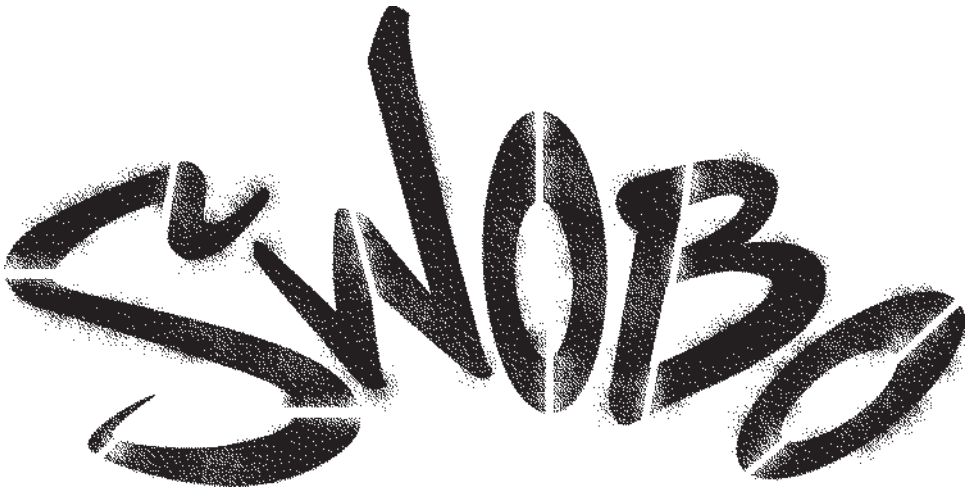


BICYCLE OPERATION & SAFETY GUIDE

IMPORTANT:
This section of the SWOBO Bicycle Owner's Manual contains important safety and performance information. Read it before you take the first ride on your new bicycle, and keep it for reference. Additional safety, performance and service information for specific accessories such as helmets or lights that you purchase, may also be available. If you have any questions or do not understand something, take responsibility for your safety and e-mail us at info@swobo.com.

GENERAL WARNING:

Like any sport, bicycling involves risk of injury and damage. By choosing to ride a bicycle, *you* assume the responsibility for that risk. Not the people who sold you the bike. Not the people who made it. Not the people who distribute it. Not the people who manage or maintain the roads or trails you ride on. *You*. So you need to know — and to practice — the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces risk of injury and damage.

This manual contains many “Warnings” and “Cautions” concerning the consequences of failure to maintain or inspect your bicycle and of failure to follow safe cycling practices.

• The combination of the ⚠ safety alert symbol and the word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

• The combination of the ⚠ safety alert symbol and the word **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or is an alert against unsafe practices.

• The word **CAUTION** used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the bicycle or the voiding of your warranty.

Many of the Warnings and Cautions say “you may lose control and fall”. Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death.

Because it is impossible to anticipate every situation or condition which can occur while riding, this Manual makes no representation about the safe use of the bicycle under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider.

A special note for parents:

As a parent or guardian, you are responsible for the activities and safety of your minor child, and that includes making sure that the bicycle is properly fitted to the child; that it is in good repair and safe operating condition; that you and your child have learned and understand the safe operation of the bicycle; and that you and your child have learned, understand and obey not only the applicable local motor vehicle, bicycle and traffic laws, but also the common sense rules of safe and responsible bicycling. As a parent, you should read this manual, as well as review its warnings and the bicycle’s functions and operating procedures with your child, before letting your child ride the bicycle.

⚠**WARNING: Make sure that your child always wears an approved bicycle helmet when riding; but also make sure that your child understands that a bicycle helmet is for bicycling only, and must be removed when not riding. A helmet must not be worn while playing, in play areas, on playground equipment, while climbing trees, or at any time while not riding a bicycle. Failure to follow this warning could result in serious injury or death.**

1. First

NOTE: We strongly urge you to read this section of the manual in its entirety before your first ride. At the very least, read and make sure that you understand each point in this sub section and refer to the cited sections on any issue which you don't completely understand. Please note that not all models of Swobo bicycles have all of the features described here.

A. Bike fit

1. Is your bike the right size? Allow between one and five inches of clearance when straddling the bicycle top tube. If your bicycle is too large or too small for you, you may lose control and fall. If your new bike is not the right size, return and exchange it for the right size before you ride it.
2. Is the saddle at the right height? To check, see the ADJUSTMENT section of the ASSEMBLY & MAINTENANCE INSTRUCTIONS. If you adjust your saddle height, follow the Minimum Insertion instructions in that Section
3. Are saddle and seat post securely clamped? A correctly tightened saddle will allow no saddle movement in any direction.
4. Are the stem and handlebars at the right height for you? If not, see the ADJUSTMENT section of the ASSEMBLY & MAINTENANCE INSTRUCTIONS.
5. Can you comfortably operate the brakes? If not, consult a qualified bicycle mechanic for help before you ride.
6. Do you fully understand how to operate your new bicycle? If not, before your first ride, e-mail info@swobo.com and we will explain any functions or features which you do not understand.

