Mega Air Fork Owner's Manual



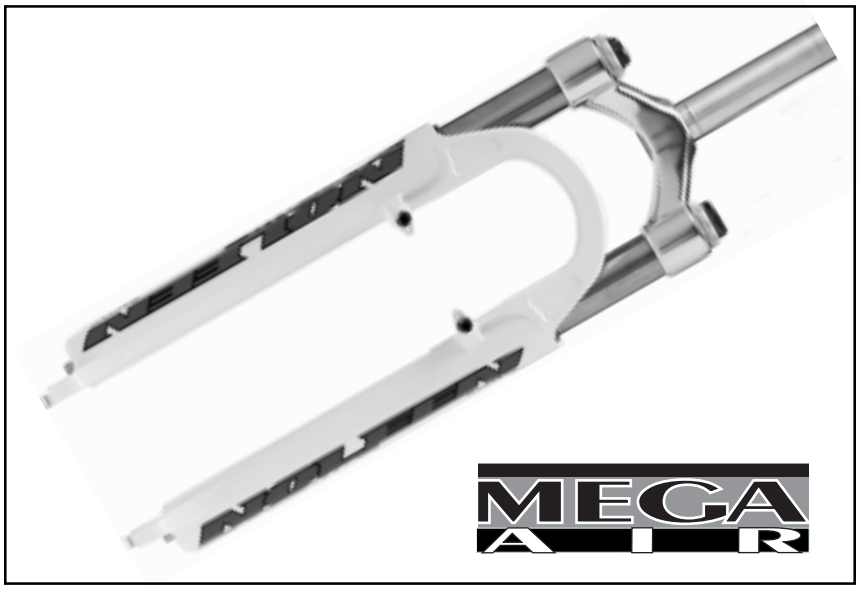
K2 BIKE / NOLEEN RACING • 19215 VASHON HWY. SW • VASHON, WA 98070

INTRODUCTION

Congratulations and thank you for purchasing the best performing air fork on the planet, the Noleen Mega Air™. Based on the stiffest and strongest base platform around, the Noleen Mega Air fork will provide you with years of great performance and durability. You'll be amazed at the ride of this fork!

The Noleen Mega Air fork - the stiffest and best performing air fork on the planet. Now yours to ride and enjoy.

THE NOLEEN MEGA AIR FORK



GENERAL INFORMATION

Note: The aftermarket Noleen Mega Air™ is available in a 28.6mm / 1 1/8" steerer that is 265mm long. For any other sizing questions, please contact your K2 Bike / Noleen Dealer.

In this section:

Please read this manual carefully. The following information includes important installation, adjustment and safety notes. If you have any further questions, please contact your nearest K2 / Noleen dealer.

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

CAUTION: K2 strongly recommends that your fork be installed by a K2 / Noleen dealer or other qualified technician. These instructions are for a qualified installer who possesses proper training and tools. Improperly installed forks can be extremely dangerous, and can result in failure during use and severe injury.

CAUTION: This Noleen Mega Air™ is a competition off road fork, and as such does not come with reflectors or lights for road use. Adapt proper reflectors and lights if bicycle will be used in low light conditions.

CAUTION: Installation of an incorrect length steerer tube could result in fork failure and severe injury. See your authorized K2 / Noleen dealer or other qualified technician to ensure proper installation.

CAUTION: In the event of a crash, there could be damage to your Noleen fork that may not be visible. Damaged forks can be extremely dangerous, and can result in failure during use and severe injuries. After a crash, take your fork to an authorized K2 /Noleen dealer or qualified technician to verify its integrity.

INSTALLATION

In this section:

- **Frame Preparation**
- **Fork Preparation / Installation**

Frame Preparation

Proper frame preparation will make installing your new Noleen fork easier and allow your fork to function properly.

NOTE : All Noleen suspension forks require the use of a threadless headset. If you do not have a threadless headset, you will need to install one before you install your new Noleen fork.

