



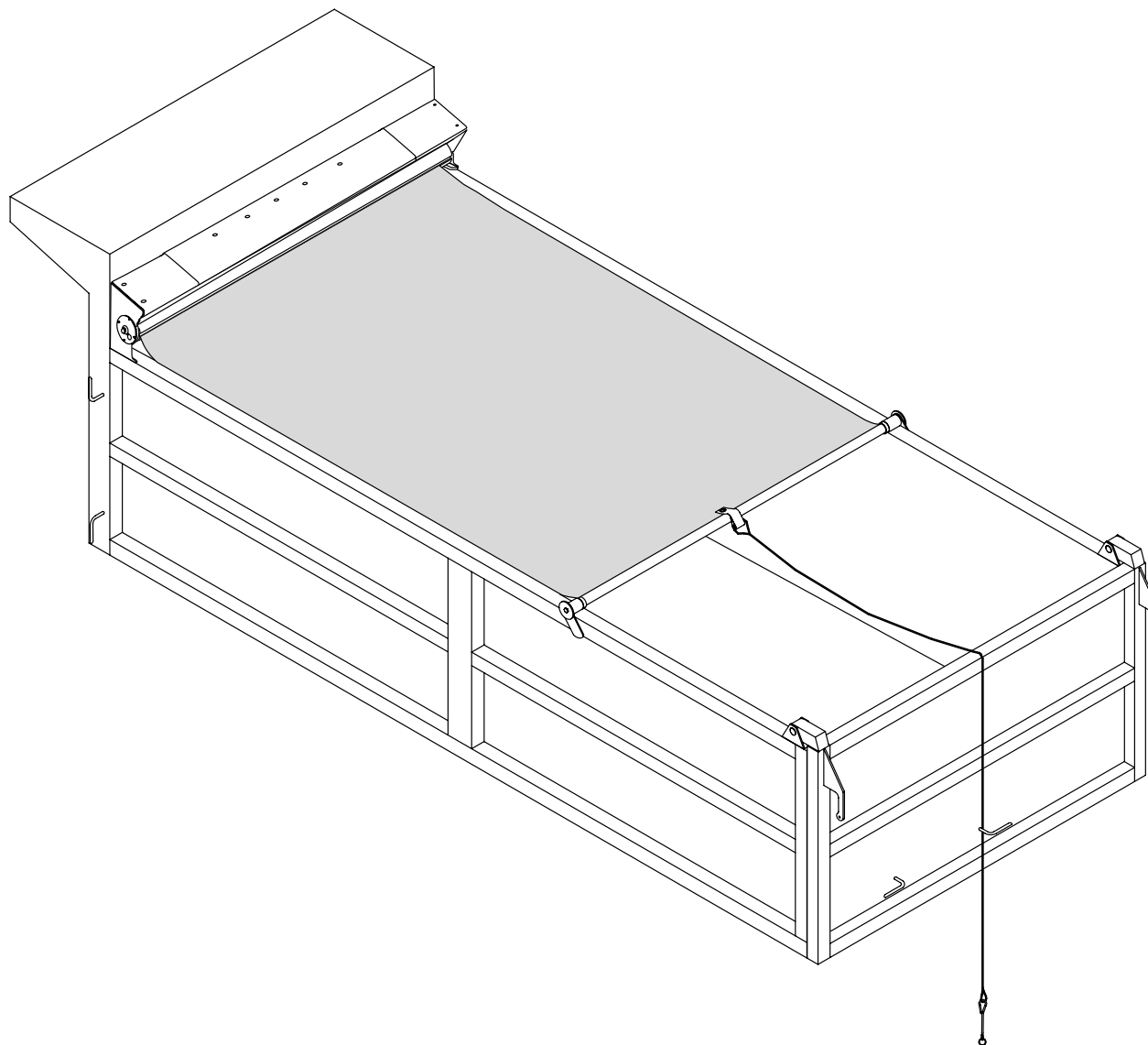
A Safe Fleet Brand



## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

116-3027 & 116-3017



607-0112

WLH 12/10/19



A Safe Fleet Brand



Installation Instructions

X-Pando Semi-Automatic Adjustable System

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# PARTS & TOOLS



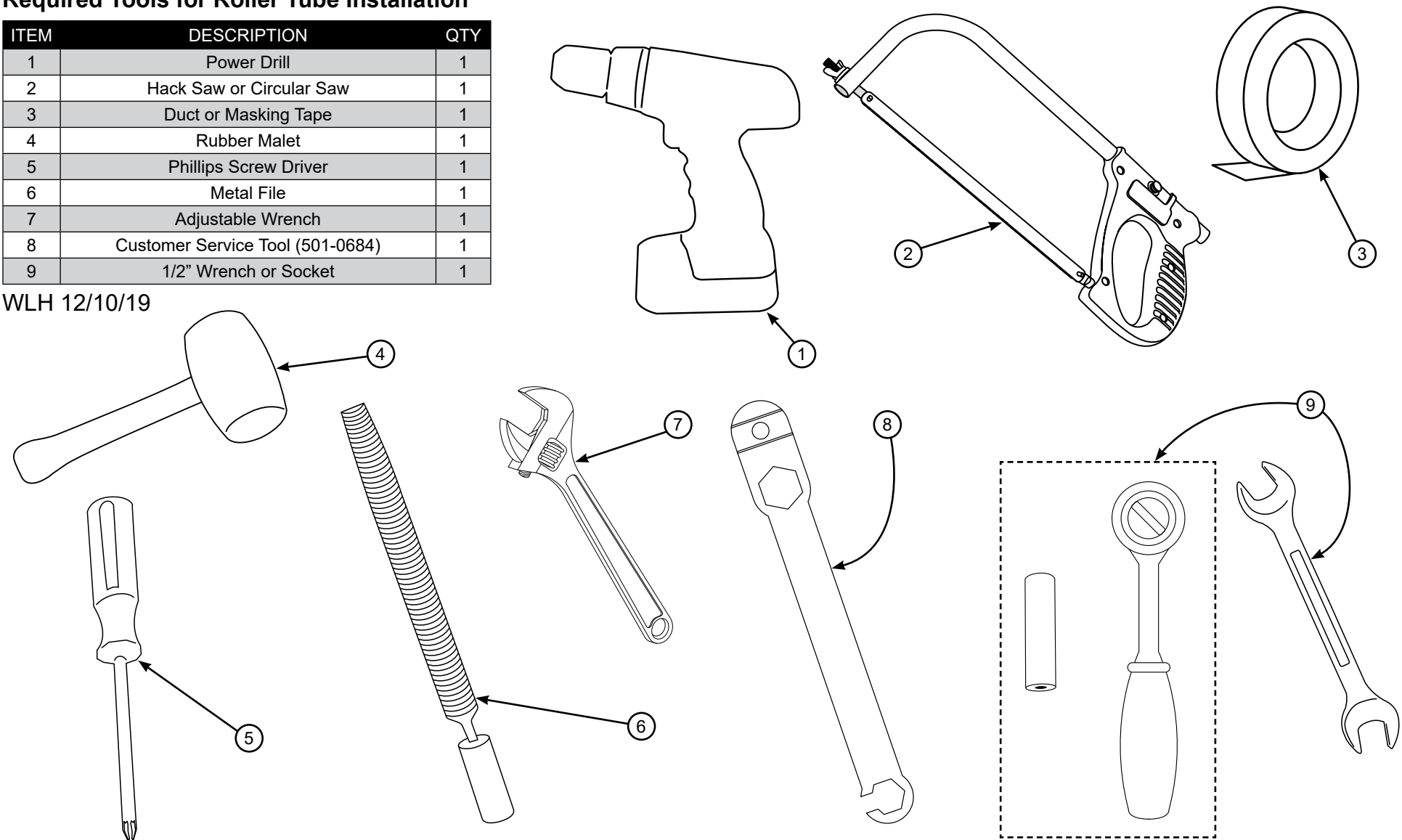
Installation Instructions

X-Pando Semi-Automatic Adjustable System

Required Tools for Roller Tube Installation

ITEM	DESCRIPTION	QTY
1	Power Drill	1
2	Hack Saw or Circular Saw	1
3	Duct or Masking Tape	1
4	Rubber Malet	1
5	Phillips Screw Driver	1
6	Metal File	1
7	Adjustable Wrench	1
8	Customer Service Tool (501-0684)	1
9	1/2" Wrench or Socket	1

