



TRAILER BULLET

Housing Assembly Installation Instructions (Rollerbar & Direct Drive Motor)

STEP #1

Contents of Kit:

- | | | | |
|---|--|---|----------------------|
| 1 | Extruded Roller bar | 1 | 3/4" Extension shaft |
| 1 | Direct Drive Motor w/cover | 1 | ELD Motor Switch Kit |
| 1 | Tarp / roller bar Housing w/ 3/4" flange bearing | | |
| 1 | 105' Dual Conductor 6-ga. Wire | | |
| 2 | Mounting Instructions, Operating Manual & Warranty | | |

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 motor and tarp housing should be mounted on top of the trailer and as far forward as possible so that the DD motor and pivot arms will be less likely to be damaged by loaders.

Mounting the housing

- 1) Attach housing to the top of trailer as far forward as possible either by welding or bolting in place. Due to the many variations in trailer configurations, some installers may choose to attach the housing using brackets, angle iron, or some other technique that works well with their particular trailer design.
- 2) Attach the direct drive motor to either side of the tarp housing using the included 5/16" x 3/4" bolts. Attach cover to motor using the "U" nuts and #8 screws. (See figure 1)
- 3) Slide one end of the rollerbar over the DD motor output shaft and secure with a 5/16" x 2 1/2" carriage bolt, locknut, and washer.
- 4) Slide the extension shaft (hole end first) through the bearing plate and into the roller bar on the side of the housing without the direct drive motor. Line up the holes and secure with the 5/16 x 2 1/2" carriage bolt, washer, and lock nut.

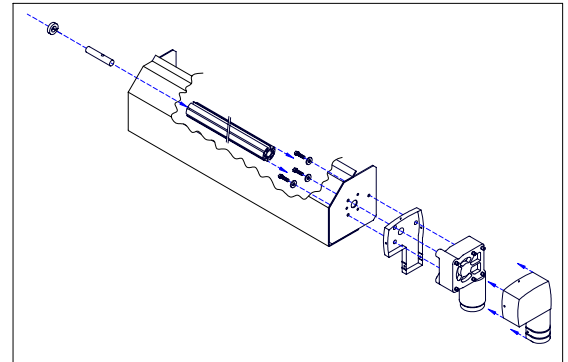


FIGURE 1

Wiring the Motor

CAUTION: The motor must be wired using the 6 gauge wire provided or a heavier gauge. Smaller wire will cause the system to operate slowly and possibly overheat.

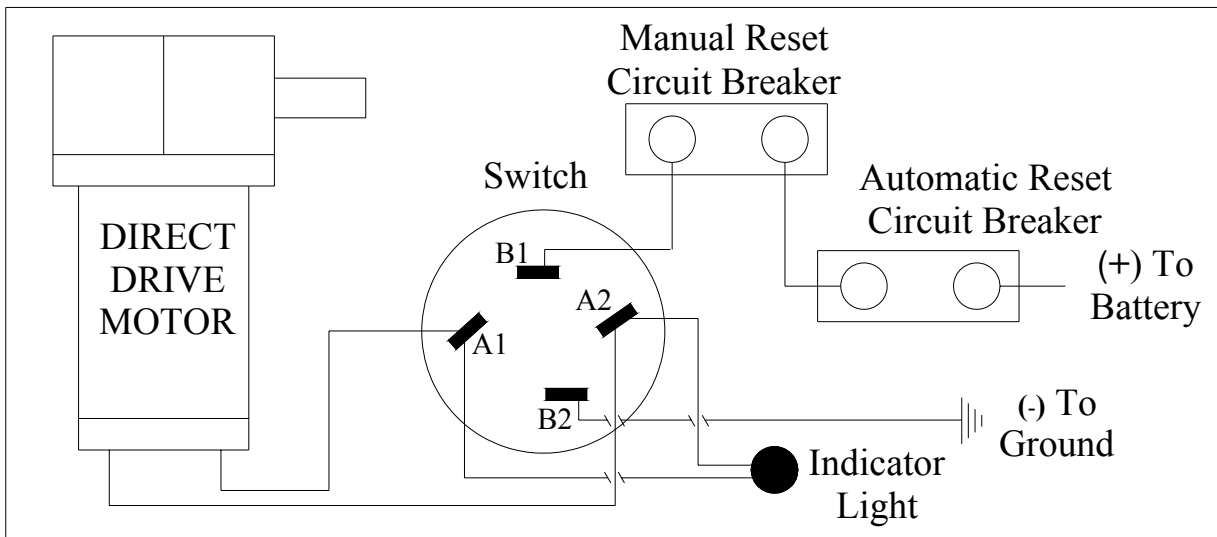
Wiring the Motor

CAUTION: The motor must be wired using the 6 gauge 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) Connect the switch, circuit breaker, and light as shown in the diagram at the end of this section using the included terminals.

