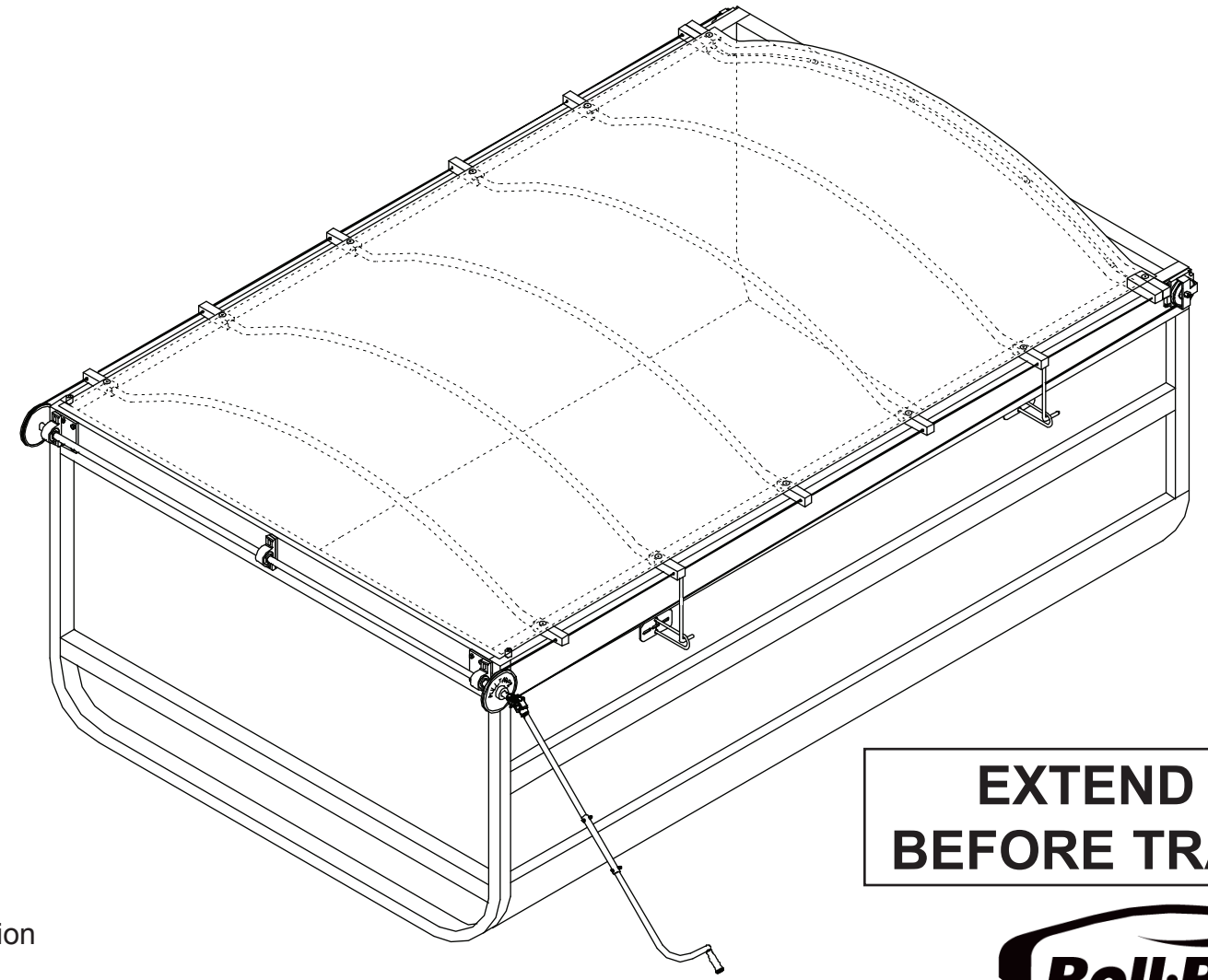
GR 12/12/12

Twin Cable Top Slider

Cable Bow System
Installation Instructions



EXTEND TARP BEFORE TRAVELING

Section 1.
Preparation & Installation

Section 2.
Optional Smart Switch Installation

Section 3.
Parts and Assembly Illustrations

Roll-Rite®
A Clarience Technologies Company
650 Industrial Drive • Gladwin, MI 48624
For technical support call us at (800) 297-9905

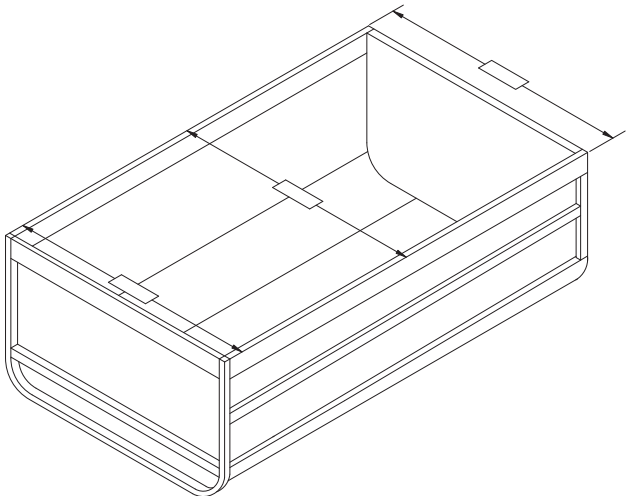
Read Instructions Carefully and Completely Before Starting

Important

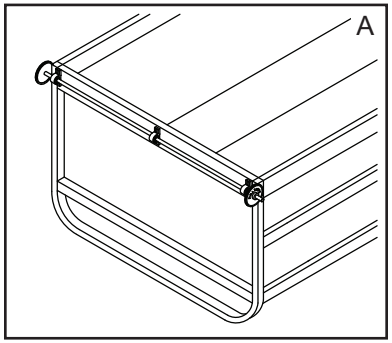
Proper alignment of bow sliders, pulleys, and cables is critical to the smooth operation of the system. Careful measurements taken at each step are required for the system to be properly aligned. Misaligned cables and pulleys will result in binding and premature wear of the system!
WARNING: **Tarp must be fully extended when traveling on the roadway!**
NOTE: **Tarp must be retracted when dumping and loading.**

Step 1. Preparation

Measure trailer at the front, middle & rear of the top rail and record the widest point. Check trailer for square and be sure mounting surfaces are plumb. Irregularities (dents etc.) in the top rail must be repaired to make the top as smooth and straight as possible. Wood sideboards should be capped with steel channel that is tied into the top rail with steel straps to form a smooth and unobstructed tracking surface on top that is parallel and square.

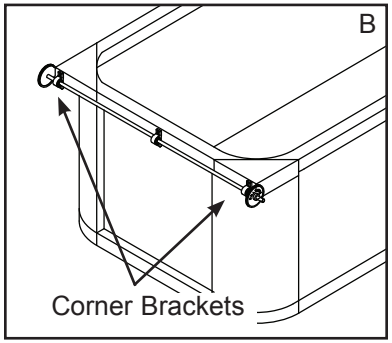


Step 2. Choose Mounting Location



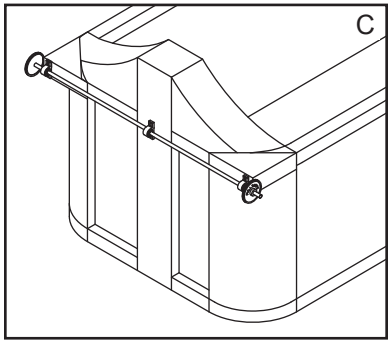
A. Flat top and square front trailer:

Little or no additional fabrication required.



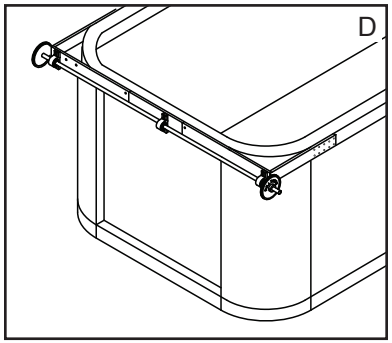
B. Radius Corners:

Front corners must be squared off. Additional fabrication is required. Front Corner Bracket Part # 502-0132 may be required for 18” to 24” radius corners.



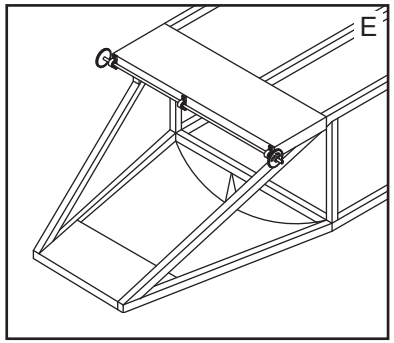
C. Bulkhead or ram box interference:

First Bow must stop short of front pulleys and be fixed to the trailer. Front Corner Bracket Part # 502-0132 may be required for 18” to 24” radius corners.



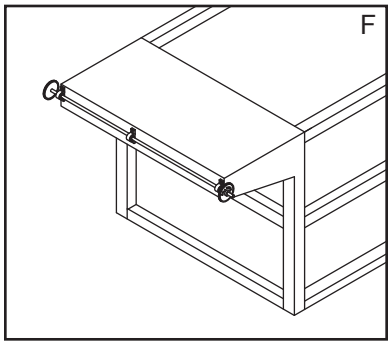
D. Radius Corners:

Front Frame Bracket Kit 502-0103 may be used to square off radiused corners.



E. Belly Dump

A front tray should be fabricated to allow tarp to clear opening while loading. Tray should be 24” long in most applications and level with top rails. Bottom of tray must be covered.



F. Cab Shield Mount

Little or no additional fabriction is required.

Twin Cable Top Slider Bows

For complete system orders the bows come pre-cut for your Twin Cable Top Slider System.

For parts orders the bows come punched with 5 holes on each side, allowing 19 different widths. They will need to be cut to proper length according to the chart below. When ordering replacement bows, please specify if it is a rear bow.

IMPORTANT: When cutting the rear bow, make sure that you cut the larger increment off on the LEFT SIDE (see rear bow drawing), failure to do this will cause your back flap and tarp to be off-centered.

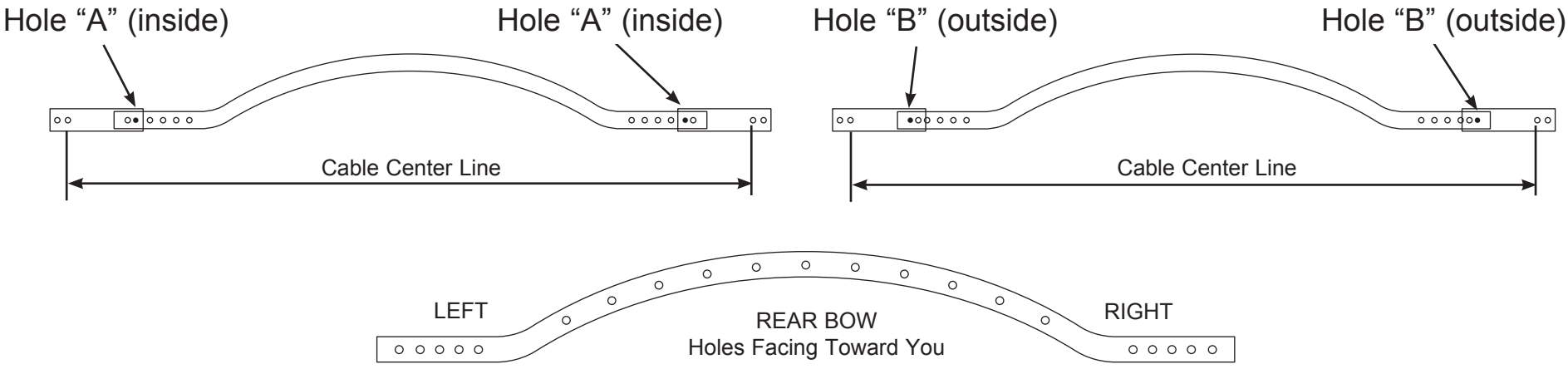
Example: On a 100” rear bow, you will need to cut 3” off on the right side and 3 1/2” off on the left side. Refer to charts on the right.

For Bows 90 3/4” Wide
Top Slider Cutting Chart
(Cable Center Line 88.5” - 97.5”)

Inside Width Cable Center Line	Cut Dimensions	Slider Holes LEFT	RIGHT
97.5”	0”	A	A
97”	1/2” Left Side	A	B
96.5”	1/2” Both Sides	B	B
96”	1/2” Right Side 1” Left Side	A	B
95.5”	1” Both Sides	A	A
95”	1” Right Side 1 1/2” Left Side	A	B
94.5”	1 1/2” Both Sides	B	B
94”	1 1/2” Right Side 2” Left Side	A	B
93.5”	2” Both Sides	A	A
93”	2” Right Side 2 1/2” Left Side	A	B
92.5”	2 1/2” Both Sides	B	B
92”	2 1/2” Right Side 3” Left Side	A	B
91.5”	3” Both Sides	A	A
91”	3” Right Side 3 1/2” Left Side	A	B
90.5”	3 1/2” Both Sides	B	B
90”	3 1/2” Right Side 4” Left Side	A	B
89.5”	4” Both Sides	A	A
89”	4” Right Side 4 1/2” Left Side	A	B
88.5”	4” Both Sides	B	B

For Bows 99 3/4” Wide
Top Slider Cutting Chart
(Cable Center Line 97.5” - 106.5”)

Inside Width Cable Center Line	Cut Dimensions	Slider Holes LEFT	RIGHT
106.5”	0”	A	A
106”	1/2” Left Side	A	B
105.5”	1/2” Both Sides	B	B
105”	1/2” Right Side 1” Left Side	A	B
104.5”	1” Both Sides	A	A
104”	1” Right Side 1 1/2” Left Side	A	B
103.5”	1 1/2” Both Sides	B	B
103”	1 1/2” Right Side 2” Left Side	A	B
102.5”	2” Both Sides	A	A
102”	2” Right Side 2 1/2” Left Side	A	B
101.5”	2 1/2” Both Sides	B	B
101”	2 1/2” Right Side 3” Left Side	A	B
100.5”	3” Both Sides	A	A
100”	3” Right Side 3 1/2” Left Side	A	B
99.5”	3 1/2” Both Sides	B	B
99”	3 1/2” Right Side 4” Left Side	A	B
98.5”	4” Both Sides	A	A
98”	4” Right Side 4 1/2” Left Side	A	B
97.5”	4 1/2” Both Sides	B	B



Step 2. Assemble two bows and alignment rods as shown in Fig. 1. *Your bows may need to be cut to the correct width. Refer to section 1 page 2 for Top Slider Cutting Chart.* Insert alignment rods into holes as shown Fig. 1 & Fig. 2.

