K2 Bike
Owner's Manual

SMART SHOCK2

PRO-FLEX
#1 In Full Suspension Bikes

NOLEEN RACING

K2 BIKE

1998 K2 BIKE OWNER'S MANUAL - PDF

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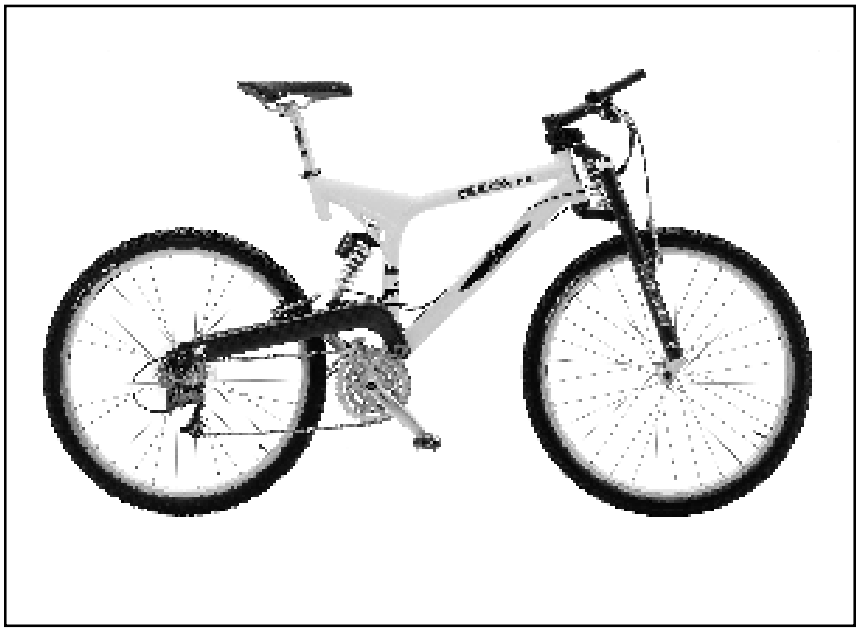
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INTRODUCTION

Congratulations on the purchase of your new K2 Bike®. Since 1989, when we jump started the suspension revolution with the introduction of the Flexstem,™ we've been at the forefront of suspension innovation. In 1990, we released the first production full suspension mountain bike ever—the original Pro-Flex®. Over the last eight years, we've refined our original designs to provide you with the comfort and control only a well designed suspension bike can provide. Happy trails!

YOUR K2 BIKE



GENERAL BICYCLE INFORMATION

SAFETY AND FIT

In this section:

- Safety Tips
- Cable Routing
- Proper Frame Sizing
- Mechanical Quick Check

Safety Tips

While bicycles can be an enjoyable means of recreation or transportation, you should recognize the responsibilities required for safe operation. It is important that all users understand the rules of safe riding and are properly prepared for all riding conditions. K2 Bike strongly recommends a formal course in bicycle safety. Also, follow these general guidelines for safe operation:

1. Always wear protective clothing including an ANSI or Snell approved bicycle helmet, eye protection, and gloves. Be certain that your clothing cannot become entangled in the chainrings or wheels.
2. Make sure the bicycle fits the rider, and that the rider can easily reach and operate the controls.
3. Always abide by traffic laws when riding on the road. Use hand signals, ride with traffic, and always ride single file when riding with a group. Ride defensively. Be alert. You may be hard for motorists to see. Be ready to stop suddenly and avoid hazards at all times.
4. If you intend to ride at night, do not remove the standard reflectors on your bike. K2 Bike strongly recommends the use of aftermarket lights front and rear. It is important that you can see and be seen in the darkness. Reflective clothing is also recommended.

CAUTION: Girvin strongly recommends that you add proper front and rear lights if bicycle will ridden at night or in low light situations. Night riding without lights can be extremely dangerous, and can result in the rider running into something, or being run in to, causing severe injuries or death.

5. Brake carefully. Apply steady, even pressure to both brake levers. Too much pressure on the rear brake can lock up the wheel and lead to loss of control. Too much pressure on the front brake can cause the rear wheel to lift off the ground or the front brake to lock up and slip out from under you. Allow extra stopping distance in wet weather. Your brakes and tires will have less grip in wet conditions. For further instructions on braking, see **Operation: Braking**.

6. Mount any bags, racks or other accessories securely. Added weight should be minimized as it can alter the handling of a bicycle. Be certain that these accessories cannot limit brake operation or become entangled in the wheels or drivetrain parts.



CAUTION: Never attempt to ride with more than one person on your bicycle. K2 Bike bicycles are designed for single riders only. An extra rider can negatively affect bicycle handling, and can result in loss of control and severe injuries.

7. If your frame or fork develops a crack or is involved in an accident, it should be brought to your dealer for complete inspection. Do not ride a damaged bicycle.



CAUTION: In the event of a crash, there could be damage to your K2 Bike that may not be immediately visible. Damaged bikes can be extremely dangerous and can result in failure during use and severe injuries. After a crash, take your bike to your authorized K2 Bike dealer or other qualified technician to verify its structural integrity.

8. Off road riding requires the development of special skills to cope with varied hazards:

   - Ride on established trails.
   - Avoid rocks, logs, holes, drop offs, and other obstacles.
   - On descents, reduce speed, shift your weight back, grip the seat between your thighs, and apply slightly more pressure to the rear brake than to the front.
   - Be considerate of other trail users.
   - Always ride within the limits of your skill level.
   - Attend a mountain bike class, read books and articles about mountain bike technique and seek out the instruction of experienced riders.



WARNING: Riding over off road obstacles, steep downhills, and wet terrain can be extremely dangerous and can result in serious injuries. Be sure of your abilities before attempting to ride difficult terrain.