- 2) Mount the included switch bracket in a convenient location using the #10 sheet metal screws and ¼” washers. Make sure that nothing will fall or rest against the bracket that could hold the switch in the “ON” position or prevent the circuit breaker from “popping.” Either situation could damage the motor and **will not be covered under warranty**.
- 3) Unroll the 6-gauge wire (included). Run the wire down the front of the body from the DD motor, back along the bottom of the box, around the hinge (leaving enough slack to avoid binding or pinching during operation of the lift), and forward on the frame into the cab where the switch is mounted. For tractor-trailer or lead-pup combinations, a plug set rated to 50 amps or higher should be used between the truck and the trailer(s).
- 4) Cut off the extra lengths of wire, leaving enough to easily connect to the switch. Set aside one of the pieces of left-over wire to later run it from the cab to the positive (+) post of the battery or starter. **Do not connect it at this time!** Run another piece of wire from the cab to a ground screw on the firewall or other suitable grounding location using the included terminal.
- 5) Connect the wires leading from the switch to the DD motor using the included terminals.
- 6) Hook up the power supply (use largest terminal) and check to see that the system is operating as indicated on the switch bracket. To wind-up the tarp, the tarp rollerbar should spin counter-clockwise viewing it from the driver’s side of the cab. If not, swap the two wires where they are connected to the DD motor leads. If rollerbar rotates clockwise, any debris on the tarp will be rolled up in it and possibly cause damage.



TRAILER BULLET

Pivot Installation Instructions

STEP #2

Contents of Kit:

- | | |
|---|--|
| 2 | Underbody Pivot Arm Mounts (curbside and driver side assemblies) |
|---|--|

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 trailer body where the two measurements are equal – mark the spot beneath where they cross. This is your pivot point. (See Figure 1)

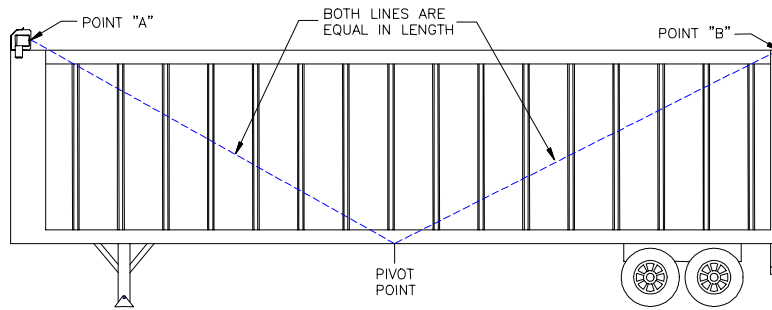


FIGURE 1

- 2) Use the underbody spring assembly as a guide to determine the hole position for mounting. Ensure the center of the mounting plate is aligned with the pivot point as shown in figure 1. Drill two 9/16” holes in line with the holes in the pivot mount.
- 3) Bolt the pivots to the trailer using the included 1/2” x 2 1/2” hex bolt, flat washer, and lock nut (the head of the bolt must be on the outside, and the washer and nut on the inside). **Note: the pivots are directional** (Figure 2 shows the curb side pivot assembly)

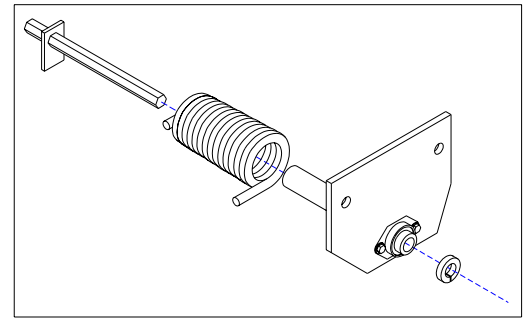


FIGURE 2

Trailer Bullet

Pivot Arm Installation Instructions

STEP #3

Contents of Kit:

2	Upper Pivot Arms	1	Rear Cross Piece (RCP)
2	Lower Pivot Arms	2	Pivot arm rests

Installing the Pivots Arms

- 1) Insert one lower arm onto the driver’s side spring assembly by sliding it onto the hex shaft and tightening the set screw. Repeat on curbside.
- 2) Slide both of the upper pivot arms into the lower arms. Adjust the arm length until the corner rests on the desired landing point at the back of the trailer (point B, figure 1 from pivot installation instructions section). Make sure that both arms are

the same length and lightly tighten the two bolts which hold each upper arm into the lower arms. Final tightening will be done later.