B. Safety first

1. Always wear an approved bicycle helmet when riding your bike, and follow the helmet manufacturer's instructions for fit, use and care.
2. Do you have all the other required and recommended safety equipment? See Section 2. Safety. It's your responsibility to familiarize yourself with the laws of the areas where you ride, and to comply with all applicable laws.

C. Mechanical Safety Check

Routinely check the condition of your bicycle before every ride.

Nuts, bolts screws & other fasteners: Make sure nothing is loose. Lift the front wheel off the ground by two or three inches, then let it bounce on the ground. Anything sound, feel or look loose? Do a visual and tactile inspection of the whole bike. Any loose parts or accessories? If so, secure them. If you're not sure, ask someone with experience to check.

⚠ WARNING: Correct tightening force on fasteners –nuts, bolts, screws– on your bicycle is important. Too little force, and the fastener may not hold securely. Too much force, and the fastener can strip threads, stretch, deform or break. Either way, incorrect tightening force can result in component failure, which can cause you to loose control and fall. A professional bicycle mechanic with a torque wrench should torque the fasteners on you bicycle. If you choose to work on your own bicycle you should follow the tightening torque specifications on page 38. If you need to make an adjustment at home or in the field, we urge you to exercise care, and to have the fasteners you worked on checked by a qualified bicycle mechanic as soon as possible.

Tires & Wheels: Make sure tires are correctly inflated. Correct tire pressure is shown on the tire sidewall.

Tires in good shape? Spin each wheel slowly and look for cuts in the tread and sidewall. Replace damaged tires before riding the bike.

Wheels true? Spin each wheel and check for side-to-side wobble. If a wheel wobbles side to side even slightly, or rubs against or hits a brake pad, take the bike to a qualified bicycle mechanic to have the wheel trued.

⚠ CAUTION: Wheel trueing is a skill which requires special tools and experience. Do not attempt to true a wheel unless you have the knowledge, experience and tools needed to do the job correctly.

Wheel rims clean and undamaged? Make sure the rims are clean and undamaged, and check for excess rim wear.

Brakes: Check the brakes for proper operation (see the ADJUSTMENT section of the ASSEMBLY & MAINTENANCE INSTRUCTIONS). Do not ride the bike until the brakes are properly adjusted by a qualified bicycle mechanic.

Handlebar and saddle alignment: Make sure the saddle and handlebar stem are parallel to the bike's center line and clamped tight enough so that you can't twist them out of alignment.

Handlebar ends: Make sure the handlebar grips are secure and in good condition. If not, replace them. Make sure the

handlebar ends are plugged. If not, get some plugs at a bicycle shop or the SWOBO web site and plug them before you ride.

⚠ WARNING: Loose or damaged handlebar grips can cause you to lose control and fall. Unplugged handlebars can cut you and cause serious injury in an otherwise minor accident.

D. First ride

When you buckle on your helmet and go for your first familiarization ride on your new SWOBO bicycle, be sure to pick a controlled environment, away from cars, other cyclists, obstacles or other hazards. Ride to become familiar with the controls, features and performance of your new bike.

Familiarize yourself with the braking action of the bike (see Section II, sub-section 4 How Things Work, paragraph 2 on page 26). Test the braking at slow speed, and gently apply braking action. Applying brakes too hard can lock up a wheel, which could cause you to lose control and fall. Skidding is an example of what can happen when a wheel locks up.

Check out the handling and response of the bike; and check the comfort.

If you have any questions, or if you feel anything about the bike is not as it should be, consult the SWOBO web site before your next ride.

2. Safety

A. The Basics

⚠ WARNING: Many states require specific safety devices. It is your responsibility to familiarize yourself with the laws of the state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires. Observe all local bicycle laws and regulations. Observe regulations about bicycle lighting, licensing of bicycles, riding on sidewalks, laws regulating bike path and trail use, helmet laws, child carrier laws, special bicycle traffic laws. It's your responsibility to know and obey the laws.

