

SERVICE BULLETIN **Buell**[®]

B-033A

December 4, 2000

AMERICAN MOTORCYCLES

SAFETY RECALL CODE 0820 - NEW SHOCK ABSORBER

GENERAL

Buell Motorcycle Company has learned that certain 1999 and 2000 Buell motorcycles were built with a rear shock absorber that could break. If the shock should break, the underside of the vehicle could drag on the ground, which may adversely affect handling and could cause an accident. Accordingly, Buell Motorcycle Company is voluntarily conducting a recall campaign to formally recall all potentially affected motorcycles.

This campaign involves all 1999 M2 Cyclone and all 2000 X1 Lightning, M2 Cyclone, S3 Thunderbolt and S3T Thunderbolt model Buell motorcycles manufactured between January 5, 1998 and May 31, 2000.

This condition was initially remedied by installing a shock reinforcement package (SRP) on all potentially affected vehicles.

Since the release of the original bulletin (B-033), Buell Motorcycle Company has released a **new** shock absorber that provides the same benefits as the original SRP kit. This new shock absorber installation should be performed in lieu of the SRP installation on all affected models, once you have used up your stock of SRP kits. This revised recall procedure applies to affected motorcycles that did not have the initial 0820 recall service performed. For motorcycles that have had the original 0820 recall service performed, obtain a factory authorization to replace the shock.

DEALER ACTION, AFFECTED VEHICLES

Recently, Buell Distribution Corporation sent a complete list of all vehicles shipped to your dealership involved in this recall. To ensure the safety of all affected riders, it is your responsibility to perform the required service on all affected vehicles, even if the motorcycle was not purchased from your dealership.

If you are not sure that a safety recall has been completed on a particular Buell motorcycle, contact the recall information line at 1-800-448-1708. Recall information is also available on TALON and hd-net.com.

IMPORTANT NOTE

Because only registered owners received notification from Buell Distribution Corporation, we request that you contact any owners of vehicles previously listed as unregistered. Advise them of the safety recall and make arrangements for them to come in for recall service. We also require that you provide us with their names, addresses and V.I.N.s as soon as possible. This will enable us to mail them an owner's letter as required by National Traffic and Motor Vehicle Safety Act, as amended.

Kits must be ordered as required and will be available on or before December 18, 2000. Use inventory of original recall kits until exhausted. Once exhausted, the original kits will supersede to the revised kits listed in this bulletin. To order kits please fill out the attached order form and send/fax it to the Warranty Department at (FAX) 414-343-8346. All kits will be shipped, no charge, transportation paid.

Buell Distribution Corporation reserves the right to conduct wave shipments in lieu of processing orders and/or adjusting order quantities, depending on the availability of parts.

The revised 0820 Recall Kit (see below for correct Part Number) consists of:

- Customer Instructions for Shock Replacement and Adjustment
- Shock Absorber
- Clamp (for shock reservoir to bracket)
- Clamp (for shock reservoir to oil return line)
- Washer, 1/4 in (for reservoir clamp)
- (2) Locknuts, Nylon (shock mounting)
- Reservoir Mount Block
- Front Shock Mount
- (2) Front Shock Mount Bolts
- (2) Locknuts, Metal (for front shock mount)
- (3) Washers (for front shock mount)
- **New** X1 Chin Fairing Bracket
- Wellnut
- Star Washer, 3/8 in. (1997 M2, S3/S3T only - front shock mount) (not used)
- Star Washer 1/4 in. (1997 M2, S3/S3T only - voltage regulator bracket) (not used)
- (2) Exhaust Port Gaskets (not used)
- Screw (for voltage regulator bracket)
- **New** Header Tie bar Spacer (not used)

The **new** shock recall kit is different depending on the motorcycle model. See below for the correct recall kit part numbers:

X1/M2: Part No. 94017Y

S3/S3T: Part No. 94018Y

REMOVAL

All Models

NOTE

Perform the following procedures according to the guidelines given in the service manual for the model being serviced.

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

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO:
INITIAL HERE									

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. Discard wellnut.
4. See Figure 1. Place a suitable jack under the swing arm 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 that were not equipped with a remote reservoir.

5. See Figure 2. Use a flex socket and extension to remove locknut and washer from front reservoir clamp. Discard clamp and locknut. Retain washer.
6. See Figure 2. Loosen rear reservoir clamp. Slide reservoir and mount block out of clamp. Remove and discard clamp and mount block.
7. Remove allen screw and locknut (metric) from front of shock and front shock mount. Discard locknut.
8. Remove allen screw, washers and locknut (metric) from rear of shock and swingarm while supporting shock absorber. Discard locknut. Retain washers for re-use.
9. Remove and discard shock absorber assembly.
10. Remove two screws, washers and voltage regulator from bracket.
11. Remove small button head screw and metal locknut (if present) that secures voltage regulator bracket to front shock mount. Leave bracket in place. Discard screw and metal locknut.

