

**Thanks for Ordering  
The Kawasaki Vulcan “LoRidr” Adjustable Lowering Kit from**



**READ THIS BEFORE UNPACKING YOUR KIT!**

**This instruction booklet contains detailed steps for installing the rear suspension lowering kit on your Kawasaki 400/800 Standard (A model), Classic, or Drifter motorcycle. Please pay careful attention to the instructions regarding the disassembly and re-assembly of your motorcycle. The lowering kit can be damaged if installed incorrectly, or installed without lubrication. If you have any questions concerning installation of your new Scootworks “LoRidr” Adjustable Lowering Kit, please contact us via e-mail at [support@scootworks.com](mailto:support@scootworks.com). This will ensure you receive the most prompt and accurate reply.**

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# Instructions for Installing the Scootworks “LoRidr” Adjustable Lowering Kit

(Be sure to visit [www.scootworks.com](http://www.scootworks.com) and select [“Information Resource Center”, then “Installation Instructions”] from the main page, for more info and pictures!)

## **Tools Needed:**

- Phillips-head screwdriver
- Large torque wrench calibrated in foot-pounds
- 6mm Allen wrench
- 8mm Allen wrench
- 8mm socket
- 10mm socket/open-end wrench
- 12mm socket/wrench
- 17mm socket
- A small amount of Silicone Adhesive (RTV)
- Motorcycle Lift or similar lift device

The installation of the Scootworks “LoRidr” Adjustable Lowering Kit follows the same procedure as lubricating the lower suspension, with the addition of the tie rod replacement. However, Scootworks wanted to assist you as much as possible with the installation process, and developed this instruction package. If there are any steps you feel need improvement in instructions, please email [support@scootworks.com](mailto:support@scootworks.com) and specify the area you are having trouble with.

## **Unpacking!**

The shipping container and contents must be inspected by the purchaser for damage to goods immediately upon receipt of goods, and a claim must be filed with the carrier if damage is discovered. The purchaser must contact Scootworks within 24 hours from receipt of damaged goods to file a claim, and for further instructions.

Your Scootworks “LoRidr” Adjustable Lowering Kit will come packed with a plastic snubber spacer, metal rear shock pre-load spacer, and these printed instructions. Unpack the new tie rod assembly, pack a liberal amount of automotive wheel bearing lubricant in the openings where the new bearings are installed. There is more info on this in the **FAQ** page.

## **BEGIN INSTALLATION**

**1.** Begin by removing both side compartment covers. The RH compartment cover requires the use of the ignition key for removal; the LH compartment cover is secured by a large Phillips screw. Once you've removed the LH cover, place the Phillips screw back into the hole in the frame (so you don't misplace it) and set both covers aside. You must remove the upper exhaust pipe (from the rear cylinder), and loosen the other pipe, to remove the inner parts of the RH side compartment cover (see below). **Before attempting step #2 below, try step #3 first... depending on the brand of exhaust pipes you have, you may be able to avoid removal in step #2, if you are successful with step #3 first.** Some brands of exhaust pipes provide access to the fasteners securing the RH side covers, eliminating the requirement to remove pipes for rear suspension access. If

adequate access to the fasteners securing the RH side covers is not available, execute the pipe removal process in step two below.

**2.** Remove the rear cylinder's exhaust pipe. To do so, remove the two Allen nuts on the exhaust header, where it attaches to the engine, using an 8mm Allen wrench. Most often, this goes much more smoothly if you first spray the inside of the allen nut with a penetrating lubricant like WD-40. Remove the black acorn nut from the discharge end of the exhaust pipe (under the upper exhaust pipe, near the discharge end of the pipe) using a 12mm open-end wrench or socket. You'll find a black metal spacer, through which the bolt goes, that is pressed through the rubber grommet. To avoid the potential of having it fall out unnoticed, remove it and place it aside with the nut. Remove the black bolt from the pipe just aft (to the rear) of where the pipe enlarges and above the pipe. This is actually a bracket that holds the two pipes together at a joint. Loosen the bolt using a 12mm socket, then slide it back onto the pipe you're removing. Once you have the pipe off of the bike, the clamp will be loose. Be sure to keep it with the pipe, along with the rest of the removed parts. Loosen the pipe from the front cylinder **BEFORE** trying to remove the pipe from the rear cylinder. By loosening the header nuts on the pipe from the front cylinder, and removing the two black Allen bolts (6mm Allen wrench) under the forward pipe that attach it to the frame, you will be able to remove the rear pipe. There are more spacers in grommets where the 6mm Allen bolts secure the lower pipe to the frame (like those used in the rearmost connection of the rear cylinder's pipe). These spacers will normally remain in the frame bracket, but if either is loose, remove them and store with the Allen bolts. If the pipe doesn't come loose relatively easily, loosen the two top nuts on the black triangular metal bracket used to secure the pipes to the frame. With patience and care, however, you should be able to remove the pipe without loosening with the triangular bracket.