Fig. 1

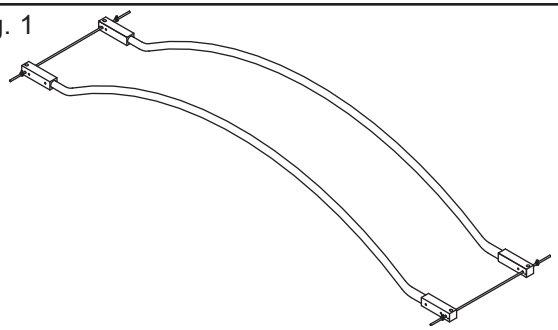
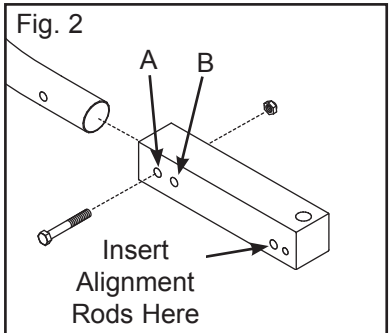
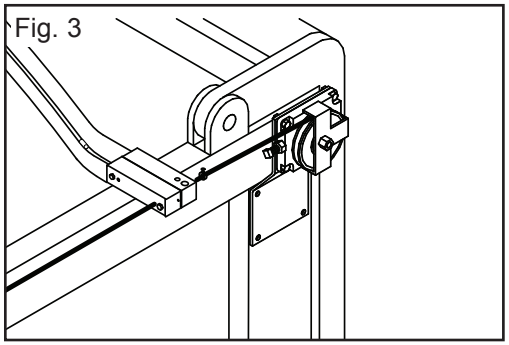


Fig. 2



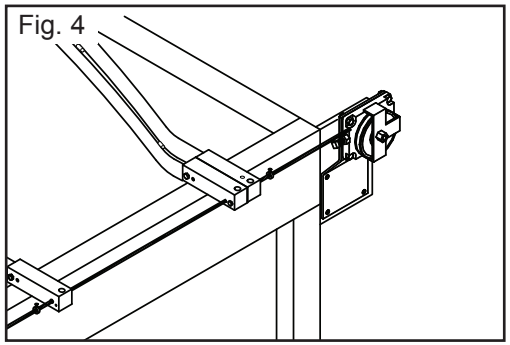
Optional Rear Pulley Mounting Positions (Fig. 3) (Fig. 4) (Fig. 5) (fig. 6) (fig. 7).

Fig. 3



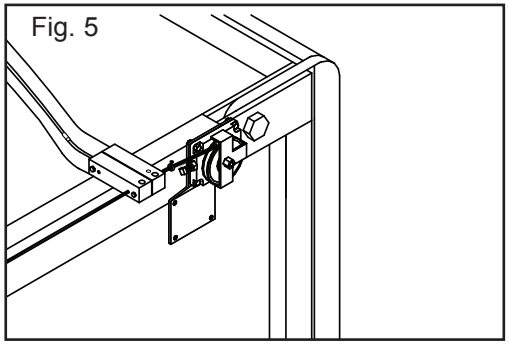
Top Hinge

Fig. 4



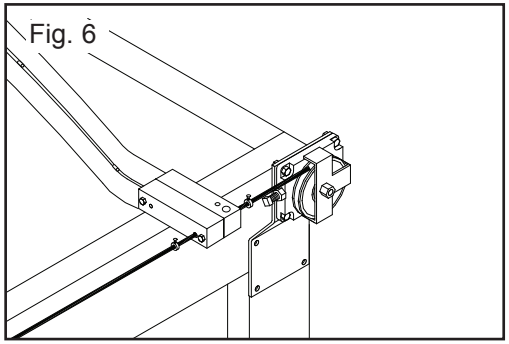
Full Coverage
Beyond Tailgate

Fig. 5



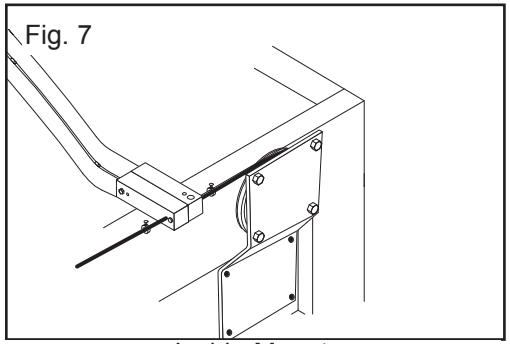
Flush Hinge

Fig. 6



Extended Mount

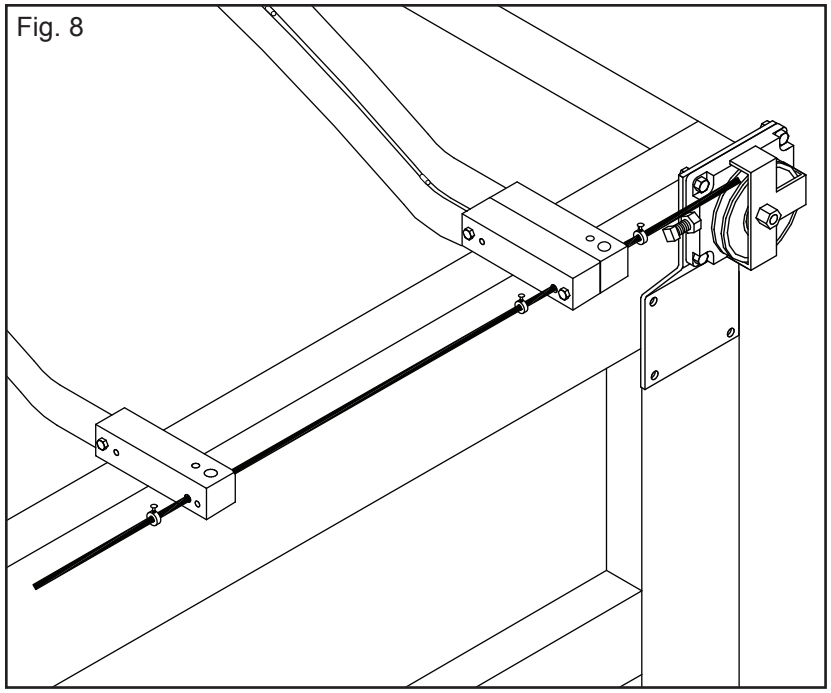
Fig. 7



Inside Mount

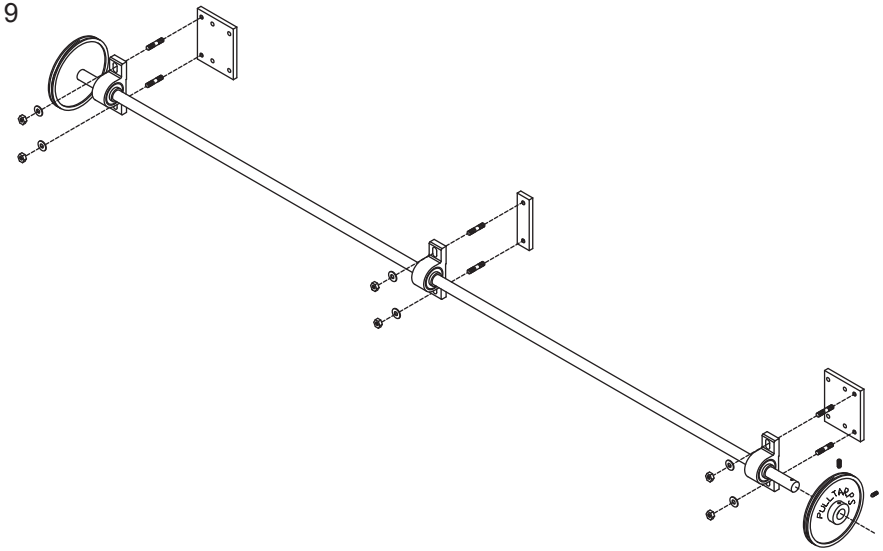
Step 3. Place the bow set with the alignment rods on the top rail at the rear of the trailer. Center the bows on the trailer. Use the alignment rods as a guide to line up the pulleys at the rear of the trailer. Clamp or tack weld in place (Fig. 8).

Fig. 8



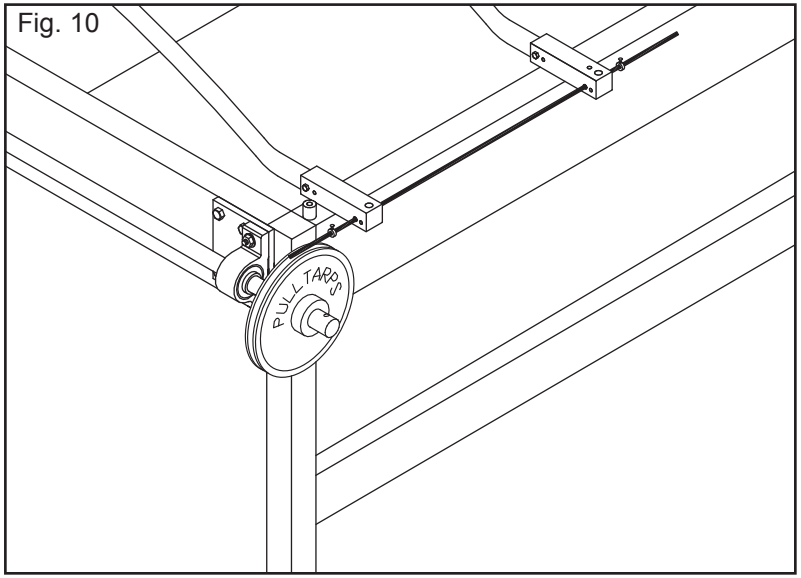
Step 4. Thread studs into Pillow Block Mounting Plates (part # 502-0166 & 502-0167). Mount Pillow Block Bearings to Plates using the 3/8” Hex Nuts (part # 504-3702) and 3/8” SAE Flat Washers (part # 505-3702). Install Bearings and Plates on Shaft as shown in Fig. 9. Note: Do not tighten set screws on bearings or pulleys at the is time.

Fig. 9



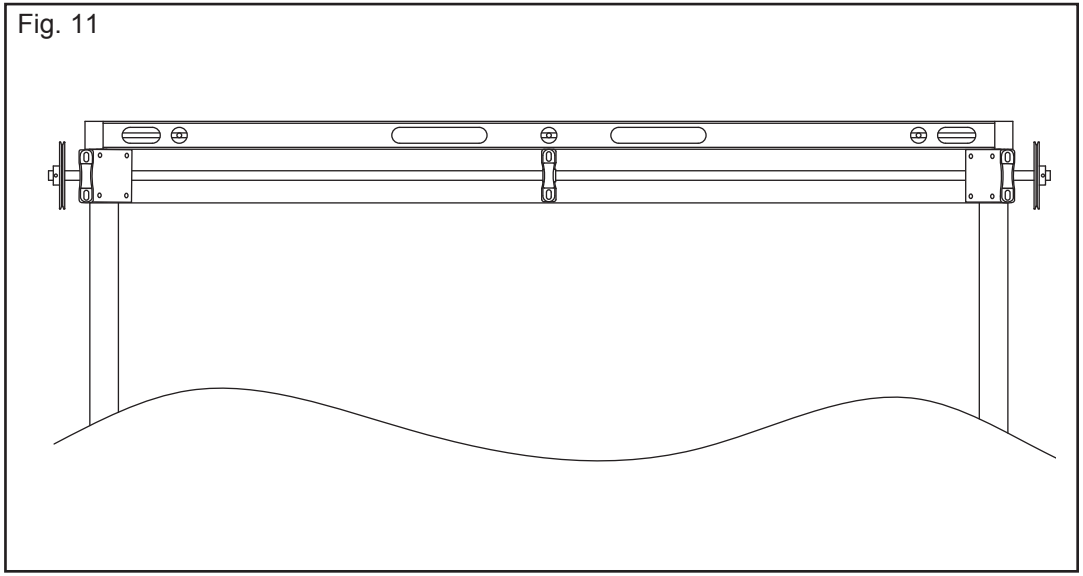
Step 5. Move the bow set to the front of the trailer. Use the alignment rods as a guide to line up the front shaft assembly (Fig. 10)

Fig. 10



Step 6. Align front pillow block bearings with straight edge. Clamp or tack weld bearing mounts in place. 506-3703 3/8x1 self thread screws can be used to bolt bearing plates in place. (Fig. 11) ***NOTE:*** **Outter pillow block bearings must be mounted as close to the pulleys as possible**.

