

# Being prepared

By Terry Lindgren

In the past, I have been asked by many people about what I thought they should bring along with them on the 4-wheel drive trail? That truly depends on where you are going, the duration of the trip and who is going with you. It depends on whether you are going to make a 3-day trip to the Rubicon Trail alone, or you and 20 of your friends are going to take a leisurely trip over Crystal Geyser near Moab. If you're doing the Rubicon, you better be ready for anything regarding parts, tools, and recovery gear, and your rig better be in perfect operating shape. If you are just driving down Crystal Geyser, the requirements might be much simpler. But even there, you are a long way from civilization. For instance, if suddenly your brand new rig is stuck in park and won't shift, or blows a tire, or breaks a belt or bursts a hose, what do you do? A AAA flatbed tow is not really an option. Your buddies are not going to be able to tow you anywhere (It's stuck in park remember.) But if you only have a screwdriver and some other tools, you might be able to do something. So whether it is a quick trip over Fins N Things or setting out on the Rubicon Trail, in my experience the major lesson that I have learned, the hard way, is **BE PREPARED**.

In previous trips, I have had the opportunity to deal with many mechanical issues. I have noted most of them in **Appendix A** below. To those of you that I have wheeled with, see if I got them all.

So following is MY four wheelers checklist. You will probably ask, does anyone really carry all this stuff? The answer to that is that I probably carry about 95% of it. I have a tendency to wheel a lot, in many varied locations with a mixed crowd of wheelers, and I like to **BE PREPARED**. I have not quite been able to justify a few of these on these checklists due to weight and utility.

My checklist breaks down into 8 sections which follow:

1. **Pre-trip Checklist:**

Here is a checklist of all the things you should do before you set-off for the trail.

2. **YOUR PERSONAL RECOVERY GEAR Checklist:**

This stuff is your responsibility to have in your vehicle to aid in you and your travel mate's recovery.

3. **Required tools and Things Checklist:**

Depending on the confidence level you have in your rig and the people you wheel with, bring some or all of the following things.

4. **Personal Convenience Items Checklist:**

Bring these items along to make you and your passengers trip far more enjoyable:

5. **Suggested Spare Parts and Supplies Checklist:**

In my travels I have had a use for every one of the following items. I would suggest you review this list and have spares if your particular vehicle is prone to requiring these items.

6. **Emergency Bivouac Pack Checklist:**

Probably totally optional, but I keep it just in case of an unexpected stay under the stars:

7. **Get Out of a Severely Stuck Situation Checklist:**

Bring more of these things the farther from civilization you are going to be and the more self-reliant you have to be.

8. **Bonus things to consider Checklist:**

These are things we appreciate in the group, but you can get by without them. They are very useful, especially if you need to do any extreme trail repairs.

9. **ATTACHMENT A:**

A quick synopsis of as many different mechanical issues that I have encountered in my travels.

The bottom line with this checklist: Use common sense... The difficulty and location of the trail, the length of time you will be on the trail, who you are wheeling with and how often during the year, will determine how extensive of an inventory you should maintain.

But please at a minimum:

1. Maintain your vehicle in the best manner possible (I would bet at least 50% of problems are caused by an ill-maintained vehicle);
2. Establish your recovery points and carry your recovery gear;
3. Have your own set of tools. You never know - you could need a tool on Main Street USA.

All this is designed to make your travels as safe and pleasant as possible.

## 4-wheelers Trail check list

### 1. Pre-trip Checklist:

Here is a checklist of **all the things** you should do before you set-off on your next monumental 4-wheeling trip.

- a. Verify and/or install front and rear recovery points on your vehicle (This can be in the form of hooks, loops or D-rings firmly attached to your vehicle frame which is easily accessible by you and your friends, to attach straps for various recovery situations)

**NOTE:** This is one very **important point**, if you expect your friends to help you or you need to help them out of those gnarly little situations.