1. Remove the old stem and fork from your bicycle. If you are installing the Noleen fork on a new frame that has never had a fork installed, move on to the next step.
2. In order for the headset on your frame to function properly, the ends of the headtube should be perpendicular to the sides of the headtube. Some headtubes need to be "faced" in order to hold the headset cups properly. If you believe that your headtube needs to be faced, consult your local K2 Bike / Noleen dealer or other qualified bicycle dealer.
3. Lubricate the inside of the frame's headtube as well as the headset cups and press the upper and lower headset cups into your frame. Make sure that the headtube and headset cups are free of dirt and grime.

NOTE: Headset cups should be installed using a headset press. Do not substitute this tool for anything else. See your local Noleen dealer for assistance installing headset cups. Damage to the frame and/or headset can occur if not installed properly.



Installing Crown Race

Fork Preparation / Installation

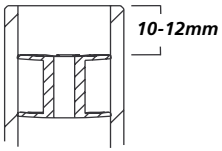
The Noleen Mega Air™ fork is a single-crown fork and does not require any disassembly for installation. Please follow the instructions below to install your Noleen Mega Air™ fork.

Step #1 - Install the crown race of the headset

1. Make sure that the crown race for your threadless headset will fit onto the crown race seat on the Mega Air™ fork steerer tube. The crown race should have an inside diameter of 30.0mm (1 1/8" Standard). The crown race should be slightly smaller than the crown race seat so that a press-fit is required to set the race firmly onto the fork.
2. Slide the crown race onto the steerer tube and install the race using a slide hammer or other race installation tool. Be very careful not to damage the race. If you do not have the proper tools to install the race, contact your local dealer.
3. Inspect the race and make sure that the bottom of the race sits flush with the crown race seat on the crown and that the race is firmly in place.

Step #3 - Install the fork.

1. Slide the steerer tube into the headtube of the bike and, while holding the rest of the fork with your hand, slide the upper cup or race of the headset onto the steerer.
2. Temporarily install the stem and decide if and where you should cut the steerer tube to shorten it.

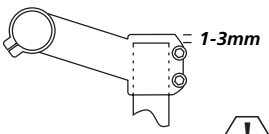


Proper Star-Fangled Nut Installation

NOTE: **If you will want to cut the steerer tube, make sure that you have enough room for your stem. DO NOT cut the steerer tube too short! REMEMBER: MEASURE TWICE, CUT ONCE!**

Step #4 - Install the star-fangled nut, stem, handlebar and brakes. That's it!

1. Install the star-fangled nut into top of steerer tube 10 - 12mm from the upper surface with star fangled nut installation tool, if it is not installed already. Do not attempt to install the star-fangled nut without the proper tool.
2. When installing your stem, the distance between the top edge of the stem clamp must extend above the top of the steerer tube 1-3mm. If the distance is incorrect, remove the stem and add or remove spacers on top of the upper triple clamp to achieve a 1-3mm distance.



Proper Stem Installation

CAUTION: Assembly with the top of the stem extending more than 3mm above the top of the steerer tube can result in fork failure during use and severe injury.

3. With the stem installed, insert the Aheadset cap and screw through the top of the stem and into the star-fangled nut. Use the threadless headset cap to adjust the headset as per the manufacturer's instructions. Remember: You will need to loosen all of the stem clamp bolts to adjust the headset.
4. Tighten the stem bolts to 90-120 in-lbs or refer to the stem manufacturer's torque specs for the stem. Install the handlebar and brake / shifter controls. Position as desired and tighten all bolts to manufacturer's torque specification.

SUSPENSION TUNING

In this section:

- **Tuning Variables**
- **Tuning Adjustments**

Tuning Variables

All riders are different. Therefore, bicycle suspension needs to be able to adjust to the different needs and desires of different riders. The following factors should be considered when adjusting the suspension of a Noleen fork:

Rider Weight

Lighter riders need to have a softer setup in order to take full advantage of the travel of the fork. Heavier riders need to set their forks up firmer to keep the fork from bottoming out. You may need to adjust the amount of pressure in your fork for your body weight. See **Suspension Variables: Spring Rate** for the correct pressure to use.

