



Harley Davidson Shocks

Manual & Installation Guide



JRi Dual Adjustable Shocks



JRi Ride Height Adjustable Shocks

Your Product:

Congratulations, you have purchased one of the best performing suspension components for your Harley-Davidson. JRi Shocks will provide exceptional performance and compliance for your motorcycle. Your shocks include the following features and functionality:

- **Custom spring rates to match your weight and riding style** – All models
- **Adjustable spring preload for fine tuning** – All models
- **External damping adjustment** – Dual Adjustable model only

Ride Height Adjustable shocks: These shocks only have adjustment for preload. The preload adjuster can be moved by loosening the set screw and spinning the preload collar clockwise to stiffen, or counter clockwise to soften the spring. The rates are soft enough that in most cases you can turn the preload adjuster with your hands.

Dual Adjustable Shocks: These shocks offer preload and damping adjustment. The damping adjuster is located at the bottom of the shock and offers adjustment on compression and rebound simultaneously. To stiffen the shock, turn the adjuster knob toward "+". To soften the shock, turn the adjuster knob toward "-".

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Key JRi Shocks components

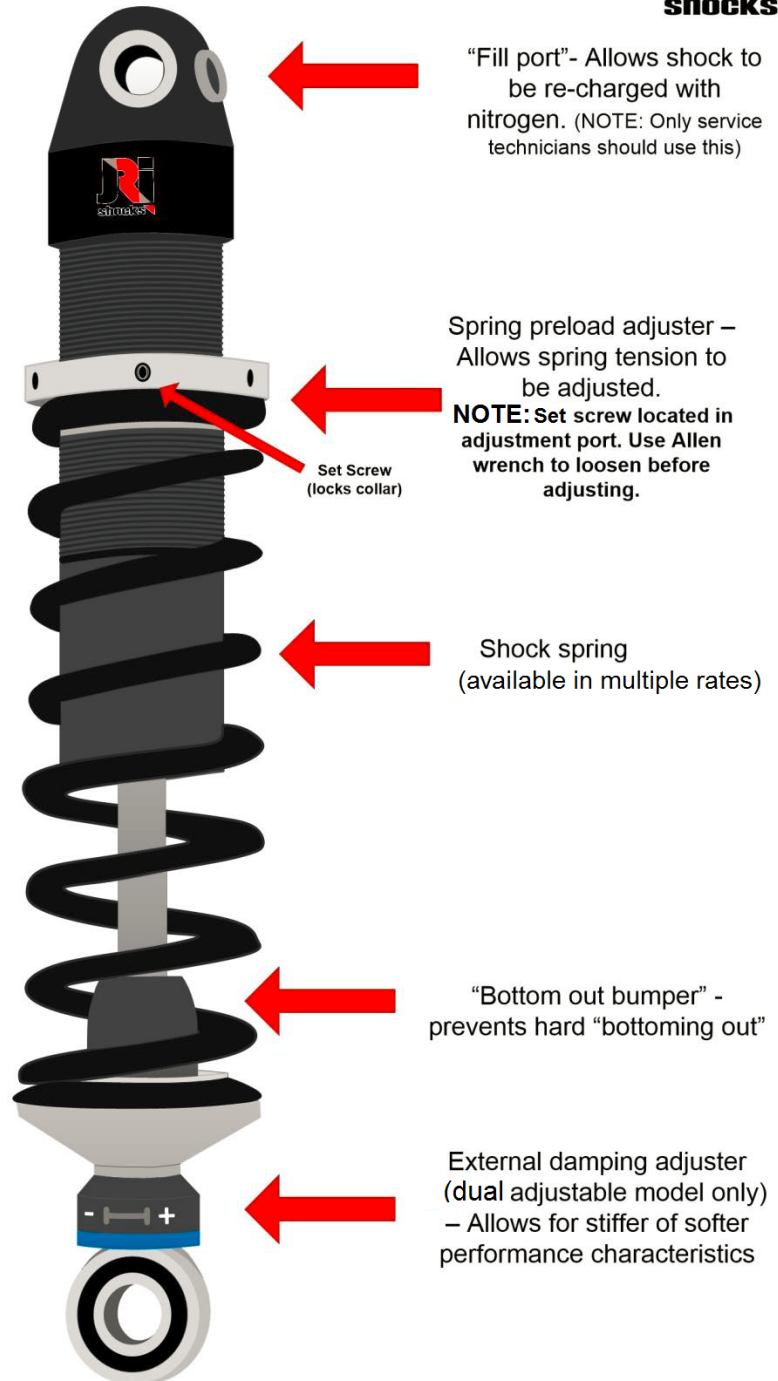


Figure 1 - Overview of shock components

Mounting your shocks

When mounting your JRi Shocks check and ensure that the shocks are parallel to the chassis. In many cases it is necessary to shim either the top mounting of the shock or the bottom of the shock to ensure a parallel chassis installation.

Failure to provide for a parallel chassis installation will cause immediate damage to the shocks resulting in unsafe operation.

Installation guidelines

JRi Shocks for Harley-Davidsons can be installed by any experienced technician. Customers that wish to install the product should do so only if they are an experienced technician that understands the dangers and possible damage to the motorcycle that may occur from improper installation.

Once the motorcycle has been lifted and the rear wheel un-weighted, remove the shocks from your Harley-Davidson. Check to see if the top frame mounting boss and swing arm boss are “even” (see **Figure 3**).

