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, so you need to know — and to practice — the rules of safe and responsible riding and to practice — the rules of safe and responsible riding and proper use and maintenance. Proper use and maintenance of your bicycle reduces risk of injury.

Many of the Warnings and Cautions say “you may lose control and fall” because any fall can result in serious injury or even death. Because any fall can result in serious injury or even death, damage to the bicycle or the sudden stop of your motorcycle, the word CAUTION used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, could result in serious or moderate injury, or is an alert against unsafe 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, could result in serious or moderate injury, or is an alert against unsafe practices.

The word CAUTION used without the safety alert symbol means, “may result in minor or moderate injury, or it is an alert against unsafe practices.”
1. First

NOTE: We strongly urge you to read this manual in its entirety before your first ride; but at the very least, read and make sure that you understand each point in this section, and refer to the cited sections on any issue which you do not completely understand.

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 that you understand the operation of the bicycle and that you and your child have received proper training on the bicycle. 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 that you understand the operation of the bicycle and that you and your child have received proper training on the bicycle.
D. First ride
When you buckle on your helmet and go for your first familiarization ride on your new 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 bicycle.

Familiarize yourself with the braking action of the bike (see Section 4.C). Test the brakes at slow speed, putting your weight toward the rear and gently applying the brakes. Applying brake force too hard can lock the rear wheel; applying too little can lock the front wheel. If the brakes don’t work well enough, the bike could slide uncontrollably.

If your bicycle has clipless pedals, practice getting in and out of the pedals. See paragraph B.4 above and Section 4.C.3. If your bike has suspension, familiarize yourself with how the suspension responds to brake application and rider weight shifts. See Section 4.C.2 above and Section 4.C.3.

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, take the bike back to your dealer for advice.

E. Mechanical Safety Check
Routinely check the condition of your bicycle before every ride. If you notice any questions, or if you feel anything about the bike is not as it should be, check the bike before you ride.

Nuts, bolts & straps:
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 quick inspection of all quick releases, make sure they are closed and secure. Do a quick check of all wheel, handlebar and saddle alignment. Make sure the saddle and seat are adjusted properly. Change the handlebar and saddle if necessary. Do not ride the bike until the quick releases are properly adjusted and in the locked position. See Section Appendix B.

Tires & Wheels:
Make sure tires are correctly inflated (see Section 4.G.1). Check by putting one hand on the saddle, one on the intersection of the handlebars and stem, then bouncing your weight on the bike while looking at tire deflection. Compare what you see with how it looks when you know the tires are correctly inflated; and adjust if necessary.

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 slowly and look for side-to-side wobble. If a wheel wobbles side to side even slightly, or rubs against or hits the brake pads, take the bike to a qualified bike shop to have the wheel trued.

CAUTION: Wheels must be true for the brakes to work effectively. Wheel truing is a skill which requires special tools and experience. Do not attempt to true a wheel unless you have the knowledge and experience.

Brakes:
Check the brakes for proper operation (see Section 4.A). Squeeze the brake levers. Are the brake quick-releases closed? Are all control cables seated and securely engaged? Do the brake shoes touch the handlebar? If not, your brakes need adjustment. Do not ride the bike until the brakes are properly adjusted.

Quick releases:
If your bike has front wheel, rear wheel or seat post quick releases, make sure they are properly adjusted and in the locked position. See Section Appendix B.

WARNING: Loose or damaged handlebar grips can cause you to lose control and fall. If your bike has handlebar grips, make sure they are secure and in good condition. Replace damaged handlebar grips before you ride. If the handlebar grips are not secure, check the condition of the bike before you ride.

Bikes:
Check the bike for proper operation (see Section 4.A).
B. Riding Safety

1. Observe all local bicycle laws and regulations. Observe regulations about licensing of bicycles, riding on sidewalks, laws regulating bike path and trail use, and so on. Observe helmet laws and special bicycle traffic laws. It’s your responsibility to know and obey the laws.

2. You are sharing the road or the path with others — motorists, pedestrians and other cyclists. Respect their rights.

3. Ride defensively. Always assume that others do not see you.

4. Look ahead, and be ready to avoid:
   • Vehicles slowing or turning, entering the road or your lane ahead of you, or coming in 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 otherwise cause you to lose control and have an accident.
   • The many other hazards and distractions which can occur on a bicycle ride.

5. 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.

6. Ride in designated bike lanes, on designated bike paths or as close to the edge of the road as possible. Always follow the direction of traffic.

7. Use approved hand signals for turning and stopping.

8. Never carry a passenger, unless it is a small child wearing an approved helmet and secured in a correctly mounted child carrier or 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 carry anything which restricts your vision or your ability to see what’s going on around you.

11. Don’t weave through traffic or make any moves that may surprise people with whom you are sharing the road.

12. Observe and yield the right of way.

13. Never ride your bicycle while under the influence of alcohol or drugs.

14. If possible, ride on designated bicycle roads or when off-road riding.

15. If possible, ride on designated bicycle roads or when off-road riding.

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

A. The Basics

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.

2. Always do the Mechanical Safety Check (Section 1.C) before you get on a bike.

3. Be thoroughly familiar with the controls of your bicycle: brakes (Section 4.A) and pedals (Section 4.C).

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. Never ride barefoot or while wearing 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 — tinted when the sun is bright, clear when it’s not.

6. Ride at a speed appropriate for conditions. Increased speed means higher risk.

7. Before you attempt to jump, do stunt riding or race with your bike, read and understand Section 2.G. Downhill, Stunt or Competition Biking.

8. 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.

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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 increases the risk of accidents and you should reduce your speed and apply your brakes earlier and more gradually than you would under normal, dry conditions. See also Section 4.A.

