

8.

THE TRAIL

vehicle-dependent
wilderness travel

VEHICLE PACKING

Efficient use of load space makes all the difference on safari. The speed at which a vehicle can be unpacked and repacked, the ease of finding equipment and having everything in its rightful place is one of the pleasures of off-road adventuring.

PRIMARY CONTAINERS

Large containers required to hold kitchen equipment, vehicle spares, tools, food, lighting or general camping equipment should be designed to do the job so that camping does not become a chore. For example, a single box containing kitchenware and food will be too awkward to pack and too heavy to load. A series of smaller containers are more practical and, if designed to fit efficiently onto a vehicle, while remaining accessible, can remain in the vehicle for the entire safari.

Many camping and vehicle equipment suppliers have devised their own fuss-free camping systems, such as ARC's vehicle-specific packing system. (as illustrated)



Primary containers can be compartmentalised for convenience and can be made from expensive 'camera case' aluminium or painted steel plate.

Vehicle packing systems greatly improve convenience and in most cases increase usable space by utilising all parts of the irregular packing space in the back of a vehicle.



CAMPING EQUIPMENT

This list is reprinted at the back of the book as a check list for you to copy and use when packing your vehicle.

- *Tent/s*
- *Mattresses*
- *Matches*
- *Paper plates*
- *Cutlery*
- *Chairs*
- *Dishwashing liquid*
- *Pot scourer*
- *Tea towels*
- *Wooden spoon*
- *Cutting board*
- *Frying pan*
- *Mosquito coils*
- *Toilet paper*
- *Gas tank keys*
- *Spare mantles*
- *Batteries*
- *Sponge*
- *Basin*
- *Small spade*
- *Tarpaulin*
- *Rubbish bags*
- *Fluorescent light & extension*
- *Sleeping bags*
- *Pillows*
- *Stove*
- *Gas tanks/Cooking Fuel*
- *Mugs*
- *Folding table*
- *Washing basin*
- *Dish cloths*
- *Egg lift*
- *Cutting knife*
- *Poitjie*
- *Cooking pot*
- *Insect repellent*
- *Paper towels*
- *Gas/Paraffin lamp*
- *Torch*
- *Cold water Omo*
- *Hand axe*
- *Brush*
- *Water purification kit*
- *Spare batteries*
- *Tie-downs/bungie cords*
- *Aluminium insulation blanket*

Containers, whether steel, plastic or cloth should have flat sides for ease of packing and lids must be water and dust proof. A good example is the small steel ammunition box with the clamp down lid found in army-surplus stores. They are 100% waterproof if the small holes in the bottom are sealed and are ideal for carrying breakable items such as torches and paraffin lamps and stoves, vulnerable items such as matches, fuel bottles and fire-lighters, and items which you hope you will not need such as tools and spares which can then be loaded onto a roof-rack or trailer and forgotten. Also, ammo boxes are inexpensive.

Large plastic boxes with clip-down lids are readily available from off-road suppliers and, although expensive, are popular. All containers, especially those made from metal must be lined with closed-cell high density foam to prevent damage to the contents - even tools, because the rubbing and chaffing steel-on-steel will soon produce iron filings.

Military containers are ideal for safari use because they are built to withstand abuse, but, because of the sensitivity of Third World road block attendants, they **MUST** be repainted, preferably white. Items such as military heavy-duty canvas bags or tarpaulins should be dyed black or blue.

Tying articles down inside the vehicle is also advisable if over-land travel is anticipated. When a vehicle rides over an obstacle and drops down the other side, it seems to fall faster than the load inside it. The result is that when the vehicle rebounds and is coming back up, its load crashes down. The result is noise and breakages.



Dust and heavy vibrations are encountered on all worthwhile 4x4 outings. Attention must be paid to dustproofing and correct packing procedures.

Ideas

A basin has many uses such as bathing, washing clothes and dishes, draining oil and collecting water.

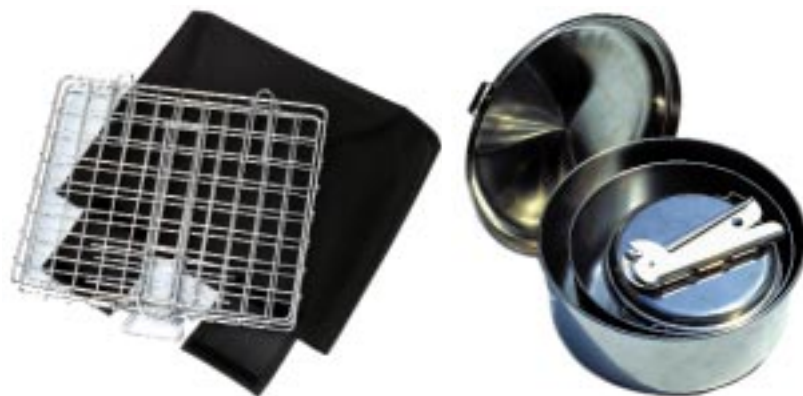
A cast iron pot, or potjie, can be used to cook almost anything and cooking in this way improves the flavour of canned meats and dried vegetables.

A small fold-away spade can be used for digging trenches around tents threatened by water, making a safe place to light a camp fire and for ablutions.

A large piece of plastic or canvas sheet/tarpaulin with eyes at each corner is a very useful item. It can be used for shade when strung between trees or vehicles, as a ground sheet for pitching tents on thorny ground, or for working under a vehicle, wrapping up sleeping bags on cold nights and collecting rainwater.

Make a protective canvas sleeve for the braai grid and stow it on the roof.

Pots should be designed to fit into one another to save packing space.



Efficient packing is common sense. Manufacturers that take packing into consideration produce such items as this fold-away braai grid and a series of stainless cooking bowls.

Although non-stick frying pans tend to get damaged on safari consider how cheap a small light-weight non-stick pan is. They do away with a major cleaning headache and are cheap enough to replace every couple of years.

Items to help with roadblocks or border posts

Carry a few packets of cigarettes even if you do not intend to smoke them. Have them visible when approaching road blocks - soldiers manning road blocks may ask for a smoke. Obliging them aids with negotiations.

Items for low-key bribes are ball-point pens, T-shirts, pair of tackies. In some parts of Africa these are worth more than money and if offered as a gift are less likely to be construed as a 'bribe'.



A well-designed and practical hold-all for toiletries and medicines is a real convenience. Available from Outdoor Warehouse.

Other bits and pieces:

- Reading matter
- Pen knife
- Sunglasses
- Maps
- Copy of vehicle registration papers
- Other licenses for the possession of special equipment such as radios or firearms.
- A handy passport pouch containing all important documents must be stored in an easily reached yet secure place in your vehicle. This one is available from Outdoor Warehouse.
- Paper and pens
- Passports and visas
- Cheque book
- Vaccination/health certificates
- Reference books
- Cash
- Driver's license/s



Food:

- Powdered milk
- Frozen meat
- Onions
- Cheese
- Flour
- Tinned veg.
- Fruit
- Carrots
- Gem squash
- Vinegar
- Beverages
- Eggs
- Cooking oil
- Potatoes
- Biscuits
- Tuna
- Sweet corn
- Baked beans
- Cabbage
- Spices
- Sauces
- Coffee
- Margarine
- Pasta
- Cereals
- Tinned meats
- Dehydrated veg.
- Celery
- Lettuce
- Mayonnaise
- Sugar

Food containers

The rattling and bouncing created when a vehicle travels on dirt roads and over rough ground will take its toll on inadequate food containers. Hard plastic is a better choice than glass. Brittle plastic containers such as those used for cooking oil bottles quickly develop cracks and the flip top lids pop open, allowing the contents to escape, creating a horrible mess. Small flexible plastic Tupperware type containers are ideal for storing most foodstuffs as well as condiments such as spices, mayonnaise, vinegar, oil, sauces and food leftovers.

Fresh foods such as onions, carrots, potatoes, cabbage and gem squash will stay fresh for some time as long as they are protected from being crushed. Eggs stay fresh for weeks but should be well packed. On a 10-day safari into the Kalahari we broke all of our eggs into a Tupperware container and simply poured them out as needed. After days of very rough conditions, of the 36 eggs, only one yolk had broken.

Your kitchen should include a wooden spoon, cooking pots, an egg lift, a sharp cutting knife, a chopping board and sealable containers for salads and fresh foods.

Shrink wrapped meat lasts very much longer than unwrapped meat even if it is not refrigerated.

Packing a roof-rack

Roof-racks must be considered as light-duty carriers and all heavier equipment must be carried inside the vehicle and only light-weight bulky gear on the roof. This will keep the centre of gravity low and will aid stability. Heavy roof-racks are dangerous. Keep all heavier articles as far forward as practical so as to lessen the load on the rear axle and distribute the weight evenly.

In heavy sand excessive load over the rear wheels will cause the rear axle to sink into the sand while the front wheels spin hopelessly on the surface. Remember that on a rough road, when the vehicle is being thrown about, the roof pillars will be taking an enormous amount of strain supporting a loaded roof-rack and it is the front pillars that bear much of the stress. Poor weight distribution will have an adverse effect on stability, mechanical and tyre wear, fuel consumption, on-road handling and off-road performance.

One of the best methods of tying items onto a roof-rack is with a hammock spread over the load held down with a number of elastic tie-downs. Bungy cords or rubber straps made from inner tube rubber, with heavy wire hooks attached at the ends, also make excellent tie-downs that will not perish in the sun.

When packing jerrycans on a roof-rack make a broad rubber band from old inner tubes and wrap each can with the band. This prevents metal-to-metal contact that results in excessive static built up and damage to the cans.



A hammock makes an ideal roof-rack tie-down.

ROOF-TOP TENTS

Unless it is housed in a hard case, the convenience of a roof-top tent comes when erecting it, not when packing it away. When they are covered by a waterproof polyurethane bag, packing it away is a tiresome chore almost as time consuming as a regular dome tent. It is also quite strenuous to pack away because it is normally done while trying to balance standing on one of the rear tyres. Technitop make a tent in a fibreglass case and with Eezi Awn the case is alloy. The extra expense is worthwhile if your primary reason for having a roof-top tent is speed and convenience. However, the most

significant benefit of a roof-top tent is that mattresses, sleeping bags and pillows remain in the tent. The space saving can even be enough to sway a decision from buying a roof-rack over a trailer.

When choosing a roof-top tent look for sturdy construction. Those built with very light poles, for example, move around a lot in windy weather and because the tent is held aloft, are more susceptible to wind. Manufacturers are trying to make their products lighter but few have succeeded because these light-weight products don't last. Another advantage of tents housed in rigid cases is significantly reduced wind resistance. Poly bags tend to fill with air and balloon once the vehicle reaches about 80 kph. Eezi Awn's new tent has elastic ties fitted inside the tent to assist packing away. With the alloy case it is extremely quick and easy. A disadvantage of a rigid housing is that they are more difficult to get in and out of because of the lip of the case. Before you purchase a tent be sure to climb all the way in and out and have the entire family do the same. Disappointments come when the tent is taken on a safari and only then is it realised that they are difficult to climb out of or are too small. Select the widest available. Two smallish people often find the narrow tents cramped. Rigid cases also fill up with water. Drain holes do not come standard with some makes - they need to be modified, or perhaps ask your supplier to do it for you. The holes need to be capped to prevent dust ingest when the tent case is closed.



*Top: Eezi-Awn roof-top tent.
Right: Technitop roof-top tent is protected by a streamlined fibreglass case.*



CAMP FRIDGE/FREEZERS

Being able to keep foodstuffs and beverages cold on a safari is a real luxury. Once you have used a fridge or freezer on safari you will never be able to do without one.