In some cases, it is necessary to move, modify, or re-arrange accessory mounting hardware to ensure clearance of the shock.

The correct fitment

If the shock mount bosses line up parallel to the chassis, spacers are not needed.

The shocks must be installed in the orientation shown (fill port up) to perform correctly as shown in **Figure 2**.

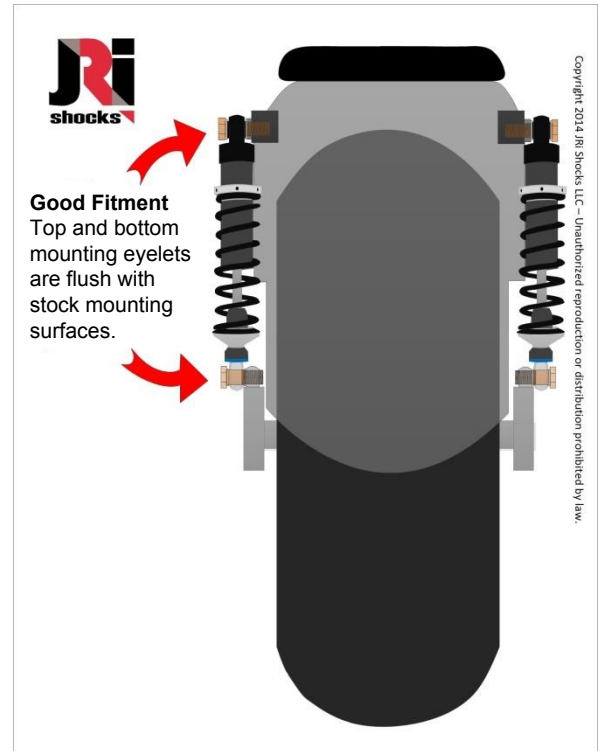


Figure 2 - Proper fitment

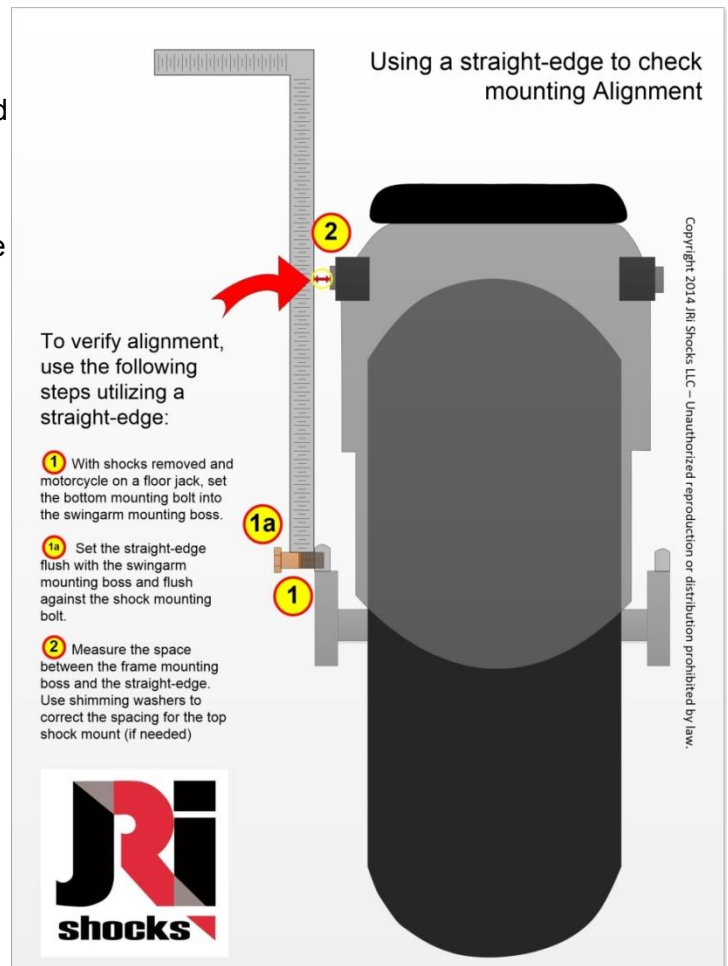


Figure 3 - Measuring for proper alignment

Should the technician find that there is a gap/space (**See Figure 4**) between the eyelet of the shock and the mounting point on the sub-frame or swing arm, then it will be necessary to install spacing washers (**See Figure 6**) so that parallel chassis installation can be achieved. Please ensure that you do not allow the shocks to “angle in” (**See Figure 7**), which will cause immediate damage to your shocks and cause unsafe operation of your motorcycle.

Lastly, ensure the shocks can move freely at least 3/8” in either direction when they are installed (**See Figure 5**). It may be necessary to move, relocate, or modify accessory areas if the shocks do not have 3/8” in either direction for free movement.