Fig. 11

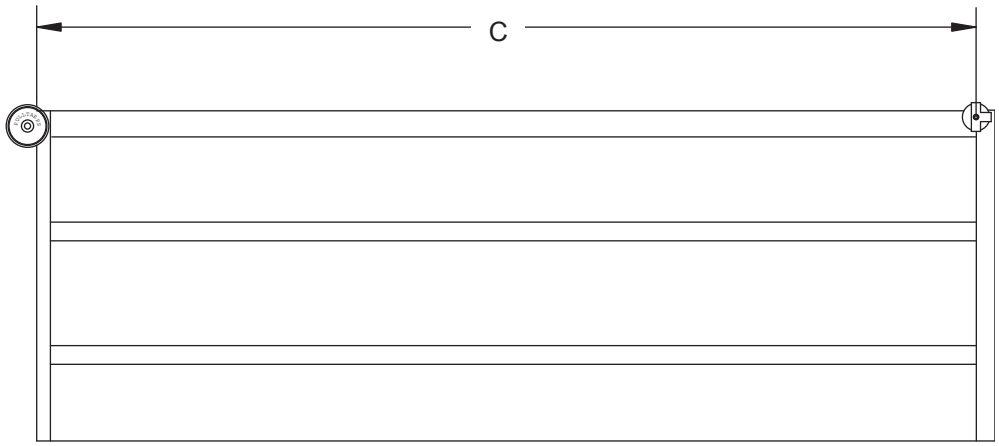


Step 7. Check measurements of front and rear pulleys. Width of pulleys must be the same at the front and back (Fig. 12). Distance must be the same between pulleys front and rear on both sides (Fig 13). Weld or bolt rear pulley mounts in place and bolt front pillow block bearings in place.

Fig. 12

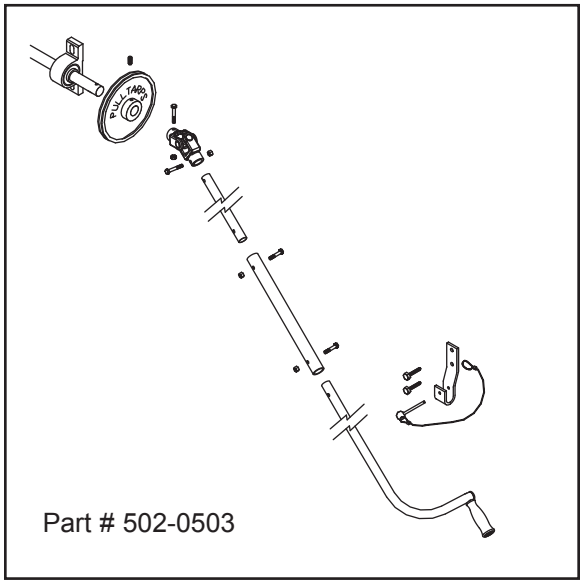
Note:
Dimension “A” and “B” Must be equal.
(Cables must be parallel) or binding will occur causing hard manual cranking, or motor will strain pulling more current.

Fig. 13

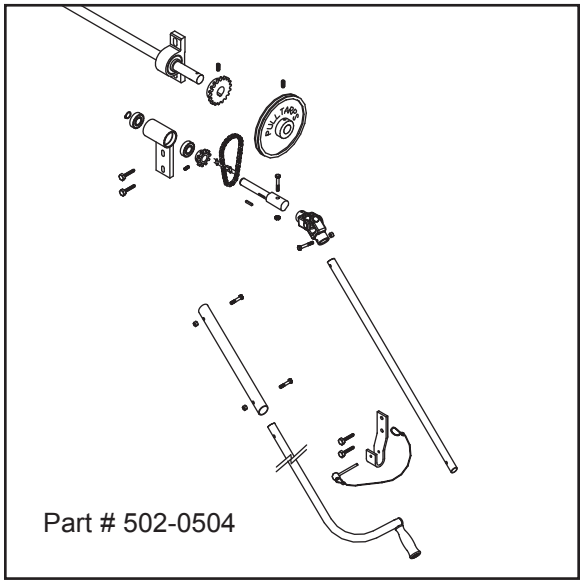


Note:
Dimension “C” Must be equal on both sides.

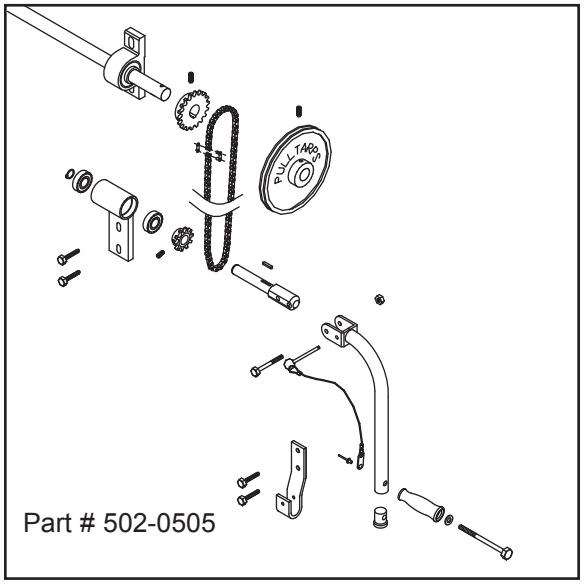
Step 8. Drive Option Assembly. For larger images refer to parts drawings in Section 3 Page 2-5.



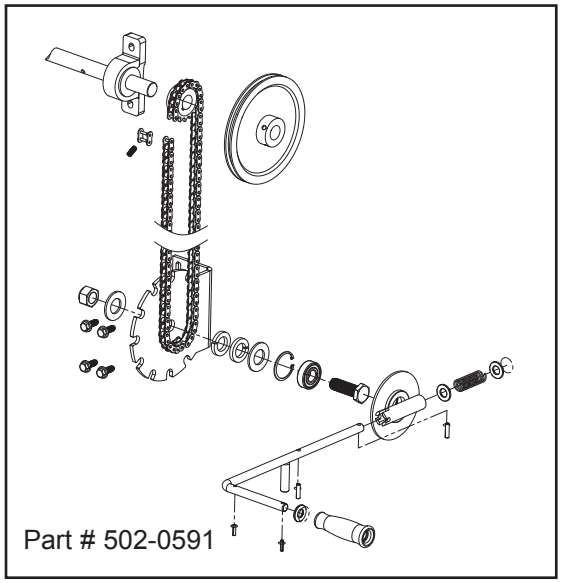
Standard Hand Crank



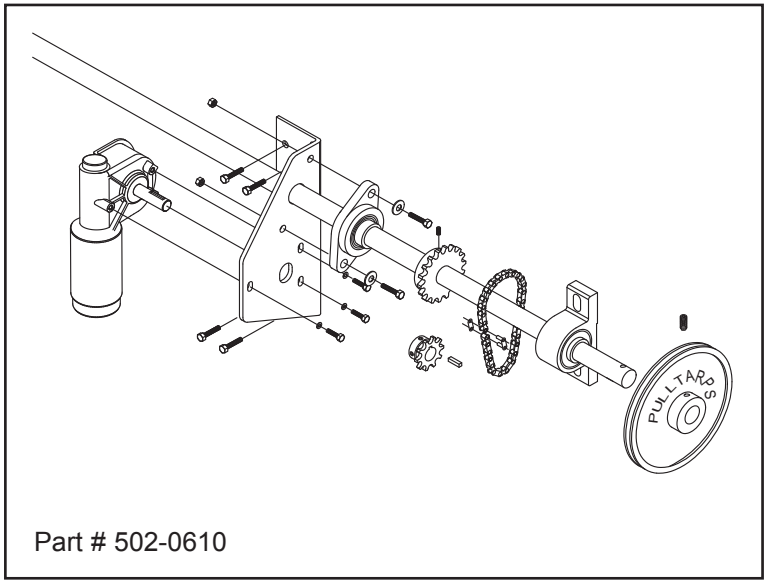
Long Hand Gear Reduction Hand Crank



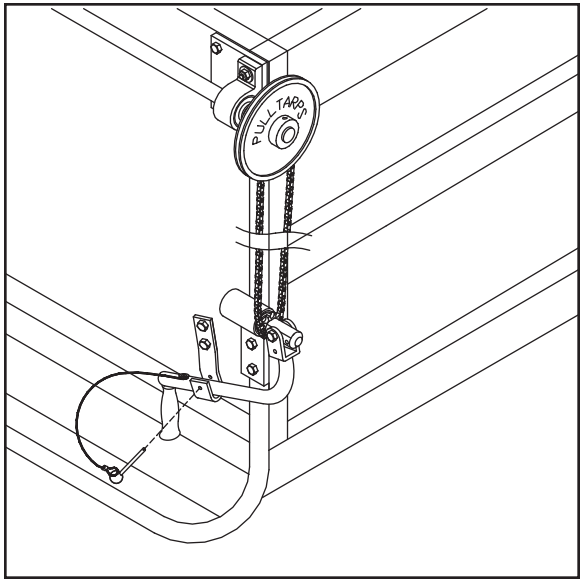
Ground Level Gear Reduction Hand Crank



Basic Hand Crank Kit



Twin Cable Motor Drive Kit



Assembled view of Ground Level Gear Reduction Hand Crank.

Step 9. Lay the tarp out on the ground with the pockets facing up. Install bows in tarp pockets and assemble sliders on bow ends. The rear bow comes punched with 11 holes on the back side for the rear back flap. Insert this bow in the pocket at the rear of the tarp. The dueal bow set is installed at the rear of the tarp. (Fig. 14 & 15)

Fig. 14

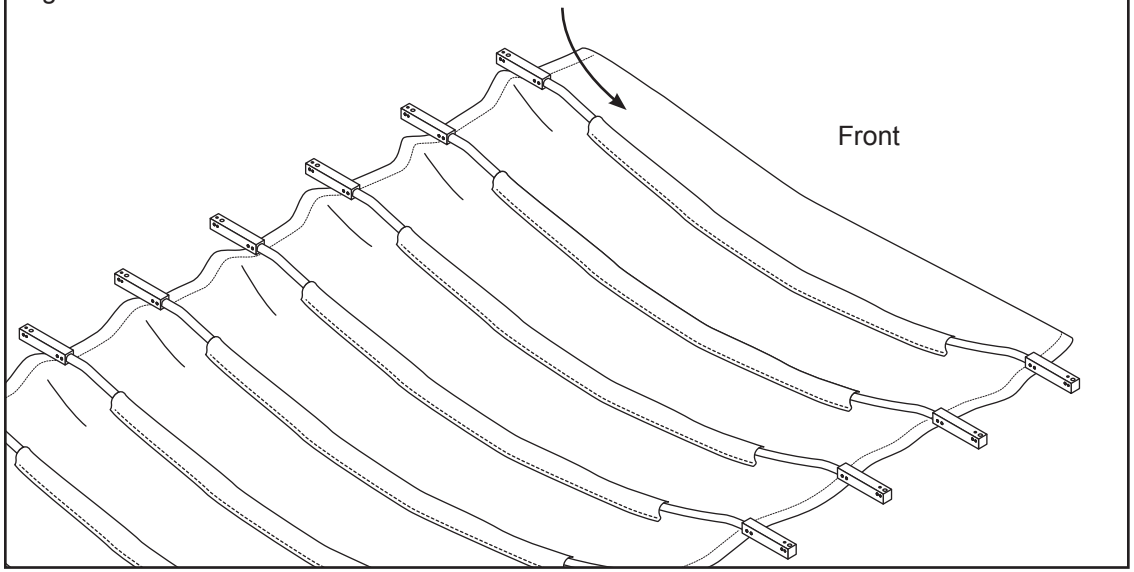


Fig. 15a

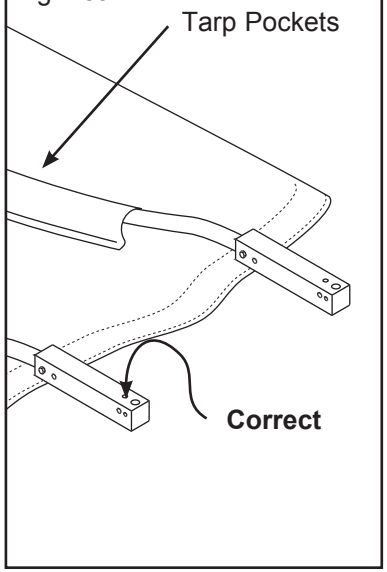
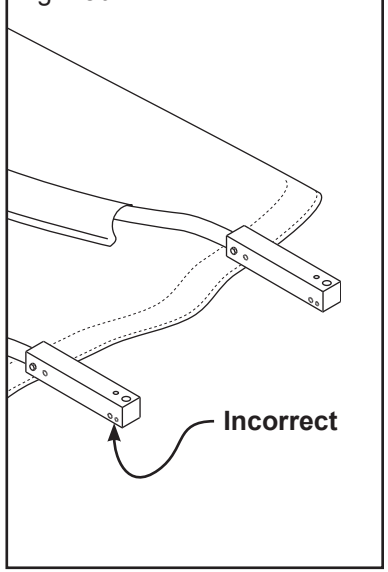


Fig. 15b



Step 10. Systems with Air Gates

Insert Air Gate Bow Extensions into rear bow and measure inside width. The inside width of the airgate bows must equal the cable centerline plus 3/4". Cut equal amounts from each end of the bow as needed. After cutting, drill 9/32" hole through bow and bow extension. Install bow in tarp pocket and assemble Air Gate Bow Extension using hardware that comes with bow (Fig. 16).