- 3) Measure the distance between the upper arms as in Figure 1. Cut the end of the rear cross piece that is **not** pre-drilled to the length measured. Using the pre-drilled bolt holes in the 90° bend casting as a template, mark the rear cross piece for drilling. Drill two 3/8” holes in the rear cross piece at these markings such that when the casting is inserted into the rear cross piece the holes will align to allow bolting.
- 4) Slide the ends of the rear cross piece (RCP) over the 90° elbow castings.
- 5) Thread the tarp spline into the aluminum rollerbar making sure to remove excess spline or it may hinder the system’s operations.
- 6) Slide the rear cross piece into the tarp pocket (sewn into the Donovan tarp).
- 7) Center the tarp on both aluminum roller bar and rear cross piece.
- 8) Bolt the rear cross piece to the 90° elbow castings using the included T nuts and bolts.
- 9) Operate the switch to wind the tarp and pull the arms to the forward position. The RCP should be resting in the center of the housing assembly opening (see **Figure 2**). 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.
- 10) Operate the switch to unwind the tarp, moving 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 or mount the pivot arm rests so that the RCP remains clear of the tailgate.
- 11) Check for binding or rubbing of the pivot arms against the sides of the trailer. Check both sides of the trailer, and adjust the pivot mounts or arms as necessary for clearance.
- 12) Check all mechanism bolts and screws for security.

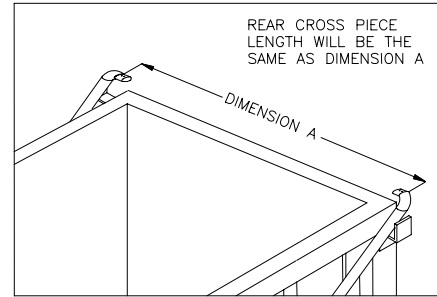


FIGURE 1

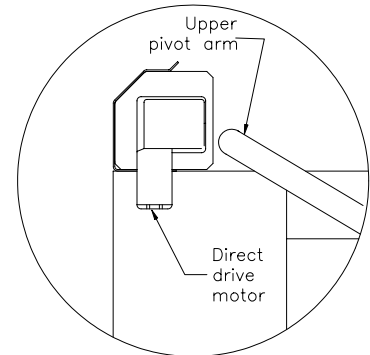


FIGURE 2

Installing the Pivot Arm Rests

- 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 trailer.
- 3) Weld or bolt pivot arm rests into place using the included 3/8” x 1 1/2” bolts, flat washers, and lock nuts.

TRAILER BULLET HARDWARE KIT LIST

DESCRIPTION	QTY	PART#
<u>Rear Cross Piece to Arms</u>		
1/4" x 1 1/4" shoulder bolt	4	287
1/4" T-nut	4	1915
Allen wrench, 5mm	1	3556
<u>Pivot Arm Rest</u>		
3/8" x 1 1/2" Bolt	4	2464
3/8" Lock nuts	4	2874
3/8" Flat washers	4	2875
<u>Pivot Mount</u>		
1/2" x 2 1/2" Hex bolt	4	2835
1/2" Flat washer	4	2878
1/2" Nylock nut	4	2874
<u>Motor and Cover</u>		
5/16" x 3/4" bolt	3	2418
"U" nuts	5	3708
#8 Sheet metal screw (3/4")	5	3709
5/16" x 2 1/2" Carriage bolt	2	3237
5/16" Washer	2	2867
5/16" Lock Nuts	2	2868
<u>Switch Kit</u>		
#10 sheet metal screws	2	2476
1/4" Washers	2	2457

HEAVY DUTY TRUCK DIVISION WARRANTY

SATISFACTION GUARANTEE

Donovan Enterprises, Inc. guarantees customer satisfaction of all Donovan Covering Systems. Customer satisfaction will be assured as outlined in Donovan's Warranty Statement.

WHAT IS COVERED?

- Donovan Enterprises, Inc. warrants for a period of 90 days from date of delivery, all Covering System parts against defects in material and operation, and for a period of one year against defects in workmanship.
- This warranty is effective if the product is installed according to Donovan's published installation instructions and used for the systems intended purpose.
- Tarps are warranted for a period of 90 days against defects in workmanship.
- Donovan Enterprises' obligation to customer satisfaction under this warranty begins with repair, or at its option, replacement of any part under warranty. If within the first 90 days of delivery, every option to satisfy the customer's needs has been exhausted, the distributor's original purchase price will be refunded upon return of undamaged products that have not been altered, modified, or subjected to misuse or negligence.

WHAT IS NOT COVERED?

