

# Drag Specialties Shocks

by Progressive Suspension, Inc.

for

## 2000 & later Harley Davidson Softails

### Installation Instructions

#### Caution

*Please read the following instructions completely before starting installation!*

Follow instructions in an authorized shop manual or take the motorcycle to a competent dealer.

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 or injury.

The use of lowering kits on Drag Specialties shocks is not recommended. Use of a lowering kit may void the warranty or damage the shock/motorcycle.

Drag Specialties 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.

Transmission bolts must be installed in the OEM position to insure proper clearances for the shocks. Consult your factory shop manual for proper installation.

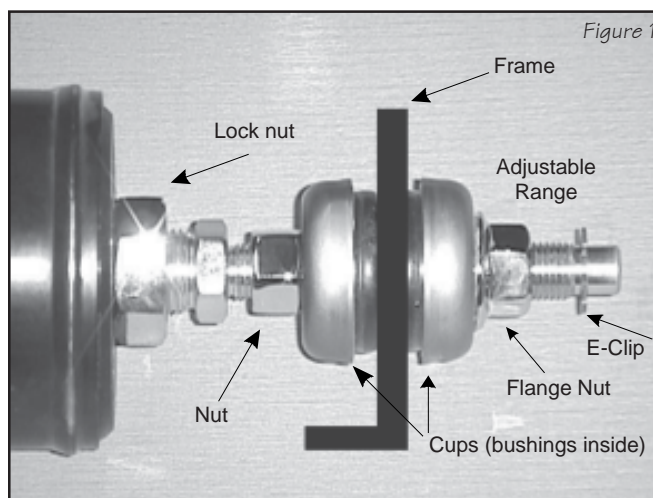
Make sure that proper bushings/sleeves are installed in the shocks. Improper bushings/sleeves can cause unsatisfactory and/or unsafe operation (see the instructions packaged with the mounting hardware).

Drag Specialties shocks for your 2000 & later Softail are designed as a direct bolt on replacement for your stock units. Although they are very similar in appearance, along with offering adjustable ride height they also have improved damping and spring rates.

#### Installation

1. Place motorcycle securely on stand or blocks so the rear wheel is slightly off the ground.
2. Per instructions in a authorized shop manual, remove your old shocks. Note location of the mounting hardware.
3. Before reinstalling a Drag Specialties adjustable ride height shock, spin the non-flanged nut all the way onto the stud mount, followed by a bushing-cup,

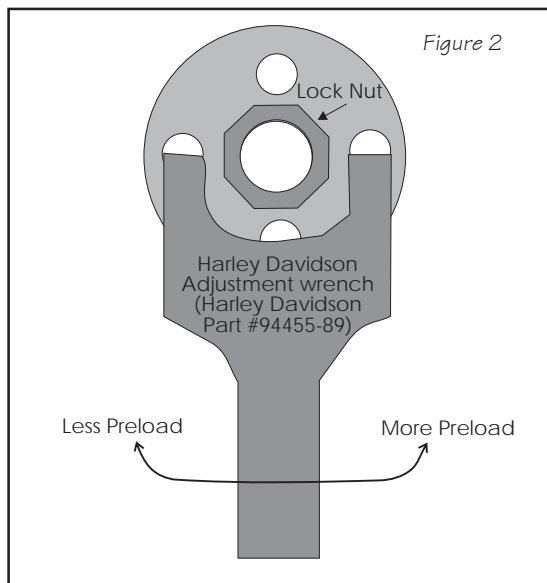
bushing, and sleeve. Then install shocks as you would a stock unit, following an authorized shop manual. With the non-flanged nut spun all the way onto the stud, the stock ride height is achieved. Once you have installed the other bushing, bushing-cup, and flanged nut you can now install the safety E-clip. This E-clip is snapped into the groove near the end of the stud mount where the threads stop. This is to serve as a reference point **ONLY** - when the flanged-nut reaches it you have lowered your ride height the maximum 2 inches. **DO NOT** torque the flange-nut against the E-clip (see figure 1).