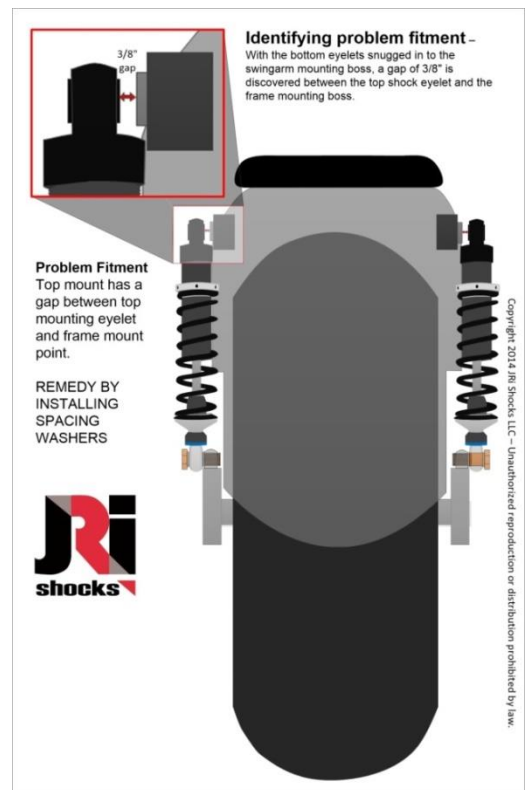


Figure 4 - Identifying problem fitment

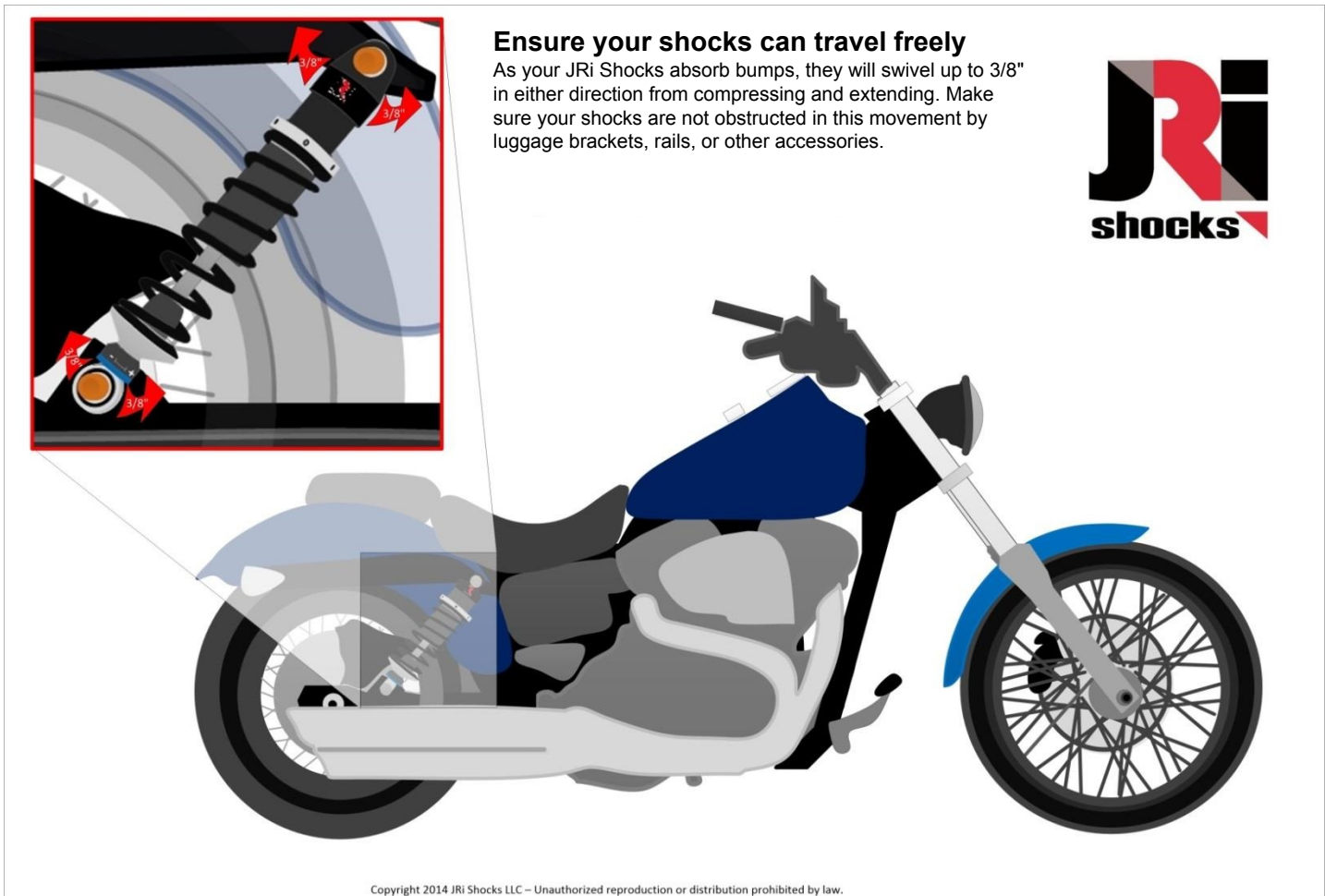


Figure 5 - Ensure free movement of the shock

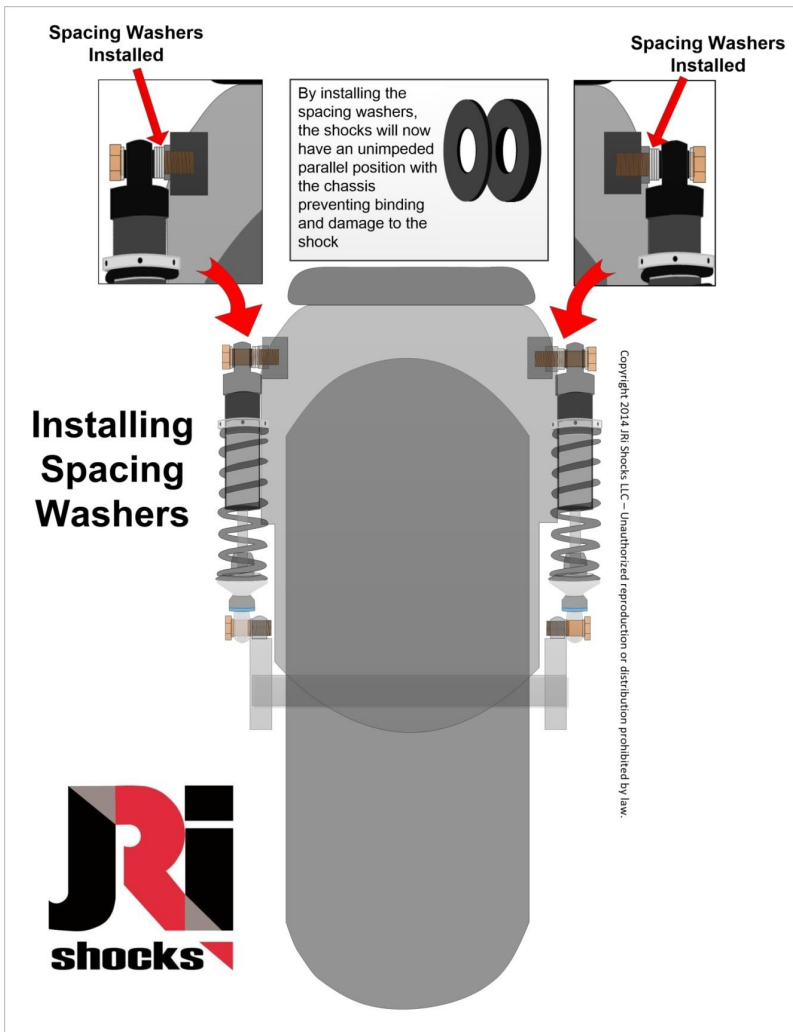


Figure 6 - Installing spacing washers



Figure 7 – DO NOT INSTALL SHOCKS AT AN ANGLE

Completing Installation

Setting the Sag

STEP 1

- 1) With your shocks installed on the motorcycle, extend the rear wheel until it is off the ground or the rear