

-J01561

Part Numbers K1400.C, K1400.8, K1400.E, 93925YA, 93929YA, 93930YA

REV. 11-20-00

CUSTOMER INSTRUCTIONS FOR SHOCK REPLACEMENT AND ADJUSTMENT

General

The following instructions describe how to install the Shock Absorber Service Kit to 1995-2000 Model Buell Motorcycles and perform adjustments. For additional procedures not covered, but referred to in these instructions, see the appropriate SERVICE MANUAL. If you are not comfortable performing this procedure, see your Buell Dealer to have it performed. Keep these instructions with your Owner's Manual and refer to them whenever setting preload or adjusting compression or rebound damping.

NOTE

A Service Manual is available from your Buell Dealer.

This kit replaces the OE Shock Absorber on pre-2001 Models.

Kit Contents:

QTY	DESCRIPTION	PART NO.
1	New Shock Absorber	K0431.9 (S1/S1W/X1/M2) K0431.M (S2/S2T/ 99-00 S3/S3T) K0431.B (97-98 S3/S3T)
1	Clamp, Reservoir Rear	K0411.8B
1	Clamp, Reservoir Front	S0120.K
1	Clamp Washer, 1/4 in.	BA0409.1Z
2	Locknuts, Shock Eyes	D1200.2CZ
1	Reservoir Mount Block	K0412.8
1	New Front Shock Mount	K0407.01A1
2	Front Shock Mount Bolts	AA0646.1CZ
2	Front Shock Mount Locknuts	DA0600.10CZ
3	Front Shock Mount Washers	BA0613.2Z
1	Star Washer, 3/8 in.	BA0611.4Z
1	Star Washer, 1/4 in.	BA0409.4Z
1	New X1 Chin Fairing Bracket	M0609.01A1
1	X1 Chin Fairing Wellnut	M0705.3
1	Header Tie Bar Spacer	C0168.9
1	Regulator Bracket Screw	AA0404.3CZ
2	Exhaust Port Gaskets	65324-83A

The shock absorber kit is different depending on the motorcycle model. See below for the correct kit part numbers.

S1/S1W/M2/X1: Kit Part No. K1400.C

S2/S2T/1999-2000 S3/S3T: Kit Part No. K1400.8

1997-1998 S3/S3T: Kit Part No. K1400.E

Removal

- Lift rear wheel off ground using REAR WHEEL SUPPORT STAND (Part No. B-41174). Secure front wheel of motorcycle in a suitable lift.

