

Harley Davidson Fork Lowering Kit Installation Instruction

Warning: All work must be performed by a qualified mechanic or according to steps outlined in an authorized service manual. Installing lowering kit will decrease initial ground clearance. The motorcycle will be lower to the ground and care should be taken to avoid bottoming, especially over bumps or turns. To maintain proper balanced geometry, we recommend lowering the motorcycle in the rear the same amount as the front (see Harley Davidson application chart).

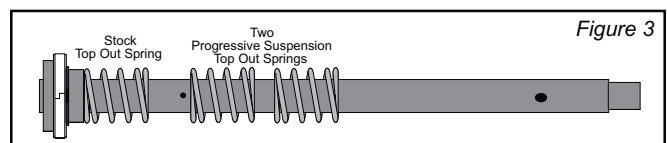
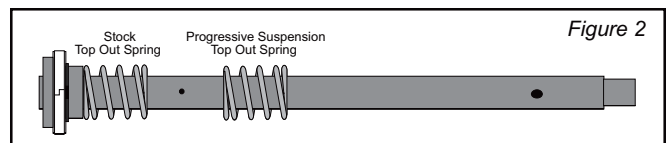
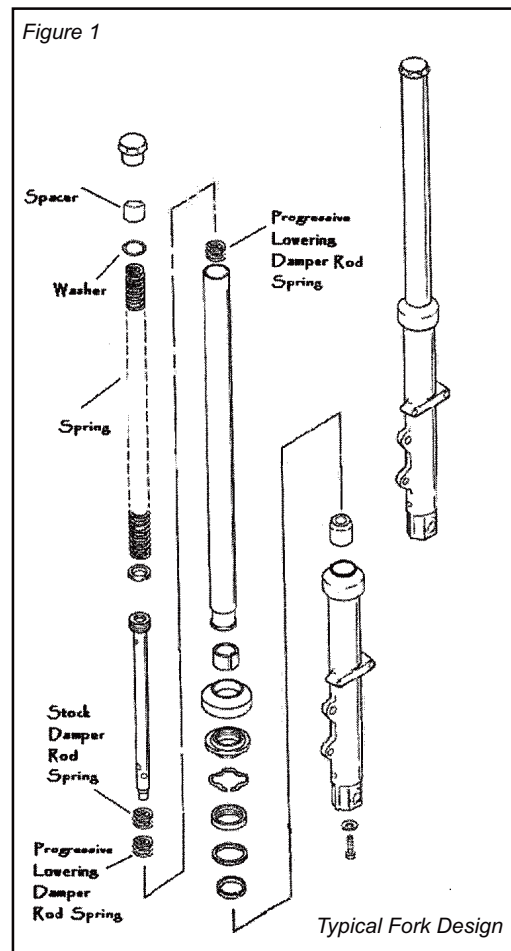
Fork Lowering Kit Supplement

The installation of a fork lowering kit does not affect the compressed length of the fork. However, we have found that some motorcycles may not have adequate clearance between the fender, fairing and/or accessories. Therefore, we recommend that this be checked and if there is not adequate clearance, the interfering parts be removed or modified to eliminate the situation. After installation of new top out springs onto the damper rod, we recommend that the forks be installed on the motorcycle complete with wheel/fender, but without the main springs and completely bottomed out. This is done to check clearance between the fender and fairing/crash-bar/accessories, etc.

Never attempt to remove the fork cap or nut without placing a quality jack or sufficient blocks under the motorcycle to securely lift the front wheel off the ground. Failure to do so could result in damage and/or serious injury

1. Remove and disassemble forks (including removal of damper rod) according to steps outlined in an authorized service manual for your particular model and year Harley Davidson (see figure 1 for reference).
 2. To achieve a one inch (1") lowered height, leave the stock top out spring on the damper rod and install one Progressive Suspension top out spring on the damper rod with the stock top out spring (see figure 2). Proceed to step 4.
 3. To achieve a two inch (2") lowered height, leave the stock top out spring on the damper rod and install two Progressive Suspension top out springs on the damper rod with the stock top out spring (see figure 3).
 4. Reinstall damper rods into forks per shop manual.
- A. Add the proper amount of fork oil as recommended in your shop manual. Make sure the viscosity is the recommended weight.
- B. Install your Progressive Suspension fork springs with the close wound end up.

C. Cut the supplied white PVC tubing to the specified length shown on the pre-load diagrams. Make sure to find the correct diagram for your particular fork. NOTE: If lowered 2" some models may not need spacers to achieve the proper preload.



Using the proper diagram, cut to the shorter length shown for lighter riders or a softer ride. Cut to the longer length for heavier riders or a firmer ride. (Also see "Fine Tuning", Section 7)

Install cut PVC spacers and washers in the correct position shown.

D. Install your fork caps and reinstall your forks on your Harley according to the shop manual.

5. Test ride motorcycle at reduced speeds to develop a "feel" for how the motorcycle handles due to the different geometry due to the lowered suspension.