**WARNING!!!** Watch out for the metal exhaust gasket ring that fits between the pipe header and the engine. When you remove the pipe from the bike, the gasket ring can easily fall out of the pipe. Don't lose it! Keep it with the pipe for reinstallation.

**3.** Use a Phillips screwdriver to remove the lower cover of the RH side compartment. There are three black Phillips screws that secure this cover. Remove the cover and place the screws back into their holes, then set the cover aside. Use an 8mm socket to remove the four black bolts on the inner liner of the RH side cover. The top-left bolt also secures the latch for the RH side compartment's outer cover. Notice the small pilot hole in the latch, to the right of the 8mm securing bolt. This is where a guide stem (molded into the compartment liner) protrudes to insure that the bracket is in the proper position when installed. Insure that you reinstall the bracket properly, with the hardware for the locking assembly facing out, and the guide stem through the pilot hole.

**NOTE:** If you have the California version of the bike and you haven't removed the emission control system, you won't be able to remove the inner side cover box entirely. Just remove the bolts and pull the box away from the bike as much as possible, lifting it so you can access the swing arm and frame hardware beneath it.

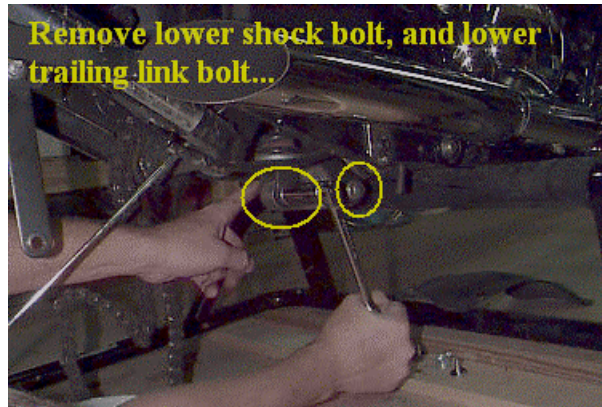
**4.** Remove the two bolts securing the regulator to the frame (just behind the engine) on the LH side of the bike. Use a 8mm socket wrench (or 10mm socket on the Drifter) to remove these two bolts, and screw them back into the frame for safe-keeping.

**5.** Open the door to the tool kit storage compartment, and remove the tool kit. Remove 3ea. 8mm bolts used to secure the LH side inner compartment and ignition into the frame. Pull the rear cylinder plug wire from the spark plug, and swing the LH side compartment/ignition out to one side. With the LH side compartment/ignition pushed out to one side, access is available to the LH side of the tie rod retaining bolt and upper shock absorber bolt.

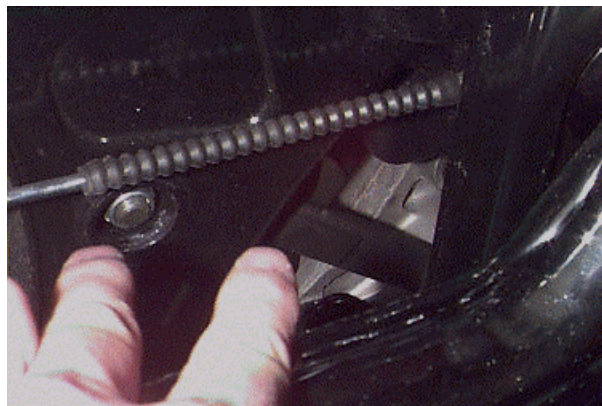
**6.** Before proceeding, raise the rear of the bike so the rear wheel is above the floor, so the tire rotates freely. Scootworks sells a very nice and inexpensive bike lift if you need one. Check out our website on-line catalog

for more information. Many users have reported using a hydraulic floor jack to lift the bike while having the bike stabilized by another person. Once lifted, jack stands can be placed under the engine cradle (not in contact with the swing arm!) to support the bike securely.