E. 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 should not ride at dawn, at dusk or at night unless it is absolutely necessary.

WARNING: Reflectors are not a substitute for required lights. Riding at dawn, at dusk, at night or at other times of poor visibility without a 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 street lights and car lights in a way that may help you to be seen and recognized as a moving bicycle. The mounting brackets of front and rear reflectors are designed to pick up and reflect street lights and car lights in a way that may help you to be seen and recognized as a moving bicycle. The mounting brackets of front and rear reflectors are designed to pick up and reflect street lights and car lights in a way that may help you to be seen and recognized as a moving bicycle.

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

The mounting brackets of front and rear reflectors are often designed as brake straddle cable safety catches which prevent the straddle cable from catching on the tire tread if the cable jumps out of its yoke or breaks.

WARNING: Do not remove the front or rear reflectors or their mounting brackets from your bicycle. They are an integral part of the bicycle's safety system. Removing the reflectors may reduce your visibility to others using the roadway. Being struck by other vehicles may result in serious injury or death.

The reflector brackets may protect you from the brake straddle cable catching on the tire in the event of brake cable failure. If a brake straddle cable catches on the tire, it can cause the wheel to lose control, causing you to lose control of the bicycle, leading to a loss of control which may result in injuries or death.

WARNING: Wet weather impairs traction, braking and visibility.

D. Wet Weather Riding

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.

Before you attempt to jump, do stunt riding or race with your bike, read and understand Section 2.G. Downhill, Stunt or Competition Biking.

C. Off Road Safety

We recommend that children ride off-road only when accompanied by an adult. In any event, never ride alone in remote areas. Even when riding with others, make sure that someone knows where you're going and when you expect to be back. Always take a couple of emergency items with you: a first aid kit; some combination of tools and supplies; a pair of gloves; a flashlight; a mirror; a whistle; and a whistle. Be prepared if something goes wrong while you're riding off-road. Keep a map of the area you're riding in handy. Stay on the designated trail, and obey the local laws regulating the speed and method of travel. If you make a mistake, turn around and go back the way you came. Don't ride alone in remote areas. Even when riding with others, make sure that someone knows where you're going and when you expect to be back. Always take a couple of emergency items with you: a first aid kit; some combination of tools and supplies; a pair of gloves; a flashlight; a mirror; a whistle; and a whistle. Be prepared if something goes wrong while you're riding off-road. Keep a map of the area you're riding in handy. Stay on the designated trail, and obey the local laws regulating the speed and method of travel. If you make a mistake, turn around and go back the way you came. Don't ride alone in remote areas.

When you're riding off-road, you may be sharing the trail with others — hikers, equestrians, other cyclists. Respect their rights.

1. Yield right of way to pedestrians and animals. Ride in a way that does not frighten or endanger them, and stay far enough away so that their unexpected moves don't endanger you.

2. Stay on the designated trail. Don't cut corners or make your own trail. Cutting your own trail can contribute to erosion and other forms of environmental damage.

3. Learn and obey the local laws regulating where and how you can ride off-road, and respect private property.

4. Respect other trail users — bicyclists, hikers, equestrians. Make sure you're riding at a speed and style that's safe and considerate of those around you.

5. Be prepared if something goes wrong while you're riding off-road. Keep a map of the area you're riding in handy. Stay on the designated trail, and obey the local laws regulating the speed and method of travel. If you make a mistake, turn around and go back the way you came. Don't ride alone in remote areas.

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We recommend against this type of riding because of the increased risks; but if you ignore this recommendation, at least:

- Take lessons from a competent instructor first
- Do stunts, racing or fast downhill riding only in areas designated for this type of riding
- Start with easy learning exercises and slowly develop your skills before trying more dangerous riding
- Wear a full face helmet, safety pads and other safety gear
- Make sure by checking with your dealer that your bike is suitable for the kind of stunt or competition riding you plan to do
- 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

If you ride downhill at speed, do stunt riding or ride in competition, you voluntarily assume an increased risk of injury or death. Have your bicycle and equipment carefully inspected by a professional before entering any kind of competition. Know the limits of your skill and experience. Ultimately, avoiding injury is your responsibility.

H. 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, your warranty may be voided.

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 bicycle may void the warranty. Refer to your warranty and check with your dealer before changing your bike.

If you must 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:

- Make sure that your bicycle is equipped with correctly positioned and securely mounted reflectors.
- 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 or 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 source. 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.

F. Bicycling in Traffic

- Be predictable. Ride so that drivers can see you and predict your movements.
- Be alert. Ride defensively and expect the unexpected.
- Read Appendix B and learn the rules for riding in traffic which apply to your riding environment.

G. Downhill, Stunt or Competition Biking

WARNING: Although many catalogs, advertisements and articles depict bicycling downhills, stunt riding, jumping or racing, this activity is extremely dangerous and increase your risk of injury or death. Bicycles and bicycle parts have limitations with regard to strength and integrity, and this type of riding can exceed those limitations.
Warning: Some people have claimed that extended riding with saddle positions that are incorrectly adjusted or do not support your pelvic area correctly can cause short-term or long-term injury to nerves and blood vessels, or even impotence. If your saddle causes pain, you should see your doctor. A saddle which is incorrectly adjusted or which does not support your pelvic area correctly can cause short-term or long-term injury to you.

Warning: If you plan to use your bike for jumping or stunt riding, you should follow your manufacturer's guidelines and never ride only on paved surfaces and never ride on any object that is higher than 10 cm above the bike. Do not exceed the maximum weight limit for your bike. Be sure your bike fits your body and riding style.

3. Fit

Correct fit is an essential element of bicycling safety, performance and comfort. Making the adjustments to your bicycle is important in getting the most performance and comfort from your bicycle. If the saddle position is not comfortable for you, see your dealer. If the saddle position is not comfortable for you, see your dealer. The saddle position can be uncomfortable.

