2000 OWNER'S MANUAL ADDENDUM

FULL-SUSPENSION BICYCLES

FOR MODELS:

RAZORBACK RSL
RAZORBACK RS
RAZORBACK RSX
EVO 4.0
EVO 3.0
EVO 2.0
DISCO MONKEY
ATTACK 3.0
ATTACK 2.0

K2 BIKE • 19215 VASHON HWY. SW • VASHON, WA 98070 USA

INTRODUCTION

Congratulations and thank you for purchasing a K2 Bike. This bicycle is designed to provide many years of performance and enjoyment. The following information is provided as an addendum to your 2000 K2 Bike Owner's Manual and is designed to be used in conjunction with the K2 Bike Manual.

This addendum provides information for the following 2000 K2 Bike models:

- **Razorback RSL, Razorback RS, Razorback RSX**
- **EVO 4.0, EVO 3.0, Disco Monkey, EVO 2.0**
- **Attack 3.0, Attack 2.0**

GENERAL INFORMATION

In this section:

- **Read this Manual!**
- **Precautions**

Please refer to your K2 Bike Owner's Manual for complete instructions on using and servicing your new K2 Bike.

NOTE: K2 Bike strongly recommends that you read and understand completely the information contained in the K2 Bike Owner's Manual as well as the information contained in this addendum. Failure to read and understand the information contained in these two manuals can be extremely dangerous, and can result in problems during use and severe injury.

CAUTION: K2 Bike strongly recommends that your bike be serviced by a K2 Bike dealer or other qualified technician. These instructions are for a qualified installer who possesses proper training and tools. Improperly assembled bikes can be extremely dangerous, and can result in failure during use and severe injury.

RAZORBACK RS SUSPENSION TUNING

In this section:

- **Air Pressure Tuning**
- **Spring Chart**
- **Suspension Sag**
- **Rebound Damping**

This section provides guidelines for tuning your K2 Bike rear suspension.. Please refer to your **Front Suspension Fork Owner's Manual** for complete suspension fork tuning information.

For a complete discussion about the **Tuning Variables and Tuning Adjustments** involved in bicycle suspension Please refer to you **K2 Bicycle Owner's Manua**l. This addendum discusses the basic tuning guidelines for the bicycles only.

The Razorback RS comes equipped with the new **Noleen Mega Air Pull Shock**. This shock provides 1.5in / 38mm of shock stroke resulting in 2.7in / 69mm of travel at the rear wheel. The shock is air sprung and oil damped. The spring rate of the fork is adjusted by changing the internal pressure of the shock. The pressure can be changed by using a high-pressure shock pump, such as the **Noleen Mega Air 300psi Shock Pump**.



Pressurizing the Mega Air Pull Shock

Air Pressure Tuning

Tuning selection is affected greatly by rider preference. More aggressive riders may desire their shocks to be stiffer, while a more recreationally oriented rider may like a softer ride with softer shock setting. Experimentation with a couple different stiffnesses may be necessary to find the correct set up.

Consult the following tables to select the air pressure that's best for you. Remember, these are recommendations. You may wish to try a stiffer or softer setting than recommended due to the terrain you ride, your riding style, and personal preference. Air pressure in the Mega Air rear shock is determined by subtracting a certain amount from your body weight. Please refer to the chart below for the correct shock pressure.

Spring Chart - Razorback RS (all models)

Frame Size	Pressure (PSI)
Small	Body weight in lbs. minus 25-30 lbs
Medium	Body weight in lbs. minus 25-30 lbs
Large	Body weight in lbs. minus 35-40 lbs
Way-Big	Body weight in lbs. minus 35-40 lbs

For example: A 185lb rider on a large frame should pressurize the Mega Air rear shock to 145 - 150 psi.

