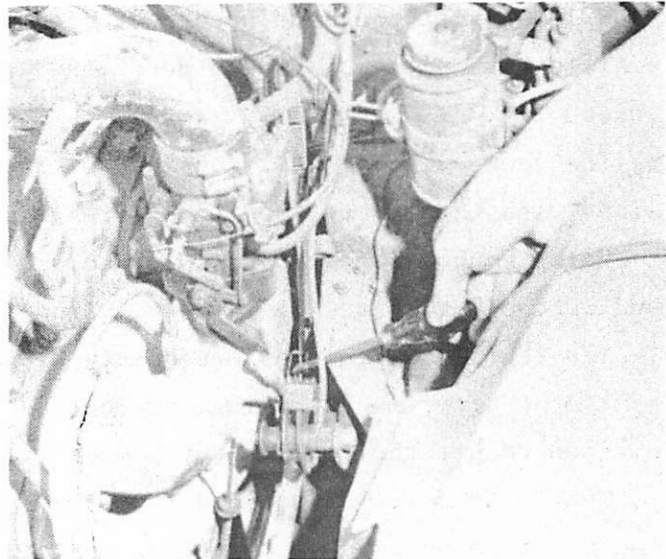
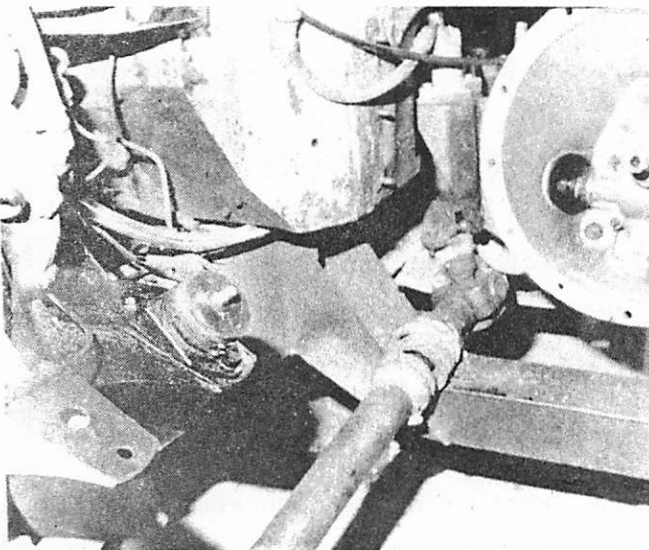
Because the new engine sat more to the rear than usual, the valve cover is too close to the firewall for easy removal and will require some patience. It comes off, but requires considerable jiggling.

The intake and exhaust manifold should be installed with bolts instead of studs and nuts. That will make it easier to remove if there's a problem later.

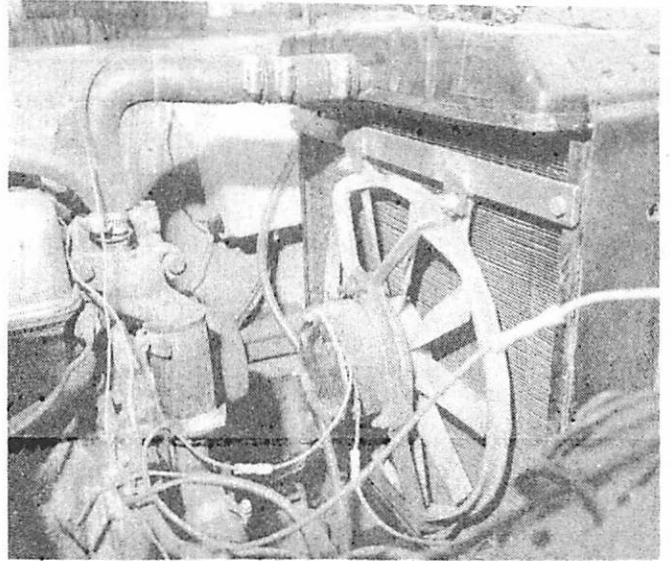
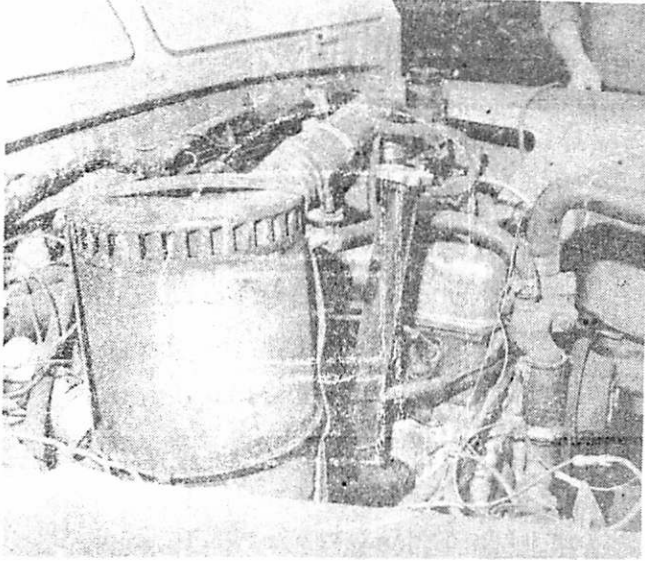
The exhaust system is a custom-made job. The front pipe is a standard Land Rover four-cylinder issue with the rear flange cut off. A commercial muffler shop formed the exhaust-muffler-tailpipe section.