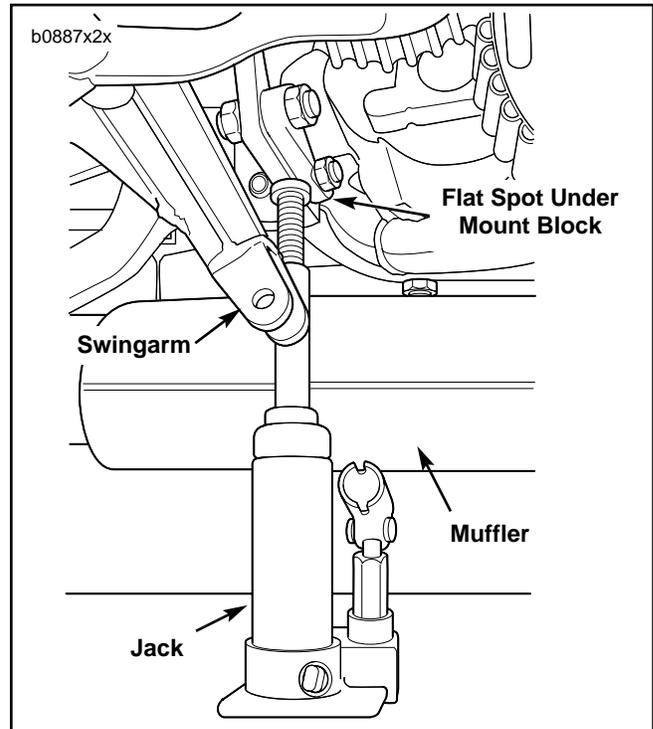


Figure 1. Jack Location on Mount Block

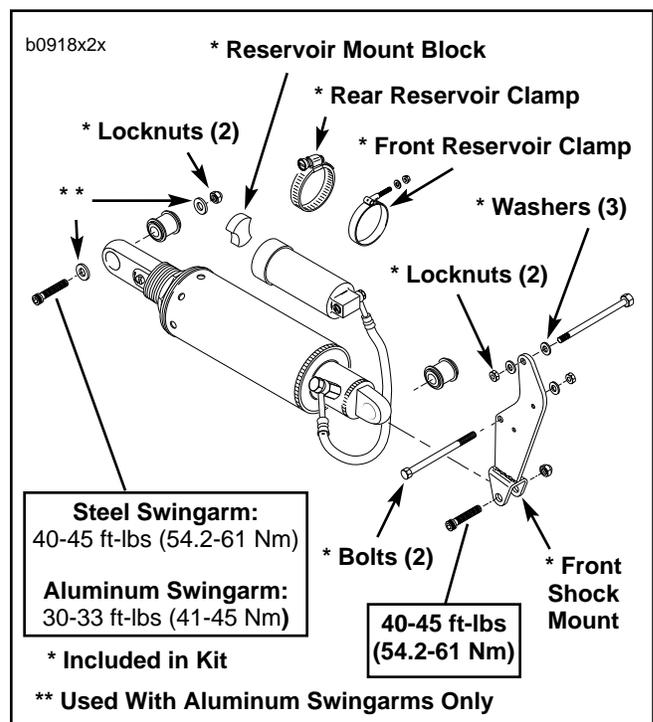


Figure 2. New Shock Absorber Assembly

⚠ WARNING

To protect against shock and accidental start-up of vehicle, disconnect the negative battery cable before proceeding. Inadequate safety precautions could result in death or serious injury.

2. Disconnect negative battery cable.
3. **X1 Models Only:** Remove chin fairing. See Section 2 of X1 Service Manual for procedure.
4. See Figure 1. Place a suitable jack under the swingarm mount block and raise until crankcase is supported by jack.

NOTE

Steps 5-6 do not apply to M2 Cyclone Models with original equipment shocks (which did not have a remote reservoir).

5. See Figure 2. Use a flex socket and extension to remove locknut and washer from front reservoir clamp. Discard clamp, locknut and washer.
6. See Figure 2. Loosen rear reservoir clamp. Slide reservoir and mount block out of clamp. Remove and discard clamp and mount block.

NOTE

On motorcycles equipped with the Shock Reinforcement Package (SRP), there is no need to disassemble the SRP during removal as the shock and SRP are removed as an assembly.

7. Remove allen screw and locknut (metric) from front shock and front shock mount. Discard locknut.
8. Remove allen screw, locknut (metric) and washers (if present) from rear shock and swingarm while supporting shock absorber. Discard locknut. On aluminum swingarms only: retain washers for re-use.
9. Remove and discard shock absorber assembly.
10. **All Models Except S1/S1W/S2/S2T:** Remove two screws, washers, star washer (present on 1997 M2, S3/S3T) and voltage regulator from bracket. Discard star washer.
11. **All Models Except S1/S1W/S2/S2T:** Remove small button head screw and metal locknut that secures voltage regulator bracket to front shock mount. Leave bracket in place. Discard screw and metal locknut.

NOTE

Model Year 1995-1999 motorcycles have unthreaded front shock mounts that require the use of washers and metal locknuts to secure the front shock mount to the crankcase. Model Year 2000 front shock mounts are threaded and do not use locknuts. The new front shock mount is not threaded and will require the use of the new mounting hardware which includes washers and metal locknuts.

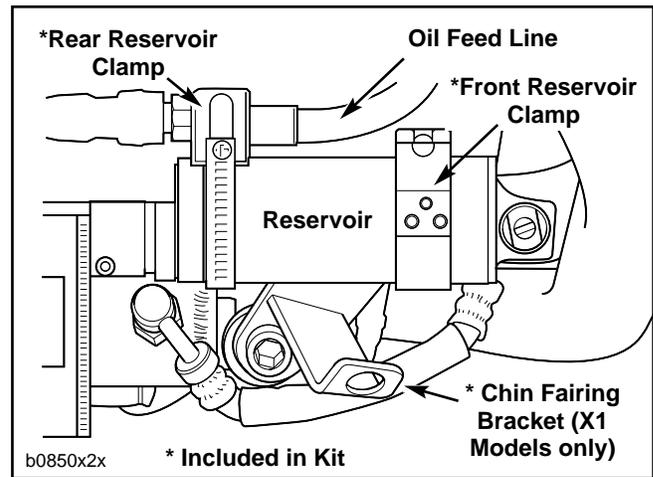


Figure 3. Reservoir Clamps (X1 Shown)

12. Remove top and bottom front shock mount bolts, washers, star washer (present on 1997 M2, S3/S3T) and locknuts (if present). Remove and discard front shock mount. Discard bolts, star washer, locknuts and washers. NOTE: If interference is encountered removing bolt from shock mount, it may be necessary to loosen the header/muffler to remove the bolt. See appropriate Service Manual, Section 2 for instructions.

