PROGRESSIVE suspension

Installation Instructions
RAP onto 465 Series Single Shock

ATTENTION

Statements in these instructions that are preceded by the following words are of special significance:

Warning

This means there is the possibility of injury to yourself or others.

Caution

This means there is the possibility of damage to the vehicle.

Note

Information of particular importance has been placed in italics.

Warranty

Progressive Suspension Inc. warrants to the original purchaser this Part to be free of manufacturing defects in materials and workmanship for a period of one (1) year from the date of purchase. 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.

Warning

Changing the chassis and/or suspension on any vehicle will change the handling characteristics of that vehicle. Care should be taken when operating the vehicle with such modifications while getting accustomed to the new handling characteristics.

IMPORTANT NOTICE

Caution: Removing and reinstalling the shock absorber, and the spring on said shock absorber, must be performed by a qualified mechanic or according to steps outlined in an authorized shop manual that relates to your particular make, model and year motorcycle. Process may require special tools, fixtures, and/or a press.

These are general instructions. For specific instructions relating to your particular model please read the enclosed supplemental instructions, as well as referring to an authorized shop manual.

The vehicle must be securely blocked to prevent it from dropping or tipping when the shock absorber is removed. Failure to do so can cause serious damage and/or injury!

Progressive Suspension 465 Series shocks are designed to work with the OEM (Original Equipment) chassis components. Use of this product on any chassis components other than OEM may produce an unsatisfactory ride and void the warranty.

Installation

1. Remove the 465 shock from your motorcycle as you would a stock shock, per your factory manual.
2. Measure the current installed spring length, and note here _____.
3. Reduce the spring preload as far as it will go. If it will go far enough to expose the spring seat retainer ring (fig. 1), then skip to step 5.
4. You may need to use the proper fixture and/or tooling, to compress the spring at the shaft end of the shock by pressing on either the spring seat or spring coils near it until the retaining ring is exposed (fig. 2).
5. Remove the ring, and release the tension (if needed) on the spring seat, then remove it along with the spring.
6. Remove the preload adjuster ring and the locking ring. Flip the locking ring over and reinstall it with the flat side facing towards the shaft.
7. Install the Remote Adjustable Pre-Load adjuster onto the 465 Shock as shown (fig. 3) and orient it as per the included model specific installation instruction supplement.
8. If possible, install the spring, spring seat, and retaining ring before setting spring length. Using the preload locking ring, set the spring length per the measurement taken earlier in step 2- noting that the spring seat and retaining ring will be using the groove closest to the rebound adjuster (regardless of which groove it may have been installed in prior to disassembly) as shown in figure 1 - UNLESS the model specific installation instruction supplement states otherwise.

   If the spring is too long to do this without a fixture/press, then proceed to step 9 - otherwise, skip to step 10.

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9. You may need to use the proper fixture and/or tooling to compress the spring again. If so, press on the spring seat or spring coils near it until the retaining ring groove closest to the rebound adjuster is exposed. Install the retaining ring and release the tension on the spring being sure the ring seats properly in the shock and spring seat (fig. 4).

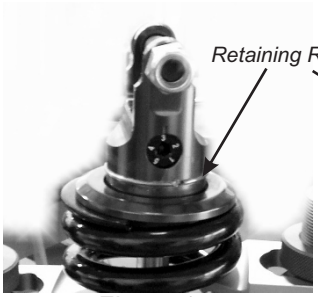

Figure 1

Figure 2

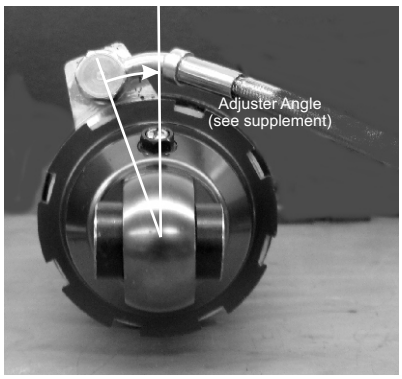

Figure 3

Figure 4

10. Check the installed spring length. If you want to make a course preload adjustment, moving the range of the RAP adjuster, do so now before installing the shock on the motorcycle. Tighten or loosen the preload locking ring noting the minimum installed spring length, and while maintaining the RAP adjuster's orientation (fig. 3) both per the included model specific installation instruction supplement.

11. Reinstall the Remote Adjustable Pre-Load adjuster equipped 465 series shock as you would a stock shock per your factory manual, noting adjuster routing and mounting per the included model specific installation instruction supplement.

Verify Ride Sag

- Pre-load adjustment controls the "ride height" or "sag" of your motorcycle. To check your Ride Sag there are two key measurements, the first is Extended Height the second is Ride Height, and both are ideally measured from the center of the rear axle to an arbitrary point directly above the axle (a fender bracket, for instance).
- Extended Height is measured with the bike on a jack with the rear tire just off the ground or off the stand and with a helper. While holding the bike straight up have the helper solidly lift the rear end by the fender or rack until you feel the shocks stop extending, or "top out". Once you are certain the suspension if fully extended, take your first measurement.
- Ride Height is measured with the rider, or riders, and gear on the bike (hands on the bars and feet on the pegs) and a helper or two supporting it. A measurement is again taken using the same points as before.
- Now subtract the second measurement - Ride Height - from the first measurement - Extended height - and the difference between the two measurements is the Ride Sag.
- Ride Sag is generally expected to be 1/3 of the total wheel travel. If your number is less, then the bike will require less preload, and if it is greater, more preload is needed.
- Now that your 465 Series shock is equipped with the Remote Adjustable Pre-Load adjuster, the fine adjustment range should be set to your usable range. This should allow you to use lower settings for solo riding with minimal or no cargo, and higher settings for two-up riding and/or extra cargo. However the adjustable range can sometimes be moved up or down depending on your needs. The method for this courser adjustment is the same as adjusting the preload before you installed the Remote Adjustable Pre-Load adjuster - simply rotate the adjuster ring.
- There is a minimum installed spring length that is model specific - and you must NEVER adjust the preload to produce a spring length less than that minimum length, or the spring may go coil-bound and damage will result. The minimum installed spring length is noted on the model specific installation instruction supplement included with this kit.

Shock service and parts.

Contact us for service center information. Our technical Staff will assist you if you have any problems or questions. Call (714) 523-8700, Monday - friday, 8 a.m. to 4 p.m. Pacific Time.

For balanced suspension, we recommend the installation of a pair of our progressive rate fork springs