

STATIONARY GANTRY

INSTALLATION INSTRUCTION MANUAL

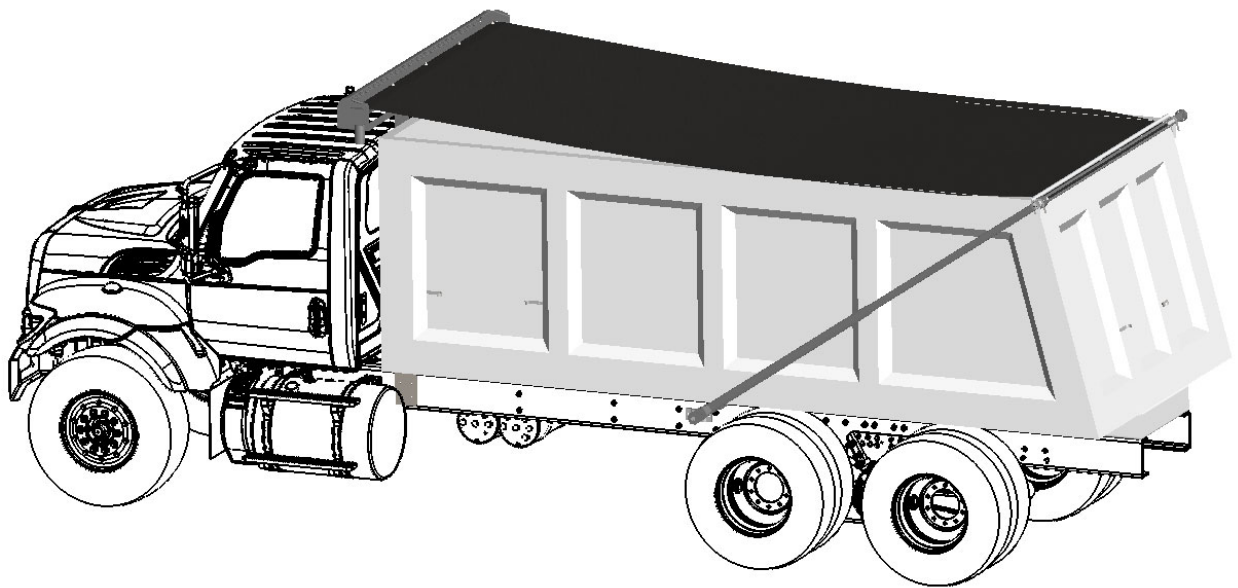


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SAFETY

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.

GANTRY FRAME INSTALLATION



STEP 1: INSTALL THE GANTRY FRAME

US Tarp gantry frames are designed to be mounted to a variety of chassis and frame types. Standard mounting method is Chassis Brackets, and optional methods include Chassis Bolts, U-Bolts, and Welding.

Chassis Bracket (No Weld) Installation

⚠ 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

Test fit gantry frame to ensure minimum distance of 4" between truck cab and all other components. (Figure 1.1)

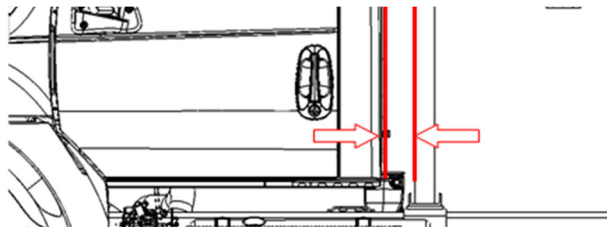


Figure 1.1

Position supplied mounting brackets (1) on frame (2). Align parts for squariness and ensure clearance between truck cab and all other components (Figure 1.2). Top of bracket should be flush with top of frame rail.