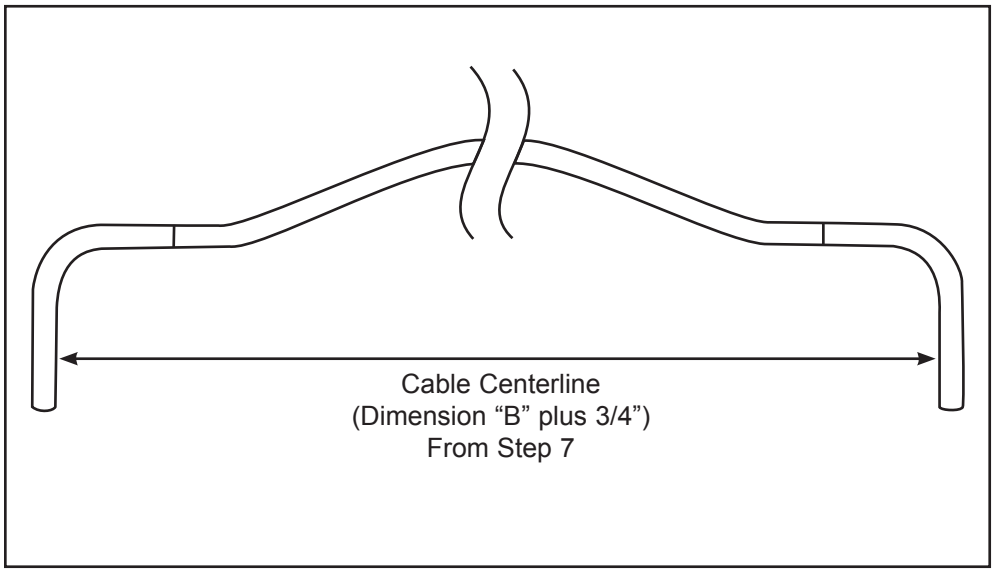
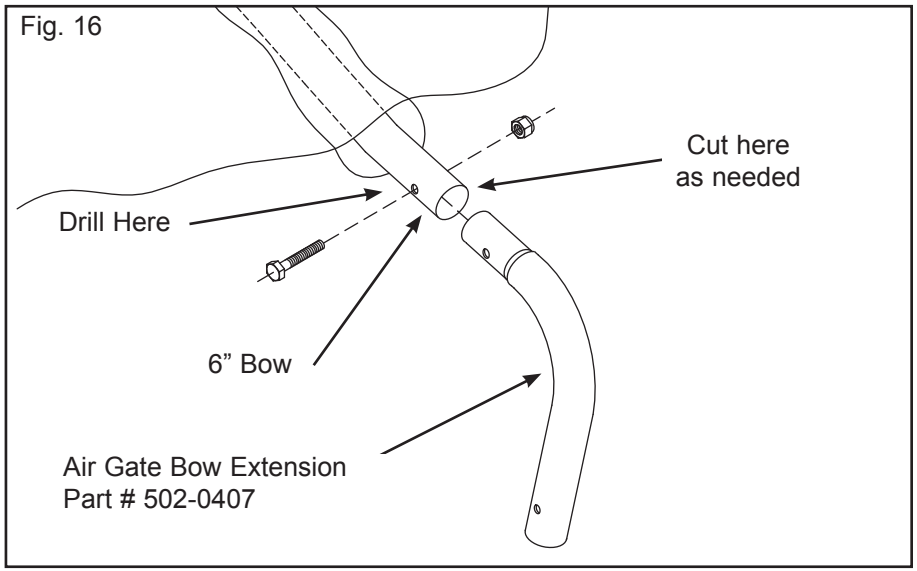
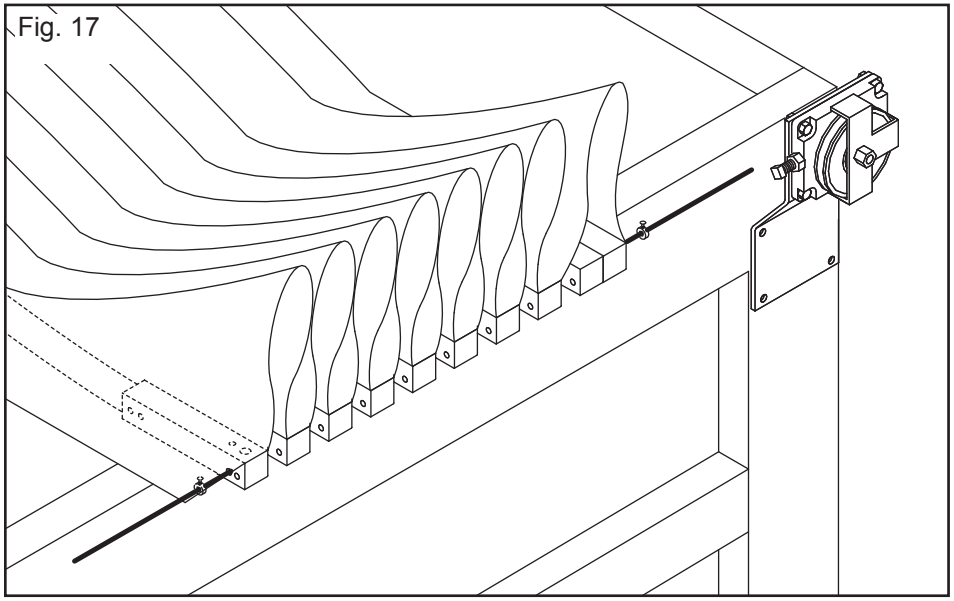


Fig. 16



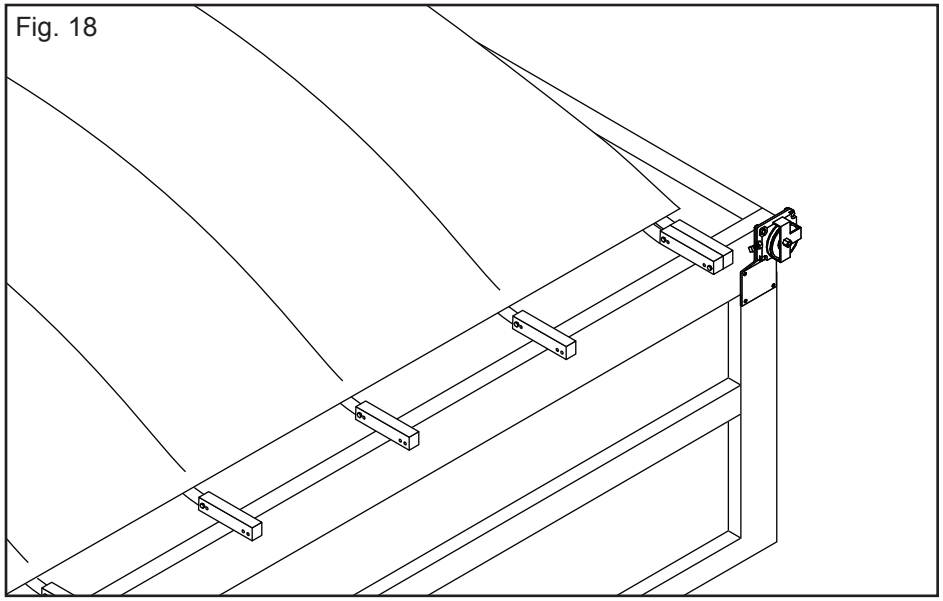
Step 11. Gather all the bows and sliders together on the ground and instert alignment rod through the sliders. Turn the tarp over and place on the trailer.

Fig. 17



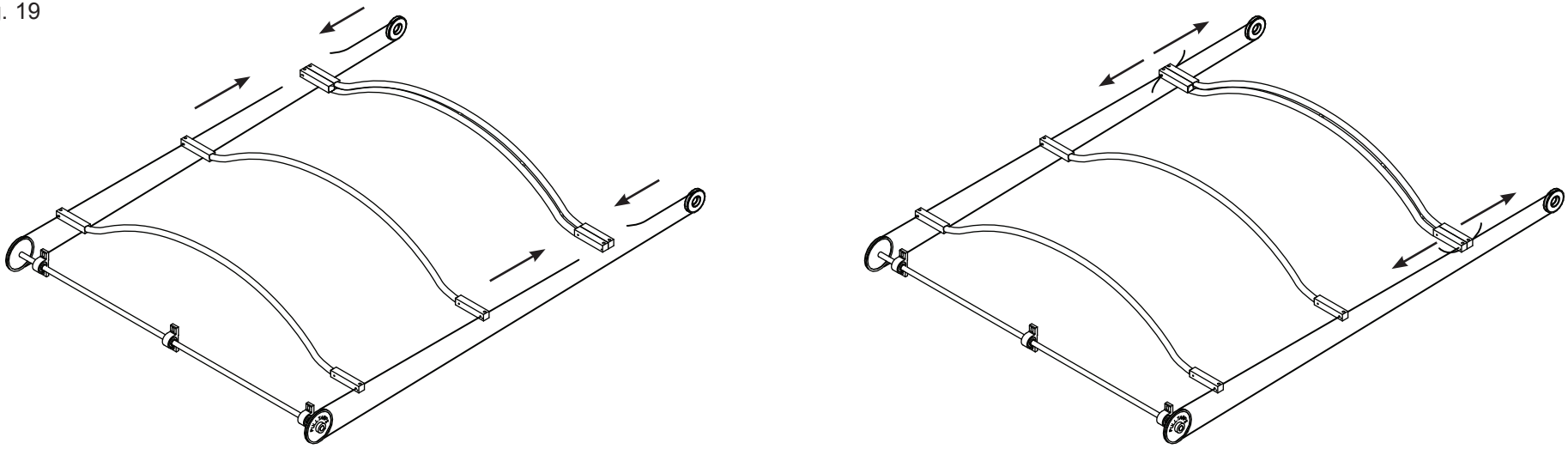
Step 12. Remove the alignment rods and spread the tarp out on the trailer (Fig. 18).

Fig. 18



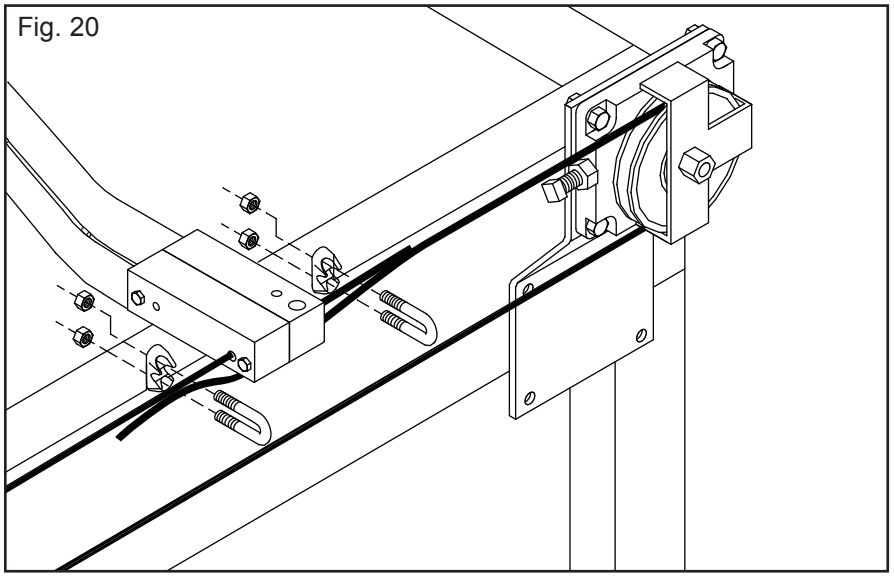
Step 13. Stretch each cable out on the ground to remove any loops or twists. Then thread the cable as shown below through the Sliders. (Fig.19).

Fig. 19



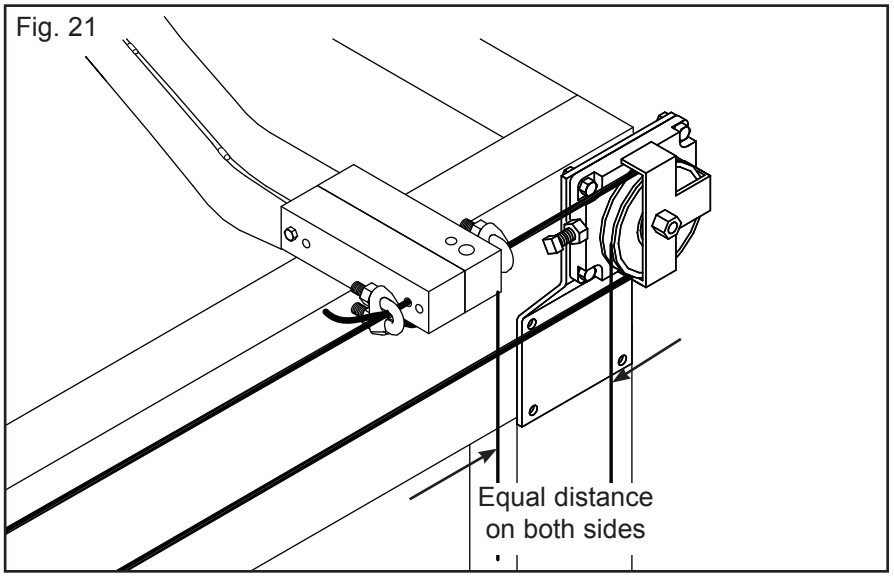
Step 14. Assemble cable clamps at both rear pulleys. Clamps must face inward at assembly. Pull the slack out of cable (Fig. 20).