The first 12-volt compressor fridges available in South Africa were built with a 220-volt compressor and an inverter to convert 12-volt vehicle power to 220-volts to run it. It was an inefficient system and unpopular. The only alternative was the well established heat-exchange fridge/freezers whose claims to be able to freeze in high ambient temperatures were simply not true.

Today, both heat-exchange and compressor fridge/freezers are much more efficient.

For example, I tested an Engel compressor freezer and broke all the recommended rules regarding setting it up, not pre-cooling the foodstuffs and using a tired old battery to power it overnight, in a deliberate attempt to push it to the limit. The only thing I did ensure was that the wiring and electrical connections were good. It was a 39-litre unit filled to the brim with food and Cokes wrapped in plastic. At 4am we switched it on and headed out for a weekend up the Cape West Coast. By the time we had arrived at Clanwilliam for breakfast, about three hours later, I opened the Engel and the Cokes were close to freezing. That evening, powered by my seven-year-old Willard battery which was past its best, I turned the Engel to 2,5 on the scale of 1 to 5 and left it overnight. In the morning the food and cokes were still icy and the battery turned the engine over without any problems.

New technology used in modern fridge/freezers has created units that are efficient and live up to their claims that they can freeze food - and keep it frozen on safari. They are powered by one of two systems; compressor or heat-exchange. A third system called thermoelectric is used in coolers which are also able to heat up.

Compressor fridges

All portable compressor fridges are electrically-driven and all work on 12-volts. Some can also run on 220-volts. Because they are controlled by an adjustable thermostat, current draw is very efficient maintaining the fridge and its contents at operating temperature. The colder the setting, the higher the current consumption both in attaining the desired temperature and maintaining it.



In comparison with heat-exchange fridges, compressor fridges cool down very much faster. Because current draw only becomes efficient once the fridge has cooled and is simply maintaining a temperature, it is important that the fridge be run for some time before the engine is switched off and battery charging ceases, otherwise the compressor will run for a long period draining the battery to reach operating temperature.

Unlike heat-exchange types, they do not need to be levelled to work efficiently and are therefore more suitable for use in a vehicle. Compressor fridges are virtually maintenance free.

Heat-exchange fridges/freezers

Heat-exchange fridges are powered by LP gas and by 12-volts or 220-volts electricity.

The heat-exchange fridge's biggest advantage is that it is very versatile and can be powered with electricity and gas. That's especially advantageous if they remain in one location for a long period when battery charging is not possible or practical. Although they work when in a moving vehicle or trailer under electric power, they do lose some efficiency and depending on outside influences, may not freeze. When set up in a fixed location they must be levelled.

Heat-exchange types come into their own when camp is set up for more than three days when they should be removed from the vehicle and installed in a trailer or caravan where they can be levelled and worked off gas. In this situation they are efficient and will freeze easily.

To solve the problem of wiring and switches some are tempted to operate a fridge on gas when travelling. This is dangerous and impractical for the following reasons:

- *If an accident should occur, a naked flame in the vehicle or trailer could be the cause of a fire or explosion.*
- *When refuelling the flame must be extinguished. If this procedure is forgotten the results can be catastrophic.*
- *If the fridge is inside the vehicle the burnt fuel gas is a health risk and it smells.*
- *If the fridge is in a trailer the flame is easily extinguished by drafts.*

Maintenance

Check that the flame is centred under the chimney tube and the regulator is set at precisely the manufacturer's specified pressure. A yearly service of the heat-exchange mechanism should include cleaning soot from the chimney tube. Also, shake the fridge around or preferably invert it after disconnecting the gas and electricity, and leave it that way for 24 hours.

Thermo-electric coolers

Thermo-electric coolers run on the Peltier principal that if a current is passed through a special metal element it becomes cold and if the current direction is reversed the element gets hot. So thermo-electric can also be used to warm up food. Apart from a small fan, thermo-electric fridges are solid state and very quiet but will not freeze and are slow to cool when compared to compressor fridges. They run off 12-volts and are not thermostat-controlled - meaning that they are inefficient in terms of current consumption. Get one if you will be satisfied with drinks that are cool and not cold.

TIPS AND TRICKS TO EFFECTIVE PORTABLE REFRIGERATION

Setting up

Inadequate wiring caused by a combination of cheap connectors and thin cabling are the most common causes of problems with freezer installations. Although the current draw of compressor

fridge/freezers is less than that of heat-exchange types, the wiring system is no less important.

When the compressor starts up, the current draw, albeit only for a second or two, far exceeds that of a heat-exchange freezer. Some models can soar to 15 amps. Use the best quality connectors you can find.

The following calculation can be used to determine the cable core thickness when wiring up a freezer. Divide the length by 1000, for example, if the cable length is 3 metres (3000mm) then the minimum cable core thickness is 3mm and if the length is 4 metres then a 4mm cable is required, and so on. This will ensure adequate current flow along the length of cable, no matter how long it is.

Dual battery split-charging systems

When a fridge/freezer is powered from the vehicle's primary battery, there is a risk that it will be flattened overnight or during an extended stay. In the bush this could lead to a serious problem in that the vehicle would have no power to start. Dual battery split-charge systems solve this problem by enabling a second battery to run the fridge while the vehicle's primary battery remains unaffected. This second battery must be a deep cycle type, designed to cope with total discharge, which ordinary vehicle batteries are not. As a result, compressor and thermo-electric types are not suitable for permanent or semi-permanent installations where 220volts is not available or 12-volt battery recharging is not possible. The best systems are the auto-relay or manual switch systems. Diode systems are made by manufacturers such as Warn but I have yet to see one work satisfactorily.

Calculating electric current draw

Assuming that a deep-cycle battery is fitted a simple calculation can be made to establish for how long your freezer can run before it flattens the battery.

The average current draw of a heat-exchange freezer is an uninterrupted 7 amps (ampere per hour). Establish the capacity of the battery: large deep-cycle batteries have a typical rating of ± 96 amps. This means that the battery can deliver one amp for 96 hours. At seven amps (96 divided by 7) the battery will keep the freezer running for 13,7 hours. Although this sounds like enough for an overnight camp, in reality, batteries can only deliver optimum current under ideal charge and temperature conditions, and dropping a deep-cycle battery to less than 30% of its charge will cause permanent damage. Heat-exchange freezers do not have auto-cut-off devices and will drain a battery to 0%.

Calculating consumption of a compressor freezer is more difficult in that although current draw is ± 4 amps, it is interrupted by a thermostat. So, current draw reduces significantly after the operating temperature is reached. Current draw is now dependent on thermostat setting, quality of insulation, outside temperature and how many times the fridge is opened. Most compressor fridges are equipped with an auto-cut-out switch preventing battery drainage dropping below 30%.

Preparation: (particularly important for heat-exchange types)

- *Cool down everything in your household fridge before packing the vehicle freezer.*
- *Remove the plastic cling wrap around canned beverages, otherwise the plastic will inhibit air flow and reduce cooling efficiency.*
- *Liquids should be in metal containers as plastic does not conduct heat well.*
- *Over-filling the freezer will also have a detrimental effect on the cooling efficiency.*
- *Have a clasp to keep the lid tightly closed to prevent it bouncing open off-road.*
- *By keeping the amount of time the freezer is opened limited, the freezer will consume less current and the temperature has a better chance of remaining frozen no matter what the outside temperature (compressor types).*

Fitting fridge/freezers into trailers

Freezers often get damaged when fitted inside trailers. The excessive vibration tends to fatigue the copper piping. This is especially relevant to compressor types. Heat-exchange types are more robust and some makes can take the punishment of being in a trailer. When they are, it is essential that they are secured with non-stretch attachments such as steel cables and turnbuckles. They must have ventilation apertures which must be opened when the freezer is powered by gas in camp at night when the trailer lid will be closed. Heat generated above a gas freezer can damage the trailer lid so an aperture must be fitted above the vent pipe as well as at the base near the burner. These apertures must be dust-tight and closed when on the road, when the freezer must be run on the vehicle's 12-volt system.

Batteries

Suitable batteries and split-charging systems are discussed in chapter 3.

12-VOLT COMPRESSOR FREEZER - BUYERS' GUIDE

Only 12-volt compressor freezers are featured here because of their popularity with 4x4 users. They are in most cases the most suitable types for use in a vehicle.

Guide to buyers' guide:

- *Control indicates operating temperature range.*
- *Baskets improve ease of packing.*
- *Low-voltage cut-out prevents a battery voltage from dropping to a level which could cause damage. Even a deep-cycle battery can be damaged in this way.*
- *Tie-down handles ensure that the unit can be well secured which is essential for travel in rough country.*

Engel

The Engel range of portable cfc-free compressor fridge/freezers boasts a unique 'swing motor' claimed to be the world's most efficient AC/DC compressor which operates at peak efficiency at grades of up to 30°. Features include tie down handles on the larger models, deep storage bins suitable for tall bottles, steel outer casing and a wrap-around evaporator for very rapid cooling. For working in cramped vehicles, the removable lid is a very nice feature.



The Engel appears to be the most efficient fridge/freezer on the market in terms of size and current consumption. However, efficiency measured over a longer period in high ambient temperatures may prove inferior to other brands because of thinner and less efficient insulation. Engel also make a chest freezer for caravans.

Desert Cool

Desert Cool is an Engel in a different colour.

ENGEL / DESERT COOL

Type	compressor fridge/freezers
Available sizes & weights	13lit/11,5kg, 21lit/16kg, 29lit/21kg, 39lit/23kg, 60lit/33kg
Voltage requirements	most models are 12, 24 and 220-volts
Max. current draw 12-volts	3,9 amps(13-lit), 3,5 amps(15,21,29,31,39-lit), 5,5 amps(60-lit)
Control	thermostat dial controls from +10°C to -18°C or -12°C depending on model
Baskets	1
Low-voltage cut-out	yes
Tie-down handles	yes
Manufacturer	Sawafuji Electric Co. Ltd. Japan
South African agent	Desert Cool cc, (011 454 2875). Sold by all major 4x4 equipment outlets

MINUS 40

Type	compressor fridge/freezers
Available sizes & weights	40lit/25kg, 60lit/35kg, 115lit/48kg, 150lit/60kg.
Voltage requirements	12-volts. 220-volts optional (24-volt models available)
Max. current draw 12-volts	5 amps
Control	thermostat dial controls from +10°C to -25°C
Baskets	40lit-1, 60lit-2, 115lit-2, 150lit-4.
Low-voltage cut-out	yes
Tie-down handles	yes
Manufacturer	Minus 40
South African agent	Minus 40 (021 386 2290). Sold everywhere.

Minus 40

South Africa's longest-established manufacturer of 12-volt cfc-free compressor freezers produce a range from 40-litres up to a massive 150-litres in both portable box and chest models. Features include tie down handles, deep storage bins suitable for tall bottles, no visible evaporator pipes to clutter the load bin and load baskets. Insulation is excellent.



Kwik-Freeze

South African manufactured range of fridge/freezers from 40 to 120 litres powered by 12 and 220 volts. All feature trommel type handles, fan-cooled compressor, lockable lids and concealed condenser pipes and baskets. They are not as well respected as either the Engel or Minus 40.



KWIK-FREEZE	
Type	compressor fridge/freezers
Available sizes & weights	40lit/18kg, 80lit chest/26kg, 80lit low-profile/26kg, 120lit/30kg.
Voltage requirements	12-volts and 220-volt. All models also available in 220-volt-only models.
Max. current draw 12-volts	5 amps
Control	thermostat dial controls from +10°C to -25°C
Baskets	yes
Low-voltage cut-out	no
Tie-down handles	yes
Manufacturer	Margot's Manufacturers, East London
South African agent	Margot's Agencies (01431 46 1096)

Tropical Freezers

Tropical make a wide range of compressor freezers all fitted with digital thermometers. They are not common and I could find nobody with experience of this product that could be shared with me. The importers were also of no assistance in compiling information.