Warning: If your bicycle does not fit properly, you may lose control and fall. If your new bike doesn't fit, ask your dealer to exchange it before you ride it.

A. Standover height

Standover height is the basic element of bike fit (see fig. 2). It is the distance from the ground to the top of the bicycle’s frame at that point where your crotch would be if you were straddling the bike and standing halfway between the saddle and the handlebars. A bike that you'll ride on unpaved surfaces should give you a minimum of four inches (7.5 cm) of standover height. A bike that you'll use for rough terrain, jumping or stunt riding should give you four inches (10 cm) or more of standover height.

Warning: If you plan to use your bike for jumping or stunt riding, read Section 2.G again.

Warning: If you plan to use your bike for jumping or stunt riding, read Section 2.G again.

B. Saddle position

Correct saddle adjustment is an important factor in getting the most performance and comfort from your bicycle. If the saddle position is not comfortable for you, see your dealer.

Warning: If your saddle causes you to lose control, see your dealer.

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14. Tech

It’s important to your safety, performance and enjoyment to understand how things work on your bicycle. We urge you to ask your dealer how to do the things described in this section. If you have even the slightest doubt as to whether you understand something in this section of the Manual, talk to your dealer.

A. Brakes

Your bicycle is equipped either with a coaster brake (described in paragraph 1 below) or with hand brakes (described in paragraph 2 below). Be sure that you understand how your bicycle’s brakes work before you take your first ride, by reading and understanding paragraph 1 or 2 and paragraph 3 below.

WARNING:

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

2. Applying the 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 could cause you to lose control and fall. If your bike has disc brakes (fig. 7) and linear-pull brakes (fig. 6), they are extremely powerful. Take extra care in becoming familiar with these brakes and exercise particular care when using them.

3. 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.

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.

5. See the brake manufacturer’s instructions for operation and adjustment.

6. Brakes should be checked regularly. Most brakes can be adjusted for reach and the brake pads can be adjusted for wear.

7. Some brake designs, such as disc brakes, do not allow for adjustment of brake reach or brake pad wear. However, if your brakes are not functioning properly, please consult your dealer for assistance.

C. Handlebar height and angle

Your bike is equipped either with a “threadless” stem, which clamps on the outside of the steerer tube, or with a “quill” stem, which clamps inside the steerer tube by way of an expanding binder bolt. If you aren’t absolutely sure which type of stem your bike has, ask your dealer.

If your bike has a “threadless” stem, your dealer may be able to change handlebar height by moving height adjustment spacers from below the stem to above the stem, or vice versa. Otherwise, you’ll have to get a stem of different length or rise. Consult your dealer.

Do not attempt to do this yourself, as it requires special knowledge.

If your bike has a “quill” stem, you can ask your dealer to adjust the handlebar height a bit by adjusting stem height. A quill stem has an etched or stamped mark on its shaft which designates the stem’s “Minimum Insertion” or “Maximum Extension”. This mark must not be visible above the top of the headset. If the stem is extended beyond the Minimum Insertion Mark, the stem may break or damage the fork’s steerer tube, which could cause you to lose control and fall.

WARNING: An insufficiently tightened stem binder bolt may compromise steering action, which could cause you to lose control and fall. Place the front wheel of the bicycle between your legs and tighten the bolt all the way down to the nuts, or turn the bar end extensions in relation to the handlebar. If the bolt is not tightened, the stem may break or damage the fork’s steerer tube, which could cause you to lose control and fall.

Your dealer can also change the angle of the handlebar or bar end extensions.

D. Control position adjustments

The angle of the controls and their position on the handlebars can be changed. Ask your dealer to make the adjustments for you.
WARNING: Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in serious injury or death.

The braking action of bicycle hand brakes is a function of the friction between the brake shoes and the wheel rim or brake disc. To make sure that you have maximum friction available, keep your wheel rims, brake shoes, and brake discs clean and free of lubricants, waxes, or polishes.

Make sure that your hands can reach and squeeze the brake levers comfortably. If your hands are too small to operate the levers comfortably, consult your dealer before riding the bike. The lever reach may be adjustable; or you may need a different brake lever.

Correctly before you get on the bike.

Coaster brake service and adjustment requires special tools and special knowledge. Do not attempt to disassemble or service your coaster brake. Take the bicycle to your dealer for coaster brake service.

1. Hand Brakes
   a. How hand brakes work

   A bicycle with hand brakes may have one hand lever which operates a rear brake, or two hand levers, one of which operates on the front wheel and the other on the rear wheel. If your bicycle is equipped with both front and rear brakes, most effective braking is achieved by using both brakes and applying them simultaneously. (See also par. 3. Braking technique, below.)

   1. Adjusting your hand brakes

   a. Adjusting your hand brakes

   b. Adjusting your coaster brake

   Coaster brake service and adjustment requires special tools and special knowledge. Do not attempt to disassemble or service your coaster brake. Take the bicycle to your dealer for coaster brake service.

   2. Hand Brakes
   a. How hand brakes work

   If either brake lever on your bike fails the Mechanical Safety Check (Section 1.C.) you may be able to restore brake lever travel by lining the brake cable against bracket (fig. 11). You may also be able to restore brake lever travel on your bike by adjusting the brake cable with a brake adjustment tool. If the brake cable is not adjustable, you may need to replace the brake lever with a new one.

   b. Adjusting your hand brakes

   Adjusting your hand brakes

   a. Adjusting your hand brakes

   b. Adjusting your coaster brake

   Coaster brake service and adjustment requires special tools and special knowledge. Do not attempt to disassemble or service your coaster brake. Take the bicycle to your dealer for coaster brake service.

