



**Installation Instructions**  
**February 2009**



[www.donovan-ent.com](http://www.donovan-ent.com)  
Donovan Enterprises • 3353 SE Gran Park Way • Stuart, FL 34997  
800-327-8287



# The Hammer Head Assembly Installation Instructions (Rollerbar & Direct Drive Motor)

## Step 1

### Electric Kit Required Parts:

- |   |   |
|---|---|
| 1 Extruded Roller Bar (#2365)<br>with Extension Shaft | 1 Direct Drive Motor w/cover (#61L or #61G) |
| 1 Bearing Plate (#3270)                               | 1 Bearing Plate with Bearing (#3678)        |
| 1 Shaft Collar, 3/4" (#450)                           | 1 Roll Dual Conductor Wire, 8 ga. (#89)     |
| 1 Mounting Instructions, Operating Manual & Warranty  | 1 Rotary Switch Kit Assy. (#85N)            |

### Ground Level (GL) Kit Required Parts:

- |                                |   |
|--------------------------------|---|
| 1 Shaft Sprocket Assy. (#2403) | 1 Control Box 7000/9000 (#1609 or #780) |
| 10' #40 Chain (#793)           | 1 7000GL Chain Guard (#2083)            |

### Optional Upgrade Parts:

- |                            |                          |
|----------------------------|--------------------------|
| 1 Durabuilt Switch (#1495) | 1 Wind Deflector (#1647) |
|----------------------------|--------------------------|

### Before beginning installation:

- 1) Check parts bags for correct contents. Contact your dealer if parts are missing. **THE LAST PAGE CONTAINS THE REFERENCE GUIDE FOR THE HARDWARE YOU WILL NEED TO INSTALL YOUR SYSTEM.**
- 2) Read through instructions for entire system to get a general idea of how each component is mounted and how the components fit together.

### Choosing the Mounting Location

In general, the direct drive (DD) motor and rollerbar should be mounted on top of the cab shield, as far forward as possible, so that the DD motor and pivot arms will be less likely to be damaged by loaders. If head assembly is mounted too far forward, the pivot arms may interfere with the truck doors.

**Exceptions:** Trucks with vertical stacks. Vertical stacks may be in the way of the pivot arms if the DD motor and rollerbar were to be mounted forward of the stack(s). Simply shortening or re-aligning the stack(s) may solve the problem. If the stack(s) still get in the way, it may be necessary to mount the DD motor and rollerbar to the rear of the stack(s). If there is not room to mount the DD motor and rollerbar on the cab shield behind the stacks, they will need to be mounted on top of the side board pockets to the front of the body.

### Installing the Bearing Plates (Optional)

- 1) Once, the mounting location has been determined, you may either install the included bearing plates using the 3/8" x 1 1/2" bolts, flat washers, and lock nuts, or use the bearing plates as templates to drill the necessary mounting holes into the cab shield sides or other suitable location.
- 2) If you chose to use the bearing plates as templates and mount directly to the cab shield, remove the 3/4" bearing from the passenger side bearing plate and bolt it in place on the passenger side of the cab shield. Note: The bearing plates or cab shield holes should be exactly opposite of each other to avoid the tarp bunching to one side during use.
- 3) Be sure there is enough clearance between the rollerbar and the cab shield to roll-up the entire tarp.

## Mounting the Direct Drive Motor and Rollerbar

- 1) Mount the DD motor to the driver's side bearing plate or cab shield.
- 2) Measure from the inside of one bearing plate to the inside of the other. Cut the roller bar one inch shorter than this length.
- 3) Drill a 3/8" hole, 1/2" from each end of the rollerbar. In the slot shown in Figure 1, slide one end of the rollerbar over the DD motor output shaft and secure with a 5/16" x 2 1/2" carriage bolt, flat washer, and lock nut.

