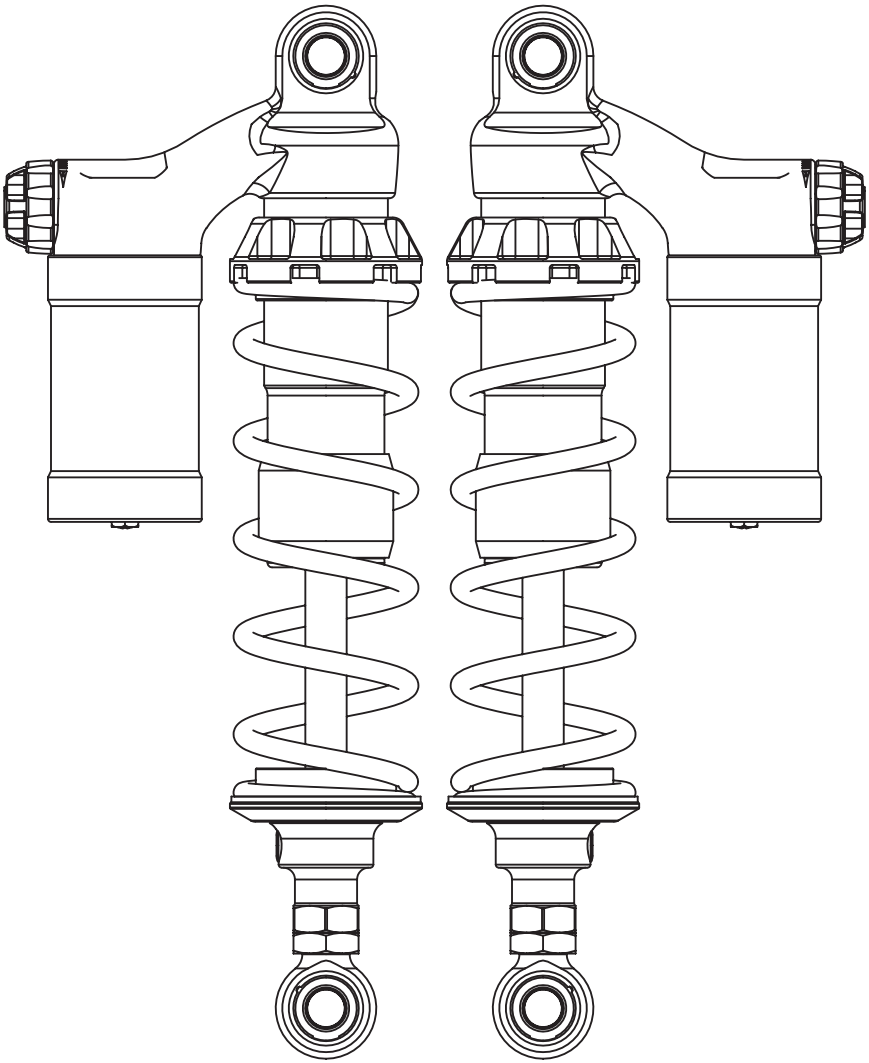
990 SERIES

LONG SHOCK INSTRUCTION MANUAL



PROGRESSIVE suspension

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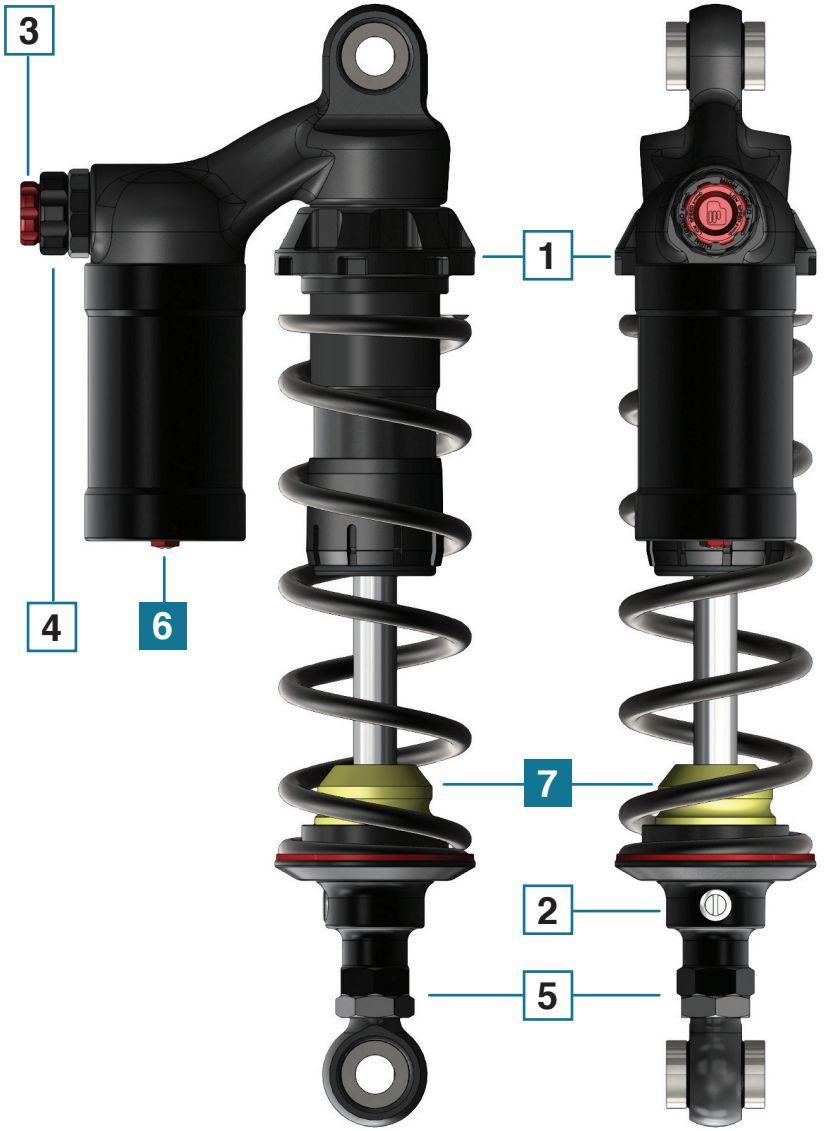
TO OUR CUSTOMERS:

Congratulations on your new Progressive Suspension 990 Sport Series shocks! We hope you are as excited as we were to make them. These represent the finest in complete adjustability, performance, and ride quality. You can now enjoy the road to its fullest and finest. We here at Progressive Suspension thank you for your purchase and hope to see you out on the road!

-Progressive Suspension Team

FEATURES & IDENTIFICATION



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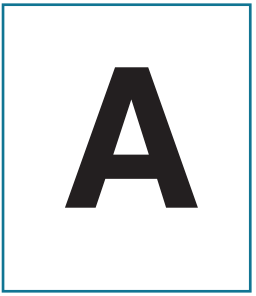


= ADJUSTABLE

= NONADJUSTABLE

INSTALLATION

TOOLS NEEDED:

Floor Jack, Tape Measure, Torque Wrench. For additional tools that may be required, please refer to your vehicle manual.

NOTE:

PLEASE read and refer to our warnings, cautions, and warranty on the last page before proceeding to install your new shocks on your bike.

1. First, securely lift the rear wheel slightly off the ground.

FIGURE 1

2. Using the correct shop manual for your bike, remove the old shocks and note the location of any mounting hardware. If additional accessories are installed on your motorcycle, please refer to their mounting instructions for removal to gain access to your shocks.