NOTE

Model Year 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 were threaded and no locknuts were used. The new front shock mount is not threaded and will require the use of the new mounting hardware which includes washers and metal locknuts.

12. Remove top and bottom front shock mount bolts (and washers and locknuts if present). Remove and discard front shock mount. Discard bolts, locknuts and washers.

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.

1. See Figure 2. Install new front shock mount to crankcase with two **new** front shock mount bolts, washers and metal locknuts. Tighten bolts to 30-33 ft-lbs (41-45 Nm). NOTE: Top bolt goes in from the left side, bottom bolt goes in from right side. The bottom bolt does not use washer under the bolt head.

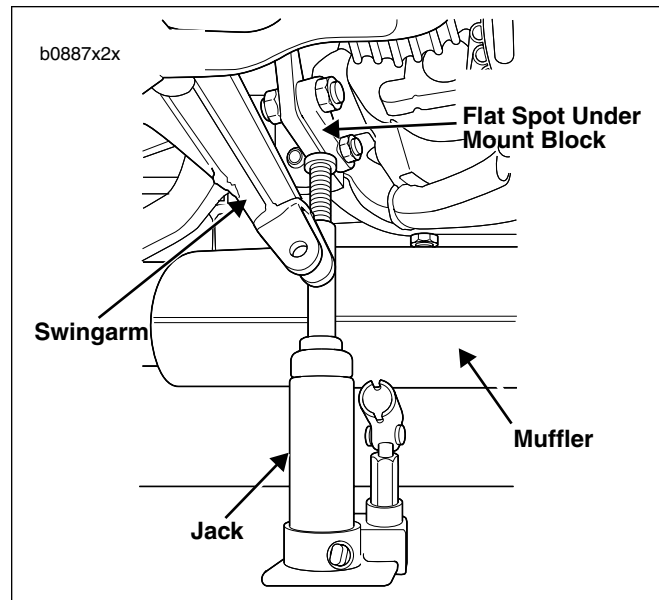


Figure 1. Jack Location on Mount Block (Shock Removed for Clarity)

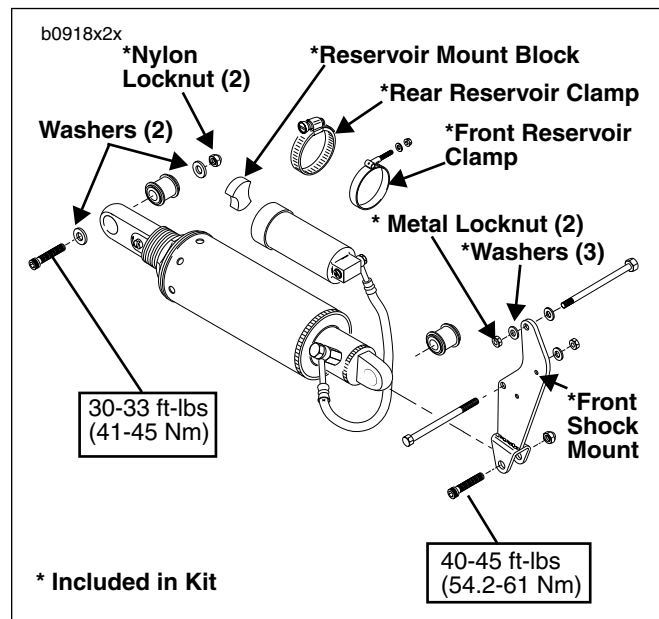


Figure 2. New Shock Absorber Assembly

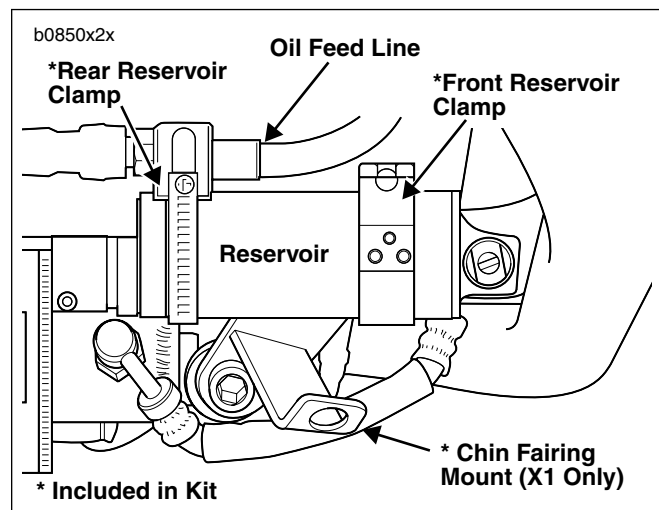


Figure 3. Reservoir Clamps (X1 Model Shown)

