

# INSTALLATION INSTRUCTIONS

## DRAG SPECIALTIES PREMIUM ADJUSTABLE RIDE-HEIGHT HEAVY-DUTY SHOCK ABSORBERS 1310-1663 THRU 1674

**ATTENTION INSTALLER** (if other than owner): Please forward this Instruction Sheet to the purchaser of this product. These instructions contain valuable information necessary to the end user.

**INTRODUCTION:** These instructions describe the procedure for properly installing the Drag Specialties Premium Adjustable Ride-Height Heavy-Duty Shock Absorbers. Review these instructions carefully before beginning, as they contain important information. Please retain for future reference.

Particularly important information is distinguished in these instructions by the following notations:

**NOTE:** A NOTE provides key information to make procedures easier or clearer.

**CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle and/or accessories.

**WARNING:** A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.



### TOOLS REQUIRED:

Ruler

Shock spanner wrench (2) (We suggest using the Moose brand of adjustable spanner wrench, Drag Specialties PART #3805-0121. Testing has determined that this wrench works best of all available wrenches.)

### PROCEDURE:

Setting Shock Length:

1. Loosen the locking ring on the bottom of the shock absorber body. See Figure 1.

**NOTE:** Use the correct spanner wrench on the locking rings. Using the wrong tool will cause damage to the soft aluminum locking rings.

2. Lengthen the shock body by screwing the bottom mounting clevis up or down. Do not exceed the adjustment as listed in the chart on last page.

**WARNING:** Adjusting the shock to a longer or shorter length than what is listed in the adjusting range could cause shock failure, leading to possible injury.

3. Use the ruler to measure from the center of the mounting eyelet on the top of the shock to the center of the mounting eyelet on the shock bottom. Make sure that after adjustment, both shocks remain the same length within the measurement on the chart.
4. Tighten the lock ring against the bottom of the adjustable shock body. Rotate the shock body so that both mounting eyelets are parallel. Make sure the lock rings do not come loose when turning the shock body.
5. Place the bike on a jack and raise until all weight is off the rear wheel. Do not raise the wheel off the ground.

6. Remove the original rear shocks and set aside.
7. Install the shock absorbers with the upper mounting bolts. You will probably find that the stock shock covers will not clear with the new shocks. If so, install without covers.
8. Carefully raise or lower the bike with the jack until the lower mounting bolt will slide through the lower mount and shock absorber.
9. Tighten both upper bolt and lower bolt to the following torque specifications:

#### Mounting Bolt Torque:

Touring: Upper & Lower = 35-40 ft-lbs.

Dyna: Upper & Lower = 30-40 ft-lbs.

XL Sportster: Upper & Lower = 45-50 ft-lbs.

**NOTE:** Make sure that there is sufficient bolt or stud length available after shocks are installed.

**CAUTION:** Check to make sure there is sufficient clearance between the swingarm, fender and belt guard. Put two people on the bike and compress the suspension as much as possible and check carefully in the front swingarm area around the belt guard and fender. Clearance as necessary to prevent the swingarm or belt guard from hitting the rear fender.



3501 Kennedy Rd, PO Box 5222, Janesville, WI 53547-5222  
1310-1663 thru 1674

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### Setting Shock Spring Preload:

**NOTE:** This initial setting is just a starting point for shock spring preload. Further fine-tuning may be required.

1. With the shock fully extended, loosen the two lock rings on the bottom of the shock spring. Back off the adjuster until the spring is loose in the shock.
2. Tighten the adjuster back up until there is no free play in the spring.
3. For solo riding, tighten up to the maximum shock spring length listed in the chart for your shocks. For 2-up riding, tighten until the minimum shock spring length listed for your shock is obtained.
4. Lock the two adjuster rings together with the shock spanner wrenches.
5. Check all mounting bolts for correct torque.
6. Test ride the motorcycle with the amount of weight on it that you would most likely carry.
7. Adjust both of the shocks one turn at a time to fine-tune the shocks for best ride.

**NOTE:** Tighten the adjuster to shorten the spring if you feel the shocks bottoming out too often. If the ride is too stiff, loosen the adjusters by lengthening the spring.

**WARNING!:** Never adjust the shock springs to a length shorter than the minimum spring length stated for the shock length. Doing so may cause spring coil bind, shock failure and injury or death. Adjusting the shocks to a spring length longer than listed on the chart may cause excessive shock bottoming and damage the shock absorbers.

8. Make sure to tighten the adjuster lock rings before the next test ride.

**WARNING:** Before operating motorcycle, be sure all hardware is tight.

### ADJUSTABLE SHOCK DIMENSIONS

NOTE: LENGTH MUST REMAIN WITHIN THE LENGTHS LISTED BELOW FOR EACH SHOCK. PART NUMBER, SPRING LENGTH MUST ALSO REMAIN BETWEEN THE MAXIMUM AND MINIMUM LENGTHS. THE MINIMUM LENGTH WILL GIVE YOU A STIFFER RIDE AND THE MAXIMUM LENGTH WILL GIVE YOU A SOFTER RIDE.

DRAG #	LENGTH ADJUSTMENT RANGE	MAX. SPRING LENGTH	MIN. SPRING LENGTH
1310-1663	12.5-13.5"	7.48"	6.88"
1310-1664	12.5-13.5"	7.48"	6.88"
1310-1665	11.5-12.5"	6.69"	6.09"
1310-1666	11.5-12.5"	6.69"	6.09"
1310-1667	12.5-13.5"	7.44"	6.84"
1310-1668	12.5-13.5"	7.44"	6.84"
1310-1669	10.5-11.5"	5.67"	5.07"
1310-1670	10.5-11.5"	5.67"	5.07"
1310-1671	11.5-12.5"	6.69"	6.09"
1310-1672	11.5-12.5"	6.69"	6.09"
1310-1673	12.5-13.5"	7.44"	6.84"
1310-1674	12.5-13.5"	7.44"	6.84"

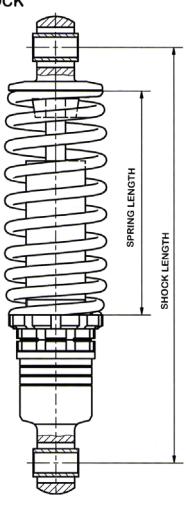


Figure 1. Lower shock with locking ring loosened for adjusting shock length.



Figure 2. Lower shock with shock shortened to minimum length.



Figure 3. Lower shock extended to maximum length.