The entire Land Rover system could be used if about $3\frac{1}{2}$ inches were removed from its length to compensate for moving the shorter engine rearward as mentioned earlier.

The vehicle has been motoring around for about two months now without problems. Fuel economy is reported to be better than 20 miles per gallon compared to 15 with the larger engine.



New motor mounts had to be fabricated and welded into the engine compartment to fit the shorter engine. Exhaust manifold on four-banger was a close fit.



Oil bath air cleaner replaces the six's paper element type but the shorter engine meant the standard fan wouldn't draw properly. Electric fan does job.

LAND ROVER REAR CROSSMEMBERS

- made to original specifications
- 3/16" thick metal used throughout
- all welds are finished by a grinder

Selling Price: \$120 (P.T.O. hole extra charge)

STAINLESS STEEL EXHAUST MANIFOLD STUDS

- fits all 2½ litre engines
- eliminates problems with seizing manifold studs

Selling Price: \$6 / set of 3

Reply: Paul Socholotiu, 451 Adelaide Street West, Toronto, Ontario,
M5V 1T1. 1-416-368-2987

WANT ADS AND CLASSIFIED

- WANTED: Land-Rover overdrive unit - preferably used. Call Greg Burke,
5-707 University Drive, Saskatoon, Sask.
- WANTED: Used Land-Rover, Reply to W.J. Cormier, 1025 Miramchi Ave.,
East Bathurst, N.B. 506-546-2526. We suggest that Mr. Cormier turn to
page 6 of this issue where he will find an advertisement for the Marytime
Land-Rover Center. Give Brian a call. He usually has a good selection
of Land-Rovers for sale.
- WANTED: Literature, Brochures, books etc., dealing with I Land-Rovers. If any
of our readers have a copy of "Workhorse of the World" which they would
like to sell, contact: Sharon E. Cregier, University of P.E.I.
Charlottetown, Prince Edwards Island, C1A 4P3
- FOR SALE: two bench-type rear seats for 88" or 109 \$25. One Smith's electric
oil pressure guage \$10. One fuel guage to fit large guage in dash \$5.
- WANTED: one pair of heated, tinted, laminated windscreen for a 1973 Series 3-88"
Replies to: Martin Jensen, P.O. Box 545, Crystal Bay, Nev.
- WANTED: new or used, a set of 8" wide 15" wheels to suit Land-Rover.
Contact R. McKil, 2625 Oak St., Vancouver, B.C., V6H 2K2
Mr. McKil, you might try contacting Michael Green at 6398 Dougerty Rd.,
California.
- WANTED: any information concerning performance, mileage and accessories.
Reply to James Davidson, 515 East 87th St., New York, New York,
10028, U.S.A.
- WANTED: Kodiak heater for Land-Rover. Contact Michael Leverland, 1270-D
Storey Ave., Presidio, San Francisco California, 44129
- WANTED: Parts and information pertaining to 1958 Series I 109 truck R.H.D.
Willing to buy, sell or trade with other Land-Rover owners. Reply to
Chris Haines, Peck Road, Deansboro, New York, 13328, U.S.A.

FOR SALE: 1969 109" station wagon with chev 6 cylinder - not running.

1964 109" pick-up, 2 $\frac{1}{4}$ gas - runs.

1959 88" 2 $\frac{1}{4}$ gas - not running.

Spares: gearbox, starters, generators, bevelled bonnets with tire mount, front fenders, many doors, windscreen assemblies, used wheel cylinders with new seal kits, 2 $\frac{1}{4}$ liter gas engine, 2 axles, 1 differential, bench seats, seat belt assemblies, leaf springs, bumpers, 7.50-16 tires, 16 inch rims, gas tanks, steering box assemblies, 1 set new brake shoes, radiators, tropical roof, 1 snow plough complete, 1 new speedo cable, tow bar assembly, radiator apron, 1 pair of 7.50-16 tire chains. For further info. call Ottawa 613-232-3627.

FOR SALE: 1962 Land Rover 109" station wagon, freewheeling hubs, tropical roof, 10 seater, good condition (minor rust on rear cross member).

1961 Land Rover 88", tropical roof, mechanically good, engine rebuilt 3000 miles ago, body rough.

Koening mechanical winch, 8000 lbs. rating, 100' x 3/8" steel cable.

Shop manuals, parts catalogues, and many spare parts.

Asking: \$3,000 or best offer.

Reply: Jean Forest, 14020 Leblanc, St. Gregoire, Ville de Becancour, P.Q.
1-819-233-2689.

FOR SALE: 1967 Land Rover 88", Warn hubs, 35,000 miles, excellent condition, many spare parts. \$3,500.

