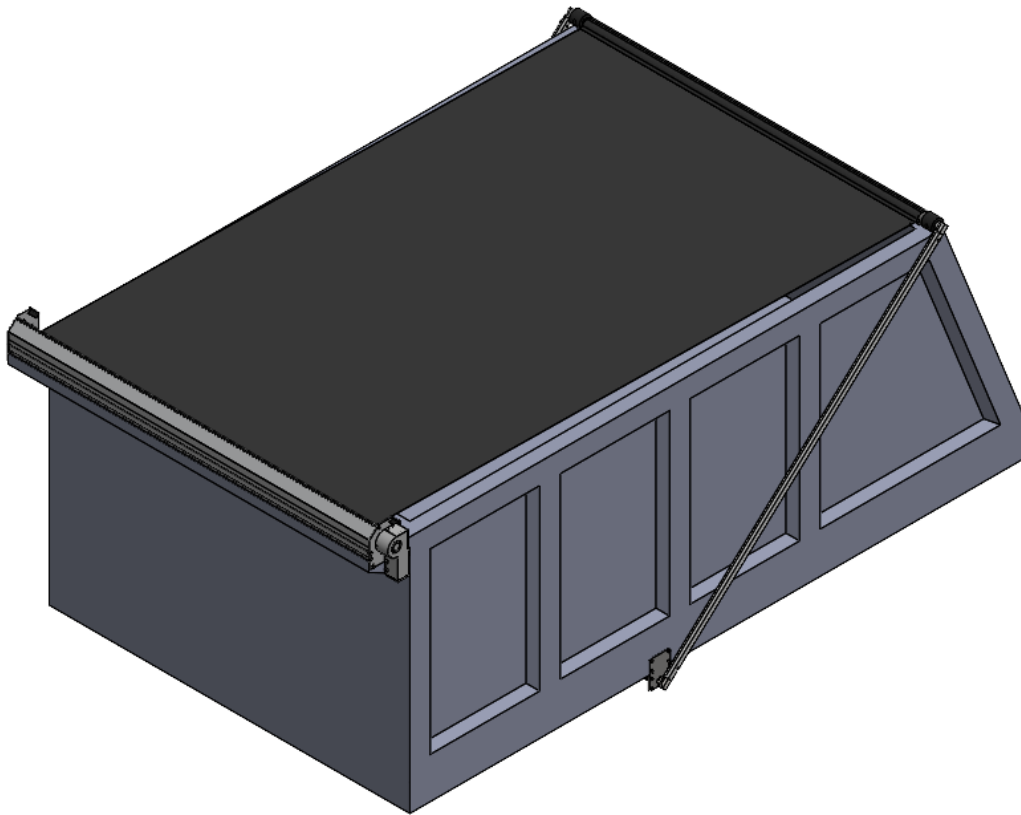


Bulletproof Underbody Mount Tarping System

INSTALLATION INSTRUCTION MANUAL



1-(800) 249-0297
technicalsupport@ustarp.com
www.ustarp.com

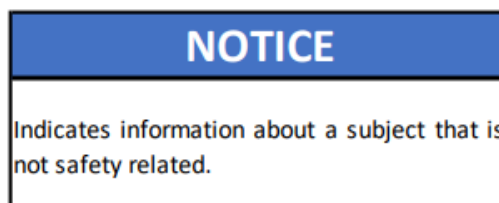
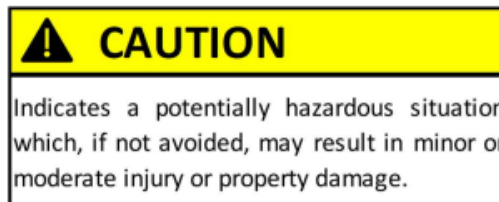
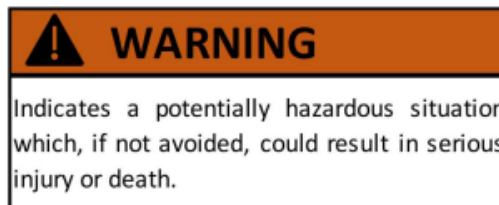
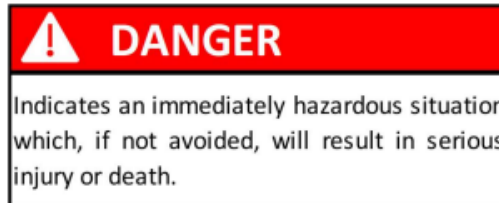
Table of Contents

SAFETY.....	3
STEP 1: INSTALLING THE TARP SPOOL ASSEMBLY	4
MOUNTING THE TARP SPOOL MOUNTING BRACKETS	4
MOUNTING THE MOTOR	4
INSTALLING THE TARP AXLE	5
INSTALLING THE OPTIONAL WIND DEFLECTOR	6
STEP 2: WIRING THE MOTOR AND SWITCH	7
STEP 3: MOUNTING THE TARP ARMS	8
FINDING THE PIVOT POINT	8
MOUNTING THE SPRING ASSEMBLY	9
ATTACHING THE LOWER ARMS	10
STEP 4: INSTALLING THE CROSS TUBE	12
INSTALLING THE OPTIONAL 3-PIECE CROSS TUBE	12
STEP 5: ATTACHING THE TARP	15
STEP 6: FINAL STEPS	15
APPENDIX A: WIRING GUIDE – ROCKER SWITCH	16
APPENDIX B: WIRING GUIDE – ROTARY SWITCH	17
APPENDIX C: BULLETPROOF MOTOR ASSEMBLY	18
APPENDIX D: HEAVY DUTY TARP AXLE	19

SAFETY

Read this section carefully before proceeding. The following symbols may appear prior to certain safety related assembly and installation steps described in this manual.

FAILURE TO OPERATE AND INSTALL THIS UNIT AS INSTRUCTED MAY RESULT IN SERIOUS INJURY OR DEATH.



Step 1: Installing the Tarp Spool Assembly

Mounting the Tarp Spool Mounting Brackets

Mount the two supplied tarp spool mounting brackets (2) as far forward as possible on the exterior of the dump box. Drill the two mounting holes 1-3/4" down from the top edge of the box. Use the supplied 1/2" x 1" bolts (1) and 1/2" nuts (3) to attach the tarp spool mounting brackets. (Figure 1.1)

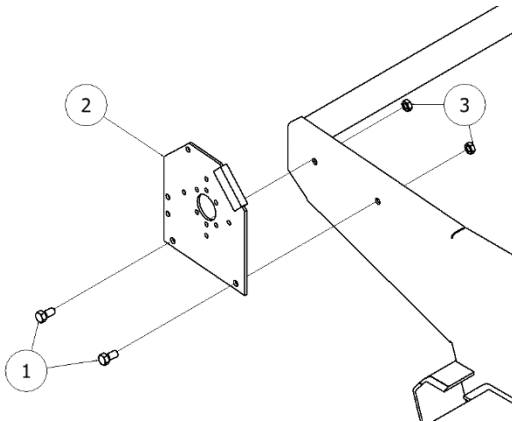
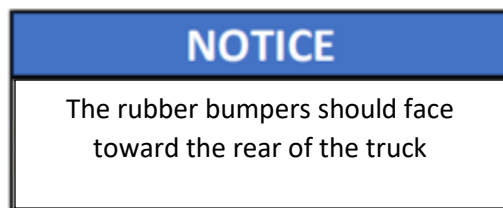


Figure 1.1

Mounting the Motor

Mount the motor (3) to the tarp spool mounting bracket (1) on the driver's side of the dump box with the chrome motor cover plate (2) sandwiched between the motor and tarp spool mounting bracket. Use the three supplied M8 grade 5 bolts (5) for mounting the motor. (Figure 1.2)

