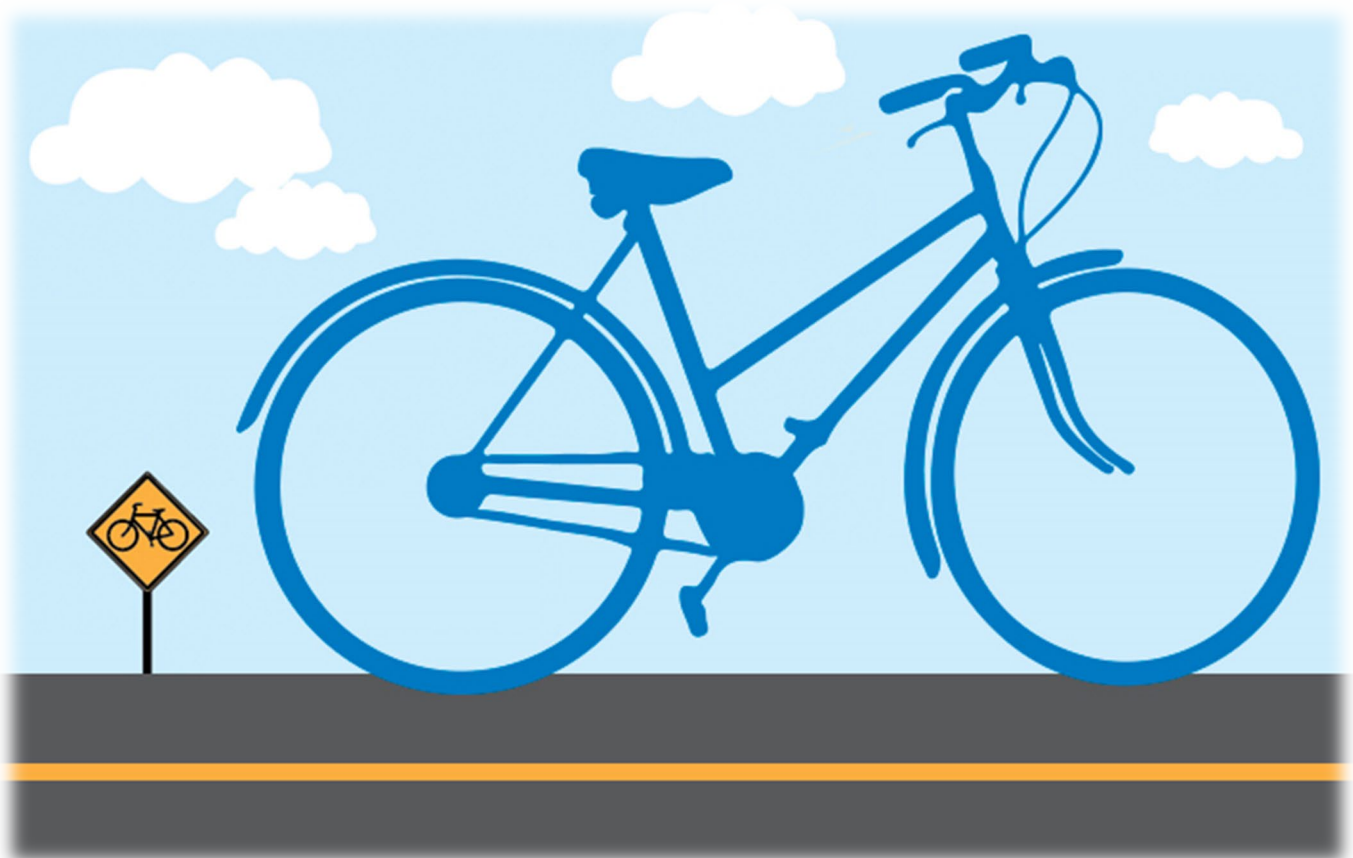


Rollins

SUSTAINABILITY

Rollins College Bicycle Library Program
BICYCLE SAFETY, MAINTENANCE, and REPAIR MANUAL



BICYCLE SAFETY, MAINTENANCE, and REPAIR MANUAL



GENERAL BIKE SAFETY:

Always perform a perfunctory inspection of your bike before every ride. Check **wheels** are tight, **tires** have good tread and are filled with air, **seat** is secure and straight, **pedals** are good, **brakes** work, **lights** work, **handlebars** are straight and secure, and once you are riding go through your **gears**.

In general, your bike should be kept **clean** to ensure optimum performance. Also ensure that **oil and grease** is applied where needed and in the correct amounts. It is also recommended you wear **reflective clothing** and/or have some reflective strips on your bike. **Helmets** should be worn at all times, even when not cycling on roads. Remember to make sure your **pants** are tied at the ankle so they don't get caught in your chain. A **bell** or similar is also recommended to let pedestrians and other road/sidewalk users know of your presence. Mirrors are also a good idea.

