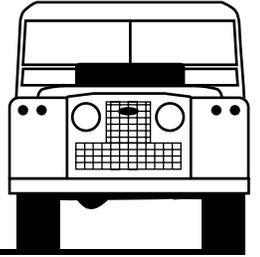


# OTTAWA VALLEY LAND ROVERS



November 15, 2013

[www.ovlr.ca](http://www.ovlr.ca)

Volume XXX, Number 11



*Sue in Bruce Ricker's SIIA 109" PU "Sedgewick"*

P.O. Box 478  
Carp, Ontario, Canada K0A 1L0

## General Information

Ottawa Valley Land Rovers is the oldest and largest Land Rover club in Canada and the second oldest in North America. Membership is open to all Land Rover enthusiasts. Executive meetings are held on the first Monday of every month. Social meetings are held on the third Monday of every month, generally at the Prescott Hotel on Preston Street.

OVL R offers a monthly newsletter and a variety of activities throughout the year, from mechanical seminars and off-road rallies to social events and family oriented outings. Members receive discounts on parts from a number of North American suppliers. Off-road activities come in several categories. The light version, which is usually entertainment during a rally or at one of our family summer events, consists of a little "mud bogging" or tours along country lanes. The heavy stuff, which is usually several days across public lands navigating by compass, topographical maps and aerial photos, involves bridge building, river barging, and driving conditions ranging from cedar swamp to rocky hill winching.

Membership: Canadians joining throughout the year pay \$50 CDN per year, Americans and others pay \$50 US per year (discounts available if you receive the newsletter by email). Membership is valid for one year.

## Radio Frequencies

VHF 146.520  
CB channel 1  
FRS channel 1 sub 5  
SW 14.160 MHz  
OVL R/Land Rover HAM:  
14.160 MHz @ 01:00GMT Tuesdays

## Online

<http://www.ovlr.ca>

<http://www.facebook.com/OttawaValleyLandRovers>

Land Rover FAQ: <http://www.lrfaq.org>

## OVL R Forum

<http://www.ovlr.ca/phpBB3/index.php>

## Newsletter Archive

<http://www.ovlr.ca/nl/OVLR.nl.freq.html>

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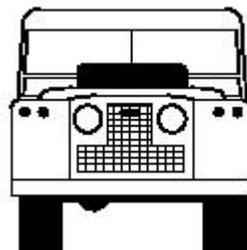
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## OVL R Newsletter

ISSN 1203-8237

The OVL R newsletter is published twelve times per year for club members. The editor welcomes submissions of text and photographs for publication.

**Submissions:** Articles and photographs may be submitted to the Editors, Terry King ([terrycking@rogers.com](mailto:terrycking@rogers.com)) or Dixon Kenner ([dkenner@gmail.com](mailto:dkenner@gmail.com)) or via post to the club address. Please include photographer's name, captions, identifications of people and vehicles, and a return address if you want the photos back. For the best reproduction of photos, use the highest resolution possible. Do not include photos in the text files.

**Advertising Information:** \$35 CDN for 1/4 page ad. Must run for minimum of three months. Free ad space is provided to members.

**Deadlines:** Submissions to the OVL R Newsletter must be received by the 5th of every month for inclusion in the next month's newsletter. All items submitted for publication should be legible and attributable. Names may be withheld at the request of the writer. This is your newsletter. If you wish to write anything, we welcome your input of any kind.

**Editorial Policy:** The Editor of the OVL R newsletter reserves the right to edit any submitted material for space and content considerations. Articles, statements and opinions appearing in the OVL R newsletter do not necessarily reflect the position of the officers, board of director, members of the OVL R or its sponsors or advertisers. Where specific data regarding operation, safety, repairs or legislation are concerned, you are advised to obtain an independent verification. The Club, officers and contributors can accept no responsibilities for the result of errors or omissions given in this newsletter or by any other means.

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### Newsletter Editor:

Terry King  
This issue: Dixon Kenner

### Newsletter Production Editor

This issue: Benjamin Smith (γδβγ)

### Production Assistance:

Bruce Ricker

*Some news sources are claiming that after 2015 the Freelander (aka LR2) will be rebadged as the "Defender". Does this signal that Land Rover has "jumped the shark"? -Ben Smith*

Greetings,

Welcome to the penultimate issue of the Ben and Dixon OVLN newsletter. The past 18 months have been fun gathering content and showing a little bit different newsletter, but the time has come to pass the baton. Spousal annoyance at the amount of time that the Newsletter can consume is reaching all-time highs in both the Kenner and Smith households. Who was it that thought that a monthly Newsletter was a good idea?

This issue is the bulkhead issue. Dixon summarizes bulkheads and your options for replacing them. Ike Goss of Pangolin 4x4 submits an article and photos on the details of repairing a bulkhead. And Pegasus Parts in the UK submits the differences between the various Series II and IIA bulkheads. They include 8 types for II/IIA, plus the MoD one and the 6 cylinder NADA makes 10 types. Details on Series I and III bulkheads are still being researched.

The bulkhead content took up so much space that other articles from Dixon on his 80", Ben on his trials with his Land-Rover fleet, the Guy Fawkes Rally in NY State. and Al Richer are being pushed back to the December issue. As are news snippets from various club members and non-club, Land-Rover related items.

We have an article from TerriAnn Wakeman out in Arizona discussing the features that one should consider when determining which aftermarket engine to use. There is a small table showing the different lug nut sizes. Al Richer writes about installing pedal towers in a Series and repurposing lighting.

There are photos and a brief write-ups from both Andrew Jones and Terry King on the recent Cedar Hill Rally. As to how and event held on December 1 is reported on an issued dated November 15th is, well, .... hey, look, a shiney object!

It time of year again to submit your stories, er... "evidence", for the annual club awards. Got any good Lugnut or Towball stories? If you do, Bruce Ricker wants to know. Better fess up now (or throw another Land-Rover owner under the bus) before Bruce has to start making up stories. "Do you remember the time when \_\_\_\_\_ did \_\_\_\_\_ with a \_\_\_\_\_?"

It is also the time of year to start submitting nominations for elected officers. As usual the same people stand for election year after year. Sometimes because they want to. Sometimes because no one else will run and they get grandfathered back into the job. The club never has enough help. If you want to help out running for office is a great start. For those who don't want the rigour of an elected office, look to the left onto page 2 and you will see that there are also a number of appointed offices. If you are interested in one of those jobs talk to President Andrew Jones. Once all nominations are submitted, the vote will be at the

Annual General Meeting. If there is only one nominee then they will be acclaimed the victor. The AGM itself is usually held on the coldest night of winter. This year it is scheduled mid February.

Where do you read the newsletter? Online? Print them out and read them? PDF versions are easy to make and send out, but are easily forgotten once read. A paper version sticks around on the coffee table or in the bathroom for weeks. In addition to the archives, Ben has printed copies in a filing cabinet for easy reference. We do hope that you save these Newsletters and that at least the technical content is useful to you for reference at later dates.

Carlane Riston sent in a photo showing her 3.5 year old daughter, Willow, sitting on the potty reading a recent OVLN newsletter. Due to various concerns about showing undressed young ones in the bathroom, we are not publishing the photo and leaving it to your imagination.

We also mention our usual plea that this Newsletter accepts all relevant content. If you have something Land-Rover related that you want to report or write about, send it in. Even two or three sentences about what you are up to can be useful to the Newsletter. If you don't like what we write, send in your own article(s). Actual submissions take priority over "Oh my God how do you will fill this issue??"

It is never too early to start planning for the Birthday Party. Get your projects started now as summer will be here before you know it.

Have you ever wanted to edit a world renowned Newsletter?

Have you ever wanted to share your prose with the club?

Have you ever wanted to step up and help out the club?

Now is your chance.

There is only one more issue until the Ben/Dixon team steps down. The club needs a new editor.

Contact Terry King to volunteer.

# President's Message

## Musing From the Throne Room, Part 20

by Andrew Jones

Hi folks

Welcome to the November newsletter.

The month of November, has been an exciting one in Jonesworld, centered mainly on the prospect of the 101 being brought back to life by Andrew F: There was also the CHC to look forward to and prepare for, and fact that my personal odometer rolled over to 50, on the 23rd.

Andrew set about fixing the 101's various electrical maladies in his usual very thorough way, and in a remarkably short period of time had everything working as it should, including removal of a number of inelegant bodes that had been "installed" before it left England. AF also found a few mechanical issues that needed sorting to - such as both engine mounts having broken at some point in the past. I called in to see how things were going a few times, and every time I arrived there was another vehicle in the "customer parking" area outside of Andrew's garage - most recently though someone seems to have abandoned a dilapidated white shed in the yard that looked / smelled like it may have been a refuge for homeless people... I was told that it's a Dormobile, and it belongs to Dixon.

And so with the CHC looming, the work was done and I got Frasers Towing bring the 101 home, but not before Andrew and I had spent more time than was strictly necessary enjoying the rich, NASCAR-esque engine note - thank you Rimmer Brothers stainless sports exhaust....