1. Always wear a cycling helmet which meets the latest certification standards and is appropriate for the type of riding you do. Always follow the helmet manufacturer's instructions for fit, use and care of your helmet. Most serious bicycle injuries involve head injuries which might have been avoided if the rider had worn an appropriate helmet.

⚠WARNING: Failure to wear a helmet when riding may result in serious injury or death.

2. Always do the Mechanical Safety Check (Section II, 1.C, Page 16) before you get on a bike.
3. Be thoroughly familiar with the controls of your bicycle: braking; pedals; shifting.
4. Be careful to keep body parts and other objects away from the sharp teeth of chainrings, the moving chain, the turning pedals and cranks, and the spinning wheels of your bicycle.
5. Always wear:
   • Shoes that will stay on your feet and will grip the pedals. Make sure that shoe laces cannot get into moving parts, and never ride barefoot or in sandals.
   • Bright, visible clothing that is not so loose that it can be tangled in the bicycle or snagged by objects at the side of the road or trail.
   • Protective eyewear, to protect against airborne dirt, dust and bugs.
6. Don't jump with your bike. Jumping a bike can be fun; but it can put huge and unpredictable stress on the bicycle and its components. Riders who insist on jumping their bikes risk serious damage, to their bicycles as well as to themselves. Before you attempt to jump, do stunt riding or race with your bike, read and understand sub-section 2.F below.
7. Ride at a speed appropriate for conditions. Increased speed means higher risk.

B. Riding Safety

1. You are sharing the road or the path with others — motorists, pedestrians and other cyclists. Respect their rights.
2. Ride defensively. Always assume that others do not see you.
3. Look ahead, and be ready to avoid:
   • Vehicles slowing or turning, entering the road or your lane ahead of you, or coming up behind you.
   • Parked car doors opening.
   • Pedestrians stepping out.
   • Children or pets playing near the road.
   • Pot holes, sewer grating, railroad tracks, expansion joints, road or sidewalk construction, debris and other obstructions that could cause you to swerve into traffic, catch your wheel or cause you to have an accident.
   • The many other hazards and distractions which can occur on a bicycle ride.
4. Ride in designated bike lanes, on designated bike paths or as close to the edge of the road as possible, in the direction of traffic flow or as directed by local governing laws.
5. Stop at stop signs and traffic lights; slow down and look both ways at street intersections. Remember that a bicycle always loses in a collision with a motor vehicle, so be prepared to yield even if you have the right of way.
6. Use approved hand signals for turning and stopping.
7. Never ride with headphones. They mask traffic sounds and emergency vehicle sirens, distract you from concentrating on what's going on around you, and their wires can tangle in the moving parts of the bicycle, causing you to lose control.
8. Never carry a passenger, unless it is a small child wearing an approved helmet and secured in a correctly mounted child carrier or a child-carrying trailer.
9. Never carry anything which obstructs your vision or your complete control of the bicycle, or which could become entangled in the moving parts of the bicycle.
10. Never hitch a ride by holding on to another vehicle.
11. Don't do stunts, wheelies or jumps. Think carefully about your skills before deciding to take the large risks that go with this kind of riding.
12. Don't weave through traffic or make any moves that may surprise people with whom you are sharing the road.

13. Observe and yield the right of way.
14. Never ride your bicycle while under the influence of alcohol or drugs.
15. If possible, avoid riding in bad weather, when visibility is obscured, at dawn, dusk or in the dark, or when extremely tired. Each of these conditions increases the risk of accident.

C. Wet Weather Riding

⚠WARNING: Wet weather impairs traction, braking and visibility, both for the bicyclist and for other vehicles sharing the road. The risk of an accident is dramatically increased in wet conditions.

Under wet conditions, the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced and your tires don't grip nearly as well. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet conditions, ride more slowly and apply your brakes earlier and more gradually than you would under normal, dry conditions.

D. Night Riding

Riding a bicycle at night is many times more dangerous than riding during the day. A bicyclist is very difficult for motorists and pedestrians to see. Therefore, children should never ride at dawn, at dusk or at night. Adults who chose to accept the greatly increased risk of riding at dawn, at dusk or at night need to take extra care both riding and choosing specialized equipment which helps reduce that risk. Consult a bike shop about night riding safety equipment.

⚠ WARNING: Reflectors are not a substitute for required lights. Riding at dawn, at dusk, at night or at other times of poor visibility without an adequate bicycle lighting system and without reflectors is dangerous and may result in serious injury or death.

Bicycle reflectors are designed to pick up and reflect car lights and street lights in a way that may help you to be seen and recognized as a moving bicyclist.