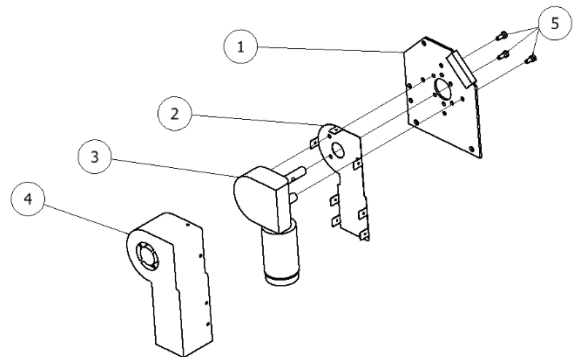


Figure 1.2

Installing the Tarp Axle

Measure the distance between the two tarp spool mounting brackets (Figure 1.3). Verify that the tarp axle is 2" shorter than this length. If the tarp axle is too long, cut it to the correct length and drill a hole, 11/32" in diameter, through the axle such that it is 5/16" from the cut end. (Figure 1.4)

NOTICE

For heavy duty tarp axles verify that the axle is 1" shorter as opposed to 2"

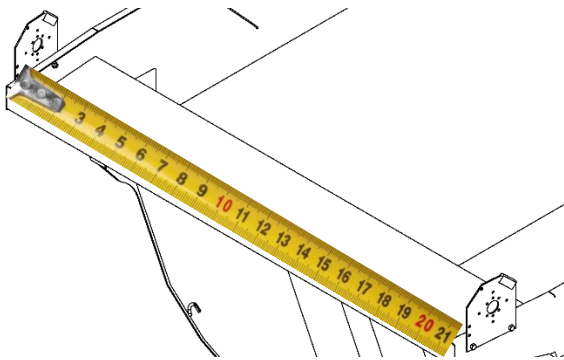


Figure 1.3

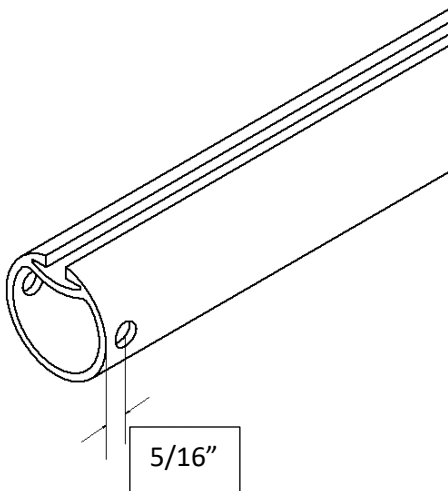


Figure 1.4

Slide the five, 1/4"-20 x 3/4", carriage bolts into the tarp axle slot.

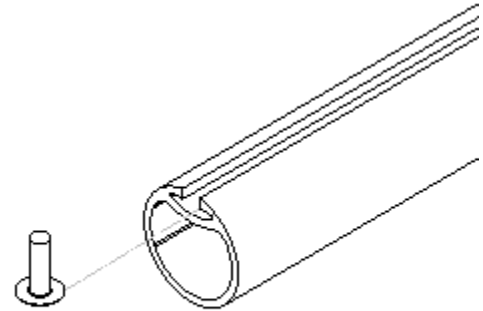


Figure 1.5

Insert the plastic axle caps (2) into both ends of the tarp axle (1). Slide the tarp axle over the motor shaft (3) and secure it with a 5/16" x 2-1/4" bolt (4) and a 5/16" nut (5). (Figure 1.6)

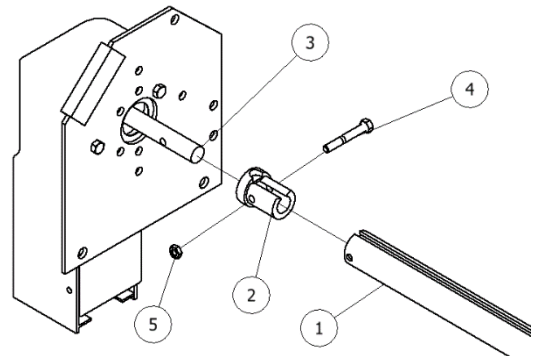


Figure 1.6

On the passenger side secure the axle bearing (2) to the tarp spool mounting plate with 5/16" x 3/4" bolts (3) and 5/16" nuts (4). (Figure 1.7)

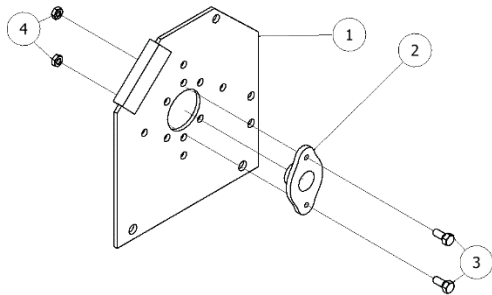


Figure 1.7

Line the tarp axle (2) up with the axle bearing on the passenger side. Slide the spool shaft (4) through the axle bearing and into the plastic axle cap (3) which is in the tarp axle. Line up the holes on the tarp axle, axle cap, and spool shaft and secure them using a 5/16" x 2-1/4" bolt (5) and 5/16" nut (6). Tighten the set screw in the axle bearing sleeve. (Figure 1.8)

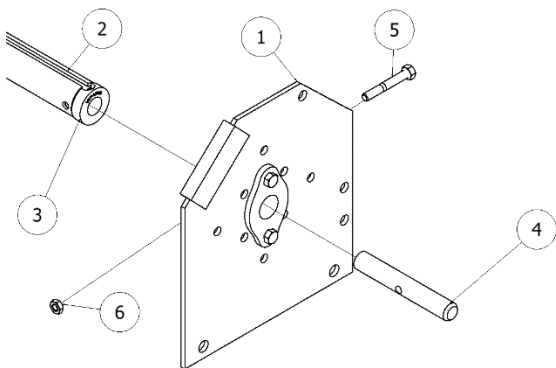


Figure 1.8

Installing the Optional Wind Deflector

Measure the distance between the two, tarp spool mounting brackets (Figure 1.3). Verify that the wind deflector is the same length. If the wind deflector is too long, cut it to the correct length. Attach the wind deflector to the tarp spool mounting brackets using the supplied 5/16" x 1-1/4" self-threading bolts. (Figure 1.9)

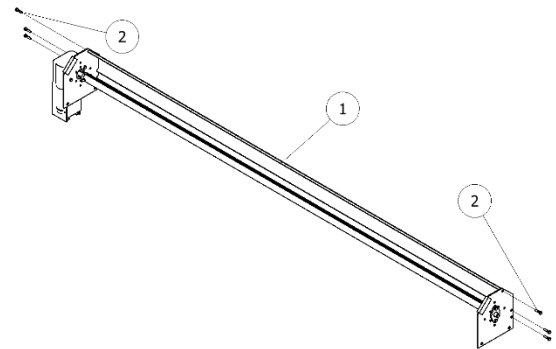


Figure 1.9

Step 2: Wiring the Motor and Switch

Run the dual conductor wire from the motor down the front of the dump box, then along the bottom of the dump box around the hinge and along the frame rail to the EZ switch relay.

NOTICE

Do not bind the wire around the hinge.

Run another section of the dual conductor wire from the battery to the EZ switch relay.

Mount the supplied switch and bracket inside the cab using the two mounting holes and the necessary screws or bolts.

Run the 18 ga/ 3 conductor wire from the switch to the relay.

Connect the dual conductor wire and the 18 ga/ 3 conductor wire, as shown in Figure 2.1 and Appendix A, to the motor, switch, circuit breaker, and battery.