CAUTION: K2 Bike strongly recommends that your K2 Bike be assembled and adjusted by your authorized K2 Bike dealer. Your authorized K2 Bike dealer possesses the proper training and tools to service your bicycle. Improperly assembled or adjusted bicycles can be extremely dangerous, and can result in failure during use and severe injuries.

If you have questions about any part of your bicycle, contact your authorized K2 Bike dealer or call us at **401-765-0130**.

Cable Routing

Make sure that brake and gear cables are cut to the proper length and properly routed. You should be able to turn your handlebars from side to side without any tension or pulling on the cables. You should also be able to compress the rear suspension without any tension or pulling on the cables.

Also, all of your front cables should be routed on the inside of the legs on the Noleen Cross-Link and Chubby forks. For more detailed instructions on proper cable routing, see your **Noleen Cross-Link or Noleen Chubby Owner's Manual**.



CAUTION: Make sure that your brake and gear cables are routed properly on your K2 Bike. Failure to route your cables properly can be extremely dangerous and result in a loss of control and severe injuries.

Proper Frame Sizing



Correct Standover Height

Standover Height

Most K2 Bike frames are offered in four sizes. We design our bikes with as low of a standover height as possible. When sizing a frame, a minimum of three inches of clearance between the rider's crotch and the top tube of the bicycle is required. This room is needed due to the uneven terrain encountered when riding off road. The three inches should allow you to hop off of the pedals and straddle the top tube safely in a panic situation.

Warning: Riding a frame that is too large or too small can lead to loss of control and injury.



Correct Saddle Height

Saddle Height and Position

You should adjust the height of your saddle to accommodate your leg length. When seated on the bicycle in a normal riding position, your knee should be slightly bent at maximum extension (pedal at lowest point). To set this height, sit on the bike and place one heel on a pedal. With the pedal at its lowest point (the down position), you should just be able to touch the pedal with your heel.

Raise or lower the seatpost by loosening the post binder bolt or using the quick release as you would a front or rear wheel quick release. Under no circumstances should the seatpost extend from the frame beyond its "Minimum Insertion" or "Maximum Extension" mark. On some K2 Bike models there is a maximum height hole on the back of the seat tube or seatmast. Do not extend the seatpost beyond this hole.

CAUTION: Adjusting the seatpost higher than the maximum height mark on post, or maximum height hole on frame can result in failure during use and severe injuries.

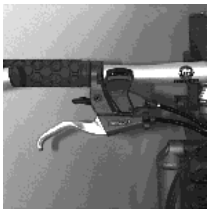


Saddle Position

It is also possible to adjust the seat fore and aft, or to adjust the angle to enhance individual comfort. We suggest you start with the saddle in a middle position with the seatpost clamp centered on the seat rails, and with the top of the saddle level with the ground. Very small changes to saddle can have a substantial effect on comfort and performance. Consequently, whenever making changes to saddle position, do so in small increments until you have found the most comfortable position. Be sure to tighten all bolts after adjustment has been completed.

Handlebar Height and Reach

Your K2 Bike is equipped with a stem which clamps on to the outside of the steerer tube of the fork. The height of this stem may be changed slightly by adding or removing headset spacers. If you need to adjust your handlebar position beyond these small adjustments, you'll have to get a longer or shorter stem with a higher or lower rise. Another option is a different handlebar with a different rise. Consult your dealer for any changes that you may feel are necessary. Be sure to retighten all bolts after adjustments have been completed.



Handlebar Position

Control Position

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 can be changed. Ask your dealer for help with this adjustment.

Many bikes have brake levers which can be adjusted for reach. If you have small hands and find it difficult to squeeze the brake levers, your dealer can adjust the reach for you. Your brakes will require readjustment of the reach adjustment is changed. Refer to **Maintenance : Brakes** for more information on adjusting your brake levers.

Mechanical Quick Check

Check this out:

- Quick Releases
- Tire Inflation
- Brake Function
- Wheel Straightness

Before every ride, take a few minutes to inspect your K2 Bike as follows:

Important: This is not a comprehensive maintenance checklist. If you suspect a problem with your bicycle, do not ride the bike until the problem has been corrected. If you are uncertain about the cause of, or how to correct, a problem, consult your authorized K2 Bike Dealer.



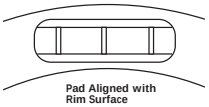
Quick Release Check

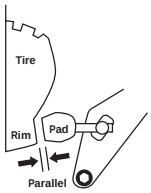


Quick Release Check

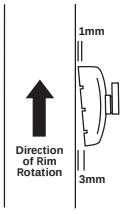


Inflation / Presta valve





Brake Pad Alignment



Brake Pad Toe-in

4 Quick Release Wheels - Are the quick releases tightened properly?

CAUTION: Improperly adjusted wheel quick releases can be extremely dangerous, and can result in failure during use and severe injuries.

The wheels on your new K2 Bike are attached with convenient single lever quick releases, allowing them to be easily removed and reinstalled. For detailed instructions on the proper operation of your quick releases, refer to **Operation: Quick Releases**. Please read and follow these instructions to ensure safe installation of your bike's wheels:

Quick Release Tests:

- Lift the front/rear of the bicycle off the ground and give the tire a sharp downward blow. The wheel should feel solidly mounted.
- Try to rotate the quick release levers counter clockwise (without rotating out). A properly tightened quick release lever will not spin.

If you are uncertain about the wheel tightness, or have any further questions about the proper function of quick release levers, please refer to **Operation: Quick Releases** in the next section.