- b. Check and fill or change engine oil
- c. Check and fill or change Transmission fluid
- d. Check and fill Brake fluid
- e. Hydraulic-clutch fluid (where applicable)
- f. Check Battery (If it is three years old, have it tested and replace, if necessary)
- g. Transfer case oil
- h. Check and fill or change Differential oil
- i. Check and fill Power steering fluid
- j. Jack each front tire off the ground and check for any looseness or wobble in tie rods, hubs, knuckle. Fix any issue found.
- k. Check all Belts (Replace them if you bought your vehicle used or it's been a few years since replacing).
- l. Check ALL Hoses (One of the major cripplers of vehicles on the trail) Same rule prevails as 1.k.
- m. Grease U-joints, and steering joints (basically anything with a zerk fitting)
- n. Check all lights and turn signals, including LED and rock lights
- o. Check and fill windshield-washer fluid
- p. Check and fill or change radiator coolant.
- q. Check and fill tires including spare. And check for leaks or gashes
- r. Make sure you have a full sized spare tire (within 2 inches of the diameter of the rest of your tires) that is in relatively good shape?
- s. If you have them, don't forget the key(s) for your wheel locks including the spare. And keep them in a very conspicuous place so you find them when you need them badly.

- t. Do you have a functioning jack capable of lifting and safely supporting your lifted vehicle in an un-level environment? (Hi Lift, bottle, or floor-depending on the terrain and size vehicle you own)

**SUGGESTION:** If you bring a Hi Lift jack, there are a couple other items that I feel are an absolute requirement to keep yourself safe:

- 1) Lotus slider adaptor



[http://nissteclifts.com/index.php?page=shop.product\\_details&flypage=flypage.tpl&product\\_id=59012&category\\_id=170&option=com\\_virtuemart&Itemid=72](http://nissteclifts.com/index.php?page=shop.product_details&flypage=flypage.tpl&product_id=59012&category_id=170&option=com_virtuemart&Itemid=72)

and

- 2) Hi-Lift Jack Lift Mate by H-Lift



<https://ruggedrocksoffroad.com/hilift-jack-lift-mate-by-hlift-p-58204.html?osCsid=0dbh9fl472opv4skjau5jkoil2>

- u. You must have a lug wrench capable of working on those big tires you now have on your rig (An Electric or pneumatic impact would be an absolute advantage).
- v. Check for loose parts on the entire vehicle (Things vibrate and loosen. I personally have experienced all of the following):
  - Lug nuts
  - Battery terminal bolts (Actually cleaning the terminals and re-seating the terminals would be a great action)
  - Drive shafts
  - Engine and tranny mounts
  - Suspension joints
  - Brake caliper bolts
  - U-bolts

So tighten them all and remember Loctite is your friend
- w. A spare ignition key is a definite requirement. A Hide-a-key up inside the frame is a great place.
- x. Think Green - Bring your Trasharoo.
- y. You should also have an oil spill cleanup kit. This can be as simple as a small bag of cheap clay based kitty litter (Stored in a plastic coffee can since paper bags don't transport well) and a way to agitate and transport it. You can use your Trasharoo to get it out.
- z. If you have ARB lockers, it is a great idea to carry a length of that blue tubing (which is a very unique size) and a couple of the tubing connectors.
- aa. Bring your Navigation devices:
  - Maps
  - Global Positioning System (GPS) Device
  - Compass
  - A great trail leader ☺
- bb. Bring all your Communication Devices:
  - Cell phone. However, don't plan on having them work in an emergency situation. But you never know.
  - CB radio installed (Which is an absolute requirement for GoneMOAB. No functioning CB - you can't go on the runs.) Also check the SWR of the antenna to make sure the CB is functioning properly

- Ham radio installed and tuned? If you have a license (make sure to capture the local repeater frequencies and offsets for the area you are going to be wheeling).

## NOTES TO SELF ABOUT PRE-TRAIL PREPARATION:

- Always tell someone where you are going and when you will be back. Now with an organized event like GoneMOAB, we have you covered because you are with friends.
- Get your Ham License. An easy task with many positive implications while wheeling.  
BTW: It is legal for an un-licensed individual to possess a ham for monitoring frequencies and for emergency situations. Baofeng is an economical brand of hand-held ham radio, available at Amazon approximately \$35.00.
- If I air down **MY** tires, then I am responsible to air myself up at the end of the trail. So bring an air compressor (The type that plug in the cigarette lighter.. **BAD**) or CO2 tank. Also you must bring your own pre-set tire deflators unless you love to sit with the ignition key deflating one tire at a time.