Suspension Sag setting

Suspension sag is the amount your suspension compresses under your body weight. To increase or decrease the amount of suspension sag, increase or decrease the amount of pressure in the shock. Please refer to the **K2 Bike Owner's Manual** for a more in depth discussion of suspension sag. You should measure sag at the shock by measuring the length of the exposed shock shaft when the shock compresses. The proper amount of suspension sag on a Razorback RS is:

Attack - Proper sag 5mm (at the shock)

Damping Adjustment



Adjusting Rebound Damping

The Noleen Mega Air Pull shock features **externally adjustable rebound damping** and an **externally operated lockout mechanism** that is turned on or off via a handlebar mounted lever. Please refer to your **K2 Bike Owner's Manual** for the complete discussion about rebound and compression damping.

Adjusting Rebound Damping

The rebound adjuster is a round dial on the end of the shock that adjusts the rate at which the shock extends fully. The rebound should be adjusted so that the shock extends quickly after compression to prepare the suspension for the next bump, but not too quickly. The shock should not "top out' or extend to quickly or harshly. Try different settings to find the right setting for your preferences.

We suggest that most riders run the rebound damping settings set to 1 to 5 clicks out from fully closed. The heavier the rider, the more rebound damping needed. Lighter riders will need less.

Using the Remote Lockout Mechanism



Lockout lever in open / unlocked position

Your Mega Air Pull-Shock features a remote lockout mechanism that locks out the rear suspension by dramatically increasing the shock's compression damping with the flip of a handlebar-mounted lever. When the shock is locked out, the rear suspension will not compress under normal seated or standing pedaling, but will compress if the rear wheel encounters a big hit. This "blow off" feature allows the rear suspension to still activate under a very high load, and also adds to the longevity of the shock and shock seals.

The lockout lever is a three position thumb shifter, but only two positions can be used with the shock. Setting your lockout lever up as shown in the illustrations will provide the best performance. The lever should be in the full open position and the lockout switch on the shock should be in the full open position when the cable is installed. The cable should be set so that there is no slack in the line. The lockout switch on the shock must be in the full lockout position in order for the lockout feature to function properly. If the lockout mechanism does not seem to function properly, reset the cable tension. The cable holding screw in the switch should be tightened to 20 in-lbs.



Lockout switch in open / unlocked position



Lockout lever in closed / locked position



Lockout switch in closed / locked position

RAZORBACK RS PIVOT

In this section:

- **Pivot Assembly / Adjustment**
- **Pivot Disassembly**
- **Pivot Maintenance**

Pivot Maintenance

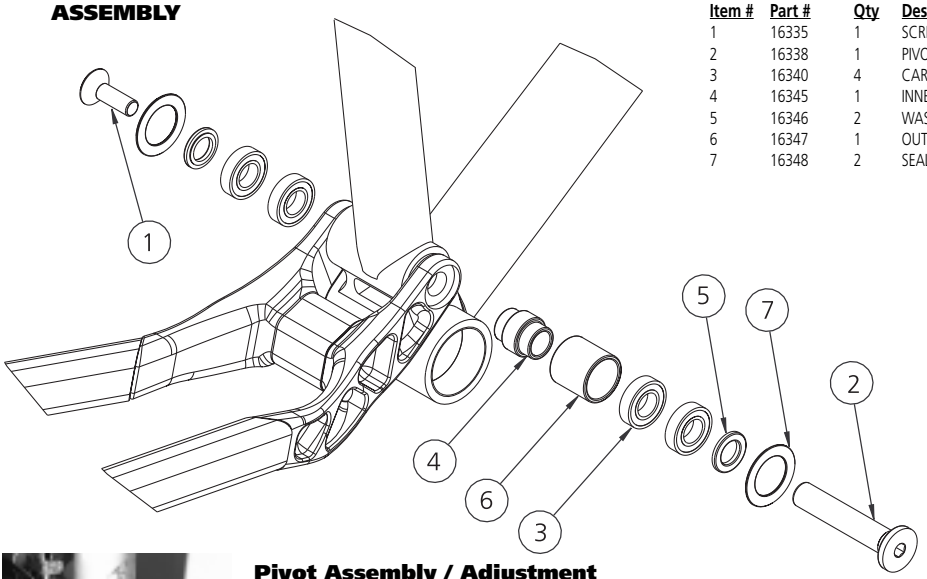
The new pivot on the Razorback RS frame is designed to be very durable and easy to maintain. The pre-lubricated bearings should not need to be regreased. The main service that is needed is to replace the bearings and main pivot axle when they wear. Follow the instructions for **Pivot Disassembly** and **Pivot Assembly** to replace the bearings and washers.

