## BICYCLE COMPANY SEATTLE U.S.A.

## BICYCLE OWNERS HANDBOOK



Seattle, WA 98105
206-527-4822

## CONGRATULATIONS AND THANK YOU FOR PURCHASING A RODRIGUEZ BICYCLE!

RODRIGUEZ bicycles have been designed and built in Seattle since 1973. Our goal is to have built you a bicycle that will exceed your expectations. It has been built with the best materials, excellent craftsmanship, and has had extreme care in assembly.

We hope that you will put many fun miles on your new RODRIGUEZ bicycle. Ride it a lot, give it the proper maintenance that is required, and enjoy every minute on it. If you have any questions about the operation of the bicycle, the fit, or performance we are right here!

Thank you again for choosing a RODRIGUEZ and most importantly, remember to ride safely.

MODEL $\qquad$ COLOR $\qquad$
SIZE $\qquad$ TIRE SIZE $\qquad$ TIRE PRESSURE $\qquad$
VALVE TYPE $\qquad$
SERIAL NUMBER $\qquad$
PARTS GROUP $\qquad$
DATE OF PURCHASE $\qquad$
SALES PERSON $\qquad$
Please remember your free 90 day check over. This is very important to assure you that you receive the best performance from your new RODRIGUEZ


## THE IMPORTANCE OF THIS MANUAL

This manual was written to help you get the most performance, comfort, enjoyment and safety when riding your new bike.

It is important for you to understand your new bike, its features and its operation, so that you get maximum enjoyment with maximum safety. By reading this manual before you go out on your first ride, you'll know how to get the most from your new bicycle.

It is also important that your first ride on a new bicycle is taken in a controlled environment, away from cars, obstacles and other cyclists.
 K GENERAL WARNING: Bicycling can be a hazardous activity even under the best of circumstances. Proper maintenance of your bicycle is your responsibility as it helps reduce the risk of injury. This manual contains many "Warnings" and "Cautions" concerning the consequences of failure to maintain or inspect your bicycle. 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 repeat the warning of possible injury or death whenever the risk of falling is mentioned.

When all else fails... it's never too late to read the manual.
Even if you've been riding a bike all your life, you probably need an updating of your bicycling habits, knowedge and assumptions. - Why? Because bicycles are going through some pretty dramatic changes in the technology which affects function, handling, comfort performance and safety.


FIT - SAFETY - COMFORT

FIT - When you purchased your RODRIGUEZ bicycle we worked hard to find you the most comfortable fit. If over time you find this needs to be modified, please visit our shop to allow us to help you in a professional manner.

Many times bicycles are constructed in such a manner that at times, your foot may contact the front wheel. This is often dependent on the size of your foot, how you have your cleat mounted, and/or the length of the top tube. It is important that you are aware of this, if this situation exists on your bike.

When you are riding slowly, do not turn the handlebars while the crank arms are parallel to the ground. If you do, it may allow your foot or toe clips to contact the front wheel or fender when the wheel is turned to the side and your foot is fully forward. At normal riding speeds this does not happen. At slow speeds, keep your crank arms vertical while turning.

## Saddle position

Correct saddle adjustment is an important factor in getting the most performance and comfort from your bicycle. When you purchased your bicycle we positioned your saddle in a manner that should give you optimum performance and proper
alignment for your knees. If you find the saddle position is not comfortable, please come back and allow us to reposition it.

## Up and down adjustment

Your leg and foot length and flexibility determines the correct saddle height. We have set the saddle height so that you are not fully extended at the bottom of the pedal stroke. Generally speaking 10-20 degrees of bend in the knee is desirable. If your saddle is too high you will rock your hips while pedaling and possibly cause injury to your knees as well. Too low a saddle can also cause knee pain or injury.

To adjust the saddle height, loosen the seat binder bolt and move the seat post up or down as required. Then, make sure that the saddle is parallel to the top tube of the bike, and retighten the seat binder bolt tight enough so that you cannot twist the saddle out of alignment.
Check the adjustment as described above. Your seat post will be marked with a scribed or engraved line marked "minimum insertion""
or "maximum extension." Under no circumstances should you be able to see this marking after adjusting your seat post height.


Front and back adjustment
Loosen the saddle clamping mechanism and slide the saddle back or forward on its rails. Be sure you only move the saddle in very small increments.

## Saddle tilt adjustment

Most people prefer a horizontal saddle but some riders prefer to have the saddle nose tilted up just a little, and others prefer it to be tilted down just a little. You can adjust saddle tilt by loosening the saddle clamping mechanism, tilting the saddle to the desired position.

If you tilt your saddle and find that it causes discomfort in your

arms, hands, shoulders or anywhere else, this is common. Please schedule an appointment with us so that we can reexamine the fit of your bike.

After making these adjustments, the saddle clamping mechanism should be retightened until secure. One method for testing whether you have tightened the saddle adjusting mechanism securely is to firmly grasp both ends of the saddle and attempt to rock the saddle front to back or to twist the saddle side to side. There should be no saddle movement in any direction. If, after making this adjustment, the saddle still moves in any direction please bring your bike back to us so we can fix it.

