STATIONARY LT GANTRY

INSTALLATION INSTRUCTION MANUAL

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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.

DANGER

Indicates an immediately hazardous situation which, if not avoided, will result in serious injury or death.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

NOTICE

Indicates information about a subject that is not safety related.

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STEP 1: INSTALL THE GANTRY FRAME BASE

The US Tarp Stationary lite gantry frame is designed to be mounted to a variety of chassis and frame types. Mounting methods are the responsibility of the installer. This step will show requirements and recommendations for mounting the gantry frame base.

A minimum of 4" is required between the cab and hoist system to mount the Stationary Lite gantry. (Figure 1.1)

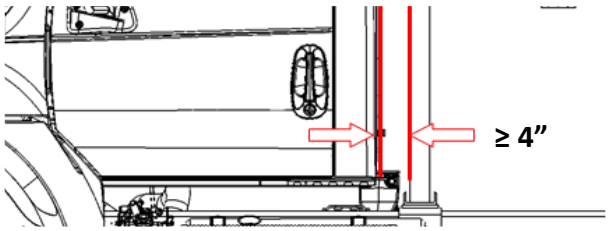


Figure 1.1

Chassis Bolt Option – Weld/Bolt (not included):

CAUTION

DO NOT DRILL INTO CHASSIS TOP OR BOTTOM FLANGE. DO NOT DRILL THROUGH SIDEWALL OF CHASSIS CLOSER TO TOP OR BOTTOM FLANGE THAN HOLES DRILLED BY MANUFACTURER

Place mounting brackets (1) (not supplied) on frame (2) between cab and hoist system. Align brackets for squareness. Brackets must sit so that the base tube can be welded a minimum of 1" behind the rear most part of the cab. (Figure 1.2)

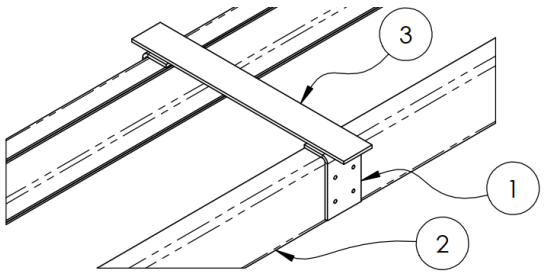


Figure 1.2

Locate and drill 4 holes per bracket (minimum of 2 holes per bracket) taking notice of existing equipment such as wires or hoses. If only two holes are used, drill them in a diagonal pattern as shown in red (Figure 1.3).

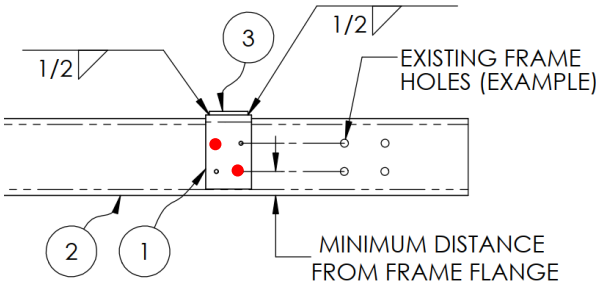


Figure 1.3

CAUTION

DISCONNECT BATTERY AND COMPUTER EQUIPMENT PRIOR TO WELDING TO PREVENT DAMAGE TO SENSITIVE ELECTRONIC EQUIPMENT.

Bolt brackets in place using 5/8" grade 8 hardware (not uncluded). Center the top plate (3) (not supplied) on the brackets and weld in place.

DO NOT WELD GANTRY BASE TUBE IN PLACE YET.

Alternative: U-Bolt Option:

An alternate mounting option is to use u-bolts (not supplied). Place two U-bolt mounting plates (1) (not supplied) on the chassis (3) and place the gantry base tube (4) on top. Align so that there is a minimum clearance of 1" between rear most part of cab and gantry frame (4). Base tube must be centered width-wise. Brackets (1) must allow four u-bolts (2) (not supplied) to be positioned, see Figure 1.4 on the following page.

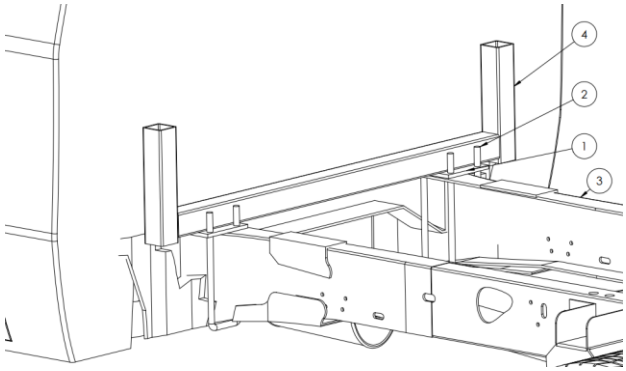


Figure 1.4

Bolt brackets to chassis with the u-bolts and grade 8 hardware.

DO NOT WELD GANTRY BASE TUBE IN PLACE YET.

Alternative: Split Frame Option

Another alternative mounting option is a split frame option. This requires the installer to cut and remove a section of the base tube assembly. The leg collars (1) will then need to be welded to bolt plates (2) (not supplied), similar to Figure 1.5.

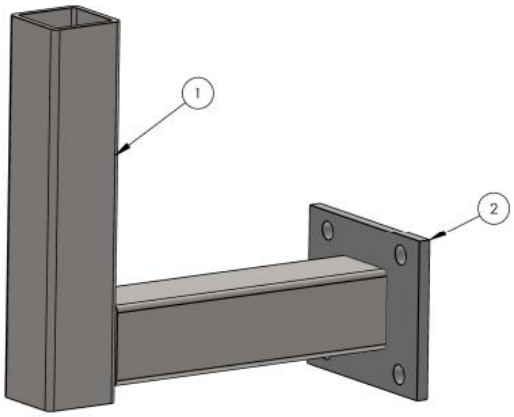


Figure 1.5

Split frame mounting will decrease the overall maximum height of the gantry frame.

