



# CHAPTER 20



## Be Prepared

Always wear a helmet.  
Bring water, food, an  
extra tube, pump, and  
patch kit & know how  
to use them.





## Bicycle Touring and Mountain Biking

*“The flying abandon of a bicycle, legs pumping, body and wheels skimming above the land, cycling for the sake of cycling, because it felt good in my body, because the drip of salty sweat, the deep, rhythmic breathing, the stretching, pushing muscles were pure and cleansing and glorious.”*

—Erika Warmbrunn, *Where the Pavement Ends*, 2001 (An actor, writer, and Russian translator, she pedaled solo across Mongolia, China, and Vietnam.)



Bicycling is human-powered adventure at its best. The whir of spoked wheels and the click of a chain are sounds of independence, of possibility, and of the potential of the open road. On bike tours of a few days, weeks, or even months, you and your group can pedal anywhere from the Pacific to the Atlantic, and from the Florida Keys to the northernmost point in Alaska. Mountain bikes also offer the means for you to journey away from well-traveled routes. With a clear understanding of Leave No Trace principles, you can find hours of challenge and fun on quiet backroads and on durable trails designated for cycling.

*Bicycle touring* is an act of chasing the horizon. The goal is to move forward, feeling the Earth roll beneath your wheels as the landscape flows past on either side. *Mountain biking*, on the other hand, is a vertical pursuit highlighted by demanding climbs and steep downhill runs. At times, riders might even become airborne to clear an obstacle, or just for the sheer delight of two-wheeled flight.

This chapter takes a look at the basics of bicycle touring and the essentials of mountain biking, providing guidelines for you to make the most of cycling opportunities in ways that are safe, fun, satisfying, and environmentally responsible.

## Fitting a Bike

Like hiking boots, bicycles for touring or mountain riding must fit well if you are to get the best use out of them. An experienced bicycle salesperson can help you select a bike matched to the size of your body. With your feet flat on the ground, you'll want to be able to straddle the top tube of the bike frame with a couple of inches to spare, and you'll need to be able to reach the handlebars comfortably when you are seated in the saddle. Adjust the height of the saddle so that your leg will be slightly flexed at the low point of each pedal rotation.

Another way to find a bicycle that fits is to measure the inside of your leg from your inseam to the floor and subtract 10 inches. The figure you get is the approximate frame size of the bike you should have. Don't confuse frame size with the diameter of the wheel; most bikes have 27-inch wheels regardless of the size of the frame.



### *Bicycle Helmets*

Put on a bicycle helmet every time you step into the pedals. Your helmet must be designed specifically for cycling; have ANSI, SNELL, or ASTM certification; and fit well. With the strap secured, you shouldn't be able to push your helmet very far forward, backward, or sideways.





## Bicycle Touring

Plan a bicycle tour and you'll find yourself and a group of your friends setting out to discover the world one turn of the pedals at a time. Your two-wheeled adventures can start right outside your door and might lead to the far reaches of the continent.

Along the way, you are sure to be traveling in the tracks of many who pedaled before you, as long-distance cycling has a long tradition in the story of adventure travel.

Bicycle touring in America dates back to the 1890s, a golden age of cycling. "Boneshaker" bikes with steel wheels and the "regular" bikes with a huge front wheel were giving way to modern safety bicycles equipped with pneumatic tires, efficient brakes, and mechanisms for changing gears. Passable roads were extending across the United States but were not yet crowded with motor vehicles. This convergence of factors led to an explosion of two-wheeled activity as cyclists set out to ride everywhere their bikes could take them.



*Boneshaker, a nineteenth-century ancestor of today's efficient bikes*

*Bikes for young children are impractical for long trips.*



The impulse to ride is as strong today as it was more than a century ago. What has changed is the equipment available to make touring journeys easier, and the fact that there are more places than ever to explore on two wheels.

## Touring Bikes

Almost any bicycle will get you a few miles down the road on a sunny day. When you begin setting your sights on more distant destinations, though, a touring bike of the right size can maximize your pedaling efficiency and riding comfort.