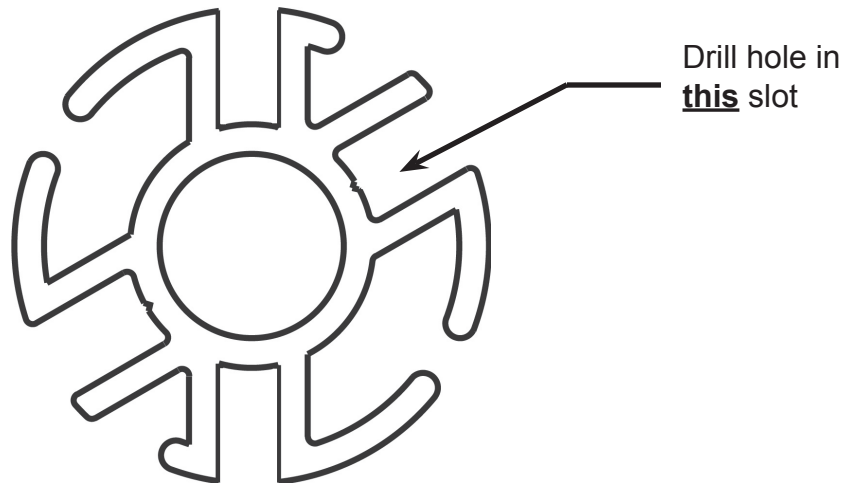


Figure 1

- 4) Slide the 3/4" extension shaft through the curb-side bearing plate and into the roller bar. Line up the holes and secure with the 5/16" x 2 1/2" carriage bolt, washer, and lock nut.

## Installing the Wind Deflector (Optional)

Install the wind deflector to the cab shield using the 3/8" x 1 1/2" bolts, flat washers, and lock nuts. Mount forward of the rollerbar allowing enough space between the wind deflector and the rollerbar for the tarp when it is fully rolled up. One or both halves may need cutting to fit the width of the cab shield. It may also be necessary to cut notches in the wind deflector for the cab shield support braces.

**NOTE:** If you are installing a manual Ground Level (GL) kit and NOT an electric kit, skip this section, "Wiring the Motor", and refer to the GL kit installation instructions at the back of this manual.

## Wiring the Motor

**CAUTION:** The motor **must** be wired using the wire provided or a heavier gauge. Smaller wire will cause the system to operate slowly and possibly overheat.

**Hint:** Running 3/4" EMT conduit down the front of the body and back along the frame rail provides a safe place to run the wires as well as adding a clean, finished look to the installation.

- 1) See instructions provided with your electrical switch kit for hooking up the electrical power to your system.

# The Hammer

## Pivot Installation Instructions

# Step 2

### Required Parts:

2	Lower Pivot Arms (#3687)	2	Pivot Arm Mounts (#4304)
8	Flat Torsion Springs (#2416)	2	1 1/4" x .047 Shim (#2833)
2	1 1/4" Retaining Ring (#2834)		

### Installation Instructions

- 1) To find the pivot point, pull one tape measure from point "A" and a separate tape measure from point "B". Next cross the tape measures at the bottom-middle of the truck body where the two measurements are equal - mark the spot beneath where they cross. This is your pivot point. (See Figure 1 below)