Type of Riding

A suspension fork 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 fork should be set up to maximize the use of 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 forks work best when a rider adapts their style to use the suspension fully. 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 Noleen Mega Air™ fork suspension are:

Spring Rate

The Spring Rate of a spring is the amount of load required to compress that spring one inch. We suggest different spring rates for our bikes and forks because different riders place different loads on bicycles. The Noleen Mega Air™ fork uses compressed air as a spring in the fork. This fork does not use coil springs to suspend the rider. Air pressure rated in pounds per square inch, or psi, (also rated in bars) determines the "spring rate" of the fork.

The correct air pressure in your Mega Air™ fork is also affected greatly by rider preference. More aggressive riders may desire their forks to be stiffer, while a more recreational oriented rider may like a softer ride with a lower air pressure. Experimentation with different air pressures may be necessary to find the correct set up.

Air pressure Selection Tables

Consult the tables below to select the air pressure that's best for you. Remember, these are recommendations. You may wish to try a higher or lower pressure than recommended due to the terrain you ride, riding style, and personal preference.

Rider Weight	Pressure (for right leg)
up to 140lbs / + 63.5 kg	45-50 psi / 3.10 - 3.45 bar
130-170lbs / 59 - 77 kg	55 psi / 3.80 bar
160-200lbs / 72.5 - 91 kg	65 psi / 4.48 bar
190-230lbs / 86 - 104 kg	70 psi / 4.83 bar
over 230lbs / 104 kg +	75 psi / 5.17 bar



Adjusting Fork Pressure

Pressurizing the Noleen Mega Air™ fork:

The Mega Air fork uses one leg as the air spring and the other leg as the damper. When pressurizing the fork, fill the fork with equal pressure in both legs.

1. Unscrew the right and left leg caps and remove
2. Using the Noleen Mega Air pump or other shock pump, pressurize the fork to the desired level ON BOTH SIDES.
3. Remove the air pump from the fork, making sure not to lose any pressure from the fork.

Note: The Noleen Mega Air pump is designed to not lose any pressure when the pump is removed. If using another type of pump, make sure to fill the fork up enough to make up for any loss of pressure.

Preload

Preload is the amount of load placed on a spring to increase the spring rate in the initial part of the travel. Adjusting the air pressure in the Noleen Mega Air fork is the way to adjust fork preload.

Suspension sag is the amount a shock compresses under the weight of the rider. All suspension systems should exhibit some amount of suspension sag. Our forks should all be set up properly with a certain amount of sag. The optimum sag amount for all of our front suspension systems is **20% of the total wheel travel. For example:**

Our Noleen Mega Air™ fork has 75mm / 3 in. of travel. To calculate the optimum sag for this fork, multiply 75mm by .2. The answer gives you a suggested sag , which for the Mega Air™ fork is 15mm / 2/3 in.

Noleen Mega Air™ fork optimum suspension sag: 15mm

To measure the amount of sag:

1. Before you begin measuring, It helps to compress the fork a few times to overcome any initial friction there may be in the shock. This will help in obtaining an accurate measurement.
2. **Measure the distance between a point on the lower leg of the fork (top edge of the lower fork leg, for example) and a point on the upper part of the fork (The bottom of the crown) with no weight on the bike**.
3. **Then measure from the same two points with a rider on the bike**. (You will need some help with this). **The difference between the two measurements is the amount of suspension sag**.
4. **Adjust the pressure of the Mega Air fork accordingly to obtain the proper amount of sag.**

Damping

Damping is the action of controlling the rate at which a shock compresses and extends. The rate at which a spring compresses and extends can be controlled by a number of ways. **The Noleen Mega Air™ fork features rider-adjustable rebound damping.**



Adjusting Rebound Damping

Adjusting Rebound Damping

The first type of damping 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 "lively" feel. Too much rebound damping will cause the shock to feel "dead" or "unresponsive". **To adjust the amount of rebound damping:**

1. Insert a 2.5mm hex wrench into the bottom of the left leg through the hollow bolt at the bottom of the slider.
2. When looking at the bottom of the fork leg, turn the hex wrench to the right until it stops. You have just increased the rebound damping (slower rebound) to the maximum level. **IMPORTANT**: Note the position of the end of the hex wrench. You will use this a a guide to adjust the rebound damping.
3. Test the rebound damping by compressing the fork and riding it for a little while. You will probably want to decrease the amount of rebound damping.
4. To decrease the amount of rebound damping, turn the hex wrench the opposite way 1/4 turn. Test the fork again. Do not make adjustments more than 1/4 turn at a time. The rebound adjuster is very sensitive.