### Touring Bike Frame

Bicycles devoted to touring are built with stiff, lightweight frames that allow an effective transfer of power from the pedals to the wheels.

### Drop Handlebars

The drop handlebars on touring bikes offer riders a variety of hand placements, allowing them to lean over the frame in the most efficient position for pedaling.

### Pedals

Clipless pedals and pedals with toe clips position a rider's feet for optimum pedaling power. A *toe clip* is a metal or plastic cage set atop a pedal. Slip the toe of your shoe into the toe clip and tighten the strap over the arch of your foot. Rather than a cage, a *clipless pedal* relies on a shoe-sole cleat matched to a spring-loaded pedal fitting. Click the cleat into the pedal and you're on your way. To release the clip, turn your heel sharply outward and the cleat should snap free.



*Pedals with toe clips*



*Clipless pedals*

### Ankling

With your shoes secured by toe clips or clipless pedals, you can push down on a pedal, then pull it back, up, and over. Known as *ankling*, the maneuver allows you to apply power throughout the full rotation of the chainwheel.



### Derailleurs

Most touring bikes feature *derailleur gears* controlled by levers on the handlebars or on the bike frames. The rear hub of a typical touring bike has five gearwheels. Shifting the rear derailleur moves the chain from one toothed wheel to another, offering a rider five gear options. The larger the gearwheel, the farther the chain must go on each revolution, resulting in easier pedaling at the cost of shorter forward progress.

The front derailleur of a touring bike moves the chain among two or three gearwheels set around the pedal crank. If there are two front gearwheels and each can be used with the five rear gearwheels, the bicycle has a total capacity of 10 gears—thus, a 10-speed bike. Add a third front gearwheel, and it becomes a bicycle with 15 speeds.

Derailleur mechanisms shift gears most efficiently when the pedals are turning and the chain is in motion. Experiment as you ride to find the gear combination that feels right for the moment. Expect to shift often so that you can maintain a steady, sustainable pedaling cadence even as terrain, wind, and your energy level alter. Anticipate changes and shift to a new gear before you need to apply full pressure to the pedals.

### Brakes

On most touring bikes, *caliper brakes* slow momentum by squeezing the wheel rims with brake pads. Brakes in good working order can stop a bike very quickly. Use the front and rear brakes at the same time, gradually increasing the pressure on the levers to slow the bike smoothly. Stopping with only the rear brake might be less effective than you want, while using the front brake by itself might cause the wheel to seize and send you flying over the handlebars.



### Packing a Touring Bike

A small pack attached to the back of the seat, or a fanny pack around your waist, may offer enough capacity for you to carry your lunch, some extra clothing, and a bicycle repair kit. One or more water bottles in cages attached to the frame will round out your basic outfit for day rides. Many touring bicycles have mounting points for attaching racks for *panniers*—packs for bikes—to stow camping gear for more extended travels. Panniers should fit securely with no chance of swinging loose as you pedal. They should be set low on the bicycle so that their weight will not upset your balance.

Just as backpackers shed all the weight they can from their packs, bicycle tourists will want to carry only what they need. A lightweight tent and sleeping bag, a backpacking stove, rain gear, and adequate clothing that can be layered for warmth will form the heart of your long-distance touring outfit. Conduct a shakedown before each trip to help you eliminate unnecessary items. Unlike wilderness journeys, you often can buy food each day along the route of a bicycle tour. That can simplify menu planning and offer the option of preparing meals with plenty of fresh, nutritious ingredients.

Rather than stowing your tent inside a pannier, you can strap it on top of your bicycle's rear fender. Your sleeping bag can go on the fender, too, but protect your sleeping gear from rain by lining its stuff sack with a plastic trash bag. A handlebar pannier will give you quick access to items you will want during the day, and it might have a clear, waterproof pocket

built into the top flap for holding maps. If that's not the case, slip your map into a self-sealing plastic bag and carry it where you can get it out without leaving the saddle.

For more on deciding what to carry while bicycle touring, see the chapter titled "Gearing Up."

### Touring Bike Techniques

A fully loaded touring bicycle handles differently from one without the weight of provisions and gear. Get used to controlling your bike by riding it in a parking lot or other area free of traffic. Notice, too, if anything is loose. Your touring bike and all your gear should be a tight unit with nothing shifting around except the derailleurs, and those only when you are changing gears.