6. Fork braces

We have found numerous cases of binding forks due to improperly mounted fork braces. Our experience has led us to conclude that even the slightest misalignment while installing the fork brace will cause the forks to bind. If, after installing the springs, a harshness exists (especially on small bumps and freeway expansion joints) remove the fork brace and ride the bike again over the same route. If harshness has disappeared, refer to the fork brace installation instructions for proper and concise installation to eliminate the misalignment. If harshness still exists, your front end (wheel/forks) may be misaligned. Consult your shop manual for proper wheel and fork alignment instructions.

7. Fine Tuning

Pre-load: Spacer length can be decreased to lower the ride height and soften the ride or increased to raise the ride height and firm up the ride. Adjust in 1/4" increments.

Fork Oil

Unless otherwise noted we recommend the stock oil viscosity and level. Oil viscosity can be changed to alter damping. Heavier oil will increase damping. Lighter oil will decrease damping. Change in five weight increments (i.e. from 10 weight to 15 weight). Oil viscosity will have more effect on rebound damping than compression damping. Too high of viscosity can create harshness on sharp edge bumps. The oil level also affects the ride. Too high an oil level and the forks will feel too stiff, too low and the bike will bottom out, feel too soft and tend to dive.

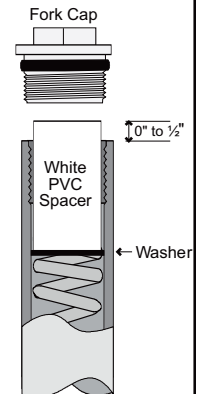
Air Pressure: Progressive Suspension recommends a starting point of zero air pressure. Add air to suit your particular riding requirements. However excessive air pressure can cause seal "sticktion" which contributes to a harsh ride on small bumps and freeway expansion joints and also reduces seal life.

39 mm Fork Tube "Midglide"

87-94	FXLR
88-94	FXR/FXRS
87-94	FXR-SP/Con.
88-92	FXRT
91-92	FXD/B/C
95-05	FXD/C/X
93-05	FXDL
94-00	FXDS-Con.

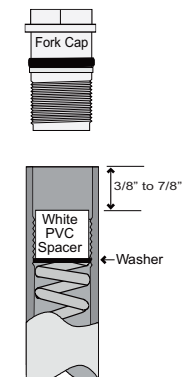
"Sportsters"

88-93	883/1200
94-03	883/1200 Std, Dlx
88-91	883 Hugger
92-03	883 Hugger/1200
04-15	883/1200 All



35 mm Fork Tube "Narrowglide"

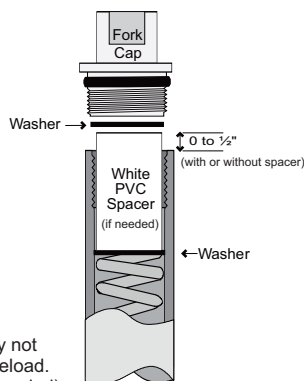
84-87	All Sportsters
82-87	FXR/FXRS
83-87	FXRT
84-86	FX



41 mm Fork Tube "Wideglide"

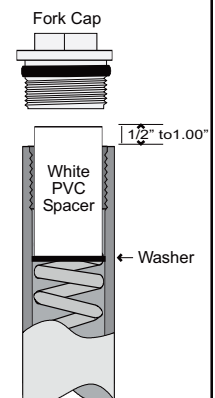
78-86	FL-FLH
80-86	FXWG
84-15	FXST/FLST All
93-05	FXDWG
80-01	FLH/FLT All
02-06	FLHR
06-13	FLH/FLT/FLHT All

NOTE: If lowered 2" some models may not need spacers to achieve the proper preload. (spring alone may protrude 0-1/2" as needed)



49 mm Fork Tube

06-15	FXDI/LI/WGI/CI/35/BI
08-15	FXDF



Harley Davidson V-Rod Fork Lowering Kit

Installation Instruction

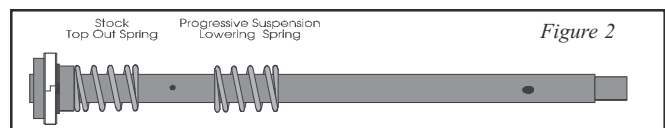
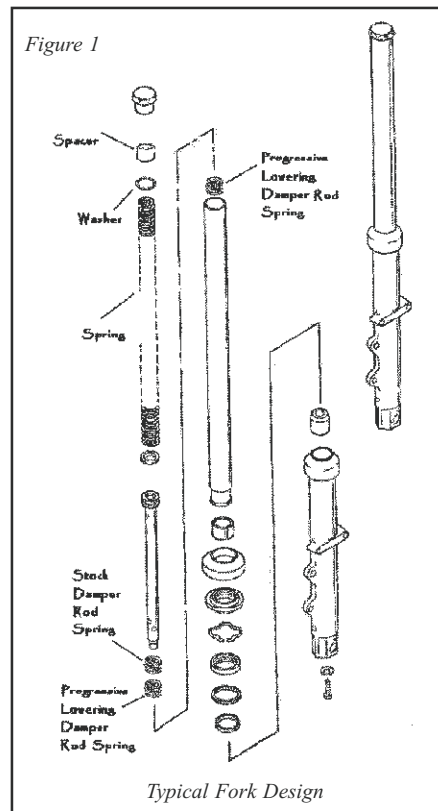
Warning: All work must be performed by a qualified mechanic or according to steps outlined in an authorized service manual. Installing lowering kit will decrease initial ground clearance. The motorcycle will be lower to the ground and care should be taken to avoid bottoming, especially over bumps or turns. To maintain proper balanced geometry, we recommend lowering the motorcycle in the rear the same amount as the front (see the Harley Davidson application chart).