suspension is topped out. Measure from the center of the top shock bolt to the center of the lower shock bolt (**See Figure 8**)
- 2) Record this measurement as "A".

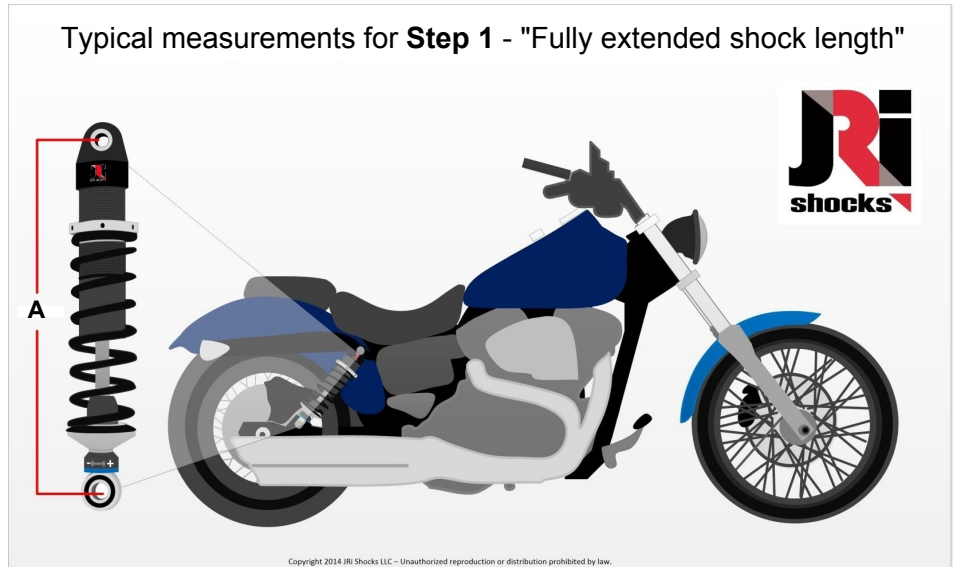


Figure 8 - First measurement for setting sag

STEP 2

- 1) Let the motorcycle sit under its own weight with you on it and measure from the center of the top shock bolt to the center of the lower shock bolt.
- 2) Record this measurement as "B" (**See Figure 9**)