Adjusting Compression Damping

The other type of damping is **compression damping. Compression damping assists the spring to control the rate of shock compression**. A fork that has too much compression damping will feel stiff or inactive over small bumps, and a fork with too little compression damping will feel too soft and tend to bottom out quickly. The Mega Air™ fork has a preset level of compression damping that is non-adjustable. This level of compression damping will perform well for a wide range of riders in all types of terrain.

MAINTENANCE

In this section:

- **Tools Needed**
- **Lubrication**
- **Seal Replacement**
- **Bearing Replacement**
- **Maintenance Schedule**
- **Torque and Lubrication Table**
- **Service Kits**

The Noleen Mega Air™ fork is designed to be maintained easily. Simple lubrication is usually all that is required to keep the fork working smoothly. The following maintenance should be performed whenever you feel the performance of your fork is deteriorating.

CAUTION: K2 strongly recommends that your Noleen suspension components be disassembled and adjusted by your authorized K2 / Noleen dealer. Your authorized K2 / Noleen 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.

WARNING: Following any maintenance on your fork, be sure all bolts are checked and torqued to proper spececfication. Failure to do so could result in fork failure and serious injury.

Tools Needed:

- 5 Hex Wrench
- 6mm Hex Wrench with long extension
- In-lb Torque Wrench with 5mm hex bit
- Noleen telescopic fork grease or other slider-fork grease

Lubrication

Sliders and Stanchions



Removing Sliders

Lubrication of the sliders and stanchion tubes is a simple procedure that should be done every month during normal riding conditions. This will allow the two fork tubes to move smoothly, and will reduce friction between the stanchions and sliders.

1. Clean off all dirt and grime from fork and remove front wheel.
2. Disconnect front brake cable from brake lever. This will allow you to leave the brakes on while removing sliders.
3. Remove 5mm hex bolts located on bottom of fork legs. You may experience difficulty when doing this.

Note: If you have trouble removing the right bottom slider bolt, increase the preload on the spring and try again. If this doesn't work, remove the top thread in black cap and insert an 6 mm wrench with a long extension into the piston to prevent the piston from rotating. See diagram for part explanations.

4. Separate sliders from stanchion tubes with a downward tug.
5. Clean the outside of the stanchion tubes and the inside of the sliders with clean rag.
6. Apply thin layer of grease to stanchion tubes and also to the inside of the wiper seal on the sliders. While you have it out, apply some grease to the coil spring.
7. Push slider up onto stanchions and reinstall lower slider bolts. Make sure not to damage the wiper seals. You can remove the metal spring "o-rings" around the wipers to ease installation of the sliders. Make sure that you leave these "o-rings" on the stanchion tubes while installing the sliders and then snap the springs into place. Torque bottom bolts to 60 in-lbs.

Seal Replacement



Removing Seals

You may find it necessary to replace the top wiper seals in your Mega Air Fork after some time. They should both be replaced at the same time.

1. Follow the steps in the previous section to remove the sliders.
2. To replace the wiper seals on the sliders, pry off the old wipers with a small screwdriver, being careful not to damage the tops of the magnesium sliders.
3. Grease the seal and the inside of the slider and align the wiper with the top of the slider.
4. Press wiper seals in place with even pressure from a flat surface. A table corner works well to press the seals in evenly.

Bearing Replacement

The bearings in the Mega Air Fork are press-fit teflon / aluminium bearings that are installed in each slider. Servicing these bearings can only be done by your Noleen / K2 Bike Dealer or other qualified mechanic with the proper training and the proper tools.