Fork Lowering Kit Supplement

The installation of a fork lowering kit does not effect the compressed length of the fork. However, we have found that some motorcycles may not have adequate clearance between the fender, fairing and/or accessories. Therefore, we recommend that this be checked and if there is not adequate clearance, the interfering parts be removed or modified to eliminate the situation. After installation of new lowering springs onto the damper rod, we recommend that the forks be installed on the motorcycle complete with wheel/fender, but without the main springs and completely bottomed out. This is done to check clearance between the fender and fairing/crashbar/accessories, etc.

Never attempt to remove the fork cap nut without first placing a quality jack or sufficient blocks under the motorcycle to securely lift the front wheel off the ground. Failure to do so could result in damage and/or serious injury!

1. Remove and disassemble forks (including removal of damper rod) according to steps outlined in an authorized service manual for your particular model and year Harley Davidson (see figure 1 for reference).
2. This kit will achieve a one inch (1") lowered height, leave the stock top out spring on the damper rod and install *one* Progressive Suspension lowering spring on the damper rod with the stock top out spring (see figure 2).



3. Reinstall damper rods into forks per shop manual.
 - A. Add the proper amount of fork oil as recommended in your shop manual. Make sure the viscosity is the recommended weight.
 - B. Install your Progressive Suspension fork springs with the close wound end up.
 - C. Reuse the stock washers on top of the Progressive fork springs and install the included white PVC spacers.

D. Install your fork caps and reinstall your forks on your motorcycle according to the shop manual.

4. Test ride motorcycle at reduced speeds to develop a "feel" for how the motorcycle handles due to the different geometry due to the lowered suspension.
5. Fork braces: We have found numerous cases of binding forks due to improperly mounted fork braces. Our experience has led us to conclude that even the slightest misalignment while installing the fork brace will cause the forks to bind. If, after installing the springs, a harshness exists (especially on small bumps and freeway expansion joints) remove the fork brace and ride the bike again over the same route. If harshness has disappeared, refer to the fork brace installation instructions for proper and concise installation to eliminate the misalignment. If harshness still exists, your front end (wheel/forks) may be misaligned. Consult your shop manual for proper wheel and fork alignment instructions.

6. Fine Tuning

Pre-load: Spacer length can be decreased to lower the ride height and soften the ride or increased to raise the ride height and firm up the ride. Adjust in $\frac{1}{4}$ " increments.

Fork Oil: Unless otherwise noted we recommend the stock oil viscosity and level. Oil viscosity can be changed to alter damping. Heavier oil will increase damping. Lighter oil will decrease damping. Change in five weight increments (i.e. from 10 weight to 15 weight). Oil viscosity will have more effect on rebound damping than compression damping. Too high of viscosity can create harshness on sharp edge bumps. The oil level also affects the ride. Too high an oil level and the forks will feel too stiff, too low and the bike will bottom out, feel too soft and tend to dive.



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.

IMPORTANT NOTICE

Caution: Removing and replacing fork springs must be performed by a qualified mechanic or according to steps outlined in a professional workshop manual that relates to your particular make, model and year motorcycle.

The vehicle must be securely blocked to prevent it from dropping or tipping when the fork springs are removed. Failure to do so can cause serious damage and/or injury.

Progressive Suspension Fork Springs are designed to work with the OEM (Original Equipment) forks. Use of this product on any forks other than OEM may produce an unsatisfactory ride and void the warranty.

Installation

- Read all the instructions carefully before installing this kit on your motorcycle. Use your factory authorized manual as a reference while installing this kit.
- Support and lift the motorcycle securely so the front wheel is off the ground. The balance point is toward the front of the engine.
- Remove forks according to instructions contained in your factory authorized shop manual.

Note

For maximum performance we highly recommend that the forks be disassembled and thoroughly cleaned, inspected and new fork oil installed - we recommend a 20wt. fork oil. See fine tuning for more information. Fork oil level should be measured with the fork spring(s) removed and the fork completely compressed. The measurement from the top edge of the fork tube to the fluid level should be 140mm.

