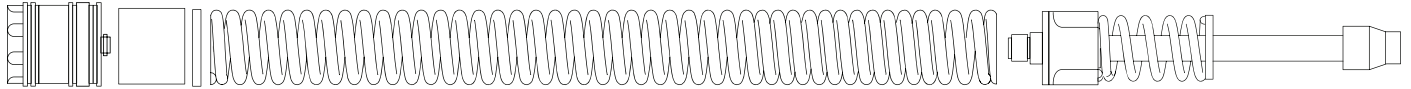
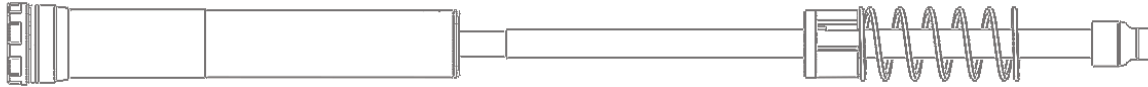




# INSTALLATION INSTRUCTIONS

MONOTUBE KIT W/ADJUSTABLE PRELOAD HARLEY-DAVIDSON DYNA



## ATTENTION!

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



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



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

### NOTE:

*Information of particular importance has been placed in italics.*

## IMPORTANT NOTICE

Removing and replacing fork internal components must be performed by a qualified mechanic or according to steps outlined in a factory authorized professional service manual that relates to your particular make, model and year motorcycle. Special tools may be needed. Please read all instructions before beginning this procedure. If you lack any of the tools or resources or are uncertain about any part of the procedure, then have the work done by a qualified mechanic.

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

Progressive Suspension Monotube kits with Preload Adjuster 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.

## LIFETIME LIMITED WARRANTY

Progressive Suspension warrants to the original purchaser this part to be free of manufacturing defects in materials and workmanship with a lifetime limited 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.





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

Read all the instructions carefully before installing this kit on your motorcycle. Use your factory authorized service manual as a reference while installing this kit.

1. Support and lift the motorcycle securely so the front wheel is off the ground. The balance point is toward the front of the engine.
2. Remove forks according to instructions contained in your factory authorized shop manual.



***For maximum performance we highly recommend that the forks be disassembled, thoroughly cleaned, inspected, and reassembled with Progressive Suspension Fork Oil (Standard - type E). When installing Progressive Suspension Monotube Cartridge Fork Kit, only a small amount (200cc or 300cc) of 10wt. fork oil is required in the right fork for lubricating the internal moving parts - the cartridge damper is sealed. Changing the volume of the oil in the right fork is not recommended and could cause damage and / or loss of control. See page 4 for recommended fork oil level for the left fork.***

3. This kit replaces your stock fork caps, preload-spacers, fork springs, and damper-rods. Remove these components and drain the oil out of your forks per the procedure outlined in your factory authorized service manual.
4. Also note that this kit contains components for two different fork configurations - standard length and approximately 1" inch lowered. Decide which configuration you prefer before installing, and follow the instructions carefully for that configuration.



While the installation of this Monotube Cartridge fork 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.