2. Apply LOCITITE THREADLOCKER 243 (Blue) to threads of **new** button head fastener. Attach voltage regulator bracket to front shock mount with small button head fastener. Tighten fastener to 5-6 ft-lbs (7-8 Nm).
3. Apply LOCTITE THREADLOCKER 243 (Blue) to threads of voltage regulator screws. Install voltage regulator to bracket with two 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 and **new** locknut through rear shock eye and swing arm.
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. Position front clamp over reservoir. Loosely install **new** front reservoir clamp to front shock mount with **new** washer and **new** nylon locknut.
9. See Figure 3. Loosely install **new** rear clamp around reservoir and oil feed line.
10. **All Models:** Install **new** reservoir mount block between oil pump fitting and remote reservoir.
11. 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).
12. Tighten clamps around reservoir.
13. **X1 Models Only:** Install chin fairing using **new** wellnut. See Section 2 of X1 Service Manual for procedure.

NOTE:

If installing **new** swing arm from #0816 recall, stop procedure here and see **ADJUSTMENT** on following page when swing arm installation is complete. If not installing new swing arm, continue with Step 14 below.

14. Lower and remove jack from under swing arm mount block.
15. Connect negative battery cable. Tighten to 40 **in-lbs** (4.5 Nm).
16. Set preload. See **ADJUSTMENT**.
17. Test ride.

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

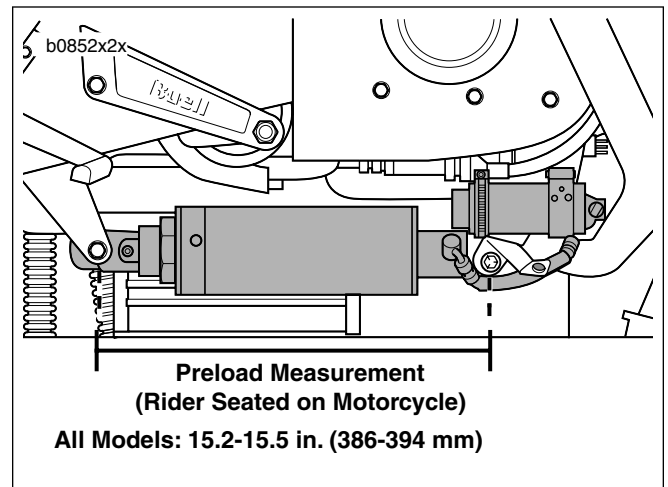


Figure 4. Measuring Preload

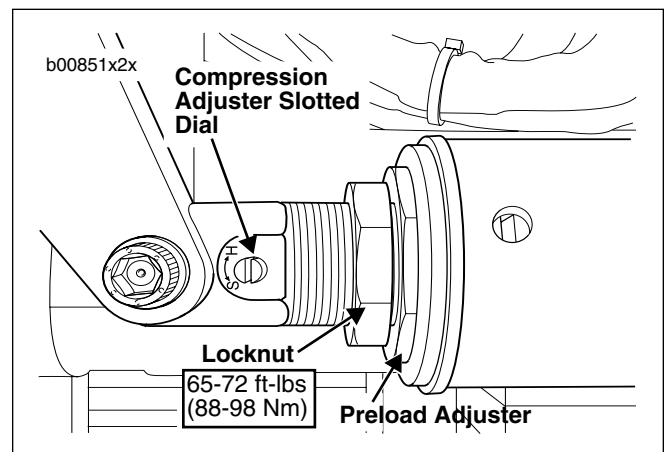


Figure 5. Preload and Compression Damping Adjustment

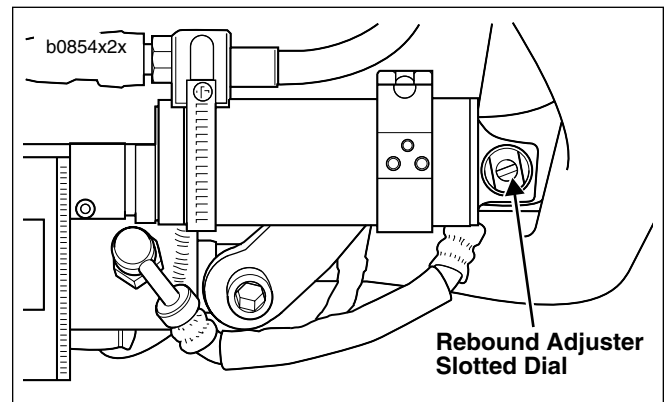


Figure 6. Rebound Adjustment

NOTE:

- All measurements must be taken with rider seated on motorcycle.
- 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.
 - a. Tighten adjuster (move can towards rear of motorcycle) to **increase** preload.
 - b. Loosen adjuster (move can towards front of motorcycle) to **decrease** preload.
3. See Figure 7. When finished, apply wheel bearing grease halfway around the shock (180 degrees) to the mating faces of the locknut and adjuster nut and the first few threads on the aluminum body leading to the adjuster nut.
4. Thread locknut back into place.

NOTE

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

5. Using SHOCK PRELOAD ADJUSTING TOOLS (Part No. B-45110), hold adjusting nut in place with 60 mm ADJUSTING NUT WRENCH and tighten locknut to 65-72 ft-lbs (88-98 Nm) with 52 mm LOCKNUT CROW'S FOOT set at 90 degrees to the torque wrench.
6. Wipe excess grease off of shock absorber.

NOTE

- 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.
 - See Figures 5 and 6. To adjust rear shock to factory recommended settings, turn dial counterclockwise from maximum damping the amounts shown in Steps 7 and 8 to align the reference marks.
7. 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:
 - **M2/X1 Models:** full damping minus 2.25 turns.
 - **S3/S3T Models:** full damping minus 2.5 turns.
 8. 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:
 - **M2/X1 Models:** full damping minus 1.5 turns.
 - **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.

9. Test ride motorcycle.
10. Provide customer with Customer Instructions for Shock Replacement and Adjustment (Instruction Sheet Number -J01561) provided in kit.

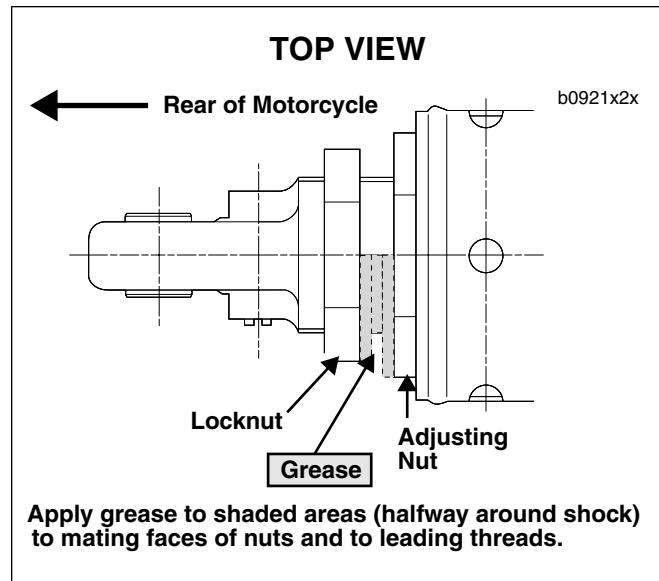


Figure 7. Locknut Tightening Procedure

CREDIT PROCEDURE

For each vehicle serviced, place a "C" in the letter box on the Buell Dealer Service Card. Send the properly completed dealer service cards to Buell Distribution Corporation, 3700 W. Juneau Ave., Milwaukee, WI 53208. Upon receipt and processing of your properly completed dealer service cards, you will be credited for 0.6 hours labor for M2, S3 and S3T Models and 0.7 hours labor for X1 Models. All times include 0.1 hour administrative time. No credit will be issued for the kits as they were sent no charge, transportation paid.

CREDIT PROCEDURES - DEALER STOCK PARTS

Remove all affected shock absorbers (Part Nos. listed below) from your inventory. To receive credit, complete a regular warranty claim referencing Service Bulletin B-033A in the "Description of Repair" section. Fill in the rest of the claim as follows.

Credit for Parts

Claim Type	BDS
Event 1, Problem Part No.	93925Y or 54620-99Y
Part Description	M2 Recall or OE Shock Absorber
Event 2, Problem Part No.	93930Y or 54622-99Y
Part Description	S3/S3T Recall or OE Shock Absorber
Event 3, Problem Part No.	54621-99Y
Part Description	X1 OE Shock Absorber
Customer Concern Code	9205
Condition Code	9111

NOTE

"Quantity" and part numbers may vary depending upon what you have in stock.

Upon receipt of properly completed claim for parts in dealer stock, you will receive the appropriate credit for parts. Buell Distribution Corporation will advise at a later date how to order updated shock absorbers to replenish your stock. **Do not order the recall kits to restock your inventory!**