COOLER-BOXES

There are many types of cooler-boxes on the market these days. Choosing one is simple - you get what you pay for. Cheap cooler-boxes will keep food and drinks cooler for shorter periods. It is as simple as that. However, there are some tricks that can improve the insulation qualities of even the most inexpensive cooler-box.

If you wish to carry ice, sandwich the ice between numerous layers of newspaper and place inside a few small cooler boxes during the cool hours. Seal each box with tape. To consume the ice, open one box at a time. If the cooler box remains unopened and perfectly sealed, ice will remain solid for up to a week!



Seal the lid with tape. Even the expensive model's lids seldom have a 100% seal. Open cooler-boxes as seldom as possible. Whenever the cooler-box is opened, the inside temperature increases dramatically.

Cooler-boxes are often used in conjunction with freezers to keep food fresh. Place frozen foods once they have been removed from your freezer in your cooler-box. In this way, energy used to freeze is recovered in an useful way.

CAMPING

Sleeping inside the vehicle

In hot climates, mosquito netting cut to size and attached to the windows with Velcro will allow the windows to be opened at night. If the vehicle has to be emptied, all foodstuffs must be stored in very strong boxes (preferably steel) to resist attempts by animals such as hyena to gain access.

Sleeping on vehicle roof-racks, whether in a tent or in the open, is ideal because being well away from the ground is a safe refuge from snakes and scorpions. In the dry season, sleeping in the open on a roof-rack is a pleasure - except for attacks by mosquitoes, which can be dealt with by constructing a simple mosquito net which covers the part of the body that is exposed. Alternatively, burning mosquito coils all night will help.

Camp cooking equipment and techniques

LP Gas is the most common fuel used on the safari although it is less efficient than many other fuels. The convenience of gas and the wide range of accessories is its biggest advantage. Alternatives such as multi-fuel stoves are smaller, lighter and more fuel-efficient.

Cast iron pots are very useful on safari. I find that three legged iron pots are awkward to pack and are less versatile than flat-bottomed types. We have used a flat-bottomed pot with great success in baking bread, rolls of meat, potatoes and even chocolate cakes on an ordinary wood fire. The trick to baking in such a pot is to build the fire in a shallow hollow on a flat rock. Before cooking remove ALL coals from the rock and position the pot on the rock, placing hot coals around, but not touching the pot. Then place a few hot coals on the lid. Rotate the pot from time to time. After a little practice baking will become very easy indeed.

Lighting fires

If you find your matches wet and you don't have a lighter, use a magnifying glass from a penknife or a lens from a binocular to

burn dry grass. Dry grass is better for lighting fires than newspaper, but start with only a small clump otherwise the fire will be smothered and will smoke excessively.

If all the wood is wet and smokes instead of burning, line the base of your fire with tin foil. This insulates the fire from the damp ground and the heat reflected by the foil accelerates the burning.

Keeping warm at night

Hot water bottles are a good idea for cold winter nights. Another solution is to take a rounded rock, about ten inches in diameter and place it next to the camp fire with one side of it over the coals. Rotate it periodically during the evening. Fifteen minutes before retiring for the night take the rock and wrap it in a towel. Do not let the rock get too hot otherwise you may scorch the towel. Place this warm bundle inside your sleeping bag. It will provide a substantial amount of heat for most of the night.

But beware: if you are the type that thrashes about while fast asleep you may wake up suffering from bruises or even burns. However, do not rely on finding suitable rocks in desert and semi-desert regions. Parts of the Kalahari, for example, are without rocks.

Camp lighting

Some lamps are noisy and others are quiet. Some give a very blue light, and others nothing much more than a warm, golden glow. The colour temperature of a light source, be it blue or gold, differs greatly, and although not always apparent to the eye, affects the eye's ability to compensate to darkness when the light is extinguished. Briefly, the bluer the light, the slower the eyes will compensate. After being exposed to bright gas or fluorescent lights, the eyes will take a very long time to compensate, while the effects of low intensity electric light or fire light may only take a minute to disappear.

In order from blue to red, the list of camp lights is as follows: fluorescent; high pressure paraffin/gas; electric incandescent; paraffin/candle/firelight. The light intensity, or brightness, will also affect the eyes' ability to compensate. Ideally, the light source should be a low intensity warm light. It should also be quiet.

If using LP gas lighting, as most campers do, run at half power. The light will be warmer and therefore kinder to the eyes. It's very much quieter and is far more fuel efficient at this level. At first, running lights at half power will appear dull but you will be surprised how well your eyes will compensate and become accustomed to it.

I use a number of 12-volt 2-watt torch bulbs on a long extension for exterior camp lighting. They are silent, give a low intensity warm light and consume very little current. I have a Coleman paraffin light for use when a brighter light is needed, eg. when



A multi-tool or penknife in a belt pouch is a worthwhile investment for the camper. Having looked closely at the broad range of multi-tools, I decided on the Leatherman Wave. Available from Outdoor Warehouse.

KEY TO PHOTOGRAPHS

- A. Wind screen. 6metres long, 1,6 metres high. 5 poles with guy ropes & pegs. Supplied in light-weight bag. Available at Makro.
- B. Vehicle packing rack. See page 248. Available from ARC.
- C. Fold up camp chairs with armrests. Must be rattle-resistant, compact to pack and comfortable. These ones come from Makro.
- D. Dome tents are ideal for safari use. Should have sewn in ground sheet with added fly sheet and canopy. Very quick to erect. Available from all good camping stores.
- E. Roof-rack bag. Welded seams sealed with zip and velcro. Water and dust-proof. Makro.
- F. Clean air, clean water, lots of animals etc.
- G. Portable commode. An adapted camp chair for use in private. Practical, light. Makro.
- H. Folding table. This is a Coleman. Not overly strong but very lightweight and therefore good for packing on a roof-rack. Makro
- I. Off-road shovel. This is the author's purpose-built off-road shovel. Also good for camp chores. See chapter 6. Available from Safari Centre.
- J. Folding, self-standing washing basin. Makro.
- K. Eezi-Awn roof-top tent. Available with plastic and aluminium cases from 4x4 stores.
- L. 12-volt fluorescent light. Ideal for camp chores. Available from most camping stores.
- M. 3-way fridge/freezer. Available from Makro and caravan suppliers.
- N. Engel freezer is a good choice of compressor freezer. There are many good similar freezers to choose from. See buyers' guide earlier in this chapter.
- O. Wolffpakk - plastic 'ammo boxes'. Efficient, economical packing system. Makro and some 4x4 equipment outlets.
- P. Raylight long-life rechargable torch. See page 266. Makro.
- Q. Bush-Lite hanging candle lantern. see page 265. Available from Outdoor Warehouse.
- R. Shower or toilet tent. Simple, quick, robust and private. Complete with ground-level wind deflector and hanging bag for soap etc. Simple and sensible. Makro.
- S. Shower head. Collapsible and light.
- T. Coleman cooler box. All good camping stores.
- U. A very good 4x4 trails book. Available at Safari Centre, AA stores, Exclusive Books, PNA, Outdoor Warehouse, 4x4 Warehouse and some CNA stores. See page 281.
- V. Coot. Available at most water holes.



kitchen duties such as food preparation and cooking are being performed, and a fluorescent tube on an extension that can be plugged into vehicle power points for demanding tasks such as working on a vehicle, when anything but good lighting makes the job that much more frustrating.

If you are carrying liquid fuel such as kerosene use unbreakable metal bottles with good leak-proof caps. Purpose-built commercially available fuel bottles which come in sizes ranging from 250ml to 1-litre are best.

Candles

The warm glow of a candle is impractical in the bush unless it can be protected from the wind. The Bush-Lite candle lantern does just that. A single candle lasts all night and the lantern can also accommodate a mosquito pad



Torches

I would not have believed that a torch could be too bright until I acquired the rechargeable Maglite torch (Magcharger). This torch cannot be used in the middle of the night inside a tent as it is so bright that the effect is the same as switching on a 220 volt, 100-watt incandescent bulb at home. It takes minutes for one's eyes to adjust.



They are however wonderful outdoors, the battery pack giving about 30 minutes of the brightest most penetrating hand-held torch-light I have ever seen. In fact it compares only marginally unfavourably with a Coleman 500 000-candlepower spotlight. All Maglites are made of heavy-duty aluminium, are water-resistant and very rugged. In short - they are unbeatable for ruggedness. I bought my first Maglite in 1982 and still use it regularly.

Another torch which I find very useful is a Raylite long-life rechargeable. It is based on a miner's lamp and is the most versatile, if heavy, torch I have used. The battery is 4-volts and powers the standard beam head and an optional fluorescent lamp which can be connected independently. The best part about the battery is that it will run any one of the lamps for 16 hours. When camping I use it as a portable light source for outdoor cooking and then as a night-light for my children. The charging time is equal to the time a single light is run, ie. 16 hours for a totally flat battery.

Bulbs and batteries

There are two types of bulbs to choose from: regular incandescent and high-intensity krypton. Regular incandescent are cheap and drop-resistant but do not perform well. Krypton bulbs deliver a much brighter and whiter light for a similar current draw. Krypton bulbs come in two distinct price ranges: moderate and expensive.

The most expensive krypton bulb can be identified by the integral magnifier. As the moderately expensive types fail with monotonous regularity and are poor value, I recommend the most expensive bulbs as they are very long lasting and appear to be able to withstand a lot of abuse.

Alkaline types show their mettle when used in a constant current draw situation, whereas zinc carbon batteries are better suited to intermittent use during a limited period. The shelf life of alkaline batteries is very much better than zinc carbon batteries.



Insect repellents

Mosquito coils are very effective as long as there is no wind. What is more, they work even better if burnt close to the source of light. Insects first fly to the source of light and then they buzz around looking for targets.

Insect repellents come in many different forms. Spray-on and stick repellents such as Peaceful Sleep and Tabard are best applied to ankles and socks as well as to exposed skin. This will prevent ticks from crawling up the leg. Repellent lotions are also available, and all of these products are toxic. Contact with sensitive skin, on the lips and eyelids will cause irritation. Some repellents may cause a skin reaction with certain people and if a new brand is taken on safari it is advisable to test it on the skin before departure. Mosi Wipes, wet-wipes impregnated with repellent, work very well.

I once witnessed the agony of a visitor from the United States, who, on his first night in the bush, thought he had caught a dreaded bush disease when his skin turned a fiery red interrupted by

numerous bluish blotches scattered over his body. He had not kept it a secret that he was worried about the malaria threat and the possibility of picking up ticks, so whenever he ventured out of his reed hut he doused himself in a protective layer of repellent. No more than five minutes in the open brought on an attack of red skin and blotches. His reaction was to shower which he said gave temporary relief, but then he would put on more repellent immediately afterwards. It took two whole days for him to realise that it was the repellent that was attacking his skin - not insects!

Other less orthodox methods of discouraging mosquitoes are found in repellent arm bands, repellent bars and vitamin B12 which perhaps is the most unusual. I am assured that a course of vitamin B12, started two weeks before departure and continued during exposure, makes mosquitoes think twice about biting. Arm bands impregnated with insecticide are also very effective and if worn around the ankles would also be very effective against ticks. I am told that in some areas, a few ripe tomatoes cut open repel mosquitoes. I tried this on two occasions and it had no effect.

Refuse and ablutions

Some conservationists abroad advise burying rubbish. In Africa this is contrary to all proper thinking. Animals, namely baboons, jackal and hyena dig it up and spread it around.

