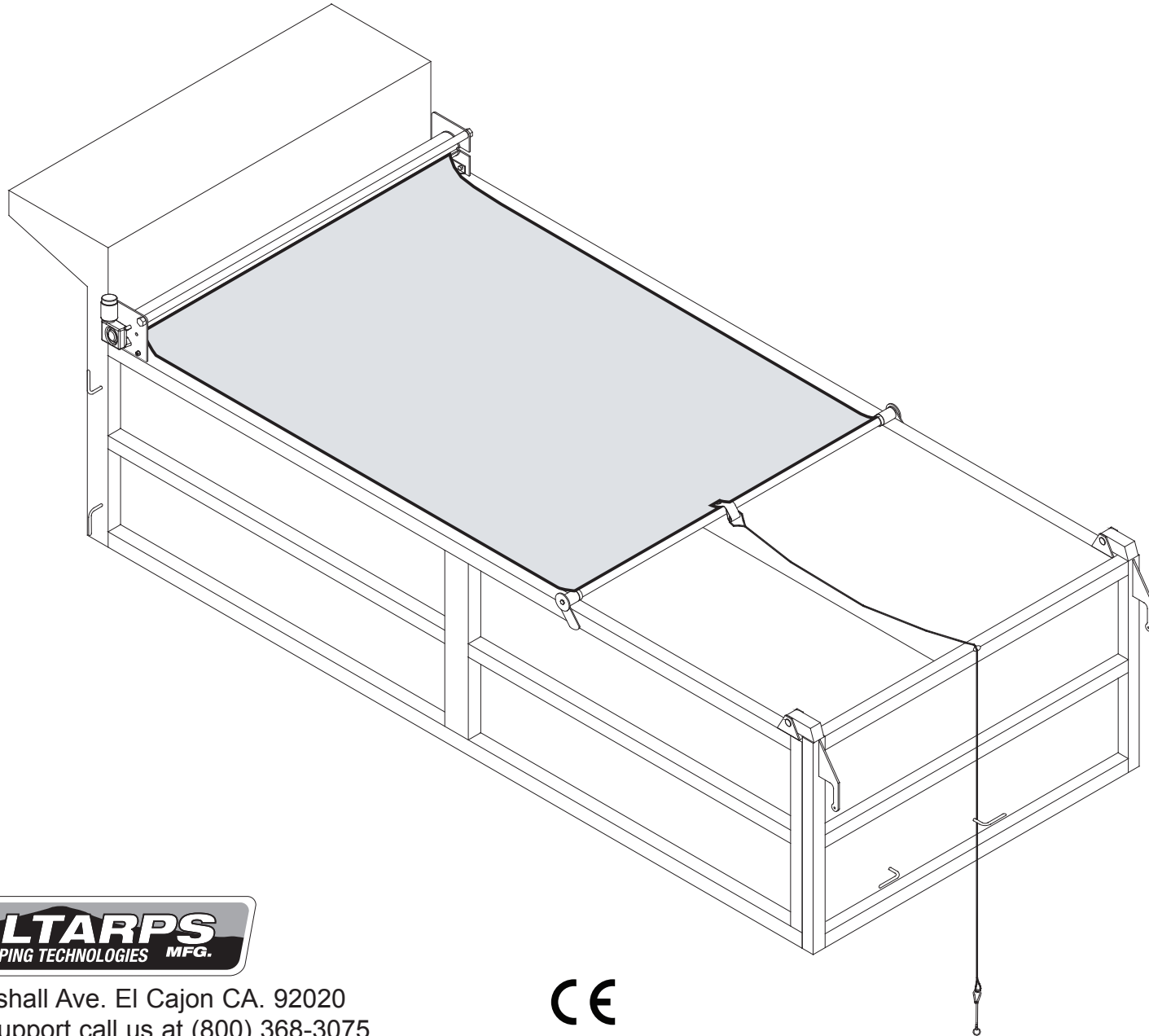


# 110-0215 - 9" Open System w/ Electric Drive & ED Conversion Kit

## Installation Instructions



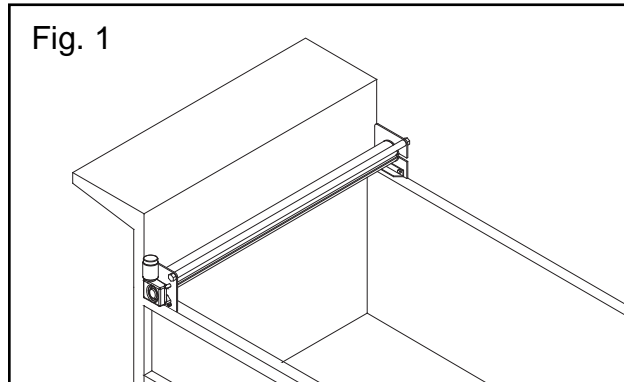
1404 N. Marshall Ave. El Cajon CA. 92020  
For technical support call us at (800) 368-3075

CE  
607-0043

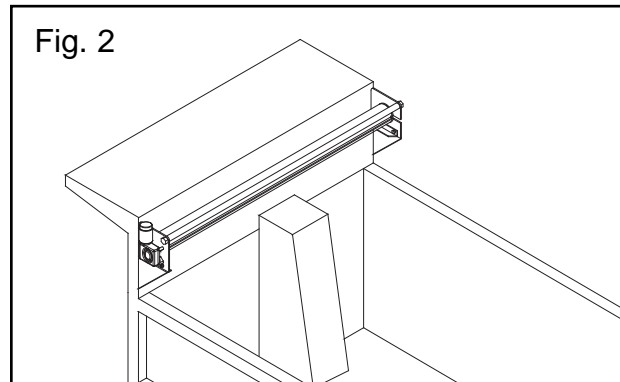
NB 3/15/10

## Step 1. Mounting Positions

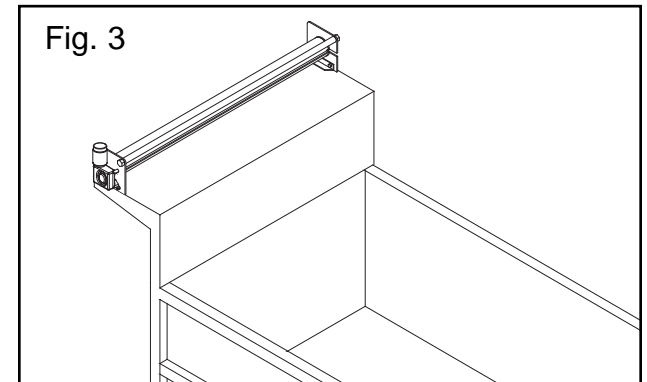
Determine the mounting position for your truck Fig. 1 - Fig. 6.