And so to the CHC - have to admit it came as a bit of a shock to me for us to get approximately 20 cm of snow over 26th / 27th November, which changed the nature of the event entirely. But we kept calm and carried on, and on the day there were eight



of us: Bruce and Sue, Dave P, Kevin and Terry, Peter G, Andrew F, and me. The weather was a balmy zero degrees C with light snow throughout the day. As usual our resident chefs Andrew and Peter whipped up a magnificent breakfast, the famous Cedar Hill Classic Bacon and Egg Butty - new for this year, the eggs were scrambled and in addition to the secret blend of herbs and spices, featured "extreme carbon" which turned them a peculiar shade of grey....

Suitably refreshed, we boarded our three intrepid vehicles - Sedgewick, Stan and my (as yet un-named) 101, for a fantastic few hours on the trails. All I can say to those who dropped out at the first sign of snow is - you missed a great day out. See later in the NL.



There was a lot of discussion recently about what to do for the Christmas Party this year, and we have

settled on a traditional "pot-luck" to be hosted by Bruce and Sue on 28th December - what a great idea for an event, and one that I'm sure all of us who participate will thoroughly enjoy.

Hope to see you there,

Cheers



# Cedar Hill Classic -- Early Report

by Terry King



drive at the end of their driveways, but found the footing a little slick, so engaged both diffs.

After a leisurely repast, some of us packed up the trailer, while the majority went to check on the health of AJ's FC 101. As it had been resting in a heated garage, and recently been the recipient of much attention and transplants, it fired up and joined the entourage. Andrew had mentioned it wasn't 'finished' and had a few 'issues' but in fact it was running under its own steam (just a phrase) and ready to go.

After a little fiddling, we headed out across the frozen tundra to find the trailhead that would lead to the hydro line and beyond, with AJ leading. The major complaint with the 101 was a loss of power when climbing, and sure enough, on the first hill Andrew had to shunt a few times to get up and around a slick side-slip to the ditch.

After that challenge, we ventured on deeper into the woods, with the occasional stop to admire the view. At this point I took a look at the accoutrements of the aforementioned 101 and include the lower left photo for your enlightenment. The heat to the cab is provided by the spinning fanbelts in the centre. Note also, no need for gauges when you can see all of the main bits with a quick glance downward. Added bonus, you can top up the oil without pulling over. Brilliant.

In the upper left photo, you get the idea of the beauty of the trails at this time of year. Truly splendid. Usually we are up here in October, but with the recent snowfall, everything is quiet and muted.

Kevin and I had noticed that every now and then the 101 stopped, presumably to enjoy the view, but on one occasion, Dave Pell was seen reaching into a kitbag for something. We guessed it was maybe a micrometer or a haze-reducer but couldn't quite make it out from our vantage point. A few minutes later, the evidence was in! Our local master Land-Rover mechanic was just adjusting the carburetor with the quintessential British tool...THE HAMMER...(see photographic evidence below).

On a cool, damp (but pretty pleasant) Sunday morning, the hard core breakfast sandwich club got together at Andrew Jones' place for the annual Cedar Hill Classic. This year we waited until the first major snowfall had covered the trails in order to test the winter attributes of the vehicles and the people.

Andrew Finlayson and Peter Gaby had gotten up early, fed their livestock, reloaded their stoves, and headed out before sunup to get to AJ's in time to water the horses and unfurl the OVL R canopy and trailer.

By the time Kevin Newell and I arrived, the coffee was purc'd, and the back bacon was cooking. AJ brought the eggs back from the coop and after the proper candling, the chefs started breaking some shells. Once Dominique Jones had delivered the fresh buns from her kitchen we all settled into a hearty breakfast, worthy of any hi-carb, hi-cal truck stop.

Between bites Bruce Ricker reported Clifford (Range Rover) had chosen the alternative to starting in the morning, despite the insulating snow coverage and therefore he and Sue arrived in the SIIA 109 "Sedgewick" (but still way ahead of us).

Anecdotally, both Bruce and Kevin had tried 2 wheel



After a few gentle taps we were on our way again. There must have been a blocked jet or something because every so often the 'adjustment' was needed again...but while it faltered, it never failed. We trundled on for a couple of hours and magically returned to our starting point. Oh, one last thing to report, the last 400 yards of the trip was an open field, so we all 'burnt the carbon off our plugs' as we gently eased into the back lot at Andrew's. Not sure if Don Garlits could have gotten there first

Good times, good friends, thanks to the Joneses for having us.



## 2013 Cedar Hill Classic -- or CHC4

by Andrew Jones

I was really disappointed when the weather gods intervened and prevented us from running the CHC in September, and then in proposing an alternative date, in November, I focused on my availability and not hunting season, (idiot...) so had to move the date again: Although there is a faction in the club that would have liked to have seen Mr. [Dixon] Kenner enjoying the trails from a lawn chair on someone's roof-rack, wearing a pair of antlers...  
*(that might put a wee bit of delay into the next newsletter. -ed)*

So we picked Sunday 1st December - again I thought based on recent years, it would likely be cold, but snow-free. Oh Well. But I was determined that we would run the event as planned. And I was pleased with the potential numbers - at one point we had 16 confirmed attendees with 6 LR's ready for the trails. After 20cm of snow, however, this dropped to eight attendees and three LR's: Thank heavens for the stalwarts in OVL West: Bruce Ricker, Sue, Dave Pell, Andrew Finlayson, Peter Gaby, Terry King and Kevin Newell -- thank you



so very much for braving the slippery roads taking part in what - for me - was an absolute blast.

The event followed the usual format and by 09:30, we were all settled into the Muscoka chairs in the OVL Pavilion, enjoying CHC4 butties and hot coffee. After breakfast we rolled out the 101, and our resident technical expert made some fine tuning adjustments before declaring it fit to fly. It being the first event for the 101, we left the engine cover off, to allow rapid intervention - to be needed quite frequently as the day unfolded.

I love the 101 but have to wonder who the vehicle was designed to be driven by - dwarves and children come to mind - and for the full figured, middle aged, North American resident male,

clad in one's Winter apparel, space was at a premium - so we left the doors at home - to at least provide a little lateral knee / leg room. So with Bruce and Sue in Sedgewick, Kevin and Terry in Stan, and Andrew,





Dave, Peter and I in the 101 - off we went across our back field, using the neighbour's laneway to access the logging road (Smiths Rd) to head out to the hydro line.

It was going to happen at some point - so when it did, it came as

no surprise, and better that it happened early in the day....and without having got onto the logging road, I put the 101 in the ditch... there was much tittering and sniggering from the back of the bus - the carbon monoxide hadn't taken effect yet. I was amazed how all of a sudden - everyone is an expert on how to get a truck out of the ditch - in the end - no chain required - I managed to drive it out. Boy, are those bar-grip tyres ever good.....(not)

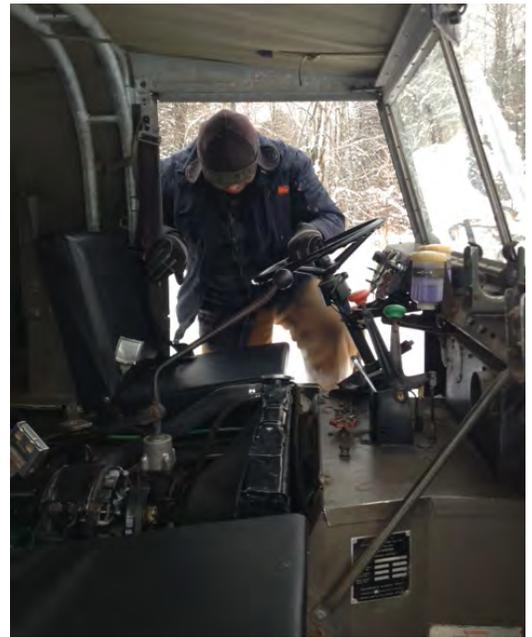
The weather was great, with light snow, no wind, and some fabulous scenery: A good day to be outdoors. As we thundered down the snow covered trails, we saw recent evidence of a lone ATV rider, but encountered no-one else, and there was much giggling as we obliterated some cross country ski trails, all accompanied by the (loud) music of a healthy V8.....

....It became apparent that something was wrong - there would be a sudden loss of power, accompanied by a strange smell - we thought that was Dave, but no, and then the power would return, and all would be well for a while.

Much discussion ensued - binding brakes, knackered fuel pump, blocked fuel filter - finally we reached consensus - thanks Andrew - the right hand carburetor float valve was sticking. Fortunately we had brought a hammer with us, and for the rest of the run, whenever it lost power, gentle but persistent tapping of the carburetor body freed the float releasing fuel back into the engine and 4 cylinders, became a magnificent 8.



Andrew F took a turn at the wheel, and I assumed the role of riding mechanic in conditions not too unlike the Edwardian Grand Prix racers enjoyed - mostly open air, no seat belts, lots of whirling machinery that could decapitate or burn you, close at hand while Le Pilote makes best pace over rough trails with very little grip - it was HUGE FUN...



We stopped a few times for a quick chat and for the geeks to try and lock onto a satellite or two to find out where we were....and to check in on the team riding in the back of the 101 for signs of asphyxiation (exhaust fumes did come curling in over the tailgate a bit) and blunt trauma injury - no seat belts in the back....and it is a bit bouncy

All too soon though we looped back and made our way back to the Pavilion, finishing with a race across the hayfield - won by Stan, Sedgewick came second, and the 4 cylinder 101 lumbered in 3rd....