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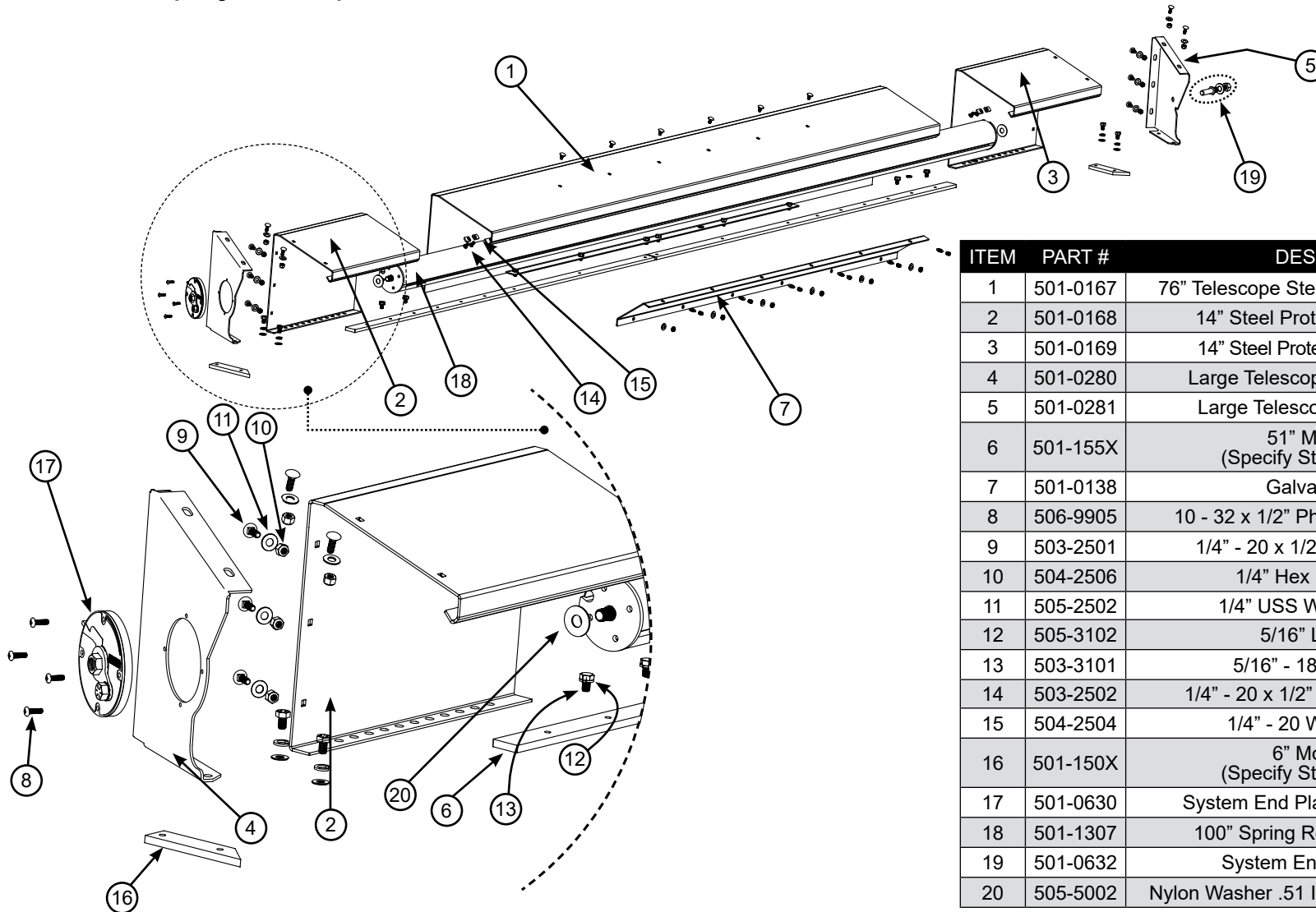




## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### X-Pando™ (Adjustable) #116-3027, 116-3017



ITEM	PART #	DESCRIPTION	QTY
1	501-0167	76" Telescope Steel Protector Center Hsg.	1
2	501-0168	14" Steel Protector Adj. End (Left)	1
3	501-0169	14" Steel Protector Adj. End (Right)	1
4	501-0280	Large Telescope Ratchet End Plate	1
5	501-0281	Large Telescope End Plate Pass.	1
6	501-155X	51" Mounting Bar (Specify Steel or Aluminum)	2
7	501-0138	Galvanized Insert	1
8	506-9905	10 - 32 x 1/2" Phillips Pan Head Screw	4
9	503-2501	1/4" - 20 x 1/2" USS Carriage Bolt	22
10	504-2506	1/4" Hex Lock Nut "Thin"	22
11	505-2502	1/4" USS Washer 5/16" Hole	22
12	505-3102	5/16" Lock Washer	14
13	503-3101	5/16" - 18 x 1/2" Hex Bolt	14
14	503-2502	1/4" - 20 x 1/2" SS Button HD Screw	4
15	504-2504	1/4" - 20 Weld Nut - Single	4
16	501-150X	6" Mounting Bar (Specify Steel or Aluminum)	2
17	501-0630	System End Plate Ratchet Assembly	1
18	501-1307	100" Spring Roller Tube Assembly	1
19	501-0632	System End Plate Stud 2.4"	1
20	505-5002	Nylon Washer .51 ID x 1.25 OD x .063 Thick	2

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## Installation Instructions

## X-Pando Semi-Automatic Adjustable System



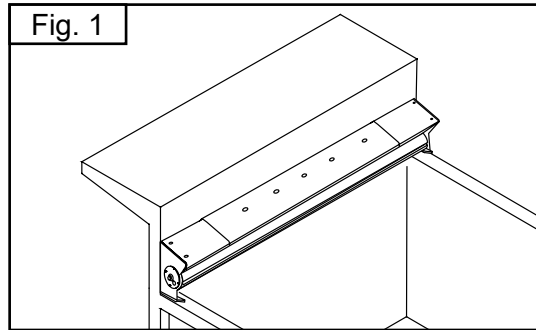


## Installation Instructions

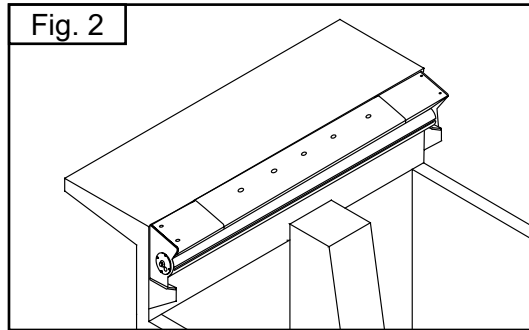
## X-Pando Semi-Automatic Adjustable System

### Mounting Locations

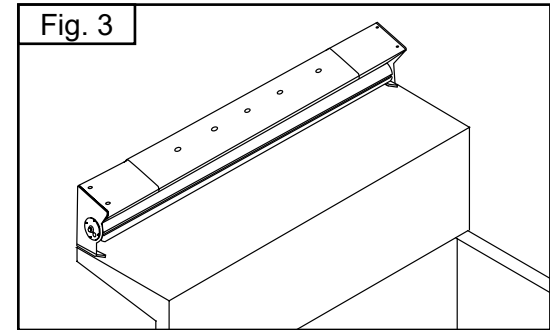
**Step 1:** Determine the mounting position for your truck (Fig. 1-8).



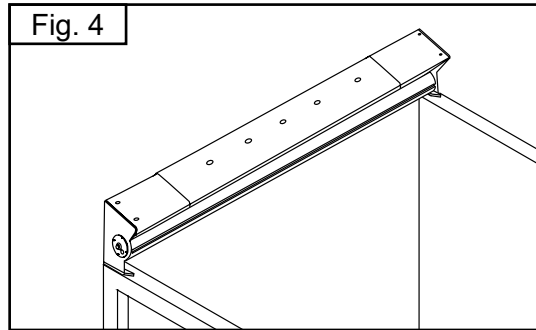
"A" Mount Bottom Roll



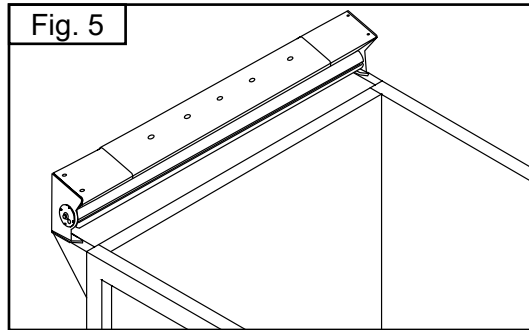
"B" Mount Bottom Roll



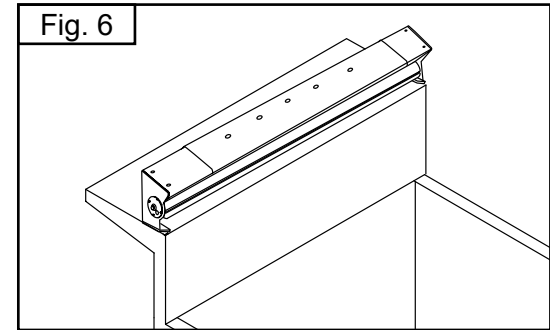
"C" Mount Bottom Roll



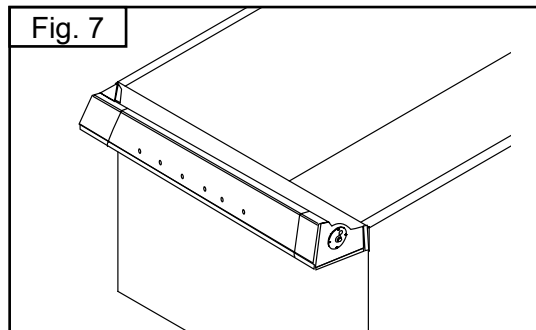
"D" Mount Bottom Roll



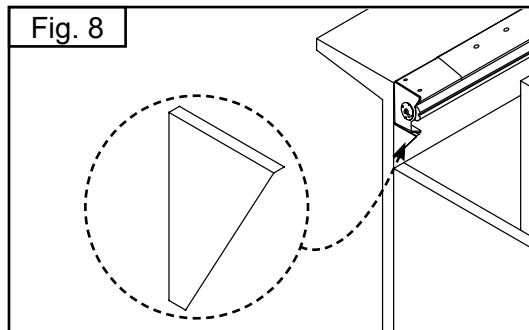
"E" Mount Bottom Roll



"F" Mount Bottom Roll



"G" Mount Top Roll (Special Order) - Specific off the top system.



