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#HDADJST- 07/15/2005

INSTALLATION TIPS FOR ADJUSTABLE LENGTH SOFTAIL SHOCKS

WARNING!

THESE SHOCKS MUST ONLY BE USED WITH STOCK SWINGARMS AND ON STOCK FRAMES WITH THE STOCK BOTTOMING BUMPERS ON THE CHASSIS TO LIMIT THE TRAVEL OF THE SHOCKS. AFTERMARKET SWINGARMS, OR MODIFIED SWINGARMS THAT DO NOT HAVE THE UPPER BRACE THAT ACTS AGAINST THE BOTTOMING BUMPERS CANNOT BE USED WITH THESE SHOCKS. INCREASING THE TRAVEL BY ELIMINATING THE BUMP STOPS OR A NON-STANDARD SWINGARM DESIGN WILL ALLOW THE TIRE TO MAKE CONTACT WITH THE FENDER OR OTHER CHASSIS COMPONENTS, AND CAN DAMAGE THE SHOCKS.

INSTALLATION

1. Place the motorcycle on a suitable frame stand allowing unrestricted access to the shocks.

2. Place a small screw jack under the swingarm to support the weight as well as allow you to position the swingarm correctly to line up the shock mounting bolts. Remove stock shocks.

3. Install the shock on the left side of the motorcycle first. (Note: early production shocks had a cutout in the eye on one side. Position the shock with the cut-out part of the body eye toward the top.) There is a bolt towards the front of the left shock, between the shock and the bottom of the frame. It will interfere with the shock body unless it is mounted from the bottom, with the nut on the top. Remove bolt and turn it around if necessary.

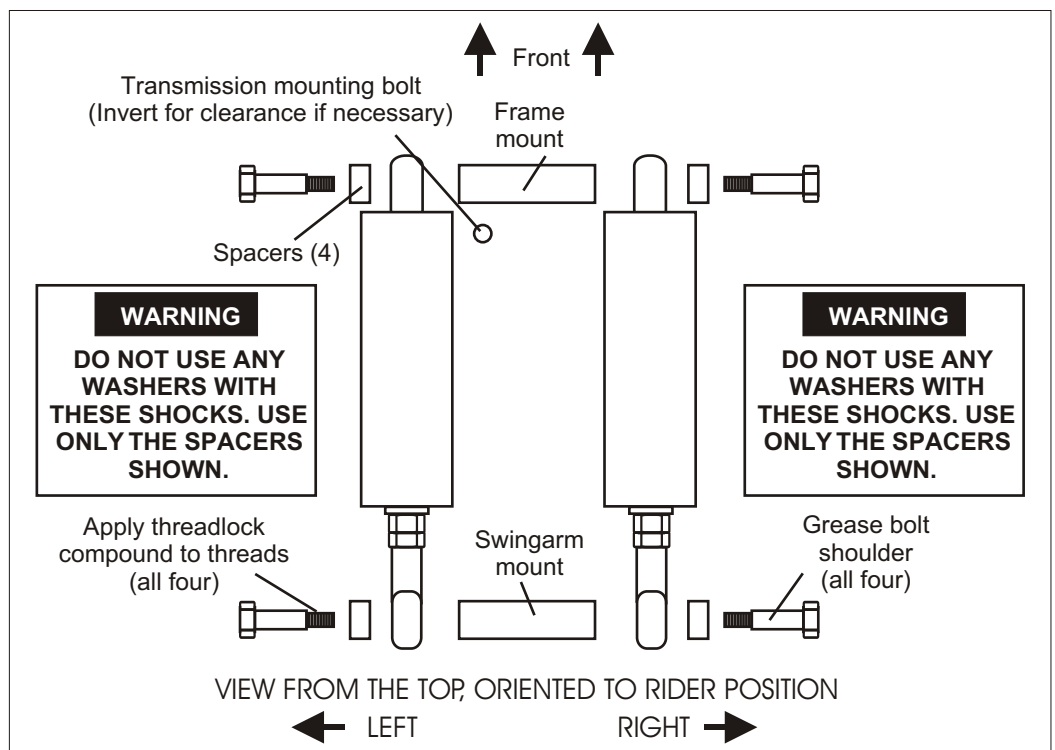


Fig. 1. Shock mounting locations as viewed from the top of the motorcycle. Use only the factory mounting bolts. **Do not use any washers with the supplied spacers.**

4. Discard the stock washer under stock mounting bolt heads. Put a small amount of grease on the shoulder portion of the bolt. Make sure that the threaded portion remains clean and free of oil and grease. Make sure that the holes in the frame and swingarm are similarly clean and free of oil and grease.