Burn it or take it with you. To aid in the processing of refuse and to make it easier to carry, I suggest the following:

- *Use paper plates and burn them in the camp fire.*
- *Do not burn plastic - it melts down but still constitutes litter.*
- *Use a four pound hammer and a wooden block (or the jacking plate from your high-lift) to crush beer, soft drink and food cans. This will reduce the bulk of your rubbish.*
- *Carry some large sized heavy duty plastic bin bags in your safari kit. Rubbish in bags strapped to a roof-rack will prevent smells inside the vehicle and can be easily discarded when a town is reached.*
- *Use bleach-free toilet paper and if possible burn it before burying it. Dig a hole as deep as possible - at least 30 cms.*

Hiring camping gear

Camping Africa, owned by well known outdoor expert Charlotte du Toit, runs an excellent service advising on the purchase and use of camping and safari gear. She also runs an equipment hire service from Johannesburg. Camping Africa: 082 555 3287, email: campafrica@icon.co.za

SAFARI CLOTHING

Perhaps the single most important item in the safari wardrobe is a good hat. Wide brimmed hats are better than caps as they keep the sun off the neck as well as the face. Like the hat, other clothing should be chosen to protect the body against the elements and to blend in with the surroundings.

Daytime:

Camouflage against animals is not dependent on colour, since most animals are colour-blind. Interrupted patterns that break up the human shape work best. Even bright blues and red cannot be seen by animals - in fact, pure blues are better than any other colour for animal camouflage. Long baggy trousers are the best protection against snakes and are most comfortable when walking through tall grass.

Night-time:

Never underestimate how low temperatures can fall during darkness. Wherever and whenever you go on safari, take along a warm jersey and a windcheater.

Footwear:

If you intend to walk, wear boots or tackies. Sandals and flip-flops are totally inadequate - they allow grass to cut the feet and are no protection against biting insects or snakes. At night, boots or tackies are also recommended, as snakes and scorpions are largely nocturnal.

FIRST AID

You will need a basic kit for emergencies or to tide you over until medical help is found. This is something to discuss with your family doctor. You should also mention drugs that will be carried to combat common illnesses; diarrhoea, vomiting and allergies as well as the carrying of needles and syringes should an injection be required in a situation where sterility is dubious.

A first aid kit should include:

- *Analgesic ear drops.*
- *Antihistamine ointment and oral preparation.*
- *Anti-inflammatory gel.*
- *Anti-emetic preparation.*
- *Antiseptic concentrate, ointment or powder*
- *Cotton wool*
- *Crepe bandages; large and small*
- *Gauze swabs*
- *Paracetamol for fever or pain*
- *Paracetamol plus codeine for stronger/adult analgesia*
- *Rehydration powder or tablets*
- *Scissors*
- *Sling*
- *Splints*
- *Sticking plaster*
- *Sunblock*
- *Thermometer*
- *Wound closure strips*

Snake bite kits

The value of a snake bite kit in the bush is questionable. Seldom is the small amount of antivenom carried in a kit sufficient to help

the patient in any way. More importantly, due to the toxicity of antivenom, it should only be administered by a medically qualified person in a situation where appropriate action can be taken to counteract the severe life-threatening allergic reactions which can occur.

Thorns and narrow bush tracks

Keep windows wound up at least to eye-height when travelling along narrow bush tracks. The dangers of eyes and faces being spiked by thorns is then kept to a minimum. This is particularly necessary with children who love to hang their heads out and feel the fresh air on their faces.

Stings and bites - First Aid

The effects of stings and bites from insects, scorpions and snakes can be partially relieved with the use of a suction device called Aspivenin. The kit consists of a special syringe and a range of suction nozzles of varying sizes. If applied immediately after a bite or sting, the Aspivenin will suck a quantity of poison, relieving pain and helping to reduce swelling.

Phutsi fly

This annoying insect is found throughout Southern Africa and is particularly prevalent during the wet months. It lays its eggs in damp clothing that has been hung out to dry. Then, when the clothes are worn the eggs hatch and the worms burrow into the skin causing severe irritation. Spread a liberal layer of Vaseline jelly over the infected area and cover with a sticking plaster to starve the worms of air. To prevent Phutsi Fly, all washed clothing must be ironed.

WATER AND SURVIVAL

Do not underestimate the importance of water and the maintenance of proper water intake by the members of your group of travellers.

In May 1998 I got a vehicle bogged down on Sowa Pan. Two of us were travelling in a single vehicle. The day before I had spent about three hours in the sun shooting pictures and by evening I realised that I was dehydrated. I began a program of drinking large amounts of water over a prolonged period. By the time we got bogged down the following day I thought I had recovered. After 30-minutes in the scorching heat on Sowa Pan the symptoms returned in a form which spelt danger. Initial symptoms of dehydration is a headache and tiredness. Advanced dehydration comes in the form of nausea, light-headedness while sweating seems to stop. It can also be accompanied by a rise in body temperature probably because the body's cooling mechanism is failing.

This is what happened to me. It was our last day before our return leg and we had only 15-litres of water remaining. The heat was intolerable, the sun and white surface of the pan unbearable and our vehicle, which had overheated, was deep in a mire of

thick black mud. Already dehydrated, with not enough water, miles from nowhere and with an immobile vehicle - it was a scary situation. Knowing the dangers of crossing the pans and having got myself into this predicament I wanted to turn around and give myself a swift kick in the backside for my foolishness. I decided that we should have one attempt to get the vehicle out but that our preparation would be thorough. If the recovery attempt failed we would construct a shelter and rest until nightfall.

Having donned a long sleeve cotton shirt and long trousers for protection we began to work. One hour later, with rests every five minutes, we made our first attempt and succeeded. Things could have been very much worse.

Carrying water

Water consumption should be calculated at no less than six litres per person per day in summer, and four litres per person per day in winter. This includes washing and drinking. Additional water requirements must also be catered for.

These are:

- *Vehicle requirements: radiator refills, windscreen washing, cracked pipes and leaks.*
- *Tyre repairs: soap and water is needed for lubricating tyre levers.*
- *Evaporation and spillage.*

On extended trips, water stored in a translucent container will eventually turn green. Black, light-proof plastic containers are therefore best for water storage.

Water cans with a plastic tap at the base are very convenient, but because the taps are easily broken, remember to remove the tap and replace it with a plug when travelling. I prefer heavy plastic water cans with handles. I decant water from these cans into a smaller insulated water container with a small tap at its base. This keeps the water easily accessible and cool at the same time. The light weight of the small container also means that it can be moved around with ease.

Steel water cans can give the water a metallic taste and rust can make the water undrinkable. If you wish to carry water in steel jerry cans, paint them white to avoid possible confusion with fuel cans. The white surface will also help to keep the water cooler.

Wine bags (the silver bags found inside 5-litre boxed wine) make excellent water carriers. When frozen solid and then placed in a cooler-box, they make excellent space and weight savers - when they thaw, you have 5 litres of drinking water, and when empty they can be folded up and put away.

Water carried in goat skin or canvas cooler bags is a way to keep water cool for drinking but the substantial water lost due to evaporation must be taken into account. Although hanging a cooler bag on the front of the vehicle cools the water very quickly, the bag must not simply be hung on the string handle as the abrasion caused by a rocking vehicle quickly damages the bag and the string handle soon breaks.

Be sure to disinfect water bottles once they are more than a year old by filling with water and adding a teaspoon of chlorine. Leave

for a couple of days and then rinse thoroughly.

Vehicle water tanks

The golden rule when carrying water is: never carry all of your water in one container. Should a fitted tank split while travelling and all the water run out, you may find yourself in a situation where you are left with no water at all. Carry a quantity of water in a container that is transported inside the vehicle. This must be regarded as your emergency supply and must not be decanted into the vehicle's auxiliary tank.

The fitting of auxiliary water tanks is covered in chapter 3.

Camp showers

Portable camping showers consist of a heavy duty plastic bag, black on the one side, transparent on the other. A short hose, tap and rose are attached to the bottom. It is filled with water and left in the sun with the clear side exposed. After about three hours, it is ready to give a delightful hot shower. Left in the midday sun for five hours it will produce water hot enough for a cup of tea, although this is not recommended by the manufacturers.

These showers hold between 10 and 15 litres, are inexpensive and are available in most camping stores. Alternatively, use the cooler times of the day to view game and enjoy your surroundings, and during the midday heat when all the animals are resting in shady places, enjoy a cold shower.

Washing clothes

For very long trips into the wilderness a bucket with a sealed lid is useful. Put in the soiled clothes, a tablespoon of washing powder and hot or cold water. Now drive for a while over some rough ground. The harder your suspension, the cleaner your washing will be. The bucket is also useful for many other camp duties.

WATER PURIFICATION

Iodine and chlorine

In an emergency Iodine is very useful to the traveller for purifying water because it is readily available in most towns. It is also available at mission hospitals and clinics. Chlorine tablets are available as a water purification agent, but like iodine, are rendered inactive by pollutants in the water. It is therefore necessary to filter the water through gauze or cloth before the chlorine or iodine is added. Beware of overdosing - iodine and chlorine are poisonous in high quantities.

It is far better to equip yourself with one of the better suited water purification systems available from most camping stores. Good examples are Chlor-Floc purifiers and Katadyn water pumps.

Chlor-Floc

This is perhaps the best tested chemical field purification system available and is called 'Syn. Aquacure' in Britain. Its name is derived from what it does; 'Floc', means flocculation: the removal of debris, and 'Chlor', means that it chlorinates the water. Ingredients in each tablet cause the sediment to coagulate and



Camping in waterless, barren and unpopulated areas is the final reward of off-road adventuring. This is one such place - Kubu Island on Sowa Pan, Botswana.

separate. This sediment can be removed by pouring the water through a cloth strainer. No special equipment is necessary and purification can even be done by making a hole in the ground next to a raw water source.

Filtration

Unless filtered through ultra fine membrane filters, filtering without chemical purification will not make the water drinkable. It will only serve to make it more pleasant to look at, since harmful bacteria and viruses will pass through all but the finest of filters. Filtration should take place before purifying with iodine or chlorine, and afterwards when using Chlor-Floc. A cloth filtration bag available at camping stores will make the job easier.

Filter pumps

I have had first-hand experience of Katadyn water filter pumps. These devices require no chemical additives whatsoever, and although expensive, are unequalled in their efficiency and ultimate safety - in fact they are so safe that the source water can be ridden with typhoid, dysentery, cholera and the purified water leaves the pump crystal clear and ready to drink. Not only is the water cleared of harmful bacteria and viruses but of pesticides, herbicides and harmful chemicals as well. In some models the water produced is pharmaceutically sterile. Katadyn are standard issue to the Red Cross throughout the world.

It works in this way: the inlet pipe is lowered into the source and the water is first filtered through an open cell foam filter housed in a wire cage, thereby preventing the ingestion of large particles. Then the water is pumped under pressure through a special ceramic filter. Katadyn is Swiss, beautifully made and very durable. The filters do need periodic replacement but this is at surprisingly long intervals - the Pocket pump can filter 50 000 litres and the Mini Pump 7000 litres before the filter needs renewing. Katadyn products are available via mail order from good camping stores.

Even if you think you may never need it, buy a purification kit or filter pump and stow it in your vehicle. Be prepared for the unexpected.

Boiling the water

Boiling water will kill many, but not all, of the bugs in water that could make you ill. There are many hardy viruses that will not be killed, so additional purification methods should be used especially if the water is taken from areas close to human habitation and therefore prone to disease-carrying bacteria. If boiling is the only method used, boil for a minimum of 12 minutes.