#### "B" Brackets

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

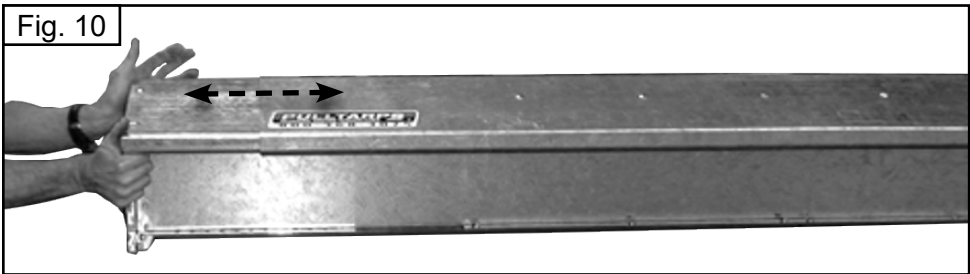
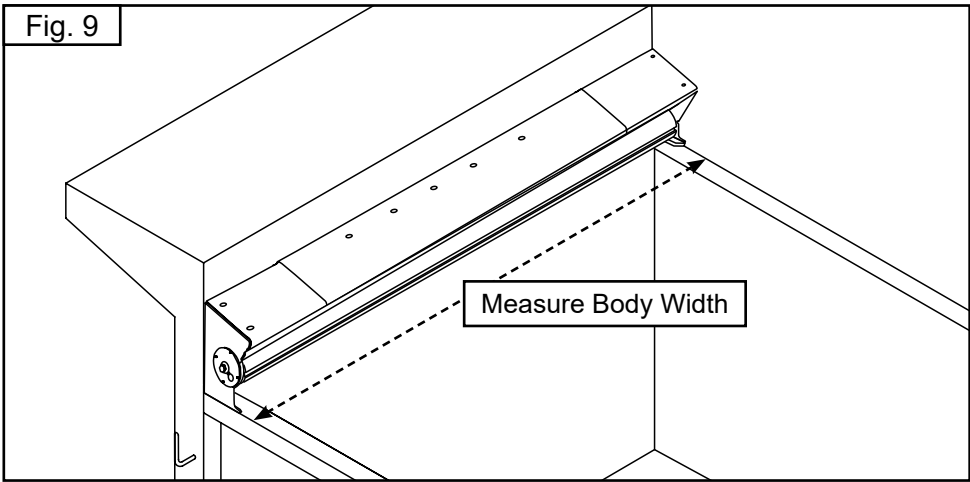


Installation Instructions

X-Pando Semi-Automatic Adjustable System

Setting to Size

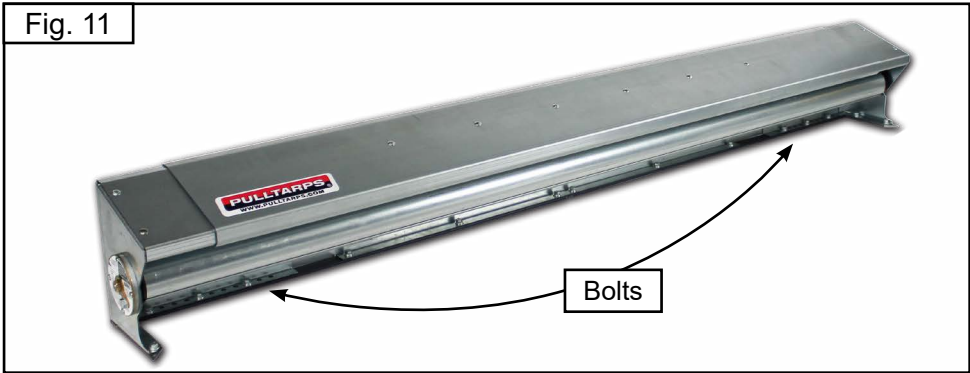
Step 2: Measure body width at mounting location (Fig. 9).



Step 3: Adjust the housing width (Fig. 10). Make sure to match the mounting locations body width (Fig. 1-8).  
NOTE: See Hole Placement Guide on page 3.

Step 4: Temporarily bolt the long mounting bars, if ordered, to the bottom of the housing to maintain the housing width from Step 3. Use only four (4) bolts on each side at this time or add bolts support for bolt-on option (Fig. 11).

Option: Fasten bottom adjustment hole with bolt on each half.



Hole Placement Guide	
Number of Holes exposed on Each Side	System Width
11	100"
9	96"
7	92"
5	88"
3	84"
1	80"

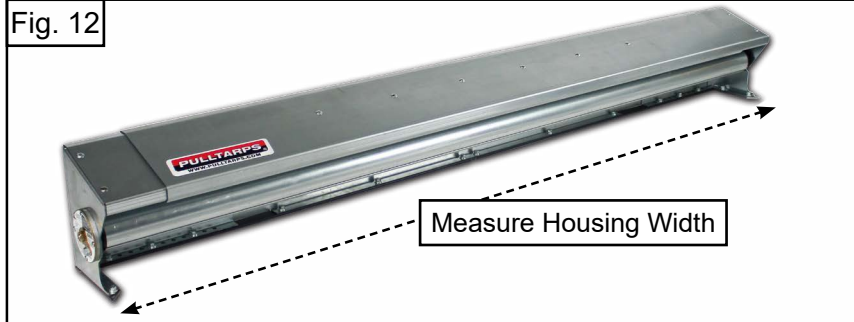


## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

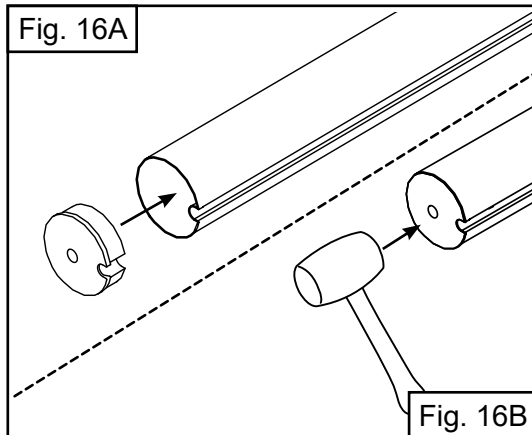
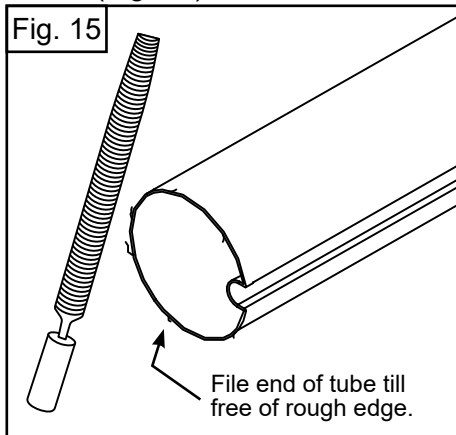
### Sizing and Assembly of the Roller Tube

**Step 5:** Measure the housing width from end plate to end plate. This is the housing width (Fig 12). Make sure that it matches the mounting location measurement from Step 2. This will give you the correct length to cut the roller tube.

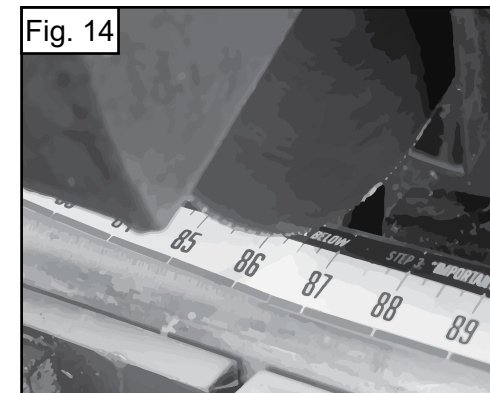
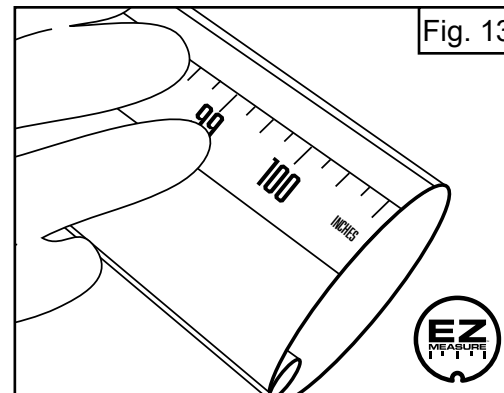


**NOTE:** Each Roller Tube will come with our EZ Measure Cut-To-Fit System. This will allow you to cut the Roller Tube to the correct width.

**Step 7:** After you've cut the Roller Tube to the desired length, use a metal file to remove metal fragments (Fig. 15).



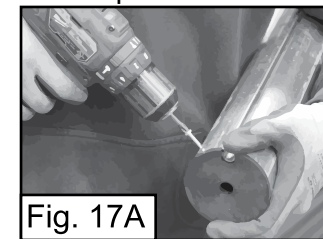
**Step 8:** Insert end cap into Roller Tube. Use a rubber mallet to tap the edges of the end cap lightly to ensure that it has been seated properly (Fig 16A & B).