   2. Hand Brakes
   a. How hand brakes work

   1. Adjusting your hand brakes

   a. Adjusting your hand brakes

   b. Adjusting your coaster brake

   Coaster brake service and adjustment requires special tools and special knowledge. Do not attempt to disassemble or service your coaster brake. Take the bicycle to your dealer for coaster brake service.
Shifting weight to the rear wheel is even more important on steep descents, because descents require more braking force.

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 to begin with.

B. Wheels

1. Front Wheel Secondary Retention Devices

Most bicycles have front forks which utilize a secondary wheel retention device to keep the wheel from disengaging if its clamping mechanism is incorrectly adjusted. Secondary retention devices are not a substitute for correct wheel clamping.

Secondary retention devices fall into three basic categories (see figs. 12a, b & c):

a. The clip-on type is a part which the manufacturer adds to the front wheel hub or fork (fig. 12a).

b. The integral type is molded, cast or machined into the outer faces of the fork dropouts (fig. 12b).

c. The washer type is a hat-shaped washer which fits into a matching hole in the front fork dropout (fig. 12c).

Ask your dealer to explain the particular secondary retention device on your bike.

WARNING: Removing or disabling the secondary retention device is extremely dangerous and may lead to serious injury or death. It also may void the warranty.

NOTE: Some bicycles are equipped with a lever action quick release wheel retention mechanism. If your bicycle has quick release wheels, see Appendix C for information on how they work.

2. Removing a Bolt-On Front Wheel

a. If your bicycle has a front wheel hand brake with quick release, open up the brake shoes (see Section 4.A.2.a. above).

b. With a correctly sized socket, box, open-end or adjustable wrench, open up the brake screws with quick release.

c. Your brake should now be a front wheel hand brake with quick release.

The ATM (Automatic Modulator) alarm, which allows the steering mechanism to turn a full 360 degrees, means that the brakes are automatically adjusted when you change your speed. This way, you can ride without control over your speed, which is dangerous when you are going downhill.

CAUTION: Some bicycles are equipped with a device called a Brake Rotor, which allows the steering mechanism to turn a full 360 degrees. Adjusting brakes equipped with a Brake Rotor requires special knowledge and skill. Do not attempt to adjust the front brake of a bicycle equipped with a Brake Rotor. Take your bicycle to a dealer for service and adjustment of the brakes. A rotor may also decrease the clearance between the front wheel and the pedals when the wheel is turned backwards.

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 shoe of the 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.

When you apply the brake(s) to the wheel(s) where your body weight is, the body wants to continue in the direction of the weight. This body weight is continuous along the speed of the wheel(s), no matter what direction you ride, because the braking force is applied to the wheel(s) you are riding on. You need to practice sitting on the saddle and shifting your weight to control your speed.

3. Braking technique

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1. The Overlap is when your toe can touch the front wheel when axles nut washers should be on the outside, between the frame and the axle nut.

b. Put the chain on to the chainring.

c. If your wheel has chain tension adjusters (fig. 14), position the chain tension adjusters in the dropouts and, using a wrench to turn the adjuster nuts clockwise, pull the wheel back in the dropouts so that it is straight in the frame and the chain has about 1/4 inches of up-and-down play. Replace chain adjuster end caps if provided.

d. Tighten the axle nuts as tightly as you can, using a correctly sized socket, box, open end or adjustable wrench.

e. Close the brake; then spin the wheel to make sure that it is centered in the frame and clears the brake shoes, and squeeze the brake lever to make sure the brake is functioning correctly.

6. Removing a Bolt-On Rear Wheel with Coaster Brake

a. Disengage the coaster brake arm from its frame bracket (see fig. 15).

b. With a correctly sized socket, box, open end or adjustable wrench, loosen the two axle nuts.

c. Push the wheel forward to slacken the chain, and remove the chain from the chainring and wheel sprocket.

d. Pull the wheel out of the frame.

7. Installing a Bolt-On Rear Wheel with Coaster Brake

a. Put the chain on to the wheel sprocket. Then, insert the wheel into the frame dropouts and push it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.

b. Put the chain on to the chainring.

c. Pull the wheel back in the dropouts so that it is straight in the frame and the chain has about 1/4 inches of up-and-down play.

d. Secure the coaster brake arm to its frame bracket (see fig. 15), but do not fully tighten the securing nut and bolt.

e. Tighten the axle nuts as tightly as you can, using a correctly sized socket, box, open end or adjustable wrench. Spin the wheel to make sure it is straight in the frame.

f. Fully tighten the coaster brake arm securing nut and bolt and check to make sure the brake is functioning correctly.

C. Pedals

1. Toe Overlap is when your toe can touch the front wheel when a pedal is in the forwardmost position. This is common on small-framed bicycles, and is avoided by keeping the inside pedal up and the outside pedal down when you turn the handlebars to steer while a pedal is in the forwardmost position. You can touch the front wheel when you turn the handlebars to steer while a pedal is in the forwardmost position.

2. Installing a Bolt-On Rear Wheel with Hand Brake

a. Pull the chain from the chainring and remove the chain from the dropouts. Then, insert the wheel into the frame dropouts and push it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.

c. Put the chain on to the chainring.

5. Installing a Bolt-On Rear Wheel with Hand Brake

a. Put the chain on to the wheel sprocket. Then, insert the wheel into the frame dropouts and push it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.

c. Put the chain on to the chainring.

d. Close the brake; then spin the wheel to make sure that it is centered in the frame and clears the brake shoes, and squeeze the brake lever to make sure the brake is functioning correctly.