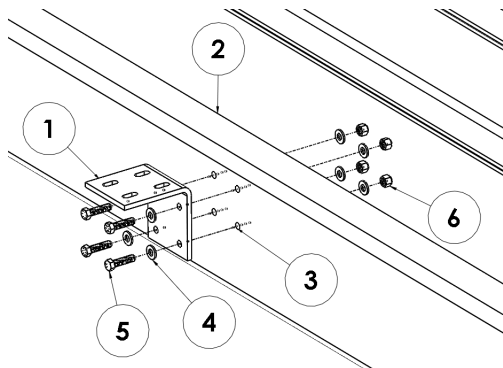


Figure 1.2

Clamp mounting brackets to frame and match drill (4x) 0.53" holes per side (3), taking care not to drill

through existing equipment such as wires, hoses, or brackets. Fasten brackets to frame using 1/2-13 x 2" long grade 8 hex head bolts (5), 1/2-13 grade 8 nylock nuts, and 1/2" hardened flat washers (4, 5, 6).

Lower the gantry frame (1) onto the brackets (2) and insert (QTY 8) 3/4-10 x 2.0" long grade 8 hex head bolts (3), (QTY 16) 3/4 grade 8 flat washers (4), and (QTY 8) 3/4-10 grade 8 nylock nuts (5). Align gantry frame for squareness before tightening fasteners. (Figure 1.3)

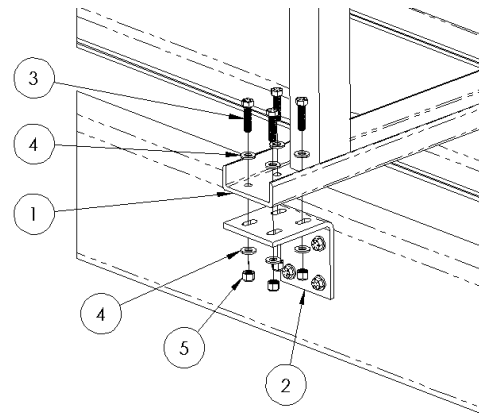


Figure 1.3

Chassis Bolt Installation (Weld):



CAUTION

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

Position optional mounting brackets (1) on frame (2). Align parts for squareness and ensure clearance between truck cab and all other components (Figure 1.4)

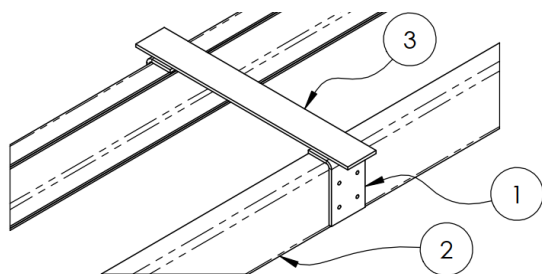


Figure 1.4

Mark and drill 4 holes per side, taking care not to drill through existing equipment such as wires, hoses, or brackets. Center top plate (3) on mounting brackets side to side and fore/aft. Weld in place. (Figure 1.5).

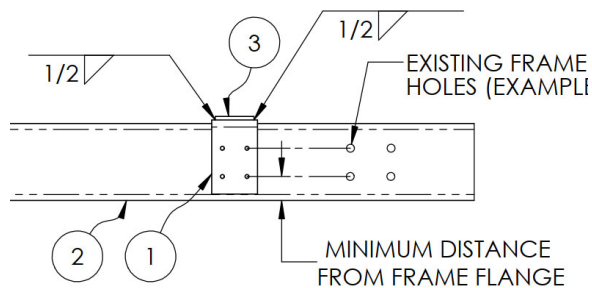


Figure 1.5

Lower gantry frame onto top bracket. Position centered side to side and fore/aft. Ensure vertical squareness. Weld in place (Figure 1.6).

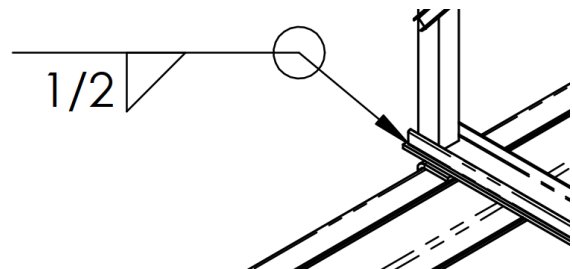
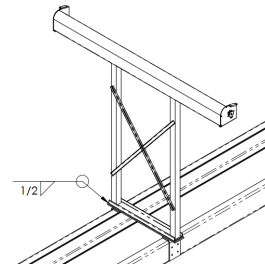


Figure 1.6

Alternative: U-Bolt Installation:

If desired, gantry frames can be mounted to the chassis with customer supplied U-bolts. Position the two supplied U-Bolt mounting plates (1) on the top of the chassis frame rails. Lower the gantry frame onto the U-Bolt mounting plates and center between the 4 holes. Install two u-bolts (3) on each side and fasten with grade 8 flat washers (4) and nylon locknuts (5) as shown in Figure 1.7.