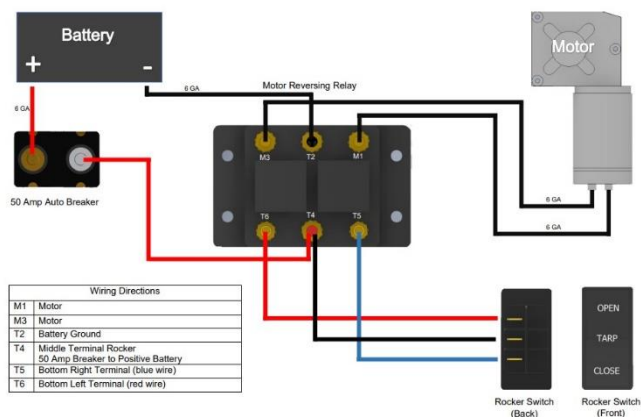


Figure 2.1

After connecting all wires check to see that when the switch is turned to “wind up” the tarp axle turns counterclockwise when viewing it from the driver’s side of the truck. If not reverse the two wires on the motor

After you have verified the system has been wired correctly attach the chrome motor cover (2) to the motor cover plate (1) using the seven supplied #10 screws (4) and rubber grommets (3). (Figure 2.2)

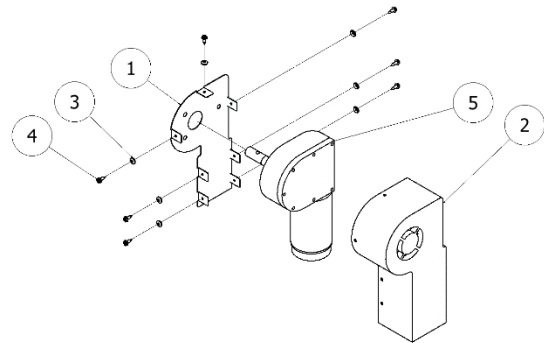


Figure 2.2

Step 3: Mounting the Tarp Arms

Finding the Pivot Point

To install the arm kit, you must first locate the pivot point on the dump box. To find the pivot point you will need two tape measures and two clamps.



Position the first tape measure's free end on the middle of the rubber bumper on the tarp spool mounting plate and clamp it in place as shown (Figure 3.1).

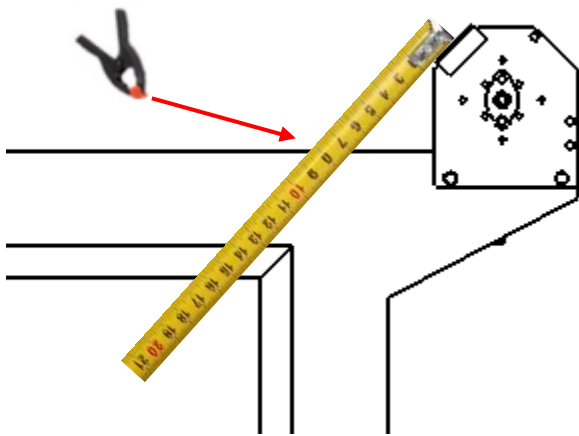


Figure 3.1

Position the second tape measure at the rear landing spot where the tarp cross-tube will be when the tarp is fully extended. Clamp in place. (Figure 3.2)

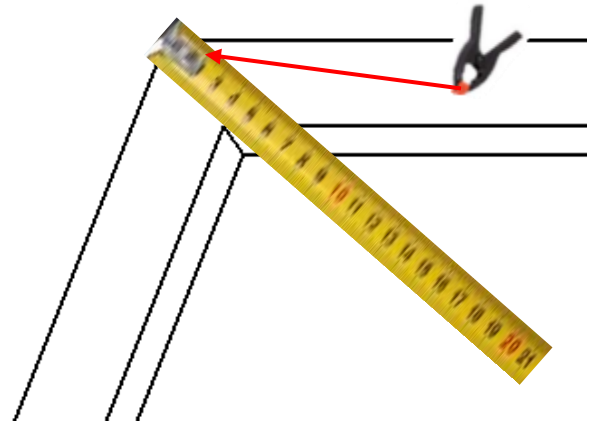


Figure 3.2

To find the pivot point, extend both tape measures as shown in Figure 3.3.

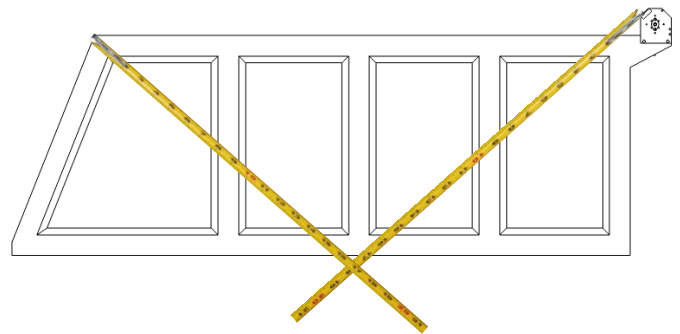


Figure 3.3

Find the point where the measurements match and the tape measures cross at the desired pin mounting height. Mark this point.

Mounting the Spring Assembly

The spring assembly can either be mounted under the box or bottom rail, or through the box or bottom rail.

NOTICE

Make sure to mount the driver side, denoted D, and passenger side, denoted P, spring assemblies on their respective sides.

Under Box:

Position the spring assembly over the mark for the pivot point and mark the positions of the 4 mounting holes (2). Drill out these holes and secure the spring assembly (3) to the dump box (1) via the 3/8" hex bolts and 3/8" hex nuts (4). (Figure 3.4)

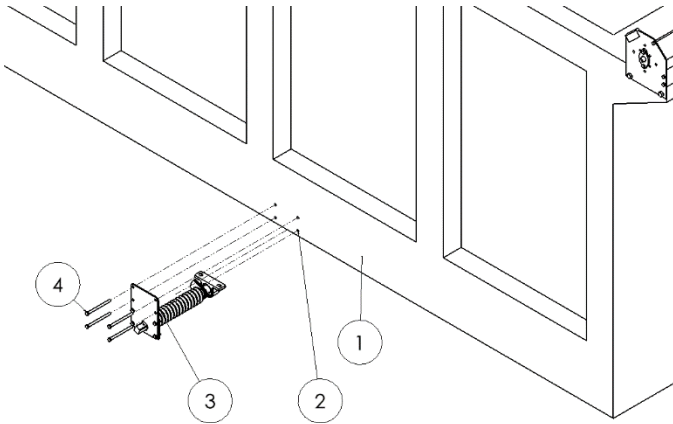


Figure 3.4

Through Box:

Drill a 1-1/8" hole (1) centered on the pivot point. Position the spring assembly such that the shaft lines up with the hole. Mark the positions of the 4 mounting holes (3). Drill out these holes and secure the spring assembly (2) to the dump box (1) via the 3/8" hex bolts (4) and 3/8" hex nuts. (Figure 3.5)

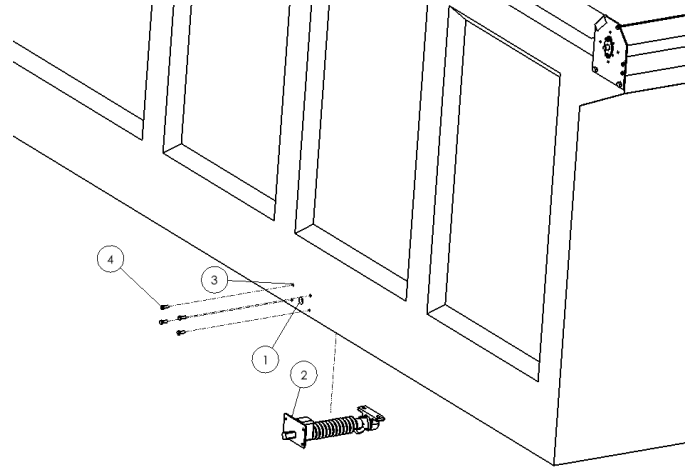


Figure 3.5

Attaching the Lower Arms

Preferred Method:

The lower casting (1) has two holes that have a 5/16"-18 thread. These holes are 4" and 7" from the face where the casting contacts the arm (2). Double check those measurements and drill two holes using a 21/64" (or 11/32") drill bit 4" and 7" from where the arm will contact the casting. Then line holes up and use supplied 5/16"-18 x 1-1/4" hex head bolts (3) to secure the casting and arm together per Figure 3.6. Use two bolts per side.