To get the cut width, measure the frame rail width on the vehicle. Take the thickness of the bolt plate and double it. Add these two numbers together. Ex. 34" frame width, ¼" plate thickness results in 34.5" dimension. This is the amount we will cut out of the base tube. Cut this amount off the center of the tube, see Figure 1.6.

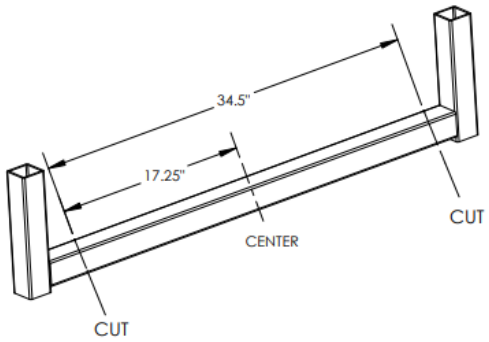


Figure 1.6

Weld bolt plates (not supplied) to the base tube cuts as seen in Figure 1.5. Align fabricated brackets heightwise, maintain a clearance of at least 1" between cab and base tube bracket.

⚠ CAUTION

DO NOT DRILL INTO CHASSIS TOP OR BOTTOM FLANGE. DO NOT DRILL THROUGH SIDEWALL OF CHASSIS CLOSER TO TOP OR BOTTOM FLANGE THAN HOLES DRILLED BY MANUFACTURER

Mark and drill holes through frame rail. See Figure 1.7.

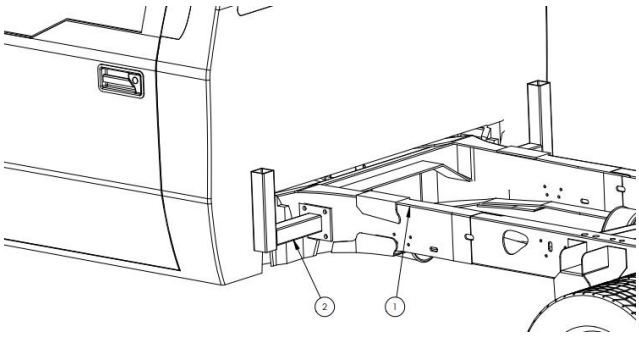


Figure 1.7

DO NOT BOLT BASE TUBE BRACKETS IN PLACE YET.

STEP 2: ASSEMBLING THE GANTRY

Determine Leg Height

The US Tarp Stationary Lite gantry is designed to have the installer determine the height of the frame. The maximum frame height is 6ft from top of frame rail to top of housing. (Figure 2.1) Frame height is based on container height. Common containers are 5-6ft tall but it is best to clarify with the end user. Frame height can be adjusted down to 2” above the top most part of the cab.

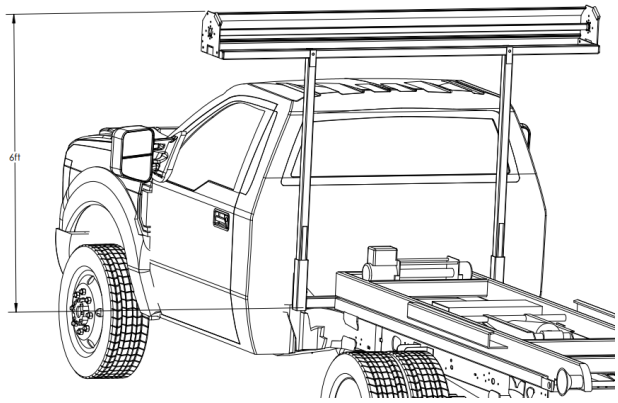


Figure 2.1

Once frame height is decided, insert legs (2) into base tube (3) with shim plate (1) facing the rear. (Figure 2.2)

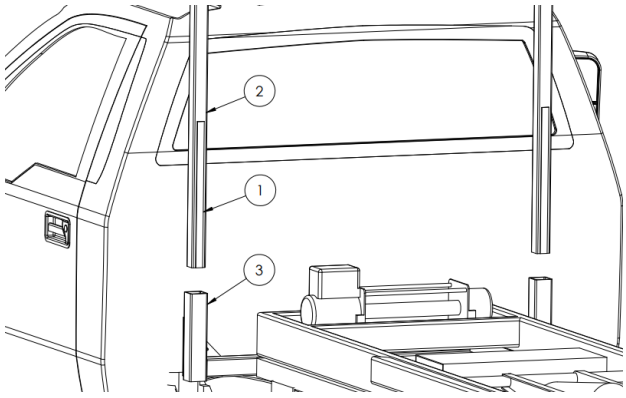


Figure 2.2

Placing the bottom of the leg flush with the bottom of the base tube leg collar will achieve a 6ft mouting height. To mount at a lower height, slide leg farther into collar (Ex. Target height: 5’ 6”; extend legs 6” out the bottom of the base tube leg collar). (Figure 2.3) Clamp in position.

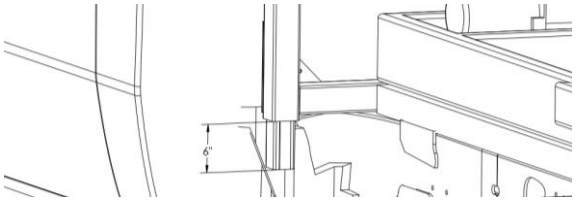


Figure 2.3

NOTICE

DO NOT EXTEND LEGS UP TO ACHIEVE A HEIGHT GREATER THAN 6FT.

Weld legs into base tube, maintain the same height from leg to leg. (Figure 2.4)

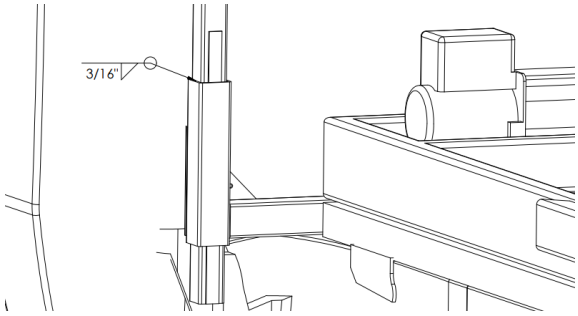


Figure 2.4

Finishing Gantry Base Tube Install

With the legs welded into the base tube, finish mounting it to the mounting brackets. Center width-wise and maintain 1” clearance between cab. Weld in place, Figure 2.5. For split frame brackets, bolt base tube bracket (2) to frame rail (1) through holes drilled in the previous step, Figure 2.6.