⚠CAUTION: Check reflectors and their mounting brackets regularly to make sure that they are clean, straight, unbroken and securely mounted. Replace damaged reflectors and straighten or tighten any that are bent or loose.

If you choose to ride under conditions of poor visibility, check and be sure you comply with all local laws about night riding, and take the following strongly recommended additional precautions:

- Purchase and install battery or generator powered head and tail lights which meet all regulatory requirements and provide adequate visibility.
- Wear light colored, reflective clothing and accessories, such as a reflective vest, reflective arm and leg bands, reflective stripes on your helmet, flashing lights attached to your body and/or your bicycle ... any reflective device or light source that moves will help you get the attention of approaching motorists, pedestrians and other traffic.
- Make sure your clothing or anything you may be carrying on the bicycle does not obstruct a reflector or light.
- Make sure that your bicycle is equipped with correctly positioned and securely mounted reflectors. While riding at dawn, at dusk or at night:
- Ride slowly.
- Avoid dark areas and areas of heavy or fast-moving traffic.
- Avoid road hazards.
- If possible, ride on familiar routes.

If riding in traffic:

- Be predictable. Ride so that drivers can see you and predict your movements.
- Be alert. Ride defensively and expect the unexpected.
- If you plan to ride in traffic often, ask your dealer about traffic safety classes or a good book on bicycle traffic safety.

E. Extreme or Stunt Riding

⚠ WARNING: Although many catalogs, advertisements and articles about bicycling depict riders engaged in extreme riding, this activity is extremely dangerous, increases your risk of injury or death, and increases the severity of any injury. Remember that the action depicted is being performed by professionals with many years of training and experience. Know your limits and always wear a helmet and other appropriate safety gear. Even with state-of-the-art protective safety gear, you could be seriously injured or killed when jumping, stunt riding, riding downhill at speed or in competition.

⚠ CAUTION: Bicycles and bicycle parts have limitations with regard to strength and integrity, and this type of riding can exceed those limitations.

We recommend against this type of riding because of the increased risks; but if you choose to take the risk, at least:

- Take lessons from a competent instructor first
- Start with easy learning exercises and slowly develop your skills before trying more difficult or dangerous riding
- Do stunts, jumping, racing or fast downhill riding only in areas designated for this type of riding
- Wear a full face helmet, safety pads and other safety gear
- Understand and recognize that the stresses imposed on your bike by this kind of activity may break or damage parts of the bicycle and void the warranty
- Take your bicycle to your dealer if anything breaks or bends. Do not ride your bicycle when any part is damaged.

If you ride downhill at speed, do stunt riding or ride in competition, know the limits of your skill and experience. Ultimately, avoiding injury is your responsibility.

F. Changing Components or Adding Accessories

There are many components and accessories available to enhance the comfort, performance and appearance of your bicycle. However, if you change components or add accessories, you do so at your own risk. SWOBO may not have tested that component or accessory for compatibility, reliability or safety on your bicycle. Before installing any component or accessory, including a different size tire, make sure that it is compatible with your bicycle. Be sure to read, understand and follow the instructions that accompany the products you purchase for your bicycle.

⚠ WARNING: Failure to confirm compatibility, properly install, operate and maintain any component or accessory can result in serious injury or death.

⚠ CAUTION: Changing the components on your bike may void the warranty. Refer to your warranty, and check with SWOBO before changing the components on your bike.

4. How Things Work

1. Removing and Installing Wheels

a. Removing a Front Wheel

(1) If your bike has a rim brake, disengage the brake's quick-release mechanism to increase the clearance between the tire and the brake pads (see fig 9at right).

(2) Using an adjustable or 15 mm wrench for a fixed nut axle or a 5mm hex wrench for a skewer axle (figs 1 & 2 below), loosen the axle fasteners enough to allow wheel removal.

(3) Raise the front wheel a few inches off the ground and tap the top of the wheel with the palm of your hand to knock the wheel out of the fork ends.

fig. 9

b. Installing a Bolt-On Front Wheel

⚠ **CAUTION:** ***NEVER squeeze the disc brake control lever when the front wheel is not securely installed. Be careful not to damage the disc rotor or calipers when inserting the wheel.***

If your wheel has fixed axle nuts (fig 1 at right):

a. With the fork facing forward, insert the wheel axle into the slots at the tip of the fork so that the axle seats firmly at the top of the slots.

b. While pushing the wheel firmly to the top of the slots in the dropouts, and at the same time centering the wheel rim in the fork, use a 15mm box wrench or an adjustable wrench to tighten the axle nuts.

c. Spin the wheel to make sure that it is centered in the frame and does not wobble. If the wheel is not centered, loosen the nuts and try again.

