Western North Carolina is among the top mountain biking locations in the world. However, like southwestern British Columbia, it is a temperate rain forest, and the climate is particularly hard on our equipment.

Water, especially water with suspended soil particles, is a bike's worst enemy. But sealing components from water comes with a price - increased friction. Mountain bikes, as opposed to motocross motorcycles, must be relatively friction-free. A 250cc motocrosser cranks out about 60 horsepower vs. the 0.33 horsepower of a fit mountain biker. So a motocross bike can afford to have very tight seals on its components, whereas a mountain bike cannot. Therefore, most mountain bike maintenance stems from water and mud contamination.

**Keeping Your Bike Clean**

We do not recommend washing your bike after every ride because that tends to take the dirt on the outside of the bike and carry it via water to the inside parts of the bike.

Instead, after a ride, let your bike dry to leave a crust of dirt over it. Then, at some point before your next ride, dry-clean the bike with brushes and rags.

1. Knock off the biggest chunks of dirt on the bike with your fingers.

2. Use a stiff nylon brush to clean the chain, cassette, chainrings, and derailleurs while backpedaling. This works remarkably well.

3. If you wish to clean your chain more thoroughly, using Park Tool's chain washing device is a good additional step.

4. Lube your chain by dripping your preferred type of lube on the chain while backpedaling (the chain should be on the big ring and small rear cog). Wipe off all the excess from the chain, derailleuer pulleys, big ring, and small rear cog with a clean rag. Let the lube dry before riding.

5. Wipe the inner legs of the suspension fork, and the inner tube of the rear air shock, with a clean rag. Try not to push dirt under the seals.

6. If you have disc brakes, leave them alone unless the discs have been contaminated by grease or citrus cleaner, in which case they should be cleaned with isopropyl alcohol and a clean rag. If you have rim brakes, wipe down the rims with isopropyl alcohol and a clean rag.

7. Check your tire pressure and now you are ready for a ride.

After 8 or so rides (approximately monthly), your bike will need to be washed.

8. Prepare a bucket of dish soap and warm water. Various-shaped bike washing brushes are available at Liberty. These brushes make bike washing much easier.

9. Ideally, suspend the bike off the ground (an old bike stand is perfect for bike washing) and remove the wheels. Then hose down the bike and wheels with a gentle, shower-like spray.

10. Scrub the bike from top to bottom with the soapy water and appropriate-shaped brushes.

11. Hose off the soap and dirt with a gentle spray.

12. Shake the bike and bounce the wheels to remove excess water. Dry the bike with clean rags.

13. Once it is dry, lube the chain as described above.

**Additional Maintenance**

Even though you keep your bike clean as recommended, normal use will require some additional care. Eventually,
components will wear out as well. The service life of components depends on many factors, such as whether the bike is ridden in muddy conditions and the favorite gear combination of the rider (using gears that place a severe angle on the chain accelerate wear).

1. As more gears have been added to the rear ends of bikes, chains have gotten narrower. Now they wear out faster than in the past. Worn chains wear out rear cogs and front chainrings, but chains are less expensive than the gears, so you should frequently replace your chain. If you ride your bike six hours a week, expect to replace the chain two to three times per year in order to maintain crisp shifting and to avoid premature gear wear.

2. Even with two to three chains per year, if you ride six hours a week, you will likely need a rear cassette and inner/middle rings yearly. Note that we do not advocate old school “drivetrain cleaning”, where the chain, cassette, and rings are cleaned in a solvent tank. Modern chains are internally lubed upon assembly with a special thick grease that one of our mechanics calls “earwax”. It is desirable to remove it from the outside of the chain with a mild citrus degreaser or a thin chain lube, but a solvent tank dissolves the thick grease from the internal parts of the chain. If you wish to clean your drivetrain with something stronger than soapy water during a bike wash, diluted citrus degreaser is recommended (Park Tool’s chain cleaning device makes this easier).

3. Shift cable/housing systems need a lot of attention in our climate. You should learn how to lube the cables and do this each time the bike is washed (remember, about every 8 rides). The cables and housing should be replaced at least once per year. An alternative cable system by Nokon (available at Liberty) reduces cable lubing to once a year and also provides other benefits.

4. Brake pads should be visually checked for wear each time the bike is washed. Disc brake pads last much longer than rim brake pads.

5. Operation of all bearing systems, including rear suspension pivots, should be checked each time the bike is washed. Any binding or free play should be addressed as soon as it is noticed.

6. Bottom brackets should be removed from the frame at least twice per year to remove any accumulated water and to re-grease the components.

7. Trueness of rims and tension of spokes should also be checked each time the bike is washed.

8. Torques of all fixing bolts should be checked at least twice per year. It is very important to remember that carbon and ultra-lightweight aluminum parts often have low torque limits on their bolts.

9. Suspension forks should be overhauled once per year. Rear air shocks should have air canister seals changed once or twice per year, and be sent back to the manufacturer for damper maintenance once a year. Rear coil shocks should go back to the manufacturer for damper maintenance once a year.

10. Hydraulic disc brakes should be bled at least every two years.

New Bicycles

New bikes, like any mechanical device, have a break-in period. Therefore, Liberty Bikes offers two free checkovers with all new bike purchases. The first one should be done after 10 hours of riding. The second one should be done around 6 months after purchase. We will completely go through the bike and perform any regular maintenance that is needed. We can do a better job if you bring in your bike clean.

Additionally, we offer free unlimited service department visits for the first six months of ownership. This means that we want you to bring your bike by the shop if you have any problems with the performance of your new bike. We will do our best to fix the problem while you wait. We want you to be happy with your bike riding experience!

This policy does not cover crash damage, cost of parts replacement for normal wear and tear, or tire punctures. Our intent is to provide free adjustments during the break-in period of your new bike.

Service at Liberty Bikes

The Service Department at Liberty Bikes offers all the procedures mentioned in this guide, and much more. We have highly skilled technicians and the latest tools and technical manuals. Additionally, we offer maintenance classes, both Basic and Advanced, for our customers.

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