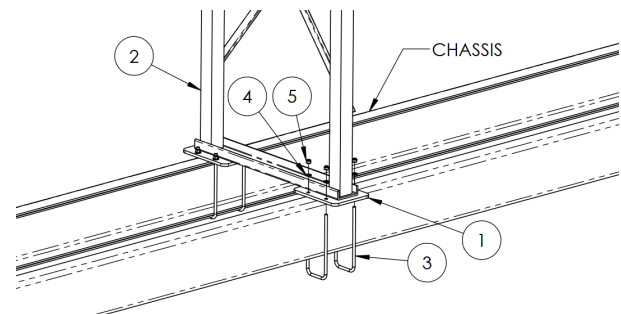


Figure 1.7

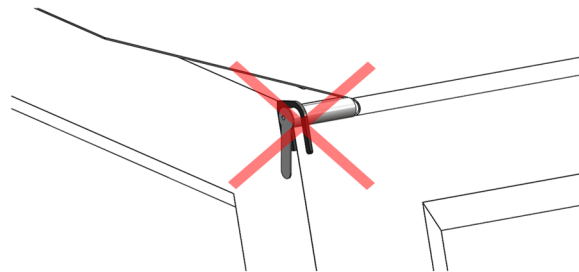
Align gantry frame for squareness and ensure minimum distance of 4" between truck cab and all other components (Figure 1.1) before fully tightening fasteners.

STEP 2: OPTIONAL ARM KIT



NOTICE

Pull bar handles, tarp guides, and J-hooks are not used when optional arm kit is installed.



Finding the Arm 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 end at the rear landing spot of the tarp pull bar as shown (Figure 2.1). Clamp in place.

NOTICE

2 PERSON OPERATION

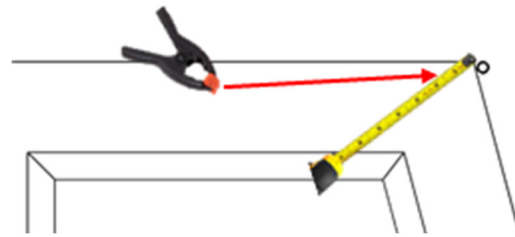
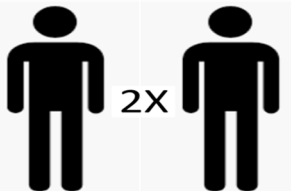


Figure 2.1

Position the second tape measure at the front of the dump box near the tarp housing as shown (Figure 2.2). Clamp in place.

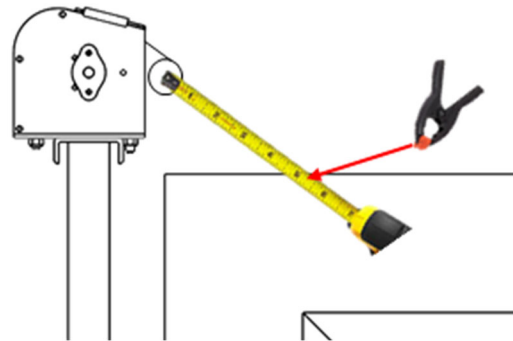


Figure 2.2

To find the pivot point, extend both tape measures as shown in Figure 2.3.

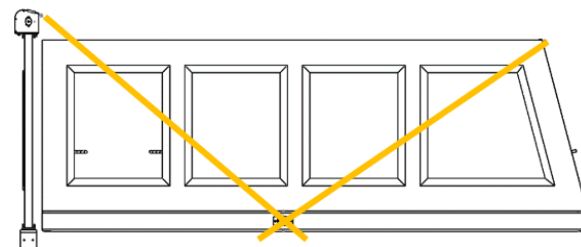


Figure 2.3

Find the point where the measurements match **and** the tape measures cross at the desired pin mounting height as shown in Figure 2.4. (Typically, desired position is the vertical center point of the chassis 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.