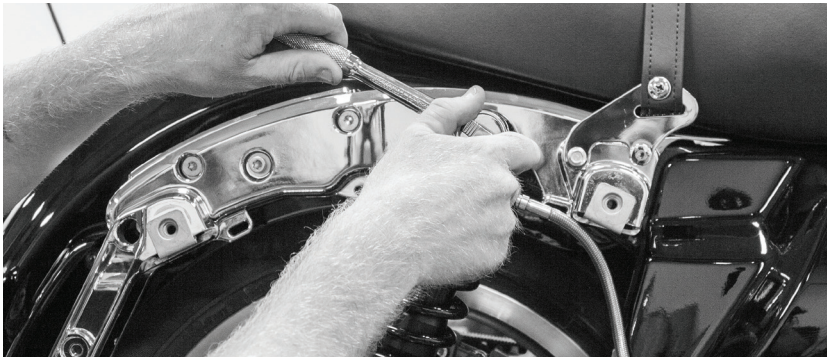


FIGURE 2

3. Before installing your new Progressive shocks, and with the old shocks removed, carefully lower the rear wheel until the upper and lower shock mount centers (shown with double ended white arrow in Figure 3) are equal to the extended length of the shocks you are installing - plus 0.25" inch - to make sure no contact will be made between the shock mounts or swingarm and the exhaust system or any other part or accessory when the shocks are mounted. Possible contact points are indicated by the arrows shown in Figure 3. Double check your measurements.

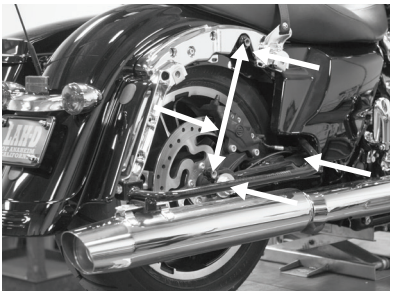


FIGURE 3

WARNING: DO NOT complete the installation of your Progressive Suspension Shocks until you have corrected any interference to achieve proper clearance.

NOTE: Before installing long 990 Series shocks, we recommend you check belt/chain tension (See Belt/ Chain Adjustment section).

Install the shock assemblies onto the motorcycle with the included hardware, noting any special instructions in the hardware kit and / or notes on the included application supplement. While the shocks may be mounted with the piggyback reservoir in any position, you must insure that no part of the shock will make contact with any other part of the bikes chassis or other accessories through the full range of suspension stroke. (See Figure 4,5 & 6 below).

FIGURE 4

FIGURE 5

FIGURE 6

INSTALLATION *-CONT.*

For remote reservoir applications install the shock assemblies onto the motorcycle with the reservoir hydraulic lines at the top and pointing forward. (Figure 7)

FIGURE 7

Install the reservoir brackets, following the special instructions in the included mounting kit, onto the saddle bag support. Use the included sleeve to fit onto 7/8" bars, 3/4" bars will not use the sleeve. Loosely assemble the mounts according to the photo(s) below. The 'C' should be facing the bike. Attach the reservoirs to the front of the brackets and tighten all the hardware. Tighten bolts/nuts to their proper torque and then check the clearances of the shock to the frame, chain or belt, brake caliper and rotor. Make sure the reservoirs and brackets are free from interfering with swing arm movement and not making contact with the side covers or saddlebags once installed.

FIGURE 8

FIGURE 9

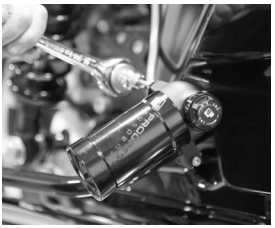


FIGURE 10

4. Reinstall any accessories removed in accord with their mounting instructions. Make sure accessories do not interfere with the shocks throughout their full travel. If any accessories bolt to the shock mounting points, a careful inspection must be made to insure that they do not bind the shocks in any way.

BELT / CHAIN ADJUSTMENT

Installing longer than stock shocks will typically result in an increased amount of slack in your drive belt/chain when the shocks are at or near full extension. However you must never over-tighten your drive belt/chain. Adjust the drive belt/chain as you normally would per your factory authorized manual noting the following. Depending on the year and model bike you have, the manual may say to check the drive belt tension with or without the rider on the bike and may give different tensions for different models. This is related to the drive type (chain or belt) and the various stock shock lengths offered on the various models. Since we just changed the length of the shocks, we recommend the following guidelines:

Be sure to find the tightest point in you drive chain/belt. Do this by lifting the rear wheel slightly off the ground and rotating it while checking the slack in the chain/belt (they stretch and have tight and slack points) mark the point that is the tightest.