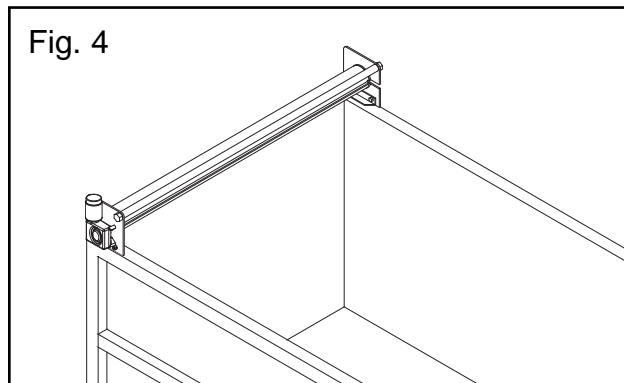
"A" Mount Top Or Bottom Roll



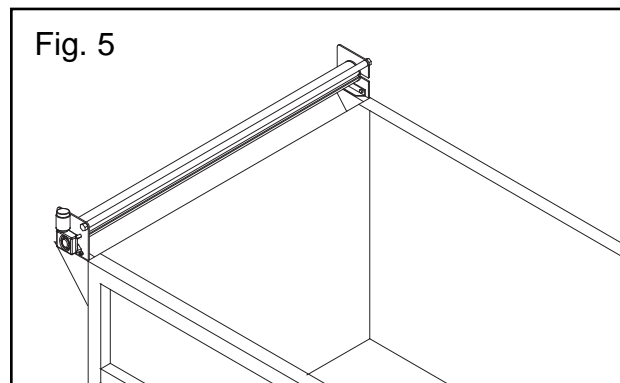
"B" Mount Top Or Bottom Roll



"C" Mount Top Or Bottom Roll



"D" Mount Top Or Bottom Roll



"E" Mount Top Or Bottom Roll

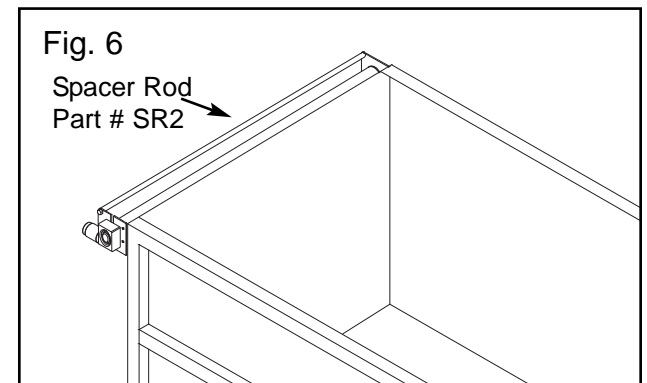
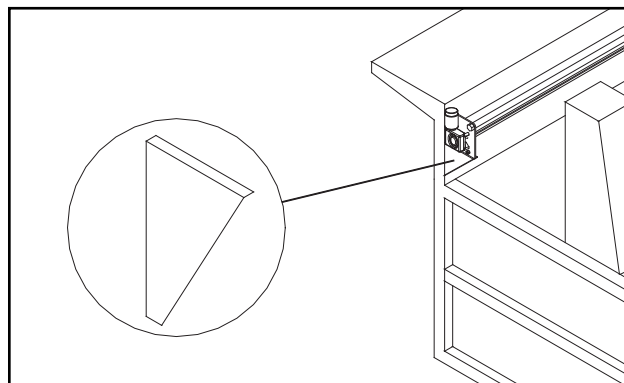


Fig. 6

Spacer Rod  
Part # SR2

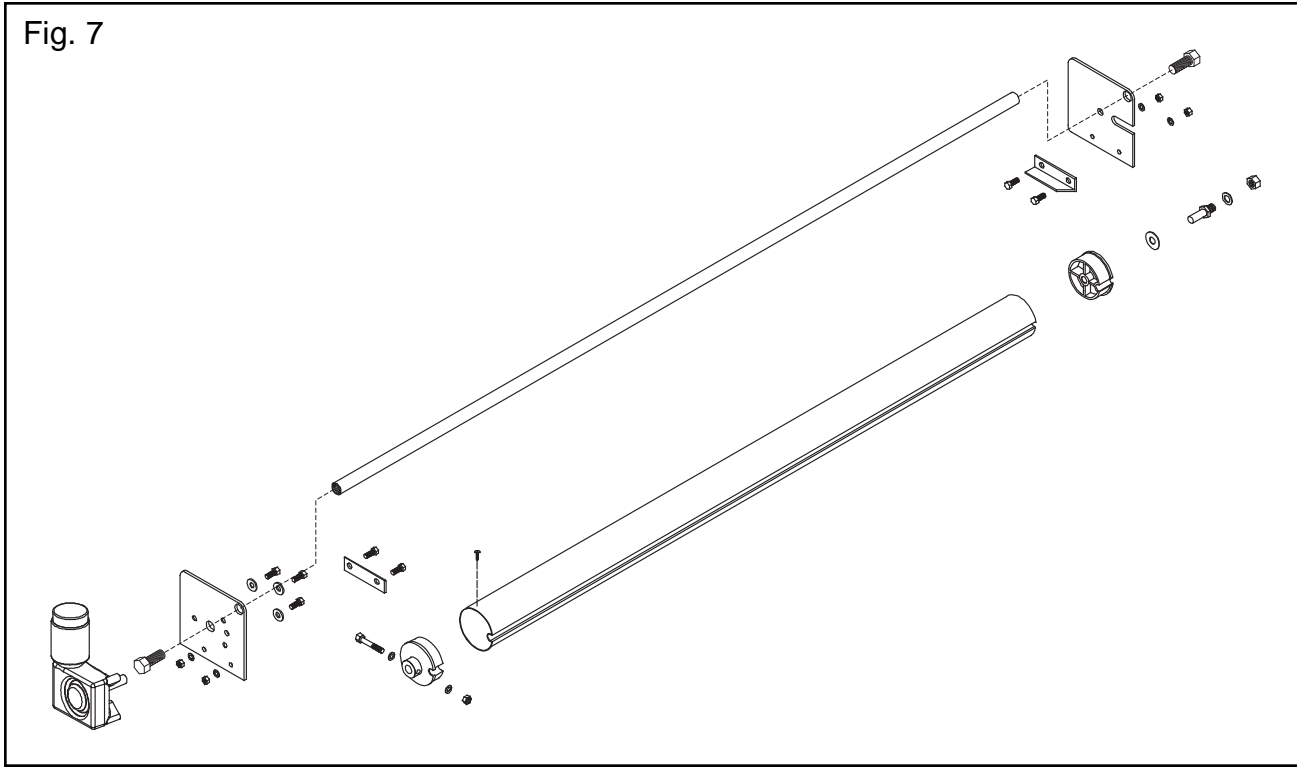
"G" Mount Top Roll Only

NOTE: All systems that roll off the top require spacer rod shown above.