**7.** Use a 17mm socket to remove the lower shock bolt from the suspension pivot/lower shock absorber mount. Once this bolt is removed, the rear wheel will drop down and rest on the floor. Use a 17mm socket to remove the lower trailing link (suspension tie rod) bolt from the suspension pivot/lower shock absorber mount. I've used the 17mm socket on the RH and the open-end wrench from the owner's tool kit on the LH side to remove these bolts. If you don't secure both ends, the bolt will spin freely, once it's loose. The picture below is from the Belt drive instructions, but it illustrates the two bolts referenced here in step #7 nicely.



**8.** Use a 17mm socket on both sides of the upper trailing link bolt. It will be necessary to raise the swingarm/rear wheel assembly high enough to allow this bolt to pass just above the chain (or Scootworks Belt Drive) during removal. Once removed, the trailing link (suspension tie rod) can be removed from the swing arm. It may be necessary to raise/lower the swing arm/rear wheel assembly to completely remove the tie rod from the suspension area. Below is a picture of the upper bolt location, as viewed from the RH side of the bike. Note the rear brake linkage just above my fingers for reference. Using a finger or blunt tool, push the insert from within the OEM trailing link and place aside for reinstallation into your Scootworks Lowering Kit.



**9.** Remove the tape or plugs installed (for shipping) in the bearing area of your Scootworks Lowering Kit. Pack the bearings of your new Scootworks “LoRidr” Adjustable Lowering Kit with good quality automotive wheel bearing grease, and reinstall in place of the OEM unit you removed in **step #8** above. **DO NOT** install the seals from your original unit, as the bearings used in your new Scootworks lowering kit have their own integral seals installed. They look different than the OEM seals and are not very obvious, but they are in place. Observe the end of the Scootworks Lowering Kit with three holes. The location closest to the end (farthest from the bearings you just packed with grease) is for lowering of 3”. Each position progressively closer to the bearings translates to a lowering of the rear by 2”, and 1” of height. Orient the Scootworks Lowering Kit so the holes corresponding with the 2” lowered position will be closest to the ground (down) when installed. This will provide the best ground clearance when in the 2” and 3” positions (when it is most important). Install the upper trailing link (suspension tie rod) bolt at this time. **Do not** torque this bolt to specifications yet.

**10.** If the rider weight is greater than 175 lbs., it is recommended to install the preload components in the shock at this time. Use a 17mm socket on both sides of the upper shock mounting bolt, loosen and remove. It may be necessary to raise the swingarm/rear wheel assembly high enough to allow the shock to be pulled out of the lower suspension during removal.

**11. Disassembly of the rear shock...** This is the most challenging portion of the instructions, but made very easy if you have a shock spring compressor. Scootworks offers an inexpensive shock compressor, visit our website or contact us for more details. Many motorcycle shops have shock spring compressors, and can handle this step for you in a few minutes of time. Pull the shock, and visit your local bike shop if you need assistance. Another “home-brew” method is illustrated below. This method uses a few conventional stainless steel hose clamps used to squeeze the turns of the spring together, providing access to the locking nut that secures the clevis to the shock rod. It does require a bit of patience, but has been used many times by our customers.



The photo above shows the shock inverted and clamped into a vise. The spring has been compressed a bit by using hose clamps. This has allowed the factory preload shim and cup to drop down a little, exposing the 17mm locking nut below the lower attachment clevis. Loosen this nut, screw the clevis off of the shock rod, and remove the OEM shim washer from the retaining cup. Install the metal pre-load spacer that is included with your lowering kit, as seen in the photo above. Re-install the clevis. This method of compression isn’t the recommended one (from a safety vantage point!), but demonstrates yet another method of performing the task.

A shock spring compressor is the preferred method, and makes this job MUCH easier. Contact Scootworks if you're interested in one of our inexpensive spring compressors!

The progression of the preload components are as follows:

- Under 175 lbs. of rider weight, use the thick plastic snubber spacer, and don't install the thin aluminum preload shim until you test ride the bike and check for "bottoming out".
- Over 175 lbs. of rider weight (2-up riding), install the thin aluminum shim as outlined in the instructions above. Also install the thick plastic snubber spacer as outlined below.
- For heavier loads, use our preload assessor kit, and install in following progression:

#1- **Thick Metal Shim** plate and **Thin Plastic Snubber** spacer

#2- **Thick Metal Shim** plate and **Thick Plastic Snubber** spacer

#2 above will allow your 800 to handle the heaviest of loads, including total rider weights of well over 500 lbs.