Very small changes in saddle position can have a substantial effect on performance and comfort. Consequently, whenever you make a change to your saddle position, make only one directional change at a time, and make the changes in small increments until you have found the position at which you are most comfortable.


WARNING: After any saddle adjustment, be sure to tighten the saddle adjusting mechanism properly before riding. A loose saddle clamp or seat post binder can cause damage to the seat post, or can cause you to lose control and fall. A correctly tightened saddle adjusting mechanism will allow no saddle movement in any direction. Periodically check to make sure that the saddle adjusting mechanism is properly tightened.

If, in spite of carefully adjusting the saddle height, tilt and fore-and-aft position, your saddle is still uncomfortable, you may need a different saddle design. Saddles, like people, come in many different shapes, sizes and resilience. We can help you select a new saddle which, when correctly adjusted for your body and riding style, will be comfortable.


$*$CAUTION: It has been alleged that extended riding with a saddle which is incorrectly adjusted or which does not support your pelvic area correctly can cause short-term or long-term injury to nerves and blood vessels. If your saddle causes you pain or numbness, adjust the saddle position and your riding position. If pain or numbness persists, talk to us about fitting a different saddle to your bicycle.

## Handlebar height and angle

Since your bike is equipped with a stem which clamps directly on to the outside of the steering tube, we can change bar height by moving height adjustment spacers from below the stem to above the stem, or vice versa. Or you may have to get a stem of different length or rise. Schedule an appointment so that we can help you with this. Do not attempt to do this yourself, as it requires special knowledge


You can change the angle of the handlebar or bar end extensions by loosening their binder bolt, rotating the bar or extension to the desired angle, re-centering it and retightening the binder bolt tight enough so that the bars or extensions can't move in relation to each other and the stem.
 WARNING: Failure to properly tighten the stem binder bolt, the handlebar binder bolt or the bar end extension clamping bolts may compromise steering action, which could cause you to lose control and fall. Place the front wheel of the bicycle between your legs and attempt to twist the handlebar/stem assembly. If you can twist the stem in relation to the front wheel, or turn the handlebars in relation to the stem, or turn the bar end extensions in relation to the handlebar, retighten the bolts.

## Control position adjustments

The brake and shifting controls on your bike are positioned where they work best for most people. The angle of the controls and their position on the handlebars can be changed. Ask us to make these adjustments for you.

## Brake reach

Some bikes have brake levers which can be adjusted for reach. If you have small hands and find it difficult to squeeze the brake levers, we can help you explore other options.

> WARNING: The shorter the brake lever reach, the more critical it is to have correctly adjusted brakes, so that full braking power can be applied within available brake lever travel. Brake lever travel insufficient to apply full braking power can result in loss of control, which may result in serious injury or death.

## Safety Equipment



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.

## Helmet

While not all states require bicyclists to wear approved protective headgear, common sense dictates that you should always wear a helmet that is in compliance with ASTM, Snell or CPSC standards. Most serious bicycle injuries involve head injuries which might have been avoided if the rider had worn a helmet. We stock a variety of attractive helmets, and can recommend one to suit your needs. But the 'right" helmet is not just a fashion statement.

A helmet must fit correctly, be worn correctly and be properly secured to do its real job. Ask us to help you with the fit and adjustment of your helmet, and refer
to the owner's manual provided with the helmet.


WARNING: Always wear a helmet when riding your bike. Always keep the chin strap securely buckled. Refer to your helmet owners manual for additional information. Failure to wear an approved helmet may result in serious injury or death.

## Reflectors

Reflectors are important safety devices which are designed as an integral part of your bicycle.

Federal regulations require every bicycle to be equipped with front, rear, wheel and pedal reflectors. The size, performance and location of each reflector is specified by the U.S. Consumer Products Safety Commission. The reflectors are designed to pick up and reflect street lights and car lights in a way that helps 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. Have us replace damaged reflectors and straighten or tighten any that are bent or loose.


NWARNING: Do not remove the reflectors 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 often results in serious injury or death. Remember: reflectors are not a substitute for lights. Always equip your bicycle with all state and locally mandated lights.

## Lights

If you ride your bike after dusk, your bicycle must be equipped with lights so that you can see the road and avoid road hazards and so that others can see you. Vehicle laws treat bicycles like any other vehicle. That means you must have a white front and a red rear light operating if you are riding after dusk We can recommend a lighting system appropriate to your needs.

## Eye protection

Any kind of riding, involves airborne dirt, dust and bugs, and road debris, so it's important to ride with protective eye wear. Tinted lenses are recommended when the sun is bright, or clear lenses when it's not. Some brands of glasses come with an interchangeable lens systems.

## - Mechanical Safety Check

Here is a simple, sixty-second mechanical safety check which you should get in the habit of making every time you're about to get on a bike.

## - Nuts, bolts \& straps

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 visual and physical inspection of the whole bike. Any loose parts or accessories? If so, secure them. If you're not
sure, consult us for assistance.

## - Tires and Wheels

Tires in good shape? Spin each wheel slowly and look for cuts in the tread and side wall. Replace damaged tires before riding the bike. Use a pressure gauge to be sure you have the tires properly inflated. You will find the proper tire pressure on the side of the tire.