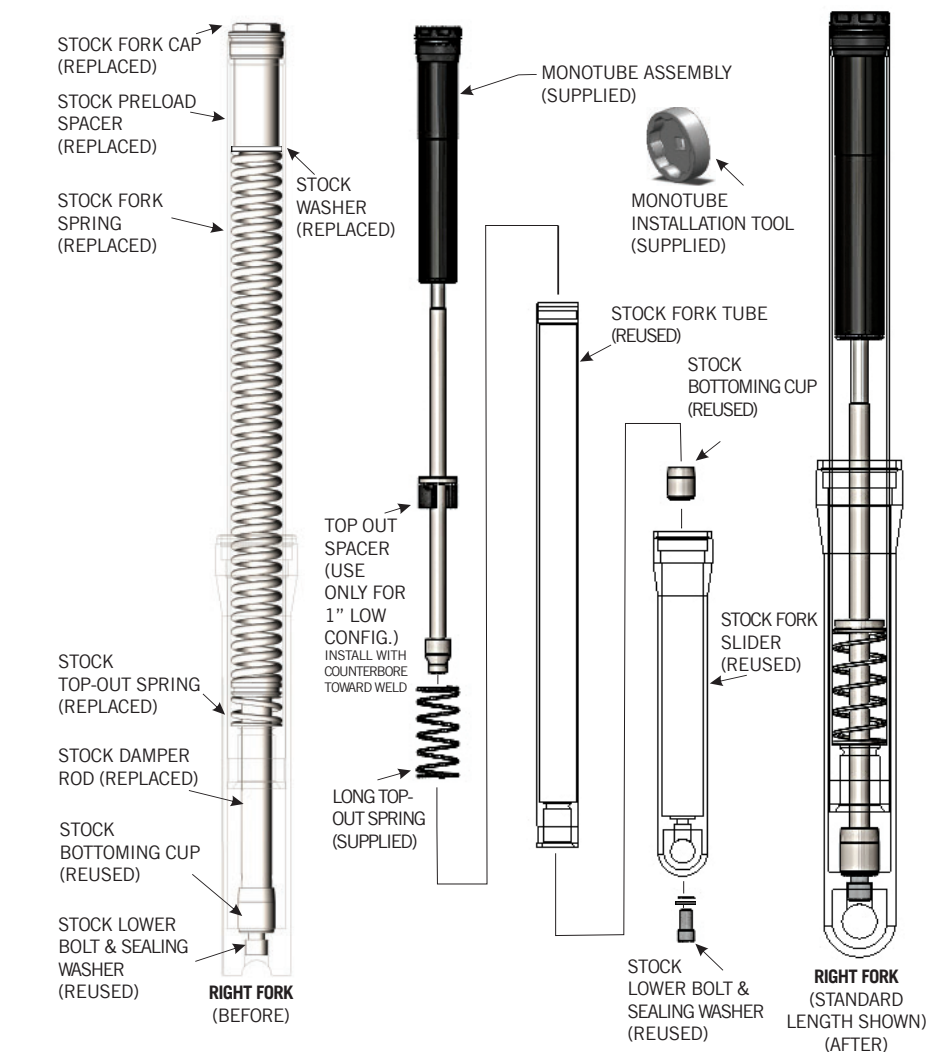
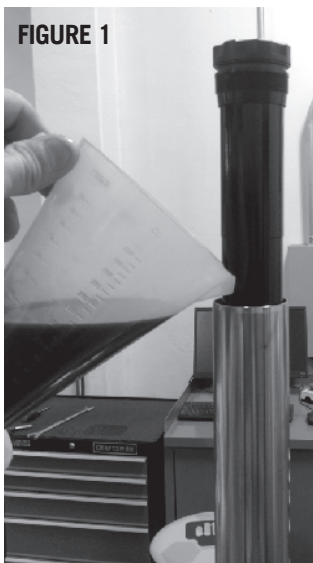
# MONOTUBE KIT W/ADJUSTABLE PRELOAD HARLEY-DAVIDSON DYNA

- Starting with the right fork (referencing the illustrations below), drop the supplied **LONG top-out spring** into the fork tube - **(IF you are installing in the lowered configuration, then snap one of the top out spacers onto the lower portion of the Monotube cartridge assembly as shown below)**, then insert the Monotube cartridge assembly into the fork. Make certain the **OEM bottoming-cup** is properly seated in the bottom of the fork – in the slider – and the bottom of the Monotube cartridge assembly is seated within said bottoming-cup. Put a drop of thread locking agent on the bottom fork bolt and thread it (along with the copper sealing washer) into the bottom of the Monotube assembly. **Torque the lower bolt to the factory recommended 132 - 216 in-lbs.** If the Monotube assembly tries to rotate, temporarily thread the Monotube assembly into the fork-tube and try applying pressure to the assembly to keep it from rotating by “pulling” on the fork-tube while torquing the bottom fork bolt.
- No fork spring is installed in this (the right) fork assembly.** Pour a small amount - **300cc for standard kit or 200cc for lowered configuration** to be specific – of type “E” or 10wt. fork oil into the fork for lubricating purposes as seen in figure 1. Then using the supplied Monotube Installation Tool (p/n 5503-200) thread the Monotube assembly into your fork-tube and torque it to the recommended 16-43 ft-lbs. This completes the right fork assembly.



**DO NOT USE MORE THAN 300CC (200CC FOR LOWERED CONFIGURATION) OF FORK OIL IN THE RIGHT FORK LEG WITH THE INSTALLATION OF THIS KIT. FILLING THE RIGHT FORK WITH MORE THAN 300CC (200CC FOR LOWERED CONFIGURATION) OF FORK OIL MAY CAUSE THE FORKS TO HYDRAULIC LOCK, WHICH MAY CAUSE SEAL FAILURE, POOR PERFORMANCE AND/OR LOSS OF CONTROL.**