INSTALLATION

IMPORTANT NOTE

The new front shock mount MUST be used with the new shock absorber. The new shock is 1.77 in. (45 mm) shorter than the previous shocks and requires the new front mount to align and install properly.

NOTE

Not all hardware provided in the kits will be used. Use only those parts called for in the instructions for the model being serviced. It is normal to have parts left over after successful installation of these kits.

1. See Figure 2. Install **new** front shock mount to crankcase with two **new** front shock mount bolts, washers, star washer (on 1997 M2, S3/S3T models only) and metal locknuts. Tighten bolts to 30-33 ft-lbs (41-45 Nm). NOTE: Top bolt goes in from left side, bottom bolt goes in from right side. The bottom bolt does not use a washer under the bolt head. Star washer (only used on 1997 M2, S3/S3T) goes on bottom bolt under the washer on the nut side. If exhaust was loosened during front shock mount removal, replace exhaust gaskets and reinstall exhaust. See appropriate Service Manual, Section 2 for instructions.
2. **All Models Except S1/S1W/S2/S2T:** Apply LOCTITE THREADLOCKER 243 (Blue) to threads of **new** button head fastener. Fasten voltage regulator bracket to front shock mount with **new** button head fastener and locknut. Tighten fastener to 5-6 ft-lbs (7-8 Nm).
3. **All Models Except S1/S1W/S2/S2T:** Apply LOCTITE THREADLOCKER 243 (Blue) to threads of voltage regulator screws. Install voltage regulator (**new** star washer underneath regulator on 1997 M2, S3/S3T models) to bracket with two small screws and washers. Tighten fasteners to 9-11 ft-lbs (12-15 Nm).

NOTE

All **new** shock absorbers, including those on M2 Models, have remote reservoirs that enable rebound damping adjustment.

4. See Figure 2. Position **new** shock absorber from kit in mounting position.
5. Loosely install bolt, washers (aluminum swingarms only) and **new** locknut through rear shock eye and swingarm.
6. **X1 Models Only:** Position **new** chin fairing bracket in mounting position on front shock eye.
7. Loosely install bolt and **new** locknut through front shock eye and front shock mount and X1 chin fairing bracket (if applicable).
8. **On 1996-98 vehicles only:** Loosen header tie bar from collector.
9. Position front clamp over reservoir. Loosely install **new** front reservoir clamp to front shock mount (and install **new** header tie bar spacer between front shock mount and header tie bar on 1996-98 vehicles only) with **new** washer and **new** nylon locknut.
10. See Figure 3. Loosely install **new** rear clamp around reservoir and oil feed line.
11. **All Models:** Install **new** reservoir mount block between oil pump fitting and remote reservoir.

NOTE

Torque specifications listed in Step 12 are different for aluminum vs. steel swingarms.

12. **1995-1998 Models (Steel Swingarm):** Tighten front and rear shock mounting hardware to 40-45 ft-lbs (54.2-61.0 Nm).
1999-2000 Models (Aluminum Swingarm): Tighten front shock mounting hardware to 40-45 ft-lbs (54.2-61.0 Nm). Tighten rear shock mounting hardware to 30-33 ft-lbs (41-45 Nm).
13. Tighten clamps around reservoir. Tighten tie bar to collector (if applicable).
14. **X1 Models Only:** Install chin fairing using **new** wellnut. See Section 2 of X1 Service Manual for procedure.
15. Lower and remove jack from under swingarm mount block.
16. Connect negative battery cable. Tighten to Service Manual specification.
17. Set preload. See ADJUSTMENT.

ADJUSTMENT

1. See Figure 4. Check and adjust rear shock preload.
 - a. With rider seated on motorcycle, the preload is determined by measuring the distance between the centers of the front and rear shock eye and adjusting until the measurement is within specification.
 - b. See below for optimum preload measurement:

All Models: 15.2-15.5 in. (386-394 mm)

NOTE

Riders with passenger at or near GVWR may exceed optimum preload adjustment.

2. See Figure 5. To adjust shock preload, loosen the locknut and turn the preload adjuster at the end of the shock to move can towards front or rear of motorcycle.
3. Tighten adjuster (move can towards rear of motorcycle) to increase preload.
4. Loosen adjuster (move can towards front of motorcycle) to decrease preload.
5. See Figure 7. Apply wheel bearing grease halfway around the shock (180 degrees) to the mating faces of the locknut and adjuster nut and to first few threads on the aluminum body leading to the adjuster nut.
6. Thread locknut back into place.

NOTE

Torque wrench and locknut crow's foot must be set at 90 degrees to prevent torque multiplication by wrench.

7. Hold adjusting nut in place and tighten locknut to 65-72 ft-lbs (88-98 Nm) with crow's foot set at 90 degrees to the torque wrench.
8. Wipe excess grease off of shock absorber.