- The Progressive Suspension fork spring kit is a direct replacement of your stock springs. You will use the supplied preload spacers (which you may have to cut to length).

Caution

While the installation of this fork lowering kit will not change the compressed length of the front forks, we have found that some bikes may not have adequate clearance between the fender, fairing and/or accessories. So we recommend with the fork springs removed from both forks, re-install the forks, fender, wheel and anything else you may have removed and lift the front forks, or lower the bike to completely compress the front forks. With the forks fully compressed, check for adequate clearance between the tire, fender, fairing, crash bar, accessories, etc. while turning left to right - lock to lock. You must correct any clearance issues prior to installing this kit to avoid vehicle damage and/or vehicle control problems.

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.

*This instruction is appropriate for the models noted; however you must confirm you have the correct kit part number for your specific bike by contacting Progressive Suspension

Installation (cont.)

- After removing both forks, start with one of the forks and remove the fork cap, then remove the fork spring.

Warning

The fork cap is under spring pressure and care must be taken as it is removed to avoid injury! Keep downward pressure on the cap as you unscrew the final threads, this will minimize the spring “jump” that will occur as soon as the cap is fully un-threaded

BE CAREFUL!

- Drain the fork oil, and then with the fork completely compressed remove the damper rod & top-out spring by removing the fork bolt (with crush-washer) in the bottom of the fork. Keep the fork assembly fully compressed at this point to keep the stock bottoming-cup properly located.
- In addition the stock top-out spring (on the damper-rod) install either ONE of the supplied top-out springs to lower your forks approximately 1” inch OR TWO of the supplied top-out springs to lower your forks approximately 2” inches – as illustrated on page 3.
- Drop the damper-rod along with the chosen number of top-out springs back into the fork. Put a drop of red thread-locking agent on the fork bolt that came out of the bottom of the fork and reinstall it (with crush-washer), tightening it back into the damper-rod. Torque the bolt to the factory recommended specification.
- Repeat the process on the other fork - putting the same number of top-out springs on the damper-rod.
- Preload spacer length - before going any further make sure you have the proper preload spacer lengths ready to install in your forks. If you are lowering your forks 1” inch then the included preload spacers should already be the correct length - 1.6”(41mm) - and are ready to use. However if you are lowering your forks 2” inches you will need to cut both of the supplied preload spacers to a length of 0.6” of an inch (15mm).
- Secure the fork assembly so you can fill it with fluid. This may require stroking the assembly to draw fluid from the inner fork tube in to the outer fork slider. Pour enough 20 wt. fork fluid in each fork, pausing to stroke the assembly to get the fluid into the outer fork slider, to achieve the recommended 140mm fork fluid level – which is measured from the top lip of the fork tube to the fluid, with the fork compressed all the way and the fork spring removed. Go slow pouring a little at a time then stroke the fork, failure to do this could cause the required amount of fluid to overflow and result in an inaccurate fluid level reading.

Caution

NEVER ADD TOO MUCH OR TOO LITTLE FLUID RESULTING IN A MEASUREMENT LESS THAN 140mm WHEN USING THIS SPRING KIT.