- Wheels true? Spin each wheel and check for brake clearance and side-to-side wobble. If a wheel wobbles side to side or hits the brake pads, take the bike to our shop to have the wheel trued.
- 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 tools needed to do the job correctly. Consult our service shop for assistance.


## - Brakes

Squeeze the brake levers. Are the brake quick releases closed? The straddle cable securely engaged? Are the brake shoes contacting the wheel rim within an inch of brake lever movement? Can you apply full braking force at the levers without having them touch the handlebar? If not, your brakes need adjustment. Do not ride the bike until the brakes are properly adjusted.


WARNING: Riding with improperly adjusted brakes or worn brake shoes is dangerous and can result in serious injury or death.

## - Quick Releases

Are the front wheel, rear wheel and seat post quick releases properly adjusted and in the locked position? See Quick release instructions for details.


WARNING: Riding with an improperly adjusted wheel quick release can cause the wheel to wobble or disengage from the bicycle, which can cause damage to the bicycle and serious injury or death.

## - Handlebar and saddle alignment

Are the saddle and handlebar stem correctly parallel to the bike's top tube and tight enough so that you can't twist them out of alignment?

## - Handlebar ends

Are the handlebar grips secure and in good condition? If not, replace them. Are the handlebar ends and extensions plugged? If not, plug them before you ride. On a mountain bike or cross bike, are the bar end extensions tight enough so you can't twist them? If not, tighten them. WARNING: Loose or damaged handlebar grips or extensions can cause you to lose control and fall. Unplugged handlebars or extensions can cut your body and can cause serious injury in an otherwise minor accident.

## RIDING SAFELY AND RESPONSIBLY - THE BASICS

1. Always do the Mechanical Safety Check (Page 6)
2. Always wear helmet that is in compliance with ASTM, Snell or CPSC standards.
3. Be careful to keep body parts, clothing and other objects away from the sharp teeth of chain rings; the moving chain; the turning pedals and cranks; and the spinning wheels of your bicycle.
4. Always wear shoes that will stay on your feet and will grip the pedals. Never ride barefoot or wearing sandals.
5. Be thoroughly familiar with the controls of your bicycle
6. Wear bright, visible clothing that is not so loose that it can catch on moving parts of the bike.
7. Think about your speed, and keep your speed at a level which is consistent with conditions and your own riding ability. Always keep in mind that there is a direct relationship between speed and control, and between speed and component stress. The greater the speed, the less control. The greater the speed, the greater the stress you may place on the components of your bicycle.

## RULES OF THE ROAD

1. You are sharing the road or the path with others - motorists, pedestrians and other cyclists. Respect their rights, and be tolerant if they infringe on yours.
2. Ride defensively. Assume that the people with whom you are sharing the road are so absorbed with what they are doing and where they are going that they are oblivious to you. The right of way is something you give, not have.
3. Look ahead of where you're going, and be ready to avoid:

- Vehicles slowing or turning in front of you, entering the road, or your lane ahead of you, or coming up behind you.
- Parked car doors opening in front of you. Pedestrians stepping out in front of you.
- 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.

4. Ride in designated bike lanes, on designated bike paths or on the right side of the road, in the same direction as car traffic and as close to the edge of the road as is safe.
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 hand signals for turning and stopping. Learn the local vehicle code for the correct signals.
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.
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. They can cause you injury and damage your bike.
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.

## 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 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.

## Night Riding

Riding a bicycle at night is many times more dangerous than riding during the day. We recommend reflective clothing as well as lights. Be extra attentive.


WARNING: Riding at dusk, after dark or at times of poor visibility without a bicycle lighting system which meets local and state laws and without reflectors is dangerous and can result in serious injury or death.

Even if you have excellent night vision, many of the people with whom you're sharing the road don't. A bicyclist is very difficult for motorists and pedestrians to see at dusk, at night, or at other times of poor visibility. If you must ride under these conditions, check and be sure you comply with all local laws about night riding; follow the Rules of the Road and of the Trail even more carefully, and you must take the following additional precautions:

Before riding at dusk or at night
Take the following steps to make yourself more visible:


- Make sure that your bicycle is equipped with correctly positioned and securely mounted reflectors.
- Purchase and install an adequate head and tail light.
- Wear light colored, reflective clothing and accessories, such as a reflective vest, reflective arm and leg bands, reflective stripes on your helmet, flashing lights ... 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.


## While riding at dusk or at night

- Ride slowly.
- Avoid areas of heavy traffic, dark areas, and roads with speed limits over 35 mph.
- Avoid road hazards.

If possible, ride on routes already familiar to you.
NOTE: 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.

## HOW THINGS WORK

It's important to your performance, enjoyment and safety to understand how things work on your bicycle. Even if you're an experienced bicyclist, don't assume that the way things work on your new bike is the same as how they work on older bikes. Be sure to read - and to understand - this section of the Manual. If you have even the slightest doubt as to whether you understand something, ask us about it.

## Wheel Quick Release

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

1. Ask us to help you make sure you know how to install and remove your wheels safely.
2. Understand and apply the correct technique for clamping your wheel in place with a quick release.
3. Each time, before you ride the bike, check that the wheel is securely clamped.

While it looks like a long bolt with a lever on one end and a nut on the other, the wheel quick release uses a cam action to clamp the bike's wheel in place.