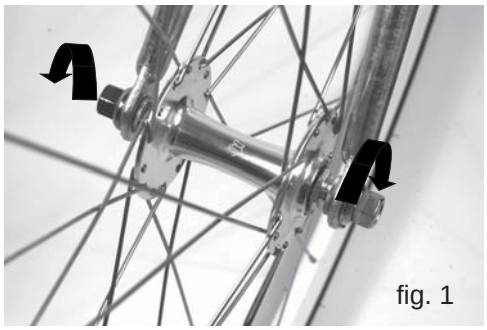


fig. 1

If your wheel has an axle skewer (fig 2 at right):

a. Unscrew the tension nut from the end of the wheel retention skewer; insert the skewer into the hollow axle with the narrow end of the conical springs facing the hub; then re-install the tension nut.

NOTE: If the wheel has a disc brake rotor, exercise care during the next step when inserting the rotor into the brake caliper.

b. With the fork facing forward, insert the wheel axle into the slots at the tip of the fork so that the axle seats firmly at the top of the slots.

c. While pushing the wheel firmly to the top of the slots in the dropouts, and at the same time centering the wheel rim in the fork, use a 5mm hex wrench to tighten the tension nut as tight as you can.

d. Spin the wheel to make sure that it is centered in the frame and does not wobble. If the wheel is not centered, loosen the nuts and try again.


fig. 2

⚠ **WARNING: Riding with an improperly tightened wheel can allow the wheel to wobble or disengage from the bicycle, causing damage to the bicycle, and serious injury or death to the rider.**

e. If your bike has a rim brake, re-engage the brake quick-release mechanism to restore correct brake pad-to-rim clearance; spin the wheel to make sure that it is centered in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.

c. Removing a Rear Wheel

⚠**WARNING: If your bike is equipped with an internal gear rear hub or a coaster brake, do not attempt to remove the rear wheel until you have read and understand Appendix A of this manual and any special instructions which came with your bike. The removal and re-installation of internal gear and coaster brake hubs require special knowledge. Incorrect removal or assembly can result in component failure, which can cause you to lose control and fall.**

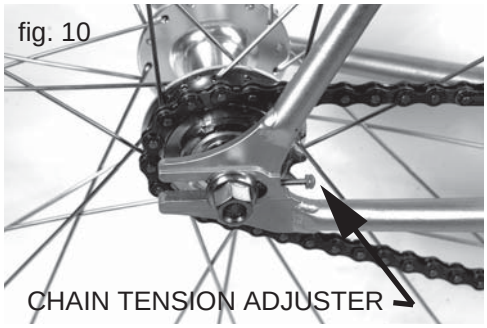
(1) If your bike has a rear rim brake, disengage the brake's quick-release mechanism (fig 9, above) to open the clearance between the tire and the brake pads.

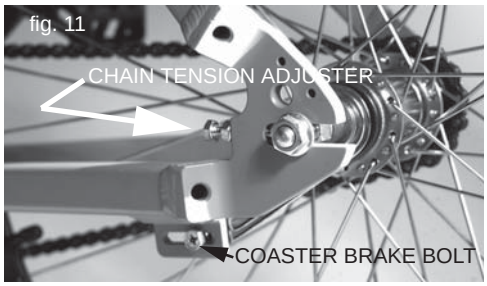
(2) Turn the chain tension adjuster bolts (fig 10 & 11 at right) counterclockwise, counting the exact number of turns, until they have come out about 1/2 inch. This will allow reducing chain tension so that the chain can be removed from the rear sprocket. You will need to remember the number of turns of the chain tensioning bolts.

(3) Using a 15 mm or adjustable wrench, loosen the two axle nuts.

(4) If your SWOBO has a coaster brake or multi-speed rear hub, disconnect the coaster brake arm and shifter cable by following the instructions in Appendix A of this manual and any special instructions that came with your bike.

(5) Push the wheel forward, remove the chain from the sprocket, and carefully remove the wheel by pulling it backwards out of the dropout slots.





d. Installing a Rear Wheel
(also see Appendix A of this manual and any special instructions which came with your bike)

(1) Hang the chain from the right rear dropout; then carefully slide the wheel axle all the way into the dropout slots.

(2) Put the chain on to the sprocket.

(3) Turn the chain tensioning bolts clockwise the same number of turns that you turned them counterclockwise during step c. (2) above, or until the chain has no less than 1/8 inch and no more than 3/4 inch of up and down play at the mid point between the rear sprocket and the chainring.