CAUTION: Do not attempt to service the bearings that are installed in the sliders of your fork. Improperly serviced K2/Noleen forks are extremely dangerous, and can result in failure during use and severe injuries.

Troubleshooting

The Mega Air™ fork is designed to be an easy fork to maintain and service. In case you encounter any problems with your fork, the following infromation with help you diagnose any problems with your fork so that you can spend less time in the shop and more time on the trail!

Problem	Solution
Fork loses air pressure	• Use different pump to inflate the fork; some pumps may lose pressure easily • Inspect top caps of fork to check for leaks; submurse fork in water to check for bubbles • Remove the sliders, remove both spring and damping pistons, check o-rings for damage • Contact your local K2/Noleen dealer if problem persists
Fork is too stiff or too soft	• Adjust the air pressure in the fork to obtain the proper amount of sag. • Lubricate the fork sliders; see **Lubrication** in this manual
Fork rebounds too fast or too slow	• Adjust the rebound damping with the adjuster in the bottom of the left leg • To check damping, release air spring pressure and cycle fork up and down to feel damping • Check air pressure in left fork leg; lleft leg pressure may be low

Maintenance Schedule

The following table is a guideline for servicing your Noleen fork. More frequent riding and wetter, muddier conditions will increase the frequency of required service. Please take your riding habits and conditions into account when servicing your Noleen suspension fork.

Required Inspection/Service	Every Ride	Monthly	Yearly
Check torque on all bolts	✔		
Check headset adjustment	✔		
Check fork damper function	✔		
Grease seals and bearings		✔	
Check / grease brake pivot posts		✔	
Check / adjust Suspension Sag		✔	
Inspect / service all seals and o-rings			✔