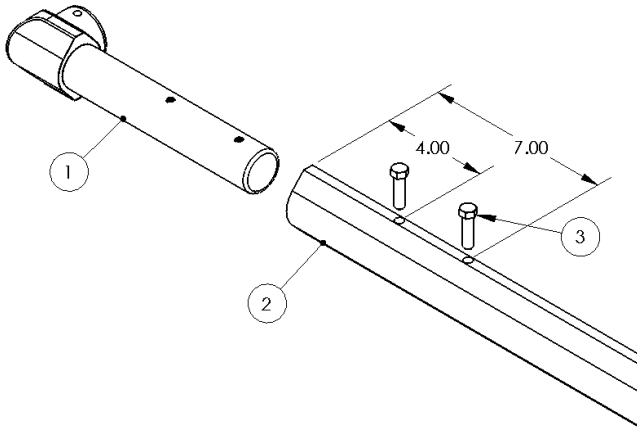


Figure 3.6

NOTICE

Double check the hole measurements on the casting before drilling holes into the arm.

Alternate Method:

You will need to drill mounting holes into the side arms, to do this begin by sliding the pivot casting (1) into one end of the side arm (2) so that the arm and casting are flush with each other. Looking at the back of the pivot casting, if there is not already a hole in the casting, choose a place on the side arm and drill straight through both the side arm and pivot casting using a 11/32" drill bit. Otherwise, mark the location of the hole on the side arm's thinner side wall and drill this hole out. See Figure 3.7 for an example of what this should look like.

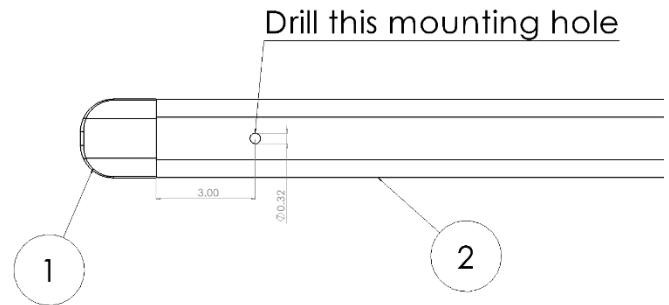


Figure 3.7

On the driver's side of the box turn the spring assembly shaft (2) counterclockwise until the shaft engages with the spring. (Figure 3.8)

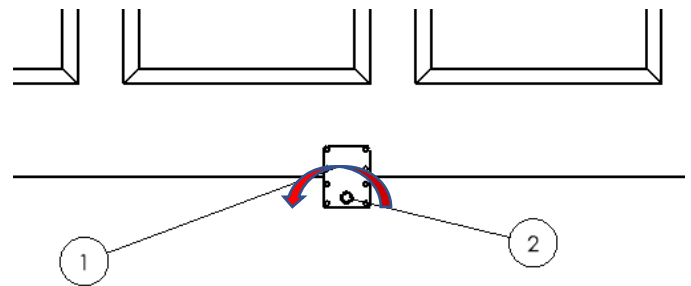


Figure 3.8

Mount the pivot casting (1) to the spring assembly (2) such that the pivot casting points toward the rear of the dump box and is the 4 o'clock position.

Attach the pivot casting using the supplied 1/4" x 2-1/2" hex bolt (3) and hex nut (4). (Figure 3.9)

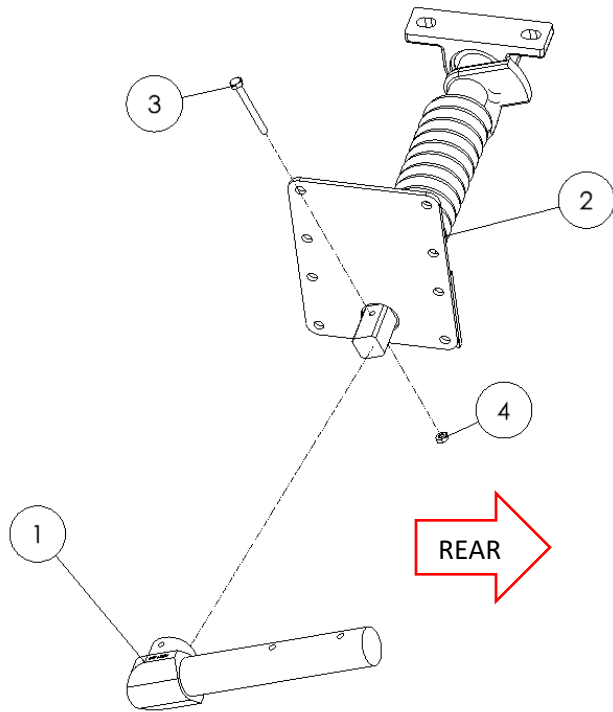


Figure 3.9

With the pivot casting (1) pointing to the rear of the dump box, slide the side arm (2) on to the pivot casting and secure it using the supplied 1/4" x 2-1/4" hex bolt (3) and hex nut. (Figure 3.10)

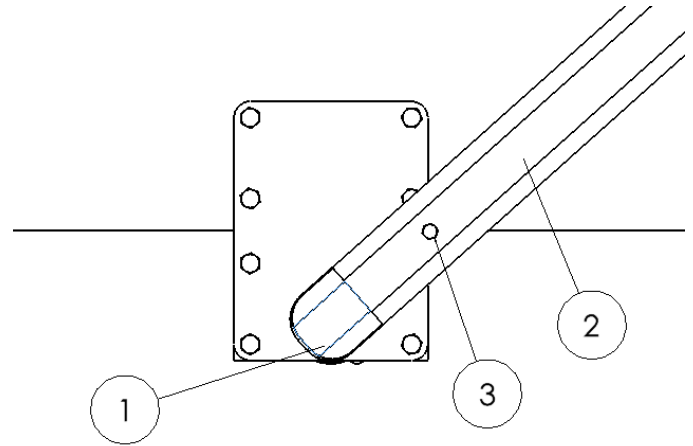


Figure 3.10

Repeat these steps for the passenger side.

NOTICE

When turning the shaft on the passenger side rotate it clockwise as opposed to counterclockwise for the driver side spring assembly.

Step 4: Installing the Cross Tube

Insert the single piece cross tube (1) into the free ends of the lower arms (2). While the cross tube is inserted in the arms drill a $11/32$ " hole through the arm and cross tube on both sides of the truck. Secure the cross tube to the arms using a $5/16$ " x 2- $1/4$ " hex bolt (3) and $5/16$ " hex nut. (Figure 4.1)

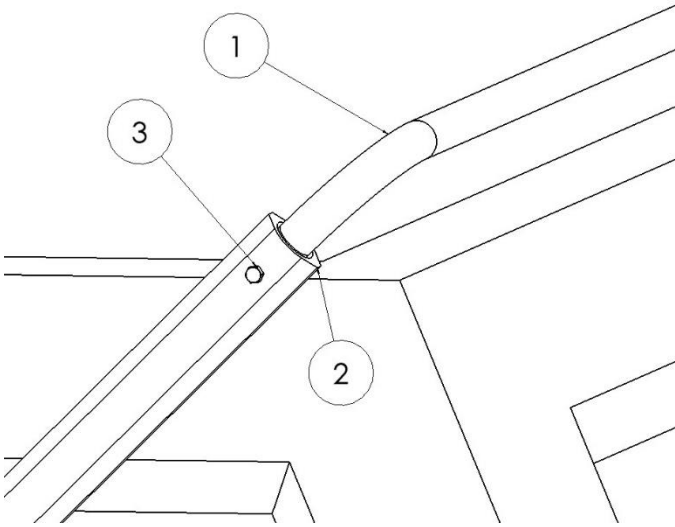


Figure 4.1

Remove the bolt from the centering flanges (1). Open the centering flanges and place them onto the cross tube. Tighten them in place using the previously removed bolt. (Figure 4.2)