NOTE

Measurements should be made with rider seated on motorcycle.

9. See Figures 5 and 6. To adjust rear shock to maximum damping setting, use screwdriver to turn slotted dial on appropriate adjuster clockwise until it stops. This is the maximum damping setting.
10. See Figures 5 and 6. To adjust rear shock to factory recommended settings, turn dial counterclockwise from maximum damping the amounts shown in Steps 11 and 12 to align the reference marks.
11. See Figure 5. Set compression damping using the slotted dial on the shaft at the rear of the shock. New factory setting is as listed below:

S1/S1W/M2/X1 Models: full damping minus 2.25 turns.

S2/S2T Models: full damping minus 2.5 turns.

S3/S3T Models: full damping minus 2.5 turns.

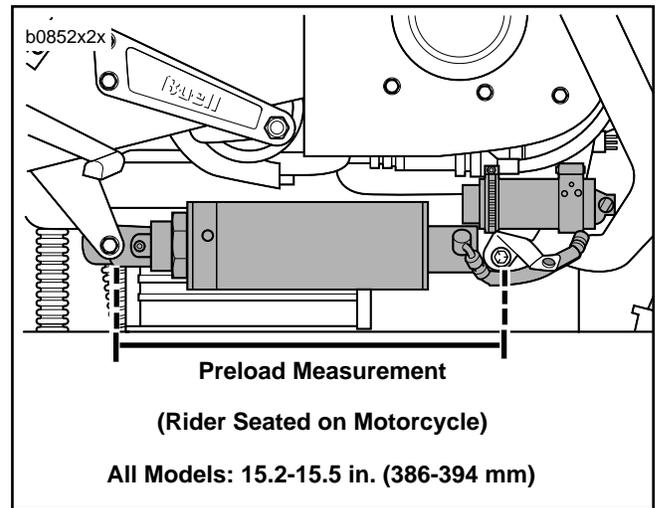


Figure 4. Measuring Preload

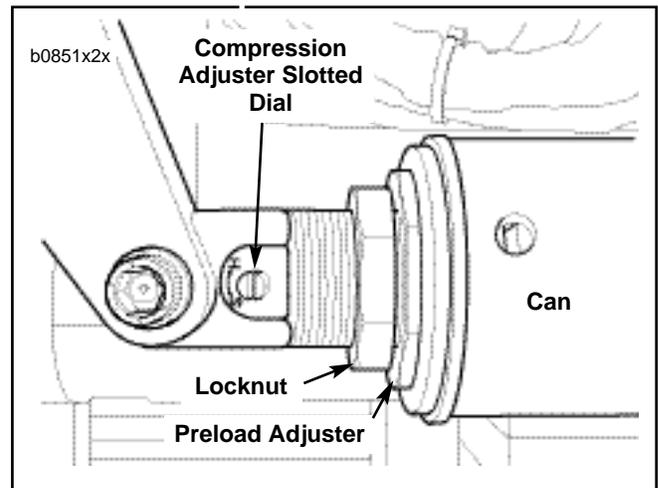


Figure 5. Preload and Compression Damping Adjustment

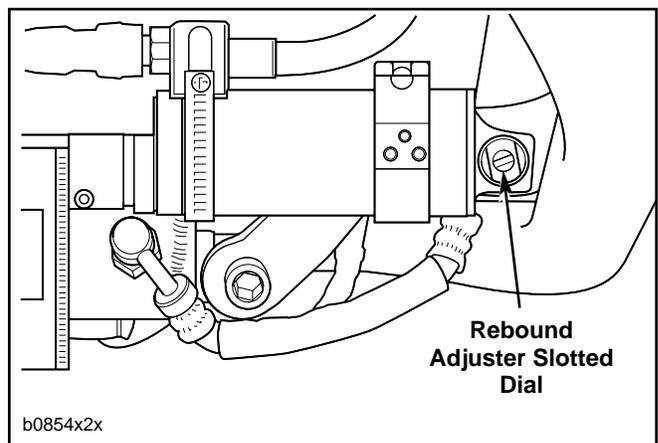


Figure 6. Rebound Damping Adjustment

12. See Figure 6. Set rebound damping using the slotted dial on the remote reservoir at the front of the shock. New factory setting is as listed below:

S1/S1W/M2/X1 Models: full damping minus 1.5 turns.

S2/S2T Models: full damping minus 1 turn.

S3/S3T Models: full damping minus 1 turn.

NOTE

When preload is increased, both compression and rebound damping should be increased. If preload is decreased, both compression and rebound damping should be decreased.

11. Test ride motorcycle.