**12.** Now that the metal pre-load spacer has been installed in the shock absorber, let's install the plastic snubber spacer. Place the snubber spacer under the OEM rubber snubber currently used in your rear shock. This is easy to do, without disassembling the shock again, by following these steps:

- Using a small screwdriver or other sharp object, slide the OEM rubber bumper upwards on the shock rod. The picture below shows the OEM snubber pushed up, exposing the cavity for the Snubber Spacer to be placed in.



- The Snubber spacers are shipped in two halves. Locate the sides of the spacer with the counterbore, apply a small amount of silicone adhesive to both sides (RTV), and install the halves with this counterbore towards the bottom of the shock. The picture below shows 1/2 of the spacer in place, to better illustrate the installation with the counterbore down.



- Lastly, slide the OEM bumper back down the shock rod, and press it firmly onto the top of the new snubber spacer. The photo below illustrates the completed installation of the snubber spacer.



**13.** Reinstall the shock absorber in its upper mounting bracket. Torque this bolt to specification (**43ft/lbs**) at this time.

**14.** Reinstall the lower trailing link (suspension tie rod) bolt in the lower suspension pivot/shock absorber mount. You'll notice 3 possible locations to reinstall the bolt. The location closest to the end (farthest from the upper tie rod bolt) is for lowering of 3". Each position closer to the upper tie rod bolt translates to a lowering of the rear by 2", and 1" in height. Choose the location you think you desire, and slip the bolt in place. Do not torque this bolt to specification at this time.

**15.** Reinstall the lower shock absorber bolt in the lower suspension pivot/shock absorber mount. Torque this bolt to specification (**43ft/lbs**) at this time. Using a spanner wrench or larger hammer and long screwdriver, adjust the shock preload collar to setting #4.

**16.** Remove the motorcycle from the lift, and allow it to rest on the floor. The OEM kickstand may be usable (depending on grade and height of the front of the bike...more on this later), be sure to rotate the handlebars fully to the left when allowing the bike to rest on it's own, until you're comfortable with the parking attitude. Sit on the motorcycle to determine the acceptance of the height of the rear.

**CAUTION!!!** Remember, the tie rod bolts have not been tightened yet, **DO NOT** attempt to ride the motorcycle yet.

**TIP:** Some riders wish to lower the rear of the motorcycle for appearance, or to improve their ability to reach the ground firmly. For shorter riders, lowering the front of the motorcycle (to return it to it's "before modification" attitude) accomplishes a large additional margin of overall lowering. Also, lowering the front by an equal amount (or greater) minimizes "trail" and lessens the amount of upper body strength required to handle the motorcycle at low speeds. An additional instructions section is included later in this document, detailing lowering of the front end, reduction of "trail", and kickstand modification. To see a Vulcan 800 Classic, set up for a 5'2" 110 lb. rider, visit <http://www.2vulcans.net> and select "LoRidr's Bike".

**14.** Once the height of the rear has been selected, use 17mm sockets and torque the upper and lower tie rod bolts to **43ft/lbs**.

**15.** Reinstall the LH side compartment, ignition assembly, and reconnect the rear spark plug wire. Do not install a 8mm bolt in the rearmost inner cover mounting tab, as the large Phillips screw in the outer cover is inserted here. Replace the two 8mm bolts in the tool kit compartment, and replace the tool kit. Reinstall the LH outer cover.

**16.** Secure the regulator on the LH side using the two 8mm bolts placed in their respective holes for storage. This may be 10mm bolts, in the example of a Drifter 400 or 800.

**17.** Reinstall the RH side inner storage compartment with four 8mm bolts. Don't forget to install the latching mechanism under the upper left 8mm bolt. Replace the RH LOWER outer compartment and secure with the three Phillips screws. Replace the RH side UPPER outer cover and latch in place with the ignition key.

**18.** Reinstall the exhaust pipes. Header nuts need an 8mm Allen wrench. A 6mm Allen wrench will be needed for the nuts under the front pipe. A 12mm socket/wrench will be needed for the aft-end pipe connections. Don't forget to install the exhaust gasket ring on the rear exhaust pipe, where it connects to the engine.

**NOTE:** be sure to reinstall the top (rear) pipe (hand-tightening connections only) before reinstalling the lower (front) pipe. Otherwise, it'll be tougher than crud to install it!