By now, the light was beginning to fade, and despite the BIG grins, several of the team were showing symptoms of severe barley deficiency - so we packed up the Pavilion, and headed indoors, where Dominique had prepared one of her famous Chili's for a magnificent early supper, and pretty soon we were warmed through and well "hydrated".

All in all - another great day in the back woods, with some great friends.

Thank You.

Let's do it again soon....



# Tis the Season for OVL R Awards Nominations

As you may be aware, OVL R has a number of traditional and non-traditional awards that are given out every year. Decided upon by a secret cabal of erudite members, the annual Christmas Party is your opportunity to rat out a trusted friend, as we all know that he, or she, has already ratted you out. No, mutual trust doesn't work. Remember the prisoner's dilemma. Co-operating and revealing all is the optimal course of action, just as Clifford and Sedgewich have conspired to rat out our esteemed past president once upon a time. In fact, a reading of past recipients reads like a who's who of respected club members. Given this arsenal of awards what is available:

**The Lugnut:** Ahhh, our oldest, and most famous award. A feared trophy made of the finest butternut. A small award with a famed list of admirers. The recipient's list reads like a who's who of Land Rover ownership. It recognizes spectacular, and often fudged, stories of prowess in anything Land Rover. With an uncanny ability to seek out the guilty, and if it can't find them locally, go on walkabout throughout the United States and Europe looking for potential vic^H^H^H candidates while it spreads its Nigel-like woe internationally. Such activities on the part of this award are generally necessary as its potential recipients are usually scrambling over each other to avoid its baleful glance.



Because of the prestige associated with this award, members are noticeably shy about coming forward and claiming the award, preferring to defer the honour to someone worthier. On the other hand, many are afraid to nominate someone else in fear that they might get ratted out themselves. Well, don't fear. We have several nominations thus far, so the chances are that your good buddy over there has already turned you in. So, this is your chance! Turn him in before your name appears on this lovely work of art!

An indicator of the type of recipient we are looking for. In a previous year, this prestigious award was bestowed upon Dave Lowe (as turned in by Tom Tollefson (note betrayal, a good thing)) for a multitude of sins, that range from rear ramming innocent 88's, to crossaxling the mighty 101 in the middle of a city park, to undertaking more engine rebuilds than even Dixon manages, as well as other assorted crimes to numerous to list.

**The Towball:** A simple award based upon who has towed Land Rovers the most, and the furthest in the past year. Extra points awarded if the vehicle did not need towing. Bestowed upon the person who tows perfectly functional Land Rovers around for fun (Quintin, Christian, Brett towing Dave (pops, that would be dysfunctional in



this case), or for all the wrong reasons (Zippy Tow and their new airmobile service), forgotten where their Land Rover is (Peter Gaby) or for other various reasons.

**The Silver Swivel Ball:** An award to the club member who has done the most on a volunteer basis to help the club. Bestowed upon the unrecognized, past recipients have included Charlie Haigh and Spencer Norcross for their behind the scenes support of the clubs activities.



**Gasket Under Glass:**

A perennial favourite, and one of the most attractive awards in the club's collection. In Ted Rose's words "the most spectacular head gasket failure that I have ever seen", Gasket Under Glass is a lovely 2.251



copper head gasket in an antique gold leaf frame upon the finest felt background. Using the adage "we can't believe it ran" the award honours mechanical wonderment. The recipient's list reads like those who you would never believe would win it (see above on ratting out your best buddy. He already has turned you in!)

**The Golden Wench:** bestowed upon the fairest member of the long suffering female persuasion who must put up with the fascinating antics of her spouse. Generally nominated by husbands trying to deflect attention, it also serves as encouragement for wives to turn in their naughty husbands. Last year's recipient, Dominique Jones so inspired her husband that he became President of OVL R. The previous year's recipient, Deborah Sevigny-Kenner's award inspired her husband to take on the newsletter again as a temporary burden and work on his Dormobile.

**The Grey Poupon:** An award for the most salubrious vehicle at an off-road event.

Then, there are the random awards created on an annual basis to honour individual achievement. These are carefully crafted by an old-world antique restoration craftsman from the finest mangled parts, generally your own that have made their way into the hands of the secret cabal.

Send nominations to our past-President and conveyor of awards: Bruce Ricker



## Elections, Elections, Elections

'Tis the time again as the weather grows colder that the writ of our valued Executive begins to come to an end after a successful year of activities. When OVLRL was established as a chapter of ALROC, it was established under various guidelines. Some of the fundamental ones were the creation of an elected Executive, fixed Annual General Meetings of the local membership, full financial disclosure to the membership, a regular newsletter and regular elections of the Executive. This led to a sense of duty where members were encouraged to run for office, serve their turn, and rotate the Executive members to prevent burnout and keep new ideas flowing. After thirty years, OVLRL is the second oldest Land-Rover club in the Americas, as well as continuously running two events longer than any other Land-Rover club in the hemisphere. The following elected executive positions are open for nomination:

President: Responsible for the overall operation of the club. He's the man, or as Truman wrote "The Buck Stops Here"

Events co-ordinator: As Events can be a large and onerous load, the Events Co-ordinator position organizes the overall Events proper, not the off-road portions. This person is responsible for the overall co-ordination and running of large "family oriented" events such as the Maple Syrup Rally, the Birthday Party, and the Christmas Party. Plus any other events that the Executive chooses to hold throughout the year.

Off-road co-ordinator: Responsible for all greenlaning, off-road events and RTV Trials that the club will undertake. This will include everything from jaunts to LaRose Forest to the light off-road and RTV Trials at the Birthday Party.

Executive Member at large: A position that would allow for members to learn the ropes, assist the other Executive in undertaking their tasks. If you're thinking you wanted to help the club and was thinking about getting onto the executive all is not lost. This is your opportunity to help with the future direction of the club.

If you have a couple of free hours a month, and want to help run the club, contact the executive and let your intentions be known.

If you are interested in running, or would like to nominate someone for a position on the executive, either pass me a note at the Social, or drop an email to [dkenner@gmail.com](mailto:dkenner@gmail.com)

## Annual General Meeting

To be held in mid February. The AGM will include the officer elections, reports from all current officers, and conduct any other business necessary for the club.

November 15th, 2013  
235th Monthly Social  
Prescott Hotel (Beach & Preston Streets in Ottawa)

December 1st, 2013  
4th Cedar Hill Classic  
Pakenham, ON  
Organizer: Andrew Jones

December 16th, 2013  
236th Monthly Social  
Prescott Hotel (Beach & Preston Streets in Ottawa)

December 28th, 2013  
Annual Christmas Party  
Kanata, ON  
Organizer: Bruce Ricker

Jan 20th, 2013  
237th Monthly Social  
Prescott Hotel (Beach & Preston Streets in Ottawa)

Mid Feb 2014  
Annual General Meeting  
Location TBD

June 20-22, 2014  
31st Birthday Party  
near Maberly, ON

## Annual Christmas Party

It is time for the final scheduled club event on the club calendar for the year. Instead of the usual catered event, the Christmas Party (in Ottawa) this year is a potluck held at a member's house. There will be the usual ladies' crossword and feelie-meelie competitions.

Come one and come all to end the year on a high note and begin plotting for 2014. Bonus points to those that show up driving an actual Land-Rover.

It is not too late to get your nominations into Bruce Ricker for the annual club awards. The Lugnut, Towball, Gasket Under Glass, Silver Swivel Ball, Golden Wrench, and Grey Poupon all need new owners. Nominate your friends before they nominate you!

Location: Bruce Ricker's House  
995 Riddell Dr., Kanata, ON.  
Tel: (613) 592-6548  
Date: Dec. 28th, arrive anytime after 4:00.

Please RSVP to [b.p.ricker@rogers.com](mailto:b.p.ricker@rogers.com) what you would like to bring and Bruce/Sue will reply with confirmation.

# General Servicing: Repairs, Humour, Tales & Trivia

## Some Miscellaneous Thoughts on Engine Conversions

by TeriAnn J. Wakeman

*[Based on a thread on the mendo\_recce email list TeriAnn put together a list of her thoughts on the subject. She has a Ford 302 with NP435 gearbox in her Series II 109" Dormobile. -ed]*

There are folks who own trucks that make mine look bone stock as far as the engine & drive train are considered. Here is what I have learned over the years.

1. When upgrading the engine to higher power specs once you get past around 120 hp one should always consider a stronger gearbox part of the upgrade. The Series gearbox is a 1930's design. Jim "Scotty" Howat [who made the "Scotty Adaptor"] always told me that if you go over 120 hp you should be very careful to apply power gradually.

2. It is my belief that all 109s should have either a rear Salisbury or ENV axle assembly. 88s with an engine upgrade should also get a 24 spline axle upgrade. A 24 spline diff & set of axles that fit into the Rover axle housing usually is the best idea.

3. If you are considering a V engine a power steering conversion always a good idea and many times a requirement. If you think you may be doing a power steering conversion in the future you might want to pick up a Range Rover P-38 power steering box out of a wrecking yard before they disappear. You want the steering box, pitman arm, and lower steering column. The Scout II power steering boxes have become very hard to find.