WARNING!

ONLY THE FACTORY REPLACEMENT BOLTS SHOULD BE USED TO MOUNT THE SHOCKS. THE SHOCK EYE WIDTH AND SPACER ARE BASED ON THE SHOULDER DIMENSIONS OF THE FACTORY BOLT. THE USE OF ANOTHER TYPE OR LENGTH OF BOLT CAN CAUSE THE EYE/SPACER TO BE BOLTED SOLID TO THE SWINGARM AND/OR FRAME. THIS CAN BREAK THE SHOCK EYE, OR LOOSEN OR BREAK THE SHOCK BOLT, OR CAUSE THE RIDE TO BE HARSH, OR CAUSE PREMATURE SEAL LEAKAGE.

Continued on next page.

WARNING!

DO NOT INSTALL THE STOCK WASHERS OR ANY OTHER WASHERS ON EITHER SIDE OF THE EYES OR SPACERS. USE ONLY THE SPACERS SUPPLIED WITH THE SHOCKS. THE USE OF THE STOCK WASHER OR ANOTHER WASHER WILL BIND THE SHOCKS AND BREAK THE SHOCK EYE, OR LOOSEN OR BREAK THE SHOCK BOLT, OR CAUSE THE RIDE TO BE HARSH, OR CAUSE PREMATURE SEAL LEAKAGE.

5. Put the supplied spacers on the bolts before you push the bolts through the shock eyes. The shoulder of the bolt must protrude a small amount through shock eyes in order to allow the shock to pivot freely. This is extremely important. With the shocks fully tightened, the spacers should be free to rotate with finger pressure, or the bolts will work loose and the shocks will be in a bind.

6. Apply red Loctite (Permanent thread locker 262 or an equivalent) on the threads and tighten securely--you don't want any shocks falling out. Make sure the bolts are fully torqued to the manufacturer's specifications (105 lbs./ft). Then make sure that the spacers are still free to rotate. **THIS IS CRITICAL TO RIDE QUALITY!**

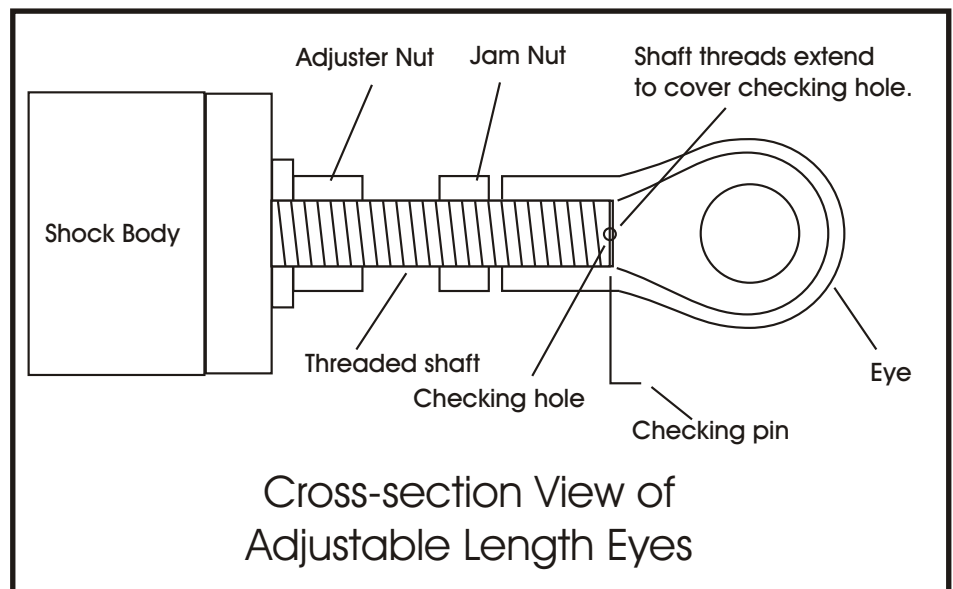
Now that the installation is completed, you are ready to experience the very best in suspension.

LENGTH ADJUSTMENTS

To increase the length of the shocks after installation, loosen the short jam nut and turn the large adjuster nut counter-clockwise. The range of adjustment is approximately 12 full turns. However, the nut should never be adjusted so far out as to allow the threads to uncover the checking hole (see below). Alternate between each shock a little at a time and make sure that they are even. This means both adjuster nuts should be flush against the shock body seal head at the same time.