Once you and your group are on the road, settle into a pedaling rhythm that you can maintain over the miles. In most cases, you will want to ride single file on the far right side of the road. Tucking in just behind the rider in front of you, a technique called *drafting*, will draw you along in the windbreak formed by the first rider's bike and body. Riders can take turns in the lead position, especially when riding into a headwind.

Keep an eye on the weather. Rain, fog, and mist can make roads slippery. They also can impair the vision of the motorists with whom you share the road. If conditions are not conducive to riding safely, seek shelter and wait out the storm.

Hills shouldn't discourage you too much if you gear down, stay in the saddle, and keep your pedaling cadence steady. Control your speed on descents by braking occasionally, applying pressure evenly to both brake levers. A headwind can be as demoralizing as a tailwind is refreshing. Shift into a low gear when the wind is in your face, keep up your cadence, and be patient. In both wet weather and dry, approach railroad tracks, bridge joints, and other potentially slippery road obstacles at a perpendicular angle, slowing to make a controlled crossing.





## Hand Signals



*Right turn*



*Stopping*



*Left turn*

## Bicycling Road Rules

Consider yourself to be a part of the traffic. Obey all regulations that apply to motorists, and do everything you can to make it easy for drivers to see you and to pass safely. Learn and follow these common sense safety and courtesy guidelines:

1. Stay close to the right side of the road.
2. When riding abreast, be ready at all times to merge back into single file.
3. Don't delay traffic.
4. Plan routes that avoid busy roads.
5. Ride defensively. Be visible and anticipate the actions of motorists, pedestrians, and other cyclists.

### **Seeing and Being Seen**

Make yourself clearly visible with brightly colored clothing. An orange fluorescent construction-worker vest, reflectors, and lights are a good idea, too.

A mirror attached to your handlebars or helmet can give you a sense of what's happening behind you. Even more important, though, are listening carefully for approaching traffic and glancing over your shoulder now and then to see what traffic might be overtaking your group.





**INTERNATIONAL  
MOUNTAIN BICYCLING  
ASSOCIATION RULES  
OF THE TRAIL**

- 1. Ride on open trails only.**
- 2. Leave no trace.**
- 3. Control your bicycle!**
- 4. Yield to other trekkers.**
- 5. Never scare animals.**
- 6. Plan ahead.**

## Mountain Biking

Mountain biking can take you along backcountry roads and designated trails into the rugged terrain beyond the pavement. Today's riders are fully embracing the responsibilities that come with the opportunity to pedal away from highways and other paved routes. They are riding only on trails and backroads where cycling is appropriate, and are sharing those pathways with hikers, horseback riders, and other outdoors enthusiasts in ways that present mountain biking in a positive light. Most importantly, these riders are protecting the environment by making good decisions about where, when, and how they ride.

Used wisely, a mountain bike can be a wonderful vehicle for exploring rural roads and designated trails. Ridden thoughtlessly, though, a mountain bike has the potential to cause serious environmental damage and to spoil the experiences of other backcountry users. Making the right choices about where, when, and how to ride will help ensure that roads and designated trails will stay open for you and other riders to enjoy in the future.

### Where and When to Ride a Mountain Bike

Two words are at the heart of mountain bike routes—*designated* and *durable*.

*Designated* routes are those that land management agencies have deemed appropriate for mountain bikers to use. Find out which trails are designated by checking at agency offices or Web sites, or by asking at local bicycle shops. Agencies often provide maps with mountain bike routes highlighted. Signs at trailheads also can give clear indications of the trails that you can ride.



Even more important than finding designated routes is learning which trails are off-limits to bike riders, and then avoiding them. Trails might be closed to bicycles for any number of reasons: fragile surfaces, heavy use by other outdoor enthusiasts, wet weather, wildlife issues. Respect all trail closures by staying off trails not specifically designated for mountain biking.