With the belt/chain at the previously mentioned tightest point, make sure the rear axle, swing-arm pivot, and counter-shaft sprocket/cog are all aligned (see Figure 11). You may be able to do this by having someone sit on the bike to compress the shocks, or it may require temporarily removing the shocks. This is now the tightest position the drive belt/chain will ever see. It's in this position you want to measure the "slack" or "play" on the lower side of the belt/chain about in the middle between the front and rear sprockets/cogs, and if need be adjust your chain/belt tension.

In this position we recommend adjusting the tension to between .25" (6.4mm) and .31" (7.9mm). If you are adjusting a model with a belt rather than a chain, we recommend using a belt tensioning tool (HD part number 40006-85) as the belt requires approximately 10 lbs of force be applied while adjusting to this measurement - when you apply the 10 lbs of pressure, it should deflect the .25"-.31" of an inch.

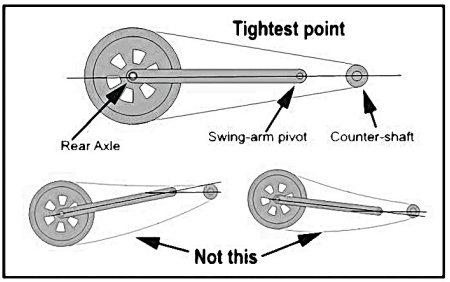


FIGURE 11

Be sure to align the wheel and tighten all bolts and fasteners to the proper torque per your factory authorized manual. With the drive/belt adjusted in this manner, lift the bike back up to where the shocks are fully extended and check for excessive slack in the belt/chain. If it can make contact with anything but the sprockets/cogs or could possibly jump tooth on them, a spring-loaded belt/chain tensioner of some kind must be installed.

PRELOAD & SAG

Proper spring preload will permit the rear suspension to sag, or compress,approximately 1/3 of the wheel travel from full extension. Since the wheel travel is directly related to the shock travel (in terms of percentage), a simple way to check sag is to check the shock length itself. Measure the shock EYE-to-EYE with the rider(s) and any additional luggage or weight on the bike ready to ride – this is your RIDE LENGTH. Use the rightmost column in the table below, or refer to the included application supplement, to find the TARGET RIDE LENGTH** based on your application. If the bike RIDE LENGTH is too low, increase the preload. If it's too high, reduce the preload. Spring preload adjustments are made by turning the adjuster (this can be done by hand or using a spanner wrench). Turn this adjuster clockwise to increase spring preload and counterclockwise to decrease spring preload. Set the preload equally on both shocks using these measurements as your guide. See table & figure below.

Shock Part #	*Min. Spring Installed Length* Inches (mm)*	*Max. Spring Installed Length* Inches (mm)*	*Target Ride Length** Inches (mm)*
990-1002	7.0 (179)	8.1 (207)	12.4 (314)
990-1011	7.0 (179)	8.1 (207)	12.4 (314)
990-1012	6.3 (160)	8.1 (207)	12.8 (325)
990-1013	6.8 (173)	8.1 (207)	13.6 (345)

** Min & Max spring lengths must be measured with the shock fully extended (rear wheel slightly off the ground).*

***Target ride lengths specified are with shock length adjustment set at the shortest length. If adjusting the shocks to a longer length, add the same amount to the target ride length. Example: If you lengthen the shocks by the maximum allowable 10mm, be sure to add 10mm to your target ride length.*

NOTE: The adjuster is a threaded device, so if you rotate the adjuster beyond the recommended maximum spring length setting you run the risk of the spring losing contact at full extension which can lead to excessive noise and/or component failure. Similarly if the spring length setting is rotated to a setting beyond the recommended minimum* you run the risk of the spring coils binding at full compression which can lead to a harsh ride and/or component failure.*

REBOUND (R)

WHAT IS REBOUND?

Rebound is the speed at which the shock extends after being compressed. This speed can affect ride qualities such as pitching motion of the motorcycle as well as how the chassis recovers after hitting a bump. Rebound damping is used to control that speed. More damping – slower speed, less damping – faster speed. Your 990 shocks have an external rebound damping adjustment which can be adjusted with a flathead screwdriver.