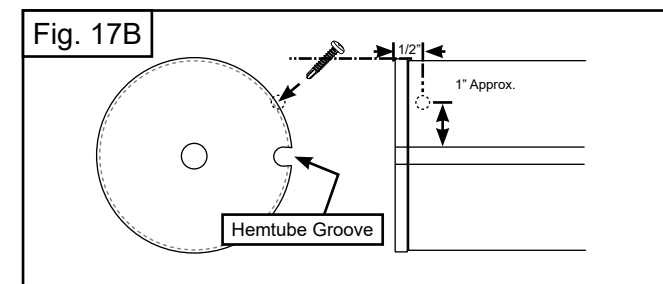
**Step 6:** Locate the EZ-Measure measurement tape on the Roller Tube (Fig. 13) and cut the desired length (Fig. 14).

**NOTE:** Please cut the end as straight as possible. You can wrap masking tape around the Roller tube at the correct mark, to ensure a straight cut.

**Step 9:** Use a 3/4" Self-Drilling Screw and secure End Cap in the Roller Tube (Fig. 6A). To secure,



insert the screw approximately 1/2" from the end of the End Cap and approximately 1" up from the Hemtube Groove on the Roller Tube (Fig. 6B).





## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### Sizing and Assembly of the Roller Tube

**Step 10:** To install the Spring Shaft take the other end of the Roller Tube and insert the end of the Spring Shaft, with the Torq Block. Seat the Torq Block in the tube (Fig. 18A & B).

Fig. 18A

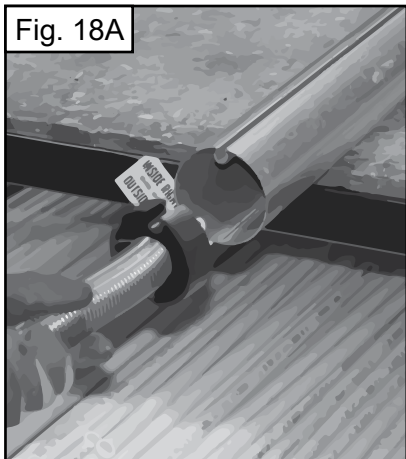


Fig. 18B

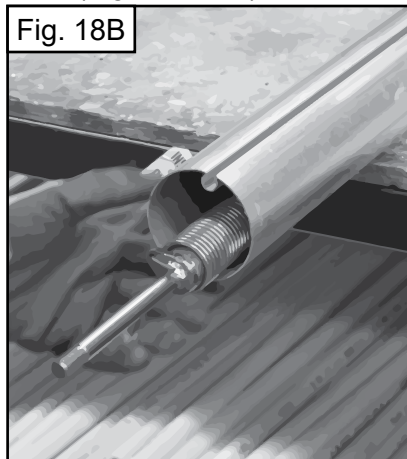
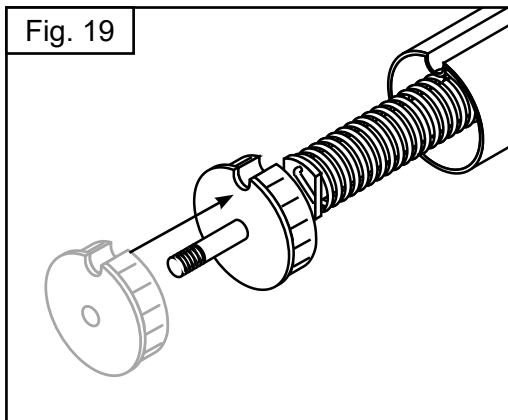


Fig. 19



**Step 11:** Place the End Cap on the Spring Shaft (Fig. 19).

Fig. 20A

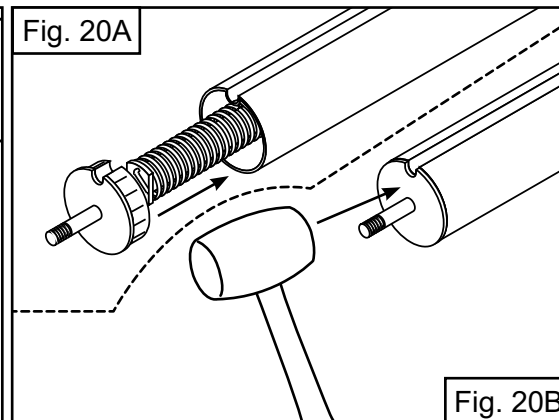


Fig. 20B

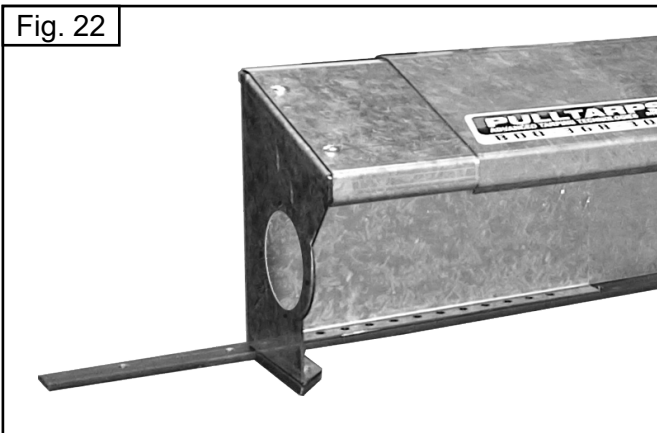
**Step 12:** Insert End Cap and Spring Shaft into Roller Tube. Use a rubber mallet to tap the edges of the end cap lightly to ensure that it has been seated properly (Fig. 20A & B).

**Step 13:** Use a 3/4" Self-Drilling Screw and secure End Cap in the Roller Tube (Fig. 21). Use the same instructions from Step 9.



Fig. 21

Fig. 22



**Step 14:** Remove excess mounting bar material, if ordered. Mark mounting bar even with the outside edge of the end plate. Remove the mounting bar from the housing and cut off the excess material at the mark (Fig. 22). Reinstall the mounting bars on the center section only so that the ends can slide in and out.

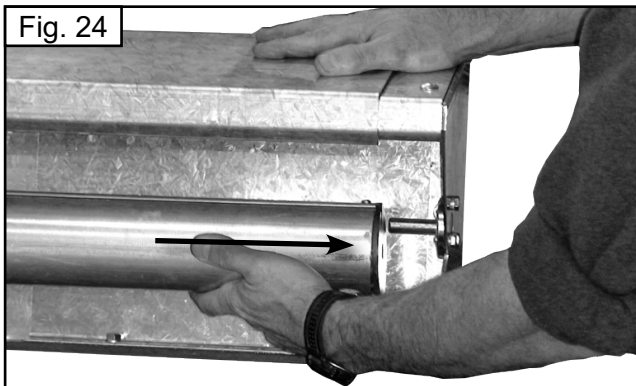
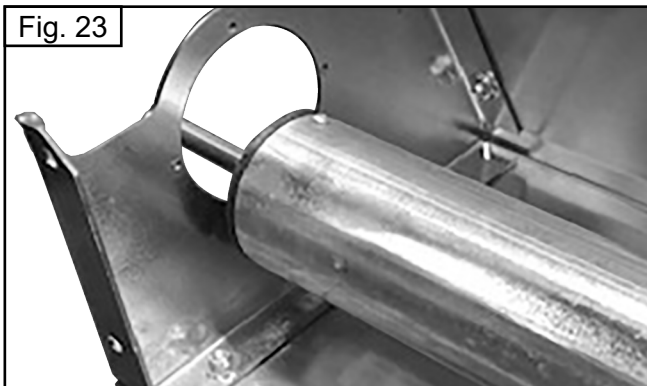




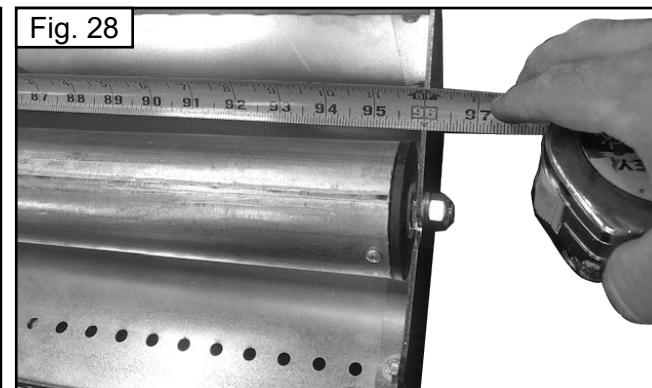
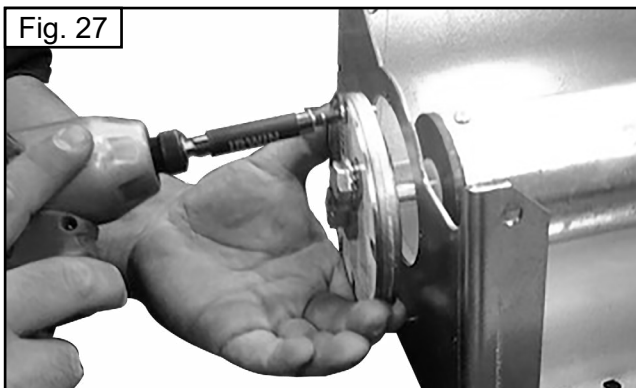
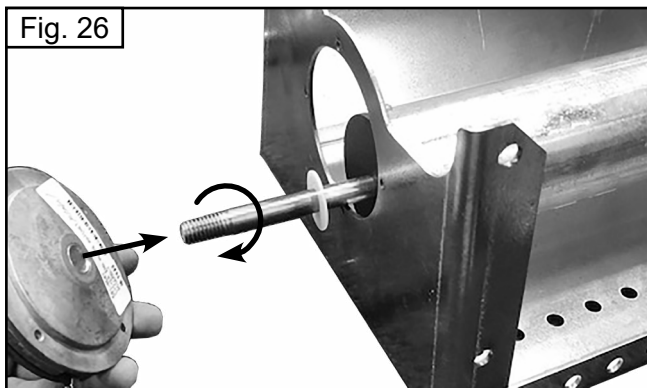
## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### Installing the Roller Tube



**Step 15:** Insert assembled Roller Tube into housing with the Spring Shaft (threaded rod) extending through End Plate Hole on the Ratchet Side (Fig. 23). Then, fully seat the End Cap onto the Bolt-In Stud (Fig. 24 & 25).