Because of its adjustable nature, it is critical that you understand how it works and how to use it properly.


CAUTION: The full force of the cam action is needed to clamp the wheel 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 wheel safely in the dropouts.

## Adjusting the quick release mechanism

The wheel hub is clamped in place by the force of the quick release cam pushing against one dropout and pulling the tension adjusting nut, by way of the skewer, against the other dropout. The amount of clamping force is controlled by the tension adjusting nut. Turning the tension adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension adjusting nut can make the difference between safe clamping force and unsafe clamping force.

NOTE: Once the quick release is installed in the hub axle by the manufacturer or the dealer, it never needs to be removed unless the hub itself requires servicing. If the hub requires servicing, consult our service department.

## Front Wheel Secondary Retention Devices

Many bicycles have front forks which utilizes a secondary wheel retention device to keep the wheel from disengaging if the quick release is incorrectly adjusted.
Secondary retention devices are not a substitute for correct quick release adjustment. Your fork uses an integral type which is molded, cast or machined into the outer faces of the front fork dropouts.


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

## Removing or Installing Quick Release Wheels

## Removing a Quick Release Front Wheel

* Open up the brake shoes.
* Rotate the wheel's quick-release lever from the CLOSED position to the OPEN
* Turn the tension adjusting nut counter clockwise approximately 4 or 5 full turns.

> *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. If it does not release, turn the adjusting nut another turn or two, until the wheel easily releases.


## Installing a Quick Release Front Wheel

*Rotate the quick-release lever so that it curves away from the wheel This is the OPEN position.

* 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 dropouts. The quick- release lever should be on the left side of the bicycle.
* 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
* 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, rotate the quick-release lever upwards and push it into the

QR Closed Position CLOSED position. The lever should be parallel to the fork blade and curved toward the wheel.


CAUTION: If you can fully close the quick release without wrapping your fingers around the fork blade for leverage, and the lever does not leave a clear imprint in the palm of your hand, the tension is insufficient. Open the lever, turn the tension adjusting nut clockwise a quarter turn; then try again.

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.
*Close the brake shoes; then spin the wheel to make sure that it is centered in the frame and clears the brake shoes.


* Open up the brake shoes.
*Shift the rear derailleur to high gear (the smallest, outermost rear sprocket) and pull the derailleur body back with your right hand.
*Rotate the quick-release lever to the OPEN position. Lift the rear 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.



## Installing a Quick Release Rear Wheel

* Shift the rear derailleur to its outermost position.
* Pull the derailleur body back with your right hand.
*Rotate the quick-release lever to the OPEN position. The lever should be on the side of the wheel apposite the derailleur and freewheel sprockets.
* Put the chain on top of the smallest free- wheel
 sprocket. Then, insert the wheel into the frame dropouts and pull it all the way in to the dropouts.
* Tighten the adjusting nut until it is finger tight against the frame dropout; then rotate the lever toward the front of the bike until it is parallel to the frame's chainstay or seat stay tube and is curved toward the wheel.
 W CAUTION: If you can fully close the quick release without wrapping your fingers around the chainstay/seat stay tube for -leverage, and the lever does not leave a clear imprint in the palm of your hand, the tension is insufficient. Open the lever; turn the tension adjusting nut clockwise a quarter turn; then try again.

If the lever cannot be pushed all the way to a position parallel to the chain stay or seat stay tube, return the lever to the OPEN position. Then turn the adjusting nut counterclockwise one-quarter turn and try tightening again.

* Push the rear derailleur back into position.
* Close the brake shoes; then spin the wheel to make sure that it is centered in the frame and clears the brake shoes.


## Brakes

For most effective braking, use both brakes and apply them simultaneously. WARNING: Sudden or excessive application of the front brake may pitch the rider over the handlebars, causing serious injury or death.

## How brakes work

It's important to your safety that you instinctively know which brake lever controls which brake on your bike. In the U.S., bikes are required to be set up with the right brake lever controlling the rear brake, and the left lever controlling the front brake. The braking action of a bicycle is a function of the friction between the brake surfaces-usually the brake shoes and the wheel rim. To make sure that you have maximum friction available, keep your wheel rims and brake shoes 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 us before riding the bike. The lever reach may be adjustable; or you may need a different brake lever design.

Most brakes have some form of quick release mechanism to allow the brake shoes to clear the tire when a wheel is removed or reinstalled. When the brake quick release is in the open position, the brakes are inoperative. Make sure that you understand the way the brake quick release works on your bike and check each time to make sure both brakes work correctly before you get on the bike.

Brakes are designed to control your speed, not just to stop the bike. Maximum braking force for each 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 jerking the brake lever to the position where you think you'll generate appropriate braking force, 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 lever pressure required for each wheel at different speeds and on different surfaces. To better understand this, experiment a little by walking your bike and applying different amounts of pressure to each brake lever until the wheel locks.

When you apply one or both brakes, 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, 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 and at the same time, you need to both decrease rear braking and increase front braking force. This 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 reduces their ability to grip.

The way to maintain control on loose or wet surfaces is to go more slowly to begin with.