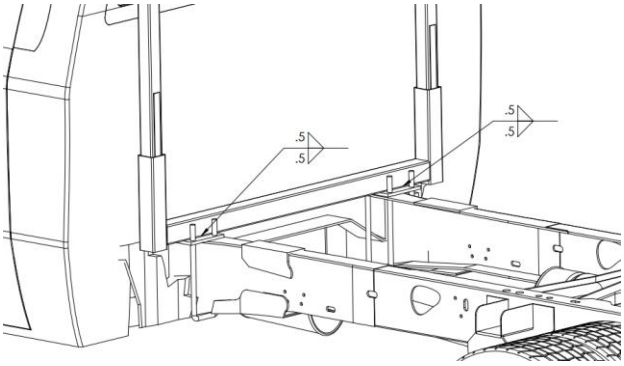


Figure 2.5

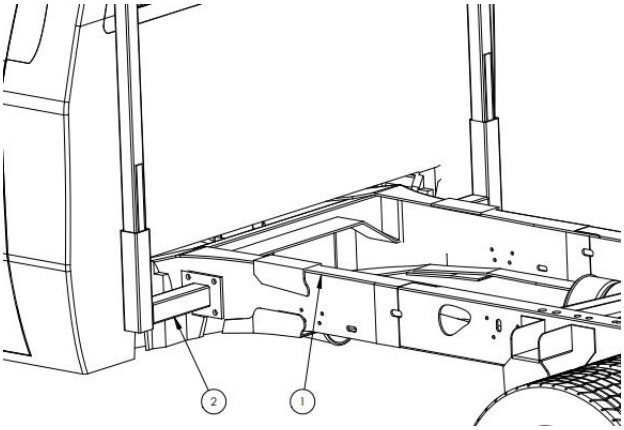


Figure 2.6

Continuing Assembly

The US Tarp housing will come assembled on the spreader bar of the gantry frame. Carefully place the spreader bar assembly (1) on top of the legs (2). Center the assembly widthwise (do not include the motor in this measurement, if included). (Figure 2.7)

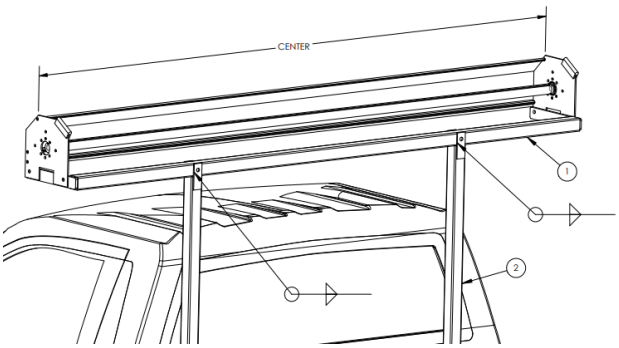


Figure 2.7

It is recommended that that the spreader bar gets welded to the legs. Be sure to shield the cab (and tarp if loaded) from any weld sparks or spatter. The bar can also be bolted with grade 8 hardware but is not recommended as the first option.

Step 3: GUSSETING

It is highly recommended that the gantry frame is gusseted to further prevent any swaying while traveling or in operation. Gussets are not provided in the kit.

See below for gusseting recommendation: (Figure 3.1)

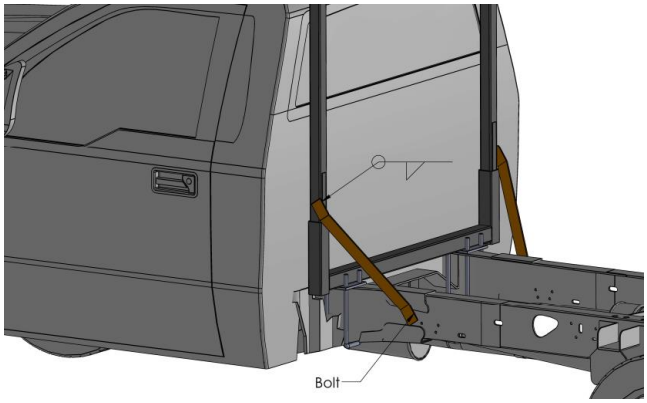


Figure 3.1

Be sure that gussets do not interfere with container. (Figure 3.2)

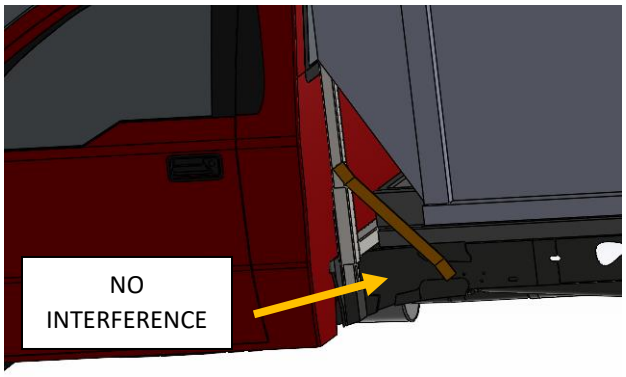


Figure 3.2

If installing pull-style gantry, skip to Step 6: Final Assembly

STEP 4: OPTIONAL ARM KIT

Wiring the Motor and Switch

All arm kits come with a waterproof rocker switch kit and 6ga wire. The switch can be placed in the cab or on the exterior of the cab mounted in the vertical position.

Route the 6ga wire from the motor, down the frame and to the location where the relay/breaker will be mounted. Ensure the wire is not in a position where it will get pinched or caught by moving parts.

Route another set of 6ga wire from the battery to the relay.