Fig. 20



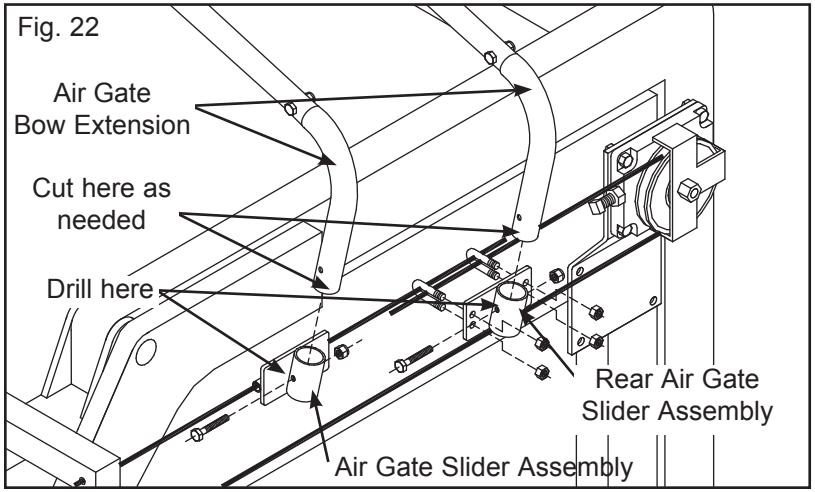
Step 15. On the left side (Driver Side), measure from the back of last slider to the front of the rear pulley (Fig. 21). Adjust the slider on the right side (Passenger Side) to be the same distance from pulley.

Fig. 21



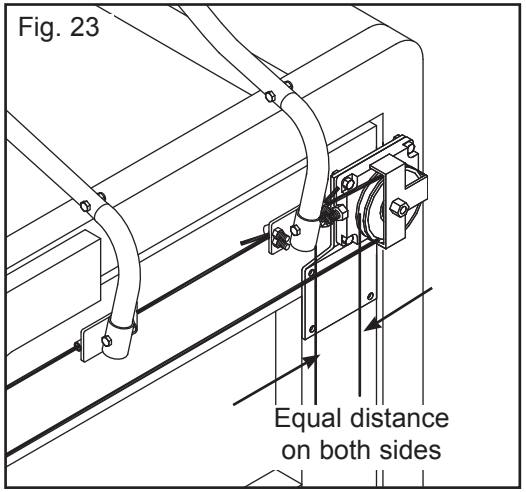
Step 16. Systems with Air Gates. Clamps must face outward at assembly. Pull the slack out of cable. Tighten cable clamps on driver's side. Measure the height needed for the bows to just clear the top of Air Gate. Trim the Air Gate Bow Extensions as needed. Using the Air Gate Sliders as a guide, drill 9/32" hole through Air Gate Bow Extensions and bolt Bows to Sliders. Make sure Driver Side and Passenger Sides are equal hieght.

Fig. 22



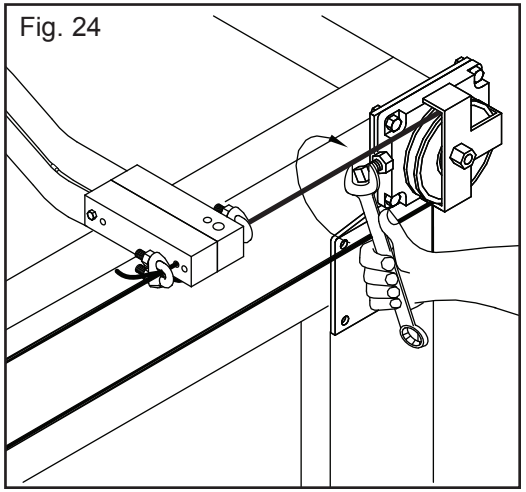
Step 17. System with Air Gates. On left side (Driver Side) measure from back of Rear Air Gate Slider Assy to the front of the rear pulley (Fig. 23). Adjust the slider on the right side (Passenger Side) to be the same distance from pulley.

Fig. 23



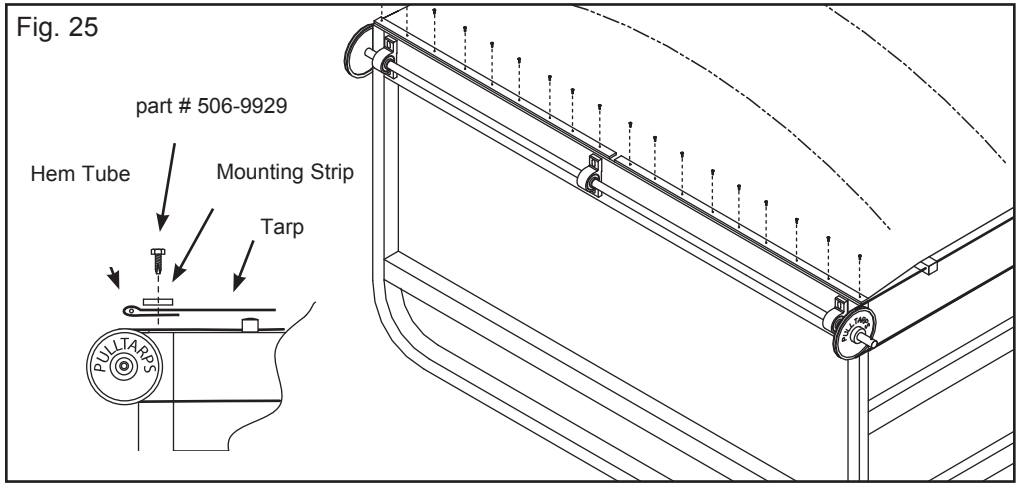
Note: Adjust cable tension until the cable just begins to slip on the rear pulley when the system is fully extended. Then add one additional full turn by turning adjustment nut on the rear pulley clockwise as shown. (Fig. 24)

Fig. 24



Step 18. Extend rear bow to within two inchs of rear pulley. Pull front of tarp forward to the front of the truck bed. Double fabric over Hem Tube. Pull fabric tight and fasten to front of trailer using the aluminum mounting strips and self tapping screws (part # 506-9929) (Fig. 25). Be sure the self tapping screws go all the way through and into the trailer.

Fig. 25



Step 19. Attaching Tarp and Rear Back Flaps

A. Center the tarp on the bows. Fasten the tarp to the slider or bow. Use the hex head screw(part # 506-9908) if your tarp overlaps the slider (Fig. 26). If the tarp does not overlap the slider (Fig. 27) or if it overlaps a small amount (Fig. 28), then use the self tapping screw (part # 506-9907) to go through the tarp grommet, slider and bow. Repeat these steps to attach tarp to each bow.

B. The back flap is bolted to the last bow. The rear bow comes punched with 11 holes on one side (for the back flap). If you have a 93" rear bow it will only have 9 holes, along the back side. The back flap is two separate pieces. The pieces will be overlapped in the center. Attach the back flap to the rear bow starting from the center. Locate the holes in the rear bow by feel. Pierce the tarp with a sharp object (awl, ice pick). Insert the self drilling screw through the fabric into the bow and tighten in the order shown in Fig. 29.

Note: Bolts # 7 & 13 will only be used if you have outside grommet in your back flap.

C. If the tarp has outside grommet in the back flap, then drill a 3/16" hole in the bow and insert the self threading screws (part # 506-2505) through the outside grommet and into the bow.

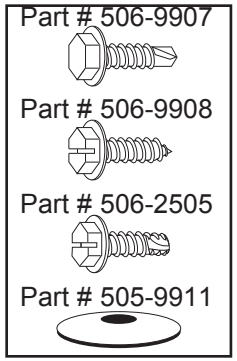


Fig. 26

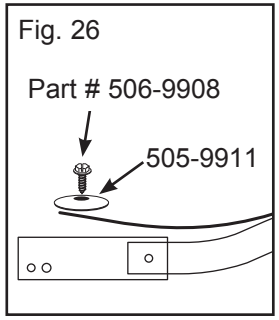


Fig. 27

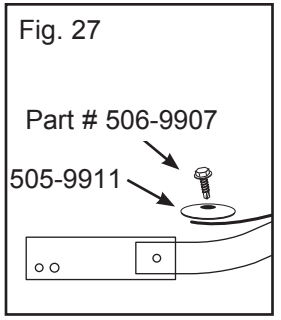


Fig. 28

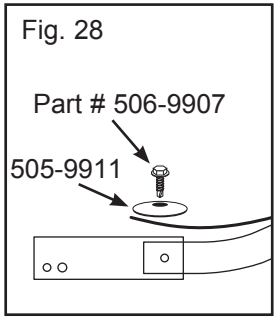


Fig. 29

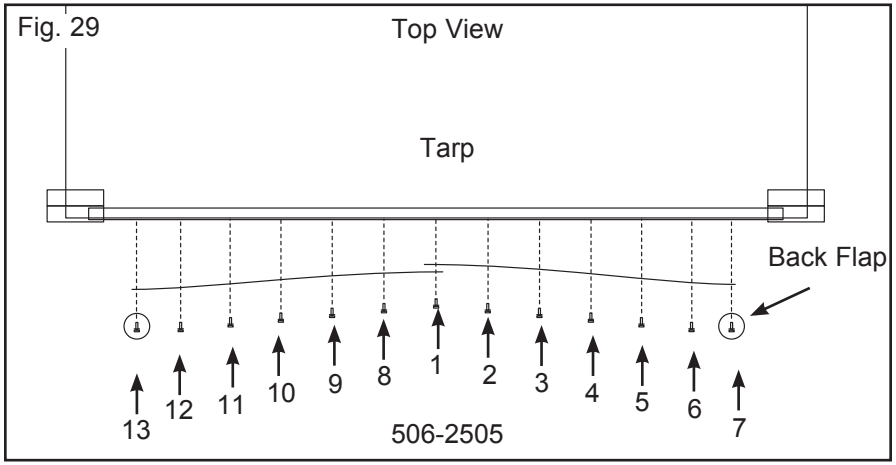
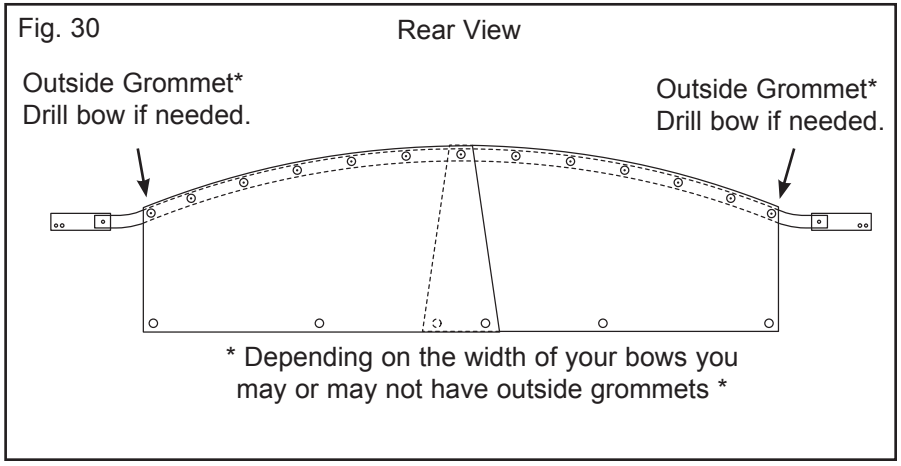
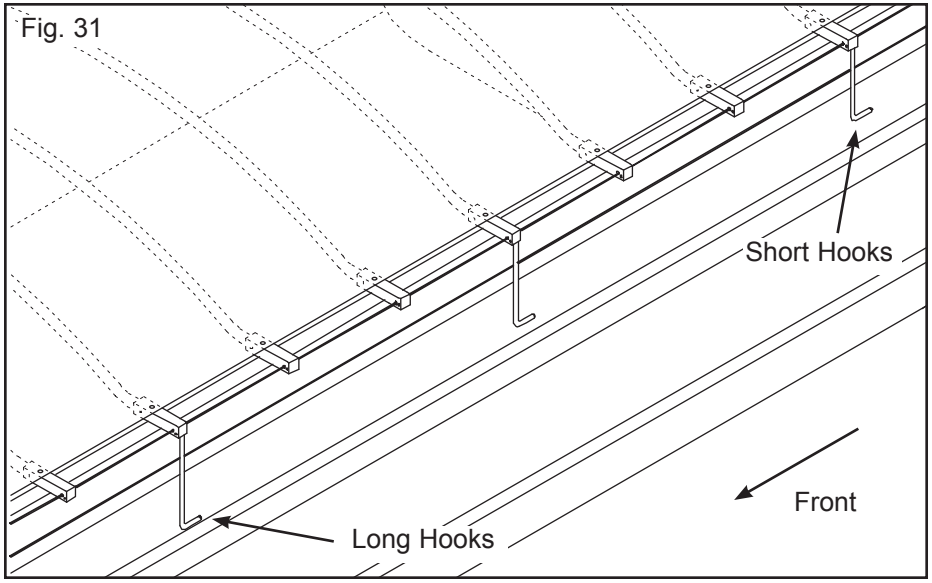


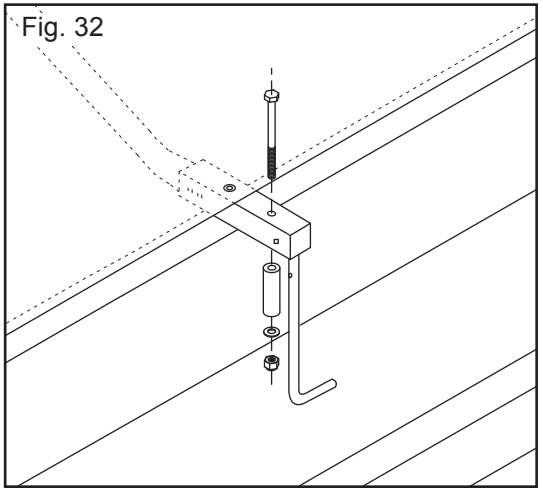
Fig. 30



Step 20. Hold Down Hooks are installed on every 3rd or 4th slider. Space evenly and use all hooks provided. Longer hooks are installed to the front of the trailer (Fig. 31).