## Adjusting your brakes

If either brake lever on your bike fails the Mechanical Safety Check, you can
restore brake lever travel by turning the brake cable adjusting barrel counterclockwise, then lock the adjustment in by turning the barrel's lock nut clockwise as far as it will go. If the lever still fails the Mechanical Safety Check, have our service department check the brakes.


## Shifting

Why all those gears?
You will get the greatest fitness benefit, produce the greatest sustained power and have the greatest endurance if you learn to spin the pedals at high revolutions per minute (called cadence) against low resistance.

You will get the least fitness benefit and have the least endurance by pushing hard on the pedals against heavy resistance. The purpose of having multiple gears on a bicycle is to let you chose the gear that allows you to maintain your optimum cadence under the widest range of riding conditions. Depending on your fitness level and experience (the more fit, the higher the cadence), optimum cadence is between 60 and 90 pedal revolutions per minute.

Shitting a derailleur drivetrain
Your gear-changing mechanism will consist of:

- a rear sprocket cluster called a free wheel or freewheel
 cassette
- a rear derailleur
- a front derailleur
- two shift levers
- two control cables
- two or three front sprockets called chainrings
- a drive chain

The number of possible gear combinations ("speeds") is the product of multiplying the number of sprockets at the rear of the drivetrain by the number of sprockets at the front $(9 \times 3=27,8 \times 3=24$ and so on).

## Shifting Gears

There are many different types of shifter mechanisms, each preferred for specific types of application because of its ergonomic, performance and price characteristics.

The vocabulary of shifting can be pretty confusing. A downshift is a shift to a "slower" gear, one which is easier to pedal. An upshift is a shift to a "faster", harder to pedal gear. What's confusing is that what's happening at the front derailleur is the opposite of what's happening at the rear derailleur (for details, read the instructions on Shifting the Rear Derailleur and Shifting the Front Derailleur below). For example, you can select a gear which will make pedaling easier on a hill (make a downshift) in one of two ways: shift the chain down the gear "steps" to a smaller gear at the front, or up the gear "steps" to a larger gear at the rear. So, at the rear gear cluster, what is called a downshift looks like an upshift. The way to keep things straight is to remember that shifting the chain in
towards the bike is for accelerating and climbing and is called a downshift. Moving the chain out or away from the centerline of the bike is for speed and is called an upshift.

Whether upshifting or downshifting, the bicycle derailleur system design requires that the drive chain be moving forward and be under at least some tension. A derailleur will shift only if you are pedaling forward.

## Shifting the Rear Derailleur

The rear derailleur is controlled by the right shift lever. The function of the rear derailleur is to move the drive chain from one gear to another on the rear gear cluster, thereby changing gear drive ratios. The smaller sprockets on the gear cluster produce higher gear ratios. Pedaling in the higher gears requires greater pedaling effort, but takes you a greater distance with each revolution of the pedal cranks. The larger sprockets produce lower gear ratios. Using them requires less pedaling effort, but takes you a shorter distance with each pedal crank revolution. Moving the chain from a smaller sprocket of the gear cluster to a larger sprocket results in a downshift. Moving the chain from a larger sprocket to a smaller sprocket results in an upshift. In order for the derailleur to disengage the chain from one sprocket and move it on to another, the chain must be moving forward (i.e. the rider must be pedaling forward).

## Shifting the Front Derailleur

The front derailleur, which is controlled by the left shifter, shifts the chain between the larger and smaller chainrings. Shifting the chain onto a smaller chain ring makes pedaling easier (a downshift). Shifting to a larger chain ring makes pedaling harder (an upshift).

## What gear should I be in?

In the rear, the smallest cog, (the one with the least amount of teeth) is the hardest to pedal. The largest one is the easiest. The opposite is true of the chainrings on the front.

Shifting from an easier gear to a harder gear is called an upshift. Shifting from a harder, gear to an easier gear is called a downshift. It is not necessary to shift gears in sequence. Instead, find the "starting gear", for the conditions. A gear which is hard enough for quick acceleration but easy enough to let you start from a stop without wobbling. Experiment with upshifting and downshifting to get a feel for the different gears. At first, practice shifting where there are no obstacles, hazards or other traffic until you've built up your confidence. Once you've learned the basics, experience will teach you which gear is appropriate for which condition, and practice will help you shift smoothly and at precisely the optimum moment.


CAUTION: Never move the shifter while pedaling backwards, nor pedal backwards after having moved the shifter. This could jam the chain and cause serious damage to the bicycle.

WARNING: Never shift a misadjusted derailleur onto the largest or the smallest sprocket. The chain could jam, causing you to lose control and fall.

## Toeclips \& Straps

Toeclips and straps are the traditional means which experienced cyclists use to keep their feet correctly positioned and engaged with the pedals. The toeclip positions the ball of the foot over the pedal spindle, which gives maximum pedaling power. The toe strap, when tightened, keeps the foot engaged throughout the rotation cycle of the pedal. While toeclips and straps give some benefit with any kind of shoe, they work most effectively with cycling shoes designed for use with toeclips.
 WARNING: Getting into and out of pedals with toeclips and straps requires skill which can only be acquired with practice. Until it becomes a reflex action, the technique requires concentration which can distract the rider's attention, causing you to lose control and fall. Practice the use of toeclips and straps where there are no obstacles, hazards or traffic. Keep the straps loose, and don't tighten them until your technique and confidence in getting in and out of the pedals warrants it. Never ride in traffic with your toe straps tight.