## **Congratulations!!!**

Your Scootworks "LoRidr" Adjustable Lowering Kit is now installed. The following information is supplied as a supplement, to allow you to complete the job of lowering your bike that you've begun by using this Quality Scootworks product.

## **Tips for setup and use of your lowering kit**

**BE SURE** to read the FAQ at the end of this document, for tips, warnings, and adjustments for your new lowering kit!

### **Lowering the Front of your Vulcan**

Why lower the front?? Don't mistake this to suggest that you must lower the front when you lower the rear, because you don't! The look of a bike with a lowered rear has intrigued riders ever since there have been motorcycles. However, there are other reasons for lowering the front end, and I'll attempt to explain them...

**Maintaining the OEM (stock) geometry...** The manufacturer designed your bike a certain amount of "rake" (the measurement of the angle of your front end with respect to the rest of the bike). Varying the rake changes the handling characteristics of your motorcycle. If you like the way it handled in it's stock condition, you may want to maintain the original geometry, and lowering the front will allow you to do so.

**Additionally reducing the overall height of the bike...** Lowering only the rear of the rear of the bike will provide you with about 1/2 the reduction in rider height that lowering both front and rear can yield. If you have a problem with "flat-footing" your bike at stops, lowering the front will allow you to better reach the ground. Those who are "vertically challenged" benefit from this mod.

**Reducing "trail" to reduce strength needed for slow maneuvers...** "Trail" is a illusive term, that often gets tossed around incorrectly. If you draw an imaginary line straight down through the steering head pivot to the ground, then measure backwards to the point where the tire contacts the ground, you'll have a measurement of "trail". The smaller the trail, the lesser the amount of upper body strength that is required to handle the bike at low speeds and when stopped. Smaller riders absolutely benefit from a reduction in trail. The Vulcans come from the manufacturer set up a bit "nose high", that is, the front of the bike is actually a bit higher than the rear. While this looks great, it may not be the best thing for a smaller rider.

**Lowering the center of gravity...** This is another advantage welcomed by smaller riders, as well as riders with less upper body strength. The lower the center of gravity, the "lighter" the bike will feel to the rider at slow speeds and when stopped.

Having said all of this, it's now obvious why all of the items mentioned above are desirable to smaller riders. It allows for the "taming" of a larger and heavier bike than might be normally ridden by the smaller and/or vertically challenged rider. A good example is of LoRidr's bike at <http://www.2vulcans.net> , where a 5'2" 108 lb. female rider now rides a 565 lb. bike comfortably. Her bike has been lowered 4" in rear, and 5" in front. Lowering the front minimized trail while allowing enough ground clearance to easily operate it on any

highway.

Ok...ready to start? There are 3 varieties of this modification, depending on the model of the bike, the amount of money desired to be spent, and the amount of mechanical aptitude of the person performing the task.

### **Lowering the Front of your Vulcan**

**1. Vulcan 400/800 Standard & Drifters ONLY (not Classic)** Scootworks offers a special kit to inexpensively lower the front of your 400 / 800 Standard ("A" Model) or Drifter. Visit [www.ScootWorks.com](http://www.ScootWorks.com) for details.

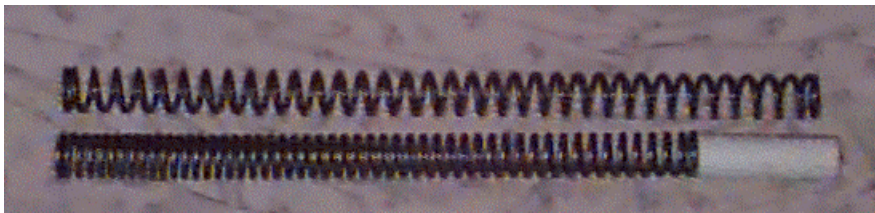
This kit **will not** work on the front suspension of a "B" Model ("Classic", unless you install the springs from a Drifter or Standard"). For the Classic owner, methods #2 or #3 below are inexpensive alternatives to lower your front suspension.

**2.** The second method requires replacement of the front springs. This is a simple task, and costs about \$70. Using the springs made by Progressive, part number #1126, the front end can be lowered almost 5". In addition, a better ride will be obtained due to the progressive wound spring performance. Cobra also makes a progressively wound spring kit for the Vulcans, and is basically the same as the Progressive kit.