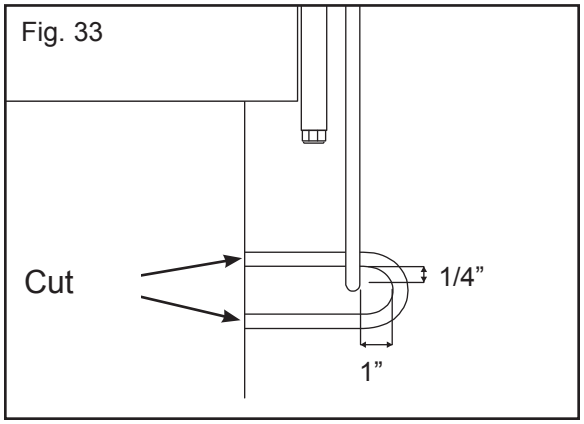
Step 21. Install Hold Down Roller (part # 502-0450) as shown in Fig. 32.

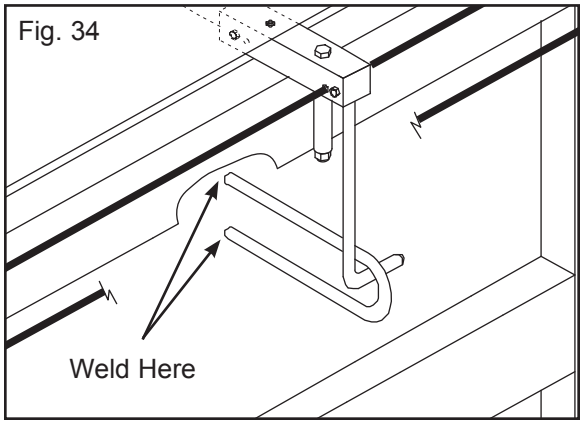


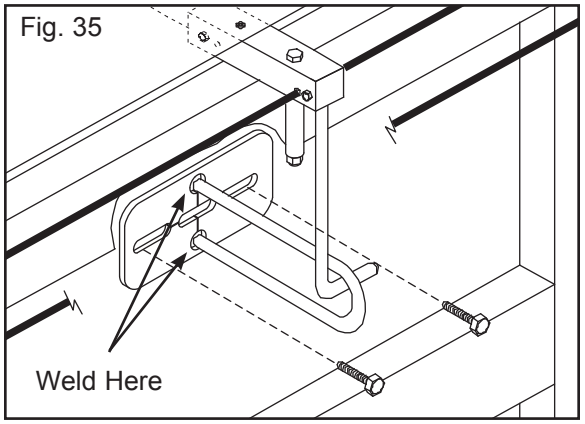
Step 22. On steel bodies cut Body Hold Downs to allow 1” clearance between Slider Hold Down Hooks and Body Hold Downs (Fig. 33).

Step 23. On steel bodies weld Body Hold Downs in place (Fig 34).

Step 24. On aluminum bodies cut Body Hold Downs to allow 1” clearance between Slider Hold Down Hooks and Body Hold Downs (Fig. 35). Weld to mounting plate then bolt to body.





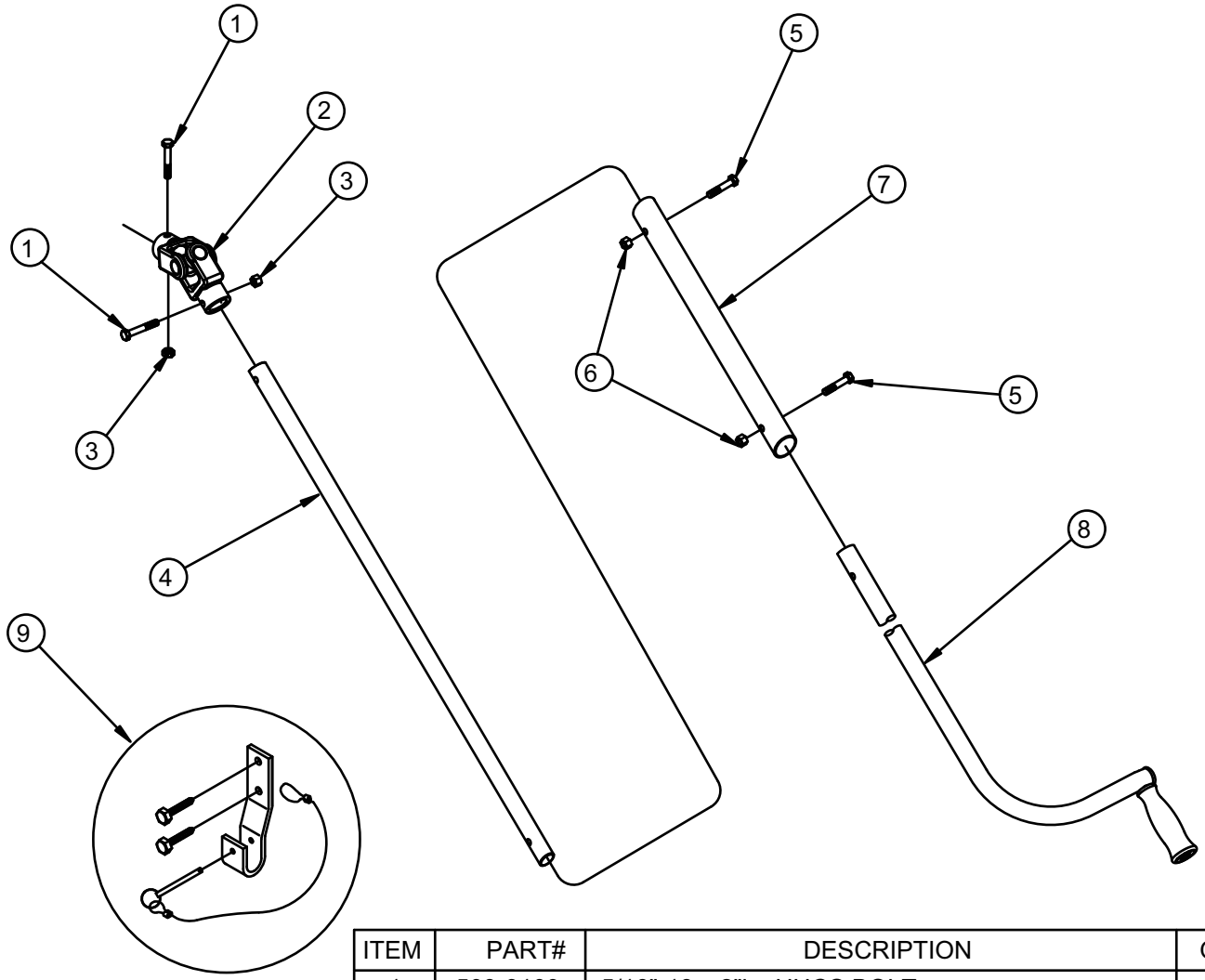


Finial testing of the system

Step 25. Cycle system in and out a few times. Add cable tension until the cable just begins to slip on the rear pulley when the system is fully retracted, then add one additional full turn.

Step 26. Check slider distance to rear pulley as shown in step 16. Recheck cable tension often during the first week of operation. Adjust cable tension and realign bows as needed.

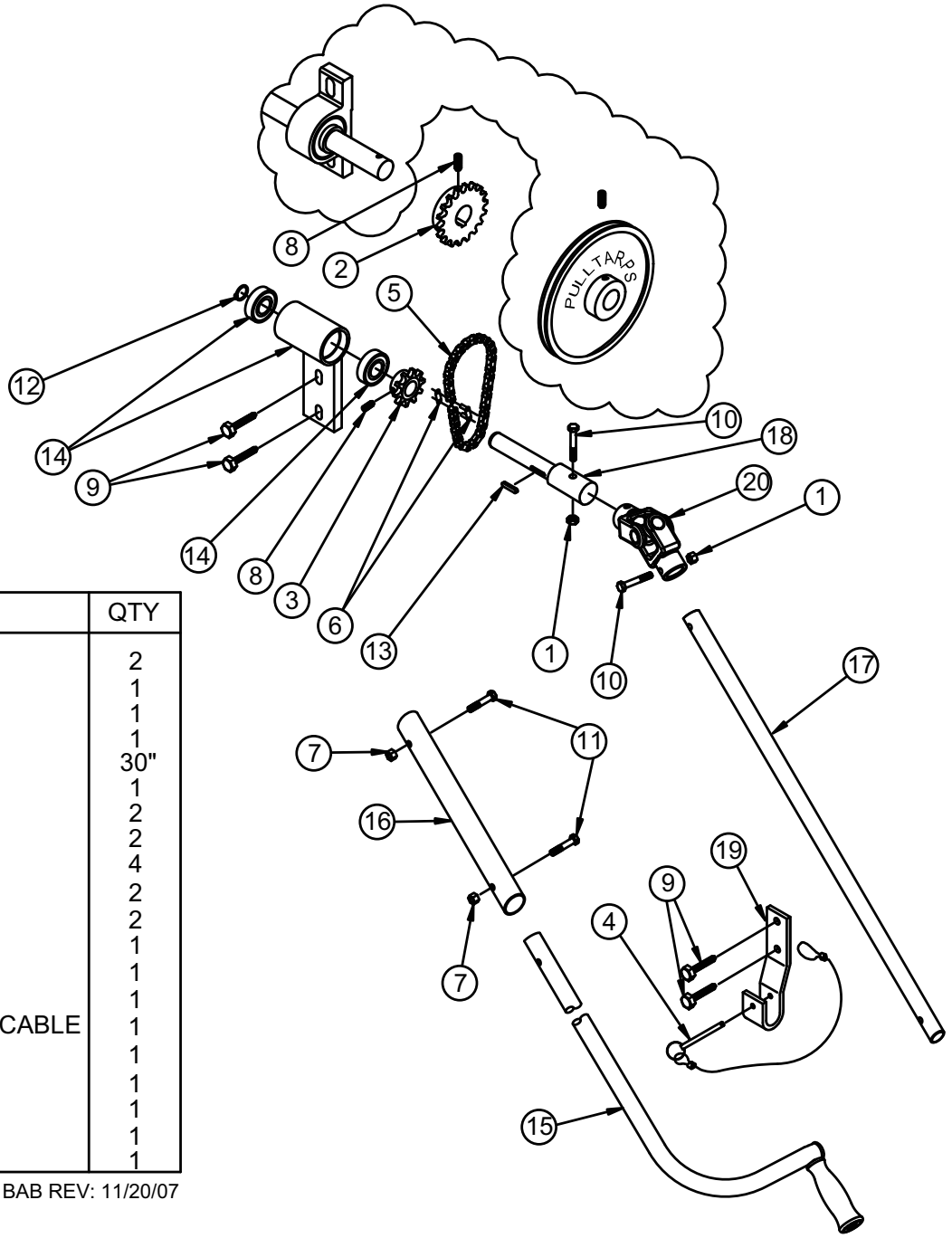
Twin Cable Direct Drive Hand Crank Assembly (#502-0503)



ITEM	PART#	DESCRIPTION	QTY
1	503-3109	5/16"-18 x 2"lg. HHCS BOLT	2
2	502-0565	1" U-JOINT, H3 x H3 STD. JT.	1
3	504-3103	5/16"-18 NYLOC NUT	2
4	502-0552	CRANK HANDLE EXTENSION, 80"	1
5	503-3708	3/8"-16 x 1 3/4"lg. HHCS BOLT	2
6	504-3702	3/8"-16 NYLOC NUT	2
7	502-0551	CRANK HANDLE SLEEVE 48" LONG	1
8	502-0550	CRANK HANDLE ARM ASSEMBLY-TWIN CABLE	1
9	502-0559	HANDLE LATCH FOR TWIN CABLE	1