Pivot Disassembly

To disassemble the Razorback RS main pivot:

1. Loosen the main pivot bolt on and press the main pivot axle out of the frame. You may need to use a wooden dowel or a small socket and a soft mallet to help press the axle out.
2. Remove the swingarm from the pivot.
3. Press the bearings out of the frame with a large socket or a similarly sized dowel. Take care not to damage the frame in any way.

RAZORBACK RS MAIN PIVOT ASSEMBLY



Item #	Part #	Qty	Description
1	16335	1	SCREW, M8 X 1.25 X 20 FHCS
2	16338	1	PIVOT AXLE
3	16340	4	CARTRIDGE BEARING, 6901LU
4	16345	1	INNER SPACER, PIVOT BEARING
5	16346	2	WASHER, ALUMINIUM OUTER
6	16347	1	OUTER SPACER, PIVOT BEARING
7	16348	2	SEAL WASHER



Removing pivot axle



Removing swingarm and washers



Pivot parts removed

Pivot Assembly / Adjustment

The cartridge bearing pivot on the Razorback RS frame is designed to be easy to assemble, adjust and maintain. The following steps will show you how to assemble and disassemble the new pivot.

To assemble and adjust the Razorback RS Frame main pivot:

1. Lightly grease the inside of the pivot bore in the frame with K2 Goo or another quality waterproof grease.
2. Press the 4 bearings (#3) and bearing spacers (#4 and #6) into the pivot bore in the order shown. It will be easier to press each bearing into the bore from either side of the frame. The outer bearings should recess slightly on either side of the bore.
3. Apply a liberal amount of grease to the outside of the bearings and pivot bore. Press the seal washers (#7) onto the aluminium washers (#5) and press the two washers into the grease on the pivot. Make sure that the beveled side is facing the bearings. The grease will help hold the washers in place when installing the swingarm.
4. Install the swingarm/chainstay onto the frame, aligning the holes in the swingarm with the main pivot bore.
5. Press the main pivot axle (#2) into the frame and swingarm from the non-drive side of the bike. Install the flathead pivot bolt into the axle and tighten to 120 in-lbs. Tightening the main pivot bolt is the only adjustment that needs to be done to the Razorback RS pivot.

Main Pivot Maintenance Schedule

Required Inspection/Service	Every Ride	Weekly	Monthly	Yearly
Check pivot tightness	✔			
Retighten all bolts	✔			
Clean bicycle frame/components		✔		
Check pivot for smooth movement			✔	
Inspect pivot parts and replace parts as needed				✔

EVO FRAME SUSPENSION TUNING

In this section:

- **Air Pressure Tuning**
- **Spring Chart**
- **Suspension Sag**
- **Rebound Damping**

This section provides guidelines for tuning your K2 Bike rear suspension.. Please refer to your **Front Suspension Fork Owner's Manual** for complete suspension fork tuning information.

For a complete discussion about the **Tuning Variables and Tuning Adjustments** involved in bicycle suspension Please refer to you **K2 Bicycle Owner's Manua**l. This addendum discusses the basic tuning guidelines for the bicycles only.

The EVO frames come equipped with **Noleen NR2 rear shocks**. This shock provides 48.5mm / 1.9in of shock stroke resulting in 4.7in / 120mm of travel at the rear wheel. The shock is coil sprung and oil damped. The spring rate of the shock is adjusted by changing the entire coil spring on the shock.

Spring Rates

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

Consult the following table to select the spring rate 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.