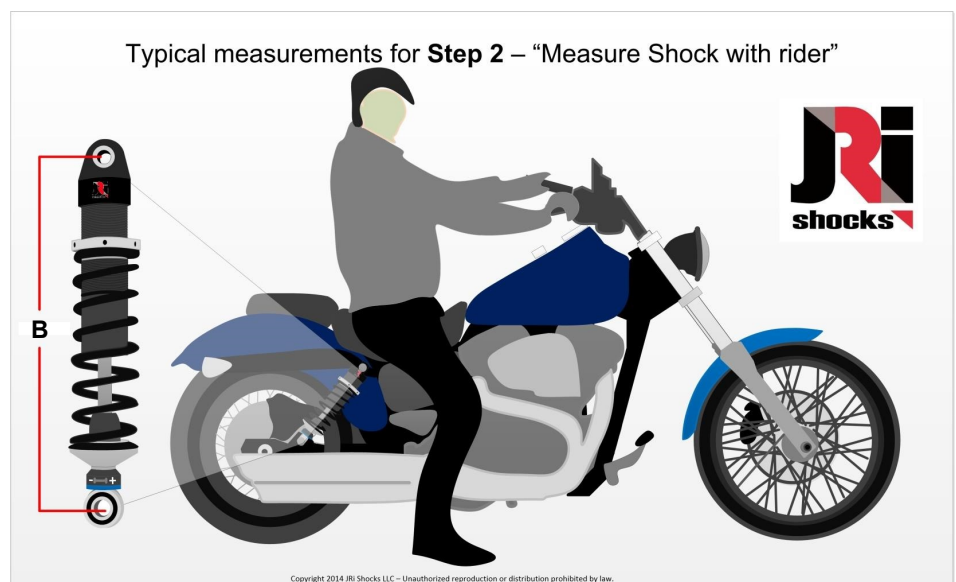


Figure 9 - Second measurement for setting sag

STEP 3

Subtract measurement "B" from measurement "A". This number is your total sag. Typical total sag numbers are 1 1/8" to 1 1/4" (28-32mm)

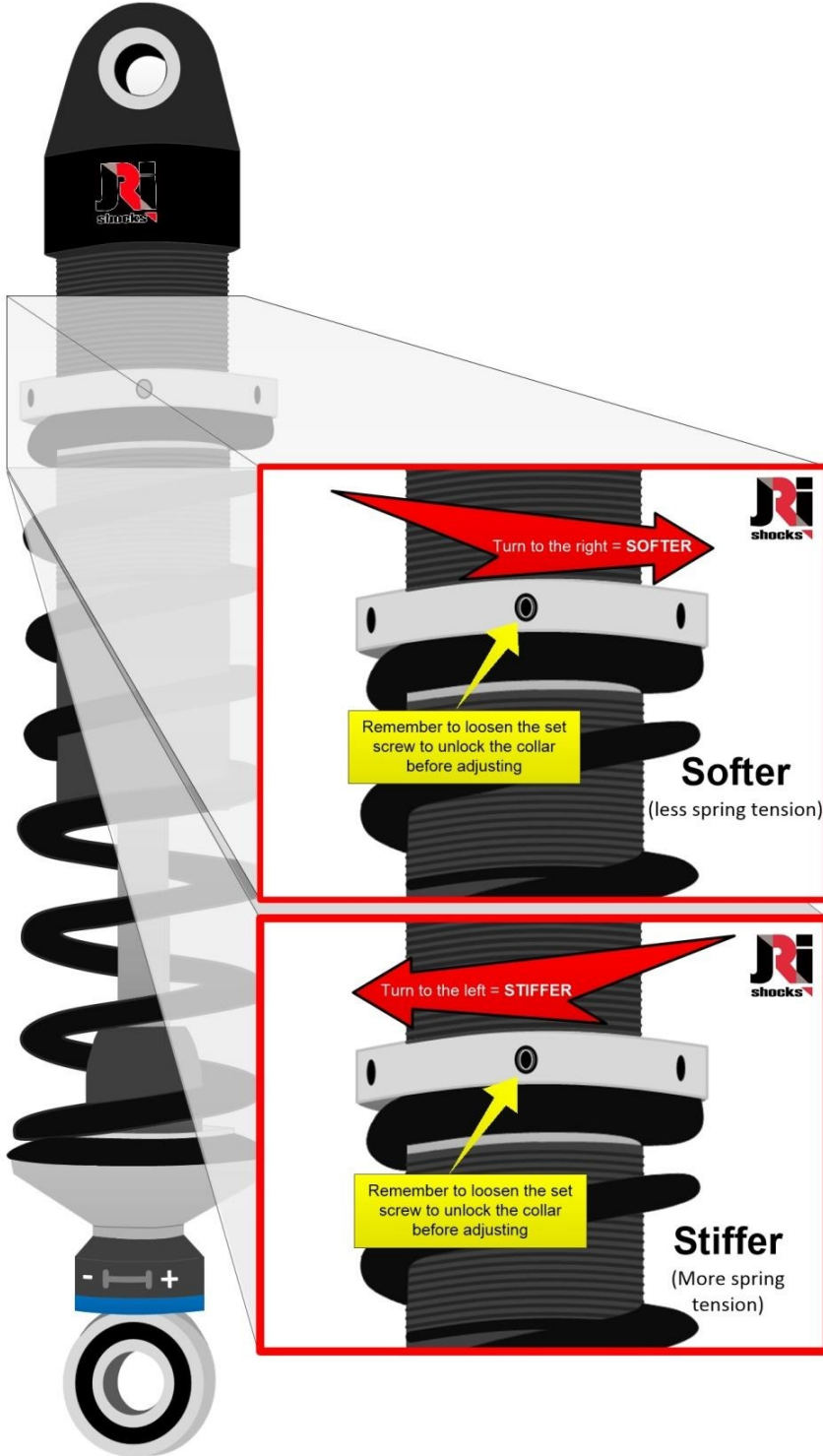
If the sag is greater than 1 1/4", preload the spring by turning the adjustable spring collar clockwise.