## Clipless ("step-in") Pedals

Clipless pedals (sometimes called "step-in pedals") are often used to keep riders' feet securely in the correct position far maximum pedaling efficiency. They work like ski bindings ... a plate on the sole of the shoe clicks into a spring-loaded fixture an the pedal. Clipless pedals require shoes designed for the pedal being used.

Many clipless pedals are designed to allow the rider to adjust the amount of force needed to engage or disengage the foot. We can show you how to make this adjustment.
 - WARNING: Clipless pedals are intended for use with shoes specifically made to fit them and are designed to firmly keep the foot engaged with the pedal. Practice is required to learn to engage and disengage the foot safely. Until engaging and disengaging the foot becomes a reflex action, the technique requires concentration which can distract the rider's attention, causing the rider to lose control and fall. Practice engaging and disengaging clipless pedals in a place where there are no obstacles, hazards or traffic; and be sure that you follow the setup and service instructions and warnings which came with your pedals.

## 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. Your bicycle has been equipped with tires which we felt were the best balance of performance and value for the use for which your bike was intended. If, once you've gained experience with your new bike, you feel that a different tire might better suit your riding needs, we 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 side wall of the tire. Be sure you know the proper tire pressure for your tires.


WARNING: Never inflate a tire beyond the maximum pressure marked on the tire's side wall. 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 way to inflate a bicycle tire to the correct pressure is with a bicycle pump that has an integral gauge. We can help you select an appropriate pump.


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.

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. Some tires may need to be brought up to pressure every week or two.


${ }^{\mathrm{r}}$CAUTION: Pencil type automotive tire gauges and gas station air hose pressure settings are generally inaccurate and should not be depended on for consistent, accurate pressure. Instead, use a good quality dial gauge.

Tire Valves
The tire valve allows air to enter the tire's inner tube under pressure, but doesn't let it back out unless you want it to.
 fitting onto the end of the valve stem. To let air out of a


There are primarily two kinds of bicycle tube valves (actually, there are other designs, but they ore seldom seen in the US any more): The Schraeder Valve and the Presta Valve. The bicycle pump you use must have the fitting appropriate to the valve stems on your bicycle.

## Schraeder Valves

are like the valve on a car tire. To inflate a Schraeder valve tube, remove the valve cap and push the air hose or pump

Schraeder valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object.

## Presta Valves

have a narrower diameter and are 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 gas station air hose, you'll need a presta adapter (available at bike shops) which screws on to the valve stem once you've freed up the valve. The adapter fits the end of the air hose fitting. To let air out of a presta valve, open up the valve stem lock nut and depress the valve stem.

## SERVICE AND MAINTENANCE

NOTE: Technological advances have made bicycles and bicycle components more complex than ever before, and the pace of innovation is increasing. This ongoing evolution makes it impossible for this manual to provide all the information required to properly repair and/or maintain your bicycle. In order to help minimize the chances of an accident and possible injury, it is critical that you have any repair or maintenance which is not specifically described in this manual performed by us.

Equally important is that your individual maintenance requirements will be determined by everything from your riding style to geographic location. Consult us for help in determining your maintenance requirements.

How much of your bike's service and maintenance you can do yourself depends on your level of skill and experience, and on whether you have the special tools required.
 WARNING: Many bicycle service and repair tasks require special knowledge and tools. Do not begin any adjustments or service on your bicycle if you have the slightest doubt about your - ability to properly complete them. Improper adjustment or service may result in damage to the bicycle or in an accident which can cause serious injury or death.

If you want to learn to do major service and repair work on your bike, you have three options:

1. Ask us whether copies of the manufacturer's installation and service instructions for the components on your bike are available.
2. Ask us to recommend a book on bicycle repair.
3. Ask us about the availability of bicycle repair courses in your area.

Regardless of which option you select, we recommend that you ask us to check the quality of your work the first time you work on something and before you ride the bike, just to make sure that you did everything correctly. Since that will
require the time of a mechanic, there may be a modest charge for this service.

## Service \& Maintenance Schedule

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. All other service, maintenance and repair should be performed in a properly equipped facility by a qualified bicycle mechanic using the correct tools and procedures specified by the manufacturer.

## 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 readjustment by our service department. Your Mechanical Safety Check will help you identify some things that need readjustment. But even if everything seems fine to you, we encourage you to schedule a free 90 day check-over with our service department. . But if you think something is wrong with the bike, bring it in to us immediately.

## Before every ride

Mechanical Safety Check. (see page 6)

## After every long or hard ride; if the bike has been exposed to water or grit; or at least every 100 miles:

Clean the bike and lightly lubricate the chain, freewheel cogs and rear derailleur pulley bushings. Wipe off excess lubricate. Lubrication is a function of climate. Talk to us about the best lubricants and the recommended lubrication frequency for your area.