4 Tire Inflation - Are your tires pumped up enough?

Inflate your tires to the desired pressure within the range printed on the side wall. Higher pressure within the range provides less rolling resistance on pavement or hard dirt, and also gives a harder ride. Lower pressure within the range provides improved traction in off road conditions and a softer, more cushioned ride. K2 Bike recommends that you use a hand pump and gauge to achieve proper tire inflation. Gas station pumps/ gauges are often inaccurate and can easily over inflate tires.

There are two different types of valves for bicycle tubes: schrader and presta. **All K2 Bike models use presta valves**. Schrader valves are standard automobile tire valves and can be inflated with most standard pumps. Presta valves are a narrower valve that require the user to unscrew the top of the valve before inflation. If you do not have a pump that will work with presta valves, an adaptor is available from your local dealer that will allow the use of a standard schrader pump with a presta valve.

4 Brake Function - Are the brakes working well?

Firmly press each brake lever to be sure the brake mechanisms work freely and properly. Be sure there is no binding and that the brake pads squeeze the rim tightly enough to stop the bicycle safely. The front edge of the pads should be spaced 1 mm from the rim surface with the rear edge 3 mm from the rim surface. This is referred to as "toe-in". For further instructions on brake adjustment, see **Maintenance: Brakes**. Visually inspect the brake pads to be sure that:

1. The brake pads are aligned with the rim surface and are striking the rim in the middle of the sidewall and are not slipping off of the rim into the tire or off the rim towards the center of the rim.
2. The trailing (rear) edge of each brake pad is spaced 2 mm further away from the rim surface than the leading (front) edge of the brake pad. (Referred to as "toe in")
3. The curved "lead pipe" that holds the brake cable housing is firmly seated in its holder that attaches to the top of the brake arm.

If your brakes are tight, loose, or improperly centered , refer to **Maintenance: Brakes** for further instructions.

CAUTION: If your brakes are not working properly, do not ride your bicycle. If you are unsure of how to adjust your brakes, K2 Bike suggests you take your bike to an authorized K2 Bike dealer for service. Improperly adjusted brakes can be extremely dangerous, and can result in failure during use and severe injuries.

4 Wheel Straightness - Are the rims rubbing against the brakes?

Check to see that your wheels are not warped. Lift one end of the bike and spin the wheel. Watch the gap between the rim and brake pad. If the gap remains constant, the rim is straight. If the gap varies, take your wheels to your authorized K2 Bike dealer before riding your bicycle.
While your K2 Bike is designed for off road riding, it will last longer and give you years of enjoyment when properly taken care of. Please follow these bicycle care instructions to keep your K2 Bike running well.

BICYCLE CARE

In This Section:

- Cleanliness
- Bike Storage
- Proper Shifting
- Avoid Jumping
- Preventing Bicycle Theft
- Lubrication

Cleanliness - Keep Your Bike Clean!

Remove dirt and mud with water, mild detergent, and a damp cloth. Don't spray the mud and dirt off of your bike with a pressurized hose. If the bearings in the headset, hubs, or bottom bracket grind or sound sandy, they may need to be serviced or adjusted. Take your bike to your local K2 Bike dealer for help. Never submerge the bearings, as this can lead to premature wear. Should you accidentally submerge any bearing, you may have contaminated the bearing grease. Disassembly and regreasing may be necessary. After cleaning your bike, dry all parts with a soft cloth and **refer to Maintenance: Lubrication for further instructions**.

Bike Storage - Store Your Bike Inside!

Protect your bike from rain, snow and moisture to avoid corrosion. Store your bike away from sunlight as ultraviolet rays can fade paint and crack rubber and plastic parts over time. When storing your bike for prolonged periods, first clean and lubricate it. Hang the bicycle off the ground. Be sure thoroughly to examine the bicycle before riding it after a period of storage.

Proper Shifting- Ease up when shifting!

Reduce pedal pressure slightly before and during each shift. Less pressure reduces wear and tear and the possibility of bent shifting components, as well as producing smoother, more precise gear changes.

Avoid Jumping - Ride safely!

Never intentionally manipulate your bike so as to make the wheels leave the ground. Ride slowly over steps, curbs, and bumps.

Caution: Jumping or stunt riding can lead to frame or component failure during use and severe injuries.

Preventing Bicycle Theft - Be careful when leaving your bike!

Keep a record of your bike's serial number (located on the bottom bracket housing). Always use an effective lock when leaving your bicycle unattended. When locking your bike, secure both wheels as well as the frame. Beware of seat/seatpost theft. The best form of theft protection is common sense. Be aware of your surroundings and be careful where you leave your bike, locked or unlocked. If you plan on leaving your bike unattended for a long period of time, do not leave it alone!

Lubrication

Keeping your bicycle properly lubricated is one of the most important things you can do to maintain the proper function of your K2 Bike. Do not over lubricate your bike. The steps for proper lubrication are covered in **Maintenance: Lubrication**.

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Familiarizing yourself with how your bicycle works is very important and will allow you to get the most enjoyment from your K2 Bike. The following section highlights a few of the main functions of your bicycle.

OPERATION

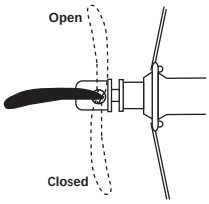
In This Section:

- Quick Releases
- Wheel Removal
- Braking
- Shifting
- Pedals

Quick Releases

The wheels on your new K2 Bike are attached with convenient single lever quick releases, allowing them to be easily removed and reinstalled. Please read and follow these instructions to ensure safe installation/operation of your bike's wheels:

1. Always check both wheels before you ride.
2. Reach down and open the quick release lever.
3. Gently push down on the bicycle and make sure that the axle is firmly seated in the frame or fork drop outs.
4. While positioning the quick release lever to stick straight out (90½ from the bicycle), spin the adjuster nut on the opposite side of the quick release clockwise until you feel slight resistance.