## 2. **YOUR PERSONAL RECOVERY GEAR Checklist:**

This stuff is your responsibility to have in your vehicle to aid in your and your travel mate's recovery:

- a. Tow strap with loops and D-Rings (**It must not have metal hooks**):



[http://www.amazon.com/Rugged-Ridge-000lb-Recovery-D-Rings/dp/B00JS3BR70/ref=sr\\_1\\_23?ie=UTF8&qid=1453475344&sr=8-23&keywords=rope+d-rings](http://www.amazon.com/Rugged-Ridge-000lb-Recovery-D-Rings/dp/B00JS3BR70/ref=sr_1_23?ie=UTF8&qid=1453475344&sr=8-23&keywords=rope+d-rings)

- b. Leather mechanics gloves
- c. Fire extinguisher (a friend of mine watched his truck burn to the ground and then had to walk home. Wheeling alone without the right equipment SUCKS)  
**Note:** Make sure the fire extinguisher is charged.
- d. First aid kit (loss of blood makes trail repairs challenging)
- e. If you have a tendency to go out by yourself and don't like to think about those 20 mile hikes, uphill both ways in a driving snowstorm in the middle of the night, you might want to consider taking these along:
- Winch (don't forget the winch controller)
  - Snatch block (Allows you to change angles for extraction)
  - Tree protector
  - Snatch strap
  - Gloves
  - Winch bag (something to put over the cable or rope to keep it under control should it break) A jacket or towel will work too. Synth lines don't do this nearly as much as metal cable does.
- f. A serious note: Please keep all of your recovery gear: Straps, D-Rings, Fire Extinguisher, gloves, winch controller, snatch block, etc. in ONE easily accessible place, that is a place that you can get to in seconds (Remembering lives could be at stake). A possible suggestion would be in a small bag on the back seat. In my case, I keep all my recovery gear in the wet box on the top of my rig (See there is a reason for that wet box on Xterras).

### 3. **Required Tools and Things Checklist:**

**Depending on the confidence level you have in your rig and the people you wheel with, bring some or all of the following things:**

These and a little ingenuity, will get you out of many trail mishaps:

- a. A Tool bag containing the following:
  - Screwdrivers (3 different sizes both Philips and straight blade)
  - Pliers (Dikes, needle-nose, channel locks, snap ring, adjustable, locking grips)
  - Hammer (ball-peen preferably)
  - Wrenches (standard and metric- I bring both, you decide what you need)
  - Adjustable Crescent wrench - A Couple of sizes preferably
  - Sockets (standard and Metric. 1/2" and 3/8" preferably)
  - 32mm 1/2" Socket (For that pesky wheel nut)
  - Test light or voltmeter
  - Pry bar
  - Tire repair kit
  - Electrical tape, spare wire, assorted wire connectors, wire stripper and crimper
  - Allen wrenches
  - Hacksaw
- b. Duct tape (fixes everything)
- c. Bailing wire (prehistoric duct tape used back in my day) ☺
- d. Long heavy duty Zip-ties (modern-day duct tape)
- e. Rescue tape to fix hoses: [http://www.amazon.com/RESCUE-Self-Fusing-Silicone-Tape-Black/dp/B000ZTK6CI/ref=sr\\_1\\_1?ie=UTF8&qid=1453476812&sr=8-1&keywords=rescue+tape](http://www.amazon.com/RESCUE-Self-Fusing-Silicone-Tape-Black/dp/B000ZTK6CI/ref=sr_1_1?ie=UTF8&qid=1453476812&sr=8-1&keywords=rescue+tape)
- f. WD-40 (spraying under the distributor helps start trucks that have splashed through water) and good to break nuts loose.
- g. Several ratchet straps (to re-inflate tires or to hold things in place) I have used these as alternate motor mounts and also to keep an axle from moving out from under a vehicle.
- h. Several bungee cords of various lengths
- i. Swiss army pocketknife.