4. When you are considering an engine, look for a popular one. Manufacturers are only required to build parts for an engine up to 10 years after the engine has been discontinued. Parts support after that depends upon how many stay on the road in vehicles. An engine that was only used in a few models of low end throw away vehicles may not have long parts support. One that was used in trucks and across a manufacturers product line for a decade or longer will likely see very long parts support. If an engine was never imported to the North America or was imported only on a limited basis is going to have poor or nonexistent parts support in North America. So you may find your truck sitting until you can find someone in another country who has the part you need on the shelf.

5. Thanks to Matt Jackson, Advance Adapters has a range of adapters that will mate common American light truck top leader gearboxes to a Series transfercase. The Series transfercase is quite strong and would be considered an upgrade to an FJ40. I suggest finding an off the shelf gearbox, bellhousing and clutch that works with the engine you are considering. Keep as much stuff off

the shelf as possible. Broken off the shelf parts are a lot easier to replace than a custom made or modified part. A broken custom drive train part can be a BIG problem if it breaks on a trip. An off the shelf part can be ordered for just about any local auto parts store.

6. Gearing should never be an afterthought on an engine conversion. If your gearing is too low you will be able to go slow very quickly. Too high and it can be virtually undriveable off road. If you end up with a big gap in your gearing chances are you will be longing for a ratio in that gearing gap. And also consider who you might be convoying with. If you don't have similar ratios in low range second and third you may find that your engine is always at the wrong RPM range when convoying on the trail with your friends. Any thought about an engine swap should be equally focused on gearing.

7. When considering an engine for a swap learn where its sweet spot is before making any purchases and make sure you can get gearing that leaves your engine in the sweet spot on the highway. There is an RPM range within which the engine can rev all day long without being stressed. Where it will deliver its best fuel economy and good power. That is its sweet spot. For a 2.25L & 2.5L LR petrol engine that sweet spot is around 2800 RPM through 3400 RPM (50 - 60 MPH). For my 302 V8 that sweet sport is around 2000 RPM through 2700ish RPM. You will need to match your gearing to your engine's sweet spot. If you pick an engine with a sweet spot the same as your stock engine you can leave gearing alone. But otherwise you need to make sure you can fit gears that will match your engine for the types of driving that you do. You should do this before spending \$\$\$ on an engine.

8. A granny first gear was never meant to go in a vehicle that has a transfercase. The granny first was designed to go into light trucks that do not have a transfercase. A granny 4 speed was meant to be used as a 3 speed on the street with the first reserved for off pavement. A granny 5 speed is a 4 speed on pavement. There is this huge gap between first and second gear and often times first is way too low and second is too high. For most LRs I suggest a close ratio four or five speed and let the transfercase low range give you a range of granny gearing. Low range first for a stock Series truck is 40:1. With my NP435 close ratio gearbox it is 50:1. Unless you are doing gonzo rock crawling or boulder hopping with 35 or 37 inch tyres 50:1 through around 55:1 is about as low a low first gear ratio as you will ever want. It's cool to say you have a 70 or 80:1 ratio but if you never use it those gears are just dead weight that takes up the space of a ratio that could be useful to you.

9. The Rover 3.54 diff ratio was never meant to be used with a Series transference. That ratio was meant to be used with the coiler LT230 transference. A Series transference with 4.7:1 ring & pinion (R&P) will have similar RPMs at the axle as a LT230 with a 3.54 R&P at the same engine speed. The Series transference has taller gears inside than the LT230. The Series does most of its drive train gear reduction at the diff while the coilers do most of their gear reduction inside the transference. Having the gear reduction inside the transference reduces the propshaft speed. This in turn reduces vibration and possibly noise in the vehicle. So when putting together a drive train for your new engine consider the transference and R&P gears to be a set that goes together.

10. You are generally best off picking your R&P ratio for your best low range off road gearing and your gearbox and transference ratios for your high range pavement gearing. Your ring & pinion ratio affects everything. If you use a tall ratio for freeway gearing chances are your low range ratios will be too high for anything except maintained forest service dirt roads.

My suggestion is to pick close ratio gearbox gears that has a slightly lower first than the series gearbox and fairly even steps with a 1:1 fourth gear. Next pick transference gearing that had a high range gear that will put your engine in the sweet spot on the freeway. This may require the addition of an overdrive. The Fairy overdrive should be restricted to use with a LR 2.25 engine. The Roverdrive is stronger and the NLA Santana overdrive is the strongest of the bunch. Heyste-e Automotive has reproduced the Santana overdrive. Last time I looked Timm Cooper has a Santana over-

drive in his Series I hot rod and ENV axle assemblies.

Ashcroft Transmissions offers a high ratio transference that is very useful with engine swaps. It raises the high range ratio and leaves the low range ratio stock. I would not use one for a stock LR engine but it is a good solution for a higher power engine swap. You can not use an overdrive with this transference.

When you choose your gears you can fine tune your ratios with your tyre diameter. But the changes are small in comparison to different gear ratios.

Bottom line is that the drive train works together. First figure out what you want for a low range first ratio and what your freeway cruising speed should be. Then figure out what engine and off the shelf gearing combinations will give you those speeds with the engine in its sweet spot. If you save the gearing for last chances are that you will be less than thrilled with the results.

11. Be sure to document everything. You want to create manual for your vehicle that documents every non-stock part and wire. When you have a non-stock part you not only want the manufacturer's part number you want the make, year and model that the part came stock on. For instance if I need a new power steering pump I go up to the counter and ask for a power steering pump for a 1978 Cadillac Fleetwood. The parts drone can look it up in his computer and give me the correct part. If you don't document it chances are that you will forget what it was when you need to replace it. And any subsequent owner would be left without a clue. Create a manual that stays with the truck and a back up that stays at home.

## Wheel Studs and Nuts

Model	Wheel Stud part # Preened	Wheel Stud Part # pull-in	Thread	Wheel nut part #	Alteratives	Dimensions
Series I	217360	561886	9/16" BSF	217361	Double tapered	1" high x 59/65" across flats
Series II	561590	561886	9/16" BSF	217361	Double tapered	1" high x 59/65" across flats
Series II	561590	561886	9/16" BSF	561254	Double tapered	11/16" high x 59/65" across flats
Series IIA Suffix A to G	561590	561886	9/16" BSF	217361	Double tapered	1" high x 59/65" across flats
Series IIA Suffix A to G	561590	561886	9/16" BSF	576254	Small Single Tapered	11/16" high x 59/65" across flats
Series IIA Issued June '69	561590	561886	9/16" BSF	576103	Large single Tapered	3/4" high x 11/16" (27mm)
Series IIA Suffix H	N/A	576825	16mm	90577473	NTC7396	3/4" high x 1 & 1/16" across flats
Series III	N/A	576825	16mm	90577473	NTC7396	3/4" high x 1 & 1/16" across flats

The pull-in wheel studs are replacement parts. To use them you must drill the hub to the correct diameter and then pull them in.

# Bulkhead replacement, Where to Start?

by Dixon Kenner

Where to start? Unfortunately, the Internet offers some distractions that impact upon peoples' abilities to communicate. A good example of this would be Facebook, where I have a couple of friends who only communicate via that particular distraction. This requires that I visit the site every couple of months.

So, while cruising within the site the other day to send a message I noticed a posting from our Ohio member Bill Fishel. Bill was on the hunt for a replacement bulkhead, the second or third for his trusted 88. This in turn reminded me of the rust torpedo which got through the Annual Oiler rust defence screen and scored a direct hit on the BGB's starboard footwell, which in turn raised some questions. What do you do when your bulkhead's integrity has been compromised? Really, there are three options, and each could be an article on its own.

So, to begin, do some research.

To save you some time, and hopefully not to frighten you too much, there is an excellent series of articles on Ike Goss's Pangolin website at <http://www.pangolin.com>. You can either go there and start reading the introduction and then the subsequent four parts on what to do, or as Ike has allowed us to reprint it for your reference, read it elsewhere in this newsletter. The article describes the process of replacing pieces, and will, in general, help you decide to repair, or to replace.

## Repairing:

Assuming that the damage is not too great, repairing is always the best alternative. This assumes that you can either weld, know someone who can weld, or have someplace to bring an assembly of parts and small bag of cash to get the job done. Being Land-Rovers, the process is pretty straight forward. So, what do you do then.

Well, telephone Ike, Rover's North or one of the other Land-Rover parts suppliers and get some panels to replace the damaged ones. Common parts include: Door posts, complete, or just the bottom, top (common spot to go on Series III's, which gives rise to the bulkhead repair panel for that area); footwells, which can be the whole thing from kick panel (side) to toe panel to top; to the centre gearbox/transmission tunnel area.<sup>1</sup>

To be fair and give the magnitude of the work, assuming you do everything yourself, and there is lots of guidance on the Internet for replacing these parts. A quick check turned up cost of a complete footwell at \$219 for the LHS, \$168 for the RHS and \$70 for doorposts. A breakdown of these items into smaller pieces is available on the Rovers North website. There is of course, buying these items for less in the UK. Feel free, but bear in mind that they are bulky pieces and shipping might make domestic sources more viable. Again, do your homework.

The advantage of doing everything in situ is that everything stays lined up. A problem experienced by some is that taking the bulkhead out, without a jig to mount it on while welding, can lead to a bulkhead that is no longer straight and fits properly. Granted, a free floating bulkhead is easy to galvanise, which guarantees another forty plus years out of it, which puts it past when you will ever have to do this again.

There are two main options associated with the removal of a bulkhead. One is finding another and putting it in, sometimes with further repair work required, or just biting the bullet and buying something new or refurbished.