Measuring Sag

Spring Chart - EVO (all models)

Rider Weight (lbs)	Rider Weight (kg)	Spring Rate	Spring Type
up to 140	50 - 63.6	450 (Small)	NB2 (2 inch / 52mm stroke)
130 - 170	59 - 77.3	500	NB2
160 - 200	73 - 91	550 (Med)	NB2
190 - 230	86.5 - 104.5	600 (Large)	NB2
over 230	105 +	650 (Way-Big)	NB2



Adjusting Preload

Suspension Sag setting and Preload adjustment

Suspension sag is the amount your suspension compresses under your body weight. To adjust the amount of suspension sag, you can adjust the amount of preload on the spring. Please refer to the **K2 Bike Owner's Manual** for a more in depth discussion of suspension sag. You should measure sag at the shock by measuring the length of the spring with no rider weight and again with a rider on the bike. The difference in these two amounts, or the proper amount of suspension sag on a K2 EVO frame is:

EVO - Proper sag 10mm (at the shock)

NOTE: Do not put more than 5mm of preload on any coil spring. 5mm of preload is approximately 5 full turns of the preload adjuster. More than 5mm of preload can cause the spring to fatigue and result in failure during use and severe injury.



Adjusting Rebound Damping

Damping Adjustment

The Noleen NR2 features **externally adjustable rebound damping**. Please refer to your **K2 Bike Owner's Manual** for the complete discussion about rebound and compression damping.

Adjusting Rebound Damping

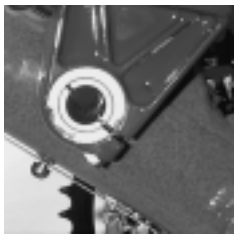
The rebound adjuster is a round dial on one end of the shock that adjusts the rate at which the shock extends fully. The rebound should be adjusted so that the shock extends quickly after compression to prepare the suspension for the next bump, but not too quickly. The shock should not "top out' or extend to quickly or harshly. Try different settings to find the right setting for your preferences.

We suggest that most riders run the rebound damping settings set to 1 to 5 clicks out from fully closed. The heavier the rider, the more rebound damping needed. Lighter riders will need less.

EVO FRAME MAIN PIVOT

In this section:

- **Pivot Adjustment**
- **Pivot Assembly**
- **Pivot Disassembly**
- **Pivot Maintenance**



The EVO Main Pivot



Removing pivot axle



Removing swingarm



Assembling the Pivot

Pivot Adjustment

The only adjustment to the main pivot on the EVO frame is side-play adjustment. This adjustment is simple and is done with the white plastic tool included with the bike. It is not necessary to readjust the main pivot every time that you ride. Adjust the pivot only when you notice some side to side play in the swingarm of the bike.

To adjust the main pivot on the EVO frame:

1. After the pivot is assembled (see **Pivot Assembly**), tighten the drive side swingarm pinch bolt to 120in-lbs.
2. Insert the white endplay adjustment tool into the non-drive side of the pivot. Place the washer onto the provided screw and hand tighten the assembly.
3. Tighten the screw on the tool to **10 in-lbs** to tighten the swingarm, **DO NOT OVERTIGHTEN THE SCREW ON THE ENDPLAY TOOL!**

NOTE: Do not overtighten the endplay adjustment tool when adjusting the main pivot. The plastic tool may break if overtightened and proper pivot adjustment will not occur.

4. After tightening the endplay tool, tighten the non-drive side swingarm pinch bolt to 120 in-lbs. Remove the endplay tool.
5. Check the swingarm for looseness by moving it side to side. If the swingarm is loose, repeat the above procedure.

Pivot Disassembly

To disassemble the EVO Frame main pivot:

1. Loosen the two pivot pinch bolts on the swingarm and press the main pivot axle out of the frame. You may need to use a wooden dowel or a small socket to help press the axle out.
2. Remove the swingarm from the pivot.
3. Remove the pivot inserts from the needle bearings by prying the insert away from the frame. Use care not to damage the frame.
4. Press the needle bearings out of the frame with a 13 or 14mm socket or a similarly sized dowel. Take care not to damage the frame in any way. NOTE: The needle bearings should be replaced after removal. Damage can occur to the bearings when they are removed.