NOTICE

DO NOT GROUND TO CHASSIS

Mount the rocker switch box in the desired location and route the 18ga wire from switch to relay location.

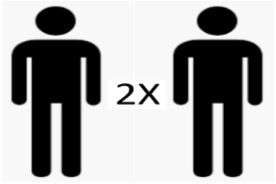
Connect wires as shown in APPENDIX A.

Finding the Arm Pivot Point:

To install the arm kit, you must first locate the pivot point from the longest roll-off box. Common lengths are 12 or 14ft. This is best done with a container loaded.

NOTICE

2 PERSON OPERATION



To find the pivot point you will need two tape measures and two clamps. Position the first tape measure end at the rear landing spot of the tarp cross tube as shown. Clamp in place. (Figure 4.1)

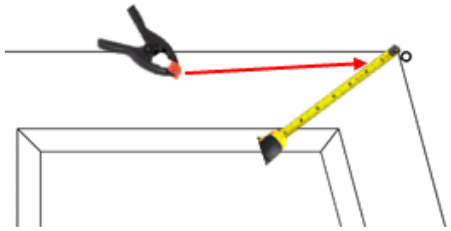


Figure 4.1

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 4.2)

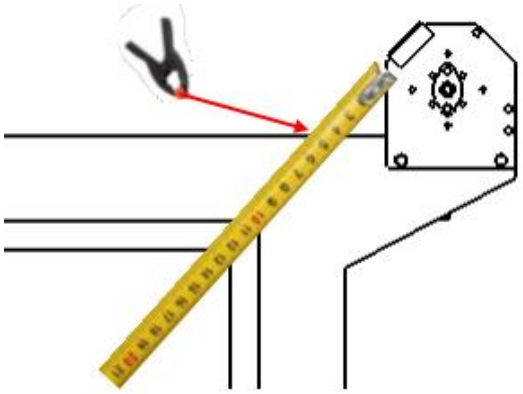


Figure 4.2

To find the pivot point, extend both tape measures as shown in Figure 4.3.

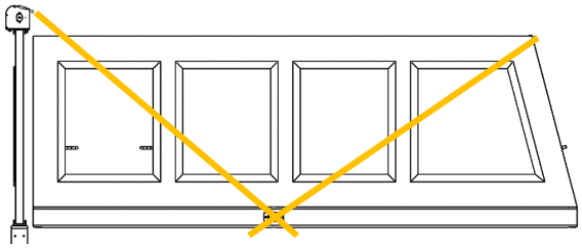


Figure 4.3

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

To locate the pivot point on the opposite side of the truck, measure from the front of the chassis to

the center of the pivot pin. Then measure and mark the same distance on the opposite side.

Installing the Frame Mount Offset

On frame mounted installations when truck and trailer frames are narrower than the dump box, pivot extensions must be installed. (Figure 4.4)

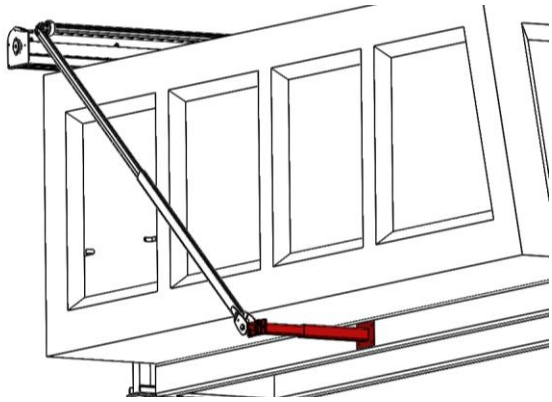


Figure 4.4

Pivot extensions are supplied in a two-piece arrangement to provide width adjustment. Position extension arms at the pivot point on each side and bolt to chassis. Extend pivot arm to align with side of dump bed (Figure 4.5). Weld all the way around extension joint.

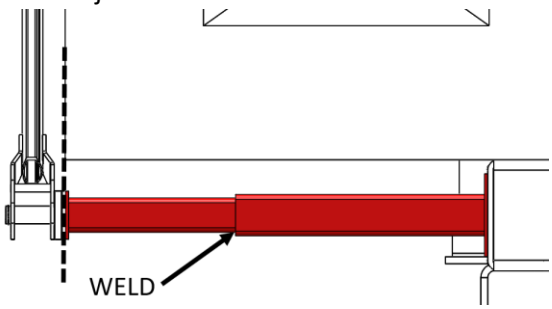


Figure 4.5

If the pivot point lands over the rear axle, a bracket will need to be made to mount the pins rather than using the frame offsets.

Installing Aluminum Arms:

The pivot pins must be mounted to the truck with the spring slot facing down. Use the supplied 5/8” x 1-1/2” hex bolt, 5/8” washer, and 5/8” hex nut to secure the pivot pin to the frame mount offset.

The torsion springs are designed with a tab which is inserted into the pivot pin slot. Install bushing/flat washer (1) over pivot pin. Slide bottom of the arm (2) over the pivot pin and install springs (3) one at a time as shown (Figure 4.6).

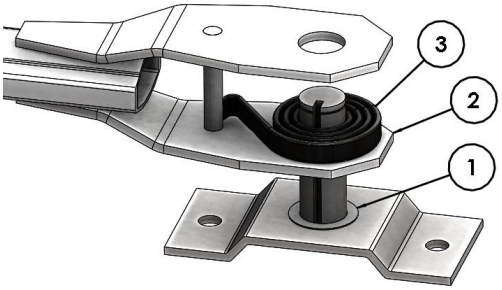


Figure 4.6

Continue installing remaining springs (3), then flat washer (1), and secure with snap ring (4) as shown in Figure 4.7. Repeat procedure for opposite side of system.

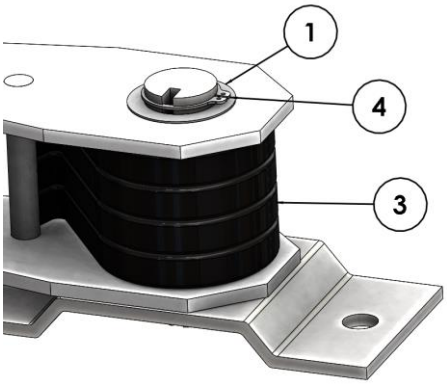


Figure 4.7

Insert upper arms (1) into lower arms (2). Install set screws (3), but do not tighten (Figure 4.8).