As a quick tangent, if you are thinking of doing this, and you have anorak tendencies and want to make that 100 point concours car, remember, there are at least eight Series II and IIA bulkhead types out there (see associated table). There are at least four different Series III bulkheads out there. If you want the same bulkhead, you will need to pay attention, and you either find the same era donor, or you pay attention to what you are buying (again, see associated table).

## Replacing with another used:

Go find another bulkhead, preferably in better shape, and swap it over. This has been the traditional approach for many people, especially as there have been lots of Series vehicles available that have had decent bulkheads and bad frames, sometimes making them worth more as parts than as complete, restoreable, vehicles. Unfortunately, the supply of good donor vehicles is dropping and it is getting harder and harder to find. With the potential cost of a complete vehicle, the work disassembling and then dealing with the resulting pile of parts and the spouse's comments that the back yard is beginning to resemble that of Fred Sanford's or Albert Steptoe's. Used bulkheads do appear on eBay, in club newsletter for sale areas.

If you love your Land-Rover, you see another bulkhead come by at a reasonable price, scream and leap is probably not a bad bit of advice. Though as you sail through the air, remember that replacing the whole unit with another will affect how the body lines up, requires the removal of the roof, windscreen, wings, all the hydraulics for the brake and clutch assemblies, the wiring harness, heater, steering, and a few other assorted and sundry items. This is where you look up the term "ship-fitter's disease" and warn your spouse that the garage will be occupied for a little while. It is not for the faint of heart, is a lot easier than you might think (see the reprint of the Meccano Magazine article on making your own Series One. The 1:1 model isn't much different, just bigger pieces).

<sup>1</sup><http://landoverparts.roversnorth.com/Products.aspx?code=78&key=cat or Series Parts, Chassis & Bulkhead, Footwells, Doorposts & Rails>

Galvanising a bulkhead is another whole discussion and now you are into the options that necessitate taking the bulkhead out of the vehicle. There will be a future article on that as I am currently preparing a pair of bulkheads, albeit a 1951 and a 1952 for this. If you want to see one that has already been done, check out Sedgewick, Bruce Ricker's early Series IIA 109 pick-up at the Birthday Party.

#### Buying Something New:

In fact, unless that replacement bulkhead was really, really, nice, as well as cheap, maybe you want to take that wafer thin mint<sup>2</sup> and consider a new, galvanised bulkhead.

New, or refurbished bulkheads come in several styles. There are the refurbished bulkheads, such as those from Landrover Bulkhead Restorations in England, or the brand new bulkheads from Pegasus.

Ike Goss - email sent 2013-09-29 to see if he actually offers the part or the service

Pegasus - Pegasus has been around for a number of years, starting off with reproducing some Series One parts. Over time this has expanded and led them down the road to manufacturing, not refurbishing or rebuilding, bulkheads. Spending two years to reverse engineer Series IIA bulkheads, they now make completely new bulkheads that are probably more accurate than the original on your vehicle. These new bulkheads faithfully replicate Land Rover's pressed ribs in the foot-wells, captive nuts and cages (try and galvanise those assemblies and keep the ability to adjust...), internal stiffeners and nut plates.

A Series IIA & III bulkhead costs £1,400 and are offered in the following forms: Note, the dates are based on actual production, not vehicle registration, and are provisional:

- Type 1 - March 1958 to December 1959
- Type 2 - January 1960 to May 1960
- Type 3 - June 1960 to January 1961
- Type 4 - February 1962 to March 1967
- Type 5 - March 1967 to October 1968
- Type 6 - October 1968 to December 1968
- Type 7 - January 1969 to September 1969
- Type 8 - October 1969 onwards

Series III bulkheads are not available today. Pegasus's planned production is as follows:

- 2014 - Series III, all models, 4-cylinder, 6-cylinder and 109 V8
- 2015 - Series I, 1948 to 1953, 80", all models including the alloy and steel composite, but not the very early first 1500 models version
- 2016 - Series IIA/III Lightweight, GS and FFR models
- 2017 - Early One Ten and Ninety models, pre-1987

Bear in mind, when I looked into this in June, 2011, the cost of getting that bulkhead from England to Kirkwood Manor was eight hundred and fifteen (£815) pounds<sup>3</sup>.

The cost of stuffing twenty four (24) of them into a 20' container was about one hundred (£100) pounds per bulkhead. As I am not planning on going into the bulkhead business (That would be for Rover's North or Pangolin to consider), that option fell through, even though it would be my personal preferred option for BGB-II

LR Bulkheads - LR Bulkheads specialises in the restoration and refurbishment of bulkheads for Series I, II, IIA, and III vehicles. Unlike Pegasus, they do not make new assemblies. While you can buy a bulkhead from them, there is a core charge of two hundred and fifty pounds that may be added to your bill of you can not get your old bulkhead over the pond to England. Considering that the 2011 cost of sending over a bulkhead (see above), this is not worthwhile from Canada or the United States.

LR Bulkheads does not seem to offer an exact replacement for your bulkhead (see associated table) and while they will entertain refurbishing your bulkhead, possibly at a more advantageous price, they are still over there and you are still over here. A refurbished Series IIA bulkhead is seven hundred and twenty five (£725) pounds. A Series III bulkhead is six hundred and fifty (£650) pounds. Add the possibility of a £250 pound core charge and you are at nine hundred and seventy five (£975) pounds plus shipping for a Series IIA bulkhead.

#### Referenced companies:

Ike Goss - <http://www.pangolin4x4.com> - Pangolin 4x4, 1360 Tamarack Street, Springfield, OR 97477, United States. Telephone - (541) 606-0095. Email - [Pangolin4x4@aol.com](mailto:Pangolin4x4@aol.com)

LandRover Bulkhead Restoration - <http://www.lrbulkheads.com>. Landrover Bulkheads 143 Kingshurst way, Kingshurst, Birmingham, B37 6EB. Telephone - 0785-553-9224. Web form for contacting on their site.

Pegasus Parts - <http://www.pegasusparts.co.uk>. Pegasus Parts, 14 Hillfield Close, Redhill, Surrey, RH1 4AR, United Kingdom Telephone - 00 44 (01737) 764377. Email - [pegasusparts@btinternet.com](mailto:pegasusparts@btinternet.com)

Rover's North - <http://www.roversnorth.com> - Rover's North, Westford Vermont, United States. Telephone 1-800 403-7591. Email - [email@roversnorth.com](mailto:email@roversnorth.com)

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<sup>2</sup>Mr. Creosote, The Meaning of Life

<sup>3</sup>There are other options, but that is an individual pursuit and learning experience.

# The Bulkhead Issue - How to Repair Your Bulkhead

By Ike Goss

You have probably seen articles on footwell repair before. However, simple functional repair is normally the aim of such articles rather than achieving a detailed, correct original appearance. The firewall is the main weakness of the Series Land-Rover. Its rust prone and new ones are not readily available (yet). Rather than tell you how impossible it is to repair a bulkhead unless you are a master fabricator, we are going to show you how anyone with a drill and a welder can execute professional quality repairs to your rusty firewall. Not only will you be able to repair your firewall's problem areas with ease, you will be able to do a better job than those shops who claim perfection and charge thousands of dollars. We'll cover the typical footwell repair (top, bottom or side) as well as door posts and upper bulkhead rust. While this project can be successfully completed by any hobbyist, you will need to be familiar with basic tool use, welding technique, and basic sheetmetal working. A careful eye for construction details is essential to a good result.

## TOOLS Required:

Hammer, Drill, 7/32" drill bit, selection of chisels and punches, die grinder, welder and a good selection of clamps

## A Word on Preparation:

Preparing your bulkhead for repair is essential to quality repairs. The two most common methods for paint/rust/scale removal are sandblasting and chemical stripping. Sandblasting is a more aggressive process and quickly removes rust, scale, paint and other coatings. However, sandblasting cannot reach the inside surfaces of enclosed areas so those areas will remain untreated in this process. Care must also be taken because sandblasting generates friction and thereby heat as the particles collide with the surface. Aggressive blasting media can warp flat surfaces and create thin spots on otherwise healthy metal. Chemical stripping normally refers to phosphoric acid baths which eat away scale, rust, paint and coatings leaving clean metal. This immersion process is less harsh but is very effective at cleaning steel parts. It has the advantage of cleaning enclosed surfaces and the component is left with a coating of iron phosphate which prevents the flash rusting that occurs with sandblasted parts. Since this process is not as aggressive as blasting it can leave small bits of stubborn undercoating or other coatings. For this project we chemically stripped the firewall and were very pleased with the results. It removed all the factory adhesive for the original hardura trim with ease. If you've tried to remove it with a wire brush, grinder or scraper you know how tenacious it can be.



## A Word on Welding:

The footwells are welded into the firewall using resistance welding (AKA: spot welding) in addition to a few tack welds. Most hobbyists do not own a spot welder, so for this article we substituted spot welds for rosettes. When done correctly, rosette welds are as strong or stronger than spot welds and match the original appearance very well.