Quick Release Operation



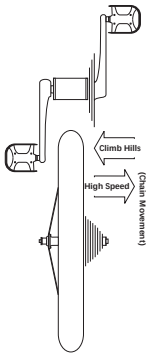
Quick Release Operation



V-Brake -style Brake Release



Brake Lever



Proper Shifting

5. With the heel of your hand, rotate the quick release lever in toward the bicycle. **Make sure the lever is tucked against the frame or fork so that it is safe from trail hazards which might force it open.** As you rotate the lever in toward the bike, you will feel resistance. **Do not tighten the quick release by holding the adjusting nut and simply spinning the quick release lever. The cam action of the lever is necessary to ensure adequate wheel attachment.**

6. If you did not feel resistance when tightening the lever, the quick release is not tight enough. Return the lever to the open position (90½ from the bicycle), spin the adjuster nut clockwise a couple more turns, and retighten the lever, testing for resistance.

7. Repeat step 6 until you must use considerable, but not uncomfortable force to tighten the quick release lever.

8. Make sure the quick release lever does not come in contact with the fork leg of the bicycle. **Once again, make sure the quick release is tucked in so as not to be vulnerable to trail obstacles which might inadvertently release it. Refer to Safety and Fit: Mechanical Quick Check to make sure you've tightened the quick releases properly.**

Wheel Removal

CAUTION: Improperly adjusted wheel quick releases can be extremely dangerous, and can result in failure during use and severe injuries.

The wheels on your new K2 Bike are attached with convenient single lever quick releases, allowing them easily to be removed and reinstalled. To remove a wheel, first disconnect the "lead pipe" from its holder and open up the brakes. Then open the quick release lever. You may need to hold the adjusting nut opposite the quick release and spin the release lever before pulling the wheel free.

In the rear, shift the gears to the smallest cog and open the brakes by releasing the "lead pipe" on the V-Brakes. Open the quick release and, while holding the bike off of the ground, firmly strike the top of the rear wheel. The wheel should fall off easily.

To reinstall the wheel, place the axle in the dropouts and gently push down on the bicycle to make sure the axle is firmly seated. The wheel should be centered between the fork legs or the rear chainstays and seatstays. In the rear, line the smallest cog on the rear wheel with the chain and hold the rear derailleur back while you slide the axle into the dropouts. Release the rear derailleur when the wheel is seated firmly in the frame. Follow the instructions above on **Quick Releases**.

Braking

Your bicycle is equipped with a brake lever for each hand. The right lever operates the rear brake, while the left lever operates the front brake. You should familiarize yourself with braking action through practice and repeated use. While both brakes is very effective in making quick stops, it's possible to initiate a loss of control by braking aggressively while turning on slippery surfaces. Also, recognize that water on your wheels will cause the brakes to lose stopping power. Think ahead in wet situations and apply brakes earlier.

Many K2 Bike models are equipped with V-Brake - style brakes. These brakes provide a tremendous amount of stopping power and should be used carefully. Make sure that you are familiar with the power of the brakes before you attempt any off-road riding.

Caution: Improper brake operation can be extremely dangerous and can result in severe injuries.

Shifting

There are two shifter controls mounted on your handlebars. It's important that you learn to use the shifters to cycle effectively in varied terrain. The left hand shifter controls the chain position on the front sprockets. The right hand shifter moves the chain from one sprocket to the next in the rear. You should experiment with these controls until you become familiar with their use.

The pedals must be turning while you move the shifters. You should only put light pressure on the pedals during each shift so that the chain can easily move from sprocket to sprocket. Optimal pedal rotation speed is 50 to 90 revolutions per minute.

You will find that shifting to a smaller front sprocket or a larger rear sprocket will allow you to climb hills easier. Move the chain closer to the center of the bicycle to climb hills, and away from the center as speeds increase.

Pedals



Proper Toe-Clip use



Toe Clips/Straps

If your bike is equipped with toe clips/straps, it is important to familiarize yourself with their use. If you do not have previous experience with the system, practice entry and exit before you ride. Position your bike beside a wall and hold yourself up while you practice. Then, proceed to a flat, empty spot such as a field or parking lot for some easy ride practice. In addition:

1. Keep toe straps loose when riding in unfamiliar or rough terrain where you may need to remove your feet from the pedals quickly or unexpectedly. Loosen straps with the strap buckle.
2. To enter the pedals, straddle the bike and position the right pedal in the 4 o'clock position. The pedal cage will hang upside down. Place the ball of your foot on the front edge of the pedal and scrape your foot backwards to rotate the clip 180½. Now slide your toe forward into the clip. Push down on the pedal, sit on the seat, and start rolling
3. Take a few pedal strokes to gain momentum. Now repeat the process to place your left foot in the left toe clip. Getting into your pedals may seem difficult at first, but the more you practice the easier it will become.
4. To release from the pedals, raise your heel and pull your foot up and back.

Important: Always disengage at least one foot from the pedals before coming to a complete stop.

Caution: Improper use of clipless pedals can be extremely dangerous, and can result in loss of control and severe injuries. Consult your authorized K2 Bike dealer if you are unsure about clipless pedal operation.