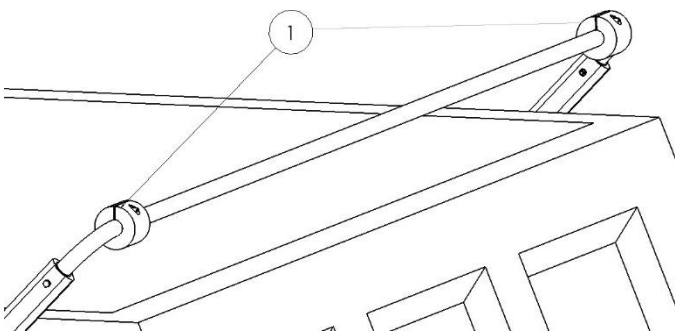


Figure 4.2

Installing the Optional 3-Piece Cross Tube

In the free ends of the side arms insert the 90-degree bulletproof corners (1). Measure the distance between these corners and verify that the length of the cross-tube is the same. If the cross-tube is too long cut it down to size. (Figure 4.3)

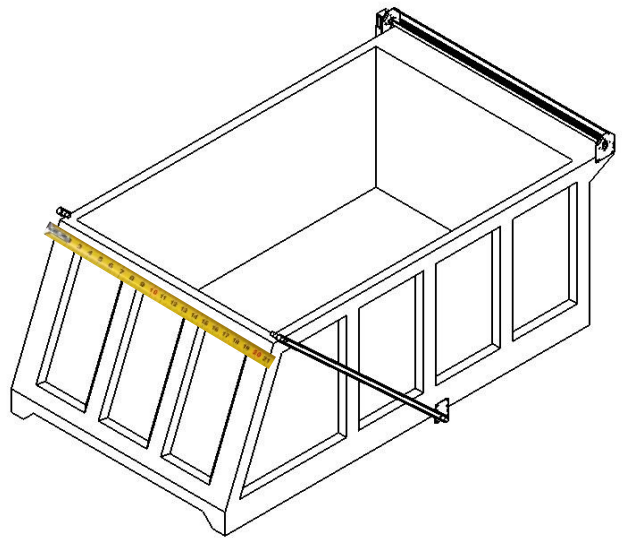


Figure 4.3

Remove the 90-degree corner from the side arm and place it inside the cross tube on both ends. Mark where the mounting holes on the corner are on the cross-tube, they should be approximately 1- $1/2$ " from either end. Drill the mounting holes (1) in the cross-tube using a $11/32$ " drill bit. (Figure 4.4)

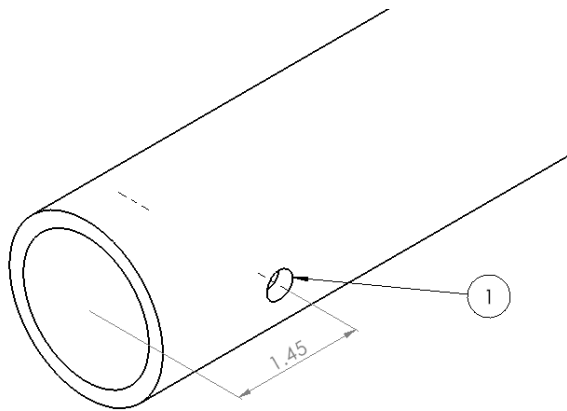


Figure 4.4

On one end of the cross-tube (1) slide on one of the tarp centering flanges (2). Now feed the end of the cross tube without the centering flange through the pocket end of the tarp (3). Place the remaining tarp centering flange on the cross tube as shown in Figure 3.12. Adjust the tarp and centering flange so that the tarp is center on the cross-tube. Tighten the centering flanges to secure them in place. (Figure 4.5)

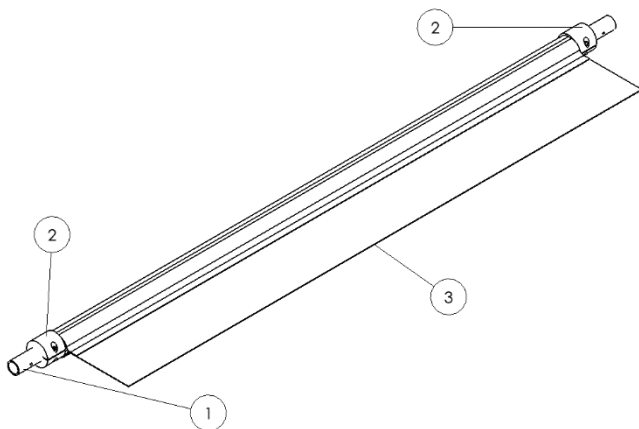


Figure 4.5

Before installing the assembled cross-tube, the length of the side arms must be checked. On the ground behind the truck, lay the cross tube down and slide the 90-degree corners into the side arms. Now compare the distance from the pivot to the cross tube to the distance from the pivot to the tarp axle/tailgate. The distances should be approximately the same. If the side arms are too long, remove them and cut them to length. (Figure 4.6)

NOTICE

If the arm has a bend DO NOT cut the bent end. Only cut the straight end.

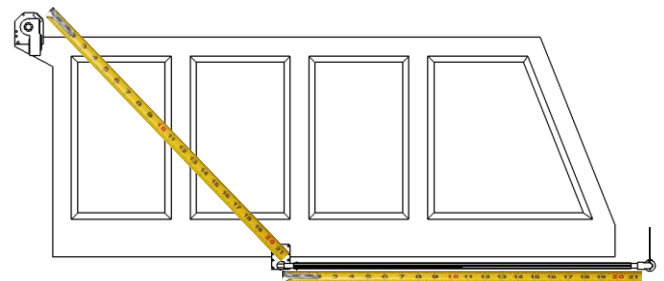


Figure 4.6

While the side arms are removed, you will need to drill mounting holes for the 90-degree corners. Slide the 90-degree corner into the side arm. Mark the location of the mounting hole on the 90-degree corner onto the side arm. Remove the corner and drill a 11/32" hole through this mark. See Figure 4.7 for an example of what this should look like.

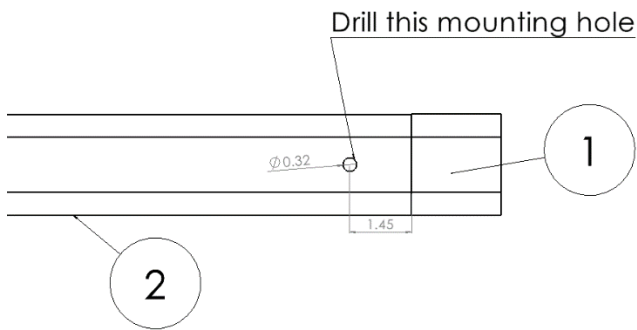


Figure 4.7

Remove the 90-degree corners (1) from the side arms and place them on each end of the cross tube (2) so that they point in the same direction and secure them to the cross-tube with 1/4" x 2-1/4" hex bolts and hex nuts (3) as shown in Figure 4.8.

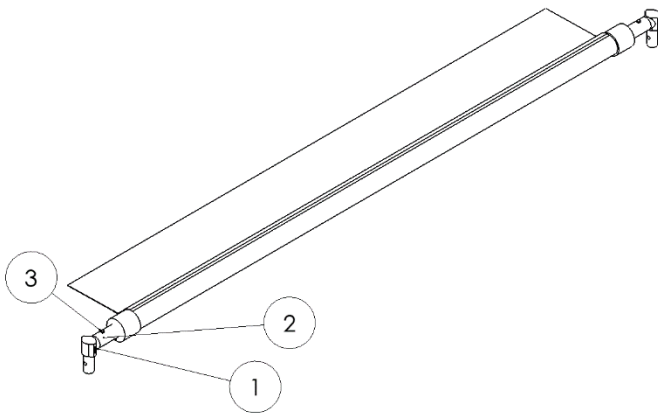


Figure 4.8

Reinstall the side arms. Now, place the cross-tube assembly onto the tailgate of the dump box. Slide the 90-degree elbows into the side arms and attach them using the provided 1/4" hex bolts and hex nuts. The fully assembled tarp arms should look like what is shown in Figure 4.9.