WILD ANIMALS

Before you set up camp, look closely at the area you are considering. Game tracks look like people tracks - flattened paths that snake their way through the bush often to and from water. If a hippo or a herd of elephant use this track on a regular basis and you set up camp in their path, it could lead to an unpleasant confrontation. It is imperative that you never sleep with food stored inside your tent. You are very safe inside a tent, even against lion, hyena, hippo and elephant, as long as you follow this advice.

If you camp close to water, remember that game will want to drink and therefore you should ensure that there is easy access for the animals, especially if you are camped in an arid area. Animals made skittish by your presence may be too scared to drink and could die. Do not approach wild animals on foot unless you are accompanied by an experienced guide.

Washing and swimming in pools frequented by crocodiles and hippo is dangerous and should only be done once the area has been thoroughly looked over and there is somebody keeping constant watch. If you are going to swim, I strongly advise making the swim as brief as possible.

In many areas where animals are accustomed to the presence of humans, hyena, baboons and monkeys will raid your camp when your back is turned. It is important not to allow these animals access to your food. They will eat anything they can reach, and if they succeed they will become versed in the art of stealing which will only encourage them to try again.

NEVER, FOR ANY REASON WHATSOEVER, FEED A WILD ANIMAL

Once, while camping at Serondela in the Chobe Game Reserve in Northern Botswana, I placed two full 20-litre jerry cans on the lid of my cooler-box to prevent the baboons from getting inside. I walked about 20 yards away to do some fishing. After about five minutes I heard the clang as one jerry can hit the ground. I turned and ran towards camp. By the time I got there the lid was open and three rolls of Kodak film had been stolen. The baboon, more used to stealing citrus fruit, obviously thought that if it was yellow, then it must be tasty. I seethed as I watched the baboon climb the trees above the water, tear open the boxes, undo the plastic containers and drop my films into the river. Since that trip to

Serondela, dozens of resident baboons have had to be destroyed because they became talented at tearing open tents. All this could have been avoided had they never been fed, or been allowed access to campers' foodstuffs.

Scorpions

An easy way to identify a harmless scorpion from a dangerous one is by the size of its pincers - the smaller the pincers, the more dangerous the sting. Scorpions with large pincers have less need for a highly toxic venom and hence the sting will be no worse than a wasp. Scorpions armed with small pincers will be armed with a more potent toxin in their sting, and a thicker tail. The venom is neurotoxic and the sting can result in cardiac or respiratory failure, or both. Some scorpions can spray their venom and envenomation of the eyes can result. It is therefore very wise to treat a scorpion as if it were a snake. Do not get too close, do not antagonise a scorpion or pick up a dead one. Scorpions seem to be attracted to camp sites and you may find one under a tent ground sheet when the tent is packed up, or under a jerry can or cool-box left sitting on the sand. They also like living in cracks in dead wood, and the risk of being stung while collecting fire wood is very real. Shake out your clothes and shoes before putting them on in the morning. Because scorpions and many snakes are nocturnal, do not walk barefoot at night.

Snakes

Knowing about snakes, where and how they live, will go a long way in helping to avoid an unpleasant confrontation.

Most snakes depend on camouflage to protect themselves and unless they are moving they can become very difficult to see, even at close range. Fortunately snakes for the most part prefer to flee and will only attack in self defence. This is why more than 90 per cent of recorded bites have occurred in people handling snakes. (Source: A Field guide to Animal Tracks - L Liebenberg) The puffadder on the other hand remains motionless when approached. This is why this highly venomous snake features very prominently in the list of recorded bites, as most are unwittingly stepped on and the snakes have retaliated by striking.

Here are a few simple rules:

- *Wear calf length boots and long loose fitting trousers when walking in the bush. If a snake strikes, it may bite into the loose trousers and miss the victim's flesh altogether.*
- *Step onto rocks and logs and not over them. A snake resting on the other side or under a log will not be seen, and a step onto and a glance over the log may reveal a snake which may otherwise have been stepped on.*
- *Avoid walking in very long grass where the visibility of the path is restricted.*
- *If you are picking up rocks or logs, do so by lifting or rolling them towards you, thereby allowing a path for a snake to escape by moving away from you.*

- *Never put your hand into a place in which you cannot see, like a burrow or a hollow tree trunk. A snake may have made it a home and will have nowhere to run to if it feels threatened.*
- *Do not walk around at night without a good torch - many snakes are nocturnal.*
- *Should you encounter a snake at close range, remain motionless until the snake retreats. Alternatively, withdraw very slowly - snakes have very poor eyesight and will strike at what they perceive to be threatening them. A sudden movement may induce a strike.*
- *Do not pick up a 'dead' snake unless you are absolutely sure it is dead. The rinkhals shams death when threatened and if it is touched will immediately strike.*
- *Do not approach snakes to get a better look unless you know what you are doing. Some species like the Mozambique spitting cobra and the rinkhals are able to spit their venom up to three metres and should the venom enter the eyes, thorough and continuous cleansing with water will be needed if the victim is to avoid permanent eye damage. Wearing sunglasses gives good protection against spitting snakes.*

Ticks

Because ticks carry disease, some of which can be fatal, it is important to know how to avoid being bitten. Wearing boots with long trousers and applying insect repellent or paraffin to your socks will prevent them climbing up your legs. Ticks often sit on the ends of long blades of grass and wait patiently for a host to pass by. If you walk through long grass, inspect yourself thoroughly afterwards. If you find a tick, do not pull it off as it may leave its head behind. Smearing Vaseline, grease, disinfectant or alcohol onto the tick will make them release their grip. Some tick species bury themselves under the surface of the sand and lie in the shade of a tree waiting for a host to use the shade as a resting place.

Ostrich

We have encountered ostrich on many occasions on our travels and at no time have I felt comfortable with them when they have been bold enough to approach us and stay close by. In the Qwaqwa National Park there are semi-tame ostrich which are frankly a nuisance and can become aggressive without provocation. These birds will run for kilometres alongside a vehicle and get uncomfortably close. I have been told by reserve staff that they are not to be trusted.

When protecting its nest an ostrich becomes very dangerous, so never approach an ostrich nest even if it appears to be unguarded. This rule applies to every wild animal - threatening young offspring will produce a fearless defence from almost all animals, big and small.

Hippo

The hippopotamus accounts for more injuries and death than any other wild animal in Africa. They do not mock charge. Because of their poor eyesight a charge is normally wild and without direction.

Moving sideways or climbing trees is the only escape route as out-running a hippo is impossible for even the fastest athlete.

To avoid confrontation with hippo:

- *Do not camp on or too close to game paths leading to water.*
- *Do not shine bright lights at hippos, even if they are in the water. They have been known to charge at the headlights of a vehicle - so do not drive around at night in hippo country. This is one of the reasons why driving at night is forbidden in most game reserves in Southern Africa.*
- *Do not get between a grazing hippo and the water from which it has come - you will be cutting it off from its place of sanctuary and it may charge.*
- *If a hippo should rise up under and tip your boat, the best course of action - probably the only course of action - is to jump into the reeds and hide. And pray!*
- *If you are in a boat, keep at an extra distance if the hippo are with young. In this situation they can become very aggressive and will attack the moment they feel threatened. Hippo move with astonishing speed under water and a charging hippo may only be seen when it is too late.*

Lion

Like most animals, lions will usually move off when they become aware of approaching humans. The danger occurs when walking down-wind and the lion fails to notice your approach. Lions, especially when feeding or when they are with cubs, can become very aggressive and charge. The best course of action if you find yourself close to a lion or lioness is to remain motionless staring directly into the lion's eyes. If you turn and run, the lion's instinct may take over and you will be chased and brought down, whether the lion is hungry or not. If the lion charges, stand your ground, stare hard and shout at the top of your voice. Avoid high pitched screaming as this may be construed as fear. Throwing sticks towards the lion will help. The lion, realising that you have no fear of him will back away. Happily, I give this advice without first hand experience, but it comes from those who have.

Leopard

Shy and reclusive, leopard will more often than not move away when approached by humans. They can however become a threat if they are suddenly disturbed. In this situation, eye contact with the leopard should be avoided as this will let the leopard know that it has been seen which will promote a response, in most cases a quick withdrawal. The other alternative is that the leopard will charge. Leopard do not mock charge and unlike a charge by a lion, shouting at it will have little effect. In short, if you come across a leopard that is uncomfortably close, do not look directly at it and immediately move away to a safe distance before you do so.

Tracking leopard is dangerous, especially if the leopard is injured or sick. Leopards have been known to back around their trackers and attack. Leopards are not a danger to people camping out in the open and only in very rare cases have leopards been known to attack humans for food.

Elephant

When on foot always establish in which direction the wind is blowing and walk into the wind. This rule applies to all wild animals if you wish to approach them safely and to a distance close enough to get a good look without their taking fright and moving away. This is particularly important when approaching elephant because, unlike most animals, elephant will not always turn and move away - they may not wish to have you around and may move towards you and chase you. Elephants use their trunks to smell and will raise them above their heads and point toward you. If they do this you can be pretty sure that they have smelt you - if they do not move away it is unlikely that they will be happy with the existing arrangement. This is a good time for you to retreat. Make sure that you then remain downwind until you are at a safe distance. Do not wait until the last minute to retreat. Elephants often mock charge. They do this with their ears flapping and they often accompany this performance by trumpeting. They may only mock charge once. The next may be for real and elephants do this with their ears held back. You will not outrun an elephant and climbing trees is of little use. If you are forced to run, run downwind. If you manage to get out of sight, hide in the thickest undergrowth you can find. Elephants have poor eyesight and rely on their acute sense of smell to locate their enemies. Elephants in a herd with young are the most likely to become aggressive. Elephants found in hunting areas are often very wary of humans and they should be kept at a good distance whether you are on foot or in a vehicle. Unlike buffalo, lone bulls are normally placid.

Buffalo

A lone buffalo is perhaps the most unpredictable of all African wild animals and will often charge without warning. They rarely mock charge. If you are on foot and come across a single, or a small group of buffalo, immediately look for a suitable tree to climb. Do not wait for a charge before looking for a tree because if it should charge, time wasted in finding a suitable tree could mean the difference between life and death. Large herds of buffalo are not dangerous - but if you do not spot a lone straggler and you get too close you could find yourself in trouble.

Rhinoceros

Like the elephant and buffalo, rhinoceros should be approached into the wind and never too close. The black rhinoceros is far more dangerous than the white, and is a particularly nervous and unpredictable animal. They have poor vision but an acute sense of smell and good hearing. Rhinoceros will mock charge, but this is often followed very quickly by a genuine charge. It will do this with its head held up for improved vision and it will only lower its head at the last moment. Climbing a tree is the best course of action. If there are no trees, do not run away but move sideways always staying downwind. Hide in dense undergrowth and remain motionless until the rhino loses interest.

An interesting fact about the white and black rhinoceros is that although the black is the more feared, there are more cases of

white rhino charges than black. There are two reasons for this: the white rhino is more common and people know the dangers of the black rhino and respect it as a dangerous animal. The white is regarded with a casual attitude and people tend to get too close.

Hyena

Two species of hyena occur in Southern Africa - the brown and the spotted. The brown hyena is a timid animal and not aggressive, normally keeping away from humans. The spotted hyena however is a bold and resourceful animal. Although hyenas move off when approached on foot, they become dangerous and destructive when everyone is asleep. They can do damage to any food container left in the open at night. The jaws of the hyena are incredibly powerful and they put them to good use in getting at campers' foodstuffs. They will tear open a fridge or cooler-box with ease. They also attack plastics and rubber and there have been cases of them chewing and puncturing vehicle tyres. Covering tyres with thorn bushes will serve to discourage this practice.