Clipless Pedal Entry



Clipless Pedal Release

Clipless Pedals

If your bike is equipped with clipless pedals, it is important to familiarize yourself with their use. If you do not have previous experience with the system, practice entry and exit before you ride. Position your bike beside a wall and hold yourself up while you practice. Then, proceed to a flat, empty spot such as a field or parking lot for some easy ride practice. In addition:

1. Before attempting to click into your pedals, inspect the cleat surfaces on your shoes and the clip surfaces on the pedals to ensure there is no debris (mud, stones, etc.) that might interfere with the action of the system.
2. To enter the pedals, place your foot on the pedal surface and move it until you feel the cleat begin to engage in the retention surface. Press down and you should hear a click to signal that you are locked into the pedal. Lift your foot gently to be sure your cleats are completely engaged.
3. To release from the pedals, twist your heel out away from the bike while keeping your foot level with the ground.

Important: Always disengage at least one foot from the pedals before coming to a complete stop.

Caution: Improper use of clipless pedals can be extremely dangerous, and can result in loss of control and severe injuries. Consult your authorized K2 Bike dealer if you are unsure about clipless pedal operation.

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MAINTENANCE

In this section:

- Lubrication
- Brakes
- Drive System
- Wheels and Tires
- General Bicycle Maintenance

Lubrication

1. **Chain:** The drive chain has many moving parts and should be lubricated often. Remove excess dirt or grime and use a quality chain lube regularly. Wipe excess lube from the chain. Do not get any lube on the rims, as this will prohibit proper brake function.
2. **Derailleur and Brake Cables:** It's important that you periodically lubricate cables to ensure proper brake and shifter actuation. Your K2 Bike is equipped with slotted cable stops that allow you to remove cable housing from the frame. Slide the housings along the cable wire and lubricate the portions of cables that are normally located within the housing.
3. **Brake and Derailleur Pivots:** Every month you should put a few drops of lubricant on the brake and derailleur pivots. Be careful not to get any oil on the brake pads or rims. Wipe off excess oil before riding.

4. **Wheel, Crank, and Headset Bearings:** Once a year you should have your dealer inspect, lubricate, and adjust your bike. If you ride many miles, or frequently ride in off road or muddy conditions, have your bike checked more often.

Brakes



Brake Lever Adjustment

The brakes on your new K2 Bike should have been completely adjusted by your dealer when new. Due to cable stretch and pad wear during use, the brakes should be adjusted periodically. Don't wait until the hand levers bottom out on the handlebars. **It is safest to take your bike to an Authorized K2 Bike dealer for brake adjustment. Your authorized dealer has the training, experience, and proper tools to do the job. The following instructions are provided for the owners having sufficient knowledge and proper tools to do the job.**

1. Loosen the barrel adjusting locknut and turn the adjuster counter clockwise until the brake pads are approximately 1.5 mm from the rim surface. Then tighten the adjusting barrel locknut to keep the adjuster in place.
2. If the adjuster is unscrewed all the way and you still have more than 1.5 mm of pad-to-rim clearance, turn the adjusting barrel clockwise all the way back into the holder. Loosen the cable anchor nut and hold the brake pads against the rim. Pull the cable through the anchor nut with pliers and retighten the cable anchor nut.
3. Loosen the brake pad fixing bolt and adjust the pad toe in so that the rear of the pad is spaced 3 mm from the rim surface while the front of the pad has 1 mm of rim clearance. Retighten the pad fixing bolt

Some bicycles are provided with an adjustment for lever reach. By turning the lever adjustment screw clockwise, the levers can be adjusted closer to the handlebars for riders with smaller hands. Barrel adjusters are also provided to compensate for cable stretch. As the brake pads wear, the hand lever will get closer and closer to the bar before applying the brakes. Turn the barrel adjuster counter clockwise to compensate. When you have achieved the correct cable tension, tighten the barrel adjuster lock nut with your thumb and forefinger.

CAUTION: If your brakes are not working properly, do not ride your bicycle. If you are at all unsure of how to adjust your brakes, Girvin strongly recommends that you take your bike to an authorized K2 Bike dealer for service. Improperly adjusted brakes can be extremely dangerous, and can result in failure during use and severe injuries.

Drive System



Drive System Adjustment

It may be necessary to adjust shifters to compensate for cable stretch. We suggest that all adjustments be made by your K2 Bike Dealer or other qualified technician. There are small adjustments, however, that can be made by the consumer to improve the shifting of your bicycle. The following easy steps show you how to make small adjustments to your bicycle's shifting system.

1. Shift your bicycle into the smallest cog in the back (hardest gear) and into the middle chainring in the front.
2. Shift into the next bigger cog in the back gears with the shifter and, while holding the rear wheel off the ground, pedal the bicycle.
3. If the bike does not shift into the next gear, or hesitates and makes a lot of noise, you will need to tighten the gear cable. Move to step #4. If the chain moves up to the next gear without hesitation, your gears are fine.
4. When looking at the back of the bicycle, you will see a barrel adjuster on the back of the rear derailleur. To tighten the gear cable, turn the barrel adjuster counterclockwise 1/4 turn. Do not turn the adjuster more than 1/4 turn.
5. Repeat Steps #1 through #4 until the bike shifts well. If this adjustment doesn't solve the problem, take your bike to an authorized dealer for service.

Wheels and Tires

Other than proper inflation, your wheels and tires need occasional maintenance. Inspect the wheel for straightness and for any dents or cracks in the rim. In addition:

1. Check wheels and spokes for tightness each week. If any spokes are not tight or tend to rattle, you should have the spokes tensioned and the wheel aligned at your dealer.
2. If you notice looseness when you move the wheel from side to side, have the wheel bearings adjusted by your dealer.
3. Clean the braking surface on the sides of the rims regularly to ensure good brake performance.
4. Check your tire pressure before every ride. Maintain pressure at the recommended level printed on the tire side wall.