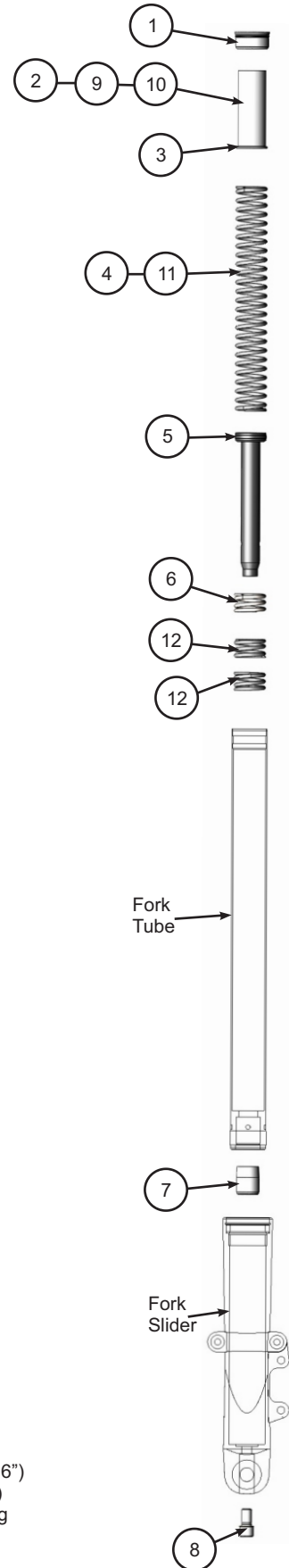
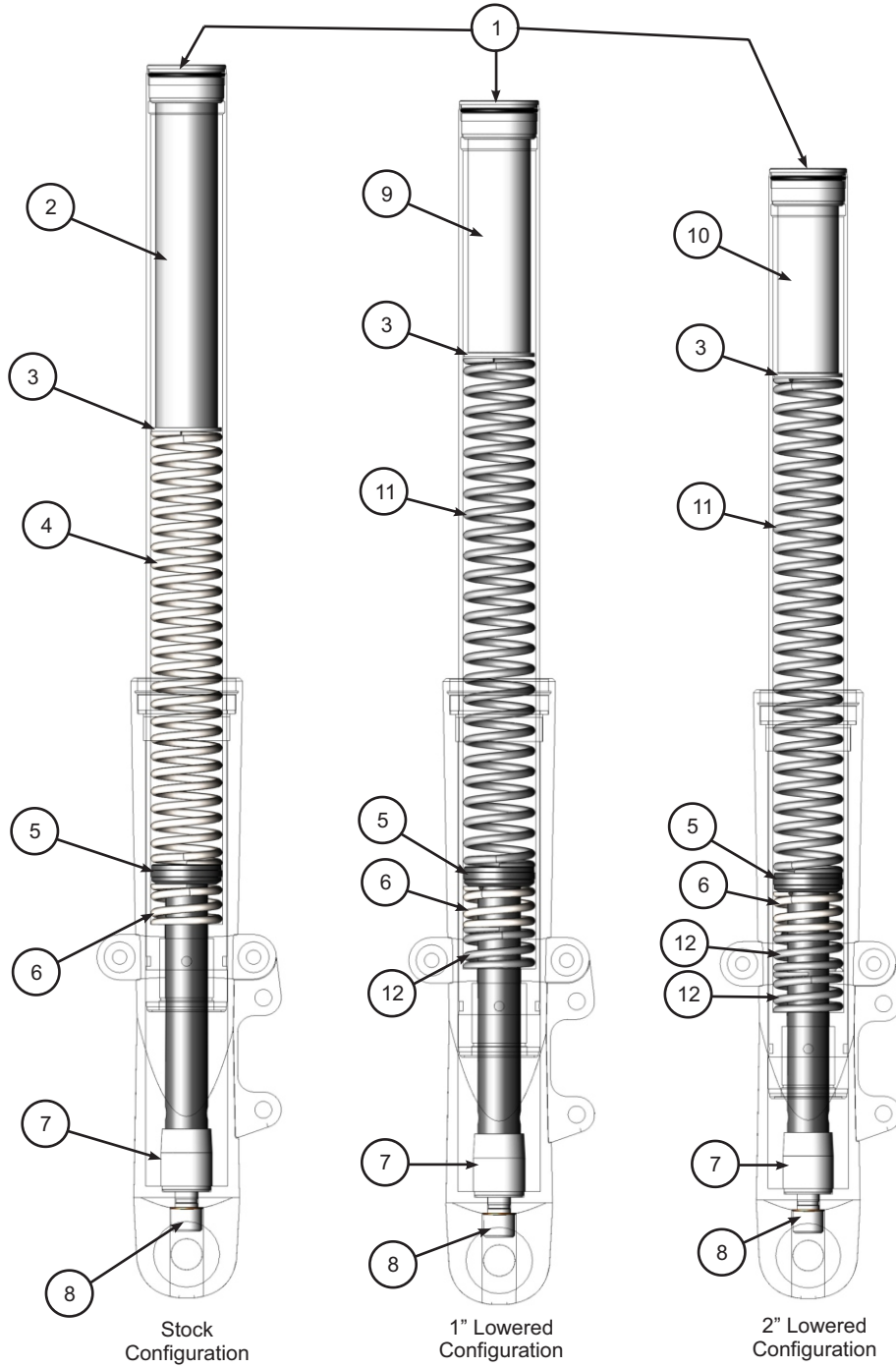
- In each fork leg, install one of the supplied Progressive Suspension fork springs into the fork. Then install one of the stock washers followed by one of the supplied preload spacers (cut to recommended length), and finally the stock fork-cap (see illustrations on page 3).

- While reinstalling the fork cap be certain to torque it to the proper specification per a factory authorized manual. Reinstall fork, fender, wheel, and all other components per a factory authorized shop manual. Remove motorcycle from lift and re-check all fasteners for proper tightness per your factory authorized manual.
- The operator must use extreme caution when operating a modified motorcycle, particularly while getting familiar with its altered handling characteristics and ground clearance.
- For totally balanced suspension, we highly recommend installing a pair of Progressive Suspension shocks.

FINE TUNING

- Fork Oil: Though we recommend using a 20wt. fork fluid, oil viscosity can be changed to alter damping. Heavier oil to increase damping. Lighter oil to decrease damping. Increase in 2.5 weight increments (i.e. from 2.5 weight to 5 weight.) Oil viscosity will have more effect on rebound damping than compression damping, too high a viscosity can create harshness on sharp edge bumps.