In areas where hyenas have become accustomed to the presence of humans, they are an even greater source of annoyance - aeroplane wings and tyres have to be guarded by piling up heaps of thorn bushes overnight.

In 1991 when running a camp in the Okavango, I attempted to discourage a spotted hyena from raiding our kitchen - which it had been doing regularly over the previous two months - by placing chicken bones on a plate flavoured with strong spices. The recipe included an entire bottle of Tabasco sauce, a tablespoon of curry powder and a tablespoon of hot English mustard powder. In the morning the metal plate on which this 'nouvelle cuisine' was served was licked clean! The spotty was back the very next night to take his revenge by tearing open a fridge, which strangely contained nothing other than green lettuce, cucumber and tomatoes. The hyena ripped out the plastic door lining, a quarter of which he ate!

The presence of spotted hyena is the most convincing reason why sleeping on the ground in the open is ill advised. There are some dreadful stories of hyenas attacking sleeping humans and with their powerful jaws they can easily take a life.

All wild animals should be treated with the greatest respect. Remember that you are the visitor in their world and they should never be interfered with. Animals like cheetah and wild dog, although carnivorous and potentially dangerous, will retreat and can easily be driven off a kill. In situations where the food source is scarce, an approach too close to a kill could result in cubs going unfed, and prides breaking up. The nocturnal honey badger, although relatively small, can become very aggressive if approached too close. It will attack with little provocation. There is one account of a honey badger bringing down a wildebeest! (Animals tracks of Southern Africa - Louis Liebenberg) Antelope such as roan, sable, gemsbok and bushbuck will defend themselves if cornered and their horns can inflict fatal wounds.

GAME VIEWING AND PHOTOGRAPHY

The best time for both of these pursuits is in the early morning and late afternoon, when the animals are active and when the light is at its best. Lenses for landscape photography must include a wide angle of about 28mm, or my preference, a 24mm. Professionals shooting landscapes often use longer focal length lenses to do this - a 135mm is ideal. For photographers keen on game, 180mm and 300mm lenses are ideal.

For successful bird photography you will need a focal length of 400mm or more. Remember that when using this type of lens, a tripod or some means of supporting the lens will be necessary. A film rated at an ASA of at least 200 will be required when using long focal length lenses because high shutter speeds will be needed to prevent camera shake from spoiling pictures.

If you are shooting pictures from inside a vehicle and are unable to use a tripod, have a small canvas bag filled with sand handy. Wind down the side window and place the sand bag on the edge of the door. Now you have a steady support which can be moulded and shaped for the lens, and the window can be raised for best viewing comfort.

Keeping your film in the refrigerator or cool-box is a good idea if the ambient temperatures exceed 35°C. Film rated at 100 ASA or lower can be stored for short periods up to 40°C without harm but film rated at above 100 ASA will be damaged very quickly if it is allowed to do so. The result of over heating a film emulsion will be a colour shift, in the case of transparency film, often towards the cyan-blue.

Do not photograph government buildings or employees. Do not even point your camera at a military installation or vehicle. Keep your photographic equipment packed away, but within easy reach when passing through border posts or road blocks. At some border posts you may need to declare your camera equipment and it is a good idea to have a list of each piece of equipment and its serial number from which you can copy the information down onto the declaration document. Never photograph a soldier in uniform or you may find yourself being interrogated as a spy.

Photographic safari list:

- *Camera body/s*
- *Wide-angle lens*
- *Film*
- *Std./zoom lenses*
- *Telephoto lens*
- *Plastic bags*
- *Close-up attachments*
- *Tripod/monopod*
- *Flash gun*



- *Grain sack*
- *Lens brush*
- *Compressed air*
- *Flash batteries*
- *Camera batteries*
- *Lens tissue*

SPECIALIST 4X4 MAPS

From November 1999 to November 2000 a series of specialist 4x4 maps will become available. They are highly detailed with GPS coordinates, 4x4, 4x2 and vehicle/trailer suitability complete with fuel and accommodation availability.

Map titles and due dates:

RICHTERSVELD - NOVEMBER 1999

NAMIBIA AND KAOKOLAND - JANUARY 2000

LESOTHO - APRIL 2000

NORTHERN NATAL/SOUTHERN MOZAMBIQUE - JUNE 2000

TRANSKEI - NOVEMBER 2000

ZIMBABWE - NOVEMBER 2000

For mail order and trade enquiries call: +27 021 785 575



LISTS

Copy these check lists and use them on your travels.
Tick the first block if needed. Tick the second when packed.

TENTS

Tent 1	<input type="checkbox"/> <input type="checkbox"/>	Tent 2	<input type="checkbox"/> <input type="checkbox"/>
Guy ropes	<input type="checkbox"/> <input type="checkbox"/>	Mallet	<input type="checkbox"/> <input type="checkbox"/>
Ground sheet	<input type="checkbox"/> <input type="checkbox"/>	Fly sheet	<input type="checkbox"/> <input type="checkbox"/>
Poles	<input type="checkbox"/> <input type="checkbox"/>	Tent brush	<input type="checkbox"/> <input type="checkbox"/>
.....	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

BEDDING

Foam mattresses	<input type="checkbox"/> <input type="checkbox"/>	Folding mattresses	<input type="checkbox"/> <input type="checkbox"/>
Stretchers	<input type="checkbox"/> <input type="checkbox"/>	Duvet	<input type="checkbox"/> <input type="checkbox"/>
Sleeping bags	<input type="checkbox"/> <input type="checkbox"/>	Pillows	<input type="checkbox"/> <input type="checkbox"/>
Mosquito net	<input type="checkbox"/> <input type="checkbox"/>	Hot water bottles	<input type="checkbox"/> <input type="checkbox"/>
.....	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

LIGHTING

Paraffin lamp	<input type="checkbox"/> <input type="checkbox"/>	Gas lamp	<input type="checkbox"/> <input type="checkbox"/>
Fluorescent strip	<input type="checkbox"/> <input type="checkbox"/>	Methylated spirits	<input type="checkbox"/> <input type="checkbox"/>
Spare mantles	<input type="checkbox"/> <input type="checkbox"/>	Matches	<input type="checkbox"/> <input type="checkbox"/>
Candles	<input type="checkbox"/> <input type="checkbox"/>	Torch	<input type="checkbox"/> <input type="checkbox"/>
Recharger	<input type="checkbox"/> <input type="checkbox"/>	Torch batteries	<input type="checkbox"/> <input type="checkbox"/>
Torch bulbs	<input type="checkbox"/> <input type="checkbox"/>	Spot light	<input type="checkbox"/> <input type="checkbox"/>
.....	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

COOKING

Braai grid	<input type="checkbox"/> <input type="checkbox"/>	Fire lighters	<input type="checkbox"/> <input type="checkbox"/>
Charcoal	<input type="checkbox"/> <input type="checkbox"/>	Small stove & benzine	<input type="checkbox"/> <input type="checkbox"/>
Potjie	<input type="checkbox"/> <input type="checkbox"/>	Flat iron pot	<input type="checkbox"/> <input type="checkbox"/>
Cooking pots	<input type="checkbox"/> <input type="checkbox"/>	Frying pan	<input type="checkbox"/> <input type="checkbox"/>
Kettle	<input type="checkbox"/> <input type="checkbox"/>	Gas bottles	<input type="checkbox"/> <input type="checkbox"/>
Gas bottle keys	<input type="checkbox"/> <input type="checkbox"/>	Spare jets & washers	<input type="checkbox"/> <input type="checkbox"/>
Gas extension tube	<input type="checkbox"/> <input type="checkbox"/>	Gas rings	<input type="checkbox"/> <input type="checkbox"/>
Smoker cooker	<input type="checkbox"/> <input type="checkbox"/>	Cutting board	<input type="checkbox"/> <input type="checkbox"/>
Alluminium foil	<input type="checkbox"/> <input type="checkbox"/>	Cling wrap	<input type="checkbox"/> <input type="checkbox"/>
.....	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

CLEANING

Dust pan & brush	<input type="checkbox"/> <input type="checkbox"/>	Bucket and lid	<input type="checkbox"/> <input type="checkbox"/>
Basin	<input type="checkbox"/> <input type="checkbox"/>	Dishwashing liquid	<input type="checkbox"/> <input type="checkbox"/>
Dish cloths	<input type="checkbox"/> <input type="checkbox"/>	Dish towels	<input type="checkbox"/> <input type="checkbox"/>
Scouring sponges	<input type="checkbox"/> <input type="checkbox"/>	Bottle brush	<input type="checkbox"/> <input type="checkbox"/>
Sink plug	<input type="checkbox"/> <input type="checkbox"/>	Swipes	<input type="checkbox"/> <input type="checkbox"/>
Paper towels	<input type="checkbox"/> <input type="checkbox"/>	Serviettes	<input type="checkbox"/> <input type="checkbox"/>
Washing powder	<input type="checkbox"/> <input type="checkbox"/>	Miltons	<input type="checkbox"/> <input type="checkbox"/>
Disinfectant	<input type="checkbox"/> <input type="checkbox"/>	All-purpose cleaner	<input type="checkbox"/> <input type="checkbox"/>

CUTLERY

Knives	<input type="checkbox"/>	<input type="checkbox"/>	Paring knife	<input type="checkbox"/>	<input type="checkbox"/>
Forks	<input type="checkbox"/>	<input type="checkbox"/>	Utility knife	<input type="checkbox"/>	<input type="checkbox"/>
Spoons	<input type="checkbox"/>	<input type="checkbox"/>	Vegetable peeler	<input type="checkbox"/>	<input type="checkbox"/>
Tea spoons	<input type="checkbox"/>	<input type="checkbox"/>	Grater	<input type="checkbox"/>	<input type="checkbox"/>
Serving spoons	<input type="checkbox"/>	<input type="checkbox"/>	Tin opener	<input type="checkbox"/>	<input type="checkbox"/>
Bread knife	<input type="checkbox"/>	<input type="checkbox"/>	Wooden spoon	<input type="checkbox"/>	<input type="checkbox"/>
Carving knife	<input type="checkbox"/>	<input type="checkbox"/>	Egg lifter	<input type="checkbox"/>	<input type="checkbox"/>
Bottle opener	<input type="checkbox"/>	<input type="checkbox"/>	Cork screw	<input type="checkbox"/>	<input type="checkbox"/>
Soup ladle	<input type="checkbox"/>	<input type="checkbox"/>	Salad servers	<input type="checkbox"/>	<input type="checkbox"/>
Potato masher	<input type="checkbox"/>	<input type="checkbox"/>	Braai tongs	<input type="checkbox"/>	<input type="checkbox"/>
Colander	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CROCKERY

Plates	<input type="checkbox"/>	<input type="checkbox"/>	Paper plates	<input type="checkbox"/>	<input type="checkbox"/>
Bowls	<input type="checkbox"/>	<input type="checkbox"/>	Kid's bowls	<input type="checkbox"/>	<input type="checkbox"/>
Mugs	<input type="checkbox"/>	<input type="checkbox"/>	Wine glasses	<input type="checkbox"/>	<input type="checkbox"/>
Tumblers	<input type="checkbox"/>	<input type="checkbox"/>	Containers	<input type="checkbox"/>	<input type="checkbox"/>
Toothpicks	<input type="checkbox"/>	<input type="checkbox"/>	Tea pot	<input type="checkbox"/>	<input type="checkbox"/>
Thermos flask	<input type="checkbox"/>	<input type="checkbox"/>	Tupperware salad bowl	<input type="checkbox"/>	<input type="checkbox"/>
Plastic containers & lids	<input type="checkbox"/>	<input type="checkbox"/>	Tupperware jug & lid	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MEDICAL