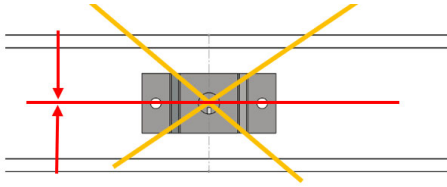


Figure 2.4

Align the pivot bracket with the mark, and center it vertically. Verify the distance from the rear of the chassis is equal on both sides of the truck as a double-check. The pivot brackets must be mounted to the truck with the spring slot (Figure 2.8) facing down.

On frame mounted installations when truck and trailer frames are narrower than the dump box, pivot extensions must be installed (Figure 2.5).

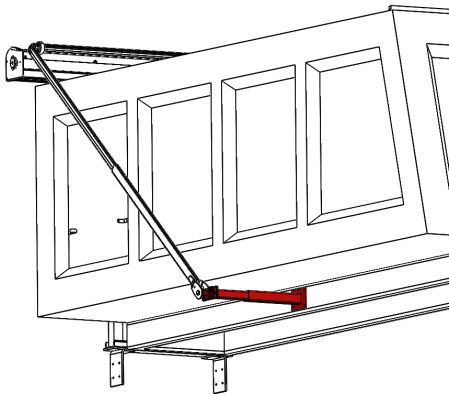


Figure 2.5

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 2.6). Weld all the way around extension joint.

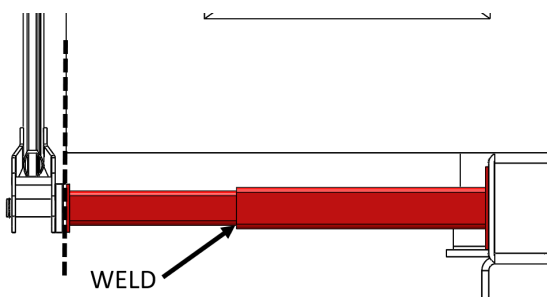


Figure 2.6

Installing the Arms:

The torsion springs are designed with a tab which is inserted into the pivot pin slot. (Figure 2.7)

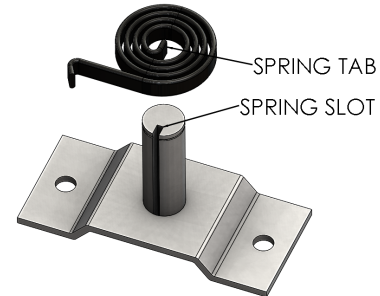


Figure 2.7

install bushing/flat washer (1) over pivot pion. Slide bottom of the arm (2) over the pivot pin and install springs (3) one at a time as shown (Figure 2.8).

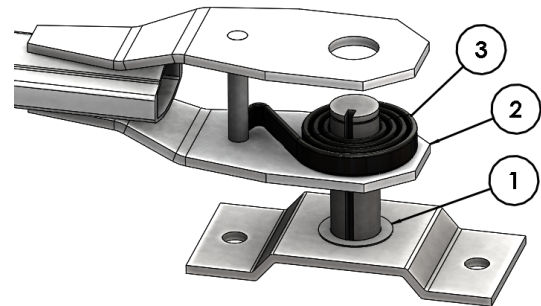


Figure 2.8

Continue installing remaining springs (3), then flat washer (1), and secure with snap ring (4) as shown in Figure 2.9. Repeat procedure for opposite side of dump box.

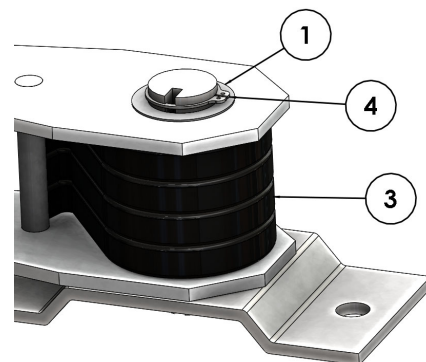


Figure 2.9

Insert arm extensions (1) into lower arms (2). Install set screws (3), but do not tighten (Figure 2.10).