## After every long or hard ride or after 10 to 20 hours of riding

- Squeeze the front brake 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 us 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 us 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 us check it.
- Take a look at the brake shoes. Starting to look worn or not hitting the wheel rim squarely? Time to have us adjust or replace them.
- Check the control cables and cable housings. Any rust? Kinks? Fraying? If so, have us 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 us check the wheel for tension and trueness.
- Check the frame, particularly in the area around all tube joints, the handlebars, the stem and the seat post 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.
- Check to make sure that all parts and accessories are still secure, and tighten any which are not.


## As required

If either brake lever fails the Mechanical Safety Check, restore brake lever travel by turning the brake cable adjusting barrel counterclockwise, then lock the adjustment in by turning the barrel's lock nut clockwise as far as it will go. If the lever still fails the Mechanical Safety Check, have us check the brakes.

If the chain won't shift smoothly and quietly from gear to gear: the derailleur is out of adjustment. The cause may be as simple as cable stretch, in which case you can compensate by turning the shifter or derailleur cable adjusting barrel counterclockwise /2 turn. Try shifting again. If /2 turn to a full turn of the cable adjusting barrel does not cure the problem, see us.

At the start of each cycling season
Bring your bike to us for a checkup.

## Torque Force Specifications

Handlebar binder bolt:
Stem binder bolt:
Stem to steerer binder:
Seat binder bolt:
Saddle clamp bolts:
Wheel axle nuts:

150 to 180 in:-lbs. or 170-200 on.-kgf. 175 to 260 in.-lbs. or $200-300 \mathrm{~cm} .-\mathrm{kgf}$. 100 to 120 in.-lbs. or 115-140 crn.-kgf. iSOto 180 in-lbs. or 170-200on.-kgf. 175 to 350 in.-(bs. or 200-400 crn.-kgf. 130 to 210 in -lbs. or ISO-250crn.-kgf.

## getting home when something breaks

Unless you're going for a short ride in the neighborhood, or you can walk home or call someone to pick you up if something breaks, you should never go for a bike ride without the following emergency equipment:


- $4 \mathrm{~mm}, 5 \mathrm{~mm}$ and 6 mm Allen wrenches, used to tighten various clamping bolts that may loosen
- Patch kit and a spare inner tube
- Tire levers
- Tire pump or cartridge inflator with correct head to fit your tire valves.
- Some kind of identification (so people know who you are in case of accident)
- A couple of dollars in cash (for a candy bar, cool drink or emergency phone call)

If you get a flat tire
Depress the tire valve to let all the air out of the tube. Remove the wheel from the bicycle. Remove one bead of the tire from the rim by using your tire levers to lift the bead carefully over the wheel rim. Remove the valve lock nut (if the valve has one) and push the valve stem through the wheel rim. Remove the inner tube.

Carefully check the outside and inside of the tire for the cause of the puncture and remove the cause if it is still there. If the tire is cut, line the inside of the tire in the area of the cut with something handy - tape, a spare patch, a piece of inner tube, a dollar bill - whatever will keep the cut from pinching the inner tube.

Either patch the tube (follow the instructions in your patch kit), or use a new one.
WARNING: Patching a tube is an emergency repair. Careless patching or applying several patches can seriously weaken the tube, resulting in possible tube failure, which could cause you to lose control and fall. Replace a patched tube as soon as possible.

Reinstall the tire and tube. Slip one tire bead over the rim. Insert the tube valve through its hole in the rim, but don't secure it with the locknut yet. Feed the tube carefully into the cavity of the tire. Inflate the tube just enough to give it some shape. Starting at the valve stem and working around both sides of the rim to the side opposite the valve stem, use your thumbs to push and seat the other bead of the tire inside the rim. Be careful not to pinch the tube between the tire bead and the wheel rim. If you have trouble getting the last few inches of bead over the edge of the rim with thumb pressure, use a tire lever and be careful not to pinch the tube.


CAUTION: If you use a screwdriver or any tool other than a tire lever, you are likely to puncture the tube.

Check to make sure the tire is evenly seated around both sides of the rim and that the tube is inside the tire beads. Push the valve stem into the tire to make sure that its base is seated within the tire's beads. Inflate the tube slowly to the recommended pressure, all the while checking to make sure that the tire beads stay seated in the rim. Screw down the valve stem lock nut finger-tight. Secure the valve locknut (presta valve). Replace the valve cap. Replace the wheel in the bike.


*WARNING: Riding your bicycle with a flat or under-inflated tire can seriously damage the tire, tube and bicycle, and can cause you to lose control and fall.

If you break a spoke:
A wheel with a loose or broken spoke is much weaker than a fully tensioned wheel. If you break a spoke while on a ride, do not ride your bicycle, as the spoke may strike or get caught in the fork blades or the drive train and cause you to fall.

## If your bicycle sustains an impact or you crash

**
WARNING: A crash 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.

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, and fix what you can. Then, when you get home, carefully perform the checks described earlier and check for any other damaged parts. All bent, scored or discolored parts are suspect and should be replaced.

## N (20) <br> CAUTION: After any crash or serious fall, return your bicycle to our service department for a thorough inspection. <br> UPGRADING YOUR BIKE AND YOUR EQUIPMENT

The variety of components and accessories available to enhance the comfort, performance and appearance of your bicycle is almost endless. We can help you select those that will work best for the kind of riding that you do.

Even if you are an experienced rider, don't assume you can properly install and operate these components or accessories without first reading any instruction that are enclosed with the product.