(4) Make sure the wheel is centered in the frame. Using a 15 mm or adjustable wrench, tighten the axle nuts enough so that the wheel stays in place; then use the wrench to tighten the nuts as tight as you can.

(5) If applicable, re-engage the brake quick-release mechanism on the caliper brake; replace the coaster brake arm bolt; and/or reconnect the shifter cable.

(6) Spin the wheel to make sure that it is centered in the frame and clears the brake pads; then make sure that the brakes are operating correctly.

2. Brakes

⚠ WARNING: If you have a Fixed Gear bike like the SWOBO Sanchez, your bike has no brakes. It is imperative that you read the Fixed Gear section D, page 28 below before attempting to ride your Fixed Gear SWOBO.

A. Braking Technique

⚠ WARNING:

1. Riding with improperly adjusted brakes or worn brakes is dangerous and can result in serious injury or death.

2. Applying brakes too hard or too suddenly can lock up a wheel, which could cause you to lose control and fall. Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in serious injury or death.

3. Some bicycle brakes are extremely powerful. Take extra care in becoming familiar with these brakes and exercise particular care when using them.

4. Disc brakes can get extremely hot with extended use. Be careful not to touch a disc brake until it has had plenty of time to cool.

See the brake manufacturer's instructions for operation and care of your brakes. If you do not have the manufacturer's instructions, contact the brake manufacturer or go to the SWOBO web site.

Brakes are designed to control your speed, not just to stop the bike. Maximum braking force for a wheel occurs at the point just before the wheel "locks up" (stops rotating) and starts to skid. Once the tire skids, you actually lose most of your stopping force and all directional control. You need to practice slowing and stopping smoothly without locking up a wheel. The technique is called progressive brake modulation. Instead of slamming on the coaster brake or jerking the brake lever to the position where you think you'll generate appropriate braking force, apply progressive force on the pedal or squeeze the lever, progressively increasing the braking force. If you feel the wheel begin to lock up, release pressure just a little to

keep the wheel rotating just short of lockup. It's important to develop a feel for the amount of brake pressure required for a wheel at different speeds and on different surfaces. To better understand this, experiment a little by riding your bike slowly in an unrestricted area and applying different amounts of pressure to the brake, until the wheel locks.

When you apply the brake(s), the bike begins to slow, but your body wants to continue at the speed at which it was going. This causes a transfer of weight to the front wheel (or, under heavy braking with hand brakes, around the front wheel hub, which could send you flying over the handlebars). A wheel with more weight on it will accept greater brake pressure before lockup; a wheel with less weight will lock up with less brake pressure. So, as you apply brakes and your weight shifts forward, you need to shift your body toward the rear of the bike, to transfer weight back on to the rear wheel. With hand brakes, you can further improve brake performance by simultaneously decreasing rear braking and increasing front braking force. Shifting weight to the rear wheel is even more important on steep descents, because descents shift weight forward.

The keys to effective speed control and safe stopping are controlling wheel lockup and weight transfer. Practice braking and weight transfer techniques where there is no traffic or other hazards and distractions.

Everything changes when you ride on loose surfaces or in wet weather. Tire adhesion is reduced, so the wheels have less cornering and braking traction and can lock up with less brake force. Moisture or dirt on the brake shoes of hand brakes reduces their ability to grip. The way to maintain control on loose or wet surfaces is to go more slowly.

B. Coaster Brake

The coaster brake is a sealed mechanism which is a part of the bicycle's rear wheel hub. The brake is activated by reversing the rotation of the pedal cranks (see fig. 12). Start with the pedal cranks in a nearly horizontal position, with the rear pedal in about the 10 o'clock position, and apply downward foot pressure on the rear pedal. About 1/8 turn rotation will activate the brake. The more downward pressure you apply, the more braking force, up to the point where the rear wheel stops rotating and begins to skid (see paragraph A. Braking Technique, above).

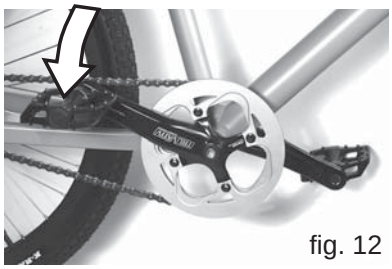


fig. 12

⚠ **CAUTION: Before riding, make sure that the brake is working properly. If it is not working properly, have the bicycle checked by an experienced bicycle mechanic before you ride it.**

C. Hand Brake

⚠ **WARNING: Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in serious injury or death.**

A hand brake works by squeezing friction pads against either a disc rotor (disc brake) or the wheel rim (rim brake). The brake mechanism is cable-activated by a hand lever mounted on the handlebar. The amount of free play in the brake lever is adjusted by rotating the brake cable adjusting barrel, which is on the brake lever (see also the ADJUSTMENT section of the ASSEMBLY & MAINYENANCE INSTRUCTIONS).