*Durable* mountain bike routes are trail surfaces that are hard, dry, and able to withstand the impact of many bicycles passing over them. When you set out on a designated mountain bike trail, your responsibilities to protect the environment still rest on the decisions you make with each turn of the pedals.

### **Leave No Trace Mountain Biking**

Avoid muddy trails. The tread of mountain bike tires can churn up wet earth, gouging out tracks that can lead to erosion and trail degradation. Leave your mountain bike at home when the weather is wet. If an otherwise dry ride brings you to a muddy stretch of trail, it might be best to dismount and walk your bike through it. Don't detour by riding on the edges of the trail, though—that can break down the soil and vegetation, causing unnecessary widening of the trail.

Stay on the trail. Resist the temptation to take shortcuts down hill-sides. That's a sure invitation to erosion and to the closing of areas to future mountain biking. Go all the way around trail switchbacks, making your turns in a controlled manner that prevents the wheels from skidding and causing damage to tread surfaces.



## Mountain Bikes

Mountain bikes first appeared in California in the 1970s and early 1980s. Early mountain bikes were simply regular bicycles that riders wheeled up and down steep trails. Over time, the bikes have become sturdier and more fun to ride, evolving into machines that are distinctly different from the bikes used for touring or for riding around town.

### **Mountain Bike Frame**

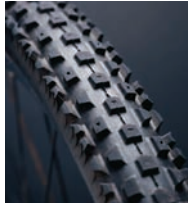
In order to absorb the impact of rough roads and trails, the frames of mountain bikes are not as stiff as those used for touring. Advanced mountain bikes are equipped with suspension springs and flexible joints for diffusing the force of hard riding on rugged terrain.

### **Straight Handlebars**

Straight handlebars will help you maintain the most effective body positions for climbing, descending, and negotiating obstacles.

### **Knobby Tires**

Mountain bikers often choose tires with knobby tread patterns because they are ideal for gaining traction without spinning out and are just right for creating maximum braking power.



### **Pedals**

The clipless pedals of many mountain bikes will keep your feet positioned even when the going gets crazy. Harder to tighten and to release, toe-clip pedals are less popular among riders.

### **Brakes**

The brakes of most mountain bikes are caliper brakes similar to those found on touring bicycles. Use both brakes to slow your bike, but rely more on the rear brake during descents. Clamping down hard on the front brake alone might cause you to overturn.





## Mountain Bike Techniques

### **Body Position**

Mountain bikes are built to withstand tough territory, but the real suspension system of mountain biking is a rider's body. Stay relaxed and ride with your knees and elbows flexed to dissipate jolts from the bike. By moving forward or backward over the seat, you also can shift your weight from one wheel to the other. This ability to *weight* and *unweight* the wheels plays a major role in handling a mountain bike as you climb and descend trails and negotiate tight turns.

### **Climbing**

Mountain bike gearwheels offer a high ratio of power to distance, allowing you to crank steadily up slopes even when your speed is very slow. Lean into the handlebars as a route steepens, and keep your weight hovering above the seat. If the rear wheel begins to lose traction, move your body back to put more weight over that wheel. Stalling out during a climb means you might need to twist a foot out of a pedal, so anticipate the gears you will need and shift the derailleurs while you are on the move.

### **Descending**

Controlled descents on a mountain bike involve more than simply pointing the front wheel down a road or trail and letting go of the brakes. Shift your body position so that your weight is over the back wheel—the steeper the route, the farther back your weight should be. That will provide the most stability as you ride and can maximize the stopping power of your brakes. Scan the route ahead, envisioning where you want to go rather than locking your eyes onto obstacles that you want to avoid. Ride no faster than the route, your level of skill, and the presence of other trail users will allow.

### **Rollovers**

Mountain bikers often get past logs, water bars, and other low obstacles simply by rolling over them. Keep up your speed as you approach an obstacle and shift your position to weight the rear wheel. As the bike rolls over the obstruction, don't touch the front brake—that could send you hurtling over the handlebars. Grip the handlebars so that they can't twist out of your grasp when the front wheel reaches the obstacle.