"B" Brackets

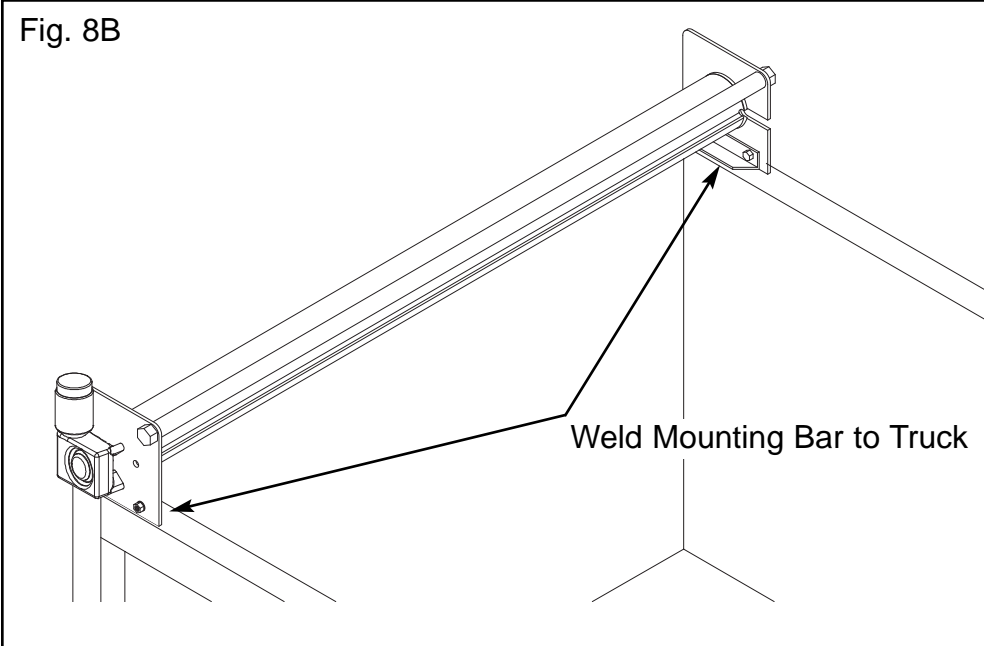
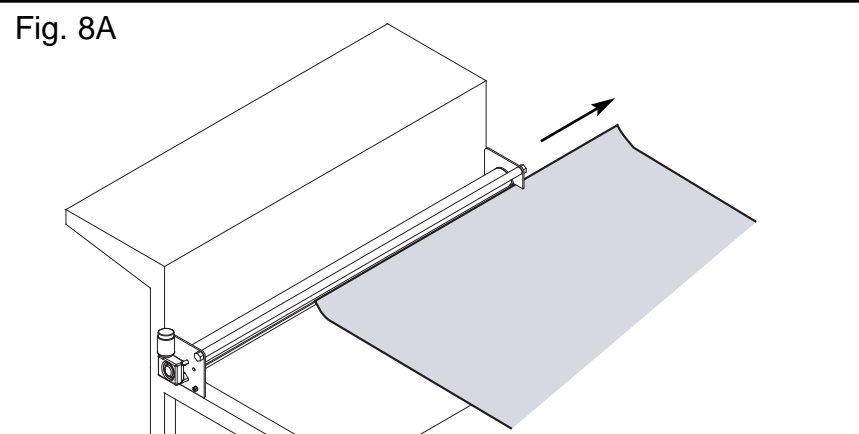
NOTE: Use optional "B" Brackets when mounting in position "B" and "E".



System Assembly Fig. 7

**Step 2B. Weld System To Truck**  
 Weld system mounting bar to truck as shown in Fig. 2.

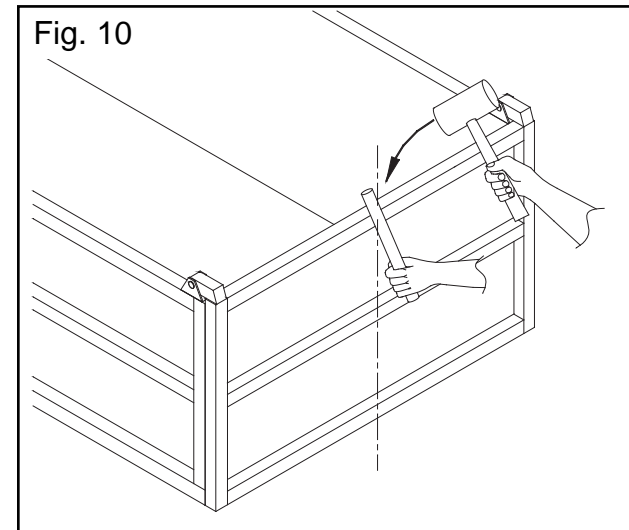
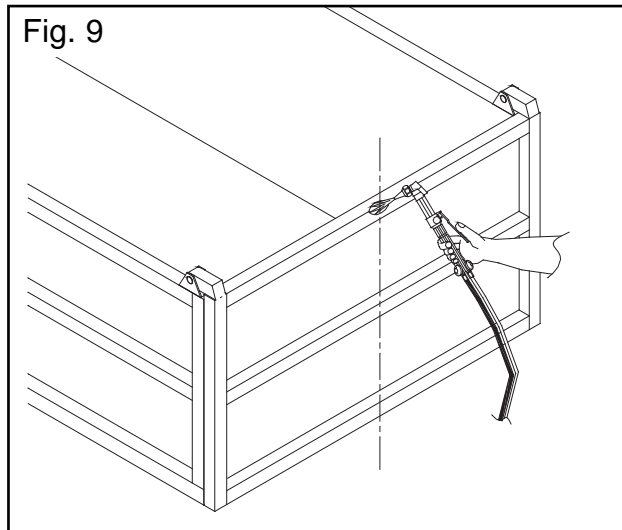
**Step 2A. Remove Tarp Before Welding**  
 \*Before welding remove tarp to avoid damage (Fig. 8A)\*  
 To remove tarp slide the tarp out of the slotted end of the housing and remove from work area.



### Step 3. Dimple Tailgate for Rope Guide

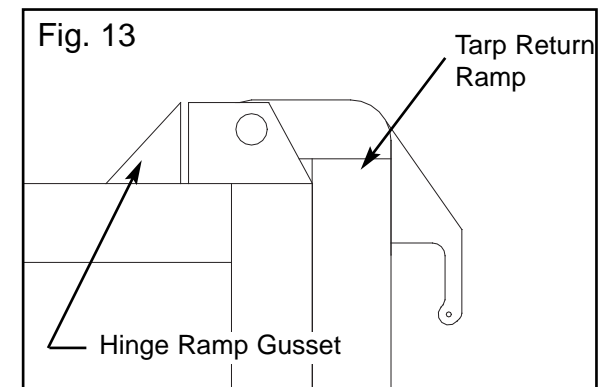
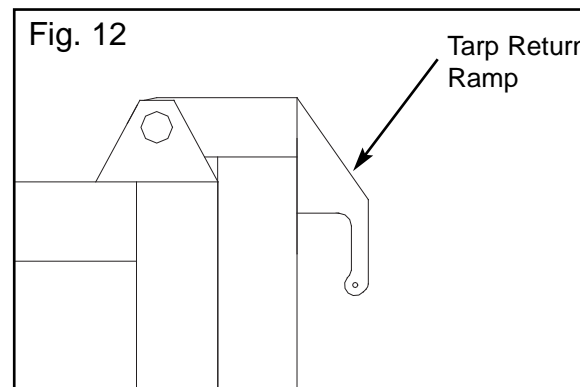
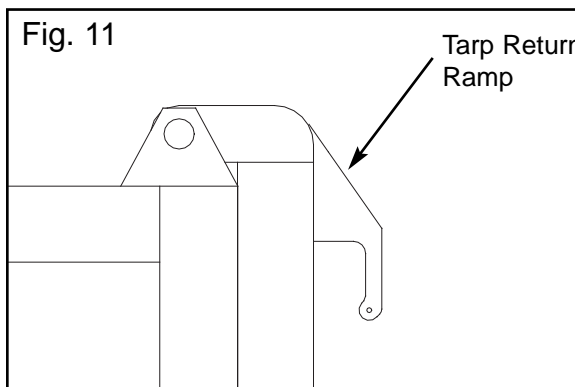
Check the top of the tailgate where your tarp goes over for any obstructions that may interfere with the tarp laying flat all the way across the tailgate area.