If the sag is less than 1 1/8", remove preload by turning the adjustable spring collar counter clockwise. (**See Figure 10**)



Adjusting Pre-load/Spring Tension

Adjusting your spring preload (tension) is critical in achieving optimal performance of your JRi Harley Davidson Shock.



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Figure 10 - Adjusting preload tension

Tuning:

- A. **Change one adjustment at a time**, write that change down, and evaluate the change with notes for each change.
- B. Your JRI Shocks come preset with baseline preload and damping settings. You may need to make changes for your preference.
- C. If you find that you have changed your settings too much and are “lost”, reset the preload and sweep valve (on the bottom of the Dual Adj Shocks) to the following:
 1. Preload 3/8" (10mm) (Spring length 7 & 5/8")
 2. Sweep Valve: 30 clicks out from stiff "+". **NOTE: DO NOT TURN IN THE SWEEP VALVE ADJUSTER WITH EXCESSIVE FORCE** or you may damage the damper needle. Use only light force when “turning in” to re-set or verify the sweep valve adjuster position.

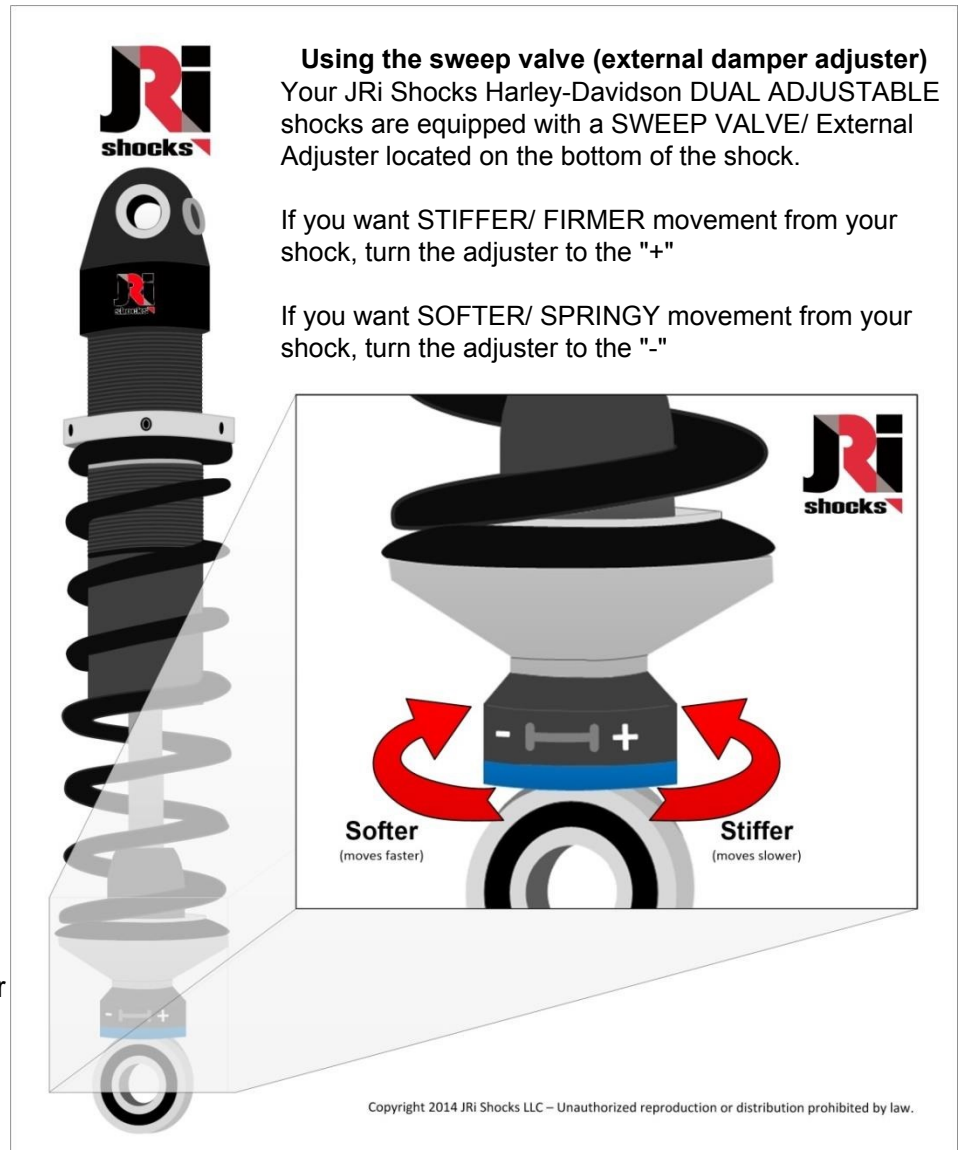


Figure 11 - Using the Sweep Valve

What to expect:

Once installed, the JRI shocks will provide a more compliant ride than any comparable shock in the marketplace. The rider will notice immediately when they sit on their bike for the first time that their Harley-Davidson will smoothly move approximately 1/2" with no abruptness when you transfer your weight onto your bike. IF YOU DO NOT FEEL THIS, please immediately check for installation issues (See Troubleshooting and refer to the installation section of this manual to ensure safe installation).

