

## Self-contained Bicycle Touring: Bicycle Equipment

In most circumstances, the theory and practice for bicycle touring in Africa, Asia and South America is little different from that used in the North America or Europe. The duration, geography and the surface characteristics of the roads you plan to use, and the kind of load you will be carrying, will influence the quality (durability) of the equipment you choose and the style of bicycle, the gearing and the kind of tires you select, but in the end “spinning wheels got to go round.”

### SELECTING A BICYCLE

If any part of your itinerary is off paved roads, a fatter-tire, 18-24 speed Mountain Bike (MTB) is strongly recommended for your overall comfort, safety, flexibility and enjoyment. Because most self-contained bicycle touring is done on some degree of road, front and rear suspension systems aren't worth the extra weight, inefficiency or problems that they can create. If you need to suspend something consider the seat.

If your route keeps you on paved roads a descent road-touring bike is probably fine. On the major well-paved intercity and international highways, any modest 18-24 speed, with a strong, undamaged frame, in good repair, which fits the rider, possibly with a couple of modifications as suggested below, is adequate for thousands of miles of touring around the world.

*After all of our fancy investments in fancy multi-gear bicycles, in Africa, it is worth noting that wherever you reach on your bike, an African with a one-speed roadster will already be there -- though he may be walking. (In which case consider walking with him for a while and strike up a conversation.)*

### PACKS

To carry a load on your bicycle you will need a rack and panniers (saddlebags). These need to be sturdy and large enough to carry what you need, but not too large to tempt you to bring too much. If you do have extra space, fill it later with souvenirs. The weight should be spread evenly and ideally kept low and close to the bike. If you are “fully loaded”, a front rack, rear rack and four modest packs (two front and two rear) are better than two giant bulging ones. If you are traveling with only a moderate amount of things (about 22 lbs / 10 kg) you can usually get by with just a rear rack and a medium size pannier on each side. If the weight gets too heavy in the rear the front wheel becomes un-weighted and hard to handle. You then need to expend additional energy to keep the bike under control, especially going up hill. For heavy loads split the weight between front and rear racks. We will return to this in the section on packing the panniers.

In selecting a pannier you need to consider how it attaches to the rack, how floppy it is, the durability of the materials, how the design meets your needs and the volume.

First, the pannier and rack must fit snugly. Because of various design quirks they are not universal. Take whichever you have first with you when you go to the shop to buy the other.

Especially if you will be on rough roads, it is preferable that the system for attaching the packs to the racks consists of self-clapping hooks, manual latching, or strong hooks with webbing straps and buckles or Velcro-type fasteners. Packs with suspension systems that rely on elastic cords and springs can jump off when you hit a bump or pothole.

*The same advice holds for attaching articles to the top of the rack: Use non-elastic nylon webbing straps not elastic straps, shock cords or bungee cords, to lash equipment to the tops of racks. An additional advantage is that webbing is lighter.*

Once on the rack the pannier should not flop around and touch the spokes, no matter how fully loaded they are. This can be evaluated to some extent by loading the panniers with plastic liter bottles of water (or a similar small, round relatively heavy object), attaching the pannier to the rack and shaking the bike. This stiffness is usually achieved by stiffeners, synching / compression straps, and/or internal frames. Note that internal frames can make the panniers difficult to pack for alternative modes of travel.

The durability of the construction materials often are a significant determinant of the cost. Common materials are cotton duck canvas with leather reinforcement at points, heavy vinyl, or Cordura or other heavy-duty nylon. Canvas is very abrasion resistant and not susceptible to punctures. Vinyl resists abrasion well but is susceptible to punctures. Depending upon the quality, nylon it may or may not resist abrasion well. All nylon degrades in ultra violet light and becomes more fragile over years when used outdoors – the color also fades. If you expect to use the panniers in inclement weather or bicycling through streams, their performance in wet environments should also be considered. Vinyl is waterproof, except where it is penetrated by screws attaching hardware. When cotton duck canvas gets wet the fibers swell and it becomes virtually water proof. Cordura, alone, is not waterproof, so these panniers need to be combined with a rain cover or waterproof liner, in soggy conditions.

In conjunction with the durability of the materials, especially if you are heading to a remote area, as you make evaluate different panniers and make your selection you should keep in mind an appraisal of what can break, get loose or lost, how likely is the problems and how easy would it be to fix or work around in the field.

The actual design features like shape, compartments and closure is very much a personal preference. More compartments and pockets can help organization and increase convenience, but it also means more seams and zippers, and usually less waterproof. If you don't opt for compartments and pockets you can achieve some the organization with small, lightweight, possibly color coded, nylon stuff sacks. If there are big pockets on the face of the panniers they will widen your beam and can be annoying when you need to get through tight places. Designs with pockets at the back will have left and right panniers. Other designs can be interchangeable left and right. The top closing mechanism affects volume to some extent: Zipper closures allow a pretty finite amount of things to be stuffed in and if the zipper breaks you can have a major problem. More open tops using flaps and draw strings, or that roll down, are more flexible (in dry weather) and are not prone to mechanical failure. There are also functional characteristics

like the design should allow enough clearance for your feet to pedal. Most panniers are tapered at the bottom on at least one side for this reason.

Like so many things, there is no ideal volume. For a day trip you might utilize a minimal amount of space. For a long tour to a remote destination in potentially harsh weather conditions your panniers will be full – until you need to put on every piece of clothing you have, at which point your bags will be half empty. Riding with half-empty bags can be a problem if the contents flop around. This is often solved with compression straps, which serve to reduce the volume. If you are going on a long tour resist letting extra volume entice you into carrying a lot more than you need. Short of going on an expedition, panniers with a volume in the range 1200-1500 cubic inches each is a good target.

Handlebar bags, waist packs or a backpack are not a must, but they are very popular and convenient for carrying accessories you want handy; valuables, cameras, snacks, sun lotion, note pads, etc. Waist packs that can be slung on the handlebars are very versatile. Avoid putting too much weight in a handlebar bag because they affect the way the bike handles. An alternative is a backpack or rucksack but this deserves careful consideration. For many people backpacks cause their backs to get uncomfortably hot and ache after a few miles. The heavier the load the faster this happens. Waist packs can be more manageable.

## **RACKS & FENDERS**

Choose racks that are sturdy enough to handle the conditions that you will be subjecting them to. If you anticipate riding on roads or trails with high rocks or roots, or through streams, **DO NOT USE** low-rider racks. With low-riders your packs will take more of a beating than they will on racks that hold them higher. And if one of those rocks or roots gets a good hold of your pannier you may take a beating as well.

Fenders (mud guards) can be a real bother or a great help. On airplanes, trains and buses they get bent out of adjustment – if your tour involves multi-modal travel fenders can be a pain to disassemble, reinstall and keep adjusted. In the dry season they don't serve a huge purpose. In the rainy season, if you ride off of paved roads, they can quickly get clogged with mud and become a source of great aggravation. There are commercially available flat guards that mount on the rear rack and down tube that help some and don't clog as quickly. In wet weather on paved roads they will help keep your smile fresh and are well worth the effort. A DIY substitute, in wet weather, is to attach found plastic to the racks to protect your gear and reduce some of the spray from the wheels getting up to your body.