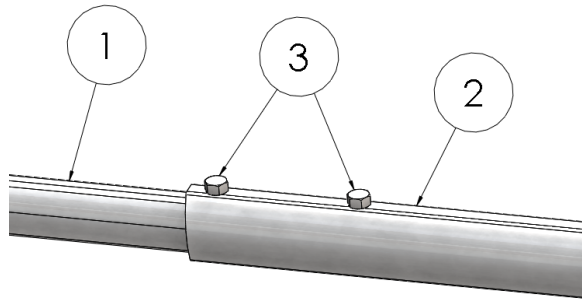


Figure 2.10

Slide one tarp centering flange (1) onto the top crossbar (2). Slide the pocket end of the tarp over the top crossbar. Slide the 2nd tarp centering flange onto the crossbar. Slide top crossbar (2) and side arm (3) over solid corner bracket (4). Secure with supplied bolts (5) and nuts (6). Repeat for opposite side. Top crossbar (2) may need to be cut to length to ensure both side arms are vertically aligned with sides of dump box. Position top crossbar at its resting position at the rear of the dump box. Ensure both sides are at rest in the proper position, and the bar is aligned evenly with the rear of the tailgate. Tighten set screws (3) on both sides (Figure 2.11).

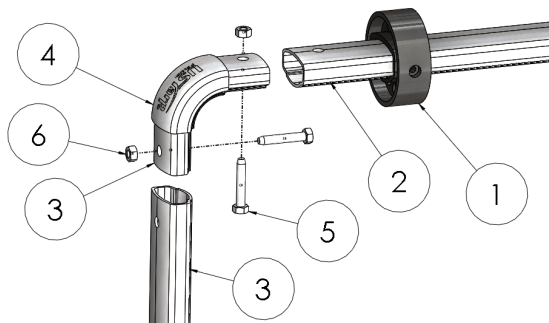


Figure 2.11

STEP 3: INSTALLING THE TARP

CAUTION

TARP AXLE IS PRELOADED WITH SPRING TENSION. USE CAUTION WHEN RELEASING SPRING LOCK MECHANISM PRIOR TO WINDING TARP. KEEP HANDS AND LOOSE CLOTHING CLEAR TO AVOID ENTANGLEMENT.

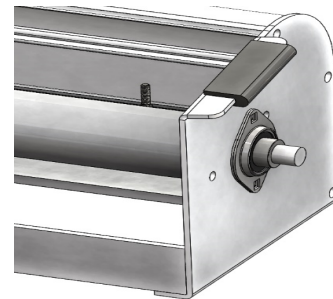


Figure 3.1

Install tarp and tarp axle in housing with supplied hardware (Figure 3.1).

Attach Tarp to Tarp Axle:

Count grommets on tarp and insert equal number of carriage bolts (2) in tarp axle track (1) as shown in Figure 3.2.

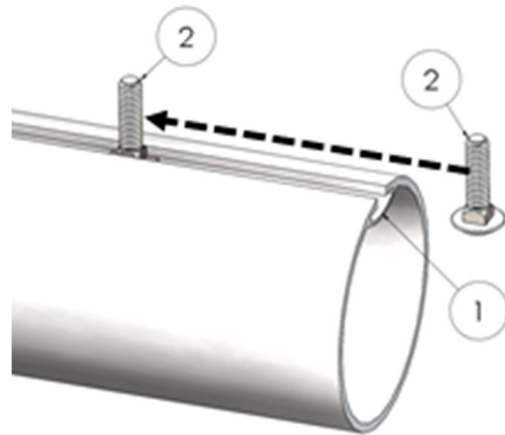


Figure 3.2

Align tarp grommets with carriage bolts (2). Center tarp on axle. Install fender washers (3) and nylon lock nuts (4) as shown in Figure 3.3.