4. Tighten all shock mounting bolts to the proper torque specifications (see shop manual for specs).
5. Drag Specialties shocks have adjustable pre-load to compensate for varying weights. A Harley Davidson pre-load adjustment wrench is necessary to adjust the pre-load setting. Progressive Suspension, Inc. wrenches are available as Part # SW-784 from most Dealers and Accessory Stores and the Harley Davidson wrench is available as part #94455-89 from any Harley Davidson Dealer.

Spring preload is set by us to the lightest setting. To increase preload for heavier riders/loads/passengers, loosen locknut with the inside portion of the supplied wrench or a 1 1/16" wrench and back it off several turns. Use the supplied wrench or a Harley

adjustment wrench to turn the adjustment nut counterclockwise to the desired preload setting. Then tighten the 1<sup>1</sup>/<sub>16</sub>" lock nut. Both shocks must be adjusted to the same, equal setting (See Figure 2).



Note: Maximum preload is reached when the locknut and adjusting plate are turned to the end of the threads (no threads showing). This distance is approximately 1/4". Do not turn the locknut past the last thread!

6. Test ride the bike and make further adjustments if necessary. Note: Adjusting the preload does *not* change the shock length.
7. Your new Drag Specialties adjustable ride height shocks are capable of lowering your ride height up to 2". To lower your ride height, simply loosen the flange-nuts in equal amounts and when the desired height is reached tighten the non-flanged nuts back against the bushings (torque to factory recommended specifications). Do not tighten the flange nut against the E-clip, it is for reference only. To raise the ride height, reverse the process. Start by loosening the non-flanged nuts away from the bushings, then start tightening the flanged nuts against the bushings (towards the rear of the bike). When the desired ride height is achieved make sure the non-flanged nuts are retightened against the bushings. It will help to hold the stud with a 3/4" wrench on the hex portion of the stud to prevent it from turning while adjusting. NOTE: The amount the nuts move on the stud may not seem like much, but every 5/16" of an inch of adjustment equals approximately 1" of ride height. It is important that the locknut on the preload adjusting plate is securely tightened (see figure 1).

8. For a balanced suspension, we highly recommend installing a pair of Progressive Suspension fork springs.
9. Ride and enjoy.

### Softail Supplement: Applications for Non-OEM Harley Davidson

**Caution!** As stated in the installation instructions, Drag Specialties shocks are designed to work on the Harley Davidson OEM (Original Equipment Manufacturer) frame and swingarm. Use of these shocks on a frame or swingarm other than a Harley Davidson OEM may produce an unsatisfactory ride, void the warranty and/or result in a catastrophic failure of the shocks, causing loss of vehicle control and possibly *injury or death!*

**Warning!** If you have chosen to use a non-OEM frame and/or swingarm, it is crucial that the shocks not be allowed to overextend. The shocks have a maximum stroke of 1.30" inches. (Stroke is the difference in shock length from fully compressed to fully extended). There *must* be a hard-stop between the swingarm and the frame to limit the shock stroke to no more than 1.30". A bumper cushion is recommended to aid in stopping the swingarm movement. Be advised that bumper contact at 1.30" of stroke is not sufficient as the bumper will compress and allow the shock to overextend. **Warning!** If there is no hard-stop and the shocks are allowed to overextend, then a catastrophic failure will occur—resulting in loss of vehicle control and possible *injury or death!*

**Caution!** Use with non-OEM frames/swingarms that allow the shocks to protrude below the frame exposes them to possible damage. This exposure may lead to catastrophic failure of the suspension and/or loss of vehicle control resulting in possible *injury or death!*

If you chose to use this product on applications other than OEM Harley Davidson or other approved applications as specified in the latest Drag Specialties catalog, you do so *at your own risk.*