**Step 16:** Thread Ratchet Housing onto Roller Tube Spring Shaft (Fig. 26).

**Step 17:** Install four (4) 10-32 screws to retain the ratchet in housing. This will fully seat the Roller Tube in the housing (Fig. 27). Measure the overall width (Fig. 28), it should be the same as in Step 5.



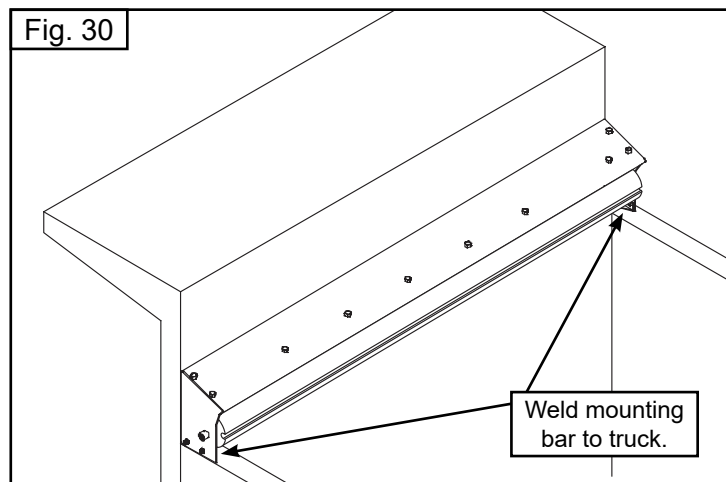
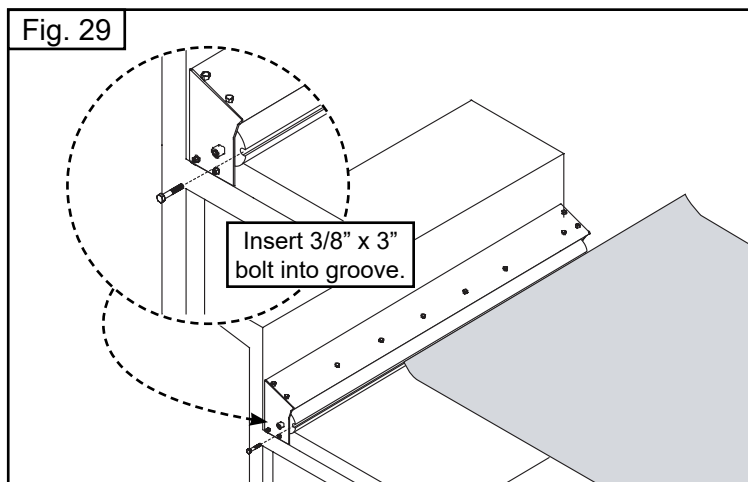
## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### Mounting the System

#### Step 18: Remove Tarp before Welding.

To remove tarp, pull the tarp all the way out over the tailgate. Insert 3/8" x 3" bolt into groove on roller tube making sure the bolt head rests against front edge of end plate. This will lock spring tension in roller tube. Slide tarp out of roller tube and away from work area. NOTE: Before welding remove tarp to avoid damage (Fig. 29).

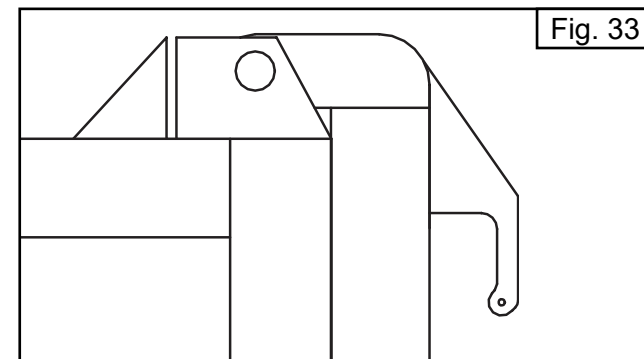
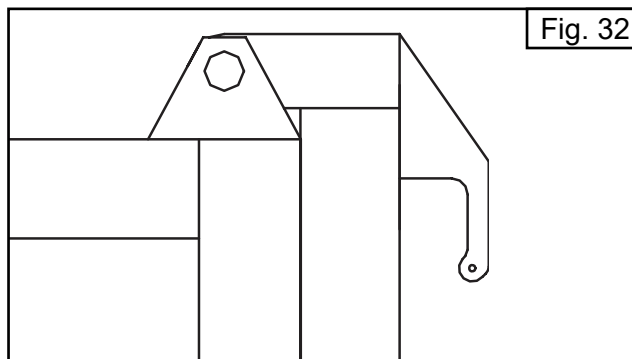
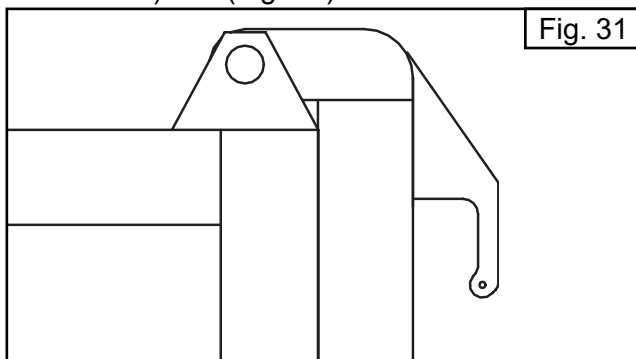


**Step 19: Weld System to Truck**  
Weld system mounting bar to truck (Fig. 30).

**NOTE:**  
See page 16 for Bolt-On option.

#### Step 20: 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.31 & Fig. 32 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. 33).







## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

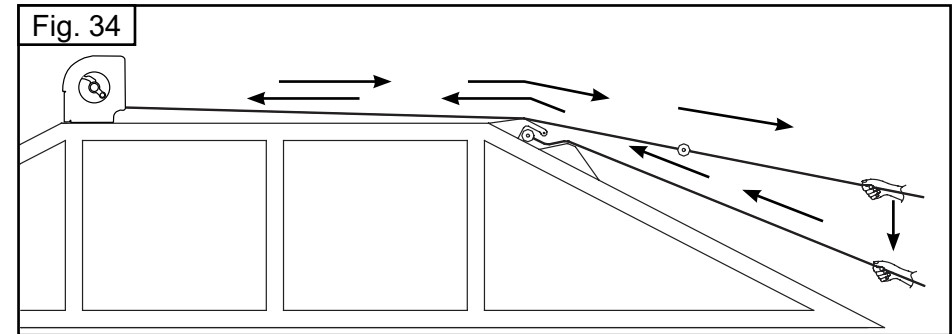
### Tarp Return Ramps for Belly Dumps

#### Step 21:

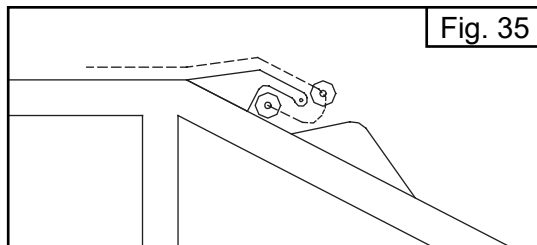
All belly dumps require special tarp return ramps. If you are not sure which type to use, call us at Pulltarps (800) 368-3075 for technical support.

#### Jump Ramp

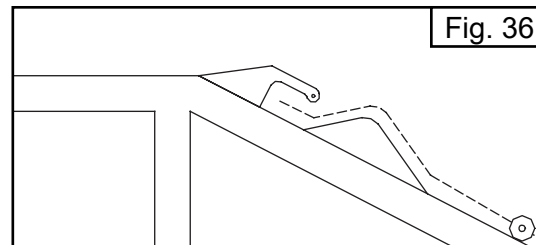
On longer single units, you are too far from the return ramp to unlatch the Pullrod by hand so we developed the easy to operate Jump Ramp (Fig. 34). Pull the tarp out all the way. Lower your arm. Release some rope slowly and allow the Pullrod to slide forward and drop down into the Tarp Return Ramp.