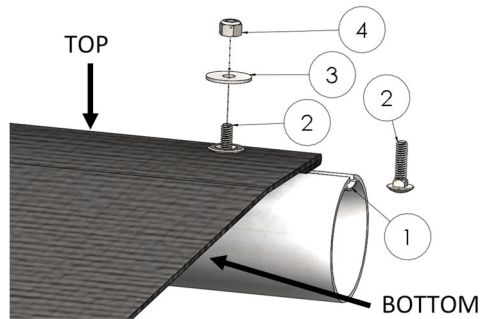


Figure 3.3

Install rear pull bar as shown in Figure 3.4. Slide rear pull bar (1) into end loop on tarp (2). Slide plastic pull bar handles (3) onto each end of rear pull bar. Install metal tarp guides (4) onto each end of plastic pull bar handles using supplied hardware (5).

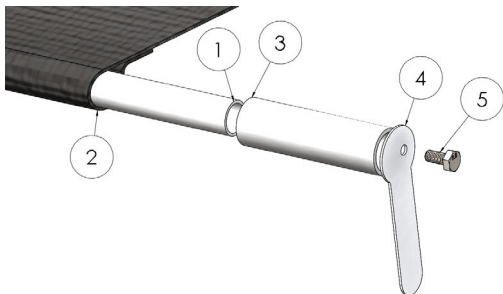


Figure 3.4

Feed the rope through the #4 grommet in the center section of the tarp and tie securely around rear pull bar (Figure 3.5).



Figure 3.5

Winding the tarp onto the tarp axle:

While holding tension on tarp, release spring locking mechanism on tarp axle. Slowly allow tarp to wind onto tarp axle. Keep tarp centered.

NOTICE

WINDING DIRECTION: Install tarp as shown to ensure over-the-top winding. Installing tarp to wind under the tarp axle will cause debris to build up.

BOTTOM

TOP

STEP 4: ATTACHING J-HOOKS & TARP SECUREMENT BRACKETS

Bolt or weld front J-Hooks (1) as shown on driver's side of dump bed near front (Figure 2.1).

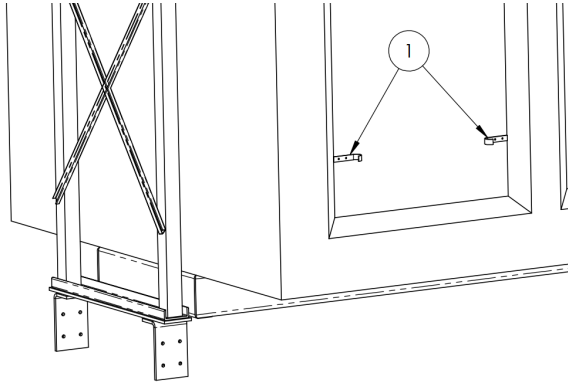


Figure 4.1

Bolt or weld rear J-Hooks (2) as shown (Figure 4.2) centered on rear tailgate.

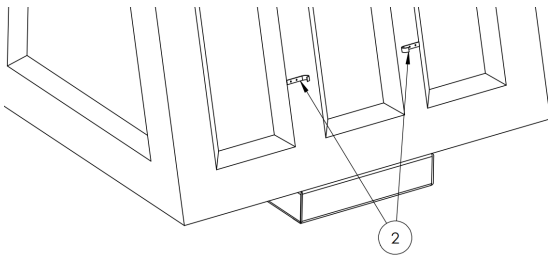


Figure 4.2

Bolt or weld two supplied rear tarp securement brackets (1) on top rear corner of dump bed as shown in Figure 4.3.

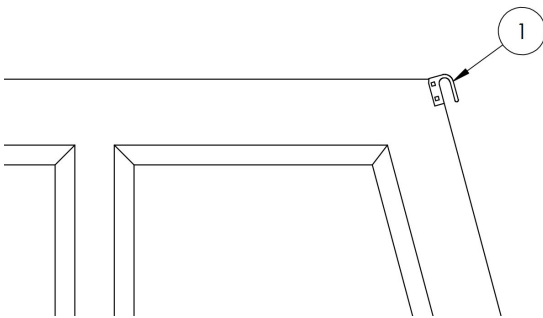


Figure 4.3

STEP 5: INSTALLING ELECTRIC MOTOR

When adding the optional arm kit to a tarp system, an electric motor is required (Figure 5.1). The tarp motor comes pre-installed by US Tarp.