If your SWOBO has a rim brake, it also has a simple mechanism which releases cable tension and allows the brake pads to move outward so that the tire can pass between the pads during wheel removal or installation. See fig 9,above.

D. Special Instructions for Fixed Gear Bikes

⚠ **WARNING: A Fixed Gear Bike is specifically designed for competition on banked, ovals called Velodromes. Riding a fixed gear bike in any other environment can be extremely dangerous, even for an experienced rider of fixed gear bicycles, and exposes the rider to a higher degree of risk of serious injury or death than riding other types of bicycles in the same environment. To understand the reasons for this higher risk; to understand what makes a fixed gear bike different from other bicycles; and to learn the special features of your Sanchez bike please read this special section for fixed gear bikes.**

What makes a fixed gear bike different?

The main difference between a fixed gear bike and other bicycles is the fixed gear feature. "Fixed gear" means that the rear sprocket, which is fixed to the rear wheel, does not free-wheel when you stop pedaling. Instead, the pedals and cranks continue to rotate as long as the rear wheel is turning. They rotate in the same direction as the rear wheel, and at a speed commensurate with the rotation speed of the rear wheel. It is not possible to "coast" on a fixed gear bike. As a result, riding technique is quite different from a bicycle with a free-wheeling rear wheel.

A fixed gear bike is designed for competition on a banked race, where there are no hills, no stop signs and no road hazards. As a result, the bike has no brakes. You use your muscles and your weight on the pedals not only to accelerate

or maintain speed, but also to slow down and stop. Your pedaling cadence is the only control you have over the speed of the bike. To do that, your feet must always be securely on the pedals.

⚠ WARNING:

1. Because a fixed gear bike has no brakes, its speed can only be controlled by the rider changing the pedaling cadence. To do that, the rider's feet must always be securely on the pedals. Failure to keep both feet securely on the pedals can result in loss of control of the bicycle. Loss of control can lead to serious injury or death.

2. Riding a fixed gear bike safely requires a very high level of skills. Acquiring these skills may take many hours of practice in an environment where there are no traffic or other hazards, and where the rider can practice and develop the skills without distractions. An empty, smooth, level, paved parking lot is one place where you can develop the skills you need to safely control a fixed gear bike. But even the process of learning to safely control a fixed gear bike is hazardous. You could easily loose control, fall and injure yourself while practicing to develop your riding skills.

3. Riding a fixed gear bike in an environment where there are other cyclists, pedestrians, other traffic, surface gradients or other hazards before safe riding skills are developed is extremely dangerous and can lead to serious injury or death.

Maintenance of your fixed gear bike:

For general maintenance and service instructions and maintenance schedules, see the SWOBO Bicycle Owner's Manual which came with your bike.

The one maintenance and service requirement that is critical is chain tensioning. On a fixed gear bike, correct chain tension is critical. A chain that is too loosely tensioned can come off the sprocket, thereby severing the connection between the rear wheel and the pedals, and thus making it impossible for the rider to control the bike's speed.

The chain is correctly tensioned when it has no less than 1/8 inch and no more than 3/4 inch of up and down play at the mid point between the rear sprocket and the chainring. You adjust chain tension by loosening the rear wheel nuts; sliding the wheel forward or back the appropriate distance in the rear-facing dropout slots; then re-tightening the wheel nuts as hard as you can. Make sure that the wheel is centered in the frame when the wheel nuts are re-tightened.

NOTE: The chain tension often varies as you turn the pedals and rear wheel, so you must check chain tension over one complete revolution of the rear wheel.

⚠ WARNING: Riding a fixed gear bike with an incorrectly tensioned chain or with insufficiently tightened rear wheel nuts is extremely dangerous. The chain could come off a sprocket or the rear wheel could shift and rub against the frame, resulting in loss of control which could cause serious injury or death.

3. Shifting gears

Your multi-speed SWOBO will have an internal gear hub drivetrain. Shifting with an internal gear hub drivetrain is simply a matter of moving the shifter to the indicated position for the desired gear.

4. Pedals

Some bicycles come equipped with pedals that have sharp and potentially dangerous surfaces. These surfaces are designed to add safety by increasing grip between the rider's shoe and the pedal. If your bicycle has this type of high-performance pedal, you must take extra care to avoid serious injury from the pedals' sharp surfaces.