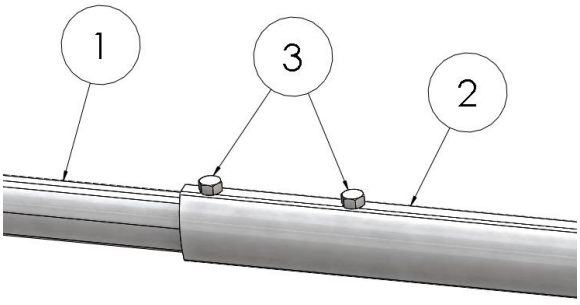


Figure 4.8

Lay the cross tube (1) on the ground behind the truck. Slide the 90-degree elbows (2) into the cross tube so that they are pointing toward the truck. Slide the upper arms (3) over each of the 90-degree corners. Verify that the cross tube is the right size by checking to see that the upper arms can be slid into the lower arms. If the cross tube is too long cut it to size. (Figure 4.9)

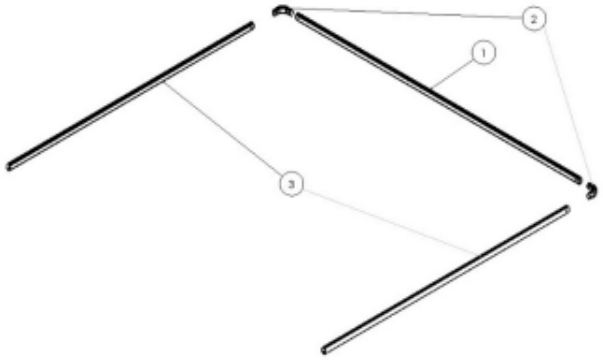


Figure 4.9

Once you have verified that the upper arms will slide into the lower arms and that the cross tube is the correct length, you will need to drill holes into the cross tube and upper arms to connect them to the 90-degree elbows. Mark where the mounting holes on the elbows line up with the upper arms and cross tube. Drill these holes into the upper arms and cross tube using a 5/16” drill bit.

Remove the cross tube from the 90-degree corners. On one end of the cross-tube place two plastic centering flanges. From the other end of the cross tube slide the pocket of the tarp over the cross tube. Now place the remaining two centering flanges on the side of the cross tube that does not already have them. Ensure that the tarp is centered on the cross tube, if it is not, adjust the centering flanges, then secure them in place using the set screws. At this point the cross tube should look like what is shown in Figure 4.10.

Figure 4.10

Secure the 90-degree corners to the upper arms and cross tube using 5/16” x 1-3/4” hex bolts (1) and 5/16” hex nuts (2). (Figure 4.11)

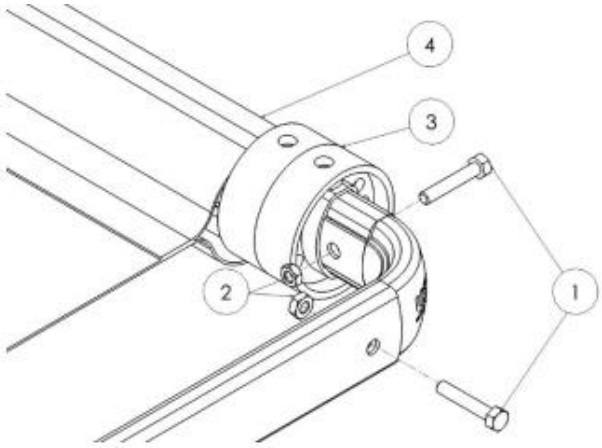


Figure 4.11

With the cross tube laying on the tailgate of the container, secure the lower arm (1) to the upper arm (2) by tightening the supplied 1/2” x 3/8” set screws (3) in the pre-tapped holes in the lower arms on both sides.

Installing Steel Arms:

The pivot pins must be mounted to the truck with the spring slot facing down. Use the supplied 5/8” x 1-1/2” hex bolt, 5/8” washer, and 5/8” hex nut to secure the pivot pin to the frame mount offset.

The torsion springs are designed with a tab which is inserted into the pivot pin slot. Install bushing/flat washer (1) over pivot pin. Slide bottom of the arm (2) over the pivot pin and install springs (3) one at a time as shown (Figure 4.12, next page).

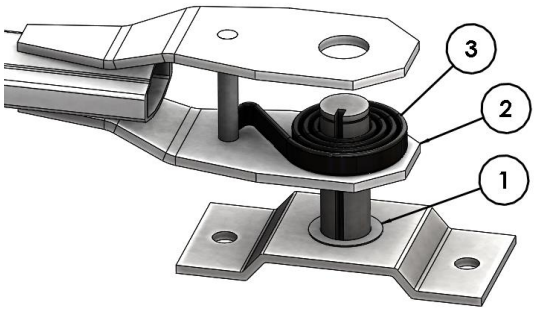


Figure 4.12

Continue installing remaining springs (3), then flat washer (1), and secure with snap ring (4) as shown in Figure 4.13. Repeat procedure for opposite side of system.