Tuning List:

Rear Suspension is “Harsh”

1. Place a zip-tie on the shock shaft and take the bike for a ride.
2. IF the zip tie is at the top of the bumper, add preload (**See Figure 10**) so that the Zip-Tie is between 1/4" and 1/2" above the bumper over normal bumps.

IF the harshness continues, then soften sweep valve (adjuster on the bottom of shock). Adjust 3-5 clicks at a time to get a noticeable change.



Figure 12 - Using a Zip-Tie to assist in setup

Rear Suspension is “Soft”

1. Place a zip-tie on the shock shaft and take the bike for a ride.
2. Should the rider experience excessive movement in the rear shocks where the back of the motorcycle “wallows” (rear suspension never settles in, but instead slowly “moves up and down”), the following steps are recommended:
 - a. Stiffen the rear suspension via the external damping adjuster 3 to 5 clicks at a time until the rear suspension stabilizes (Sweep Valve – **See Figure 11**).
 - b. If the problem persists after making more than 10 clicks of change, look at your Zip-Tie to ensure you are not more or less than 1/4” – 1/2” away from the bumper after riding over normal road bumps.
 - i. Adjust the preload to achieve the desired results.

Trouble Shooting



SHOCK IS EXCESSIVELY STIFF

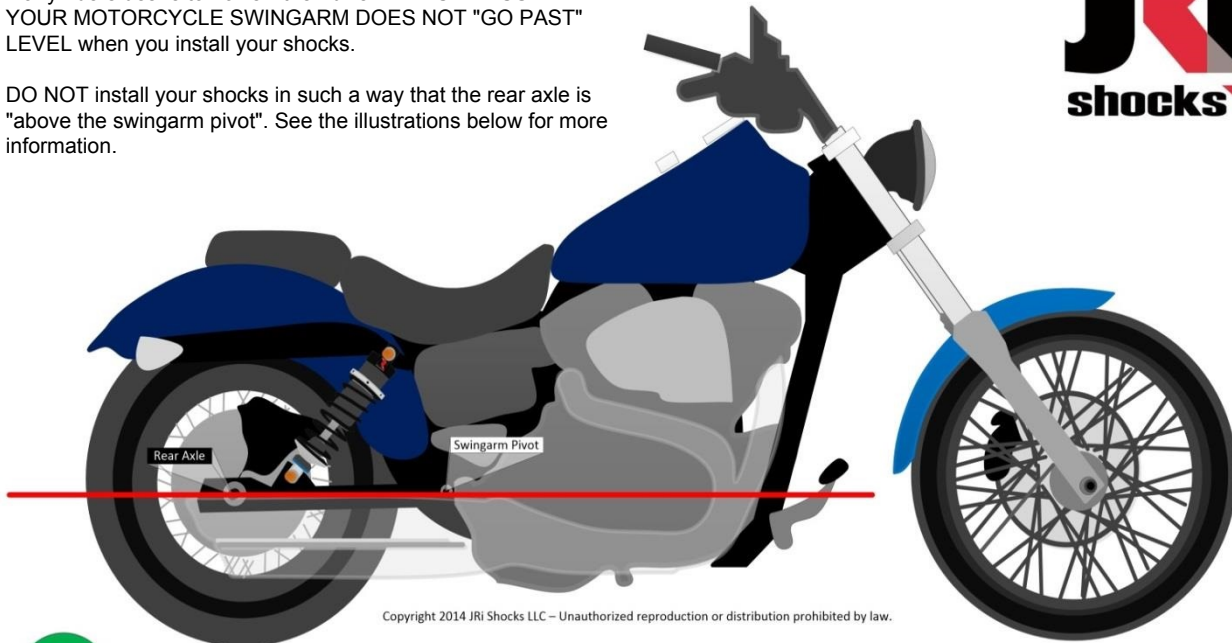
Should your shocks seem excessively stiff, conduct the following steps:

1. When you sit on the bike, does the motorcycle move smoothly after you place your weight on the seat? The bike should squat $\frac{1}{2}$ " to 1" depending on tuning/setup.
2. If the bike does move when you weight the seat, go to the Tuning section of this manual and follow the steps listed.
3. If the bike does not move (or minimally/harshly) when you place your weight on the seat, follow the tuning steps. If the problem still persists, check the following:
 - a. Double check the shock alignment under "Mounting Your Shocks" section.
 - b. If alignment is good, then loosen the shock mounting bolts leaving an $\frac{1}{8}$ " inch gap to allow the shock to move freely. Sit on the motorcycle again, it should move freely.
 - i. **DO NOT OPERATE YOUR MOTORCYCLE WITH THE SHOCK BOLTS LOOSENED.**
 - c. If the suspension feels harsh after step b, then verify the axle nut is BELOW the plane of the swingarm pivot (**See Figure 13**)
 - d. If the shock does not move freely after step B & C, please contact your reseller or JRi Shocks.