## Part 1: Upper Bulkhead Rust Repair



(Figure 1) This is typical upper bulkhead rot. Hearsay will tell you this is a difficult repair when in reality its quite simple to make a quality repair here. The key is the removal of the hood hinge and drip rail and support bracket. Then an effective repair can be made with a conventional replacement panel. Measure and record the placement of the hinge and support bracket on the firewall and then carefully grind away the welds securing them to the firewall. Then drill the spot welds



securing the drip rail to the firewall being careful not to drill all the way through the firewall. Drill just enough to detach the spot welds. This is best done with a sharp 3/16 or 7/32 bit at low speed. Take note of how these items are attached so that you can reproduce the welds when reattaching them.

(Figure 2--see previous page) With the drip rail, hood hinge and support bracket removed, the extent of the perforation can be noted and a suitable area marked for removal with the die grinder.



(Figure 3) The rust perforated area has been completely removed and a patch panel cut to fit and then tacked in place. The tack welds have been ground flush in preparation for final welding. A good fit for the repair panel is important to a quality result. Make SURE the surface of the repair panel is even with the surface of the firewall. Without a proper fit it will be very difficult to make a subtle repair. Time spent test fitting the patch panel and making sure the surface is even is time well spent!



(Figure 4) With the finish welding complete and ground flush, the hood hinge, support bracket and drip rail can be reattached. Refer to the measurements you made earlier to ensure a good fit for the hood. The completed repair will be difficult to spot and once coated will be extremely durable.

## Part 2: Footwell Toe Board & Kick Panel Repair

A Note on Repair Panels: There is a lot of variation in the quality of repair panels available. None are perfect. There is some variation in the original firewalls but we have yet to find panels that are made exactly to the original dimensions. We used the panels supplied by Rovers North and while imperfect, are probably the best available. You will notice they have the ribs in the lower footwell area as the originals did. Visually we wanted to retain this feature and these panels are the only ones that have it. The panels differed in several areas from the originals so a significant amount of trimming was required to get them to line up correctly and look the way the originals did but the results were worth the time spent during repeated test fitting.



(Figures 1 & 2) This is typical lower bulkhead corrosion requiring the replacement of the toe board and kick panel. It certainly looks ugly but a quality repair here is not difficult.

(Figure 3--see next page) This is how the footwells are originally constructed on a mid Series IIA firewall. The toe board and upper footwell are actually one piece with a stiffening panel spot welded in place making the entire area more rigid where the pedal boxes attach. (picture taken with the firewall inverted) The repair



panels available that do have the original style pressings come in two pieces (upper and lower) and the stiffening panel has been reduced in size so that it fits entirely on the upper section. Since the repair panels consist of two individual, overlapping pieces there will be a seam in the middle where they meet and the smaller stiffening panel reduces the overall rigidity of the assembly. You will notice that some high dollar shops claim a perfect original repair but gloss over this difference. You can easily make a more original repair. Read on.



(Figures 4 & 5) Disassembly is the most important part of repairing a firewall correctly. In general try to be as conservative as possible so that the original construction can be replicated when reassembling. The footwell panels are secured with spot welds to the door posts

and doghouse of the firewall. Drill out these spot welds in order to remove the old rusty panels. Removing the footwells in this way will ensure that the completed repair will appear as the original did. Above you can see the original spot welds have been drilled out separating the panels without cutting.



(Figure 6) Take note of construction details during disassembly. Here you can see a small weld securing the upper footwell panel to the kick panel. While this may seem anal to replicate a detail nobody is likely to notice, the goal here is to make an original looking repair, not just fool someone who doesn't know what they are looking at.



(Figures 7 & 8) Here you can see the doorpost with the footwell carefully removed. Mark the holes that were spot welds to distinguish them from the holes used for riveting the door seal to the seal lip. During reassembly this will allow you to put the spot welds where they belong. Also take note of the two small tack welds in the right



side of the first photo. These will need to be ground away to remove the kick panel. In the second photo you will see another weld which secures the flange on the upper footwell to the kick panel and a stiffening web. This will also need to be ground away to remove the kick panel. There are also spot welds lower on the same flange. These will need to be drilled out. On some firewalls there is a sneaky spot weld hiding at the top of this flange above the stiffening web and behind the door post. It can be hard to spot but drilling it is important to easily removing the kick panel.

(Figures 9 & 10) Once the kick panel has been removed



the new panel can be test fitted. You can see that correct removal of the old panel makes reassembly much easier. The stiffening web referred to in the last set of pictures is visible here at the right side of the photo. Since the panels are lightly galvanized, mark the panel where it will be welded on reassembly and grind the



coating away to ensure a strong weld.

(Figure 11--see bottom left) Here you can see the stiffening panel we removed from another damaged firewall. This panel is important to making the footwall look correct and also maintain its original rigidity.



(Figure 12) The original upper panel has been attached to the replacement toe board. The weld was then ground flush so that the panels appear as though they are formed from one piece of steel as they originally would have been. When we do the other side we will detail this process a little closer.



(Figure 13) On the inside of the footwell the stiffening panel has been welded into the repaired footwell. The completed assembly is constructed exactly the way the factory did it except for the now invisible seam between the upper panel and the toe board.

### Part 3: Footwell and Door Post Repair

For more extensive corrosion, the upper section of the footwell and the door post will need to be replaced in addition to the kick panel and the toe board.



(Figure 1) The upper panel of the footwell is secured to the dash section of the bulkhead with this curved flange. If you have seen a lot of repaired firewalls you know that many times this flange is cut away along the indicated bend. This flange adds rigidity to the assembly and ideally should be retained if possible. We drilled the spot welds securing the upper footwell to this flange in order to separate the flange from the upper footwell. (The photo was taken with the bulkhead inverted)



(Figures 2 & 3) On each side of this curved flange there are tack welds securing the flange to the kick panel and

the upper footwell to the doghouse and aforementioned flange. These tack welds will need to be ground away to remove the upper footwell.



(Figure 4) On the engine side of the firewall the upper footwell is secured by the curved stiffening panel on the left hand side of the photo. The spot welds here will need to be drilled. (this photo was taken after the completed repair for reference)



(Figure 5) With the spot welds drilled out along the door post just like we did in the previous footwell. The upper footwell panel, toe board and kick panel was then removed. Here you can see the stiffening flange remains and will be incorporated in the completed bulkhead

(Figure 6) A test fit of the new panels show the fit of the panels if they are not trimmed. Some minor trimming is essential to a good fit and will ease the assembly process.





(Figure 7) Replacing the door post and ensuring an accurate fit is important. An angle iron jig should be used to ensure the correct spacing of the doorposts. A simple jig consisting of section of angle with holes in both ends which the door posts can bolt to is sufficient to ensure correct spacing.



(Figures 8 & 9) Here you can see that the reproduction doorposts are constructed differently than the originals. The replacement (top) has a separate outer face that is spot welded to the vertical sections. The original (bottom) is formed from one piece of steel. The bottom of the post (not the foot) is also simplified on the repair section and differs from the original in detail. The profile of the post is close enough that a clean repair can be achieved without making your own section. (photos taken from the completed firewall)



(Figure 10) With the old post cut off the jig is used to position the

post accurately on the firewall and tacked in place. The doorpost is then welded in and the welds ground flush and blended with the original metal. The repair can then only be seen from the difference in construction and the coating (lightly galvanized) With the fender, door seal and coating, the repair will be invisible and the construction will be virtually identical to the original.



(Figure 11) With the door post accurately replaced the footwell can then be assembled. Here you can see the replacement door post has been drilled and the galvanizing ground away in preparation for welding the two panels together.



(Figure 12) The kick panel has also been drilled so that when the toe board and upper footwell are position they can be assembled with rosette welds which replicate the original spot welds.

(Figure 13) This is the difference between an original looking repair and just a functional one. The goal is the best of both worlds: a functional repair that looks right. Since the repair



panels overlap, some shops just spot the two together leaving a seam which is not consistent with the original construction. You can do it this way and have a good repair, but we took the extra time for this project to show you how to make it even better. Here you can see that the panels have been trimmed so that they butt up to one another. Even before welding the fit is extremely close. Achieving this sort of fit is important to a good result.



(Figures 14 & 15) Here you can see the small tab which spans the seam between the kick panel and the upper bulkhead. Many times this small detail is deleted. It is easy to retain as its only spot welded to the upper bulkhead and the kick panel slides right in behind it. Noting details like this is the key to repairing the bulkhead in a manner consistent with the original.



(Figure 16) With the toe board welded to the upper footwell and the kick panel in place, the stiffening panel can then be spotted onto the assembled footwell



(Figures 17 & 18) With The panels assembled the finish welding can be done to replicate the original construction

(Figures 19 & 20) The footwells appear original from both sides. All the original tack welds, spot welds and



seam welds have been replicated and the firewall is rust free and ready for coating.



(Figures 21 & 22) Finished firewall in bare metal, ready for coating.



(Figure 23) Test Fitting the firewall on a frame. Thanks to the simple jig it fits perfectly and the bolts securing it to the frame slide in by hand.

#### Part 4: Coatings

Protecting your freshly repaired firewall can be a frustrating choice. You can prime and paint the firewall in the conventional manner but if you live in a salty climate this will be a short term option. The inside of the bulkhead can be protected by dipping the enclosed areas of the firewall in primer before painting, or spraying the inside with a Waxoil type product to inhibit rust. At the end of the day these are only temporary solutions to corrosion. Galvanizing the firewall is the only way to really ensure a long lasting component as it coats inside and out with a virtually impervious coating. However, the heat of galvanizing can warp thin sheet metal and cause a small amount of distortion in the firewall. Having dipped many bulkheads this is not normally a serious issue but its something to be aware of. For us a permanent solution is worth the risk. You should however be aware of this when choosing a coating.