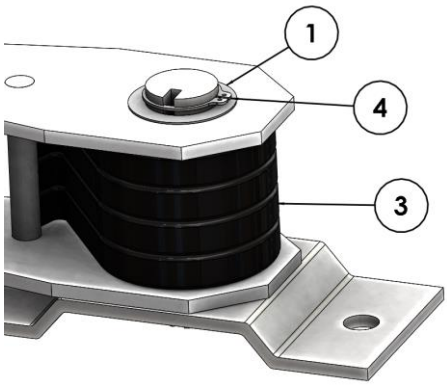


Figure 4.13

Lay the cross tube (1) on the ground behind the truck. Slide the 90-degree elbows (2) into the cross tube so that they are pointing toward the truck. Slide the upper arms (3) over each of the 90-degree corners. Verify that the cross tube is the right size by checking to see that the upper arms can be slid into the lower arms. If the cross tube is too long cut it to size. (Figure 4.14)

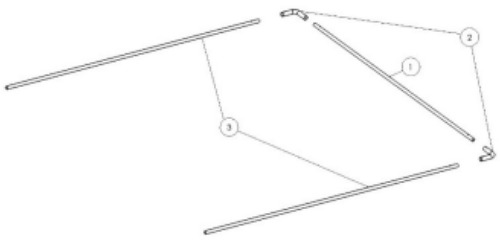


Figure 4.14

Once you have verified that the upper arms will slide into the lower arms and that the cross tube is the correct length, you will need to drill holes into the cross tube and upper arms to connect them to the 90-degree elbows. Mark where the mounting holes on the elbows line up with the upper arms and cross tube. Drill these holes into the upper arms and cross tube using a 5/16” drill bit. Before connecting the 90-degree corners and the cross tube, sandwich the pocket end of the tarp (5) between the rubber tarp centering flanges (4) and their tarp collar clamps (3) on both sides of the cross tube. Secure the 90-degree corners to the upper arms and cross tube using 5/16” x 2-1/4” hex bolts (1) and 5/16” hex nuts (2). (Figure 4.15)

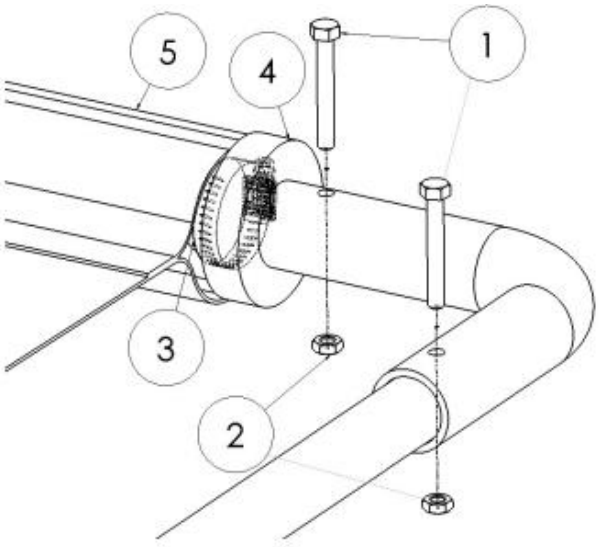


Figure 4.15

Slide the upper arms into the lower arms and raise the cross tube so that it lays on the tailgate of the container, where it will rest when the load is covered.

With the cross tube laying on the tailgate of the container mark the position of the mounting holes that are predrilled on lower arms onto the upper arms. Remove the upper arms from the lower arms and drill out the mounting holes on the upper arms using a 5/16” drill bit. Reinsert the upper arms (2) into the lower arms (1) and secure them using

5/16” x 2-1/4” hex bolts (3) and 5/16” hex nuts (4). (Figure 4.16)

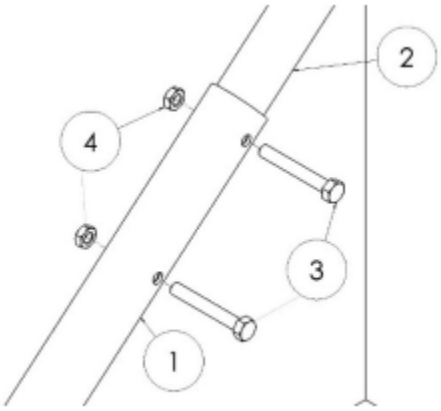


Figure 4.16

STEP 5: ATTACHING THE TARP

A pull-style assembly will have the tarp pre-loaded in most cases. Follow pre-wind instructions on axle for tarp replacement if this is not the case.

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)

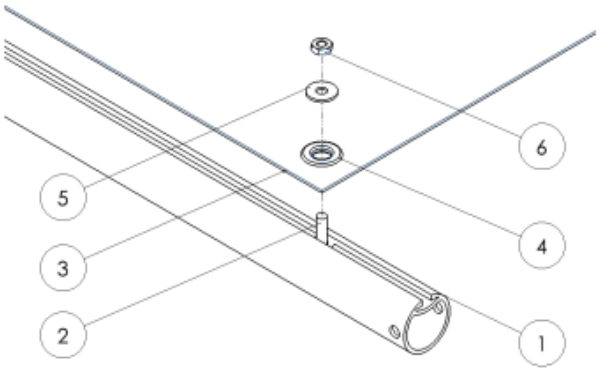


Figure 5.1

STEP 6: FINAL STEPS

Pull-Style System

Installing the Pull Rope:

Feed the end of the supplied rope that is not attached to the bungee and rings through the center grommet on the tarp. Tie the rope so that it is secure. (Figure 6.1)

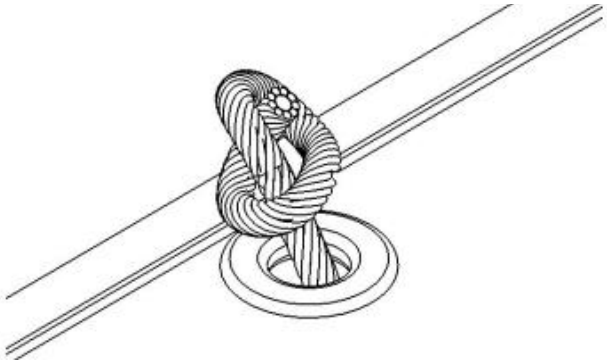


Figure 6.1

NOTICE

DO NOT USE THE BUNGEE TO CONNECT THE ROPE TO THE TARP

Installing the J-Hooks:

Mount a set of j-hooks on the driver side near the cab and another set at the center back of the system. See Figure 6.2 for orientation.