- Raise the front tire off of the ground before you begin this mod...
- Cover the gas tank with a towel to prevent scratching.
- If the handlebar risers are OEM (stock), loosen the handlebars in their clamps and tilt them rearwards, to allow room for the springs to be removed from the front shocks.
- Using a small knife blade, sharp screw driver, etc. in the pinch groove on each side of the triple clamp, gently pry upwards and pop the chromed plastic covers off. These are the covers on the top of the front shocks, covering the retainers. Below these chrome caps, you'll find gold anodized metal plug with a small counter bore in the center. This is the part used to retain the top of the shock. Using an extension bar, screwdriver, etc., press down a bit in the counter bored area of the plug to take the pressure off of the small internal "C" ring. While this "gold" colored plug is depressed, remove the internal C-ring. The C-ring is made of small diameter wire. Once the C-ring is removed, slowly release the pressure on the plug and it'll push itself out of the top of the shock.



- Stick a finger into the spring, and slide it out of the top of the shock. Wrap a rag around the spring as you slide it out to keep oil from dripping on the motorcycle. Above is a picture of the left fork tube (shock) with the cap, plug, and spring removed.
- The picture below is of the stock and progressive spring. The top spring is the stock spring. The bottom spring is the Progressive spring (notice the variation in the pitch of the progressive wound spring). On the right hand end of the progressive spring you'll see a PVC spacer block. This is made from schedule 40 1" dia PVC pipe. Cut the PVC pipe so it makes up the balance of the length needed to match the original spring's free length, minus the amount you wish to lower the front end. A spacer cut 4 3/8" long will keep the bike at a 'stock' height. The bike can also be lowered almost 5" by shortening the PVC spacer or eliminating it completely.



- Be sure to remove PVC shavings from your spacers before putting them into the shock tube, so as to not contaminate the hydraulics.
- Drop the new springs back in the fork tubes, followed by the PVC spacers (install the spacers on top, where they're easy to get to). Place the gold anodized metal plugs on top of the PVC spacers and press them back into the fork tube. Be sure to turn the metal plug so the side with the counter bore is facing outwards. Reinstall the C-rings, and gently lower the front end back to the ground. Make sure the C-rings seat themselves when the weight of the bike is placed back on the front end. Re-install the chrome caps.
- This mod can also be successfully performed on the 400/800 Drifter.

3. Cutting the OEM (stock) springs to a shorter length. I've performed this mod a number of times, with no negative comments on ride performance. Remove the stock springs as outlined in mode #1 above, and remove turns until the desired height is obtained. I've found 1 turn removed from the front springs equates to a reduction in height of approximately 7/8". Turns can be removed by using a die grinder, dremel tool, or hacksaw. Once the springs are shortened more than about 2", the front plugs can be reinserted into the fork tubes without force. After reinstallation of the shortened springs, carefully lower the bike to the floor to allow the springs to rise up in the fork tubes and seat the C-rings.

### **We're almost finished...**

The only thing left to do, after a radical lowering job, is to correct the kickstand angle. Most often, lowering the entire bike 2", or the rear down to 4", doesn't require modification to the kickstand. However, there are many variables, and you must test this on your individual application. Don't worry, this is an easy task and can be handled by many individuals at home, or at most machine and/or sheet metal shops with a standard hydraulic press.

Below, you'll see a Vulcan 800 that has been lowered 4" in the rear, and 5" in the front. The kickstand was modified somewhat, and was a simple task.



A simple method to alter the angle of the stand with a torch is to heat the kickstand, just below the lower spring tab, until the kickstand is soft enough to bend. Heat the kickstand until red hot in the desired location of bend. Lean the bike against the stand until the desired angle is obtained, then allow the stand to cool on it's own. I've altered many kickstands with this method successfully, and never had a failure.

Another method, is to place the kickstand in a hydraulic metal brake, and bend it just below the lower spring tab, about 15 degrees. This is my preference, and is about a 5 minute job.

Other riders have removed the stand, cut it from it's hinge, and re-welded it at an increased angle. I've never tried this method, but have seen it done several times with success.

Another good and inexpensive solution it to replace it with the kickstand from a Vulcan 1500 Nomad. These are a bit shorter, and work nicely with lowered Vulcan 800's!

Once the kickstand angle has been altered to the desired angle, grind or file a small amount of metal from the kickstand stop, located on the frame. This is the small area that the kickstand contacts when in the "up" position. This will allow the kickstand to tuck in cleanly and very close to the frame when in the "up" position, and lessen the likelihood of dragging in hard left turns.