4. Installing a Bolt-On Front Wheel

a. With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly at the top of the slots which are at the tips of the fork blades. The axle nut washers should be on the outside, between the fork blade and the axle nut. If your bike has a clip-on or washer type secondary retention device, engage it.

b. While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, use a correctly sized socket, box, open end or adjustable wrench to tighten the axle nuts as tight as you can.

c. If your bicycle has a front wheel hand brake with quick release, close the brake shoes; then spin the wheel to make sure that it is centered in the frame and clears the brake shoes, and squeeze the brake lever to make sure the brake is functioning correctly.

3. Installing a Bolt-On Front Wheel

a. Put the chain on to the wheel sprocket. Then, insert the wheel into the frame dropouts and push it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.

c. Put the chain on to the chainring.

5. Installing a Bolt-On Rear Wheel with Hand Brake

a. Put the chain on to the wheel sprocket. Then, insert the wheel into the frame dropouts and push it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.

c. Put the chain on to the chainring.

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c. Put the chain on to the chainring.
D. Bicycle Suspension

Many bicycles are equipped with suspension systems. There are many different types of suspension systems—too many to deal with individually in this Manual. If your bicycle has a suspension system, check with the bicycle manufacturer to make sure that your bicycle is a bicycle with a suspension system, before retrofitting a bicycle with any type of suspension systems. Before retrofitting a bicycle with any type of suspension systems, carefully read the manufacturer’s instructions and service instructions. If you do not have the manufacturer’s instructions and service instructions, if you do not have the manufacturer’s instructions and service instructions, ask your dealer or contact the manufacturer.

WARNING: Failure to maintain, check and properly adjust the suspension system may result in suspension malfunction, which may cause you to lose control and fall.

The increased speed you may develop also increases your risk of injury. For example, when braking, the front wheel of a suspended bike dips. You could lose control and fall if you do not have experience with this system. Learn to handle your suspension system safely. See also Section 4.A.

WARNING: Changing suspension adjustment can change the handling and braking characteristics of your bicycle. Never change suspension adjustment unless you are thoroughly familiar with the suspension system manufacturer’s instructions and service instructions. If you do not have the manufacturer’s instructions and service instructions, see your dealer or contact the manufacturer.

Suspension can increase control and comfort by allowing the wheels to better follow the terrain. This enhanced capability may allow you to ride faster; but you must not confuse the increased speed with your new bike, you feel that a different tire might better suit your riding needs, your dealer can help you select the right tire for your needs.

WARNING: Toe overlap could cause you to lose control and fall. If you have toe overlap, exercise extra care when turning. A brake rotor (see Section 4.A.2.b) may also decrease the clearance between the front wheel and the pedal when the wheel is turned backwards.

2. Some higher performance bicycles come equipped with pedals that have abrasive and potentially dangerous surfaces. These surfaces are designed to add safety by increasing the friction between the pedal and the shoe. If you may prefer a less aggressive pedal design. Your dealer can show you a number of options and make suitable recommendations.

3. Clipless pedals (sometimes called “step-in pedals”) are another means to keep feet securely in the correct position for maximum pedaling efficiency. They look like ski bindings and are designed to firmly keep the foot engaged with the pedal. Clipless pedals are intended for use with shoes specifically designed to fit them and are designed to firmly keep the foot engaged with the pedal. Never do stunt riding with clipless pedals. If you lose control, your foot could remain engaged in the pedal, resulting in serious injury.

CAUTION: Not all bicycles can be safely retrofitted with some types of suspension systems. Before retrofitting a bicycle with any type of suspension system, check with the bicycle’s manufacturer to make sure that what you want to do is compatible with the bicycle’s design.

E. Tires and Tubes

1. 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 you ride on dirt roads, you should choose tires that are suitable for those conditions. If you ride on paved roads, you should choose tires that are suitable for those conditions. Many bicycles are equipped with suspension systems. There are many different types of suspension systems—too many to deal with individually in this Manual. If your bicycle has a suspension system, check with the bicycle manufacturer to make sure that your bicycle is a bicycle with a suspension system, before retrofitting a bicycle with any type of suspension systems. Before retrofitting a bicycle with any type of suspension systems, carefully read the manufacturer’s instructions and service instructions. If you do not have the manufacturer’s instructions and service instructions, ask your dealer or contact the manufacturer.

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CAUTION: Not all bicycles can be safely retrofitted with some types of suspension systems. Before retrofitting a bicycle with any type of suspension system, check with the bicycle’s manufacturer to make sure that what you want to do is compatible with the bicycle’s design.
You'll know how correctly inflated tires should look and feel. Some tires may need to be brought up to pressure every week or two. 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 tire indicates the direction. If your bike has unidirectional tires, be sure that they are mounted to rotate in the correct direction.

2. Tire Valves

There are primarily two kinds of bicycle tires: Presta and Schrader valve. The valve type determines exactly how the pump head is attached to the valve. The Schrader valve (fig. 17) resembles the valve on a car tire. To inflate a Schrader valve tube, remove the valve cap and clamp the pump head onto the valve stem. To let air out of a Schrader 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. 18) has a narrower diameter and is only found on bicycle tires. To inflate a Presta valve using a Presta headed bicycle pump, remove 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, resulting in possible tube failure, which could cause you to lose control and fall. Replace a patched tube as soon as possible.

The size, pressure rating, and on some high-performance tires the specific recommended use, are marked on the sidewall of the tire (see fig. 16). The part of this information which is most important to you is Tire Pressure. 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. 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. Very low pressures, at the bottom of the recommended range, give the best performance on smooth, slick terrains such as hard-packed clay, and on deep, loose surfaces such as deep, dry sand.

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, or damage the wheel rim, making the wheel unsafe.

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.