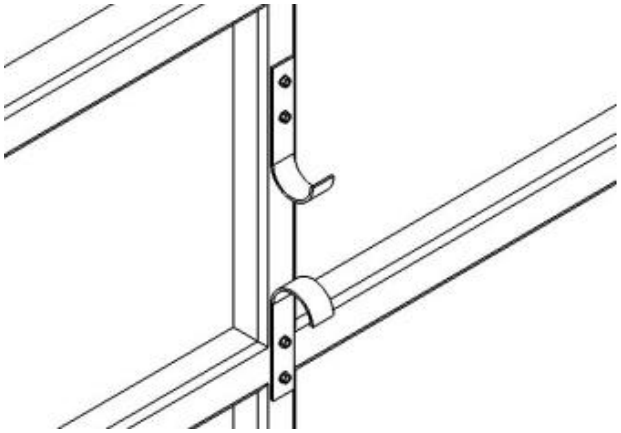


Figure 6.2

NOTICE

J-HOOKS ARE NOT INTENDED TO SECURE THE TARP IN PLACE. THEY ARE INTENDED TO HOLD THE EXTRA ROPE

Installing the Tailgate Latches

Mount a set of tail gate latches on each container.

Position the steel tailgate latches so that the hook opening faces the rear of the trailer. Move the tailgate latch as close to the rear as possible on the trailer to maximize tarp coverage. Also make sure to make the bottom of the hook opening as flush as possible with the top edge of the trailer. Mark the position of the mounting holes on the trailer. Using a 1/2" drill bit, drill out the mounting holes. Secure the tailgate latches to the trailer using the 1/2"-13 x 1-1/2" grade 5 zinc carriage bolt, 1/2" zinc plated SAE flat washer, and 1/2"-13 Nylock nut. See Figure 6.3 for an example of how the tailgate latches should be mounted.

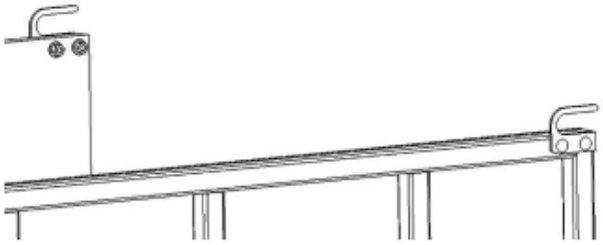


Figure 6.3

Ensure the spring loaded axle provides the proper amount of spring tension on the tarp. If more or less tension is needed, remove the tarp from the axle and add/remove pre-load turns.

Arm Kit System

Operate the tarp system. Be sure to check that the centering flanges rest on the container when in the cover position. (Figure 6.4)

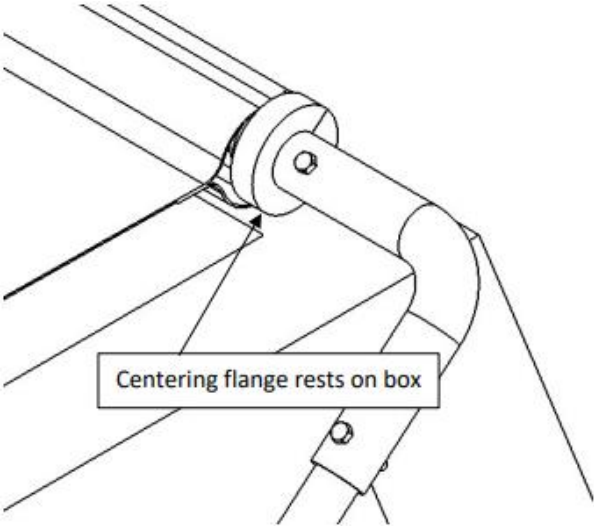
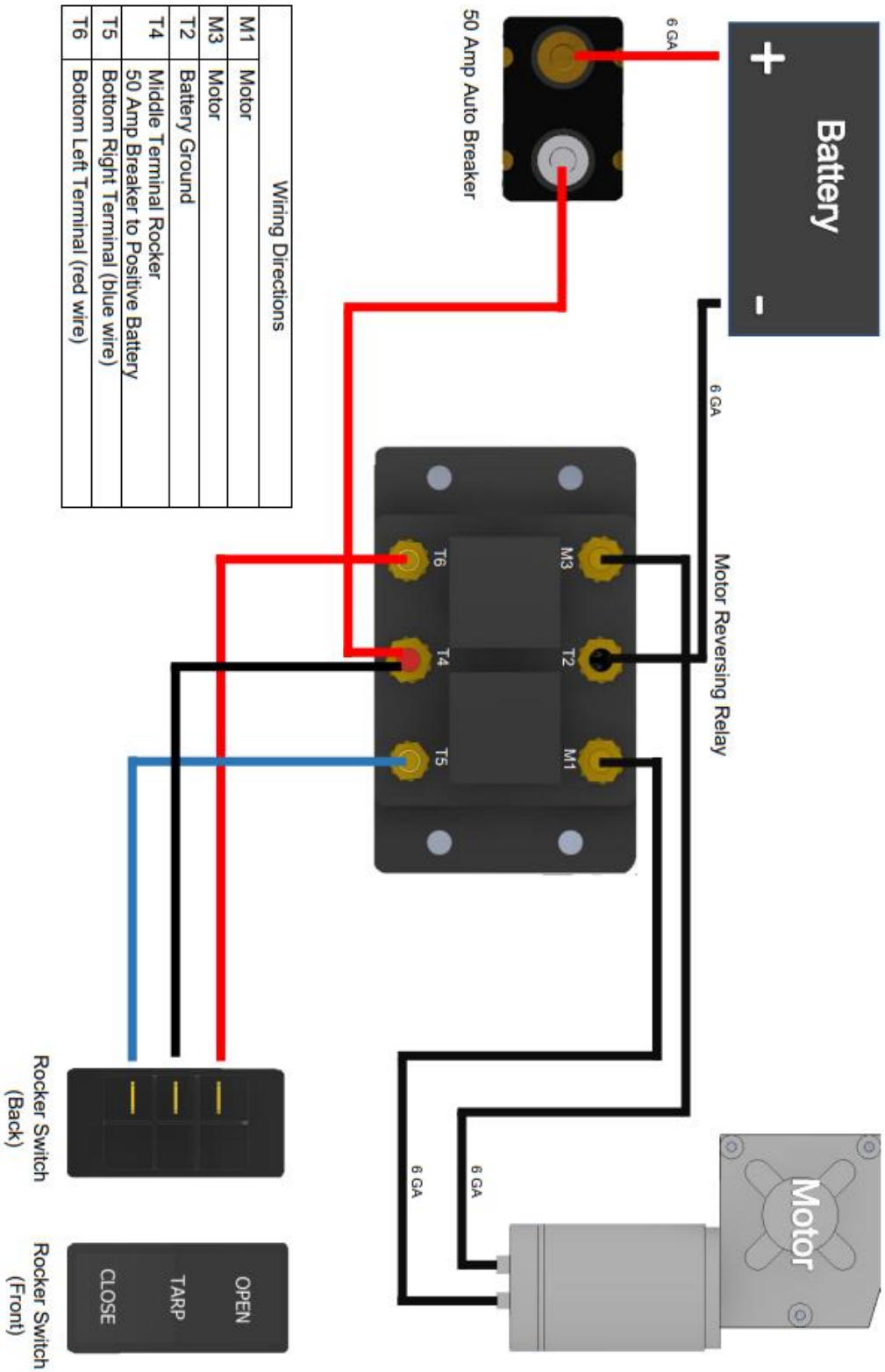
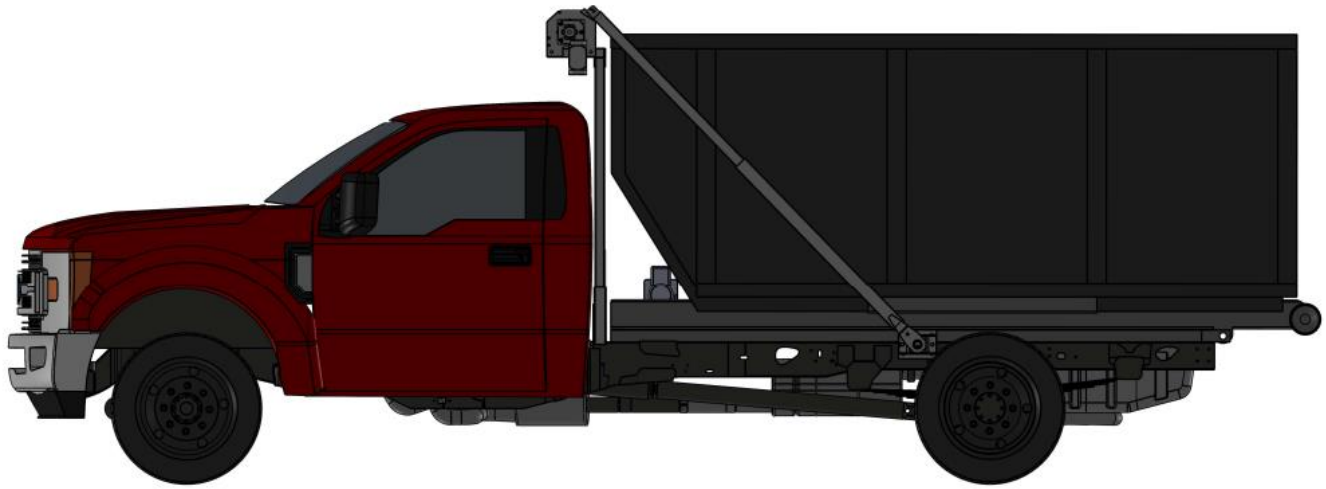