### **FAQ's for your new Lowering Kit!**

**Question-** Will this lowering kit work on my Drifter?

**Answer-** The Adjustable Lowering kit will work on the Vulcan Drifter 400 and 800 perfectly!

**Question-** Will this lowering kit work on my bike? I've heard some say they had great results, while others mentioned various problems.

**Answer-** There lots of these lowering kits in the field, in successful operation. I've installed many such kits in my immediate area, as well as worked with a lot of people over the phone or via email to assist them with "dialing in" their setup. My wife's 800 has been running about 5" lower than stock (23.5" saddle height!) for most of the 49,000 miles she's ridden it. An example of how the variables outlined below can stack up in your favor (or against), is where I've helped several folks additionally shorten their shock clevis and/or swap to the Shindy shock for even more lowering.

There are many variables at play when lowering a motorcycle, including variations in locations of welds/pivots on the swing arm and lower suspension. Considering such, a single solution won't work for everyone. I've measured wide variations in assembly dimensions that affect the geometry of the rear swing arm. Other variables such as combined bike and rider weight, variations in damping rate of the rear shock

affecting shock performance, variations in the preload spring's compression value, location of the rear wheel within the fender (controlled largely by chain length/stretch), etc. Many people lower their 800's waayyy down with no problems (some at 5+"), while a few have problems when lowered below 1". When lowering a bike, one must deal with these variables on a case by case basis. This isn't a difficult task, but sometimes it does require a bit of patience to find the maximum lowering your bike can be operated at successfully.

**Question-** Will weight of the bike or rider impact the performance of the lowering kit??

**Answer-** Weight: If you ride 2-up, weigh 175 lbs. or more, or have a heavily loaded bike, set your shock preload to a position #of 7. This is the setting that compresses the spring the most. I've seen some 800's weigh in at over 725 lbs. with accessories, and others weigh below 500 lbs. If you weigh more, or ride 2-up, you will want to run with less lowering or modify the shock preload by adding the preload components now shipped with the newest version of our kit. Measured compression values of the shocks used in Vulcan 800's vary wildly, making the inclusion of a spring shim a viable "fix", and not necessarily an indicator of some other suspension problem. A complete "Shock Preload Kit" is available from Scootworks very inexpensively, and can be used to greatly improve the load handling capacity of the Vulcan's rear shock absorber for the heaviest of rider combinations and bike accessory/luggage loading.

**Question-** I seem to be "bottoming out" on hard bumps.

**Answer-** If "bottoming out" is experienced in the 3" lower position, temporarily switch to the 2" or 1" lower position, until the problems with your setup are corrected. Be sure to read this FAQ for the lowering kit completely, and make adjustments to your particular setup accordingly. On the Drifter, it is possible for the fender to touch the underside of the seat, if the suspension is set too soft in the 2" and 3" positions. Also read the section in this FAQ about possible contact with the chain guard (400 and 800 A/B's), and possible associated remedies. "Snubber Spacers" are provided in the kit, and should be installed per lowering kit installation instructions. This will provide an enhanced mechanical stop, to prevent the tire contact with the fender, LH fender edge contact with the chain guard, and tire contact with the wiring harness.

**Question-** The front edge of the chain guard looks very close to my fender when I "bounce down" on the bike. Is this a problem?

**Answer-** Be aware, in some applications on the Vulcan 800A and Classic, it is possible for the front LH edge of the fender to come in contact with the forward edge of the chain guard when the kit is set to the 3" lower position, especially in the event the bike is heavily loaded and should become compressed all the way down. The kit now comes with a thick "Snubber Spacer", and should be installed per instructions. This will reduce the possible downward travel of the motorcycle on it's suspension, minimizing the possibility of this occurrence. Additionally (depending on other modifications and individual motorcycle "setups"), some riders shorten the leading edge of their chain guards, or remove them altogether (many belt driven riders remove the guard to expose the belt). Some riders have reported success with curling the LH lower edge of the fender towards the tire, allowing clearance for the fender to pass just behind the chain guard. The more you weigh and/or the softer your rear shock setting is, the more likely you are to make contact between the fender edge and chain guard on hard bumps.