Pivot Assembly

The new Needle-Bearing Main Pivot on the EVO frame is designed to be easy to assemble, adjust and maintain. The following steps will show you how to assemble and disassemble the new pivot.

To assemble the EVO Frame main pivot:

1. Lightly grease the inside of the pivot bore in the frame with K2 Goo or another quality waterproof grease.
2. Press the bearings (#3) and bearing spacer (#4) into the pivot bore in the order shown on the following page. It will be easier to press each bearing in to the bore from either side of the frame. **The bearings will extend out from the frame 1.5mm on either side.**
3. Press the Pivot Inserts (#6) onto the extended bearings. The bearing edge should now sit flush with the Pivot Insert. Make sure that the pivot insert is installed with the beveled edge facing out.
4. Coat the Pivot Inserts with a waterproof grease and install the Thrust Bearings (#5) and the O-rings (#7) into the inserts. The grease will hold the Thrust Bearings and O-rings in place when you assemble the rest of the pivot.
5. Install the axle spacers (#2) into the swingarm.

6. Install the swingarm onto the frame, aligning the holes in the swingarm clamps with the main pivot bore.

7. Press the main pivot axle (#1) into the frame and swingarm until it is flush with the outer edge of the drive side swingarm pivot clamp. Follow the steps in **Pivot Adjustment** to finish main pivot assembly.

Pivot Maintenance

The new pivot on the EVO frame is designed to be very durable and easy to maintain. The pre-lubricated bearings should not need to be regreased. The main service that is needed is to replace the bearings and main pivot axle when they wear.

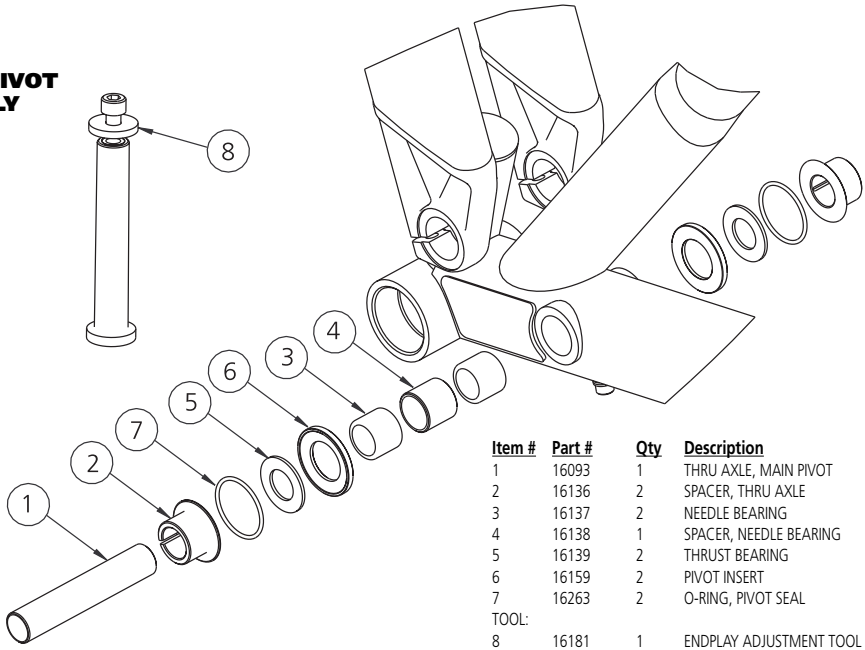
1. Loosen the two pivot pinch bolts on the swingarm and press the main pivot axle out of the frame. You may need to use a wooden dowel or a small socket to help press the axle out.

2. Remove the swingarm from the pivot.

3. Remove the pivot inserts from the needle bearings by prying the insert away from the frame. Use care not to damage the frame.

4. Press the needle bearings out of the frame with a 13 or 14mm socket or a similarly sized dowel. Take care not to damage the frame in any way. NOTE: The needle bearings should be discarded and replaced after removal. Damage can occur to the bearings when removed.