BAB 11/27/07

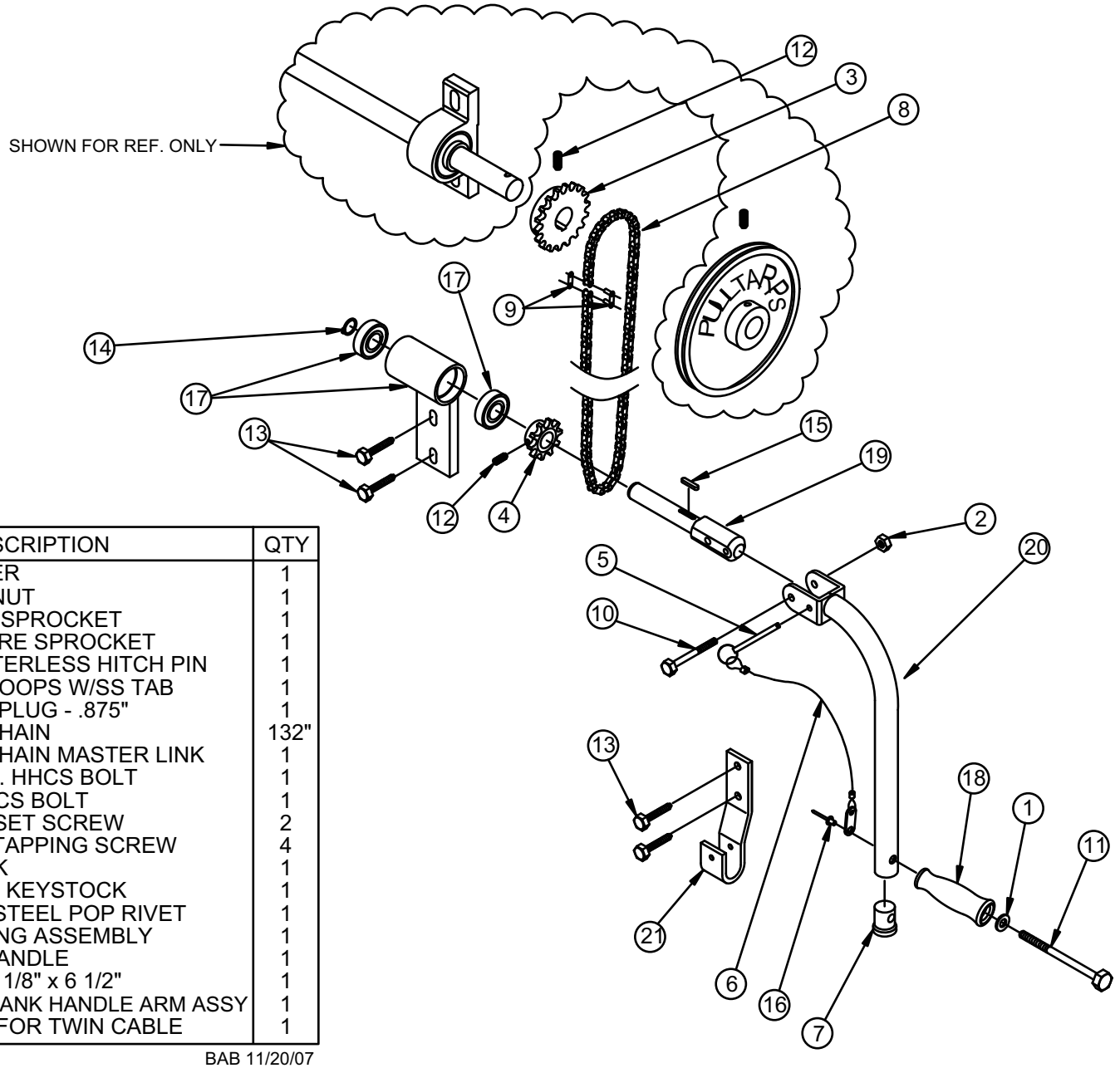
Twin Cable Upper Gear Reduction Hand Crank (Part # 502-0504)



ITEM	PART#	DESCRIPTION	QTY
1	504-3103	5/16"-18 NYLOC NUT	2
2	502-0513	40B16 x 1" BORE SPROCKET	1
3	502-0515	40BS10 x 3/4" BORE SPROCKET	1
4	502-0526	LATCH PIN W/ LANYARD	1
5	502-0535	RC 40 ROLLER CHAIN	30"
6	502-0537	RC 40 ROLLER CHAIN MASTER LINK	1
7	504-3702	3/8"-16 NYLOC NUT	2
8	506-3103	5/16"-18 x 3/4" SET SCREW	2
9	506-3703	3/8"x 1" SELF TAPPING SCREW	4
10	503-3109	5/16"-18 x 2" HHCS BOLT	2
11	503-3708	3/8"-16 x 1 3/4" HHCS BOLT	2
12	506-7501	3/4" SPIRAL LOCK	1
13	506-9922	3/16" x 3/4" KEYSTOCK	1
14	502-0574	BEARING HOUSING ASSEMBLY	1
15	502-0550	CRANK HANDLE ARM ASSEMBLY-TWIN CABLE	1
16	502-0551	CRANK HANDLE SLEEVE 48" LONG.	1
17	502-0552	CRANK HANDLE EXTENSION, 80" LONG	1
18	502-0554	DRIVE SHAFT-1" x 5 5/8"	1
19	502-0558	HANDLE LATCH FOR TWIN CABLE	1
20	502-0565	1" U-JOINT, H3 x H3 STD. JT.	1

BAB REV: 11/20/07

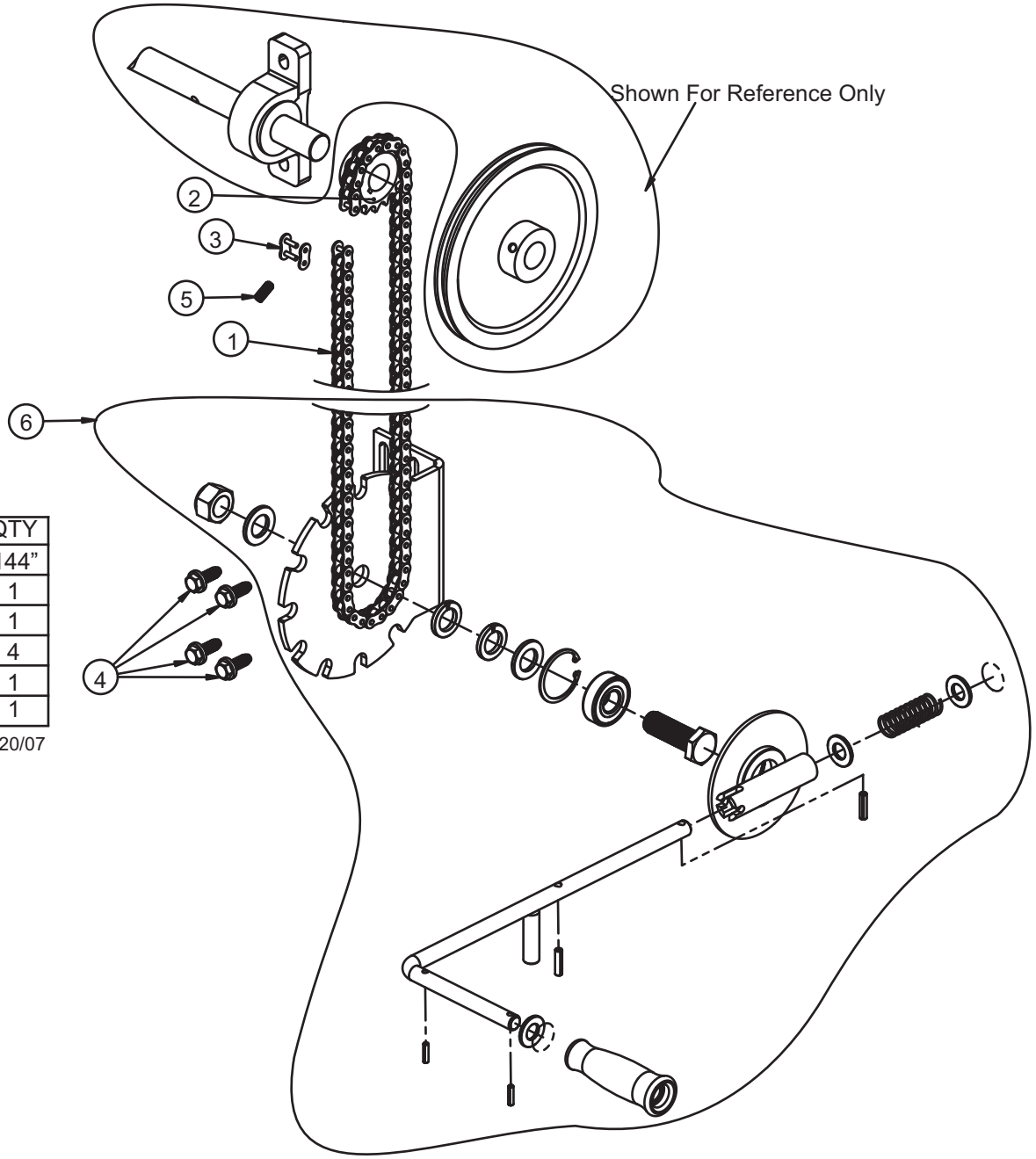
Twin Cable Standard Chain Drive Assembly (Part # 502-0505)



ITEM	PART#	DESCRIPTION	QTY
1	505-3702	3/8" FLAT WASHER	1
2	504-3103	5/16"-18 NYLOC NUT	1
3	502-0513	40B16 x 1" BORE SPROCKET	1
4	502-0515	40BS10 x 3/4" BORE SPROCKET	1
5	502-0527	1/4" x 2 1/2" COTTERLESS HITCH PIN	1
6	502-0529	12" LANYARD 2 LOOPS W/SS TAB	1
7	502-0532	CRANK HANDLE PLUG - .875"	1
8	502-0535	RC 40 ROLLER CHAIN	132"
9	502-0537	RC 40 ROLLER CHAIN MASTER LINK	1
10	503-3108	5/16"-18 x 1 3/4"lg. HHCS BOLT	1
11	503-3715	3/8"-16 x 5"lg. HHCS BOLT	1
12	506-3103	5/16"-18 x 3/4"lg. SET SCREW	2
13	506-3703	3/8" x 1"lg. SELF TAPPING SCREW	4
14	506-7501	3/4" SPIRAL LOCK	1
15	506-9922	3/16" x 3/4" LONG KEYSTOCK	1
16	506-1801	3/16" x .126-.250 STEEL POP RIVET	1
17	502-0544	BEARING HOUSING ASSEMBLY	1
18	502-0548	UHMW CRANK HANDLE	1
19	502-0553	DRIVE SHAFT - 1 1/8" x 6 1/2"	1
20	502-0556	LOWER GEAR CRANK HANDLE ARM ASSY	1
21	502-0558	HANDLE LATCH FOR TWIN CABLE	1

BAB 11/20/07

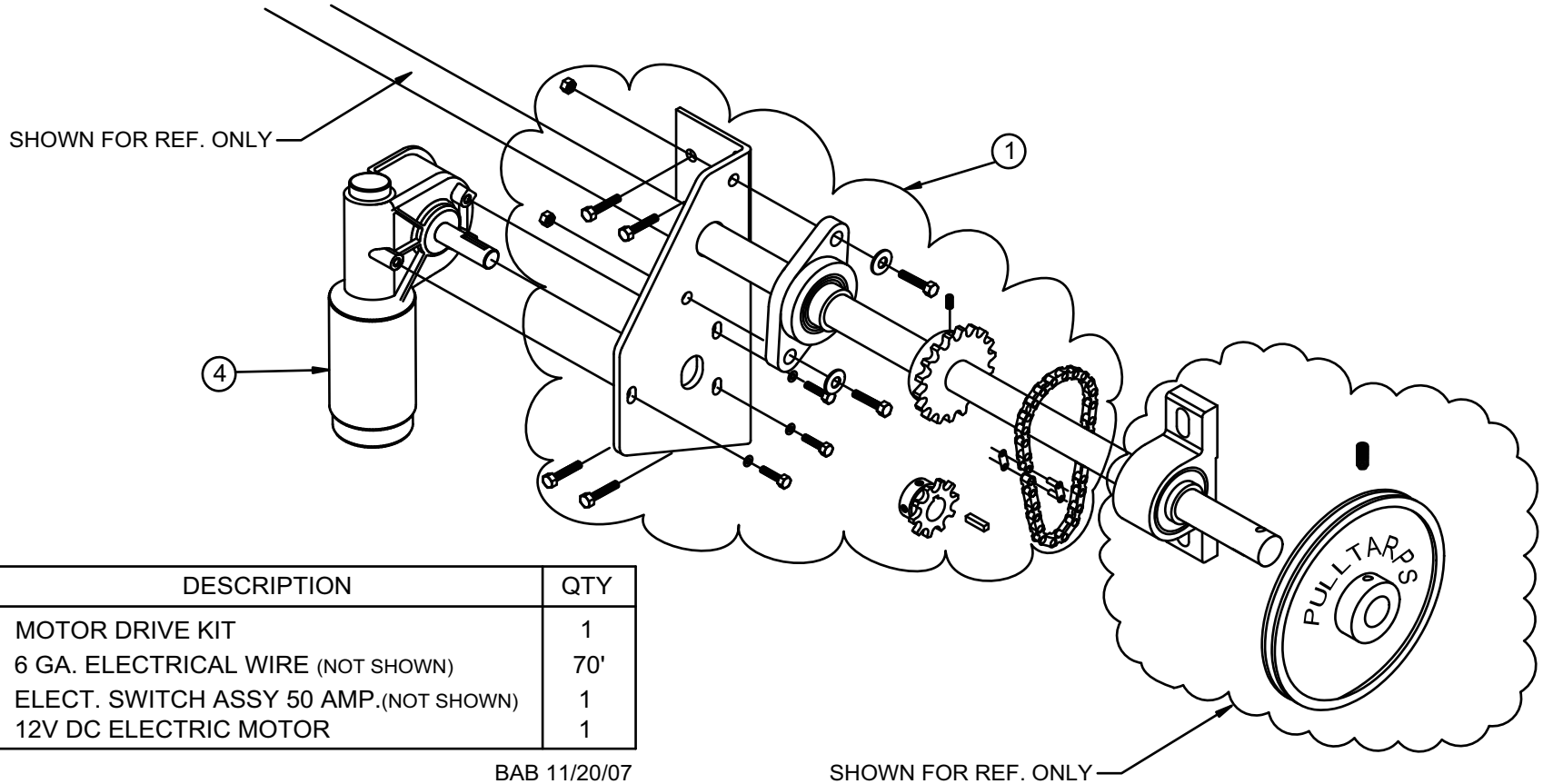
Basic Hand Crank Kit (Part # 502-0591)



ITEM	Part #	DESCRIPTION	QTY
1	502-0535	# 40 Roller Chain	144”
2	502-0513	40B16 x 1’ Bore Sprocket	1
3	502-0537	#40 Roller Chain Master Link	1
4	506-3703	3/8 x1’ Self Tapping Screws	4
5	506-3103	Set Screw 5/16’-18	1
6	502-0584	Basic Hand Crank Assy.	1

BAB REV11/20/07

Twin Cable Motor Drive Assembly (Part # 502-0610)