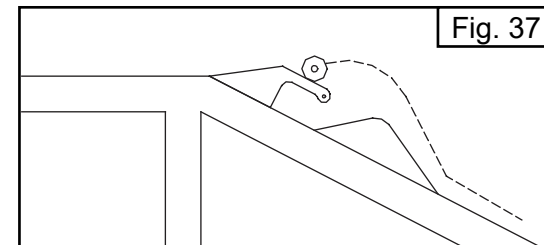
**A1.** Pull out and hook (Fig. 35).



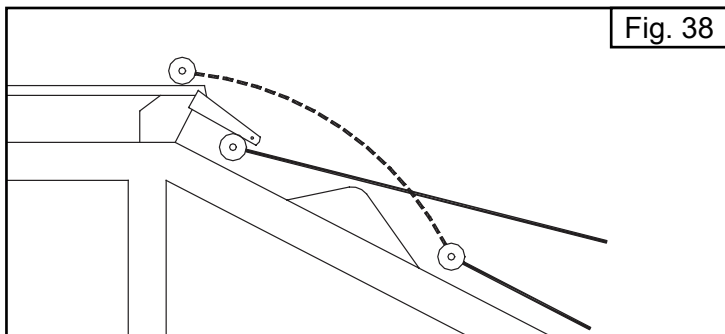
**A2.** To retract, pull the pullrod up over the jump-ramp gusset and down a few inches (Fig. 36).



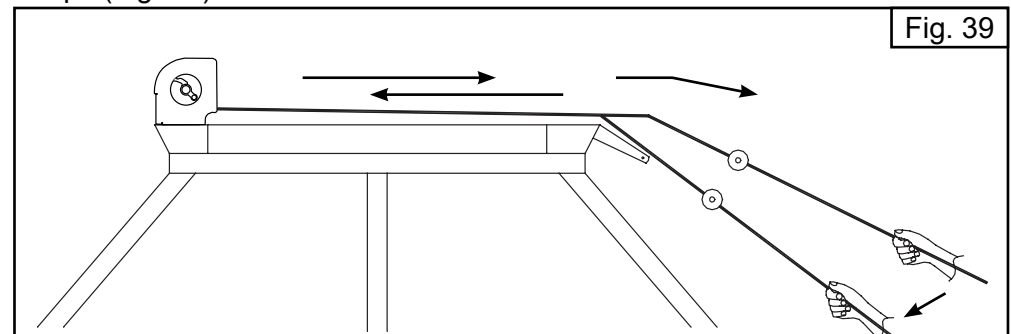
**A3.** Release a few feet of rope quickly and the spring in the roller will cause the Pullrod and tarp to jump over the return ramp and retract back to the system (Fig. 37).



**B.** On long belly dumps with short vertical sideboards, use the finger tarp return ramps. Weld the provided gussets to the box to create a Pullrod jump ramp (Fig. 38).



**C.** On short belly dumps, pull the tarp all the way out. Raise and lower to hook and unhook the Pullrod over the finger tarp return ramps (Fig. 39).





## Installation Instructions

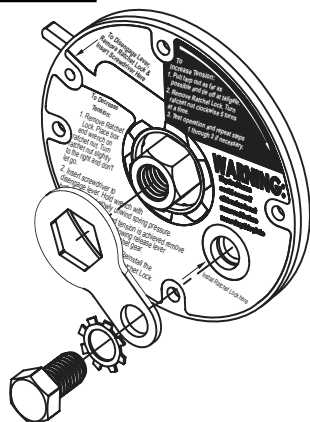
## X-Pando Semi-Automatic Adjustable System

### Reinstalling Tarp, Rope Hook Installation & Adjusting Spring Tension

#### Step 22: Reinstall Tarp

Before you reinstall your tarp on the roller, make sure the roller has not lost its spring tension (Fig. 40 & 41). If the roller is still locked with the locking bolt, the tension should have been maintained. Slide the front end of tarp (with beaded rod) into the slot of the roller from the opposite side of the locking bolt. If needed, lubricate the edge of the tarp with soapy water so it will slide into the roller slot easy. After the tarp is in place, make sure that it is centered on the roller with an equal amount of space on each end, and that the bead tubing is also equally spaced. Secure tarp and pullrod to tailgate with the pullrope. Hold the roller with one hand and remove the locking bolt with the other. Release pullrope from tailgate and cycle the tarp 2 or 3 times. This will ensure the tarp rolling up straight. If the tarp rolls up consistently off to one side or the other, you can offset the tarp to the opposite side on the roller to start with, this way the tarp will roll up as centered as possible. If you have side flaps or tie downs proceed to page 6 or 7.

Fig. 40



#### IF ROLLER HAS LOST SPRING TENSION

The roller comes pre-loaded from the factory. Should the roller lose tension for any reason during installation, you must pre-load the spring mechanism again before installing the tarp.

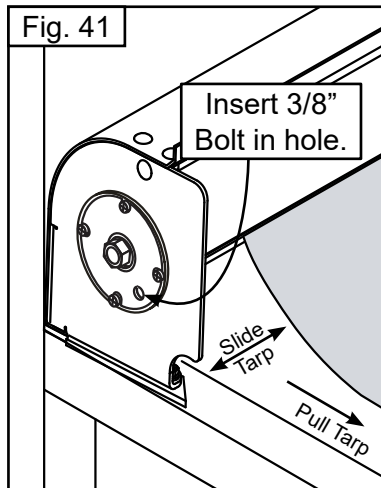
##### To Increase Tension

1. Pull Tarp out as far as possible and tie off at tailgate.
2. Remove Ratchet Lock. Turn ratchet nut clockwise 5 turns at a time.
3. Test operation and repeat steps 1 through 3 if necessary.
4. Reinstall the Ratchet Lock

##### To Decrease Tension

1. Remove Ratchet Lock. Place box and wrench on ratchet nut. Turn ratchet nut slightly to the right and don't let go
2. Insert screwdriver to disengage lever. Hold wrench with both hands slowly unwind spring pressure.
3. When desired tension is achieved remove screw driver allowing release lever to reengage ratchet gear.

Fig. 41



#### Step 23: 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. 42). When tarp is not in use, space the hooks far enough apart to store the full length of rope (Fig. 43).

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

**NOTICE: For full Ratchet Operation and Replacement instructions, see document 607-0035 online in our Resources section.**

Fig. 42

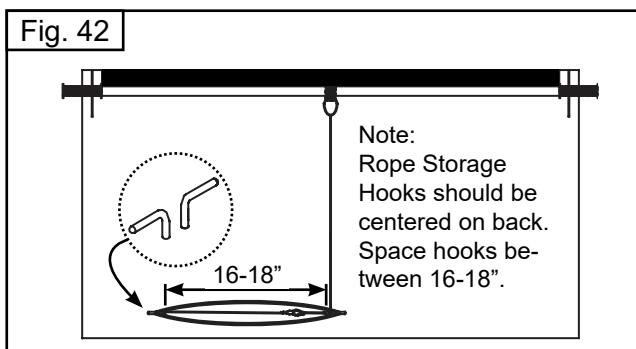
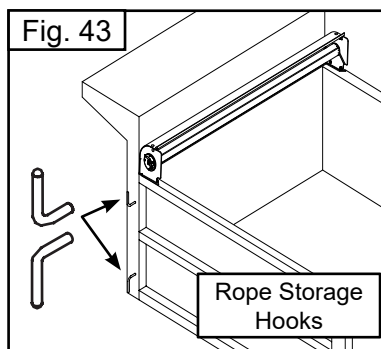


Fig. 43







## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### Optional Flap Tarp, Rope and Hook Installation

#### Parts:

Tie Down Hooks (Steel or Alum.) → 

Pull Down Hook → 

**Note: The Location Of The Tie Down Hooks Is Critical!**

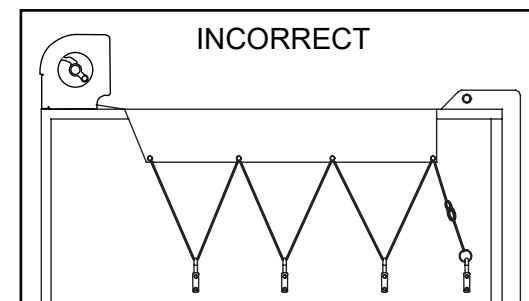
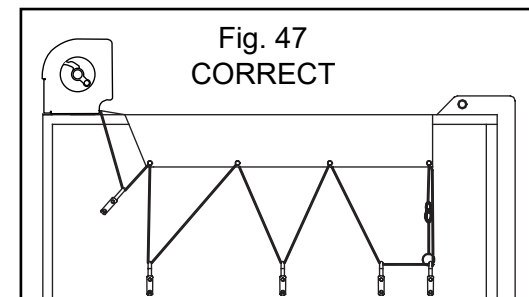
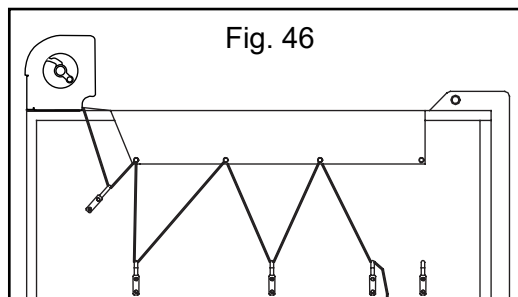
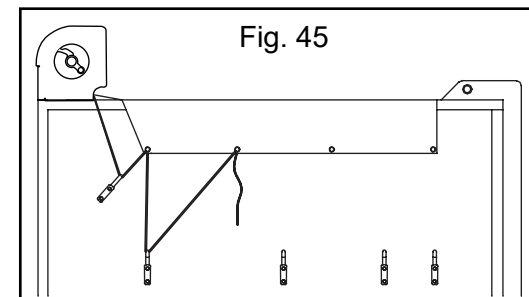
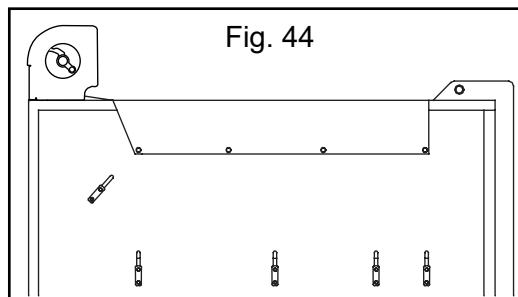
**Step 24:** Flip the braided rope over the corner so that the flaps and tie down ropes hang over each side of the box. The number of tie down hooks vary depending on the length of your tarp. One pull down hook is included with your Pulltarps system. If needed. Use the hook to pull the braided rope and flaps over the side of the box.