**WARNING: Sharp Edges May Cut Tarp.** Measure tailgate to find center and mark. Heat at mark with torch until area is red hot. Use a 3/4" diameter solid bar and lay it on the spot and strike it a few times. A smooth indentation should be left that will keep the rope centered. (Fig.9) & (Fig.10)



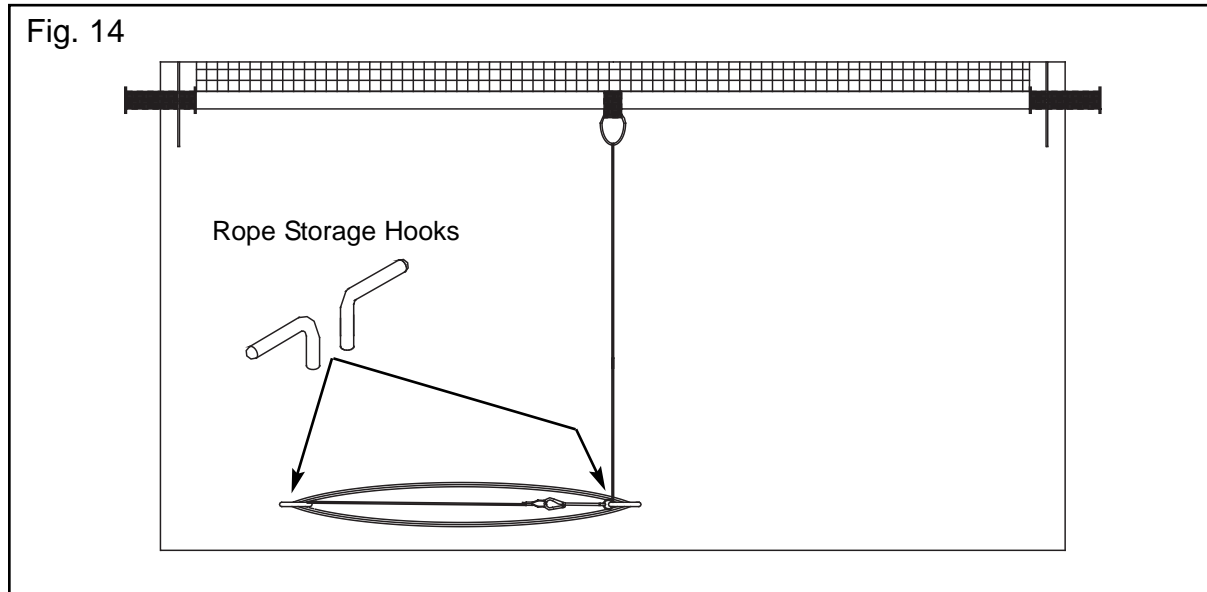
### Step 4. Weld on Tarp Return Ramps

The Tarp Return Ramps hold the pullrod in place once the tarp has been deployed. The ramps should be welded as high as possible. See (Fig.11 & Fig.12 for your application). Make sure all rough edges are ground smooth. If you have a raised hinge you will need to add a Hinged Ramp Gusset (NOT SUPPLIED) see (Fig.13).

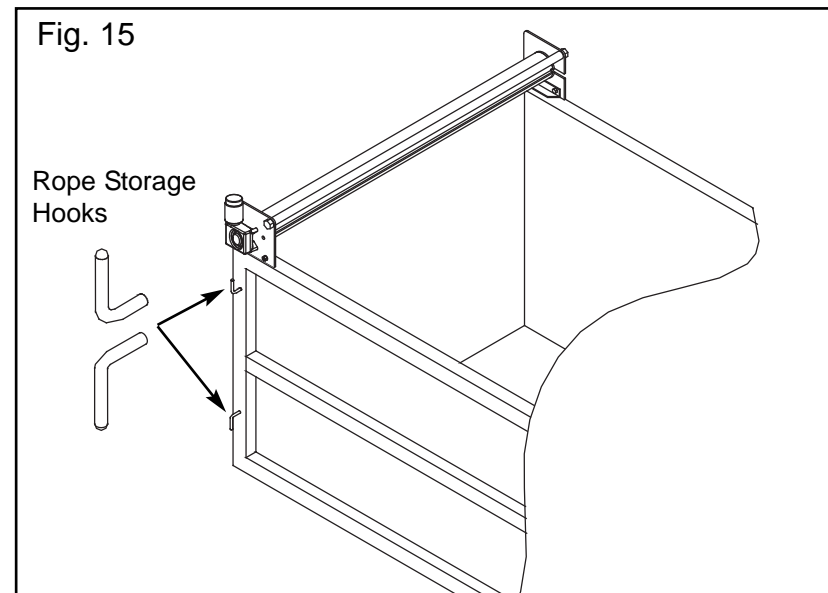


### Step 5. Rope Storage Hook Installation

Mount the rope as low as possible. The rope should come straight down and wrap around the center hook and then coil off to the side (Fig.14).When tarp is not in use, space the hooks far enough apart to store the full length of rope (Fig.15).



**Note: Tarp must be retracted when dumping.**



## Special Instructions for ED Electric Drive Conversion Conversion Kit to add electric Arm System to existing housing

### Step 1. Removing the Tarp

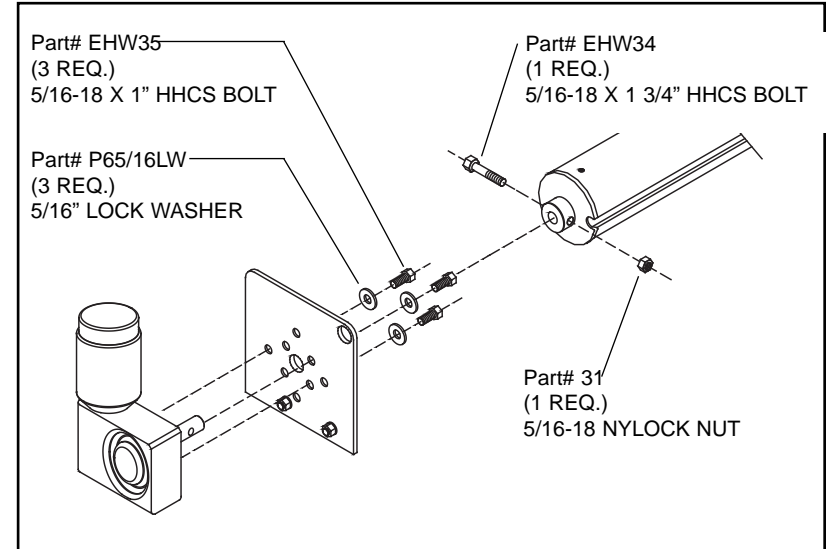
To remove tarp slide the tarp out of the slotted end of the housing and remove from work area (Fig. 16)

### Step 2. Remove the Roller Tube

Unthread Roller Tube from end plate and remove (Fig. 17).

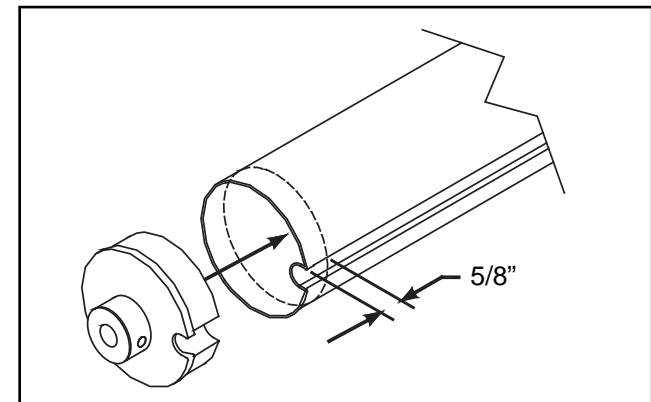
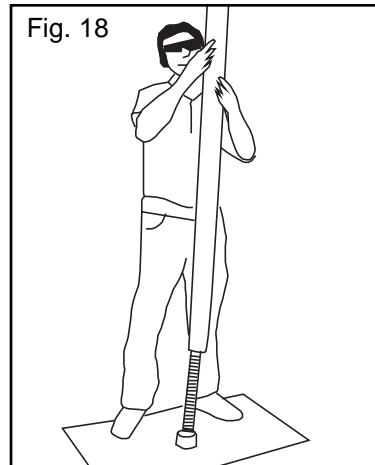
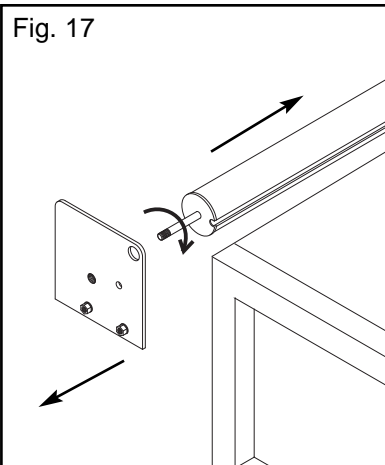
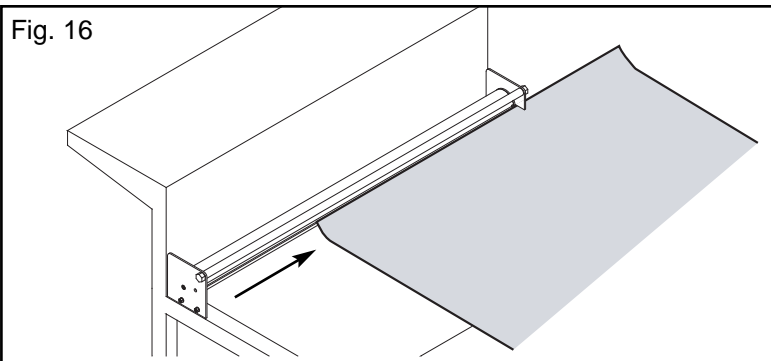
### Step 3. Removing the Spring Assembly

