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## MOUNTING INSTRUCTIONS FOR HARLEY-DAVIDSON SPRINGER FORKS

#SPRINGER - 12/01/02

**CAUTION:** This is not an air adjustable shock. The valve on the shock body is only for servicing the shock. This shock is pressurized to 250 psi nitrogen. This pressure is not an adjustable feature of the shock. Unless there is a leak, the shock should not normally lose pressure. (See Service on Page 2).

**Note:** Springer front ends have been built with two different shock mount widths at one end of the shock. A second bushing half is included with the shock to enable correct fitting of all years.

### INSTALLATION

1. The shock mounts with the body up —shaft pointing down. The nitrogen fill valve can be positioned toward the rear of the motorcycle.

2. Make sure that both halves of the upper and lower bushings are in place.

NOTE: Do not try to install the shock with only half of the bushings, as this will lead to poor performance and premature seal leakage. The amount of "float" in the bushing set is necessary to ensure smooth operation of the damper assembly.

3. It is easiest to install the shock when the forks are fully extended, however the shock can be installed with the bike on the kick stand.

4. Insert the body eye into the mounting channel on the fork crown. Rotate the shock down into the lower channel.

NOTE: A thread locking compound such as Red Loctite 262 or other similar product should be used on the shock fasteners.

5. Install the upper mounting stud and nuts, finger tight.

6. Push the shaft up far enough to insert the lower mounting stud and nuts. This will take a little effort because of the gas pressure in the shock.

7. Torque the upper and lower shock mount nuts to 22 ft. lb.

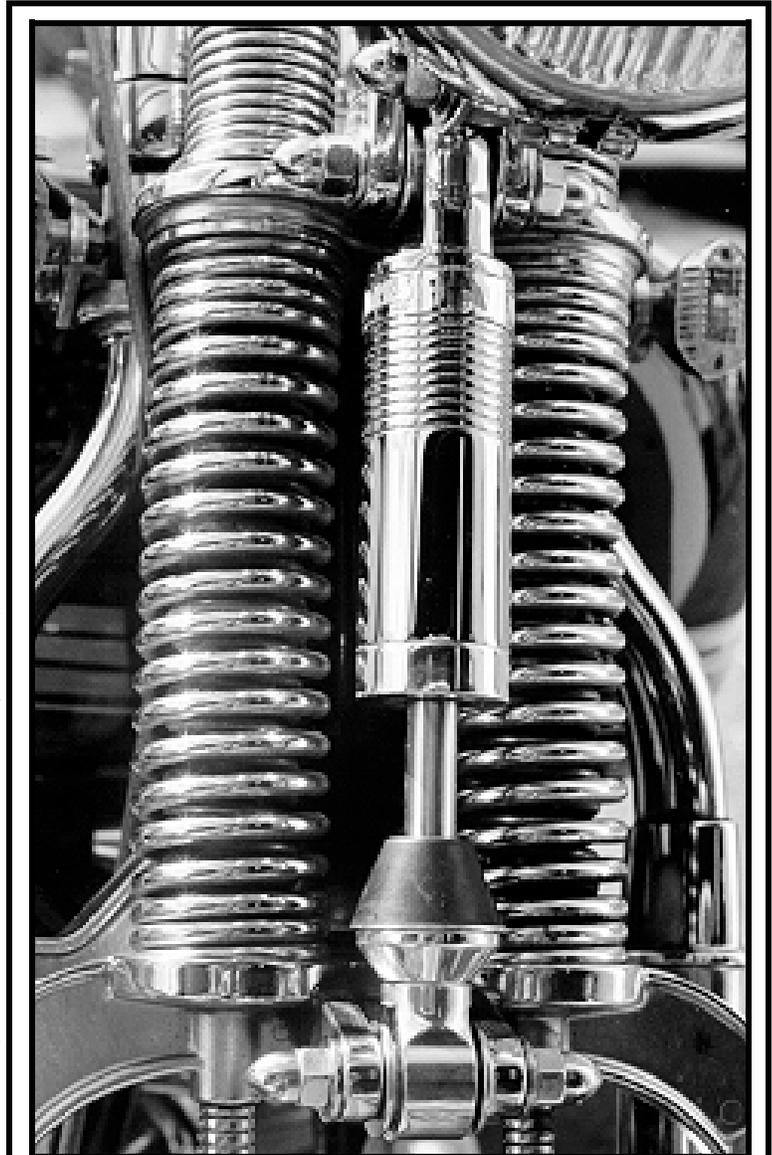


Fig. 1 — The shock is designed to be mounted with the shaft down, and the body up. The nitrogen valve is positioned toward the rear of the machine.

Continued on next page.

## **NITROGEN PRESSURES**

**CAUTION: The pressure in these shocks cannot successfully be checked.** Concerns with the gauge volume and the gas volume in the shock body create a situation where you cannot accurately determine what pressure was in the shock. In addition, the gas is in a column on top of the oil, and when the pressure is lowered (i.e. checking the pressure) the gas and some of the shock oil escape into the gauge. It is possible to lose a large percentage of the shock oil by depressing the core of a charged shock to the atmosphere.

## **NON-RESERVOIR (EMULSION) SHOCKS**

The permissible range of pressure is 150 to 300 p.s.i. of dry nitrogen. The pressure setting is not intended as an adjustment, but will affect the compression damping to some small degree. Works has determined that 250 p.s.i. is most suitable for most of the applications. Please note that in order to check the pressure, some of the gas must escape and fill the gauge assembly. The volume of the gas in the shock is about the size of a large thimble, so a very small volume change results in a large pressure drop. Because the gauges' volumes vary, it is not possible to deduce the actual pressure in the shock prior to attaching the gauge. Therefore it is imperative that any attempt to check pressure be accompanied by the capability of refilling the reservoir. In other words: If you don't have a nitrogen source handy, don't check the pressure!

The best gauges for re-pressurizing the shocks screw on to the valve and incorporate a T-handled core depressor to isolate the shock from the gauge. This allows a leak-free separation once the desired pressure is reached. For simplified operation, an extra valve is provided for the filling apparatus, allowing pressure adjustment with the gauge in place. Works offers a suitable gauge for \$89.00. Most motorcycle shops that deal with dirt bikes can pressurize the shock.

## **SERVICE**

If the shock damping becomes soft or mushy (after an extended period of time or number of miles) the shock may need to be serviced which includes shock oil and a nitrogen charge. In this situation, re-pressurizing the shock alone may not improve the action of the shock. The shock should be returned to Works Performance Products, Inc., or to a qualified service shop that has the appropriate tools, training and nitrogen handling equipment.