MAINTENANCE and REPAIR

BRAKES:

- 1. Overall**, all the components of the braking system should be regularly checked for wear and tear and to ensure that they are tightly secured.
- Ensure brake **levers** can only be pulled back about half way. If they can be pulled right toward the handlebars, they are too loose, and the cable will need to be tightened.
- Brake **pads** should be parallel with the wheel rims and should not rub the wheel when the brake is not applied. If the pad rubs the wheel, then loosen the cable. If the pad only rubs the wheel in parts, then the wheel may need to be trued. (See 'WHEELS' section)
- 4. Calipers** should be tight and each side should be of equal distance away from the wheel. If one side is further than the other, the following techniques can be utilized:

- check that the cabling all the way from the lever to the caliper is correct and unimpeded
- The caliper may have to be repositioned at its connection to the frame (there are 3 variables for this connection)
- Switch the spacers on the brake pads—the thick for the thin—to either bring one arm closer or one further away from the wheel

5. Squeaky brakes can be remedied in a variety of ways

- Clean the wheel rims with alcohol, then dry with a clean rag
- Sandpaper the brake pads then wipe with a rag
- If possible, turn the brake pad upside-down. (Yes, this works!)

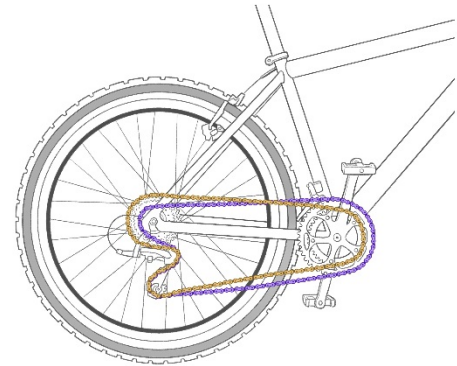
6. Cruiser bikes: If the pedal-back brake is malfunctioning...

- Ensure the little arm locking the wheel to the frame is tightened. It may need replaced.
- Take the hub apart carefully, noting how it is assembled, and clean and grease the components before re-assembling.

GEARS:

Indexing Gears: It is recommended to watch some YouTubes to familiarize yourself with the whole process of indexing. We recommend indexing the front derailleur first and then the rear.

Ascertain if new cables and/or cable housings are needed. Are they rusty, twisted, just old, etc.? Check to see if any component parts of the derailleur or gear system are bent, twisted, rusted, old, etc. You may need a new derailleur or part thereof.



1. Cables:

- Replacing cables is easy; just be aware of how they come out so you can put them back in the same way
- Apply a little grease to cable before pushing it through the housing
- Do not cut cable to length until all the indexing is done
- Attach and secure cable endtip to cable

2. Front derailleur:

- Ensure chain is on the rear and front cogs closest to the bike frame
- Loosen the gear cable
- Adjust the height of the derailleur so it clears the outer cog by approx. 3mm
- Ensure derailleur is parallel to the cogs
- Tighten derailleur to the frame, making sure the height and alignment are still good
- Adjust the limit screws, inner then outer; they stop derailleur from moving too far outward or too far inward
- Secure the gear cable into place, hand tight
- Shift the derailleur as normal; it should move easily between all 3 cogs

- If the gears are difficult to shift, loosen the cable very slightly and repeat until desired tension is reached
- With the cable still attached, further minor adjustments can be made with the limit screws
- Basically, play about with all the aforementioned techniques until gears work optimally

3. Rear derailleur:

- Work with chain on either the outside or middle cog of the front gear set
- Adjust gear so the chain is on the rear cog furthest from the frame
- Release the rear gear cable and adjust the limit screws
- To adjust limits, manually move the derailleur toward the wheel as far as it will go and then adjust 'high' screw so the derailleur lines up with the largest cog
- Then move the derailleur as far away from the wheel as it goes and adjust the 'low' screw so that the derailleur lines up with the smallest cog
- Re-secure the gear cable, hand tight
- Run through the gears, they may be good
- If they do not shift one at a time and easily, then, starting with the lowest gear, turn the barrell adjuster so that the derailleur is right below the cog
- Repeat for every gear
- Run through all the gears with the front derailleur on each cog
- On the highest and lowest gears, the chain may rub slightly; assess for yourself whether this is a problem or not; because those gears are not in use frequently it may not matter
- Some bikes have barrell adjusters on the gear mechanisms which are on the handlebars, but most have them on the derailleur itself



KICKSTAND:

- Ensure kickstand is correct height so bike will stand up whichever way the handlebars are turned
- Consider buying kickstands that have adjustable heights

LOCK/LOCKHOLDER:

- Check locks regularly. If they stick, apply some graphite powder and work the key repeatedly to spread it around the gubbings
- If lock persists on malfunctioning, maybe it's time for a new one
- Keep an eye on the lock holder to ensure it is tightly secured to bike
- the lockholder and lock should not impede you. Hanging down from the top bar of the bike frame is a good spot



SEAT/SEAT CLAMP:

- Cruiser bikes should have large, comfortable seats
- Make sure seats are at the correct angle so you are not tilted forward or leaning back
- Make sure your seat is adjusted so you can reach the handlebars without stretching
- Seat clamps should be tight enough so that the seat doesn't move, but not too tight so that you cannot easily adjust the height of the seat

TIRES/TUBES:

- Make sure the tubes are the correct size for the wheel
- Make sure tire matches the wheel size
- When possible, repair holes in tubes

WHEELS/SPOKES:

- Check wheels are true (not bent out of shape)
- Truing wheels is sort of an art learned over time; watch some YouTubes to learn
- Check spokes are all tight and that none are missing

INFORMATION on ROAD LAWS for CYCLISTS

[Traffic Laws | League of American Bicyclists \(bikeleague.org\)](#)