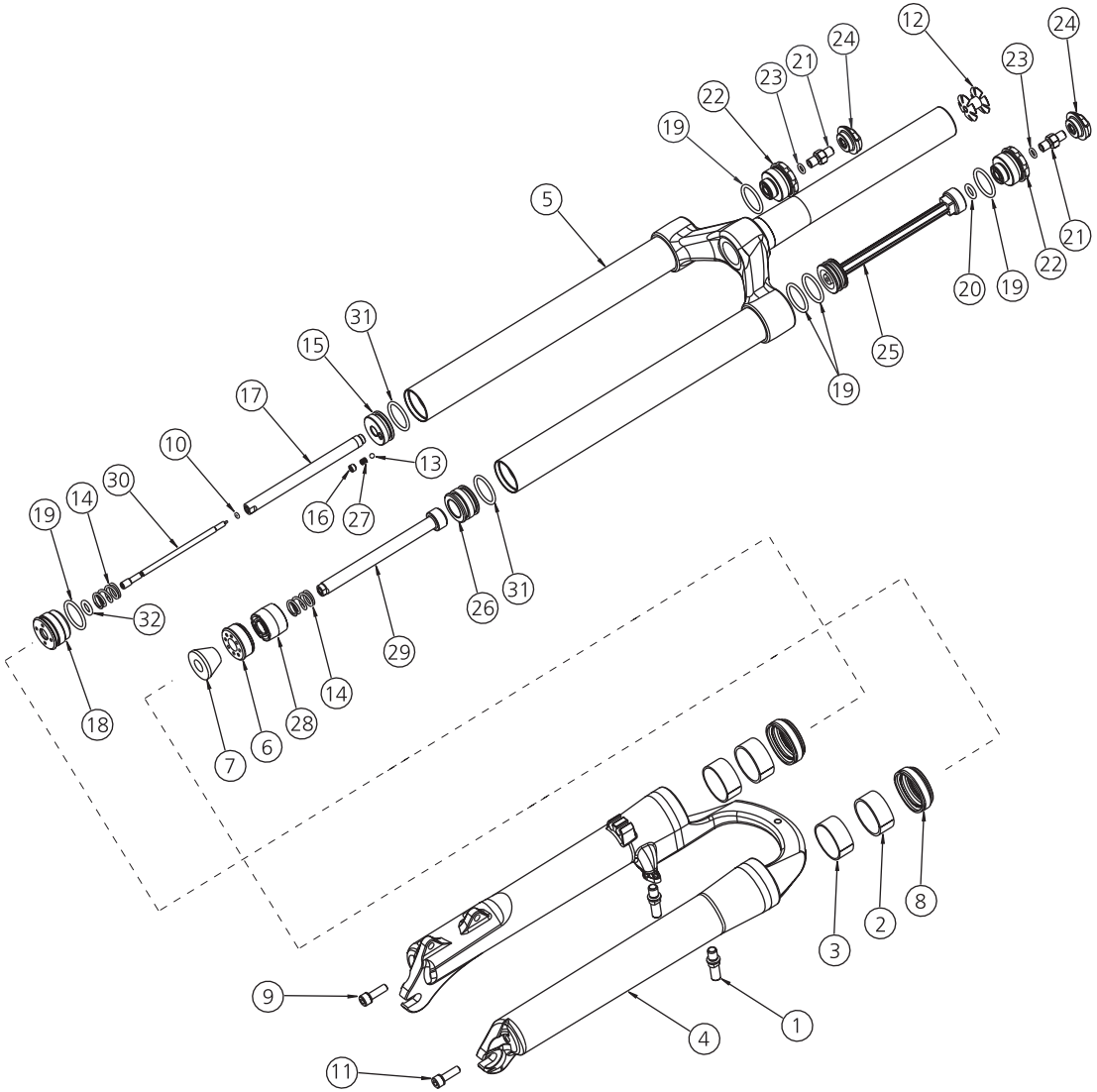
Torque / Lubrication

Product	Part Name / Location	Size / Description	Torque (in-lbs)	Lubrication	Loctite
Air Fork	Slider bottoms	M6 x 1 x 20 SHCS	50	Yes	None

Service Kits

The following Replacement / Service Kit is available from your K2 Bike / Noleen Authorized Dealer. It is intended to be used by your K2 Bike / Noleen dealer or other qualified mechanic possessing the proper training and tools.

Air fork Seal Kit	Contains wiper seals and o-rings needed for servicing fork
Slider fork Bushing Kit	Contains new bushing for the Noleen Slider fork



Item #	Part #	Qty	Description
1	15179	2	BRAKE PIVOT POST, M8
2	16186-1	2	BEARING, UPPER (36MM OD)
3	16186-2	2	BEARING, LOWER (35MM OD)
4	16187-2	1	ASSY, SLIDER WHITE
5	16197-6	1	ASSY, CROWN/STANCH 265 STEERER
6	16206	1	THREADED ROD GUIDE
7	16207	1	BOTTOM OUT BUMPER
8	16221	2	WIPER SEAL, SLIDER
9	16225	1	SCREW, M6X1X20 W/ WASHER&HOLE
10	16250	1	O-RING, CARTRIDGE NEEDLE
11	16267	1	SCREW, M6X1X20 W/ WASHER
12	16276-4	1	STAR NUT
13	16277	1	SST BALL
14	16403	2	SPRING, TOP OUT BUMPER
15	16405	1	AIR PISTON
16	16406	1	SET SCREW, M6 W/ HOLE

Item #	Part #	Qty	Description
17	16407	1	SHAFT, AIR FORK
18	16410	1	SEAL CAP
19	16412	5	O-RING, AIR PISTON
20	16413	1	O-RING, AIR SHAFT
21	16414	2	SCHRADER VALVE
22	16416	2	AIR STANCHION CAP
23	16459	2	O-RING, SCHRADER VALVE
24	16470	2	ASSY, SCHRADER VALVE CAP
25	16471	1	AIR CHAMBER REDUCER
26	16472	1	AIR PLUNGER
27	16474	1	CHECK VALVE SPRING
28	16477	1	TOP OUT SPRING SPACER
29	16483-2	1	ASSY, PLUNGER ROD
30	16508	1	NEEDLE, AIR FORK 75MM
31	16519	2	O-RING, AIR PISTON (PRE-LUBED)
32	16520	1	O-RING, AIR SHAFT (PRE-LUBED)