### **Bunny Hops**

To overcome an obstacle too high to roll over, try going airborne with a bunny hop. Flex the frame as you approach by pushing down on the handlebars, then spring the bike upward, lifting the front wheel with the handlebars and the back wheel with your body. Keep your weight shifted toward the rear, and don't touch the front brake as you come down. Land on the back wheel first.



### **Trackstand**

Now and then you will want to stop your bike for a moment to size up the route ahead. Performing a *trackstand* allows you to do that without taking your feet off the pedals. Learn to do a trackstand by aiming your bike up a slight slope. Rotate the pedals until they are level, and turn the front wheel a little to one side of the bike. Standing in the pedals, hold the bike in position with enough weight on the forward pedal to prevent the bike from rolling backward, but not so much pressure that the bike moves forward.

**Upsets**

Occasional extremes of mountain biking make tumbles a possibility. Minimize that risk by riding in a controlled manner with your full attention on the route ahead. A helmet is essential for every mountain biker, and cycling gloves will help protect your hands. If you do go down, tuck your body and roll to absorb the impact of your fall rather than trying to catch your weight with straight arms. Stay with the bike if you can—it might absorb some of the impact to your body.



## Bicycle Care and Repair

Among the great pleasures of bicycling is learning to maintain and repair your own machine. Local cycling clubs often offer opportunities for learning bicycle mechanics, and some cycling stores present classes in tuning up bikes, truing wheels, and making other adjustments. Experienced riders in your group also can be storehouses of information as you master the art of bicycle repair.

Whether you do your pedaling on mountain trails or open roads, keeping your bike in top mechanical condition will add to the joy of every journey. A well-tuned machine also is much less likely to break down when you are miles into a ride. The maintenance concerns are the same for both mountain bikes and touring bicycles, and many of the mechanical difficulties you encounter in the field can be resolved, at least long enough for you to get home, by using a bicycle pump and the contents of a repair kit carried in your panniers, a fanny pack, or a small pack attached to the saddle.





## Pre-Ride Mechanical Check

Look over your bike before a ride to be sure everything is in order. Some of the items you will want to check follow:

### **Brakes**

Squeeze the brake levers to ensure that the brake pads will securely grip the wheel rims. Brake pads should be clean and not badly worn. The cables controlling the brakes should not be frayed or damaged.

### **Chain**

The chain should be clean and properly lubricated to prevent squeaking and excessive wear. Apply a good lubricant to the moving chain as you turn the pedals backward, then wipe off any excess with a rag.

### **Gears and Derailleurs**

Derailleurs and the cables controlling them must be free of road grit. Run through the gears as you begin pedaling to be sure that you can click smoothly into all combinations of front and rear gearwheels.

### **Wheels**

Feel for loose spokes, then spin each wheel and watch the rim to see that it spins true. Any wobble needs to be corrected in the shop.

### **Tires**

Press down on each tire with your hand to get a general idea of whether or not there is sufficient air pressure for a ride. Better yet, use a pressure gauge. Keep tires inflated to the pressure noted on their sidewalls.



### **Patching Tire Punctures**

An absolute truth of bicycling is that flat tires happen. Carry a patch kit and perhaps even a spare tube, and you'll be ready to repair most tire damage and quickly get back in the saddle.



*“As a kid I had a dream—I wanted to own my own bicycle. When I got the bike I must have been the happiest boy in Liverpool, maybe in the world. I lived for that bike.”*

—John Lennon (1940–1980),  
British cyclist and member  
of the Beatles rock group



### Post-Ride Bicycle Care

The end of a ride might be the best time of all to attend to the mechanical needs of your bicycle. Checking and tuning up your bike right away means it will be ready to go the next time you want to hit the road or the trail. You also can deal with any time-consuming mechanical problems that you discover.

Clean mud and grit from your bicycle and, if necessary, lubricate the chain. Test bolts, screws, and fittings to see that everything is secure. In addition to examining derailleurs and brakes, pull sideways on the wheels and the pedal crank to ensure that there is no play in the hubs and bearings.

Lastly, store your bike in a safe, out-of-the-way place, but don't expect it to stay there very long. The whirl of wheels against the highway and the thrill of pedaling hard up a mountain trail are temptations you won't be able to ignore for long.