(Figure 3) We crated up this beauty for a customer in the Virgin Islands. Traveling so far we wanted to make sure it made it there without damage. The bulkhead feet and windshield brackets were used to secure the firewall inside the crate without actually touching the outside. It should survive the long trip and any careless fork lift drivers it encounters to give a rusty old Rover a new lease on life!!!



(Figures 1 & 2--above and next column) Here is the completed firewall resplendent in a fresh coat of Hot Dipped Zinc. Ready for fitment to a land rover and sure to last decades longer than a paint job!





# A Handy Rover Hint: Remounting a Brake/Clutch Pedestal Single-handed

By Alan J. Richer

When replacing or rebuilding the master cylinder on pre-boosted brake or clutch it is normal practice to simply remove the tower from the bulkhead, refit or replace the cylinder, then reinstall the assembly to the bulkhead.

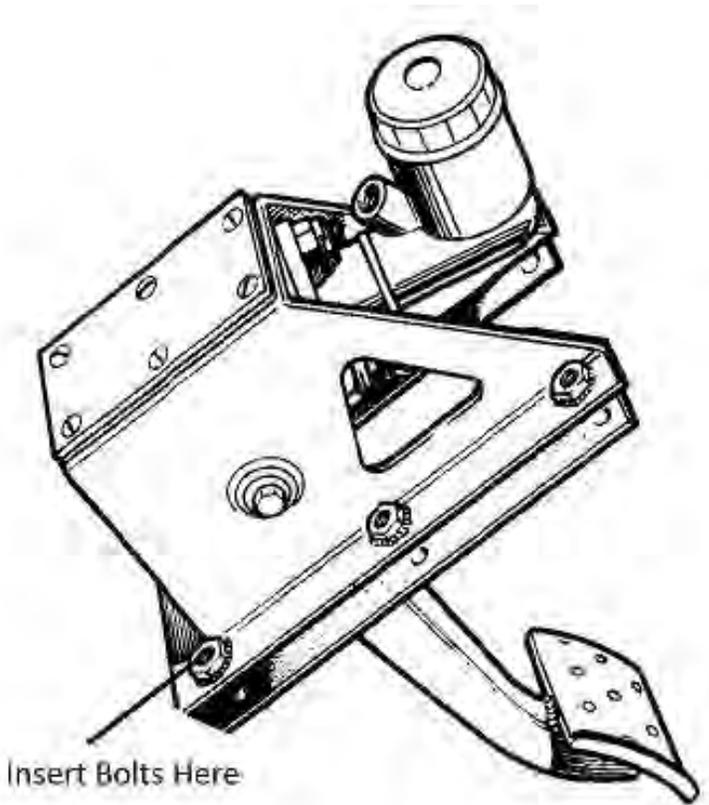
Remounting the tower is usually the difficult part - trying to hold the tower in the proper position and not dislodge the gasket or any sealer used is difficult unless done as a two-person job. However, there is a simple, easy way to avoid this that requires only the use of two of the bolts from the tower mounting, and will save great deal of time.

When preparing the tower for installation, take two of the bolts that will be used for mounting the tower and install them upside-down loosely in the two bottom holes of the tower's threaded mounts. The threaded portions of the bolts protruding toward the cabin will act as locator pins, holding the tower in position so that you can move into the cabin and fasten the tower in place with the other four bolts.

Mount the gasket to the tower using a smear of non-hardening sealant - this will hold it in place while positioning the tower. If you prefer not to use sealant, thin threads tied through the bolt holes can be used instead - the threads can be snipped and pulled through before fitting the bolts if desired - the thread will not otherwise interfere with the installation.

When the first four bolts are in are in place and hand-tight, you can then extract the loosely-fitted bottom bolts, take them into the cabin and refit them in their positions, tightening all of the bolts then to the proper torque.

A minor alternative to this job for those with altered



Rovers with a lack of reach to the tower bolts is to take two longer bolts of the proper thread, and slot the threaded ends of them for a screwdriver. With the use of a thin bladed slotted screwdriver these can be removed from the tower mounts from the inside of the cabin, and allowed to fall out onto the ground, making way for the mounting bolts.

Either way, this is an easy way to perform what is for me usually a very annoying task.

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## Reuse, Repurpose, Recycle

By Alan J. Richer

For many years I had a trouble light on a retractable reel in my garage. A solid, businesslike device made for use in a commercial garage, it served me well despite the inevitable knocks, spillage and grief it caught. Because vibration-proof bulbs got hard, then impossible to find I reluctantly retired it for an LED-strip drop light - which never worked all that well though it did work.

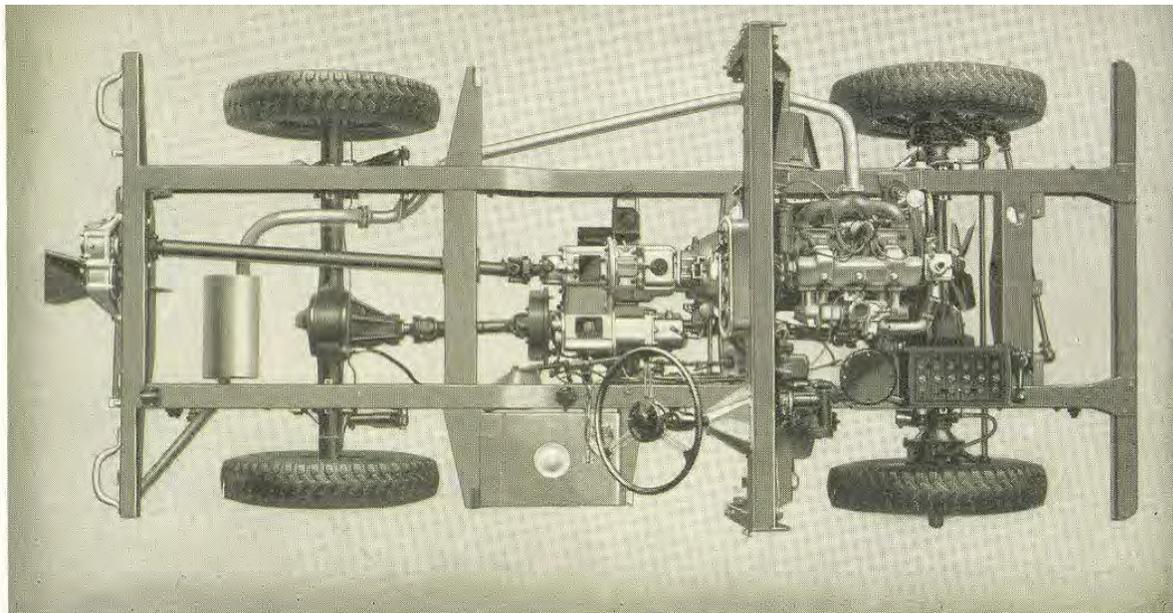
I really missed the bakelite handle, simple snap switch and general usefulness of the old one - the LED light was just not the same, and CFLs in the old fixture did not hold up at all to normal drop light usage.

In upgrading the house lights to LEDs It occurred to

me that perhaps this was a solution to my dilemma. I screwed an 11-watt omnidirectional LED (equivalent to a 60-watt tungsten bulb), switched it on and WOW - bright light in a warm white color.

The new trouble light is now on the shelf, and the old one back on its hook for regular use.

So - if you have one of these you might want to think about an LED lamp as an upgrade or repurposing of it. They're not cheap (\$8 at my local hardware store) but then again unless you run it over with the car you'll never replace it again.



## CHASSIS SPECIFICATION

**ENGINE.** Flexibly mounted on rubber at four points. Four cylinders, bore 69.5 mm. Stroke 105 mm., 1595 c.c. Maximum brake horse power 50. Three bearing counterbalanced crankshaft of high specification steel of ample dimensions. Camshaft in crankcase driven by double roller silent chains with hydraulic adjuster. Firing order 1, 3, 4, 2.

**VALVES.** Overhead inlet valves operated by rocker and push rod from camshaft. Side exhaust valves with inserted valve seat operated by rocker in direct contact with camshaft.

**PISTONS.** Aluminium. Inverted "V" shaped head to conform to patented design of hemi-spherical combustion chamber giving increased compression turbulence. Two compression and two scraper rings are fitted.

**CLUTCH.** Single dry plate 9" diameter.

**DYNAMO.** Automatic voltage regulator 12 V.

**STARTER.** Operates on flywheel.

**CARBURETTOR.** Downdraught.

**PETROL FILTER.** Mounted on dash.

**AIR CLEANER.** Oil bath type.

**TRANSMISSION** To rear and front axle by open propeller shaft via two speed transfer box.

**REAR AXLE.** Semi-floating. Spiral bevel type. Ratio 4.7 : 1.

**COOLING SYSTEM.** Water circulation by pump. Thermostatic control. A fan is fitted. Water capacity 17 Pints.

**LUBRICATION.** By pressure from gear type pump forcing oil to all bearings, timing chain and valve gear. Capacity 10 pints.