Antibiotics (infection)	<input type="checkbox"/>	<input type="checkbox"/>	Antibiotic cream	<input type="checkbox"/>	<input type="checkbox"/>
Antipyretics (fever)	<input type="checkbox"/>	<input type="checkbox"/>	Antiseptics	<input type="checkbox"/>	<input type="checkbox"/>
Anti-inflammatories	<input type="checkbox"/>	<input type="checkbox"/>	Analgiesics (pain)	<input type="checkbox"/>	<input type="checkbox"/>
Anti-emetics (vomitting)	<input type="checkbox"/>	<input type="checkbox"/>	Bandages	<input type="checkbox"/>	<input type="checkbox"/>
Cortisone cream	<input type="checkbox"/>	<input type="checkbox"/>	Eye drops	<input type="checkbox"/>	<input type="checkbox"/>
Interflora	<input type="checkbox"/>	<input type="checkbox"/>	Plasters	<input type="checkbox"/>	<input type="checkbox"/>
Medical bag/box	<input type="checkbox"/>	<input type="checkbox"/>	Malaria prophylaxis	<input type="checkbox"/>	<input type="checkbox"/>
Mosquito repellent	<input type="checkbox"/>	<input type="checkbox"/>	Insect spray	<input type="checkbox"/>	<input type="checkbox"/>
Water purification system	<input type="checkbox"/>	<input type="checkbox"/>	Survival blanket	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIBRARY

Birds	<input type="checkbox"/>	<input type="checkbox"/>	Mammals	<input type="checkbox"/>	<input type="checkbox"/>
Reptiles	<input type="checkbox"/>	<input type="checkbox"/>	Insects/Butterflies	<input type="checkbox"/>	<input type="checkbox"/>
Trees	<input type="checkbox"/>	<input type="checkbox"/>	Stars	<input type="checkbox"/>	<input type="checkbox"/>
4x4 Trails book	<input type="checkbox"/>	<input type="checkbox"/>	4x4 Guide book	<input type="checkbox"/>	<input type="checkbox"/>
Magazines/novels	<input type="checkbox"/>	<input type="checkbox"/>	Children's book	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CAMP

Shovel	<input type="checkbox"/>	<input type="checkbox"/>	Axe	<input type="checkbox"/>	<input type="checkbox"/>
Water containers	<input type="checkbox"/>	<input type="checkbox"/>	Clothes pegs	<input type="checkbox"/>	<input type="checkbox"/>
Fire extinguisher	<input type="checkbox"/>	<input type="checkbox"/>	Chairs - adult	<input type="checkbox"/>	<input type="checkbox"/>
Table - catering	<input type="checkbox"/>	<input type="checkbox"/>	Chairs - children	<input type="checkbox"/>	<input type="checkbox"/>

Table - other	<input type="checkbox"/>	<input type="checkbox"/>	Table cloths	<input type="checkbox"/>	<input type="checkbox"/>
Shade cloth	<input type="checkbox"/>	<input type="checkbox"/>	Taupaulin	<input type="checkbox"/>	<input type="checkbox"/>
Catapult	<input type="checkbox"/>	<input type="checkbox"/>	Pen knife	<input type="checkbox"/>	<input type="checkbox"/>
Leatherman	<input type="checkbox"/>	<input type="checkbox"/>	Bin bags (black)	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper	<input type="checkbox"/>	<input type="checkbox"/>	Solar shower	<input type="checkbox"/>	<input type="checkbox"/>
Coolbag	<input type="checkbox"/>	<input type="checkbox"/>	Coolbox	<input type="checkbox"/>	<input type="checkbox"/>
Ice bricks	<input type="checkbox"/>	<input type="checkbox"/>	Engel	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHILDREN

Games and toys	<input type="checkbox"/>	<input type="checkbox"/>	Stationary & crayons	<input type="checkbox"/>	<input type="checkbox"/>
Underwear	<input type="checkbox"/>	<input type="checkbox"/>	Vests	<input type="checkbox"/>	<input type="checkbox"/>
T-shirts	<input type="checkbox"/>	<input type="checkbox"/>	Tracksuits	<input type="checkbox"/>	<input type="checkbox"/>
Jeans	<input type="checkbox"/>	<input type="checkbox"/>	Jerseys	<input type="checkbox"/>	<input type="checkbox"/>
Jackets	<input type="checkbox"/>	<input type="checkbox"/>	Balaclava	<input type="checkbox"/>	<input type="checkbox"/>
Gloves	<input type="checkbox"/>	<input type="checkbox"/>	Hats	<input type="checkbox"/>	<input type="checkbox"/>
Pyjamas	<input type="checkbox"/>	<input type="checkbox"/>	Boots	<input type="checkbox"/>	<input type="checkbox"/>
Shoes	<input type="checkbox"/>	<input type="checkbox"/>	Sandals	<input type="checkbox"/>	<input type="checkbox"/>
Water wings	<input type="checkbox"/>	<input type="checkbox"/>	Swimming costumes	<input type="checkbox"/>	<input type="checkbox"/>
Rain wear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TOILETRIES

Bath plug	<input type="checkbox"/>	<input type="checkbox"/>	Toilet rolls	<input type="checkbox"/>	<input type="checkbox"/>
Soap	<input type="checkbox"/>	<input type="checkbox"/>	Shampoo	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous cream	<input type="checkbox"/>	<input type="checkbox"/>	Toothpaste	<input type="checkbox"/>	<input type="checkbox"/>
Tooth brushes	<input type="checkbox"/>	<input type="checkbox"/>	Cotton wool	<input type="checkbox"/>	<input type="checkbox"/>
Deodorant	<input type="checkbox"/>	<input type="checkbox"/>	Nail set	<input type="checkbox"/>	<input type="checkbox"/>
Razor and blades	<input type="checkbox"/>	<input type="checkbox"/>	Hair brush & comb	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary towels	<input type="checkbox"/>	<input type="checkbox"/>	Lip balm	<input type="checkbox"/>	<input type="checkbox"/>
Tissues	<input type="checkbox"/>	<input type="checkbox"/>	Makeup	<input type="checkbox"/>	<input type="checkbox"/>
Sunblock	<input type="checkbox"/>	<input type="checkbox"/>	Lens cleaner, saline etc.	<input type="checkbox"/>	<input type="checkbox"/>
Contraceptive pill	<input type="checkbox"/>	<input type="checkbox"/>	Condoms	<input type="checkbox"/>	<input type="checkbox"/>
Towels	<input type="checkbox"/>	<input type="checkbox"/>	Moisturiser	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOCUMENTS & MAPS

Passports	<input type="checkbox"/>	<input type="checkbox"/>	ID book/drivers license	<input type="checkbox"/>	<input type="checkbox"/>
Visas and permits	<input type="checkbox"/>	<input type="checkbox"/>	Travellers cheques	<input type="checkbox"/>	<input type="checkbox"/>
Cash	<input type="checkbox"/>	<input type="checkbox"/>	Credit cards	<input type="checkbox"/>	<input type="checkbox"/>
Car registration	<input type="checkbox"/>	<input type="checkbox"/>	Triptique (Zimbabwe)	<input type="checkbox"/>	<input type="checkbox"/>
Cheque book	<input type="checkbox"/>	<input type="checkbox"/>	Booking receipts	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle registration	<input type="checkbox"/>	<input type="checkbox"/>	Trailer registration	<input type="checkbox"/>	<input type="checkbox"/>
ContiMaps	<input type="checkbox"/>	<input type="checkbox"/>	AA maps	<input type="checkbox"/>	<input type="checkbox"/>
Shell maps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - CONDIMENTS

Salt and pepper	<input type="checkbox"/>	<input type="checkbox"/>	Sugar	<input type="checkbox"/>	<input type="checkbox"/>
Sweetener	<input type="checkbox"/>	<input type="checkbox"/>	Mayonnaise	<input type="checkbox"/>	<input type="checkbox"/>
Tomato sauce	<input type="checkbox"/>	<input type="checkbox"/>	Vinegar	<input type="checkbox"/>	<input type="checkbox"/>

Olive oil	<input type="checkbox"/>	<input type="checkbox"/>	Soy sauce	<input type="checkbox"/>	<input type="checkbox"/>
Sun flower oil	<input type="checkbox"/>	<input type="checkbox"/>	Spray and cook	<input type="checkbox"/>	<input type="checkbox"/>
Herbs and spices	<input type="checkbox"/>	<input type="checkbox"/>	Salad dressing	<input type="checkbox"/>	<input type="checkbox"/>
Chutney	<input type="checkbox"/>	<input type="checkbox"/>	Mustard	<input type="checkbox"/>	<input type="checkbox"/>
Marmite	<input type="checkbox"/>	<input type="checkbox"/>	Peanut butter	<input type="checkbox"/>	<input type="checkbox"/>
Jam	<input type="checkbox"/>	<input type="checkbox"/>	Honey	<input type="checkbox"/>	<input type="checkbox"/>
Stock cubes	<input type="checkbox"/>	<input type="checkbox"/>	Tomato paste	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - GENERAL

Tea	<input type="checkbox"/>	<input type="checkbox"/>	Coffee	<input type="checkbox"/>	<input type="checkbox"/>
Milk	<input type="checkbox"/>	<input type="checkbox"/>	Powdered milk	<input type="checkbox"/>	<input type="checkbox"/>
Bread	<input type="checkbox"/>	<input type="checkbox"/>	Bread rolls	<input type="checkbox"/>	<input type="checkbox"/>
Flour	<input type="checkbox"/>	<input type="checkbox"/>	Bread mix	<input type="checkbox"/>	<input type="checkbox"/>
Mealie meal	<input type="checkbox"/>	<input type="checkbox"/>	Rusks	<input type="checkbox"/>	<input type="checkbox"/>
Eggs	<input type="checkbox"/>	<input type="checkbox"/>	Fruit	<input type="checkbox"/>	<input type="checkbox"/>
Potatoes	<input type="checkbox"/>	<input type="checkbox"/>	Onions	<input type="checkbox"/>	<input type="checkbox"/>
Rice	<input type="checkbox"/>	<input type="checkbox"/>	Pasta shells	<input type="checkbox"/>	<input type="checkbox"/>
Spaghetti	<input type="checkbox"/>	<input type="checkbox"/>	Sun flower seeds	<input type="checkbox"/>	<input type="checkbox"/>
Tinned tomato & onion	<input type="checkbox"/>	<input type="checkbox"/>	Cabbage	<input type="checkbox"/>	<input type="checkbox"/>
Baked beans	<input type="checkbox"/>	<input type="checkbox"/>	Sweet corn	<input type="checkbox"/>	<input type="checkbox"/>
Tinned fruit	<input type="checkbox"/>	<input type="checkbox"/>	Cake mix	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - BREAKFAST, SNACKS AND DRINKS

All bran	<input type="checkbox"/>	<input type="checkbox"/>	Coco Pops/Cork flakes	<input type="checkbox"/>	<input type="checkbox"/>
Muesli	<input type="checkbox"/>	<input type="checkbox"/>	Jungle Oats	<input type="checkbox"/>	<input type="checkbox"/>
Chips	<input type="checkbox"/>	<input type="checkbox"/>	Nuts	<input type="checkbox"/>	<input type="checkbox"/>
Sweets	<input type="checkbox"/>	<input type="checkbox"/>	Popcorn	<input type="checkbox"/>	<input type="checkbox"/>
Chocolate	<input type="checkbox"/>	<input type="checkbox"/>	Biltong/dry wors	<input type="checkbox"/>	<input type="checkbox"/>
Marshmallows	<input type="checkbox"/>	<input type="checkbox"/>	Fruit juices	<input type="checkbox"/>	<input type="checkbox"/>
Tab/diet drinks	<input type="checkbox"/>	<input type="checkbox"/>	Cokes/sodas	<input type="checkbox"/>	<input type="checkbox"/>
Beer	<input type="checkbox"/>	<input type="checkbox"/>	Wine	<input type="checkbox"/>	<input type="checkbox"/>
Liquor	<input type="checkbox"/>	<input type="checkbox"/>	Sherry/port	<input type="checkbox"/>	<input type="checkbox"/>
Oros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - LUNCH