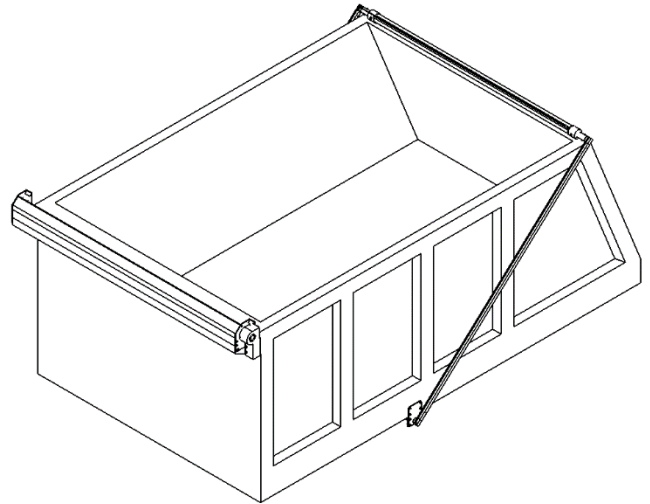


Figure 4.9

Step 5: Attaching the Tarp

Bring the free end of the tarp (3) to the front of the truck. Adjust the previously installed carriage bolts (2) on the tarp axle (1) so that they line up with the grommets (4) that are on the tarp. Make sure that the tarp is centered on the axle. Secure the tarp to the axle using the supplied 1/4" washers (5) and Nylock nuts (6).

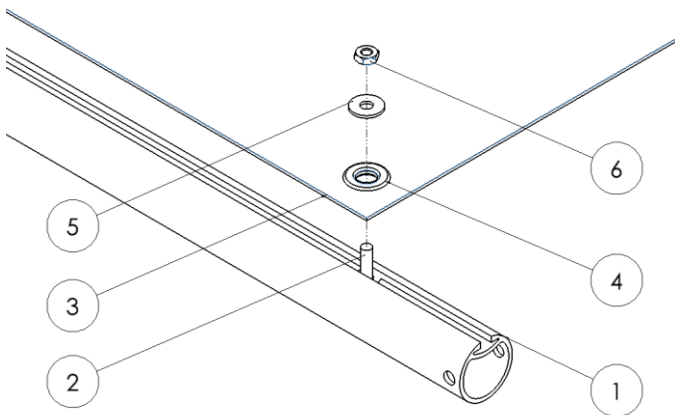


Figure 5.1

Step 6: Final Steps

Operate your newly installed tarping system. Be sure to check that the cross tube does not rest on the dump box directly (Figure 6.1) and that the centering flanges hit the rubber bumpers on the tarp spool mounting brackets when the tarp is fully rolled up (Figure 6.2).