- Donovan Enterprises, Inc. shall not be liable or responsible to supply or pay labor to replace any part found defective, nor shall it be liable for damages of any kind or nature to person, product, property, or other consequential damages.
- This warranty does not apply to non-standard covering system designs or applications
- Damage caused by improper installation, operation, or abuse is not covered
- Damage caused by chemical or environmental exposure
- Damage due to the lack of the proper circuit breaker
- Consequential losses or damage to equipment or materials.
- Consequential expenses such as labor, delays, vehicle downtime, loss of revenue, etc.

REPAIR / REPLACEMENT PROCEDURE

- All returns for warranty purposes must be assigned a return authorization number prior to return of defective product and shipping must be prepaid by the distributor / customer to Donovan Enterprises, Inc., Stuart, Florida, or other Donovan shipping point. Donovan will pay return freight to distributor upon receipt of defective part. If express freight is requested, customer will pay the additional freight charge above the ground rate.
- Donovan Enterprises, Inc. retains final judgment that a product under warranty is, in fact, defective.
- Donovan Enterprises, Inc.'s products are sold without any express or implied warranty except as set forth above.

- No person is authorized to modify the preceding warranty in any manner.

Direct Drive Motor Warranty Policy

What is the warranty on Donovan's Direct Drive motor?

- Donovan's Direct Drive Motor is covered by a **3-year prorated warranty**.

1st year - Within the first year the motor is covered 100%. If there is a problem within the first year of the Motors' life, Donovan will replace your motor and pay the freight to send the replacement motor back to you.

2nd year – If there is a problem within the second year of the motors' life, Donovan will issue a 50% credit of the original cost of the Motor.

3rd year – If there is a problem with a Donovan motor In the third year of the motors life, Donovan will issue a 25% credit of the original cost of the Motor.

What is not Covered?

- Warranty is Void if the Motor End bell has been opened – No Exception
- Warranty is Void if the Gearbox has been cracked open – No Exception
- Damage caused by improper use, installation, or abuse.
- Damage due to use of improper circuit breaker or lack of circuit breaker.
- Damage caused by chemical exposure.
- Any and All consequential damages. (ie.. damage to equipment or materials, . delays, downtime, loss of revenue, ect.)

How does Donovan Handle Freight Charges?

- The customer is responsible for shipping the malfunctioning part to Donovan's Facility (in Stuart, Florida) for inspection. If the part is covered under Warranty, and a replacement motor needs to be shipped out, Donovan will pay the freight to return the replacement Motor via UPS Ground. If the Motor turns out not to be covered under the warranty, Donovan will return the motor to the customer at their request and at their expense. **NO HANDLING CHARGES WILL APPLY.**

When does the motor's warranty start?

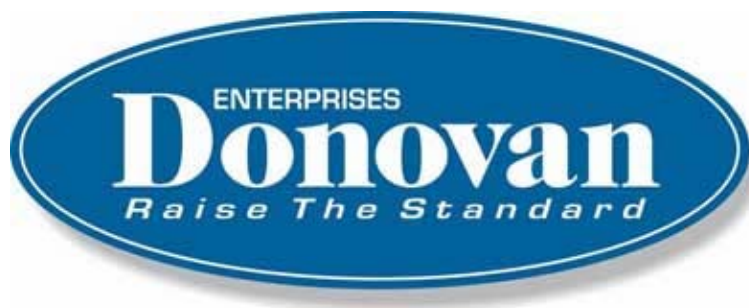
- The motor's warranty starts from the day it is shipped from Donovan Enterprises or from the day the warranty is registered with Donovan; by sending in a warranty registration card within 60 days of purchase.

What do I do if my motor malfunctions?

- First, record the motor serial number and call Donovan Enterprises at 800-327-8287 for an RGA#. A Donovan representative will be able to use your motor serial number to inform you of the warranty available on that particular motor.
- If the motor is within the three year period, a Donovan representative will ask a few questions to try to diagnosis the motors problem, then issue a RGA#.
- In order to get a credit for the bad motor, you will need to send the malfunctioning motor to Donovan's facility in Stuart, Florida for inspection.
- Donovan will send out a replacement Motor immediately, and charge the customers account for the motor and the freight to ship the motor. This charge will be credited as soon as the motor is received at our facility and it is determined to meet all warranty requirements.
- When the Motor is received at Donovan's facility: We will determine if it meets warranty requirements, then call the customer and inform them weather they will receive credit for the replacement motor.
- If the motor meets warranty requirements the replacement motor's warranty will still have whatever warranty was left on the original motor. If the Motor was denied warranty then the replacement motor's warranty will start from the day we shipped it to the customer.
- Donovan reserves the right to replace a warranted motor or gearbox with a repaired or remanufactured motor or gearbox of same or newer condition.

***Donovan's Winch motor warranty is 90 days full replacement.**

Thank You for Your Purchase



Donovan Enterprises 2951 S.E. Dominica Terrace, Stuart FL. 34997

1800-327-8287