Ask your dealer to recommend the best tire pressure for the kind of riding you will most often do, and have the dealer inflate your tires to that pressure. Then, check inflation as described in section 1C. if you're not sure, compare the tire to the one you are replacing, find the tire pressure that is closest to yours, and inflate your tire to that pressure. Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended maximum may blow the tire off the rim with enough force to cause damage to the bike and injury to the rider and bystanders.

WARNING: Never inflate a tire beyond the maximum pressure on the tire sidewall.
2. Before every ride: Mechanical Safety Check (Section 1.C)
3. After every long or hard ride or if the bike has been exposed to water or grit, or at least every 100 miles: Clean the bike and lightly oil the chain. Wipe off excess oil. Lubrication is a function of climate. Talk to your dealer about the best lubricants and the recommended lubrication frequency for your area.

4. After every long or hard ride or after every 10 to 20 hours of riding:
   - Squeeze the front brake (if you have one) and rock the bike forward and back. Everything feel solid? If you feel a clunk with each forward or backward movement of the bike, you probably have a loose headset. Have your dealer check it.
   - Lift the front wheel off the ground and swing it from side to side. Feel smooth? If you feel any binding or roughness in the steering, you may have a tight headset. Have your dealer check it.
   - Grab one pedal and rock it toward and away from the centerline of the bike; then do the same with the other pedal. Anything feel loose? If so, have your dealer check it.
   - Take a look at the brake pads. Starting to look worn or not hitting the wheel rim squarely? Time to have the dealer adjust or replace them.
   - Carefully check the control cables and cable housings. Any rust? Knots? Fraying? If so, have your dealer replace them.
   - Squeeze each adjoining pair of spokes on either side of each wheel between your thumb and index finger. Do they all feel about the same? If any feel loose, have your dealer check the wheel for tension and trueness.
   - Check the frame, particularly in the area around all tube joints; the handlebars; the stem; and the seatpost for any deep scratches, cracks or discoloration. These are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced.

5. Service

### WARNING: Technological advances have made bicycles and bicycle components more complex, and the pace of innovation is increasing. It is impossible for this manual to provide all the information required to properly repair and/or maintain your bicycle. If you are unsure of how to perform any of the tasks described in this manual, you should consult a qualified bicycle mechanic. Your local bicycle shop is an excellent source of information and advice. Consult the service and maintenance section of your bike's owner's manual for a list of recommended service intervals.

### A. Service Intervals

Some service and maintenance can and should be performed by the owner, and requires no special tools or knowledge beyond what is presented in this manual. The following are examples of the type of service you should perform yourself:

- **Break-in Period:** Your bike will last longer and work better if you break it in before riding it hard. Control cables and wheel spokes may stretch or “seat” when a new bike is first used and may require adjustment by your dealer.
- **Control Cables:** Please make sure that all control cables and handlebar-end shifter cables are properly adjusted.
- **Wheel Spokes:** Check the wheel spokes and nipples before riding the bike. If any feel loose, have your dealer replace them.
- **Tyre Pressure:** Make sure your tire pressure is correct. Over-inflated tires can cause loss of control and lead to a fall. Under-inflated tires can cause premature wear and tear.
- **Brake Pads:** Check the brake pads regularly. If they are worn, have your dealer replace them.
- **Chain:** Check the chain regularly. Have your dealer replace it if it is worn or damaged.
- **Derailleur:** Check the derailleur regularly. Have your dealer adjust it if it is not functioning correctly.
- **Brake Levers:** Check the brake levers regularly. Have your dealer replace them if they are worn or damaged.

### B. Service Procedures

1. **Pre-Ride Inspection:** Before you ride:
   - Check the tires for wear and damage.
   - Check the brakes for proper function.
   - Check the chain for proper tension.
   - Check the derailleur for proper alignment.
   - Check the handlebars for proper fit.
   - Check the seat for proper fit.

2. **After-Ride Inspection:** After you ride:
   - Check the tires for wear and damage.
   - Check the brakes for proper function.
   - Check the chain for proper tension.
   - Check the derailleur for proper alignment.
   - Check the handlebars for proper fit.
   - Check the seat for proper fit.

### C. Service Tools

You will need the following tools to perform basic bicycle maintenance:

- **Allen Key:** Used to adjust the derailleur and tighten the screws on the frame.
- **Wrench:** Used to tighten the nuts on the handlebars and seatpost.
- **Pliers:** Used to adjust the brakes and tighten the screws on the frame.
- **Cassette Wrench:** Used to adjust the cassette and tighten the screws on the frame.
- **Chain Tool:** Used to adjust the chain and tighten the screws on the frame.

### D. Service Costs

Some service and maintenance can and should be performed by the owner, and requires no special tools or knowledge beyond what is presented in this manual. The following are examples of the type of service you should perform yourself:

- **Break-in Period:** Your bike will last longer and work better if you break it in before riding it hard. Control cables and wheel spokes may stretch or “seat” when a new bike is first used and may require adjustment by your dealer.
- **Control Cables:** Please make sure that all control cables and handlebar-end shifter cables are properly adjusted.
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### E. Service and Maintenance

Your bicycle needs regular maintenance to keep it in good working order. Consult the service and maintenance section of your bike's owner's manual for a list of recommended service intervals.

### F. Service Requirements

- **Break-in Period:** Your bike will last longer and work better if you break it in before riding it hard. Control cables and wheel spokes may stretch or “seat” when a new bike is first used and may require adjustment by your dealer.
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### G. Service Costs

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- **Brake Levers:** Check the brake levers regularly. Have your dealer replace them if they are worn or damaged.
Appendix A

Teaching your Child the Rules

In addition to The Basics (page 6), Riding Safely (page 7), Off Road Safety (page 8), Wet Weather Riding (page 9), Night Riding (page 9), Bicycling in Traffic (page 10 and Appendix B) and Downhill, Stunt and Competition Biking (page 10), kids need to be taught and to have frequently reinforced the following rules and lessons which adults are already expected to know. We urge you to take the time to familiarize yourself with these rules and to teach them to your child before you let your child ride unsupervised.