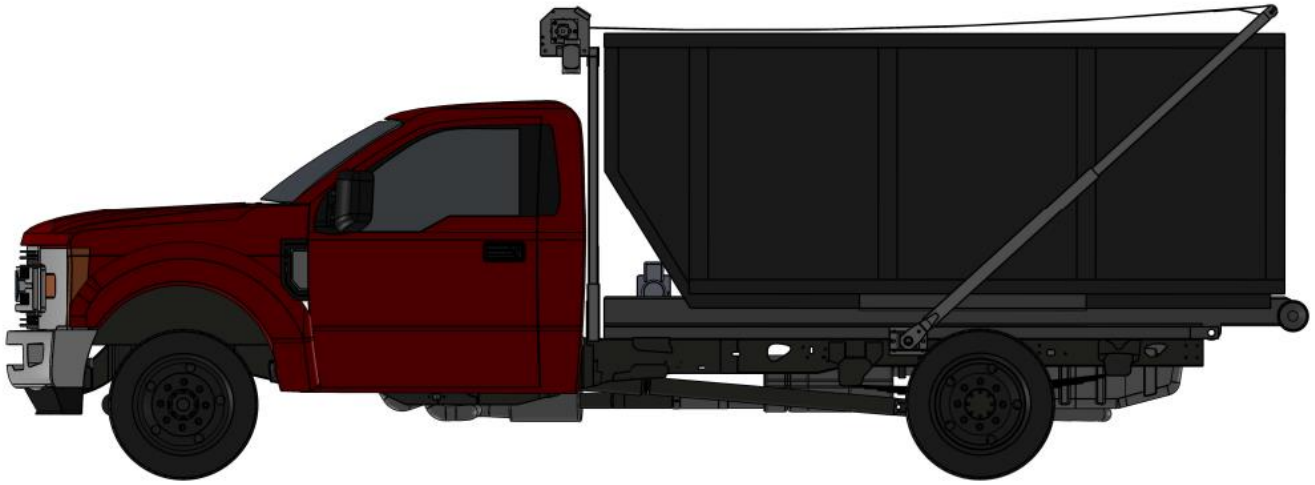
Figure 6.4

APPENDIX A: WIRING GUIDE – ROCKER SWITCH



Wiring Directions	
M1	Motor
M3	Motor
T2	Battery Ground
T4	Middle Terminal Rocker 50 Amp Breaker to Positive Battery
T5	Bottom Right Terminal (blue wire)
T6	Bottom Left Terminal (red wire)





NOTES

System Part Number: _____

Purchase Date: _____

Installation Date: _____

Other Notes: _____

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