- j. A piece of 1/4-inch-or-larger chain 4-feet long (good for fixing suspension and motor mounts) with assorted nuts, washers and bolts to attach said chain.
- k. Matches/lighter.
- l. Radiator coolant or distilled water
- m. Jumper cables
- n. Air compressor or CO2 tank to air-up tires and optionally to run pneumatic tools

#### 4. **Personal Convenience Items Checklist:**

Bring these items along to make you and your passengers' trip far more enjoyable:

- a) Toilet paper and a method to dispose of it. Again a trasharoo. Nothing is worse to nature than looking out and seeing a vast field of little clumps of toilet paper.
- b) Some things that my lady folks have discovered to make things easier during those calls to nature on the trail:



[http://www.amazon.com/Travel-John-66892-TravelJohn-Disposable-Urinal/dp/B000NVBYD8/ref=sr\\_1\\_1?s=outdoor-recreation&ie=UTF8&qid=1453525626&sr=1-1&keywords=traveljohn](http://www.amazon.com/Travel-John-66892-TravelJohn-Disposable-Urinal/dp/B000NVBYD8/ref=sr_1_1?s=outdoor-recreation&ie=UTF8&qid=1453525626&sr=1-1&keywords=traveljohn)

Or please don't laugh but this works:



<http://www.amazon.com/dp/B0151R7CLQ?psc=1>

- c) Portable toilet (If you or your mate are shy)



[http://www.amazon.com/StanSport-271-Stansport-Portable-Toilet/dp/B000K6HN22/ref=sr\\_1\\_5?s=sporting-goods&ie=UTF8&qid=1453526325&sr=1-5&keywords=portable+toilet](http://www.amazon.com/StanSport-271-Stansport-Portable-Toilet/dp/B000K6HN22/ref=sr_1_5?s=sporting-goods&ie=UTF8&qid=1453526325&sr=1-5&keywords=portable+toilet)

d) Or your own personal hideaway:



[http://www.amazon.com/Best-Choice-Products-Portable-Changing/dp/B007ZJ99HE/ref=sr\\_1\\_2?s=sporting-goods&ie=UTF8&qid=1453525813&sr=1-2&keywords=toilet+enclosure](http://www.amazon.com/Best-Choice-Products-Portable-Changing/dp/B007ZJ99HE/ref=sr_1_2?s=sporting-goods&ie=UTF8&qid=1453525813&sr=1-2&keywords=toilet+enclosure)

My folks have discovered though that opening both doors on the side of the X and the use of the slider make for a great little commode. Nice view and plenty of privacy.

- e) Sunscreen
- f) Bug spray
- g) Lunch and snacks for the day for all passengers
- h) Plenty of water for the day (Moab has a lot of hikers and bikers out on the trail. I have found a nice gesture for us is to offer them water on the trail)
- i) Spare Rags/towels
- j) Wet wipes
- k) Folding camp chairs (One per rider)
- l) Small folding table
- m) Some source of shade (awning, tarp, umbrella)
- n) Warm jackets/sweat shirts for everybody
- o) Wet weather gear (Plastic panchos are a good option)
- p) Flashlight and a personal headlamp (Helps with those evening repairs and required for the night runs)

## 5. **Suggested Spare Parts and Supplies Checklist:**

(In my travels I have had a use for every one of the following items. I would suggest you review this list and have spares, if your particular vehicle is prone to requiring these items.)

- a) Tie-rod end or Heim joints (spherical rod ends) for steering, where appropriate.
- b) Radiator hoses (What I do is replace all the hoses before they need to be replaced and then throw all the used hoses and belts into the rig for spares)
- c) Engine belts (same as above)
- d) Front axle half-shafts (Nissans are notorious for breaking these)
- e) Rear axle shafts (Not so much)
- f) Front axle U-joints and/or Driveshaft U-Joints (With my old 4 wheeler, I used to buy u-joints by the case and learned how to replace them on the trail)
- g) Additional Spare tire - If you are in an area prone to cutting a lot of tires (Mojave Road + 60MPH), having an additional one is not a bad idea. But if you have a buddy with the same sized wheel and tire, you have it covered.
- h) Spare locking hub or set of drive flanges (for those that have them)
- i) Spare bolts of common sizes found on your truck.
- j) Fuses for your truck (some fuse panels have spaces to store spares)
- k) Hose clamps (assorted sizes)
- l) Electrical crimp kit (wire, connectors, crimp tools)
- m) Valve cores and valve core tool
- n) Lug nuts (A few spares if you have them)
- o) Power-steering fluid
- p) Brake fluid
- q) Automatic-transmission fluid
- r) Spare gasoline or diesel (This depends on how long you plan on being away and how far you are going between gas stations)
- s) Form-a-gasket or RTV silicone to reseal gaskets.
- t) Coolant and/or distilled water
- u) WD-40