1. Rules

• No playing in the road or in the street.
• No riding on busy streets.
• No riding at dawn, dusk or at night.
• Stop for all STOP signs.
• Ride on the right of traffic.

2. Lessons

The lessons that follow relate to some of the most common real situations that children encounter when riding their bikes. Go over these situations with your child and make sure the lesson objective is accomplished.

a. Driveway Rideout

When a youngster rides out of the driveway and is struck by a car, that is called a driveway accident.

What can you do?

First, realize the danger of your driveway.

If there are obstructions to the view of passing motorists (like bushes or trees), trim them back. You might park your car in front of the drive.

What can you do? First, realize the danger of your own driveway.

When a youngster rides out of the driveway and is struck by a car, it is called a driveway accident.

b. Running the Stop Sign

Car/bike crashes can happen when a cyclist runs a stop sign.

Most cyclists who get hit running a stop sign know that they were supposed to stop. They just thought it would be OK this time. Are they wrong?

Car/bike crashes can happen when a cyclist runs a stop sign.

Teaching your Child the Rules

Appendix A
There is increased risk of car/bike collision if children are following each other, because if the first one does something dangerous, those following may do it too.

**What can you do?**

Teach your child to always assess the traffic situation for him/herself. When a group is riding around, each cyclist should stop for stop signs; each cyclist should do a 360 sweep before making a turn.

The child should learn to ignore what 'Simon Says'. Children need to learn to think for themselves to ride safely.

**SUMMARY**

Teach your child early - the earlier the better. Learning skills such as looking and avoiding hazards takes time. Be prepared to repeat lessons until your child understands what you're trying to get across. Be patient. Your efforts will be rewarded knowing that your child is aware of safe riding skills.

**c. Turning Without Warning**

Another major accident type involves cyclists who make unexpected left turns. They neither look behind for traffic, nor do they signal. The key factor here is neglecting to look to the rear. If the cyclist had looked, he/she would have seen the danger coming up from behind.

**What can you do?**

Of course, you ought to teach your child not to ride across busy streets - at least until the child has had some advanced training and is old enough to understand traffic. But in the meantime, for residential street riding, you can teach your child to always look and signal before turning left. A big part of this lesson is teaching the child how to look to the rear without swerving.

Take your child to a playground or a safe area away from traffic or obstructions to practice riding along a straight line while looking behind. Stand alongside and hold up a different number of fingers on your hand. After 15 minutes, ask your child to pick a finger (other than the one you're holding) to look for. Your child should learn to look for the finger you're not holding. If your child can do this, they can do the same thing at intersections.


d. Riding at Dawn, at Dusk or at Night

Most car/bicycle accidents happen at night when an overtaking car hits a bike. (An overtaking car is one that comes from behind and passes the cyclist.) The key factor here is neglecting to turn on headlights and signal to other drivers.

**What can you do?**

First, you should keep your youngster from riding at dawn, dusk or at night. It requires special skills and equipment.


d. Following the Leader

There is increased risk of car/bike collision if children are following each other, because if the first one does something dangerous, those following may do it too.

**What can you do?**

Teach your child to always assess the traffic situation for him/herself. When a group is riding around, each cyclist should stop for stop signs; each cyclist should do a 360 sweep before making a turn.

The child should learn to ignore what 'Simon Says'. Children need to learn to think for themselves to ride safely.
Turning the tension adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; turning it counterclock-wise while keeping the cam lever from rotating decreases clamping force. A half a turn of the tension adjusting nut can make the difference between safe clamping force and unsafe clamping force.

b. Front Wheel Secondary Retention Devices

Most bicycles have front forks which utilize a secondary wheel retention device to keep the wheel from disengaging if its clamping mechanism is incorrectly adjusted. Secondary retention devices are not a substitute for correct wheel clamping.

Secondary retention devices fall into three basic categories:

1. The clip-on type is a part which the manufacturer adds to the front wheel hub or front fork.
2. The integral type is molded, cast or machined into the outer faces of the front fork dropouts.
3. The washer type is a hat-shaped washer which fits into a matching hole in the front fork dropout.

Ask your dealer to explain the particular secondary retention device on your bike.

WARNING: Removing or disabling the secondary retention device is extremely dangerous and may lead to serious injury or death. Illegally removing a quick release from a wheel is a criminal offense.

2. Removing and Installing Quick Release Wheels

a. Removing a Quick Release Front Wheel

1. If your bike has rim brakes, disengage the brake's quick-release mechanism to open the clearance between the wheel rim and the brake pads. (See Section 4.A figs. 7 through 10)
2. Move the wheel's quick-release lever from the locked or CLOSED position to the OPEN position (figs. 20a & b).
3. If your front fork does not have a secondary retention device, go to step 5.
4. If your front fork has a clip-on type secondary retention device, disengage it and go to step 5. If your front fork has an integral secondary retention device, loosen the tension adjusting nut enough to allow removing the wheel; then go to the next step.
5. 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 front fork.

WARNING: Removing or disabling the secondary retention device is a criminal offense.

b. Front Wheel Secondary Retention Devices

The wheel quick release uses a cam action to clamp the bike's wheel in place (see fig. 19). Because of its adjustable nature, it is critical that you understand how it works, how to use it properly, and what to do if it breaks.

The wheel quick release uses a cam action to clamp the bike's wheel in place with a quick release. A quick release won't stay in place unless the wheel is secure and the quick release is fully engaged.