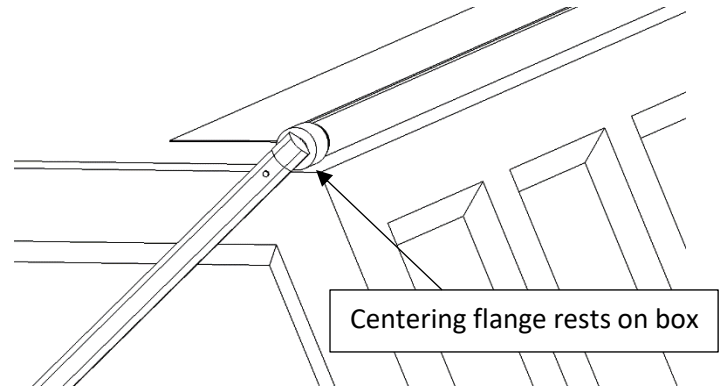


Figure 6.1

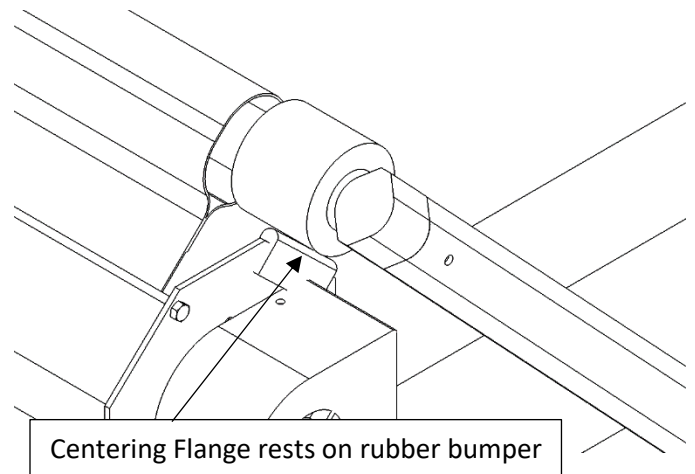
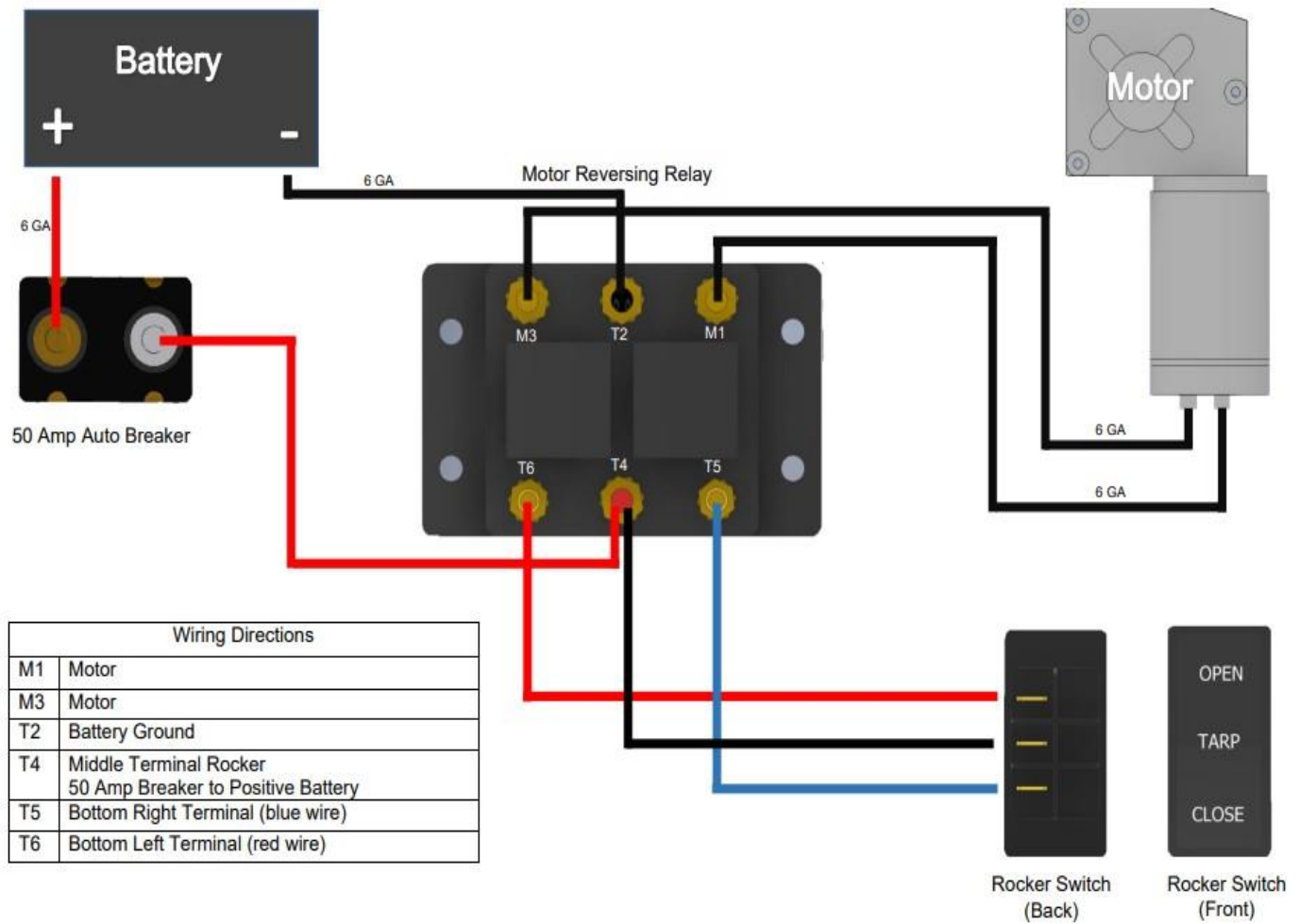
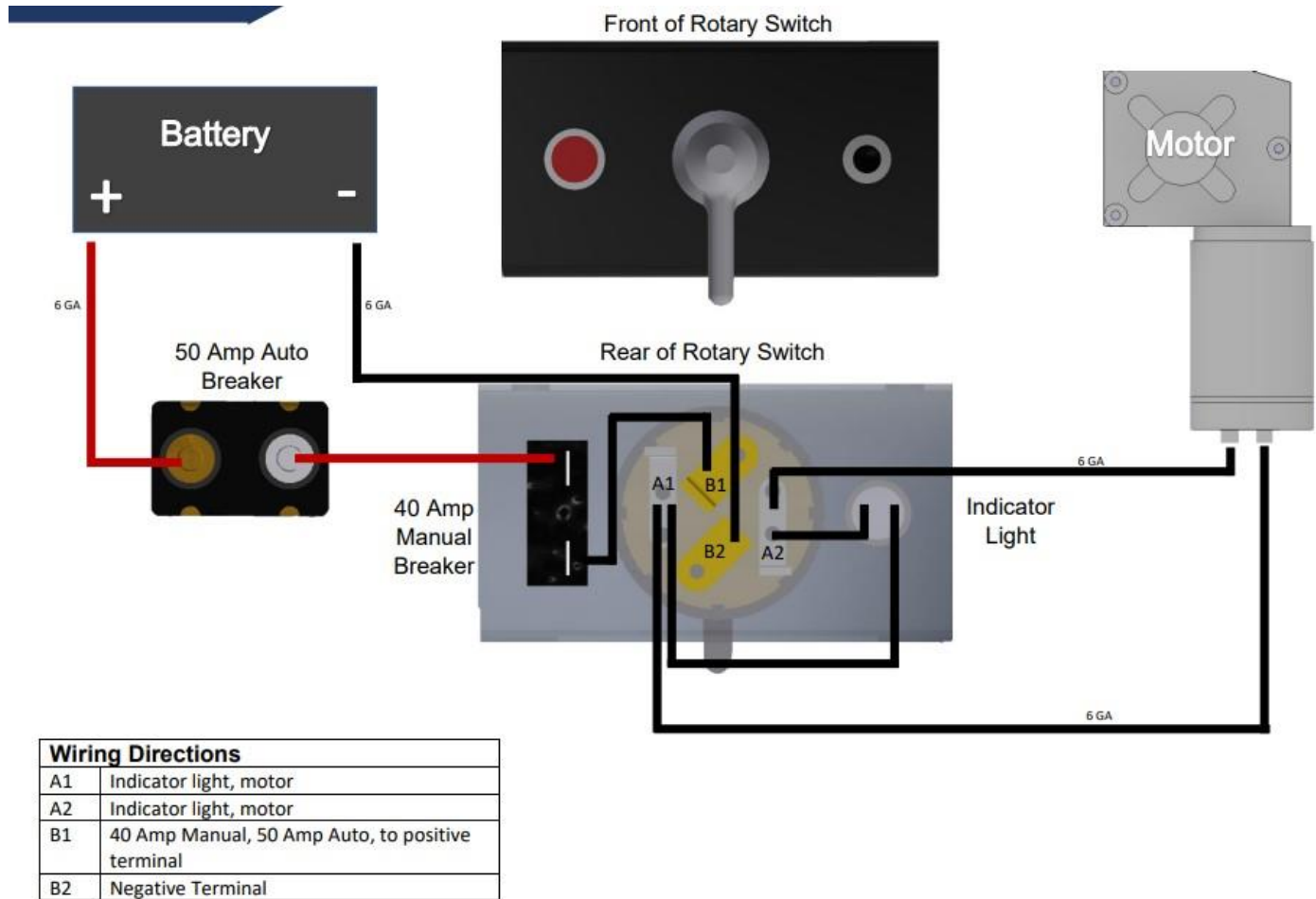


Figure 6.2

Appendix A: Wiring Guide – Rocker Switch



Appendix B: Wiring Guide - Rotary Switch



Appendix C: Bulletproof Motor Assembly

Mount the bulletproof motor (3) to the tarp spool mounting bracket (1) on the driver's side of the dump box with the chrome motor cover plate (2) sandwiched between the motor and the tarp spool mounting bracket. Use the three supplied M8 grade 5 bolts (5) for mounting the motor. (Figure C.1)

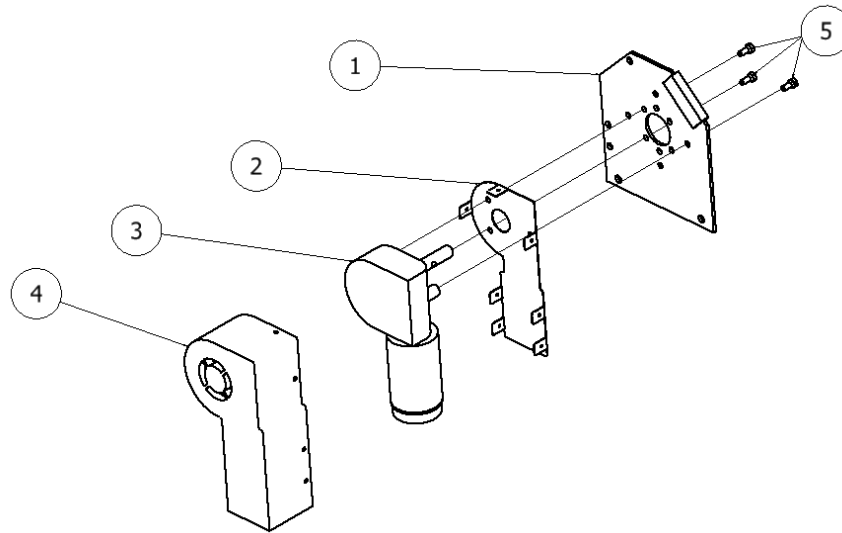


Figure C.1

Attach the chrome motor cover (2) to the motor cover plate (1) using the seven supplied #10 screws (4) and rubber grommets (3). (Figure C.2)

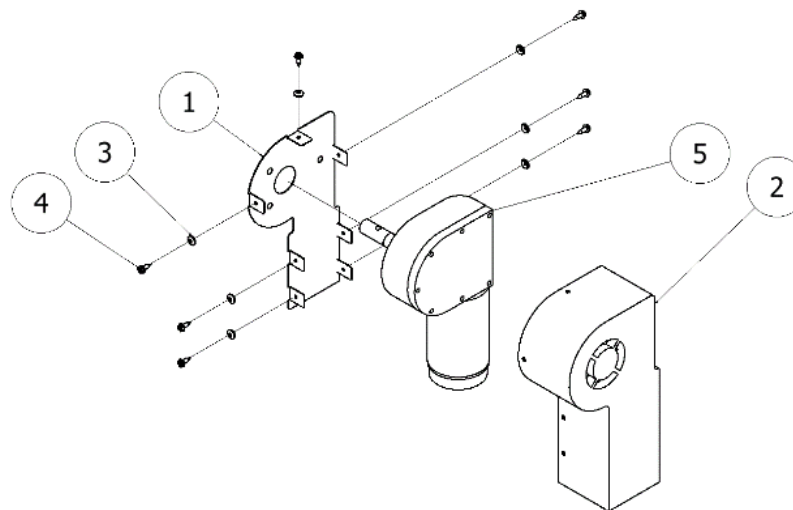


Figure C.2

Appendix D: Heavy Duty Tarp Axle

The heavy duty tarp axle allows the user to fasten their tarp to the axle in three different ways.