FIGURE 1





# MONOTUBE KIT W/ADJUSTABLE PRELOAD HARLEY-DAVIDSON DYNA

- For the left fork (referencing the illustrations below), drop the supplied **SHORT top-out spring** into the fork tube - **(IF you are installing in the lowered configuration, then snap the other top out spacer onto the Top-out rod assembly as shown below)** - then insert the supplied Top out Rod assembly into the fork. Make certain the **OEM bottoming-cup** is properly seated in the bottom of the fork – in the slider – and the bottom of the Top-out Rod assembly is seated in the bottoming-cup. Put a drop of thread locking agent on the bottom fork bolt and thread it (along with the copper sealing washer) into the bottom of the Top-out Rod assembly. **Torque the lower bolt to the factory recommended 132 - 216 in-lbs.** If the Top-out Rod assembly tries to rotate, try applying pressure to the assembly to keep it from rotating by “pulling” on the fork-tube while applying torque to the bottom fork bolt (same as you might on while installing a stock damper-rod) or by using a long extension and 12mm socket on the hex atop the Top-out Rod assembly.
- Next fill and set the fork oil level in the Left Fork (See Figure 2). We recommend Progressive Suspension Standard 10wt (Type E) fork oil. To check the oil level properly you must have the spring and spacer removed, cycle the fork several times as you add the oil to purge any trapped air and then completely compress the fork. You then measure from the top of the fork tube to the oil level - see Figure 2 below for the recommended measurement in the left fork. Add or remove fork oil to achieve this measurement. Then drop the supplied Progressive Suspension fork spring (tighter coils down) into the fork and then the stock washer.

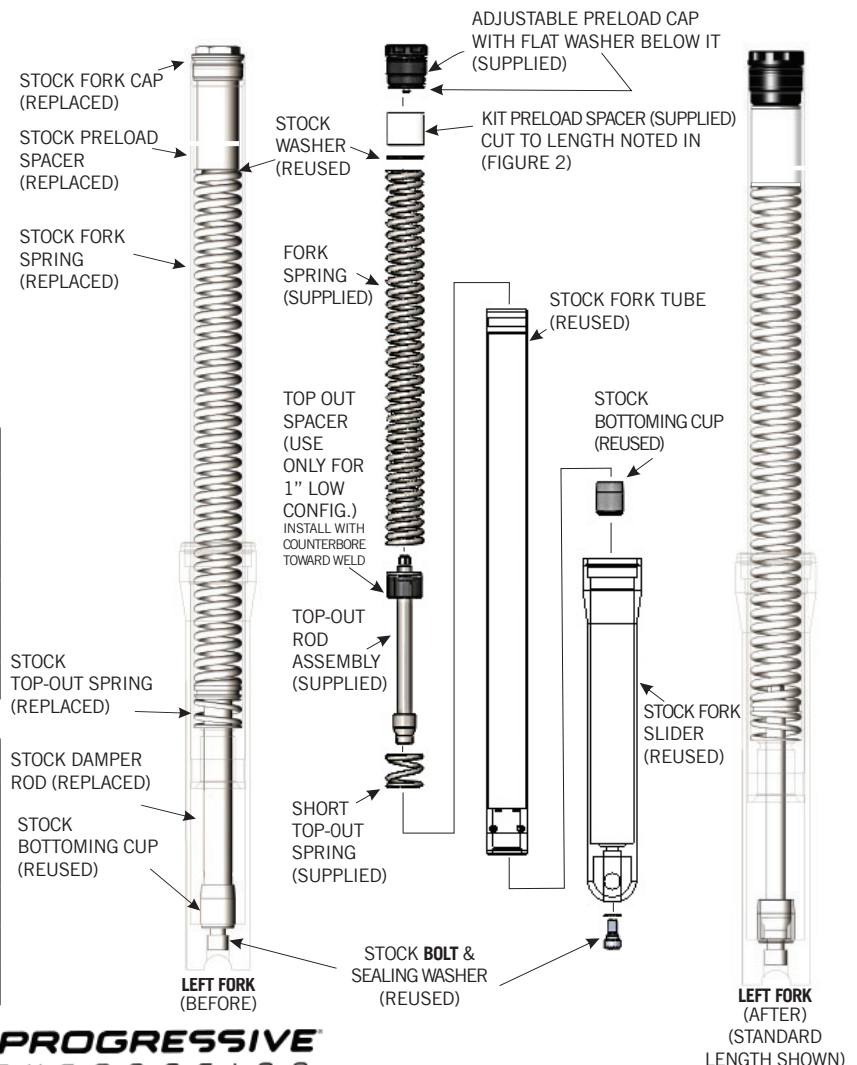


NEVER ADD TOO MUCH FORK OIL RESULTING IN A MEASUREMENT LESS THAN, SHOWN IN THE TABLE BELOW IN THE LEFT FORK WITH THE INSTALLATION OF THIS KIT. DOING SO MAY CAUSE THE FORKS TO HYDRAULIC LOCK, WHICH MAY CAUSE SEAL FAILURE, POOR PERFORMANCE AND/OR LOSS OF CONTROL.