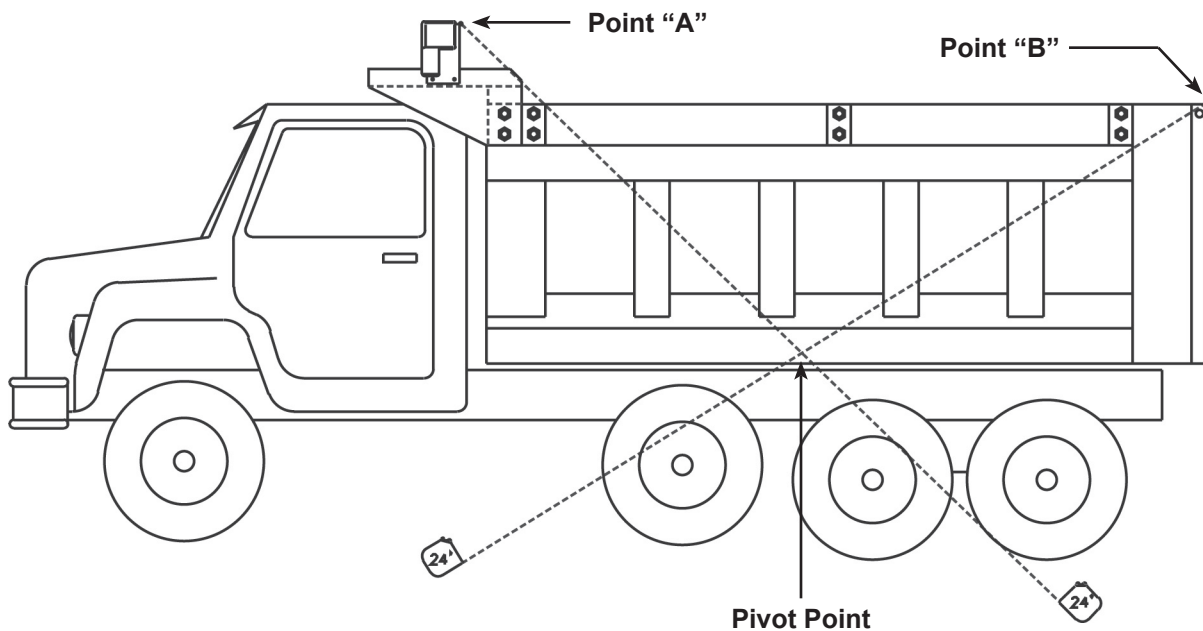


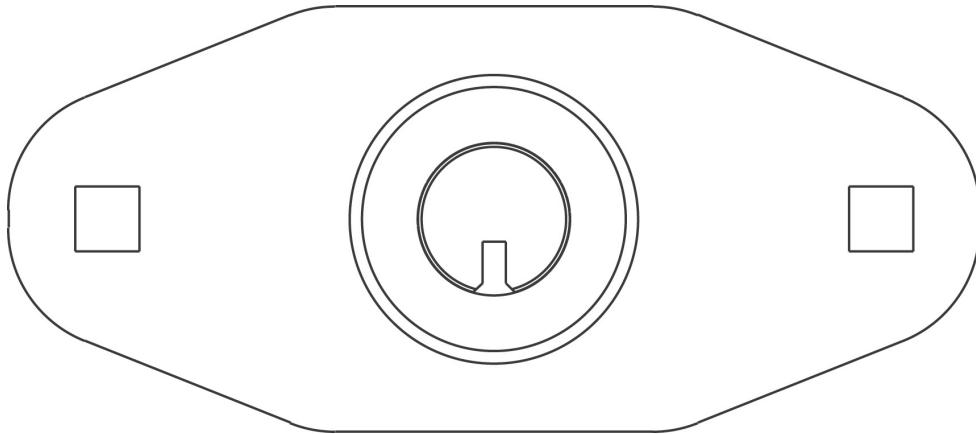
Figure 1

- 2) Disassembly of the pivot mount and lower pivot arm assembly is necessary for ease of installation. Simply unclip the spring clip at the end of the pivot mount shaft and work the lower pivot arm assembly off the shaft. Remember how the pivot assemblies come apart so you can reassemble them the same way.

### If you are welding your pivot mounts on, skip to step #4.

- 3) Using the pivot mount as a guide to determine the hole position for mounting, ensure the center of the mounting plate is aligned with the pivot point as determined in step 1. Drill two 9/16" holes in line with the holes in the pivot mount.
- 4) Weld or bolt the pivot mounts to the box using the included 1/2" bolts, flat washers, and lock nuts (the head of the bolt must be on the outside, and the washer and nut on the inside). See Figure 2 for proper orientation of the pivot mount (Fig. 1). **CAUTION:** Failure to comply with the above instructions could cause severe damage to the system.

**\*Note: View the below diagram as if you were standing on that side of the truck looking at the pivot mount assembly.**



**Figure 2**

---

## **The Hammer** **Step 3**

### **Pivot Arm Installation Instructions**

---

#### **Contents of Kit:**

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 2 Upper Pivot Arms(#3691)            | 1 Rear Cross Piece (RCP) (#3689) |
| 2 Pivot Arm Rests (#3694) (Optional) |                                  |

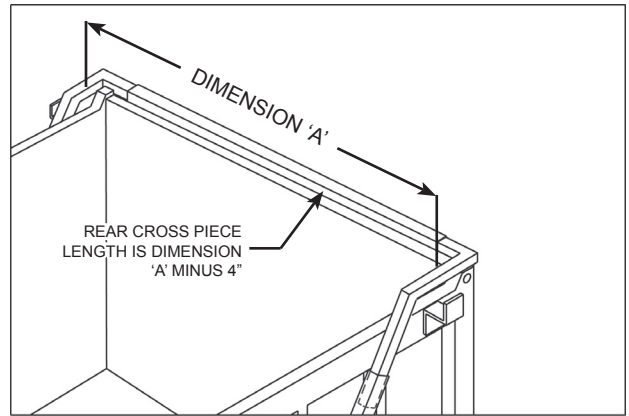
#### **Installing the Pivots Arms**

- 1) Install the lower pivot arms on the pivot mounts without the flat torsion springs. This will simplify the rest of the installation because the pivot arms may now be moved without spring tension.
- 2) Slide one of the upper pivot arms into a lower arm. Adjust the arm length until the corner rests on the desired landing point at the back of the box (Point B; figure 1 from the Pivot Installation Instructions on page 2). If the upper arm is too long, cut both upper arms to allow at least 2 feet of upper pivot arm sticking into the lower pivot arm.
- 3) Attach the other lower arm assembly, again leaving the springs off to allow for ease of arm adjustment.
- 4) Slide both upper pivot arms into the lower pivot arms (make sure that both arms end up the same length) and lightly tighten the two bolts which hold each upper arm into the lower arm. Final tightening will be done later.
- 5) Measure the distance between the upper arms as in Figure 3 on next page. Cut one end of the rear cross piece 4" shorter than the distance measured. Drill a 3/8" hole through **one** wall of the rear cross piece 1 1/2" from both ends.
- 6) Slide the ends of the rear cross piece (RCP) over the upper pivot arm ends.
- 7) Drill a 3/8" holes through the rear cross piece and upper arm bends using the guide hole you drilled in step 5. Secure with the included T-nuts and bolts.