- A. Place a piece of cardboard on the ground and hold the roller assembly vertically, with the ratchet assembly towards the ground.
- B. Shake the roller assembly up and down above the cardboard to pop the end cap and spring assembly free from the roller tube (Fig. 18). The cardboard is to protect the end of the spring shaft when it breaks free.



### Open System


Install motor as shown above




### NOTE:

Before installing the Roller End Cap the Roller Tube may need to be cut to an additional 5/8" for the Roller Tube to fit into the housing properly (see page 8).

## Step 6. Optional Tie Down Tarp, Rope and Hook Installation

Parts: Tie Down Hooks (Steel or Alum.) 

Pull Down Hook 

The Location Of The Tie Down Hooks Is Critical !

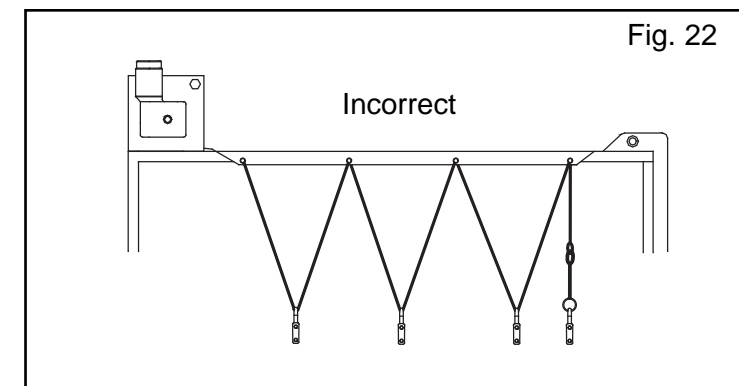
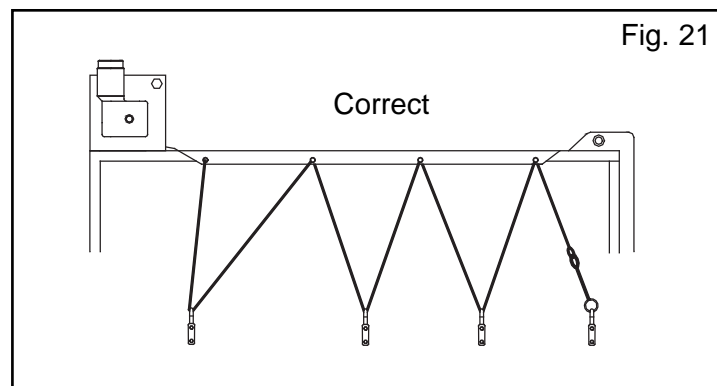
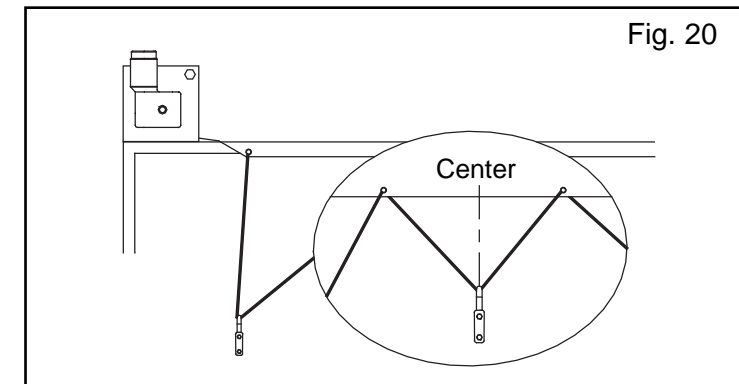
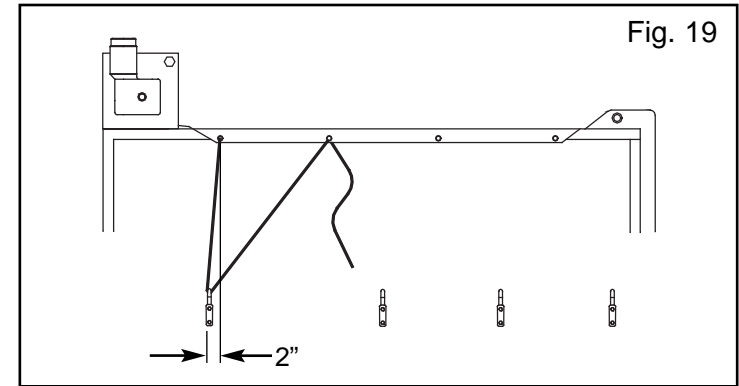
Flip the braided rope over the corner so that the rope and tie down flaps hang over each side of the box. The number of tie down hooks vary depending on the length of your tarp. One pull down hook is included with your Pulltarp system. If needed. Use the hook to pull the braided rope and tie down flap over the side of the box.

The tie down hooks must be positioned so that:

- The tie down rope can be reached from the ground.
- The bungee cord has to be stretched to reach the last hook (see step 8).
- The rope has no slack.
- The tie down hooks are level with one another.

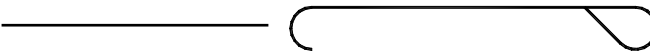
To ensure proper hook placement, first duct tape the rope to the box in place of the tie down hooks. Start with hook closest to the cab.

- Position the first hook 2" (5.08cm) forward of first tie down (Fig.19).
- Position middle hook between tie downs (Fig.20).
- Position last hook at the end of the box (Fig.21).
- Weld hooks in place level with one another.



## Step 7. Optional Flap Tarp, Rope and Hook Installation

Parts: Tie Down Hooks (Steel or Alum.) 