Illustrations



(Illustration NOT to scale)

- | | |
|------------------------------------|--|
| 1. Fork Cap | 7. Bottom-cup |
| 2. Stock Preload Spacer (replaced) | 8. Fork Bolt with Crush-wahser |
| 3. Stock Washer | 9. Supplied Preload Spacer (un-cut 1.6") |
| 4. Stock Spring (replaced) | 10. Supplied Preload Spacer (cut 0.6") |
| 5. Damper-rod | 11. Progressive Suspension fork spring |
| 6. Stock Top-out Spring | 12. Supplied Top-out Spring |





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.

IMPORTANT NOTICE

Caution: Removing and replacing fork springs must be performed by a qualified mechanic or according to steps outlined in a professional workshop manual that relates to your particular make, model and year motorcycle.

The vehicle must be securely blocked to prevent it from dropping or tipping when the fork springs are removed. Failure to do so can cause serious damage and/or injury.

Progressive Suspension Fork Springs are designed to work with the OEM (Original Equipment) forks. Use of this product on any forks other than OEM may produce an unsatisfactory ride and void the warranty.

Installation

- Read all the instructions carefully before installing this kit on your motorcycle. Use your factory authorized manual as a reference while installing this kit.
- Support and lift the motorcycle securely so the front wheel is off the ground. The balance point is toward the front of the engine.
- Remove forks according to instructions contained in your factory authorized shop manual.

Note

For maximum performance we highly recommend that the forks be disassembled and thoroughly cleaned, inspected and new fork oil installed - we recommend a 10wt. fork oil. See fine tuning for more information. Fork oil level should be measured with the fork spring(s) removed and the fork completely compressed. The measurement from the top edge of the fork tube to the fluid level should be 180mm.

- The Progressive Suspension fork lowering spring kit is a direct replacement of your stock springs & preload spacers. Depending upon the configuration you choose - 1" or 2" lower - you may or may not use the supplied preload spacers.

Caution

While the installation of this fork lowering kit will not change the compressed length of the front forks, we have found that some bikes may not have adequate clearance between the fender, fairing and/or accessories. So we recommend with the fork springs removed from both forks, re-install the forks, fender, wheel and anything else you may have removed and lift the front forks, or lower the bike to completely compress the front forks. With the forks fully compressed, check for adequate clearance between the tire, fender, fairing, crash bar, accessories, etc. while turning left to right - lock to lock. You must correct any clearance issues prior to installing this kit to avoid vehicle damage and/or vehicle control problems.

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.

Installation (cont.)

- After removing both forks, start with one of the forks and remove the fork cap, then remove the preload spacer, stock washer (to be re-used for 1" low), & fork spring.

Warning

The fork cap is under spring pressure and care must be taken as it is removed to avoid injury! Keep downward pressure on the cap as you unscrew the final threads, this will minimize the spring "jump" that will occur as soon as the cap is fully un-threaded

BE CAREFUL!

- Drain the fork oil. Then with the fork completely compressed use a hex bit (16mm) socket on an extension to keep the damper rod from rotating and remove the fork bolt (with crush-washer) in the bottom of the fork. Keep the fork assembly fully compressed at this point to keep the stock bottoming-cup properly located, and carefully dump out the damper rod and top-out spring.
- In addition to the stock top-out spring (on the damper-rod) install either ONE of the supplied top-out springs to lower your forks approximately 1" inch OR TWO of the supplied top-out springs to lower your forks approximately 2" inches – as illustrated on page 3.
- Drop the damper-rod along with the chosen number of top-out springs back into the fork. Put a drop of red thread-locking agent on the fork bolt that came out of the bottom of the fork and reinstall it (with crush-washer), tightening it back into the damper-rod. Torque the bolt to the factory recommended specification.
- Repeat the process on the other fork - putting the same number of top-out springs on the damper-rod.
- Secure the fork assembly so you can fill it with fluid. This requires stroking the assembly to draw fluid from the inner fork tube in to the outer fork slider. Pour enough 10 wt. fork fluid in each fork, pausing to stroke the assembly to get the fluid into the outer fork slider, to achieve the recommended 180mm fork fluid level – which is measured from the top lip of the fork tube to the fluid, with the fork compressed all the way and the fork spring removed.

Caution

NEVER ADD TOO LITTLE OR TOO MUCH FLUID RESULTING IN A MEASUREMENT LESS THAN 180mm WHEN USING THIS SPRING KIT.