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

1. The tie down rope can be reached from the ground.
2. The bungee cord has to be stretched to reach the last hook (see **Step 25**).
3. The rope has no slack.
4. 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.**

1. Position the first hook 6" (15.24cm) down and 12" (30.48cm) forward (toward the cab) from the first grommet (Fig. 44).
2. Position 2nd hook straight down from 1st grommet. This hook should be reached from ground (Fig. 45).
3. Place middle hooks equal distances from grommet (Fig. 46). These hooks should be placed at the same height as the second hook.
4. Position last hook (closest to the tailgate) below the last grommet at the same height as the others (Fig. 47).
5. Weld hooks in place.



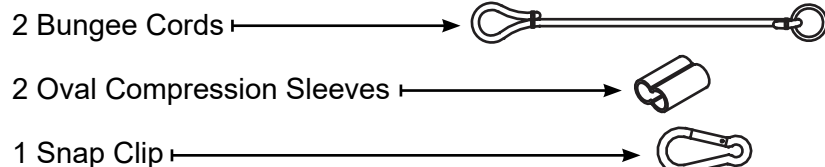


## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

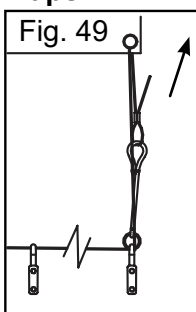
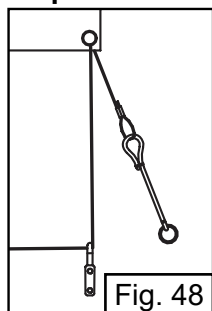
### Bungee Cord Installation

#### Parts:



**Step 25:** 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.

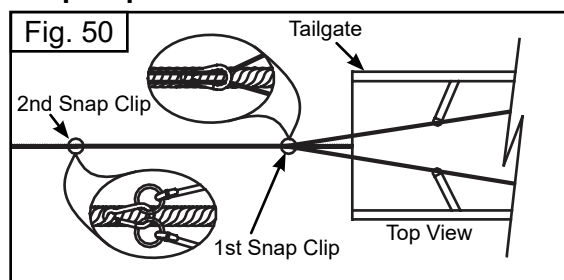
#### Tarps with Side Flaps



To tighten, pull loose end of rope through the Oval Compression Sleeve (Fig. 48). Stretch the bungee cord making sure all slack is taken out of the rope, crimp compression sleeve (Fig. 49). Be sure to keep flaps even on sides so Tie Down Ropes remain equal in length.

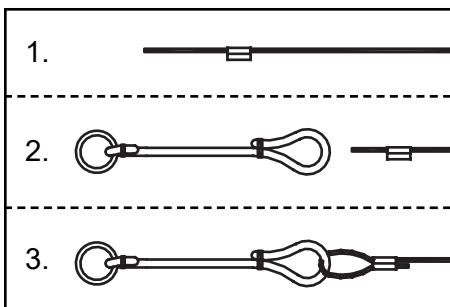
**Note:** Check for proper placement of rope through the last two hooks.

#### 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 (Fig. 50).

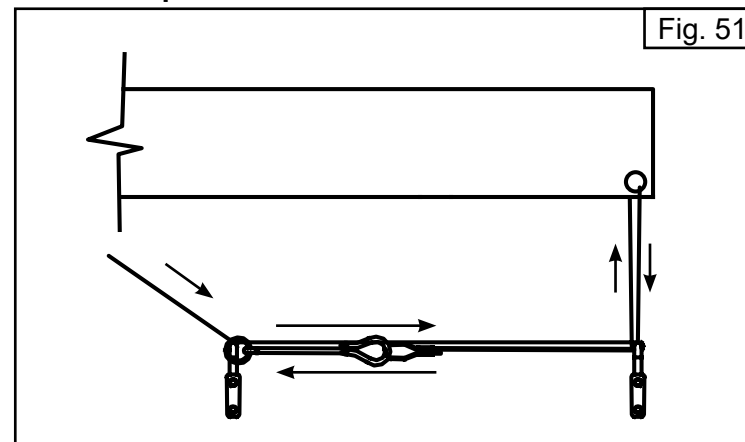
**Note:** First snap clip should not be used on long wheel base belly dumps.



#### 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.

#### 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 (Fig. 51).



# BOLT-ON INSTRUCTIONS





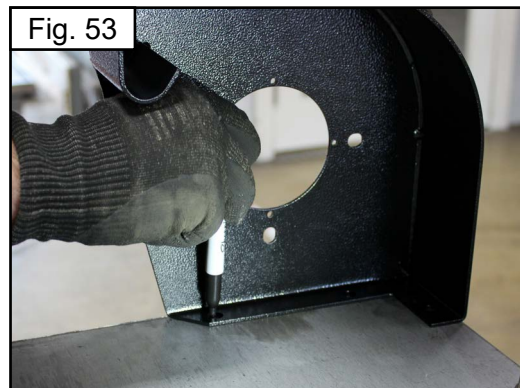
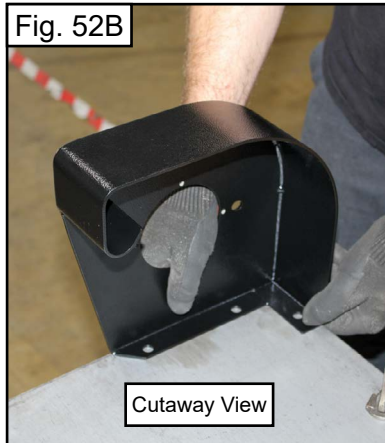
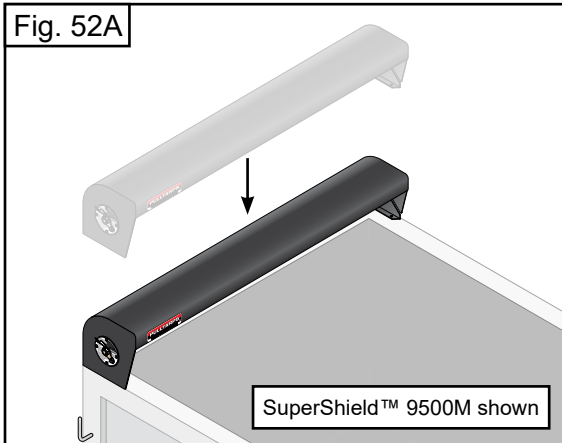
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## X-Pando Semi-Automatic Adjustable System

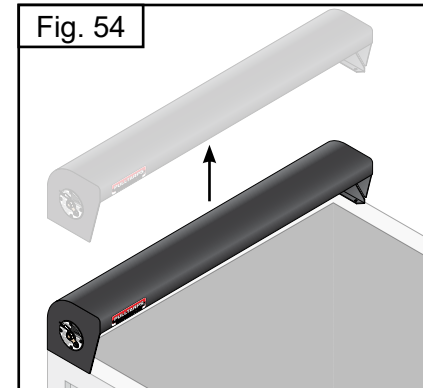
### Setting the Location & Drilling Holes

#### Step 1: Placing system on box

Place the housing on the desired location on the vehicle (Fig. 52A & B).



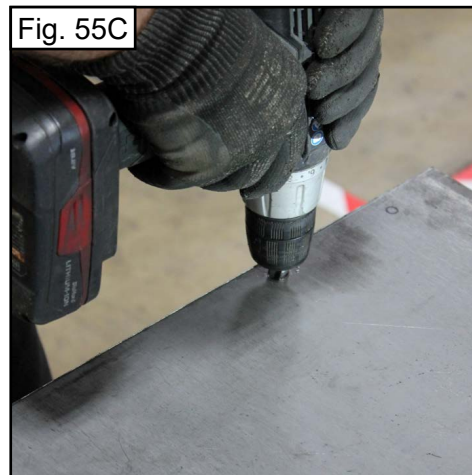
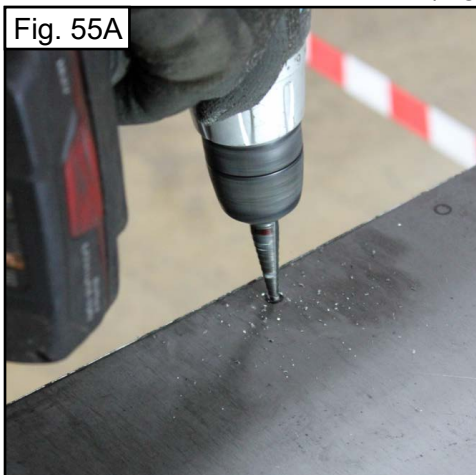
**Step 2: Marking mounting holes**  
Using a Sharpie, mark each mounting hole while system is in place (Fig. 53).