FIGURE 2

STANDARD FORK (LEFT)			
KIT NUMBER	APPLICATION	FORK OIL LEVEL	SPACER LENGTH
31-2519	08-17 FXDF	190MM	2.9" (74MM)
31-2519	06-17 FXD (OTHER)	190MM	2.6" (67MM)
31-2520	06-08 FXDWG	220MM	5.0" (127MM)
31-2521	10-17 FXDWG	220MM	4.0" (102MM)

1" LOWERED FORK (LEFT)			
KIT NUMBER	APPLICATION	FORK OIL LEVEL	SPACER LENGTH
31-2519	08-17 FXDF	190MM	1.9" (49MM)
31-2519	06-17 FXD (OTHER)	190MM	1.6" (41MM)
31-2520	06-08 FXDWG	220MM	4.0" (102MM)
31-2521	10-17 FXDWG	220MM	3.0" (76MM)





9. Referring again to Figure 2 on the previous page, cut the supplied preload spacer to the recommended length appropriate for the installed configuration - standard or 1" lowered.
10. After cutting the supplied preload spacer to the proper length, put it into the left fork assembly
11. Finally, with the fork either secured in a vice (or clamped back into the triple clamps), install the supplied flat washer and, making sure the Progressive Suspension preload cap is adjusted to its minimum (shortest) position, install the cap and torque to 16-43 ft-lbs using the supplied Monotube Installation Tool (p/n 5503-200). Store this tool in a safe place for future fork maintenance. This completes the left fork assembly.
12. Reinstall your left and right fork assemblies and all other components you may have removed per the procedure outlined in your authorized factory service manual.
13. Proceed to RIDE SAG & PRELOAD ADJUSTMENT section.

## RIDE SAG & PRELOAD ADJUSTMENT

Optimum ride sag is approximately one-third or 33% of your total suspension travel. Depending upon the chosen installation configuration, 33% of your travel would equal 1.5" for the standard ride height configuration (no top-out spacers installed) OR 1.2" for the lowered configuration (top-out spacers installed). One of these two numbers is your target ride sag number, and again it depends upon your installation configuration.

**STANDARD CONFIGURATION = 1.5" TARGET RIDE SAG**  
**LOWERED CONFIGURATION = 1.2" TARGET RIDE SAG**

Measuring your forks ride sag involves two steps, and will require a helper. First with the front wheel lifted slightly off the ground with the forks fully extended, measure from the axle to a fixed point on the sprung part of the chassis – the lower triple-clamp for example. Then while sitting on the bike with all of your weight ready to ride, have your helper take the same measurement. Subtract the second measurement from the first – that is your current front ride sag.

Compare the appropriate target ride sag (1.5" if NO top-out spacers were installed, or 1.2" if top-out spacers WERE installed) to your current ride sag. If the current ride sag is less than the target, reduce the pre-load until you hit the target ride sag. Conversely if the current ride sag is more than the target, increase the pre-load until the target ride sag is achieved.

To adjust your pre-load, simply rotate the center of your left fork cap – your adjustable pre-load cap – with the supplied ½" Allen-wrench. Rotating it clockwise will increase your pre-load, counterclockwise will reduce it. NOTE: the adjusting portion of the cap does not extend or recede as an indication of how much pre-load is applied, it simply stops rotating at either end of the adjustment range – when the end of the range is felt STOP ROTATING THE ADJUSTER. The adjuster provides for a total range of 0.78" of pre-load over its 11 full turns of adjustment, or 0.07" per full turn of the adjuster. If more adjustment is desired, the length of the pre-load spacer may also be changed.

## TECHNICAL INFO

Our technical staff will assist you if you have any problems or questions. Call (714) 523-8700 from 8am to 4pm PST.

The operator must use extreme caution when operating a modified motorcycle, particularly while getting familiar with its altered handling characteristics and ground clearance.

Compliment your Progressive Suspension Fork Monotube kit with Pre-load Adjuster with a set of Progressive Suspension high performance shocks.



## Monotube Fork Kit

# WARNING

THIS KIT REQUIRES FORK OIL VOLUMES THAT ARE DIFFERENT THAN FACTORY SPECIFICATIONS.

CAREFULLY FOLLOW INSTALLATION INSTRUCTIONS USING THE FORK OIL VOLUMES AS SPECIFIED IN THE INCLUDED INSTRUCTIONS.

**DO NOT USE MORE FORK OIL THAN SPECIFIED  
IN THE INCLUDED INSTRUCTIONS!**

LOSS OF VEHICLE CONTROL AND / OR DAMAGE TO YOUR FORKS OR THE CONTENTS OF THIS KIT MAY RESULT

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WWW.PROGRESSIVE SUSPENSION.COM



Instr# 3081-031 Rev B

## Monotube Fork Kit

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