### Step 3 - Pivot Arm Installation (continued...)

- 8) Swing the complete pivot arm assembly forward. The RCP should line up directly with the tarp roller bar. If the RCP is not landing in the center of the opening, loosen the 4 bolts that hold the upper arms into the lower arms and adjust where the RCP lands. Lightly re-tighten the bolts.
- 9) Swing the pivot arm assembly back to the rear of the truck and check the landing position. If it appears that the RCP will interfere with the operation of the tailgate, the pivot point may need to be moved
- 10) Check for binding or rubbing of the pivot arms against the sides of the box. Check both sides of the box, and adjust the pivot mounts or arms as necessary for clearance.
- 11) Mark both upper arms where they slide into the lower arms. This will allow you to reassemble the arms without re-measuring.
- 12) Remove the RCP, lower and upper arms so that you may install the flat torsion springs.
- 13) Remount the lower pivot arms with the flat torsion springs (4 per side). Make sure the hook ends of the springs have clipped over the pin in the spring guard. Place the 1 1/4" shim over pivot mount shaft. Place the spring clip back onto the pivot mount shaft (see Fig. 4).
- 14) Slide the upper arms into the lower pivot arms to the marks made in Step 11 and tighten the bolts that hold them in place.

FIGURE 3

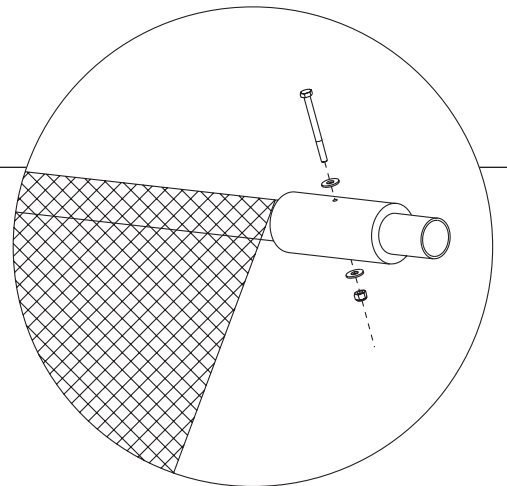


### Installing the Tarp

- 1) Thread the tarp spline into the aluminum rollerbar. (Make sure to remove excess spline or it may hinder the system's operation.)
- 2) Slide the rear cross piece into the tarp pocket (sewn into the tarp).
- 3) Center the tarp on both aluminum roller bar and rear cross piece.

### Installing Rubber Tarp Stops

- 1) Slide Rubber Tarp Stop over each end of rear cross piece.
  - 2) Bolt into place with 1/4"-20 x 3/4" bolt, 1/4" lock nut and washer.
- 4) Bolt the Rear Cross Piece back to the 90° bend in the upper arm using T-nuts and bolts.
  - 5) Check all mechanism bolts and screws for security.



### Installing the Pivot Arm Rests (Optional)

- 1) Unwind the tarp so that the system is in the "covered" configuration.
- 2) Position the pivot arm rests so that upper arms are as level as possible and do not make contact with the tailgate or any other part of the dump body.
- 3) Weld or bolt pivot arm rests into place.





# Hammer, Bullet, 7000 series

## GROUND LEVEL

### Installation Instructions

#### (Rollerbar & GL Crank Assembly)

# STEP #1

#### Required Parts:

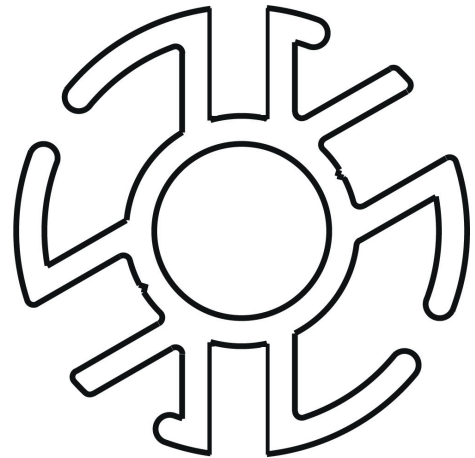
1	3/4" Extension Shaft with Sprocket	1	Chain Guard, Lower
1	3/4" Extension Shaft	1	Chain Guard, Upper
1	7000GL Control Box Assembly	3	Chain Guard Bracket
		2	3/4" Shaft Collar