**Question-** When I lowered the bike 3", I have problems with my kickstand being too long.

**Answer-** This is a situation that must be dealt with on a case-by-case basis, as some riders report no problems, while others find the need to modify their kickstands. This is common in all motorcycles that have been lowered, and is easy to correct. Most machine shops have hydraulic presses capable of bending the kickstand a bit. Make the bend between the last spring connection point and the end of the kickstand. Another alternative is to purchase a Kawasaki Nomad kickstand...it is a bit shorter, is inexpensive, and works nicely on lowered 800 Vulcans.

**Question-** When I lowered the bike 3", I have problems with my kickstand dragging a bit on hard left-hand turns.

**Answer-** There are two easy modifications for this. Using a dremel tool or file, remove a little material from the "frame stop", allowing the kickstand to tuck more closely to the frame when in the "up" position. Be sure to dab a little black paint on the fresh metal when you're finished. Another helpful hint on some applications, is to have your local welding shop to remove the lower spring connection point, rotate it about 45 degrees around the arm of the kickstand, and reweld it in place. This will eliminate the problem where some Vulcans will drag this connection point on the ground in hard left-hand turns.

**Question-** When I lowered the bike, I noticed the wiring harness connecting the rear lighting, penetrates the fender in close proximity to the tire. Is this a problem?

**Answer-** It can be in some extreme cases, with the Vulcan 800A and Classic (not the Drifter). The kit now comes with a "Snubber Spacer", and should be installed per instructions. This will reduce the possible downward travel of the motorcycle on its suspension, minimizing the possibility of this occurrence. Additionally (depending on other modifications and individual motorcycle "setups"), I recommend that the wiring harness be relocated more to one side, where it passes through the rear fender (below the seat). I feel the wiring harness is too close to center, and can sometimes be damaged by the wheel when bottoming out. Drill a hole through the fender, more to the left hand side, unplug the wires, and re-route them through the new hole. Don't forget to reuse the rubber grommet, if your bike had one in the original hole.

**Question-** When I lowered the bike a lot, I noticed the tire rubs the (inside) forward portion of the fender on hard bumps. Can this be corrected?

**Answer-** The kit now comes with "Snubber Spacers", and should be installed per instructions. This will reduce the possible downward travel of the motorcycle on its suspension, minimizing the possibility of this occurrence. Additionally (depending on other modifications and individual motorcycle "setups"), if operating with a chain driven Vulcan 800, adding 2 links to the chain length will push the rear wheel farther rearward (near adjustment mark #6-7). Another great solution (and less expensive) for pushing the wheel more rearward is to switch the rear sprocket to a 39 tooth unit (pushes the tire rearwards, *and* reduces engine RPM on the open road). This will allow for more travel within the fender, minimize the possibility of becoming entangled with a non-relocated wiring harness, and reduced the possibility of tire scrubbing within the fender. The belt driven Vulcans already operate with the rear axle at adjustment mark 4+, and provide adequate suspension travel. In my opinion, the Vulcan 800A and Classic has the rear wheel placed too far forward within the rear fender well. Be sure to set the shock preload as indicated in other portions of this FAQ.

**Question-** Will lowering my motorcycle make it ride "hard" or "stiff"?

**Answer-** Specifically, lowering the bike doesn't change the ride. Altering the shock preload (stiffness) will change the ride quality a bit, but not necessarily in a negative manner. Many riders discover, while lowering their motorcycle, their rear shock was still set at the factory setting (position #1, for a 140 lb. rider!). Setting the shock too soft can have a negative effect on the ride, and many customers report their ride quality improving after installing the lowering kit as a result.

**Question-** My motorcycle's ride has always been too "soft" or "spongy", when riding with a passenger. Lowering the bike has made this more obvious. Is there a "fix" for this?

**Answer-** Yes! Many customers have reported their bike's ride being less than desirable, especially after adding many accessories and when riding with a passenger. Scootworks has developed a shock preload improvement kit to remedy this. It is very inexpensive, and is available from us via our website at <http://www.scootworks.com> , or via our telephone sales line.

**You're finished!**

[www.scootworks.com](http://www.scootworks.com)

Now that you're finished, enjoy the lowered look and feel of your bike. While the kickstand and/or front lowering procedures may not be required in your application, Scootworks wanted to provide you with the best tools and information possible, to help insure the success of your project. In the event of any questions, feel free to email us at [support@scootworks.com](mailto:support@scootworks.com) . I check this address daily, and will try to answer all questions as promptly as possible. - D. H.