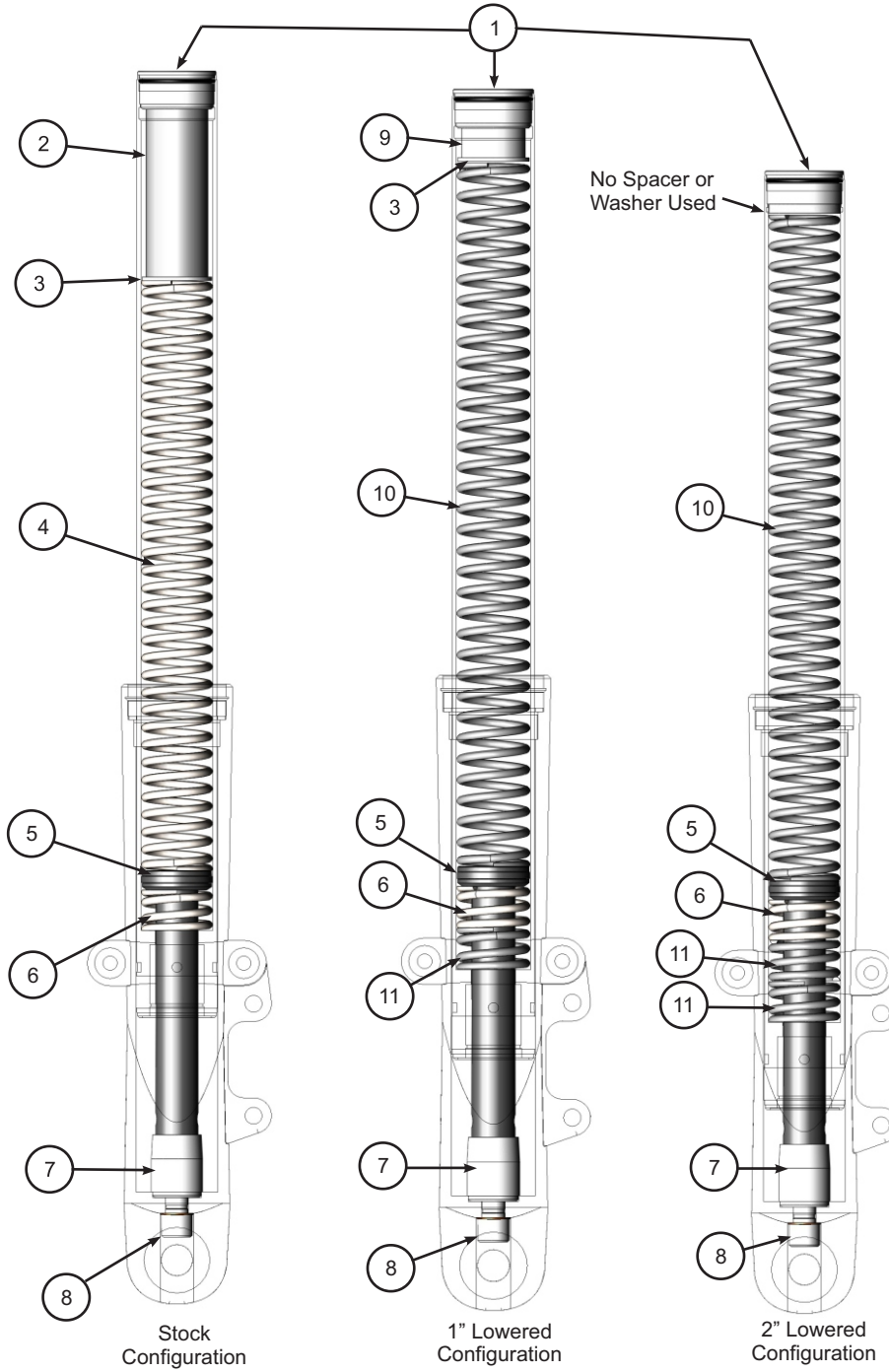
- In each fork leg, install one of the supplied Progressive Suspension fork springs into the fork, tighter coils down.
- Next install the preload spacers - If you are lowering your forks 1" inch, place one of the stock washers in each fork followed by one of the included preload spacers which should already be the correct length - 0.75" (19mm) - and are ready to use. **However if you are lowering your forks 2" inches then no preload spacers (or washers) are required.**
- Install the stock fork-caps (see illustrations on page 3). While reinstalling the fork cap be certain to torque it to the proper specification per a factory authorized manual.

- Reinstall forks, fender, wheel, and all other components per a factory authorized shop manual. Remove motorcycle from lift and re-check all fasteners for proper tightness per your factory authorized manual.
- The operator must use extreme caution when operating a modified motorcycle, particularly while getting familiar with its altered handling characteristics and ground clearance.
- For totally balanced suspension, we highly recommend installing a pair of Progressive Suspension shocks.

FINE TUNING

- Fork Oil: Though we recommend using a 10wt. fork fluid, oil viscosity can be changed to alter damping. Heavier oil to increase damping. Lighter oil to decrease damping. Increase in 2.5 weight increments (i.e. from 2.5 weight to 5 weight.) Oil viscosity will have more effect on rebound damping than compression damping, too high a viscosity can create harshness on sharp edge bumps.