SETTING REBOUND

The rebound damping adjuster has 12 turns of adjustment and is preset from the factory at our recommended setting of 6 turns from closed (Closed is turning the adjuster clockwise until it is snug). Adjustments can be made based on riding style, road conditions and personal preference. Turn the adjuster clockwise to increase rebound damping or turn the adjuster counterclockwise to decrease rebound damping. We recommend making rebound damping adjustments 2 turns at a time until a desired rebound setting is found. The adjuster can then be finely tuned in 1 turn increments as needed.

INCREASE REBOUND DAMPING

(SLOWER SPEED SHOCK EXTENSION)

More damping may be desired if the back of the bike feels like it is kicking up too much during braking or after a bump is hit. More damping may also be desired if the bike feels like it is moving around excessively and not settling down after hitting a bump.

DECREASE REBOUND DAMPING

(FASTER SPEED SHOCK EXTENSION)

Less damping may be desired if the back of the bike is too firm and not very compliant with the road. This may be noticeable after a series of bumps very close to each other or after a large bump is encountered. Less damping may also be desired if the ride feels too harsh or choppy.

LOW SPEED COMPRESSION (LSC)

WHAT IS LOW SPEED COMPRESSION?

Low speed compression damping provides resistance during low speed movements of the shock. More damping – firmer feel, less damping – softer feel.

SETTING LOW SPEED COMPRESSION

The LSC damping adjuster has *16* clicks of adjustment and can be turned by hand. To make adjustments to the LSC circuit, turn the knob clockwise (more damping) until snug. Turn the adjuster counter-clockwise (less damping) and count the number of clicks. Always refer to the adjustment as a number of clicks from closed (all the way clockwise- maximum damping). DO NOT over tighten the knob once snug or damage may occur (this applies to both clockwise and counter-clockwise rotations).

HIGH SPEED COMPRESSION (HSC)

WHAT IS HIGH SPEED COMPRESSION?

High speed compression damping provides resistance during high speed movements of the shock. More damping – firmer feel, less damping – softer feel.

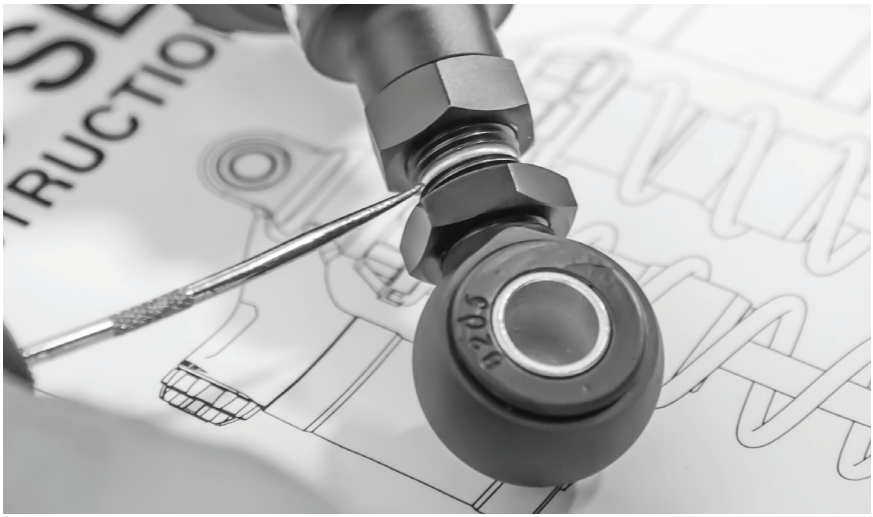
SETTING HIGH SPEED COMPRESSION

The HSC damping adjuster has 8 clicks of adjustment and can be turned by hand. To make adjustments to the HSC circuit, turn the knob clockwise (more damping) until snug. Turn the adjuster counter-clockwise (less damping) and count the number of clicks. Always refer to the adjustment as a number of clicks from closed (all the way clockwise- maximum damping). DO NOT over tighten the knob once snug or damage may occur (this applies to both clockwise and counter-clockwise rotations).