Be sure to read, and understand, the instructions that accompany the products you purchase for your bicycle.

If you have the slightest doubt as to their suitability or about your ability to install them correctly, consult our service department.


WARNING: Failure to install and operate any component or accessory properly con result in serious damage to the bicycle, and serious injury or death to the rider.

## Comfort and Convenience Accessories

Once the bike fit (frame size, saddle position and angle, stem length and rise) is correct, the saddle becomes the single most important comfort accessory.

The comfort of a bicycle saddle depends much more on how the saddle shape relates to the rider's body than on the thickness or material of the padding. Bicycle manufacturers select a saddle shape based on their best guess of what's likely to be comfortable for most buyers of that particular bicycle model. But that doesn't mean it's going to be the most comfortable shape for you. That's why we stock saddles which offer a variety of shapes, padding, covering materials and prices. If the saddle on your new bike is uncomfortable, ask us to suggest an
alternative.
If you're planning to spend an hour or more at a time on your bike, get a pair of cycling gloves. Their padded palms help keep your hands from getting numb from the vibration of the handlebars (the numbness, called carpal tunnel syndrome, can become quite painful if not taken care of, and they'll provide some abrasion protection for your hands if you fall.

Cycling shorts and cycling jerseys are both performance and comfort accessories. There are two kinds of cycling shorts: the traditional skin- tight lycra shorts and loose-fit cycling shorts. Both are designed to reduce friction and chafing. The washable pad in the crotch of the shorts both cushions and protects against chafing. Wear them without underwear to avoid the undergarment's bunching up and chafing. Also available are undergarments designed to reduce chafing when worn with regular street clothes. Jerseys have pockets in the back, so that the things you carry don't bang around when you ride. Many are made of hi tech fabrics with properties that improve riding comfort and performance.

It's important to drink plenty of liquids before and during exercise. A water bottle is an essential companion on a longer ride.

Some basic tools are also useful. The minimum tool kit you will need to make adjustments, perform maintenance and handle emergency repairs should include:


## Performance Upgrades



CAUTION: Changing the components on your bike may void the warranty. To avoid voiding your warranty, check with us before changing the components on your bike.
The most popular way to improve the performance of a bicycle is to substitute higher priced wheels.

Before attempting to upgrade your wheels, make sure that the components you plan to install are fully compatible with the rest of the components on your bike. We can help you determine component compatibility and resolve compatibility conflicts.


## LIMITED LIFETIME WARRANTY ON FRAME

Subject to the following limitations, terms and conditions, Rodriguez Bicycles warrants this new Rodriguez bicycle frame against defects in workmanship and materials for the lifetime pf the original owner. This warranty applies only to the original owner and is not transferable.

## LIMITED ONE (1) YEAR WARRANTY ON COMPLETE BICYCLE

Subject to the following limitations, terms and conditions, Rodriguez Bicycles warrants to the original owner of each new Rodriguez bicycle that this bicycle when new is free of defective materials and workmanship. This warranty shall expire one (1) year from the date of the original purchase from an authorized Rodriguez dealer and is conditional upon the bicycle being operated under normal conditions and use, and properly maintained. This warranty is void if the bicycle was not purchased new.

## ADDITIONAL CONDITIONS

This Limited Warranty is made only to the original owner of this new Rodriguez Bicycle or frame set purchased from an R+E Cycles, and it shall remain in force only as long as the original owner retains ownership of the Rodriguez bicycle. This Limited Warranty is not transferable.

In order to exercise your rights under this limited warranty, the bicycle or frame set must be presented to R+E Cycles, together with a receipt, bill of sale or other appropriate written proof of purchase which identifies the bicycle or frame set by serial number. Should this bicycle, frame set or any part be determined by Rodriguez to be covered by this warranty, it will be repaired or replaced, at Rodriguez's sole option, which will be conclusive and binding. The original owner shall pay all labor charges connected with the repair or replacement of all parts. Under no circumstances does this limited warranty include the cost of travel or shipment to and from R+E Cycles. Such costs, if any, shall be borne by the original owner

This limited warranty does not apply to normal wear and tear, nor to claimed defects, malfunctions or failures that result from abuse, neglect, improper maintenance, alteration, collision, crash or misuse.

IT IS AGREED THAT RODRIGUEZ'S LIABILITY UNDER THIS LIMITED WARRANTY SHALL BE NO GREATER THAN THE AMOUNT OF THE ORIGINAL PURCHASE PRICE AND IN NO EVENT SHALL RODRIGUEZ BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

## DISCLAIMER

All other remedies, obligations, liabilities, rights, warranties, express or implied, arising from law or otherwise, including but not limited to, any claimed implied warranty of merchantability, any claimed implied warranty arising from course of performance, course of dealing or usage of trade, and any claimed implied warranty of fitness, are disclaimed by Rodriguez and waived by the original owner.

Some states, jurisdictions, countries, provinces, do not allow some or all of the limitations set for herein, or the exclusion or limitation of incidental or consequential damages. If any provision is found unenforceable, only that provision shall be stricken and all others shall apply. This limited warranty does provide the original owner with certain legal rights and recourse and the original owner may possess other rights or recourse, depending on the state, jurisdiction, country or province.