1967 Land Rover 109" safari style pick-up (only one in North America), Warn hubs, 40,000 miles, all original equipment except for carb. and side windows. \$3,700.

Willing to deliver these vehicles anywhere in North America.

Reply: Jerry Hardin, 3237 Cleveland Heights, Lakeland, Florida, 33803.
1-813-646-0496.

FOR SALE: 1974 Series III 88" Land Rover. 27,000 miles, 2½ litre gas, Rochester carb, advance type distributor, rebuilt alternator, L 78 x 15" radial tires, quartz halogen headlights, new exhaust system, locking hubs, gaiter kit, 40 channel CB, intermittent wipers, rear bench seats, one set of 16 inch rims, many extra spare parts. The vehicle is ready for winter. Complete service record and receipts are available. Asking price: \$7,500.

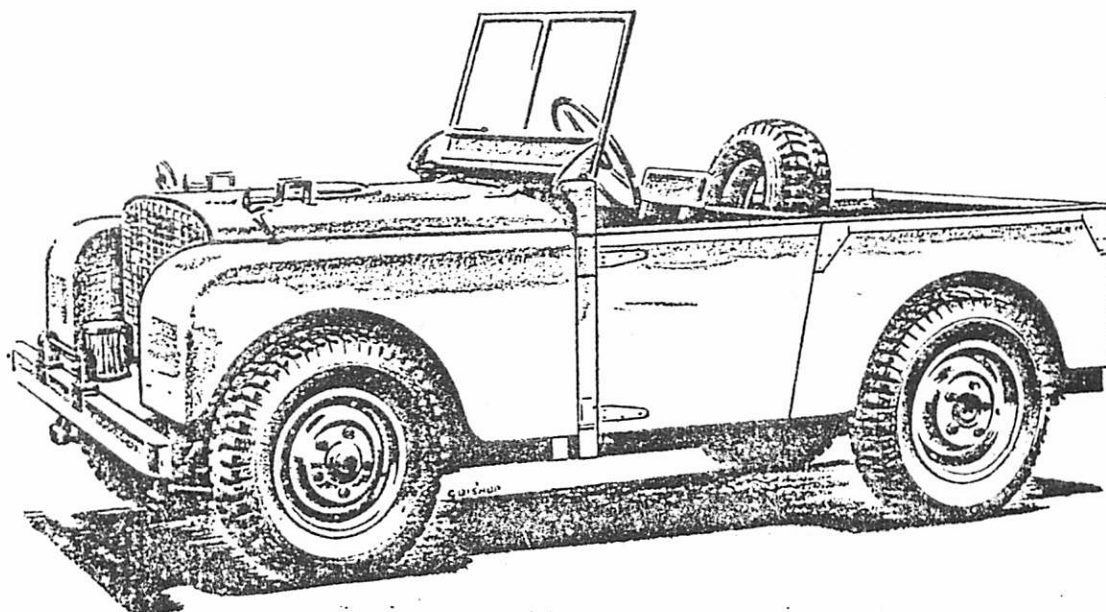
Reply: Fred Dawber
 321 Place Ladouceur
 Ile Bizard, Quebec
 H9C 1T3
 1-514-626-0521



FOR SALE: 1966 Land-Rover 109 Station Wagon, tropical roof, mechanical winch, many extra parts, excellent engine, with recent valve job and clutch, 80,000 miles. Best offers. Contact John Matthews, 23 Sherry Lane, Ottawa, Ontario, K2G 3L4. 613-226-8781

For our readers who are looking for something different. Mr. Bally in Rio De Janeiro is looking for members for his newly founded club. Interested persons should contact Jorge A. Bally, Rua General Belegarde, 151-CEP, 20710.

April 1948.

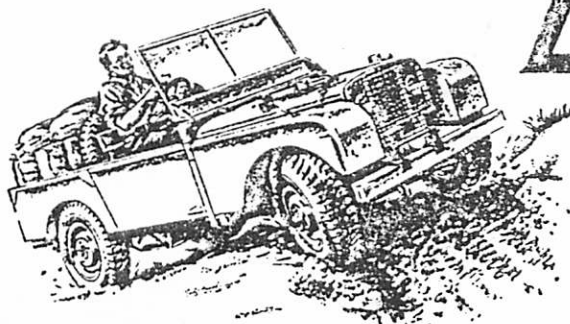


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The versatility of the Land-Rover is really amazing. A four-wheel drive tractor, a delivery wagon, a mobile power plant and a fast economical vehicle on the road.— the Land-Rover is all these things rolled into one. With its power take-off, that can be coupled up to any equipment needing pulley drive, it makes a direct appeal to farmers, field engineers, industrialists, in fact anyone who needs a fast, powerful, adaptable, utility vehicle. The Land-Rover is built for hard work and hard wear at low running costs and (note for the exporter) is supplied with right or left-hand drive as required. Ask your local dealer for particulars.

Price of vehicle only without additional equipment — £450.



LAND- ROVER

Britain's most
versatile vehicle

Made by The Rover Company Limited, Solihull, Birmingham.