LENGTH ADJUSTMENT

The length of the shock is also adjustable by up to 10mm. By lengthening the shock, you raise the height of the rear of the bike. To make this length / height adjustment, place a jack under the bike and lift up until the rear tire is slightly off the ground. Remove the shock mounting bolt that attaches each shocks rod end (with length adjuster) to the bike so that both shocks are free. Locate the nut near the rod end (see figure) and loosen. Thread the rod end out to the desired height and lock the nut down to *18* ft-lbs once your desired length / height is reached. Reattach the shocks and check for clearances of the swing arm, belt or other components that may touch at an extended length. (Refer to Step 3 of these instructions)

CAUTION: DO NOT exceed length adjustment beyond the reference groove of the rod end. Running past this point may result in a part failure. The reference groove MUST NOT be visible once the rod end is fully tightened into position.



SETTINGS

Test ride and make adjustments as needed. Use the notes section below to track your setup.

Lastly, ride and enjoy...*Safely!*

FACTORY SETTINGS:

Length Adjuster: shortest length

HSC: 8 clicks from close

LSC: 16 clicks from close

Rebound: 6 turns from close

NOTES

PRELOAD	SAG	REBOUND	LSC	HSC	NOTES
0.00”	0.00”	6 clicks	16 clicks	8 clicks	Factory Specs

WARNING

This means there is the possibility of injury to yourself or others. Raising or lowering the rear of your motorcycle will affect the steering and initial ground clearance. If the motorcycle is lower to the ground, care should be taken to avoid bottoming, especially over bumps or in turns. Raising the rear of a motorcycle can change steering head angle. Always use extreme caution when riding after a change is made and take time to get accustomed to any handling change. The motorcycle must be securely blocked to prevent it from tipping over when the shocks are removed. Failure to do so can cause serious damage and/or injury. The use of lowering blocks on Progressive Suspension shocks is not recommended. Use of a lowering kit may void the warranty or damage the shock/motorcycle. Progressive Suspension shocks are designed to work on the OEM (Original Equipment) frame and swing arm. Use of these shocks on a frame or swing arm other than OEM may produce an unsatisfactory ride and void the warranty. Make sure that proper bushings/sleeves are installed in the shocks. Improper bushings/sleeves can cause unsatisfactory and/or unsafe operation.

CAUTION

Make sure to adjust your spring Preload with both ends of the shock mounted to the motorcycle or otherwise secured as to not allow rotation of the ends while making the Preload adjustment. Not doing so may cause internal damage to the shock, which could result in shock malfunction and injury. Be sure not to remove the travel limiters (if any) and the jounce bumper. If removed, some components could come into contact during the ride (tire/fender, swing arm/frame, etc.), resulting in very unstable behavior which could lead to serious damage and/or injury. If the rear fender or tire has been changed to anything other than stock, check tire to fender clearance with shocks fully compressed, making sure that the tire does not come in contact with the fender. A travel limiter may be required to correct any such contact. Do not attempt to disassemble the shock yourself. Our shocks contain highly pressurized gas, attempting to open them could lead to injury. Progressive Suspension's shocks are designed to last the lifetime of the motorcycle. If for any reason you need to disassemble the shock, please call our customer support line at: **1.877.690.7411**

WARRANTY

Progressive Suspension warrants to the original purchaser of this part to be free of manufacturing defects in materials and workmanship with a lifetime warranty. In the event warranty service is required, you must call Progressive Suspension immediately with a description of the problem. If it is deemed necessary for Progressive Suspension to make an evaluation to determine whether the part is defective, a return authorization number will be given by Progressive Suspension. The parts must be packaged properly so as to not cause further damage and returned prepaid to Progressive Suspension with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem. If after the evaluation by Progressive Suspension the part was found to be defective, it will be repaired or replaced at no cost to you. If we replace it, we may replace it with a reconditioned one of the same design. Progressive Suspension shall not be held liable for any consequential or incidental damages resulting from the failure of a Progressive Suspension part. Progressive Suspension shall have no obligation if a part becomes defective as a result of improper installation or abuse.

16121 Carmenita Road,
Cerritos, CA 90703
877.690.7411
info@progressivesuspension.com