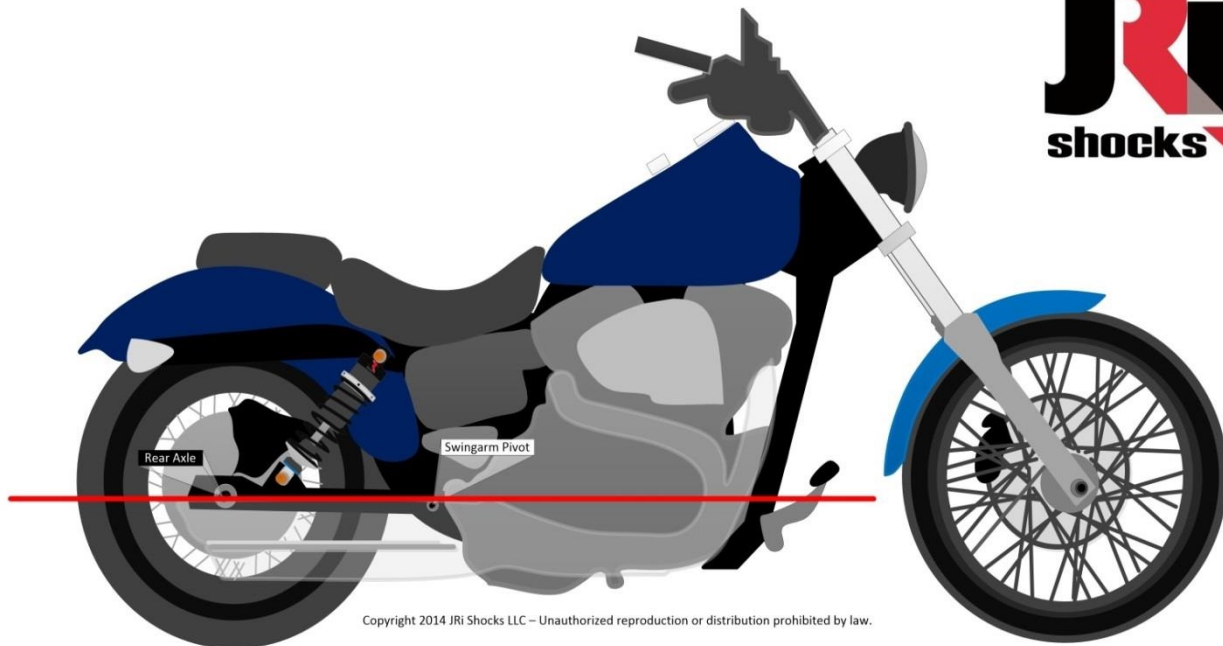
Ensure your swingarm does not go "below level"

Many riders desire to "lower" their bike. PLEASE ENSURE THAT YOUR MOTORCYCLE SWINGARM DOES NOT "GO PAST" LEVEL when you install your shocks.

DO NOT install your shocks in such a way that the rear axle is "above the swingarm pivot". See the illustrations below for more information.



Rear axle is BELOW swingarm pivot



Rear axle is ABOVE swingarm pivot

Figure 13 - Ensure rear axle nut is below swingarm pivot



Motorcycle Shock Limited Lifetime Warranty

At JRi Shocks, every team member that is involved with the manufacture, distribution, and delivery of our product takes special care to provide the quality you expect. Should you experience a problem however, we are here to help and ensure you get the performance from your motorcycle shocks that you have anticipated. If you experience any problem, please contact your reseller or JRi Shocks at:

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Spring(s) – For safety reasons, customers should measure the sag on a shock BEFORE they operate their motorcycle. If the customer discovers that the spring is not providing the sag that their owner manual recommends, they may elect to return the springs to the re-seller of the shock(s) to receive an appropriately rated spring. Should the customer use the motorcycle and consequently “use the spring”, JRi Shocks will charge a \$50.00 restock fee to exchange for “new springs”.

Customers with approved warranty issues will be provided pre-paid UPS ground shipping and required service(s) by JRi Shocks with limitations. PLEASE NOTE: IF YOU PURCHASED YOUR JRi HARLEY-DAVIDSON SHOCKS THROUGH A STOREFRONT, YOU MUST USE THAT DEALERSHIP FOR WARRANTY SERVICE/RETURNS.

Limited Lifetime Warranty

All JRi Shocks Motorcycle products are guaranteed to the original retail purchaser only that the Products furnished hereunder shall be free from material defects in material and workmanship under normal use and service, when properly installed, maintained and used for the purposes for which it is designed. Warranty coverage is limited lifetime.

This limited lifetime warranty is void unless the original retail purchaser completes the online warranty registration at <https://www.jrishocks.com/warrantyreg/> within 30 days from the date of purchase. In the event warranty service is required, notice of any such alleged defect must be given to JRI within ten (10) days after the discovery thereof, and provided that inspection by JRI confirms the existence thereof to the sole satisfaction of JRI. Instructions for filing a warranty claim can be found at <https://www.jrishocks.com/warrantyclaim/>.

This limited lifetime warranty does not cover (i) normal wear of parts; (ii) road hazards, abuse, neglect, accidents, collisions, fire, theft, freezing, vandalism, riot, explosion, or objects striking the Product; (iii) misusing the Products such as driving over curbs, overloading, or using a vehicle to which the Product is attached as a stationary power source; (iv) altering, disassembling, tampering or modifying the Product; (v) acts of God, natural disasters, force majeure events, and other similar causes beyond the reasonable control of JRI; or (vi) damage due to external causes, including accident, abuse, misuse, neglect, improper storage, modification, problems with electrical power, or any services not performed by JRI or its authorized representatives. Further, this warranty is voided if the Products are used for any form of racing.

All terms of the limited lifetime warranty are outlined at <https://www.jrishocks.com/terms/>.