Pull Down Hook 

### The Location Of The Tie Down Hooks Is Critical !

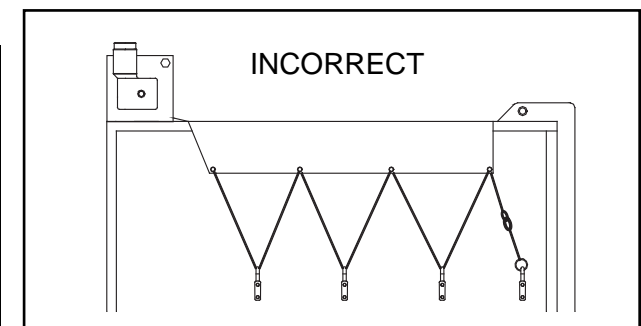
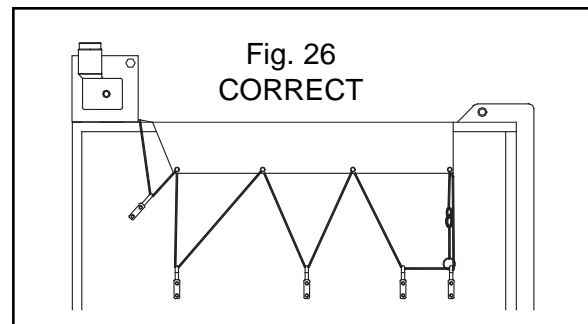
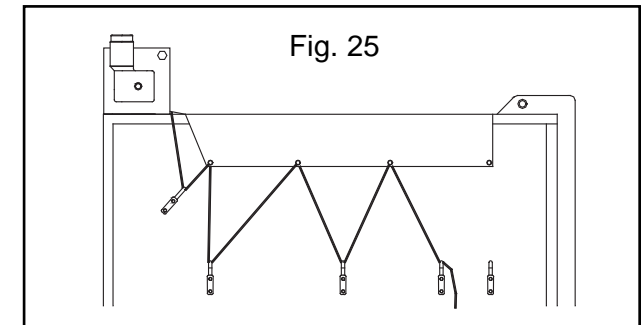
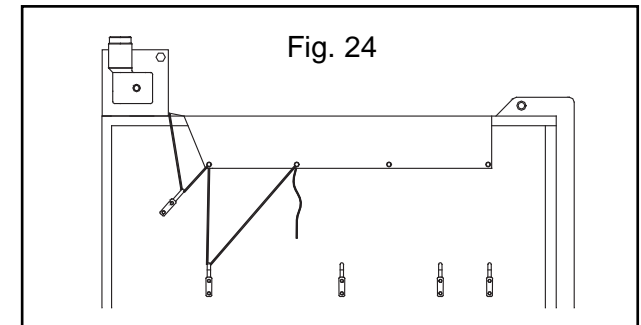
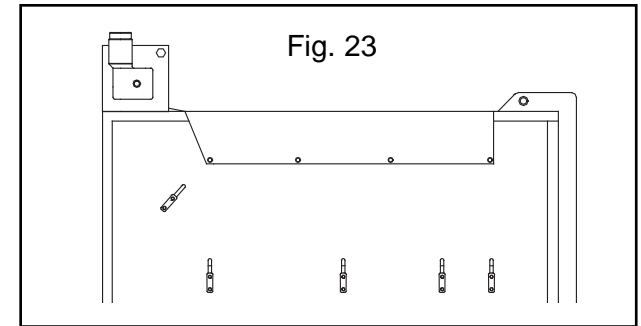
Flip the braided rope over the corner so that the flaps and tie down ropes hang over each side of the box. The number of tie down hooks vary depending on the length of your tarp. One pull down hook is included with your Pulltarp system. If needed. Use the hook to pull the braided rope and tie down flap over the side of the box.

### The tie down hooks must be positioned so that:

- The tie down rope can be reached from the ground.
- The bungee cord has to be stretched to reach the last hook (see step 8).
- The rope has no slack.
- The tie down hooks are level with one another.

### To ensure proper hook placement, first duct tape the rope to the box in place of the tie down hooks. Start with hook closest to the cab.

- Position the first hook 6" (15.24cm) down and 12" (30.48cm) forward (toward the cab) from the first grommet (Fig.23).
- Position 2nd hook straight down from 1st grommet. This hook should be reached from ground (Fig.24).
- Place middle hooks equal distances from grommet (Fig.25). These hooks should be placed at the same height as the second hook.
- Position last hook (closest to the tailgate) below the last grommet at the same height as the others (Fig.26).
- Weld hooks in place.

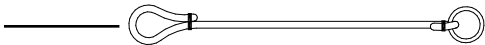






### Step 8. Bungee Cord Installation

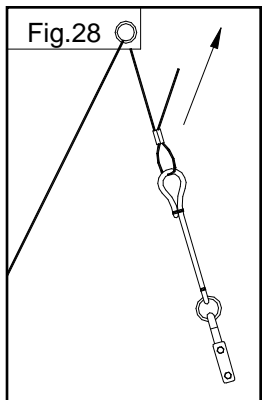
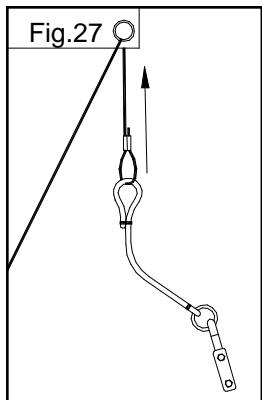
After side hooks are installed, the tie down rope must be installed and cut to proper length. It is important to get all of the slack out of the rope to prevent blowing and rubbing of flaps in windy conditions.

#### Parts:

- 2 Bungee Cords, 
- 2 Oval Compression sleeves, 
- 1 Snap Clip 

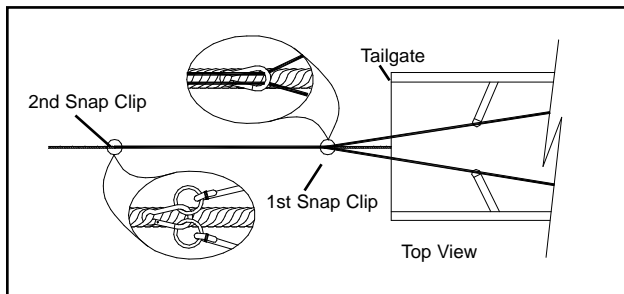
#### Tarps with Tie Downs

To tighten, pull loose end of rope through the Oval Compression Sleeve (Fig.27). Stretch the bungee cord making sure all slack is taken out of the rope, crimp compression sleeve (Fig.28).



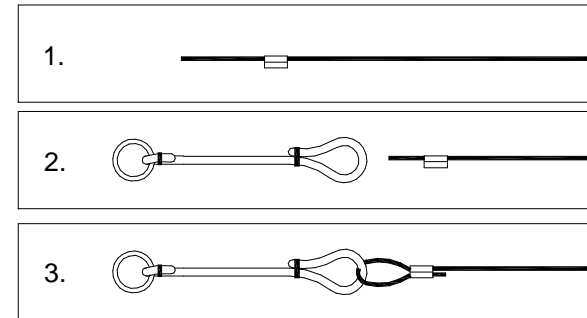
#### Snap Clip installation

Flip the rope back on top of the tarp, making sure to hold the bungee at all times. The first snap clip is factory installed 5'-6" from the pullrod. Open the clip and enclose the rope. Weave the second clip through the main pullrope where the ends of the bungee cords meet the main pullrope. Make sure the rope is taught when clipped. NOTE: First snap clip heel base belly dumps.



### Connect Bungee Cord to Rope

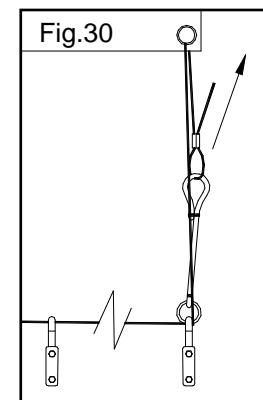
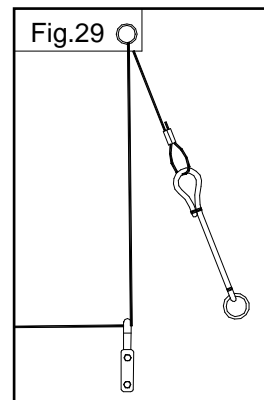
1. Thread braided rope through Oval Compression Sleeve.
2. Feed rope through the eye of the bungee cord.
3. Thread the rope back through the oval compression sleeve. Adjust for proper length. Crimp compression sleeve.