5. Tires and Tubes

a. Tires

Bicycle tires are available in many designs and specifications, ranging from general-purpose designs to tires designed to perform best under very specific weather or terrain conditions. If, once you've gained experience with your new bike, you feel that a different tire might better suit your riding needs, a bike shop can help you select the most appropriate design.

The size, pressure rating, and on some high-performance tires the specific recommended use, are marked on the sidewall of the tire. The part of this information which is most important to you is Tire Pressure.

⚠ WARNING: Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended maximum pressure may blow the tire off the rim, which could cause damage to the bike and injury to the rider and bystanders.

The best and safest way to inflate a bicycle tire to the correct pressure is with a bicycle pump which has a built-in pressure gauge.

⚠WARNING: There is a safety risk in using gas station air hoses or other air compressors. They are not made for bicycle tires. They move a large volume of air very rapidly, and will raise the pressure in your tire very rapidly, which could cause the tube to explode.

Tire pressure is given either as maximum pressure or as a pressure range. How a tire performs under different terrain or weather conditions depends largely on tire pressure. Inflating the tire to near its maximum recommended pressure gives the lowest rolling resistance; but also produces the harshest ride. High pressures work best on smooth, dry pavement. Pressures at the bottom of the recommended pressure range give more comfort and the best performance loose or slippery surfaces.

Tire pressure that is too low for your weight and the riding conditions can cause a puncture of the tube by allowing the tire to deform sufficiently to pinch the inner tube between the rim and the riding surface.

⚠ CAUTION: Pencil type automotive tire gauges can be inaccurate and should not be relied upon for consistent, accurate pressure readings. Instead, use a high quality dial gauge.

Some special high-performance tires have unidirectional treads: their tread pattern is designed to work better in one direction than in the other. The sidewall marking of a unidirectional tire will have an arrow showing the correct rotation direction. If your install unidirectional tires, be sure that they are mounted to rotate in the correct direction.

B. Tire Valves

There are primarily two kinds of bicycle tube valves: the Schraeder Valve and the Presta Valve. The bicycle pump you use must have the fitting appropriate to the valve stems on your bicycle.

fig. 13

The Schraeder valve (fig 12) is like the valve on a car tire. To inflate a Schraeder valve tube, remove the valve cap and clamp the pump fitting onto the end of the valve stem. To let air out of a Schraeder valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object.

The Presta valve (fig. 12) has a narrower diameter and is only found on bicycle tires. To inflate a Presta valve tube using a Presta headed bicycle pump, remove the valve cap; unscrew (counterclockwise) the valve stem lock nut; and push down on the valve stem to free it up. Then push the pump head on to the valve head, and inflate. To inflate a Presta valve with a Schraeder pump fitting, you'll need a Presta adapter (available at a bike shop) which screws on to the valve stem once you've freed up the valve. The adapter fits into the Schraeder pump fitting. Close the valve after inflation. To let air out of a Presta valve, open up the valve stem lock nut and depress the valve stem.

⚠ WARNING: Patching a tube is an emergency repair. If you do not apply the patch correctly or apply several patches, the tube can fail, which could cause you to loose control and fall. Replace a patched tube as soon as possible.

6. The SWOBO Bottle Opener

Your SWOBO has a very special feature: under the rear of the saddle is an integral bottle opener (fig 14).

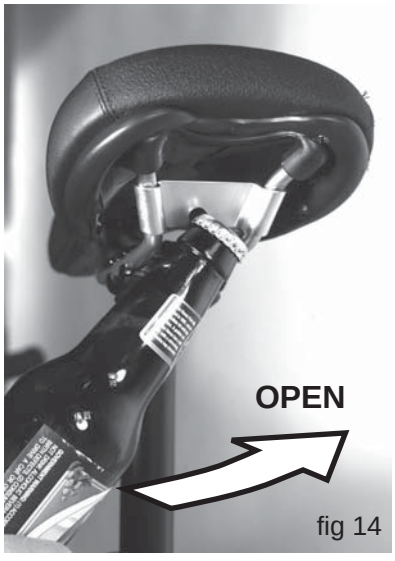


fig 14

7. If your bicycle sustains an impact:

First, check yourself for injuries, and take care of them as best you can. Seek medical help if necessary.

Next, check your bike for damage.

After any crash, take your bike to a qualified bicycle mechanic for a thorough check.

⚠ WARNING: A crash or other impact can put extraordinary stress on bicycle components, causing them to fatigue prematurely. Components suffering from stress fatigue can fail suddenly and catastrophically, causing loss of control, serious injury or death.