**GEARS.** Four forward speeds and reverse. Ratios : first 3.00 : 1, second 2.04 : 1, third 1.47 : 1, top 1 : 1, reverse 2.54 : 1.

**TRANSFER BOX.** Incorporates two speeds which in conjunction with the main gearbox give a comprehensive range of eight forward gears. Ratios : first 2.888 : 1, top 1.146 : 1.

**IGNITION.** Coil and battery. Automatic controlled ignition advance 12 volt battery. Capacity 51 amp. hours.

**FRONT AXLE.** Fitted with differential similar to rear axle. The drive to front wheels is through free-wheel and constant velocity universal joints totally enclosed.

**CHASSIS.** Side and cross members of box section forming an exceptionally rigid assembly.

**STEERING.** The steering wheel optional right or left hand driving position.

**FUEL SUPPLY.** From 10 gallon tank under driver's seat.

**SPRINGS.** Semi-elliptic. Four tubular type shock absorbers are fitted.

**WHEELS.** Detachable disc wheels having 15" wide rims. Tyres 16x6.00 Heavy Duty traction type.

**DIMENSIONS.** Overall width 61" approx. Overall length 132" approx. Weight of vehicle 2594 lbs. Wheel-base 80". Track 50".

**DRAW BAR PULL.** 1,200 lbs. to 2,000 lbs.

**MAXIMUM ROAD SPEED.** Over 50 m.p.h.

**REAR POWER TAKE-OFF** (at extra cost). Drive through back of main gearbox to rear of chassis. Can be fitted to give pulley drive for threshers, chaff cutters, circular saw, etc., or shaft drive for power mowers, binders, combine harvesters, etc.

**CENTRE POWER TAKE-OFF** (at extra cost). Arranged to drive by V belts, compressors, generators and other portable equipment which can be mounted in the body.

BODY and general sheet metal work of high tensile non-corrodible light alloy.

ALL external steel fittings galvanised.

Subject to alteration without notice.

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Last year of 300Tdi  
Left Hand Drive...factory  
Babied since new by previ-  
ous owner...I'm the sec-  
ond owner.  
Rust free body and chassis  
Timing belt changed at  
165,000 km  
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Front and rear radius arm bushings replaced and up-  
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No vibrations in drive line



Differential Rock guard, front skid plate, aluminum  
Diamond plate over the front fenders, snorkel, winch,  
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Clutch still has 10 trips around the world left before  
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Gear box is as good as when it came off the factory  
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"Adventure" upgraded complete front grill  
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Comes with 2006 KTM SX450 as a package deal...  
Truck will be sold certified and with emissions  
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Odometer: 196,000 km  
Location: York, ON M6N 1T3  
Price: \$32000 !!!  
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## Land Rover 1956 SERIES 1 (project)

VERY original, all pieces correct, interior in very good  
condition for the year, very solid bulkhead, solid rear  
cross member, solid rear frame section and middle sec-  
tion- front frame horns need work, engine can start,  
solid fuel tank, doors in very good condition , good  
windshield and frame, fenders in decent shape--some  
dents. Good radiator. Radiator panel in good condition.  
Axles in good restorable condition.

Truck is extremely rare early land rover import. It is a  
LEFT HAND DRIVE ( VERY RARE)

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## Parting out: 1970 Series IIA 88"

Parting out much of my 1970 SWB. Chassis, axels, engine, transmission, brake and clutch pedal assemblies are not for sale. Items include:

- Complete body including firewall, front wings, breakfast, seat box, rear box etc
- Door bottoms in excellent condition
- Complete tropical top including glass & spare excellent condition roof vents
- Tailgate (lower section only)
- Early Series IIA breakfast
- Front seat set
- 4 rear jump seats including hardware
- Bench seats
- Leaf springs
- Bulkhead post repair sections

I am flexible on pricing on many items but I know some parts have significant value so please be reasonable and make an offer.

Truck & parts are located in Toronto and are mostly disassembled - I can possibly arrange delivery to Ottawa if parts are paid for in advance. Please see attached link to many photos including boxes of parts.

<http://s1368.photobucket.com/user/kurt789/library/>  
Any questions, contact: kurt789@gmail.com

## 1955 Land Rover Serie 1



Tres beau Land Rover 1955 serie 1. Entierement restauré en 2008; frame, carrosserie, moteur IIA 2.25 litre rebuilt avec

valve haute compression, transmission rebuilt, wise owl parabolic spring, generator et starter neufs.

Il ne reste que quelques petits details cosmetique a faire pour qu` il soit parfait.

Je l'ai acheté en Ontario il y a deux ans de celui qui l'a restauré. J'ai changé de job et jamais eu le temps de completer les details et aller faire passer l'inspection pour le plaque. Il reste donc ca a faire. J'ai acheté une partie des piece manquantes (2eme wiper, retroviseur, etc...) il ne reste qu'a installer et faire un bon tune up. Ouvert aux échanges!

Location: Sainte-Thérèse, QC, Canada

Price: \$10,900

Kijiji: #546105029

(Note OVLGR grill badge and familiar trucks in background. -ed)



## Land Rover Serie III 88" SW 1973

Superbe Serie III 88" aucune rouille, tune-up fait cet ete (echapement, nouveau distributeur, fils d'allumage bougie) demarre au quart de tour et ronronne. Un reel plaisir a conduire! Pourquoi m'en departir? a vrai dire je ne veux pas trop mais j'ai 3 jags en plus de ce beau camion et je desire faire l'acquisition d'une autre beaute anglaise, ca ferait trop! je dois donc me departir d'une de mes voitures de collection avant d'en acheter une autre...

acheteur serieux et passionne uniquement SVP. merci  
Odometer: 90,000 km

Location: Cavendish / Somerled, Montréal, QC H4V

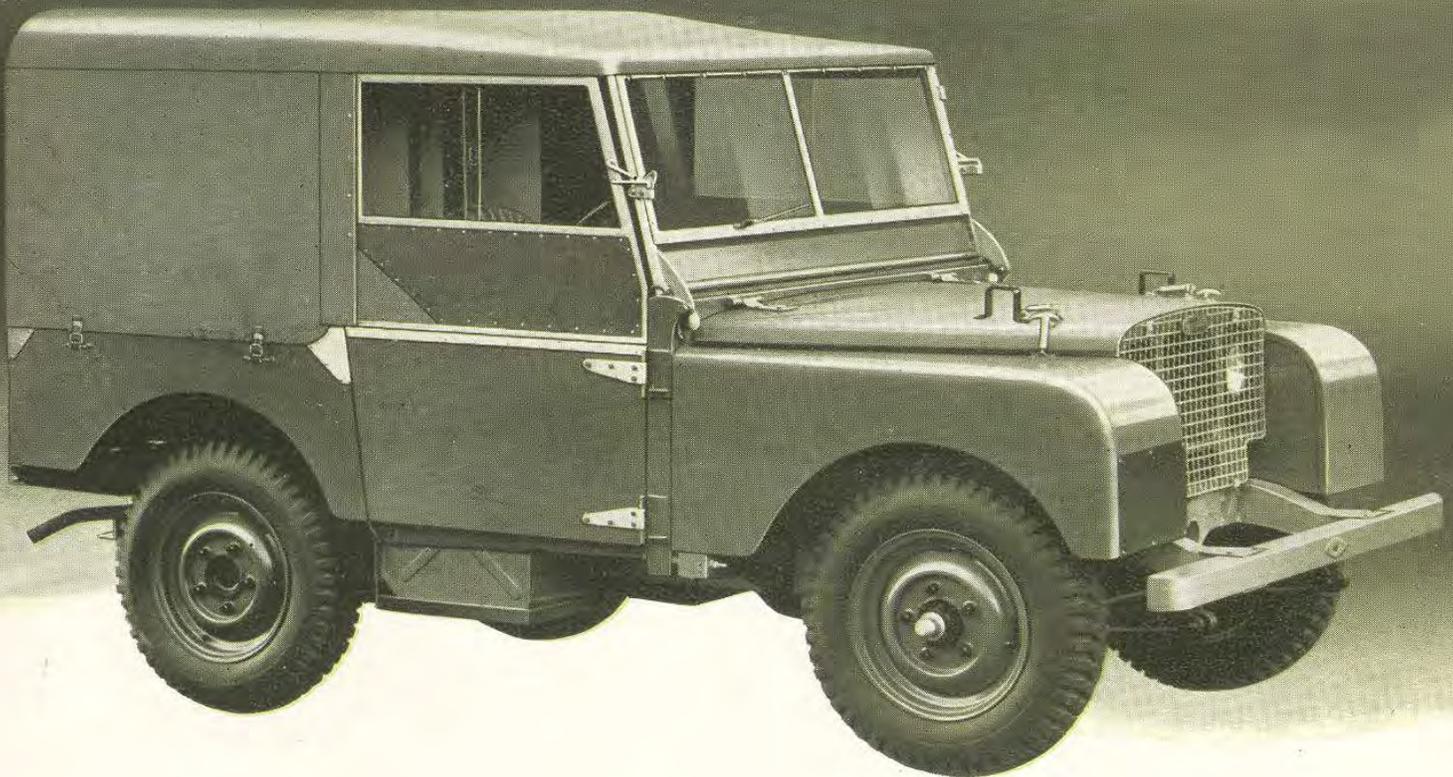
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*For Chassis specification see overleaf.*

*Second page of advert is on page 25*