Tinned ham	<input type="checkbox"/>	<input type="checkbox"/>	Tinned Tuna	<input type="checkbox"/>	<input type="checkbox"/>
Tinned mussels	<input type="checkbox"/>	<input type="checkbox"/>	Tinned corned beef	<input type="checkbox"/>	<input type="checkbox"/>
Cheese spread	<input type="checkbox"/>	<input type="checkbox"/>	Provitas	<input type="checkbox"/>	<input type="checkbox"/>
Sandwich spread	<input type="checkbox"/>	<input type="checkbox"/>	Cheese wedges	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - COOLBOX/FRIDGE

Margarine	<input type="checkbox"/>	<input type="checkbox"/>	Cheese	<input type="checkbox"/>	<input type="checkbox"/>
Cold meats	<input type="checkbox"/>	<input type="checkbox"/>	Yoghurt	<input type="checkbox"/>	<input type="checkbox"/>
Cottage cheese	<input type="checkbox"/>	<input type="checkbox"/>	Feta cheese	<input type="checkbox"/>	<input type="checkbox"/>
Lettuce	<input type="checkbox"/>	<input type="checkbox"/>	Tomato	<input type="checkbox"/>	<input type="checkbox"/>
Cucumber	<input type="checkbox"/>	<input type="checkbox"/>	Spring onions	<input type="checkbox"/>	<input type="checkbox"/>
Avocado	<input type="checkbox"/>	<input type="checkbox"/>	Carrots	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOD - FREEZER

Chicken pieces	<input type="checkbox"/>	<input type="checkbox"/>	Kebabs	<input type="checkbox"/>	<input type="checkbox"/>
Lamb chops	<input type="checkbox"/>	<input type="checkbox"/>	Steak	<input type="checkbox"/>	<input type="checkbox"/>
Pre-prepared meals	<input type="checkbox"/>	<input type="checkbox"/>	Mince	<input type="checkbox"/>	<input type="checkbox"/>
Sausages	<input type="checkbox"/>	<input type="checkbox"/>	Ribs	<input type="checkbox"/>	<input type="checkbox"/>
Ice cubes	<input type="checkbox"/>	<input type="checkbox"/>	Freezer blocks	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TRAILER, ROOF-RACK AND RECOVERY GEAR

License	<input type="checkbox"/>	<input type="checkbox"/>	Padlock & keys	<input type="checkbox"/>	<input type="checkbox"/>
Full gas bottles	<input type="checkbox"/>	<input type="checkbox"/>	High-lift jack	<input type="checkbox"/>	<input type="checkbox"/>
Full water tanks	<input type="checkbox"/>	<input type="checkbox"/>	Battery secure	<input type="checkbox"/>	<input type="checkbox"/>
Kinetic strap	<input type="checkbox"/>	<input type="checkbox"/>	D-shackles	<input type="checkbox"/>	<input type="checkbox"/>
Bow-shackles	<input type="checkbox"/>	<input type="checkbox"/>	Chain	<input type="checkbox"/>	<input type="checkbox"/>
Anchor/tree strap	<input type="checkbox"/>	<input type="checkbox"/>	Snatch block	<input type="checkbox"/>	<input type="checkbox"/>
Gloves	<input type="checkbox"/>	<input type="checkbox"/>	Winch controller	<input type="checkbox"/>	<input type="checkbox"/>
Anchor	<input type="checkbox"/>	<input type="checkbox"/>	Stakes	<input type="checkbox"/>	<input type="checkbox"/>
Tie-downs/rope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CLOTHING

Sun hats	<input type="checkbox"/>	<input type="checkbox"/>	Balaclavas	<input type="checkbox"/>	<input type="checkbox"/>
Sunglasses	<input type="checkbox"/>	<input type="checkbox"/>	T-shirts	<input type="checkbox"/>	<input type="checkbox"/>
Jerseys	<input type="checkbox"/>	<input type="checkbox"/>	Jackets	<input type="checkbox"/>	<input type="checkbox"/>
Underwear	<input type="checkbox"/>	<input type="checkbox"/>	Shorts	<input type="checkbox"/>	<input type="checkbox"/>
Jeans	<input type="checkbox"/>	<input type="checkbox"/>	Tracksuit	<input type="checkbox"/>	<input type="checkbox"/>
Socks	<input type="checkbox"/>	<input type="checkbox"/>	Spare laces	<input type="checkbox"/>	<input type="checkbox"/>
Tackies	<input type="checkbox"/>	<input type="checkbox"/>	Boots	<input type="checkbox"/>	<input type="checkbox"/>
Mud boots	<input type="checkbox"/>	<input type="checkbox"/>	Slops	<input type="checkbox"/>	<input type="checkbox"/>
Gloves	<input type="checkbox"/>	<input type="checkbox"/>	Pyjamas	<input type="checkbox"/>	<input type="checkbox"/>
Swimming costumes	<input type="checkbox"/>	<input type="checkbox"/>	Rain gear	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MISCELLANEOUS

Cell phone & charger	<input type="checkbox"/>	<input type="checkbox"/>	Inverter	<input type="checkbox"/>	<input type="checkbox"/>
Chargers	<input type="checkbox"/>	<input type="checkbox"/>	Compass	<input type="checkbox"/>	<input type="checkbox"/>
GPS	<input type="checkbox"/>	<input type="checkbox"/>	Fishing tackle	<input type="checkbox"/>	<input type="checkbox"/>
Sewing kit	<input type="checkbox"/>	<input type="checkbox"/>	Two-way radios	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VEHICLE MAINTENANCE

Tool box	<input type="checkbox"/>	<input type="checkbox"/>	Funnel	<input type="checkbox"/>	<input type="checkbox"/>
Tyre pump/s	<input type="checkbox"/>	<input type="checkbox"/>	Tyre repair kit	<input type="checkbox"/>	<input type="checkbox"/>
Spare inner tube	<input type="checkbox"/>	<input type="checkbox"/>	Spark plugs	<input type="checkbox"/>	<input type="checkbox"/>
Workshop repair manual	<input type="checkbox"/>	<input type="checkbox"/>	Globes	<input type="checkbox"/>	<input type="checkbox"/>
Second spare wheel	<input type="checkbox"/>	<input type="checkbox"/>	Fan belt/s	<input type="checkbox"/>	<input type="checkbox"/>
Distributor cap	<input type="checkbox"/>	<input type="checkbox"/>	Fuses	<input type="checkbox"/>	<input type="checkbox"/>
Q-20 or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	Rotor arm & points	<input type="checkbox"/>	<input type="checkbox"/>
Condenser	<input type="checkbox"/>	<input type="checkbox"/>	Jerrycans	<input type="checkbox"/>	<input type="checkbox"/>
Plug suppressor/HT lead	<input type="checkbox"/>	<input type="checkbox"/>	Coil	<input type="checkbox"/>	<input type="checkbox"/>

Hand cleaner	<input type="checkbox"/>	<input type="checkbox"/>	Electrical wire	<input type="checkbox"/>	<input type="checkbox"/>
Various nuts and bolts	<input type="checkbox"/>	<input type="checkbox"/>	Spare keys	<input type="checkbox"/>	<input type="checkbox"/>
Galvanised wire	<input type="checkbox"/>	<input type="checkbox"/>	Radiator cap	<input type="checkbox"/>	<input type="checkbox"/>
Gasket cement	<input type="checkbox"/>	<input type="checkbox"/>	Epoxy putty	<input type="checkbox"/>	<input type="checkbox"/>
Quick set epoxy glue	<input type="checkbox"/>	<input type="checkbox"/>	Gearbox oil	<input type="checkbox"/>	<input type="checkbox"/>
Exhaust sealing tape	<input type="checkbox"/>	<input type="checkbox"/>	Hydraulic fluid	<input type="checkbox"/>	<input type="checkbox"/>
Insulation tape	<input type="checkbox"/>	<input type="checkbox"/>	Engine mount	<input type="checkbox"/>	<input type="checkbox"/>
Loctite thread fastener	<input type="checkbox"/>	<input type="checkbox"/>	Fuel hose	<input type="checkbox"/>	<input type="checkbox"/>
Automatic transmission fluid	<input type="checkbox"/>	<input type="checkbox"/>	Engine oil	<input type="checkbox"/>	<input type="checkbox"/>
Medium and fine water paper	<input type="checkbox"/>	<input type="checkbox"/>	Fuel filter	<input type="checkbox"/>	<input type="checkbox"/>
Various electrical connectors	<input type="checkbox"/>	<input type="checkbox"/>	Jump cables	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BEFORE GOING AWAY

Cancel deliveries	<input type="checkbox"/>	<input type="checkbox"/>	Turn off geyser/s	<input type="checkbox"/>	<input type="checkbox"/>
Fish, plants and animals	<input type="checkbox"/>	<input type="checkbox"/>	Disengage immobiliser	<input type="checkbox"/>	<input type="checkbox"/>
Inform next of kin	<input type="checkbox"/>	<input type="checkbox"/>	Domestic workers	<input type="checkbox"/>	<input type="checkbox"/>
Engage light time-switches	<input type="checkbox"/>	<input type="checkbox"/>	Inform security	<input type="checkbox"/>	<input type="checkbox"/>

VEHICLE REG. no.
 Chassis no. Engine no.
 TRAILER REG. no.
 Camera and valuables - serial nos.

(This packing list printed courtesy Mark and Cheryl Eltringham of Fourways)

CONVERSION TABLES

VOLUME:	1 pint	600 ml	1 imperial gallon	4.54 litres
	1 US gallon	3.78 litres	44 Imp. gallons	200 litres (one fuel drum)
	1 litre	1 kilogram	20 litres	4.4 gallons (one jerrycan)
	1 litre	1.76 pints	500 ml	.9 pint
DISTANCE:	1 inch	25.4 mm	1 foot	0.305 metres
	1 mile	1.6 kilometres	1000 feet	305 metres
	100 metres	328 feet	1 kilometre	0.63 miles
	km	miles	km	miles
	5	3.1	70	37.5
	10	6.3	80	50
	20	12.5	90	56.3
	50	31.3	100	62.5

MASS: 1 kg 2.2 lbs 1 ton 1000 kilograms = 2200 lbs

TEMP: To convert celsius to fahrenheit - double it, subtract 10% and add 32.

TYRE PRESSURES: Kg/cm² and PSI from 0.5 to 3.4 kg/ cm²

FUEL CONSUMPTION:

Miles/gallon	km/litre	Litres/100 km	Miles/gallon	km/litre	Litres/100 km
10	3.5	28.5	21	7.4	13.5
11	3.8	26.3	22	7.7	12.9
12	4.2	23.8	23	8.1	12.3
13	4.6	21.7	24	8.4	11.9
14	4.9	20.4	25	8.8	11.3
15	5.3	18.8	26	9.1	10.9
16	5.7	17.5	27	9.5	10.5
17	6.0	16.6	28	9.8	10.2
18	6.4	15.6	29	10.1	9.90
19	6.7	14.9	30	10.6	9.43
20	7.1	14.0	31	10.9	9.17