PROGRESSIVE suspension

INSTALLATION INSTRUCTIONS
490 SERIES SHOCKS

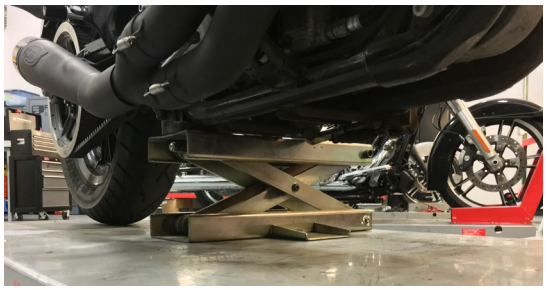
TOOLS NEEDED:

Floor Jack, Tape Measure, Torque Wrench. For specifics, please refer to your shop 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.

INSTALLATION:



1. First, place a quality jack or sufficient blocks under your motorcycle to securely lift the rear wheel slightly off the ground.

2. Next, 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.

3. Before installing your new Progressive shocks you need to check the tire to fender clearance, making sure that the tire does not come in contact with the fender. If the rear fender or tire has been changed to anything other than stock, a travel limiter may be required. On some models with side bags or luggage, the bag or luggage mounts may need to be modified to eliminate any interference. Install the shock assemblies onto the motorcycle with the included hardware, noting any special instructions in the hardware kit. Tighten bolts / nuts to their proper torque and then check the clearances of the shock to the frame, shock to chain or belt, shock to chain or belt guard, shock to brake caliper and/or linkage, and brake rotor.

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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. Your shocks will come pre-installed with either bushings or bearings; refer to your hardware pack supplement during installation.

5. Set your ride sag. The proper spring preload setting will permit the rear suspension to sag, or compress, approximately 1/3 of the wheel travel from full extension. To check sag, take a measurement from the center of the rear axle, straight up to a vertical point on the rear fender or frame with the shocks fully extended. Then, take a second measurement using the same points with the rider(s) on the bike. The difference between the two measurements is the ride sag. Use the rightmost column in the table below to find the target ride sag based on your application. If the bike is sagging too much, increase the preload.

PRELOAD ADJUSTMENT:

6. 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 and figure below.

Shock Part #	Min. Spring Installed Length Inches [mm]	Max. Spring Installed Length Inches [mm]	Target Ride Sag, Inches [mm]
490-1001	5.8 [147]	7.7 [179]	1.4 [35]
490-1002	7.2 [182]	8.2 [207]	1.6 [41]
490-1003	4.9 [125]	6.5 [165]	0.9 [23]
490-1004	6.1 [156]	7.5 [191]	1.2 [31]
490-1005	4.9 [125]	6.5 [165]	0.7 [19]
490-1006	5.3 [135]	7.3 [185]	0.7 [19]
490-1007	6.1 [156]	7.5 [191]	1.0 [25]
490-1008	6.3 [159]	7.3 [185]	1.0 [25]
490-1009	4.9 [125]	7.0 [180]	1.0 [25]
490-1010	6.2 [158]	7.0 [180]	1.2 [31]
490-1011	5.7 [145]	8.1 [207]	1.1 [27]
490-1012	6.6 [168]	8.1 [207]	1.5 [37]
490-1013	5.5 [141]	8.1 [207]	1.5 [37]

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

REBOUND ADJUSTMENT:

7. Your 490 shocks also have an external rebound damping adjustment which can be adjusted using a flathead screwdriver. The rebound adjuster will have 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 and road conditions. Turn the adjuster clockwise to increase rebound damping or turn the adjuster counter-clockwise to decrease rebound damping.

Increase Rebound: More rebound 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 rebound may also be desired if the bike feels like it is moving around excessively and not settling down after hitting a bump.

Decrease Rebound: Less rebound 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 rebound may also be desired if the ride feels too harsh or choppy.

We recommend making rebound adjustments 2 turns at a time until a desired rebound setting is found. The adjuster can then be finely tuned in 1 turn increments if needed.

8. Test ride: If excessive bottoming occurs, you need to increase your spring pre-load setting as described above.

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

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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 the 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 swingarm. Use of these shocks on a frame or swingarm 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 pre-load 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. 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.