The length adjustment feature is limited to 5/8-inch at the shock (approximately 1-3/4-inch at the seat). A checking hole is drilled into the eye to indicate the maximum extended length of the eye assembly. A paper clip or other short length of wire can be used in the checking hole. When inserted, the wire should not go in more than 1/8-inch. **If it goes in further than 1/8-inch, then the eye is adjusted too far out and no longer has appropriate thread engagement. Turn the adjuster nut clockwise until the threads can be felt with the checking pin.**

Once the eyes are even from side to side and the checking hole has been checked, tighten the jam nut securely against the eye.



Cross-section View of
Adjustable Length Eyes

WARNING!

DO NOT ADJUST THE EYES OUT SO FAR AS TO UNCOVER THE CHECKING PIN HOLE. THE HOLE INDICATES THE END OF THE ADJUSTMENT RANGE. WHEN THE HOLE IS UNCOVERED, THERE IS NOT ENOUGH THREAD ENGAGEMENT FOR PROPER SAFETY AND FUNCTION.

WARNING!

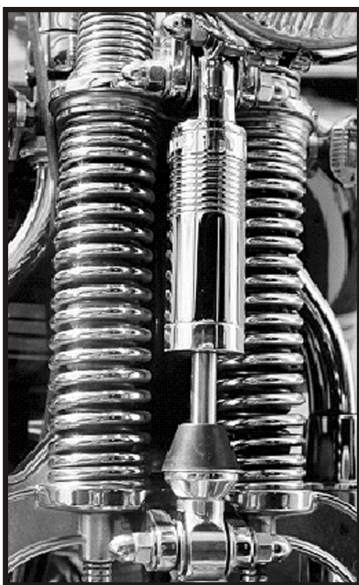
WHEN YOU ADJUST THE LENGTH OF THE SHOCKS TO LOWER THE BIKE, PLEASE KEEP IN MIND THAT BOTH THE AVAILABLE TRAVEL AND CORNERING CLEARANCES ARE SUBSTANTIALLY REDUCED. FAILURE TO ADAPT YOUR RIDING STYLE, SPEED AND LEAN ANGLE CAN RESULT IN DAMAGE TO THE MOTORCYCLE AND POSSIBLE INJURY TO THE RIDER AND/OR PASSENGER.

Gil Vaillancourt
 President
 Works Performance Products, Inc.

DUAL-RATE FORK SPRINGS

Works Performance adjustable dual-rate fork springs provide a soft initial rate for small bumps and pavement seams, but then "cross over" to a higher rate for potholes and other bad pavement. Unlike progressively wound springs which have the progression preset into the springs, these dual-rate sets allow the rider to choose the point at which the springs go from the soft initial rate to the stiffer final rate. This accommodates various rider weights, riding styles, road or track conditions and personal preference. One set of springs for one fork tube consists of a long spring, a short spring, preload spacer material (in most cases),

separating washers and three different pairs of metal spacers that determine the "cross-over" point of the spring set. The shortest length causes the spring set to cross over later, so the forks remain softer longer. The longest length causes the spring set to cross over sooner resulting in the stiffer overall rate. The medium-length spacer provides the best average for most suspensions.



GAS CHARGED SHOCK FOR SPRINGERS

The Works Performance Chrome Tracker rebuildable chrome and billet shock for the Harley-Davidson Springer front end delivers plush damping, with unexcelled handling, tracking, and stability at freeway speeds. They are available in grooved (shown) or smooth body.

Part# HD-47877, smooth body shock for Springer front ends
 Part# HD-47878, grooved body shock for Springer front ends

FORK SPRING APPLICATIONS		
XLH	73-87	2512
XLH883,1200	88-90	3100
XLH883,1200	91-	3106
XLX-61	79-87	250X
XLS	79-87	250X
SPORTSTER	53-72	230XH
XR1000	83-84	250X
XLCR	77-78	250X
XLCH	73-78	250X
FXRS-Sp	87-	3108
FXLR	87-	310X
FXRD	85-86	250X
FXR	88-	3100
FXRS	88-	3100
FXRT	83-87	250X
FXRS	82-87	250X
FXR	82-87	250X
FXDWG/FXDL (41mm)	84-	3327H
FXD (41mm Showa)	96-	3327H
FXD (39mm)	96-	3107H
FXRT	87-	310X
FXST/C	84-99	3319H
FXST/Duece	00-	3327H
FLST/C	84-99	3327H
FL Road King	84-	3311H
FX/4 SPEED	73-86	2512
FXSB/4 SPEED	73-86	2512
FXE/4 SPEED	73-86	2512
FXS/4 SPEED	73-86	2512
FX	71-72	2308H
FXDB,DC	91-92	310X