WARNING: Riding with an improperly adjusted quick release wheel can allow the wheel to wobble or disengage from the bicycle, causing serious injury or death to the rider. Therefore, it is essential that you:

1. Ask your dealer to help you adjust and improve your wheel's safety.
2. Understand and apply the correct technique for clamping your wheel.
3. Check your wheel before you ride the bike, check that the wheel is secure, and improve your wheel's safety.
4. Ask your dealer to help you make sure you know how to inspect and improve your wheel's safety.

Wheel and Seat Post Quick Release Mechanisms

A. Quick Release Wheels

1. How a Wheel Quick Release Works

The wheel quick release uses a cam action to clamp the bike's wheel in place with a quick release. A quick release won't stay in place unless the wheel is secure and the quick release is fully engaged.

WARNING: Riding with an improperly adjusted quick release wheel can allow the wheel to wobble or disengage from the bicycle, causing serious injury or death to the rider. Therefore, it is essential that you:

1. Ask your dealer to help you adjust and improve your wheel's safety.
2. Understand and apply the correct technique for clamping your wheel.
3. Check your wheel before you ride the bike, check that the wheel is secure, and improve your wheel's safety.
4. Ask your dealer to help you make sure you know how to inspect and improve your wheel's safety.

Appendix C
Release Mechanism can cause the wheel to wobble or disengage, which could cause you to lose control and fall, resulting in serious injury or death.

c. Removing a Quick Release Rear Wheel

1. Shift the rear derailleur to high gear (the smallest, outermost rear sprocket).
2. If your bike has rim brakes, disengage the brake's quick-release mechanism to open the clearance between the wheel rim and the brake pads (see Section 4.A, figs. 7 through 10).
3. Pull the derailleur body back with your right hand.
4. Move the quick-release lever to the OPEN position (fig. 20b).
5. Lift the wheel off the ground a few inches and, with the derailleur still pulled back, push the wheel forward and down until it comes out of the rear dropouts.

NOTE: If your bike is equipped with disk brakes, be careful not to damage the disk, caliper or brake pads when re-inserting the disk into the caliper. Never activate a disk brake's control lever unless the disk is correctly inserted in the caliper.

1. Shift the rear derailleur to its outermost position.
2. Pull the derailleur body back with your right hand.
3. Move the quick-release lever to the OPEN position (see fig. 20a & b). The lever should be on the side of the wheel opposite the derailleur and freewheel sprockets.
4. Put the chain on top of the smallest freewheel sprocket. Then, insert the wheel into the frame dropouts and pull it all the way in to the dropouts.
5. Tighten the quick-release adjusting nut until it is finger tight against the frame dropout; then swing the lever toward the front of the bike until it is parallel to the frame's chainstay. (If your bike has a clip-on type secondary retention device, engage it.)
6. 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.

b. Installing a Quick Release Front Wheel

CAUTION: If your bike is equipped with disk brakes, be careful not to damage the disk, caliper or brake pads when re-inserting the disk into the caliper. See also Section 4.A.

1. Move the quick-release lever so that it curves away from the wheel (fig. 20b). This is the OPEN position.
2. With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly at the top of the slots which are at the tips of the fork blades — the fork should be on the left side of the bicycle (fig. 20a & b). If your bike has a clip-on type secondary retention device, engage it.
3. Holding the quick-release lever in the OPEN position with your right hand, tighten the tension adjusting nut with your left hand until it is finger tight against the fork dropout (fig. 19).
4. While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, move the quick-release lever upwards and swing it into the OPEN position. The lever should leave a clear imprint in the palm of your hand.
5. If the lever cannot be pushed all the way to a position parallel to the fork blade, return the lever to the OPEN position. Then turn the tension adjusting nut counterclockwise one-quarter turn and try tightening the lever again.
6. 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.
WARNING: If you can fully close the quick release without wrapping your fingers around a frame tube for leverage, and the lever does not leave a clear imprint in the palm of your hand, releasing the lever will not engage the quick-release mechanism. If this is the case, then your quick-release lever is not fully engaged and you must rotate it clockwise until it is firmly engaged.

2. Adjusting the quick release

(1) If the lever cannot be pushed all the way to a position parallel to the chainstay or seatstay tube, return the lever to the OPEN position. Then turn the adjusting nut counterclockwise one-quarter turn and try tightening again.

(2) Push the rear derailleur back into position.

(3) 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. If the brake lever and brake pad do not contact the rim, then the quick-release mechanism is not fully engaged and the brakes will not function properly.

3. Adjusting the seatpost quick release

B. Seatpost Quick Release

Some bikes are equipped with a quick-release seat post binder. The seatpost quick-release binder works exactly like the wheel quick-release lever, except that it is clamped on the seat post instead of the wheel. The action of the quick-release mechanism is similar to that of the wheel quick-release lever.

WARNING: Riding with an improperly tightened seat post can allow the saddle to turn or move and cause you to lose control and fall. Therefore:

1. Ask your dealer to help you make sure you know how to operate your seat post quick release.

2. Tighten your seat post after each ride to ensure that it is properly clamped.

3. Before you ride your bike, first check that the seatpost is securely clamped.

1. Adjusting the seatpost quick release mechanism

The action of the quick-release cam squeezes the seat collar around the seat post to hold the seat post securely in place. The amount of clamping force is controlled by the tension adjusting nut. Less tension reduces clamping force; turning it counterclockwise reduces clamping force. More tension increases clamping force; turning it clockwise increases clamping force.

WARNING: The full force of the cam action is needed to clamp the seatpost securely. Holding the nut with one hand and turning the lever like a wing nut with the other hand until everything is as tight as you can get it will not clamp the seatpost safely.