Illustrations



(Illustration NOT to scale)

- | | |
|------------------------------------|--|
| 1. Fork Cap | 7. Bottoming-cup |
| 2. Stock Preload Spacer (replaced) | 8. Fork Bolt with Crush-washer |
| 3. Stock Washer | 9. Supplied Preload Spacer (0.75") |
| 4. Stock Spring (replaced) | 10. Progressive Suspension fork spring |
| 5. Damper-rod | 11. Supplied Top-out Spring |
| 6. Stock Top-out Spring | |



Fork Lowering Kit

Installation Instruction

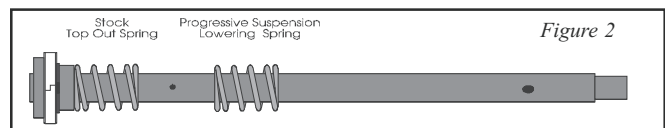
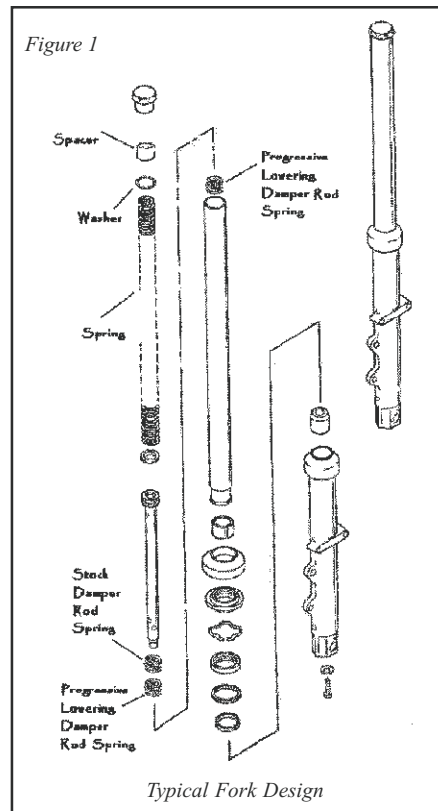
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Fork Lowering Kit Supplement

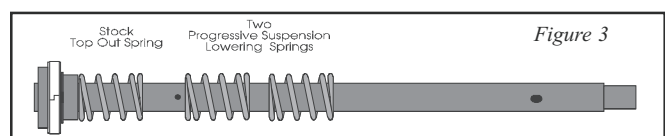
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Never attempt to remove the fork cap nut without first placing a quality jack or sufficient blocks under the motorcycle to securely lift the front wheel off the ground. Failure to do so could result in damage and/or serious injury!

1. Remove and disassemble forks (including removal of damper rod) according to steps outlined in an authorized service manual for your particular make, model and year motorcycle (see figure 1 for reference).
2. To achieve a one inch (1") lowered height, leave the stock top out spring on the damper rod and install *one* Progressive Suspension lowering spring on the damper rod with the stock top out spring (see figure 2). Proceed to step 4.



3. To achieve a two inch (2") lowered height, leave the stock top out spring on the damper rod and install *two* Progressive Suspension top out springs on the damper rod with the stock top out spring (see figure 3).



4. Reinstall damper rods into forks per shop manual.
 - A. Add the proper amount of fork oil as recommended in your shop manual. Make sure the viscosity is the recommended weight.
 - B. Install your Progressive Suspension fork springs with the close wound end up.
 - C. Look on the spacer length chart under the amount you shortened your fork (1" or 2") to find the correct spacer length. The spacer provided may need to be cut to the specified length.
 - D. Install the enclosed washers on top of the Progressive fork springs and the correct length white PVC spacers.
 - E. Install your fork caps and reinstall your forks on your motorcycle according to the shop manual.
5. Test ride motorcycle at reduced speeds to develop a "feel" for how the motorcycle handles due to the different geometry due to the lowered suspension.
6. Fork braces: We have found numerous cases of binding forks due to improperly mounted fork braces. Our experience has led us to conclude that even the slightest misalignment while installing the fork brace will cause the forks to bind. If, after installing the springs, a harshness exists (especially on small bumps and freeway expansion joints) remove the fork brace and ride the bike again over the same route. If harshness has disappeared, refer to the fork brace installation instructions for proper and concise installation to eliminate the misalignment. If harshness still exists, your front end (wheel/forks) may be misaligned. Consult your shop manual for proper wheel and fork alignment instructions.

7. Fine Tuning

Pre-load: Spacer length can be decreased to lower the ride height and soften the ride or increased to raise the ride height and firm up the ride. Adjust in $\frac{1}{4}$ " increments.

Fork Oil: Unless otherwise noted we recommend the stock oil viscosity and level. Oil viscosity can be changed to alter damping. Heavier oil will increase damping. Lighter oil will decrease damping. Change in five weight increments (i.e. from 10 weight to 15 weight). Oil viscosity will have more effect on rebound damping than compression damping. Too high of viscosity can create harshness on sharp edge bumps. The oil level also affects the ride. Too high an oil level and the forks will feel too stiff, too low and the bike will bottom out, feel too soft and tend to dive.

Air Pressure: Progressive Suspension recommends a starting point of zero air pressure. Add air to suit your particular riding requirements. However excessive air pressure can cause seal "sticktion" which contributes to a harsh ride on small bumps and freeway expansion joints and also reduces seal life.