EVO MAIN PIVOT ASSEMBLY



Item #	Part #	Qty	Description
1	16093	1	THRU AXLE, MAIN PIVOT
2	16136	2	SPACER, THRU AXLE
3	16137	2	NEEDLE BEARING
4	16138	1	SPACER, NEEDLE BEARING
5	16139	2	THRUST BEARING
6	16159	2	PIVOT INSERT
7	16263	2	O-RING, PIVOT SEAL
TOOL:			
8	16181	1	ENDPLAY ADJUSTMENT TOOL

Main Pivot Maintenance Schedule

Required Inspection/Service	Every Ride	Weekly	Monthly	Yearly
Check pivot tightness	✔			
Retighten all bolts	✔			
Clean bicycle frame/components		✔		
Check pivot for smooth movement			✔	
Inspect pivot parts and replace parts as needed				✔

ATTACK FRAME SUSPENSION TUNING

In this section:

- **Spring Rate Tuning**
- **Spring Chart**
- **Suspension Sag**
- **Rebound Damping**

This section provides guidelines for tuning your K2 Bike rear suspension.. Please refer to your **Front Suspension Fork Owner's Manual** for complete suspension fork tuning information. For a complete discussion about the Tuning Variable and Tuning Adjustments involved in bicycle suspension Please refer to you **K2 Bicycle Owner's Manua**l. This addendum discusses the basic tuning guidelines for the bicycles only.

The Attack frames come equipped with **Noleen Sport Adjustable** and **Noleen Sport** shocks. This shock provides 38mm / 1.5in of shock stroke resulting in 3.5in / 90mm of travel at the rear wheel. The shock is coil sprung and oil damped. The spring rate of the shock is adjusted by changing the entire coil spring on the shock.

Spring Rates

Consult the following table to select the spring rate 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.

Spring Chart - Attack (all models)

Rider Weight (lbs)	Rider Weight (kg)	Spring Rate	Spring Type
up to 140	50 - 63.6	500 - 550 (Small)	NB2 or NB175
130 - 170	59 - 77.3	600 (Med)	NB2 or NB175
160 - 200	73 - 91	650 (Large)	NB2 or NB175
190 - 230	86.5 - 104.5	700 (Way-Big)	NB2 or NB175
over 230	105 +	750	NB2 or NB175

Suspension Sag setting and Preload adjustment

Suspension sag is the amount your suspension compresses under your body weight. Please refer to the **K2 Bike Owner's Manual** for a more in depth discussion of suspension sag. You should measure sag at the shock by measuring the length of the exposed shock shaft when the shock compresses. The difference in these two amounts, or the proper amount of suspension sag on a K2 Attack frame is:

Attack - Proper sag 8mm (at the shock)

NOTE: Do not put more than 5mm of preload on any coil spring. 5mm of preload is approximately 5 full turns of the preload adjuster. More than 5mm of preload can cause the spring to fatigue and result in failure during use and severe injury.

Damping Adjustment

The **Noleen Sport Adjustable** features **externally adjustable rebound damping**. Please refer to your **K2 Bike Owner's Manual** for the complete discussion about rebound and compression damping. The **Noleen Sport** shock does not have adjustable damping.

Adjusting Rebound Damping

See **EVO Frame Suspension Tuning**

ATTACK FRAME MAIN PIVOT

In this section:

- **Pivot Adjustment**
- **Pivot Assembly**
- **Pivot Disassembly**
- **Pivot Maintenance**

Pivot Maintenance

The new pivot on the Attack frame is designed to be very durable and easy to maintain. The main pivot on the Attack frame is the same as the main pivot on the Razorback RS frame. For Disassembly and Assembly instructions, see **Razorback RS Frame Pivot** section. Also, refer to the main pivot drawing for the Razorback RS to obtain the part numbers for the Attack main pivot parts.

Main Pivot Maintenance Schedule

Required Inspection/Service	Every Ride	Weekly	Monthly	Yearly
Check pivot tightness	✔			
Retighten all bolts	✔			
Clean bicycle frame/components		✔		
Check pivot for smooth movement			✔	
Inspect pivot parts and replace parts as needed				✔