#### Mounting the GL Control Box

- 1) Determine suitable position for mounting GL control box to front driver's side of body. Keep in mind that the top sprocket and bottom sprocket must align vertically without any obstacles to obstruct movement of the chain or crank handle.
- 2) Mount control box to side wall of body using 3/8" x 1-1/2" bolts, lock nuts, and flat washers.

#### Mounting the Rollerbar, Sprocket Shaft and Chain

- 1) Measure from the inside of one bearing plate to the inside of the other. Cut end of roller bar, without pre-drilled hole, one inch shorter than this length.
- 2) Drill a 5/16" hole, 1/2" from the end of the rollerbar that you just cut.
- 3) Slide the extension shaft through the curb-side bearing plate and into the roller bar. Line up the holes in the roller bar with the hole in the extension shaft and secure with the 5/16" carriage bolt, flat washer, and lock nut.
- 4) Install a 3/4" shaft collar onto the extension shaft on the outside of the 3/4" bearing to prevent lateral movement of the roller bar.
- 5) Slide the 3/4" shaft collar on the extension shaft with the sprocket and then slide the extension shaft through the bearing plate and into the roller bar. Align the sprocket by sliding the shaft into or out of the rollerbar such that when the chain is installed, it is going straight up from the control box to rollerbar sprocket. Tighten shaft collar set screw.
- 6) Using the hole you drilled in step 2 as a guide, drill a 5/16" hole through the sprocket shaft. Secure the shaft to the rollerbar using a 5/16" x 2-1/2" carriage bolt, flat washer, and lock nut.
- 7) Assemble chain around top and bottom sprocket, removing unnecessary links as needed to adjust chain length. Once desired length and tension are achieved, fasten chain together using included master chain link.



#### Installing the Chain Guard

- 1) Entire chain guard assembly can be welded together and to truck. If welding skip the rest of this section. If bolting, proceed to step 2.
- 2) Mount chain guard by overlapping upper chain guard over lower chain guard and attaching them together using 3/8" x 1/2" bolts, lock nuts, and six 1/4" self drilling screws
- 3) Lower chain guard attaches to control box with 1/4" by 1/2" bolts and lock washers.
- 4) Secure chain guard to truck body with chain guard brackets using the 1/4" self-drilling screws (2 per bracket).

**Donovan Enterprises**  
3353 Gran Parkway, Stuart, FL 34997  
1-800-327-8287

# The Hammer Hardware Kit

Description	QTY	Part#
<b>Bearing Plates Hardware</b>		
3/8" x 1 1/2" Bolt	4	2464
3/8" Washer	4	2875
3/8" Nylock nut	4	2874
<b>Motor and Rollerbar Attachment Hardware</b>		
5/16" x 2 1/2" Carriage Bolt	2	3237
5/16" Washer	2	2867
5/16" Lock Nuts	2	2868
<b>Pivot Mount Hardware</b>		
1/2" x 1 1/2" Hex bolt	4	1309
1/2" Flat washer	4	2878
1/2" Nylock nut	4	2877
<b>Rear Cross Piece to Arms Hardware</b>		
1/4" x 1 1/4" shoulder bolt	2	1914
1/4" T-nut	2	1915
Allen Wrench	1	3556
Rubber Tarp Stops, 4"	2	1520

## GROUND LEVEL (GL) KIT HARDWARE

1/4" x 1/2" Hex Bolt	2	2614
1/4" Lock washer	12	2458
1/4" x 3/4" Self Drilling Screw	12	3299
3/8"-16 x 1/2" Hex Bolt	2	4107
3/8"-16 Lock nut	2	2874

## OPTIONAL FEATURES HARDWARE

<b>Wind Deflector Hardware (Optional)</b>		
3/8" x 1 1/2" Bolt	4	2464
3/8" Washer	8	2875
3/8" Nylock nut	4	2874
<b>Pivot Arm Rest Hardware (Optional)</b>		
Rubber bumper	2	2948
5/16" x 1" Hex bolt	2	2883
5/16" Washer	2	2867
5/16" Lock nut	2	2868

**Any Questions? Call us at 1-800-327-8287  
or visit [www.donovan-ent.com](http://www.donovan-ent.com)**