#### Tarps with Side Flaps

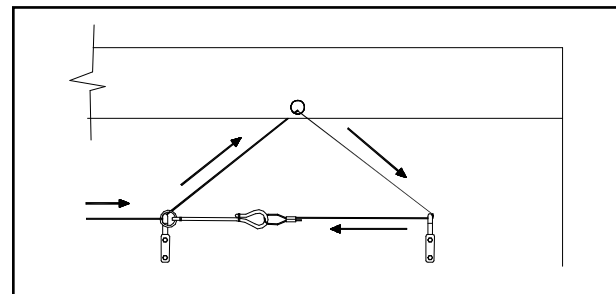
To tighten, pull loose end of rope through the Oval Compression Sleeve (Fig.29). Stretch the bungee cord making sure all slack is taken out of the rope, crimp compression sleeve (Fig.30).

**Note:** Check for proper placement of rope through the last two hooks.



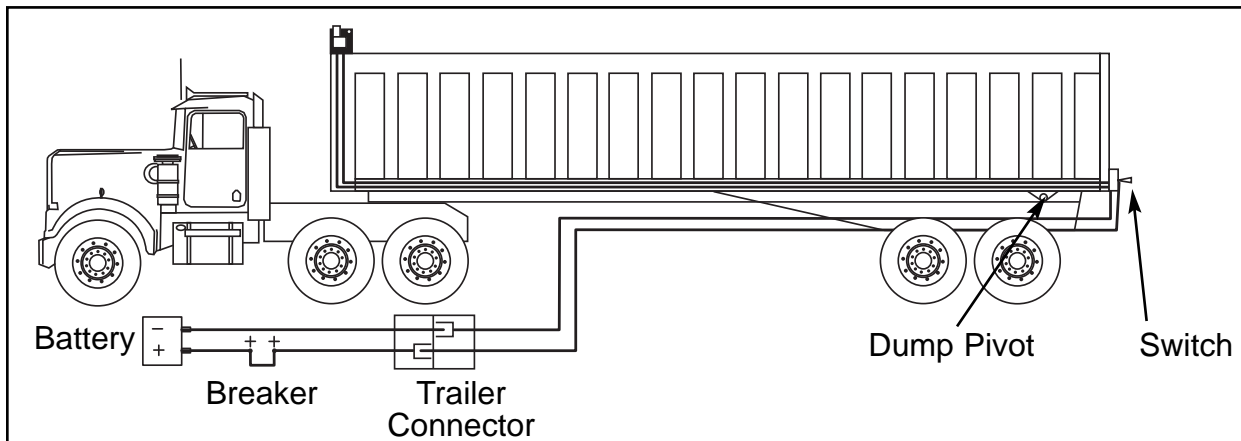
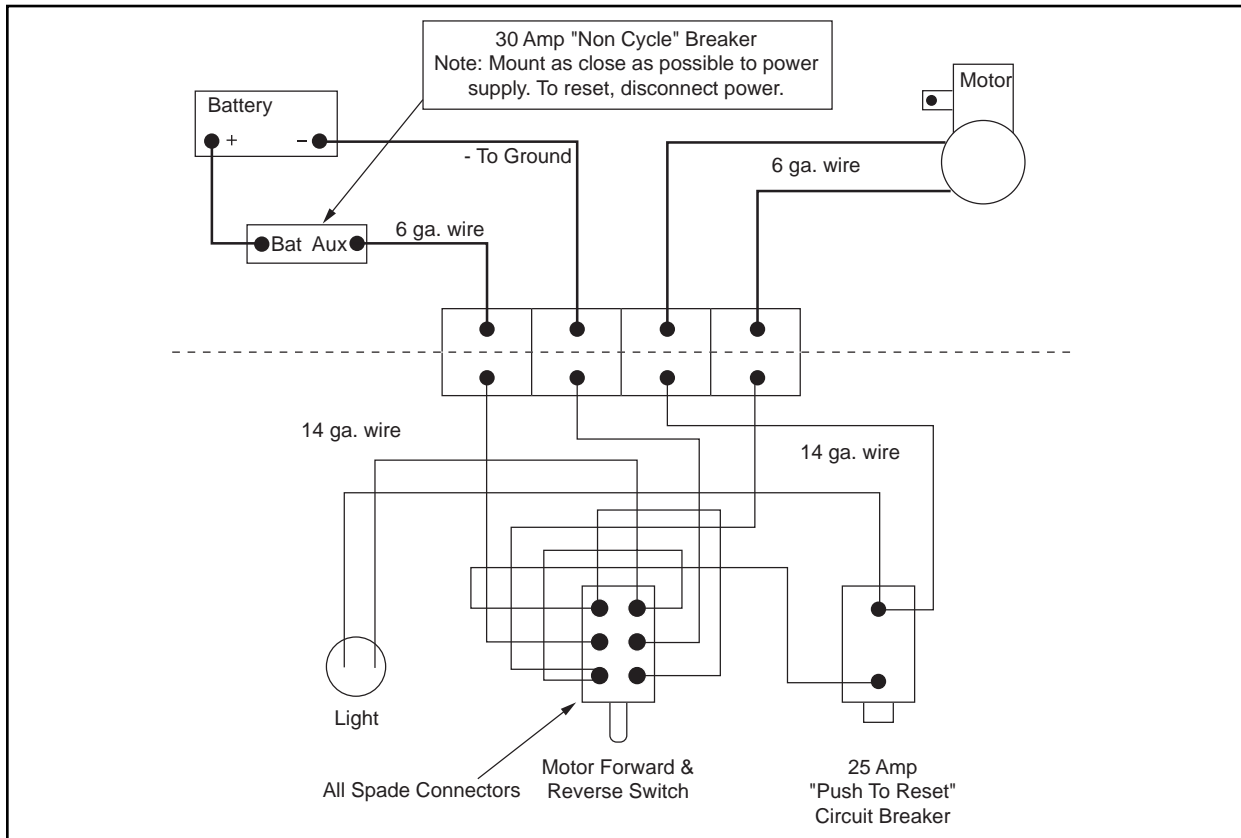
#### Excess Rope

You may need extra rope to keep the side flap system ground operated. If your application requires extra rope, the slack needs to be taken up by attaching the end of the bungee cord to an alternate hook. (pictured below)



### Step 9. Wiring the System

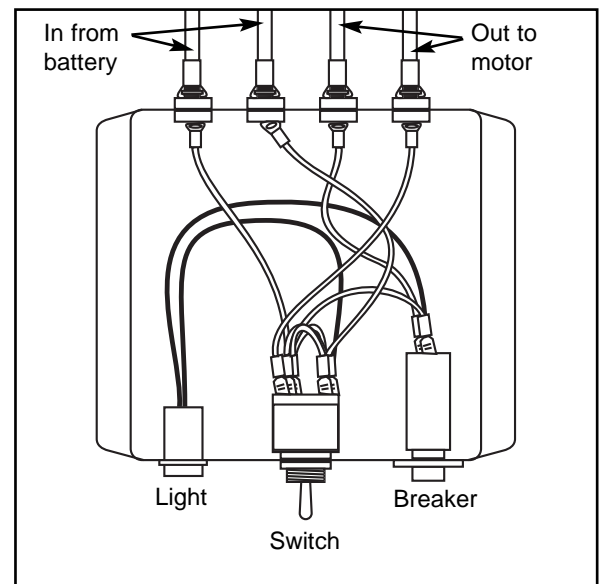
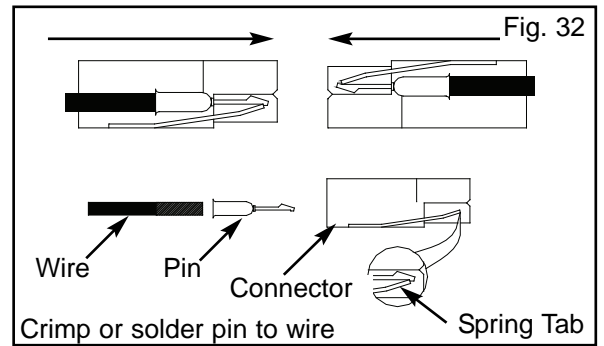
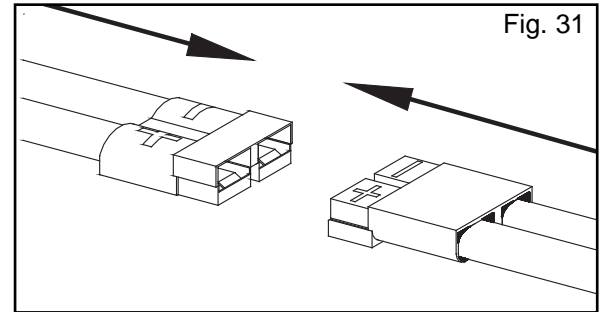
Wire the motor as shown below. Making sure to run the 6 ga. wire beyond the Dump Pivot Point. NOTE: You must connect the 6 gauge wire to the main power supply coming off of the battery. The switch can be wired anywhere along the line ONLY AFTER the breaker.