**Step 3: Remove housing**  
Remove the housing and set aside (Fig. 54).

#### Step 4: Drilling the Holes

In the first mark, drill 31/64" hole with a Step Drill and clear off any debris. Repeat until all holes are drilled (Fig. 55A, B & C).



**Step 5: Checking hole diameter**  
check the hole diameter is big enough to fit the Plus Nuts (Fig. 56).



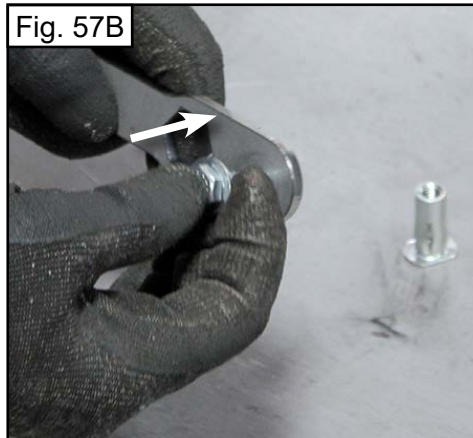
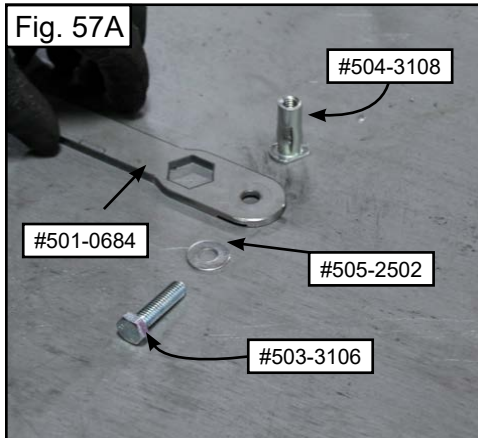
## Installation Instructions

## X-Pando Semi-Automatic Adjustable System

### Attaching the Plus Nut

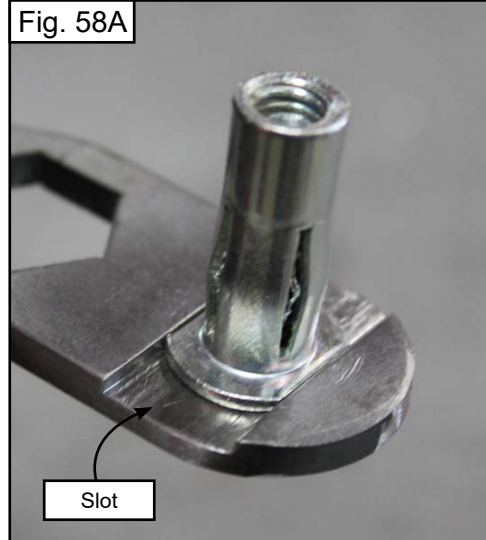
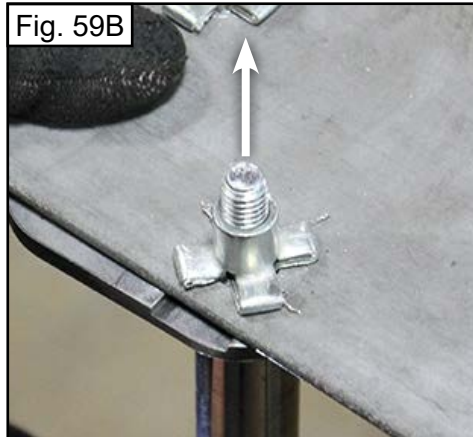
#### Step 6: Assembling the Bolt and Washer

Place a washer (#505-2502) on the 1-1/4" Hex Bolt (#503-3106) and slide through the hole in the Customer Service Tool (#501-0684) (Fig. 57A & B).



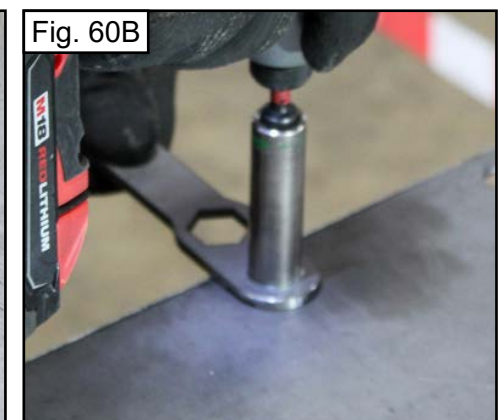
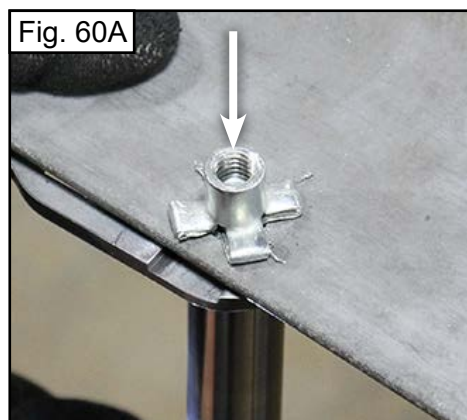
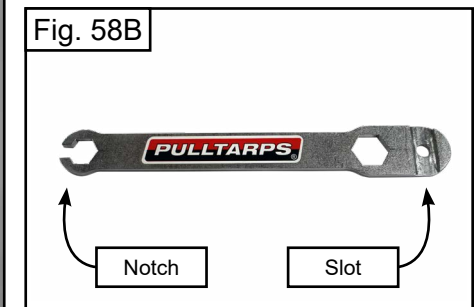
#### Step 8: Attaching Plus Nut

Place the Plus Nut into the first hole and tighten using a ratchet or power drill. Tighten until nut is secured and flat on surface (Fig. 59A & B).



#### Step 7: Attaching the Plus Nut

Twist the Plus Nut (#504-3108) on the other end of the bolt, so it matches up with the slot on the Customer Service Tool (#501-0684) (Fig. 58A & B).



#### Step 9: Finish attaching the Plus Nuts

Unscrew the bolt and washer from the Plus Nut and repeat this process for the remaining holes (Fig. 60A & B).

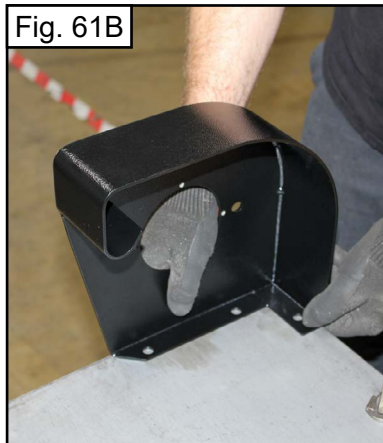
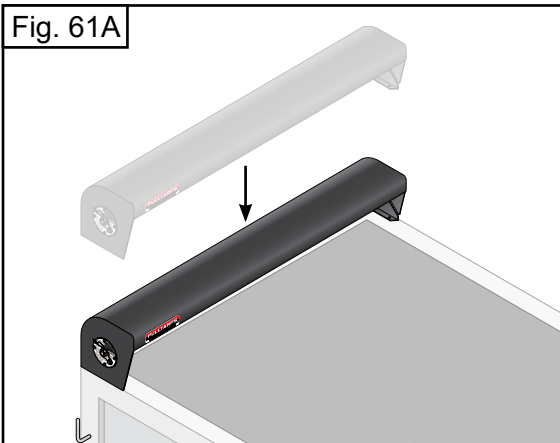




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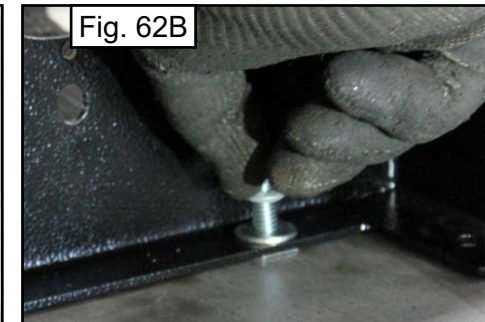
## X-Pando Semi-Automatic Adjustable System

### Mounting the System



#### Step 10: Attaching Housing to Box

Place the housing back in the original position, so the holes line up with the Plus Nuts (Fig. 61A & B).



#### Step 11:

##### Insert Bolts into Plus Nut

Place the Lock Washer (#503-3102) and Washer (#505-2502) on the Hex bolt (#503-3106) and hand-tighten into each Plus Nut (Fig. 62A & B).



#### Step 12: Securing System to Box

Tighten down all the Bolts with ratchet tool or Customer Service Tool, so that your system is safely secured and bolted onto the vehicle (Fig. 63).

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**NOTICE: For full Bolt-On Mounting instructions, see document 607-0156 online in our Resources section.**