## 6. **Emergency Bivouac Pack Checklist:**

Probably totally optional, but I keep it just in case of an unexpected stay under the stars:

- a) Extra warm clothing and rain gear
- b) Tent, tarp or awning

- c) Small backpacking stove and fuel
- d) Pan and utensils
- e) Several space blankets
- f) 100' Paracord
- g) As mentioned previously, drinking water (Remember enough for everybody in the rig) I have tried those little water packets. Problem is they don't hold up very well.
- h) Emergency food for a night (I have a couple of freeze dried food packets that I carry. That and some hot water, and I have dinner)
- i) One thing to note: Remember if you have critters to contend with, you have your truck along with you. I've spent a number of nights in there. It's cozy and safe, and if there are enough of you, it can be downright fun.

7. **Get Out of a Severely Stuck Situation Checklist:**

Bring more of this stuff the farther from civilization you are going to be and the more self-reliant you have to be:

- a) Spare cable (especially if you see yourself doing really long winch pulls)
- b) Extra Chain (Grade 70)
- c) High-Lift type jack (Can be used as a come-along in situations) See it is not a uni-tasker try that with your bottle jack.
- d) Pull-Pal recovery anchor (This is an expensive and large Uni-tasker. Rocks, trees and your friends 4x4 work very well as winch anchors)
- e) Shovel
- f) Axe
- g) Wood Saw

8. **Bonus Things to consider Checklist:**

These are things we appreciate in the group, but you can get by without them. They are very useful, especially if you need to do any extreme trail repairs:

- a) Auxiliary battery with battery isolator technology and inverter.
- b) Electric or air impact gun and impact sockets
- c) Under hood welder

In conclusion, I would like you to understand that this is **MY** checklist and is the product of many years of wheeling alone and with friends and being presented with a myriad of trail stopping issues. I do know the feeling of being miles from anywhere, alone with a broken or stuck rig. It is not a good feeling. I have learned the value of having friends and their rigs along on the trail, as well as the confidence derived from the knowledge that you have the inventory on-board to deal with the vast majority of issues that may come along. The worst case scenario is that you and your friends have to tow your rig out or have to make a trip to town to buy parts. And remember, a vast majority of issues are maintenance related. Change those fluids, tighten those nuts and bolts and maintain those belts and hoses. And one final note, Rust is your Enemy.

I really hope this helps to make you aware of the preparation that should be done for you and your friends to have a fun and safe 4-wheeling adventure.

Terry Lindgren

## ATTACHMENT A

In previous trips, I have had the opportunities to deal with many mechanical issues. They are as follows:

- Rig completely high centered with all four wheels off the ground.
- Vehicle fires
- Cut and punctured tires
- Blown tire beads
- Broken and torn valve stems (Yes that aluminum valve stem is not a good idea for 4 wheelers)
- Broken half shafts (IFS front axles are notorious for this, and I have broken 5 in my travels. SAS just likes to break U-joints which is not a pretty sight either)
- Bent tie rod ends caused by contact with anti-sway bar in heavy articulation
- Broken shock hangers
- Broken front coil over (yes that big 1" shaft broken)
- Broken front axle support bracket (Happened Twice – Both were Jeeps and both happened in ugly places on The Rubicon Trail and PSM Moab. And thanks to some creativity both were driven out.)
- Broken motor mounts
- Blown coolant hoses (Hmm check #1.I below)
- Cracked Radiator (Plastic radiators UGG)
- Blown Rack and pinion i.e. lost all power steering fluid
- Blown power steering hose i.e. lost all power steering fluid
- Broken belts (Hmm check #1.I below)
- Broken Battery mount resulting in battery falling over, shorting and burning cables
- Broken wheel hubs (wheel physically fell off)
- Broken U-joints
- Burned ignition cables and wires from shorting
- Battery failure
- Alternator failure
- Loose battery connections due to vibration
- Brake Caliper bolts fell out due to vibration
- Broken drive shafts

- Broken 4 link suspension (All anchor welds broke=floating rear axle)
- A Nissan vehicle in “limp mode” (Not a fun experience)