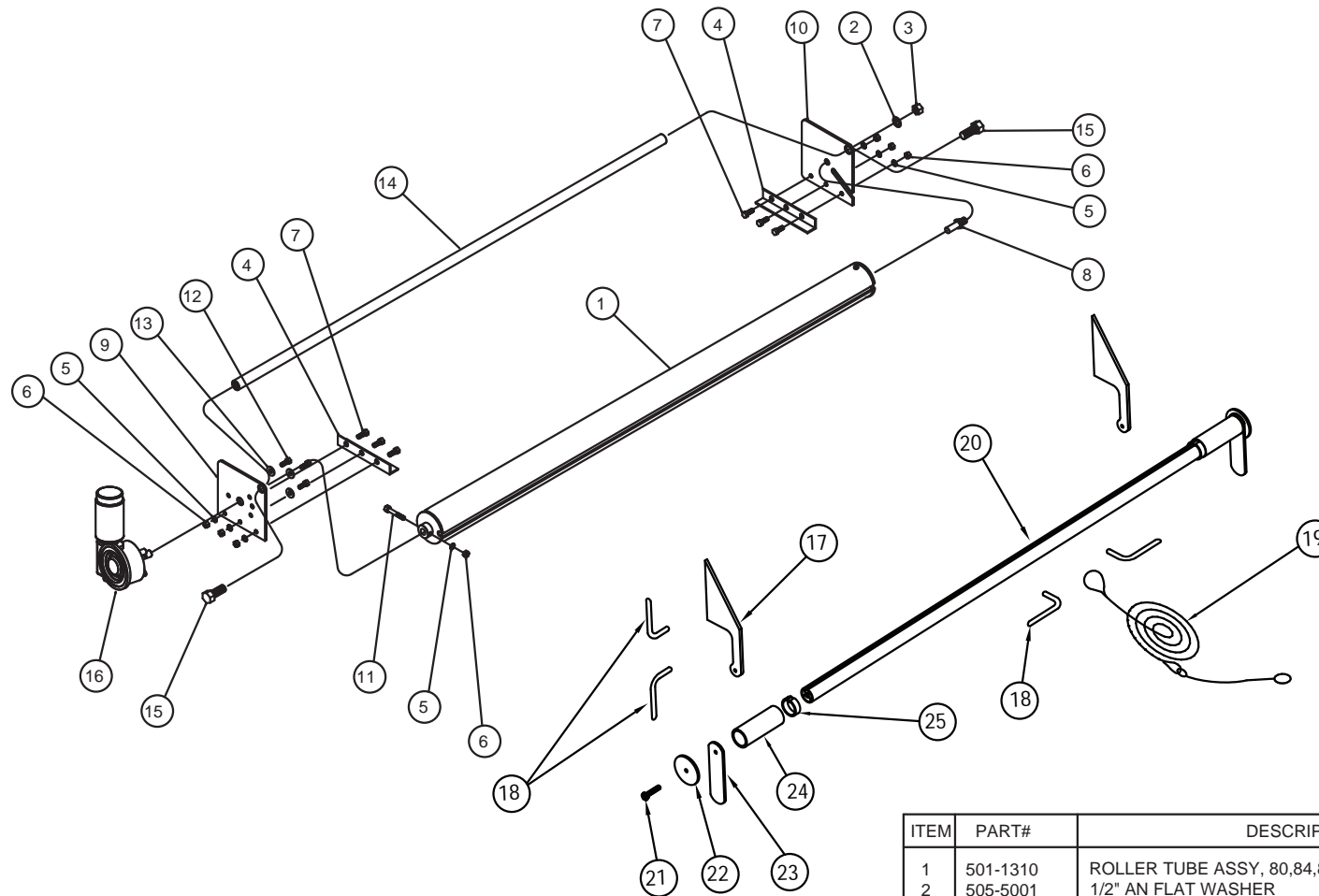
### Step 10. Plug Assembly

Assemble the Quick Disconnect as shown in Fig. 31 & Fig. 32.

Note: Make sure the pin snaps over the end of the spring tab (Fig. 32).



# Housing Assembly for 110-0215 Open System with Electric Drive



## PULLROD HARDWARE

ITEM	PART#	DESCRIPTION	QTY
17	501-0301	TARP RETURN RAMPS (STEEL)	2
	501-0302	TARP RETURN RAMPS (ALUM.)	2
18	501-0643	ROPE STORAGE HOOK (STEEL)	4
	501-0642	ROPE STORAGE HOOK (ALUM.)	4
19	517-10XX	PULL ROPE 20,25,30,35,40,45,50'	1
20	DETERMINED BY LENGTH	PULLROD (85,91,93,96,99,105" LENGTHS)	1
21	506-2502	1/4"-20 x 1"lg. SLOTTED HEX HEAD	2
22	505-0201	PULL ROD WASHER 2 1/2"	2
23	501-0644	TARP GUIDE STEEL 1.5" x 5.5"	2
24	517-0106	1 1/4" GRAY PVC	2
25	501-1410	RELIANCE SLEEVE	2

ITEM	PART#	DESCRIPTION	QTY
1	501-1310	ROLLER TUBE ASSY, 80,84,87,89,93,96,100"lg.	1
2	505-5001	1/2" AN FLAT WASHER	1
3	504-5001	1/2"-13 CRIMP NUT	1
4	501-1526	OPEN SYSTEM MOUNT BRKT.	2
5	505-2502	1/4" FLAT WASHER USS	7
6	504-3103	5/16"-18 NYLOC NUT	7
7	503-3104	5/16"-18 x 3/4"lg. CARRIAGE BOLT	6
8	501-0801	SYSTEM END PLATE STUD 2.4"	1
9	501-0221	9" OPEN END PLATE, ELECTRIC (DRVR.)	1
10	501-0220	9" OPEN END PLATE, (PASS.)	1
11	503-3108	5/16"-18 x 1 3/4"lg. HHCS BOLT	1
12	503-3103	5/16"-18 x 3/4"lg. HHCS BOLT	3
13	505-3102	5/16" LOCK WASHER	3
14	501-9902	SPACER ROD 7/8"	1
15	503-7501	3/4"-10 x 1"lg. HHCS BOLT	2
16	517-0906	12V DC ELECTRIC MOTOR	1
	514-0201	6 GA. ELECTRIC WIRE	100'