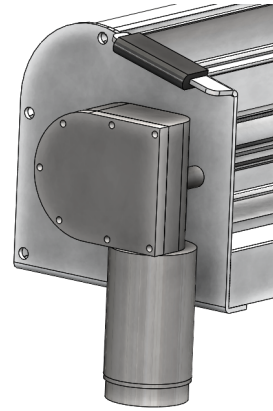


Figure 5.1

The tarp axle used with electric motors features several options for attaching various styles of tarp as shown in Figure 5.2.

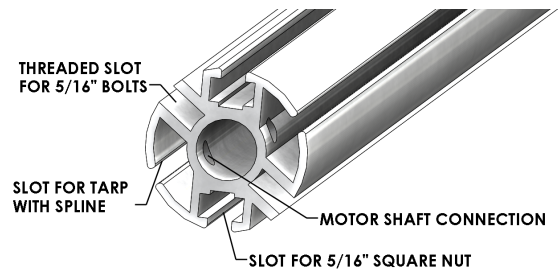


Figure 5.2

To install the electric motor, insert motor shaft (1) into center hole and align 3 mounting bolt holes. Secure motor (2) to end plate with (QTY 3) M8 x 1.25, 20mm class 8.8 bolts (3). (Figure 5.3)

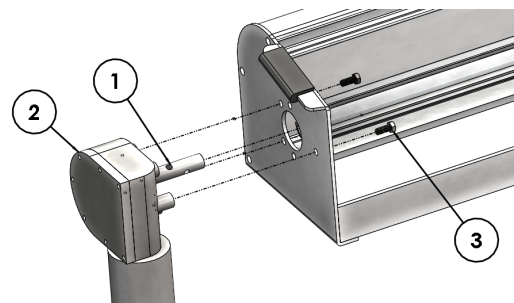


Figure 5.3

Rotate tarp axle (2) to align mounting hole on motor shaft (1) as shown in cut-away view (Figure 5.4). Drill 5/16" diameter hole through tarp axle in alignment with motor shaft hole. Insert 5/16-18 x 2.75" long hex bolt (3) and 5/16" flat washer (5) through tarp axle and motor shaft. Secure with grade 5 5/16-18 nylock hex nut (4) and 5/16 flat washer (5).

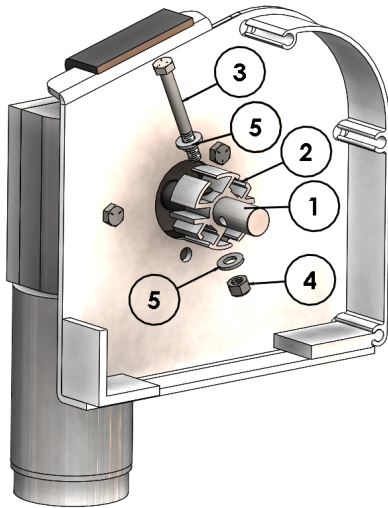




Figure 5.4

Wiring Instructions:

 <b style="font-size: 1.2em;">WARNING	
<p>ELECTRICAL SHOCK HAZARD. AUTHORIZED PERSONNEL ONLY. TURN OFF POWER SUPPLYING THIS EQUIPMENT BEFORE PERFORMING THE FOLLOWING STEPS.</p>	

Disconnect battery prior to installing electrical equipment. Always disconnect battery (-) negative terminal first, then disconnect battery (+) positive cable.

All single and two stage gantries come pre-wired from the factory, equipped with a control box, wire leads to connect to battery, and manual reset breaker. The following information is for informational and troubleshooting purposes.

Mount the 12VDC relay and the 50 AMP automatic circuit breaker in an accessible location using the mounting holes on the relay module. Be sure that

the relay and circuit breaker are fully protected from falling debris and road spray.

NOTICE

All single and two stage gantries come pre-wired from the factory, equipped with a control box, wire leads to connect to battery, and an 80A or 250A manual reset breaker. The following information is for informational and troubleshooting purposes.