General Bicycle Maintenance Schedule

Required Inspection/Service	Every Ride	Weekly	Monthly	Yearly
Check quick release/wheel attachment	4			
Check tire inflation	4			
Check wheel straightness	4			
Check brake function	4			
Check shifting system	4			
Retighten all bolts	4			
Clean bicycle frame/components		4		
Check for loose spokes		4		
Inspect and lubricate chain		4		
Inspect and lubricate derailleurs		4		
Check tires for wear			4	
Inspect and lubricate hand brake levers			4	
Inspect and lubricate brake pivots			4	
Inspect and tighten crankset			4	
Clean, inspect, and lubricate pedals			4	
Inspect reflectors			4	
Regrease wheel bearings				4
Regrease headset bearings				4
Lubricate seatpost				4

D

K2 BIKE SPECIFIC INFORMATION

SUSPENSION TUNING

In this section:

- Tuning Variables
- Tuning Adjustments
- Smart Shock

In this section you will learn how to set up properly your K2 Bike suspension. Our bicycles are designed to offer wide adjustability for many different riders. It may be necessary to purchase different springs in order to tune your K2 Bike. We offer a wide variety of coil springs for this purpose.

This section provides guidelines for tuning your K2 Bike rear suspension and also briefly discusses Noleen front suspension set up. For a more complete guide to front suspension tuning, please refer to your **Noleen Cross-Link or Noleen Chubby Owner's Manual**.

Tuning Variables

All riders are different. Therefore, bicycle suspension needs to be able to adjust to the different needs and desires of many different riders. The following variables or factors should be considered when adjusting the suspension of a K2 Bike:

Rider Weight

Smaller bicycles are assumed to be ridden by lighter riders and are supplied with softer suspensions than larger bikes. If your are tall and slim or short and stocky, you may wish to install softer or stiffer springs.

Type of Riding

A bicycle used for high-performance off-road riding should have stiffer suspension than one intended for recreational road use. The severe impacts and high speeds of serious off-road riding demand stiffer springs, while more casual riding is more comfortable with softer springs. In general, the bike should be set up to maximize the use of full suspension travel in the conditions to be encountered.

Personal Preference

New suspension riders often prefer stiffer suspensions that feel more like a rigid bikes. However, suspension works best when a rider adapts his style fully to use the suspension. A spring that feels soft at first may be exactly what you want after a week of riding.

Tuning Adjustments

Once you have an understanding of the variables affecting suspension tuning, you can now move on to actually adjusting your suspension to fit your needs. The Tuning Adjustments of your K2 Bike suspension are:

Spring Rate

Spring Rate is the amount of load required to compress a coil spring one inch. We suggest different spring rates for our bikes and forks because different riders place different loads on bicycles. The provided spring rate charts are suggested spring rates according to rider weight. Keep in mind these charts are only suggestions.

Spring selection is also affected greatly by rider preference. More aggressive riders may desire their springs to be stiffer, while a more recreationally oriented rider may like a softer ride with softer springs. Experimentation with a couple different spring rates may be necessary to find the correct set up.

Consult the tables on the following page to select the spring set that's best for you. Remember, these are recommendations. You may wish to try stiffer or softer springs than recommended due to the terrain you ride, your riding style, and personal preference.

Noleen Forks	Cross-Link	Chubby	Chubby LT
up to 140 [1]	175 [2]	3 Blue, 3 Tan	4 Blue, 4 Tan
130-170	200	1 Blue, 5 Tan	2 Blue, 6 Tan
160-200	200	6 Tan	8 Tan
190-230	225	5 Tan, 1 Pink	7 Tan, 1 Pink
over 230	250	4 Tan, 2 Pink	6 Tan, 2 Pink
Spring Type	NB2L-x-x [3]	MCU [4]	MCU

K2 Bike Rear	5500C, 4500C, 5000, 4000	3000, 2000 1000	Animal, Beast Animal DH [4]
up to 140	400	200	550
130-170	500	250	600
160-200	550	300	650
190-230	600	350	700
over 230	650	400	750
Spring Type	NB175 -x-x	NB2-x-x	NB175-x-x or NB2-x-x

Spring rate has an effect on damping. The higher the spring rate, the more damping will be required to control the motion of the shock. This is why lighter riders feel their shocks may be overdamped while heavier riders may not perceive enough damping. See the notes on **Rebound Damping and Compression Damping** below for a further explanation.

Changing Coil Springs



Rear Shock Removal

CAUTION: Girvin strongly recommends that your K2 Bike be disassembled and adjusted by your authorized K2 Bike dealer. Your authorized K2 Bike dealer possesses the proper training and tools to service your bicycle. Improperly assembled or adjusted bicycles can be extremely dangerous, and can result in failure during use and severe injuries. These instructions are provided for owners having sufficient knowledge and the proper tools to do the job.



Shock Spring Removal

You may need to change the coil springs on your K2 Bike in order to tune your suspension properly. We suggest this be done by your local K2 Bike dealer or other qualified technician, but if you would like to change the springs on your own, follow these instructions:

1. Remove the rear wheel from the bike.
2. Remove the upper shock bolt where the shock attaches to the frame and also the lower one or two bolts holding the shock or shock strut to the swing arm.
3. Loosen preload collar from the spring by turning both preload adjuster collar and spring simultaneously and remove preload collar completely or loosen preload collar enough to remove lower spring clip.
4. Remove spring and replace with desired spring. Make sure that the spring is the correct length for the shock. Make sure to preload the spring with at least 1-2mm of preload.
5. Reinstall the shock on the frame and torque all shock mount bolts to 150 in-lbs.