To connect the heavy duty tarp axle to the motor, first measure the distance between the two tarp spool mounting brackets and verify that the axle is 1" shorter than this length. If it is not, cut it to the correct length. Drill a hole $11/32$ " in diameter through the axle such that it is $5/16$ " from the end of the axle, on each end. (Figure D.1)

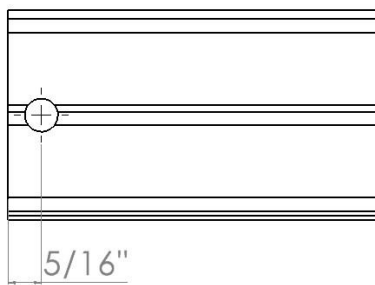


Figure D.1

Spline:

If you have a splined tarp, insert the splined end of the tarp into the spline slot on the HD axle and pull through. (Figure D.2)

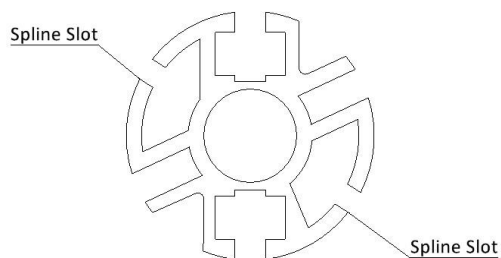


Figure D.2

Square Nut:

Slide five, $5/16$ " square nuts into the square nut slot and evenly space them along the axle's length. After you have attached the axle to the motor use five, $5/16$ " x $3/4$ " hex bolts and washers to connect the tarp with grommets to the axle as shown. (Figure D.3)

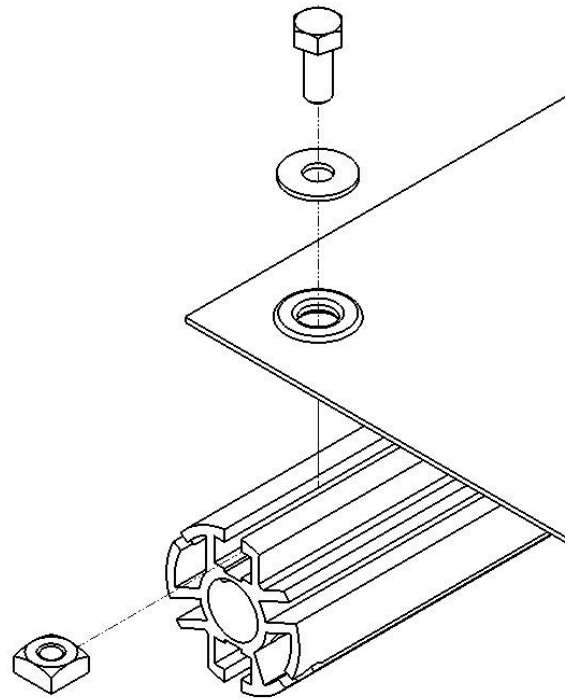


Figure D.3

Threaded Slot:

After attaching the axle to the motor, center the tarp on the axle. Using five, 5/16" x 3/4" hex bolts (1) and washers (2), connect the tarp directly to the heavy duty axle (3) as shown. (Figure D.4)

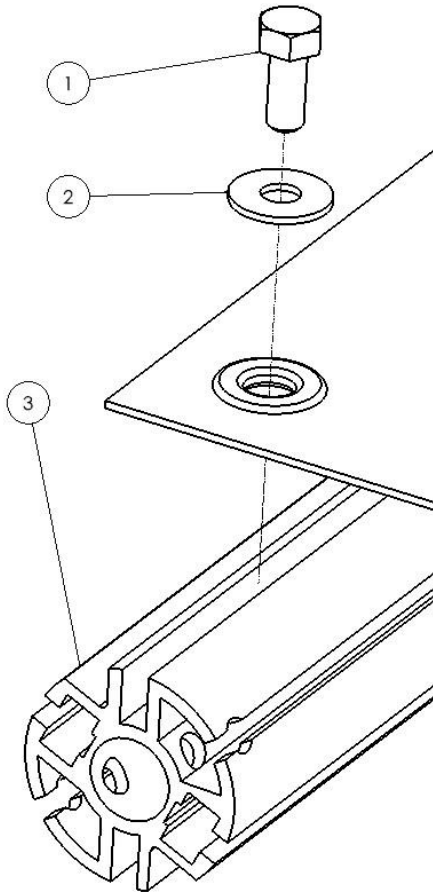


Figure D.4

Installing the Tarp Axle:

Slide the heavy duty tarp axle (1) over the motor shaft (2) and secure it with a 5/16" x 2-1/2" hex bolt (3) and a 5/16" hex nut (4). (Figure D.5)

NOTICE

No axle caps are required for the heavy duty tarp axle.

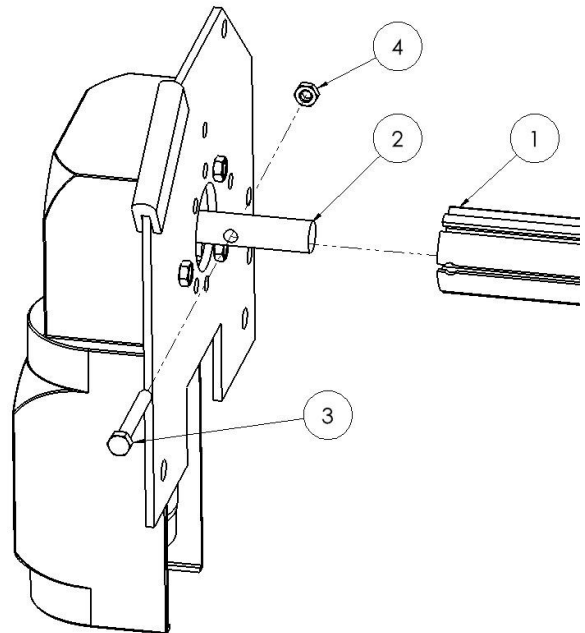


Figure D.5

Line the heavy duty tarp axle (1) up with the axle bearing (2) on the passenger side. Slide the spool shaft (3) through the axle bearing and into the heavy duty tarp axle. Line up the holes on the tarp axle and spool shaft and secure them using a 5/16" x 2-1/2" bolt (4) and 5/16" nut (5). Tighten the set screw in the axle bearing sleeve. (Figure D.6)

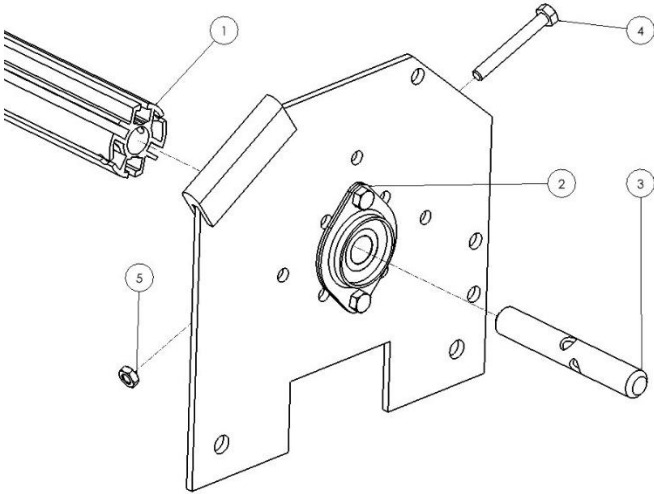


Figure D.6



1-(800) 249-0297
technicalsupport@ustarp.com
www.ustarp.com