Note: The supplied 80A or 250A manual reset breaker must be installed on the wire leads that connect to the battery to protect the motor.

The motor reversing relay and tarp switch are labeled with identification markings (Figure 5.6). Connect tarp-out cable to M3 terminal on 12VDC relay, and to one of the terminals on tarp motor. Connect tarp-wind cable to M1 terminal on relay and to the other terminal on the tarp motor (Figure 5.5).

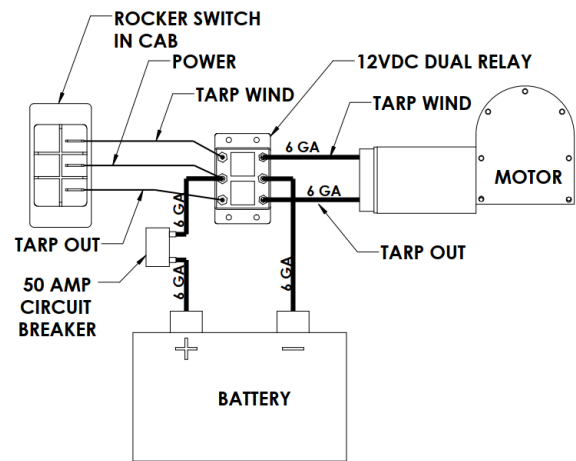




Figure 5.5

Run 18ga wires for "Tarp Wind", "Power", and "Tarp Out" from relay to switch in cab. Use #8 crimped ring terminals on relay terminals, and 1/4" crimped spade connectors on switch terminals. Connect tarp-wind wire from T5 to #1 on switch. Connect 12vdc power from T4 to #2 on switch. Connect tarp-out from T6 to #3 on switch. (Figure 5.6).

Route these 3 wires together in a 3/8" plastic split loom. Secure to chassis every 12"-24" along the length of the wires, making sure to avoid moving and/or hot components such as driveshafts and exhaust pipes.

Connect 6ga power cable from T4 to 50AMP auto circuit breaker. Connect 6ga power cable from 50AMP auto circuit breaker to battery (+) positive terminal. Connect 6ga cable from T2 to battery (-) negative terminal.

 WARNING	
ELECTRICAL SHOCK HAZARD. AUTHORIZED PERSONNEL ONLY. TURN OFF POWER SUPPLYING THIS EQUIPMENT BEFORE PERFORMING THE FOLLOWING STEPS.	

Always connect battery (+) positive cable first, then connect battery (-) negative cable.

Operate tarp system and verify correct switch function. If tarp wind and unwind functions are backwards, wires on the tarp motor must be switched.

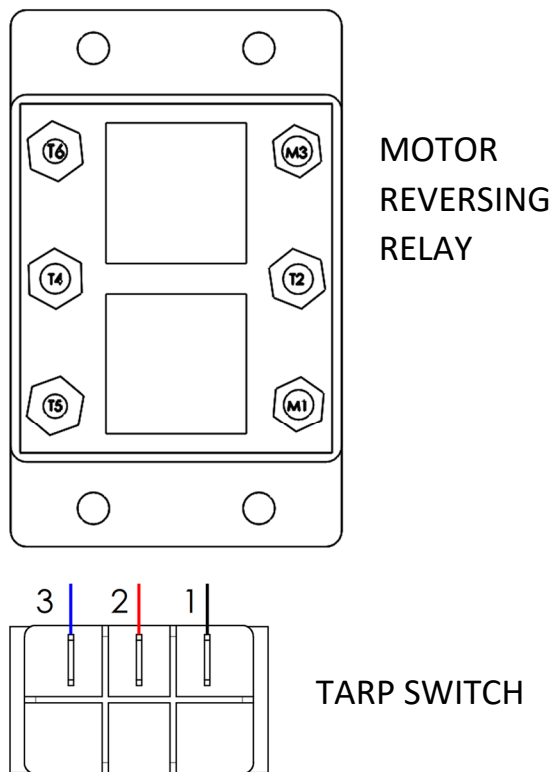


Figure 5.6

Additional wiring details are provided in the schematic shown in Appendix A.