Once you have selected the correct spring for you, you will need to set up your suspension with the proper amount of **suspension sag**. **Suspension sag is the amount a shock compresses under the weight of the rider.** All suspension systems should exhibit some amount of suspension sag. Girvin bikes and forks should all be set up properly with a certain amount of sag. **The optimum sag amount for all of our rear and front suspension systems is 20% of the total shock shaft stroke, or 20% of the total wheel travel.** For example:

Our Cross-Link forks have a total shock shaft travel of 52mm which yields a total wheel travel of 76mm. To calculate the **optimum sag** for this fork, multiply 52mm by .2. The answer gives you a suggested sag , which for the Cross-Link is 10mm at the shock, or 15mm at the wheel. We suggest that you measure the amount of sag at the shock instead of the wheel.

See the next section on Preload to adjust the amount of sag. The suggested suspension sag amounts for our bikes and forks are as follows:

Frame (Rear shock) / Fork (Front shock)	Total Wheel Travel	Sag at Shock
Carbon Frame (5500C, 4500C)	100mm	8mm
2-Tube frame (5000, 4000)	100mm	8mm
Extreme Frame (Animal, Beast)	125mm	8mm
World Cup Frame (3000, 2000, 1000)	90mm	10mm
Downhill Frame (Animal DH)	150mm	10mm
Cross-Link (All models)	76mm	10mm
Chubby	100mm	20mm
Chubby LT	125mm	25mm



Measuring Optimum Suspension Sag

Preload

Preload is the amount of load placed on a spring to increase the spring rate in the initial part of the travel. All of our shocks feature adjustable preload. **Preload is used to achieve the proper amount of suspension sag for your bike or fork. Remember: You must first start with the proper spring rate in order to get the correct amount of sag.**

Preload is governed by a few guidelines:

1. **All springs should be preloaded at least 1-2mm in order to hold the spring in place firmly**.
2. **The correct amount of preload can only be achieved with the proper suggested spring rate**. See the spring rate charts to find the correct spring for your weight.
3. **Never increase the preload on a spring past 5 full turns of the preload adjuster**. If you have tightened the preload adjuster over five full turns and are still getting too much sag, move up to the next spring rate.



Setting Spring Preload

Spring Preload Adjustment

1. Tighten preload adjuster until the spring is held firmly (1 - 2mm) and **measure the distance between the preload adjuster and the bottom containment washer**.
2. Position the bicycle beside a wall and get on. Place your fingers lightly on the wall to steady yourself, and put your feet on the pedals and sit on the seat. Have a friend **re-measure the new distance between these two points**. **Subtract the seated measurement from the unseated measurement to find the amount of sag**. **Refer to the Suspension Sag chart** for the proper amount of sag for your bike or fork.
3. **If the bike compresses under the rider more than recommended, tighten the preload a bit at a time and re-measure the compression until you hit the right amount. If the bike is compressing less than recommended, loosen the preload to get the right amount of sag**.
4. **If the preload is at full loose and the bike still won't compress enough, you probably need softer springs. If you have preloaded the spring more than five full turns, try stiffer springs**.



Adjusting Damping

Damping

Damping is the action of controlling shock shaft speed. The rate at which a spring compresses and extends can be controlled by a number of ways. Our Noleen Shocks use hydraulics to control the motion of our shocks. There are two types of damping: **rebound** and **compression**.

The first type of damping that effects shock performance is **rebound damping**. Rebound damping controls the rate at which the spring extends back to its optimum sag length. If the spring extends too quickly, the suspension will exhibit a "bouncy" or "overly lively" feel. Too much rebound damping will cause the shock to feel "dead" or "unresponsive". The chart below provides guidelines to adjusting your shock damping.

The second type of damping is **compression damping.** Compression damping assists the spring to control the rate of shock compression. Adjusting the compression damping will make the shock feel essentially harder or softer. Compression damping becomes more important as suspension travel increases and as shock shaft speed increases. Refer to the chart below to see when more or less compression damping is preferred.

Rider Variables	Rebound Damping	Compression Damping
Lighter Riders	need less	need less
Heavier Riders	need more	need more
Aggressive Riders	need more	need more
Recreational riders	need less	need less
many small bumps	need less	need less
big hits and bumps	need more	need more
Cross Country riding	need less	need less
Downhill riding	need more	need more

The damping action that a rider is looking for is a **controlled suspension action**. This controlled feeling may vary according to rider preference, terrain, and may other factors. **Experimenting with different levels of damping helps a rider "dial in" their preferred level of suspension damping**. With shocks that have adjustable damping, like the Noleen NR-2 and NR-4, riders should try riding with the damping dials at the full off position and the full on position. The desired adjustment will probably fall somewhere in between, ending up closer to the full on position.

Noleen shocks can also be "revalved" or "customized" to suit a particular rider's needs. This work should only be completed Noleen or by another authorized Noleen Service Center. Do not attempt to work on the internals of any shock.

Noleen shocks may only be serviced by Noleen or by an authorized Noleen Service Center. Service that is performed by anyone other than Noleen or an Authorized Service Center can damage the shock and result in failure during use and severe injury.

Noleen shocks are pressurized with 200 psi of nitrogen. Attempting to disassemble a charged shock is extremely dangerous and can result in serious injury.

Smart Shock

If your K2 Bike is equipped with an NR-5 Smart Shock, then read on. If you have not read the **Suspension Tuning: Damping** section yet, please do so now. The damping section will provide you with an understanding of the concepts of shock damping, and specifically, **compression damping**. The Smart Shock system is **an electronic compression damping adjuster which automatically adjusts for more or less compression damping according to shock shaft speed and main piston location**.

If your K2 Bike model is equipped with Smart Shock technology, you will probably want to run the mode setting on "Smart" mode most of the time. Smart mode optimizes shock action for ever-changing off-road conditions. In a few cases, the stiff or soft settings may be desirable. For instance, on a long, smooth climb, the stiff setting will reduce suspension motion if desired.

When you stop to take a break, Smart Shock automatically switches to "sleep" mode to save energy. Standard 9-volt batteries power the system, yielding about eight hours of use per charge. Rechargeable batteries are recommended. **If the batteries should get used up during the ride, the shock will not cease to function. The Smart Shock will simply revert to a base line compression damping setting that delivers the same high standard of performance Noleen Shock users have come to expect**.

D

K2 BIKE SPECIFIC MAINTENANCE

- Tools Needed
- Main Pivot
- Maintenance Schedule
- Torque and Lubrication Table
- Service Kits



Pivot Adjustment

Tools Needed:

- 5 and 6mm Hex Wrench
- K2 Goo (or other Teflon-fortified grease)
- In-lb Torque Wrench with 5 and 6mm hex bits
- Thread-locking compound - Loctite Blue #242

Main Pivot Maintenance

The K2 Bike pivot is designed to be easily maintained. The main pivot bolt torque and swingarm pinch bolt tension should be checked each month We also recommend yearly disassembly and regreasing for maximum performance and durability. Refer to **K2 Bike Maintenance: Service Tables** for all torque and lubrication specifications.

Pivot Adjustment

1. Remove the rear wheel.
2. Remove the bolts that attach the shock or strut/shock to the swingarm and disconnect the strut.
3. Loosen each swingarm pinch bolt one turn. Lift the swingarm as high as possible without hitting the frame, then let it fall. (Don't let swingarm fall into front derailleur). The swingarm should drop with no resistance.
4. Now gradually tighten both pinch bolts individually until the swingarm falls slowly through its arc under its own weight. Both bolts should have roughly the same torque.
5. Reinstall the shock or strut/shock pivot bolts and the rear wheel. See Service Tables for torque specs.

NOTE: Do not overtighten the pinch bolts as this can cause damage and premature wear to the pivot assembly.

Pivot Lubrication

1. Remove the rear wheel and the shock or strut/shock.
2. Loosen the two swingarm pinch bolts.



Pivot Lubrication

3. Loosen and unscrew the main pivot bolt six or seven turns. Tap on the head of the bolt with a plastic hammer to push out the left hand pivot axle.
4. Remove the pivot axle bolt and thread it into the left hand pivot axle. Use the bolt to pull the axle out.
5. Gently tap the right-hand pivot axle out from the inside with a socket head driver or small tap.
6. Remove the swingarm from the pivot, taking care not to lose the four quad rings.
7. Thoroughly clean all parts and inspect for wear or damage. Replace parts as necessary.
8. Liberally grease all nylon bearings and quad rings with K2 Goo or other waterproof, Teflon-fortified grease.
9. Place quad rings back into recessed grooves on inside and outside of each swingarm knuckle.
10. Reinstall swingarm and pivot axles. Torque main pivot bolt to 175 in-lbs. Make sure that pivot axles are pressing into the main pivot hole.
11. See the previous notes on **Main Pivot Adjustment**.

K2 Bike Maintenance Schedule

Required Inspection/Service	Every Ride	Weekly	Monthly	Yearly
Check torque on all bolts	4			
Check shock function	4			
Clean bicycle frame / component / shocks		4		
Adjust spring preload setting			4	
Adjust swingarm pinch bolts			4	
Lubricate fork (see Noleen Fork Manual)			4	
Inspect Frame / Swingarm for damage*			4	
Remove / regrease or reLoctite / retorque all bolts				4
Inspect / service shock				4
Inspect / Service all Nylon Bearings				4

* You should periodically inspect your K2 Bike frame and swingarm for damage from crashes and hard riding. You should clean and closely inspect the headtube area, bottom bracket area, and all front and rear suspension parts.

Torque and Lubrication Table

These tables are provided as a reference for qualified technicians to service all K2 Bikes.

Product	Part Name / Location	Size / Description	Torque (in-lbs)	Lubrication	Loctite
5500C, 4500C,	Main pivot screw	M8 x 1.25 x 65 SHCS	175	Yes	Blue
5000, 4000,	Swingarm pinch	M6 x 1 x 20 SHCS	varies	Yes	Blue
3000, 2000, 1000	Brake pivot (1000-3000)	M10	60	No	Red
Animal, Beast,	Brake pivot (all other bikes)	M8	60	No	Red
Animal DH,	Upper shock	M6 x 1 x 45 BHCS	150	Yes	Blue
Lite Tech LT450	Lower shock (most bikes)	M6 x 1 x 38 SHCS	150	Yes	Blue
	Lower shock (3000., 2000, 1000)	M6 x 1 x 20 SHCS	150	No	None
	Lower strut (3000, 2000, 1000)	M6 x 1 x 23 BHCS	60	Yes	Blue
	Derailleur hanger	M4 x 8 FHCS	20	Yes	Blue
	Bottle boss	M5 x .8 x 15 SHCS	60	Yes	None

Service Kits

The following Replacement / Service Kits are available from your K2 Bike / Noleen Authorized Dealer. They are intended for use by your K2 Bike / Noleen dealer or other qualified mechanic possesing the proper training and tools.

K2 Bike 1000, 2000, 3000 (also 857-style) Bearing / Seal Kit	Replaces all bearings and seals	RK001
K2 Bike 5500C - 4000 (Most bikes) Bearing / Seal Kit	Replaces all bearings and seals	RK008
Cross-Link Seal Kit (all models)	Replaces all clear pivot seals and other parts	RK004
Cross-Link Bearing Kit	Replaces all link bearings	RK006
Chubby Seal Kit (Chubby and Chubby LT)	Replaces all Chubby seals	RK007