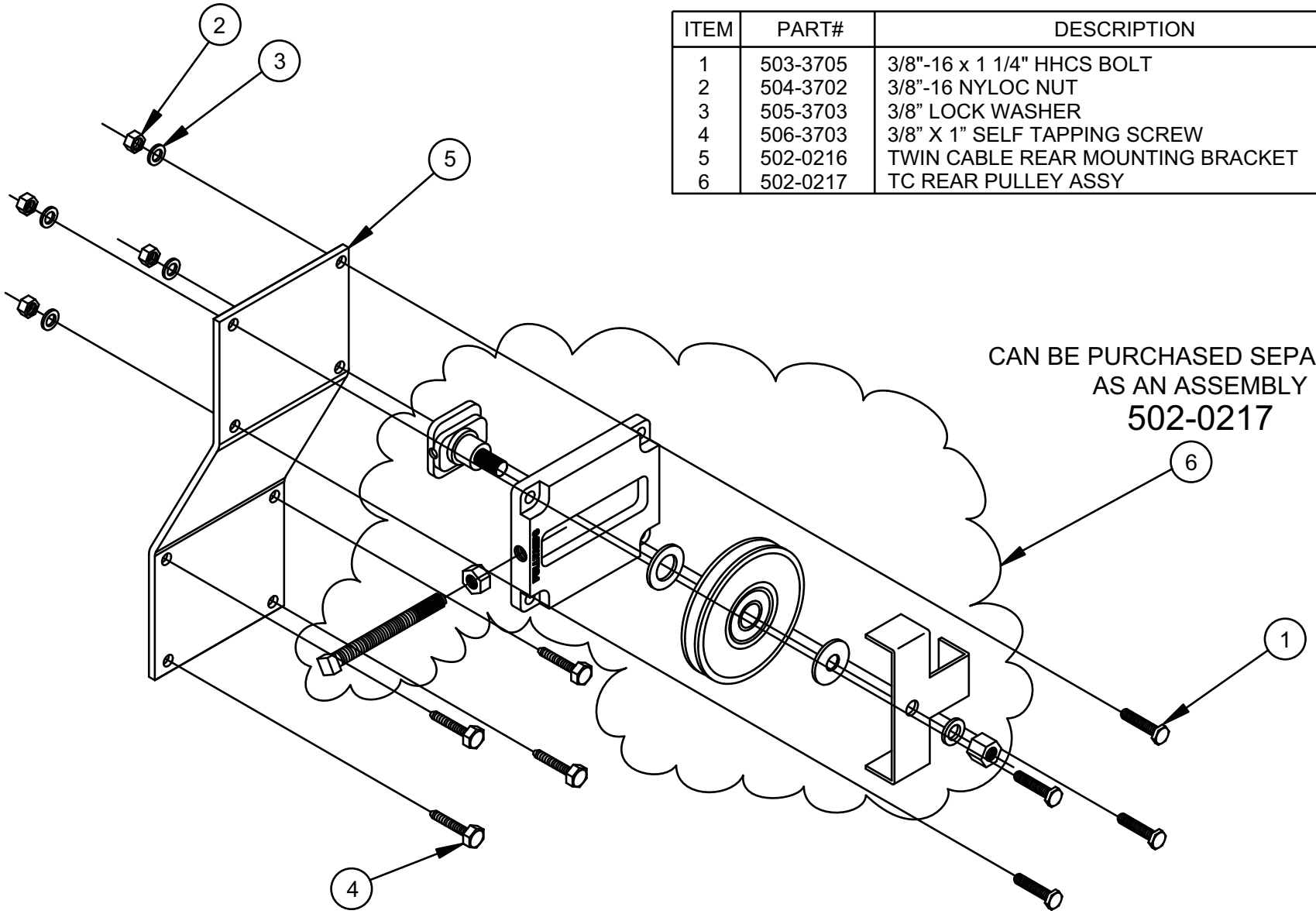
ITEM	PART#	DESCRIPTION	QTY
1	502-0612	MOTOR DRIVE KIT	1
2	514-0121	6 GA. ELECTRICAL WIRE (NOT SHOWN)	70'
3	514-0114	ELECT. SWITCH ASSY 50 AMP.(NOT SHOWN)	1
4	517-0906	12V DC ELECTRIC MOTOR	1

BAB 11/20/07

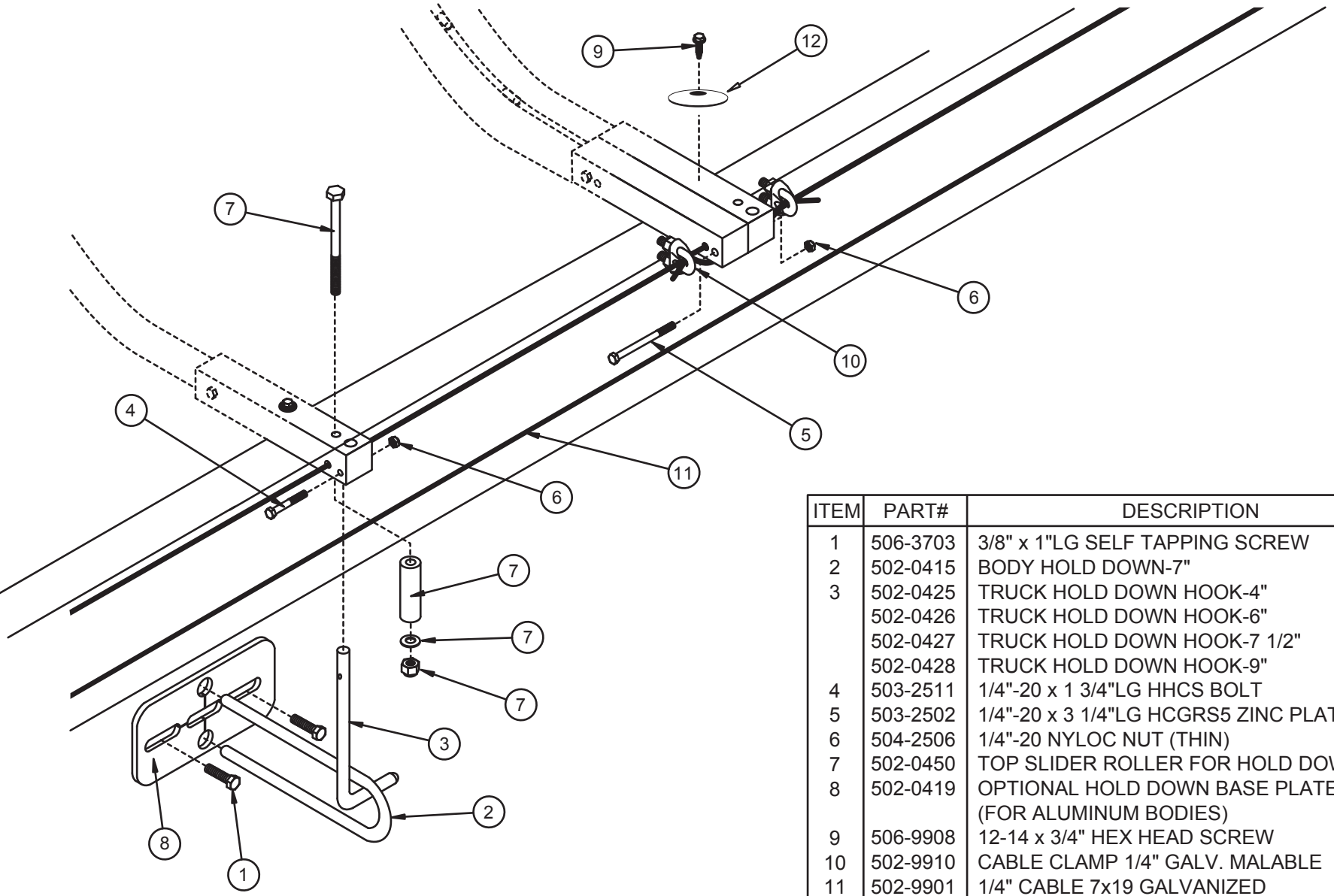
Twin Cable Rear Pulley Mount (Part # 502-0202 w/ Part # 502-0217)

ITEM	PART#	DESCRIPTION	QTY
1	503-3705	3/8"-16 x 1 1/4" HHCS BOLT	4
2	504-3702	3/8”-16 NYLOC NUT	4
3	505-3703	3/8” LOCK WASHER	4
4	506-3703	3/8” X 1” SELF TAPPING SCREW	4
5	502-0216	TWIN CABLE REAR MOUNTING BRACKET	1
6	502-0217	TC REAR PULLEY ASSY	1

BAB 11/26/07



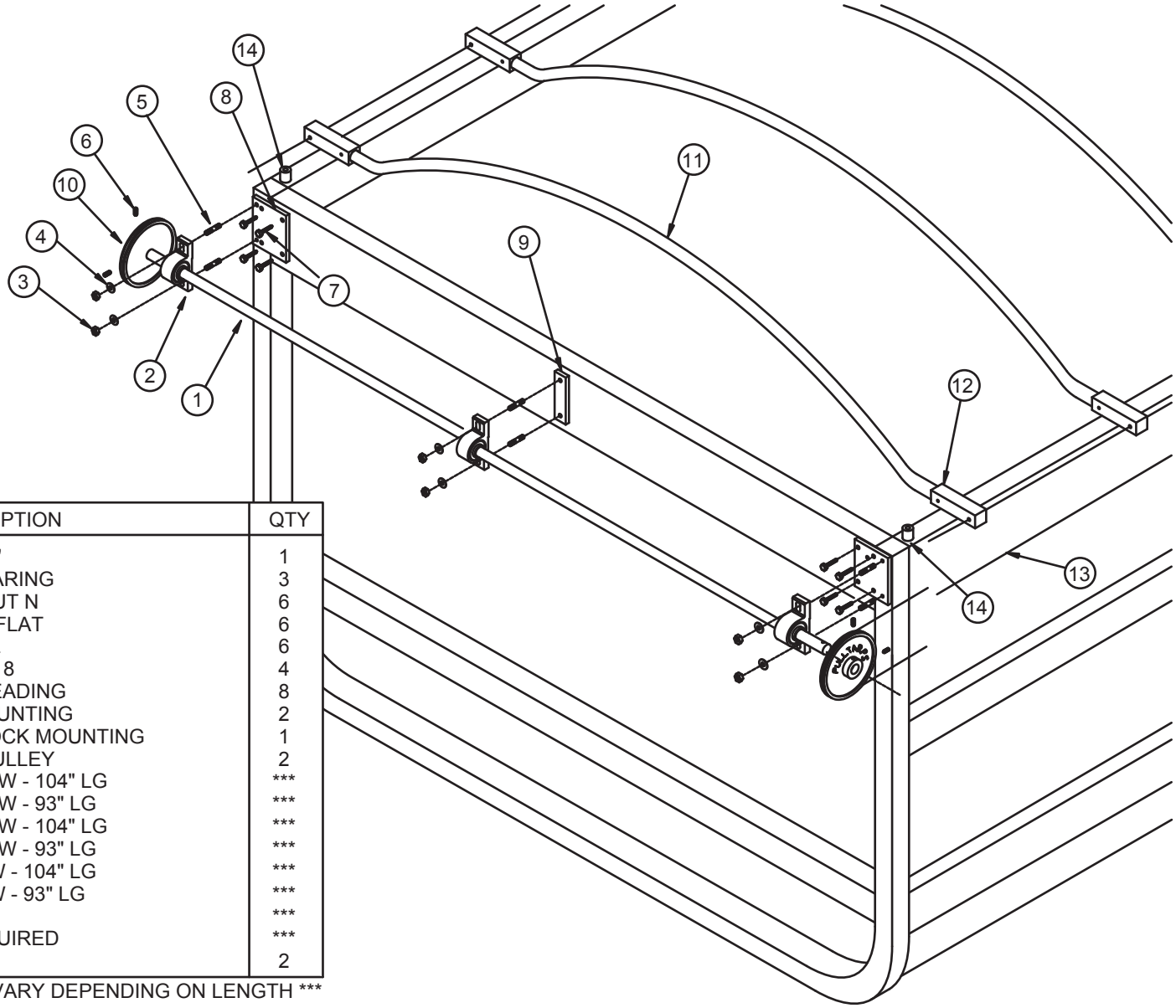
Top Sliders Hold Down Assembly (Part # 502-0007)



ITEM	PART#	DESCRIPTION	QTY
1	506-3703	3/8" x 1"LG SELF TAPPING SCREW	***
2	502-0415	BODY HOLD DOWN-7"	***
3	502-0425	TRUCK HOLD DOWN HOOK-4"	***
	502-0426	TRUCK HOLD DOWN HOOK-6"	***
	502-0427	TRUCK HOLD DOWN HOOK-7 1/2"	***
	502-0428	TRUCK HOLD DOWN HOOK-9"	***
4	503-2511	1/4"-20 x 1 3/4"LG HHCS BOLT	***
5	503-2502	1/4"-20 x 3 1/4"LG HCGRS5 ZINC PLATED	2
6	504-2506	1/4"-20 NYLOC NUT (THIN)	***
7	502-0450	TOP SLIDER ROLLER FOR HOLD DOWN	***
8	502-0419	OPTIONAL HOLD DOWN BASE PLATE (FOR ALUMINUM BODIES)	***
9	506-9908	12-14 x 3/4" HEX HEAD SCREW	***
10	502-9910	CABLE CLAMP 1/4" GALV. MALABLE	***
11	502-9901	1/4" CABLE 7x19 GALVANIZED	***
12	505-9911	NEOPRENE BACKED WASHER	***

NB REV. 7/28/11 *** QUANTITIES VARY DEPENDING ON LENGTH***

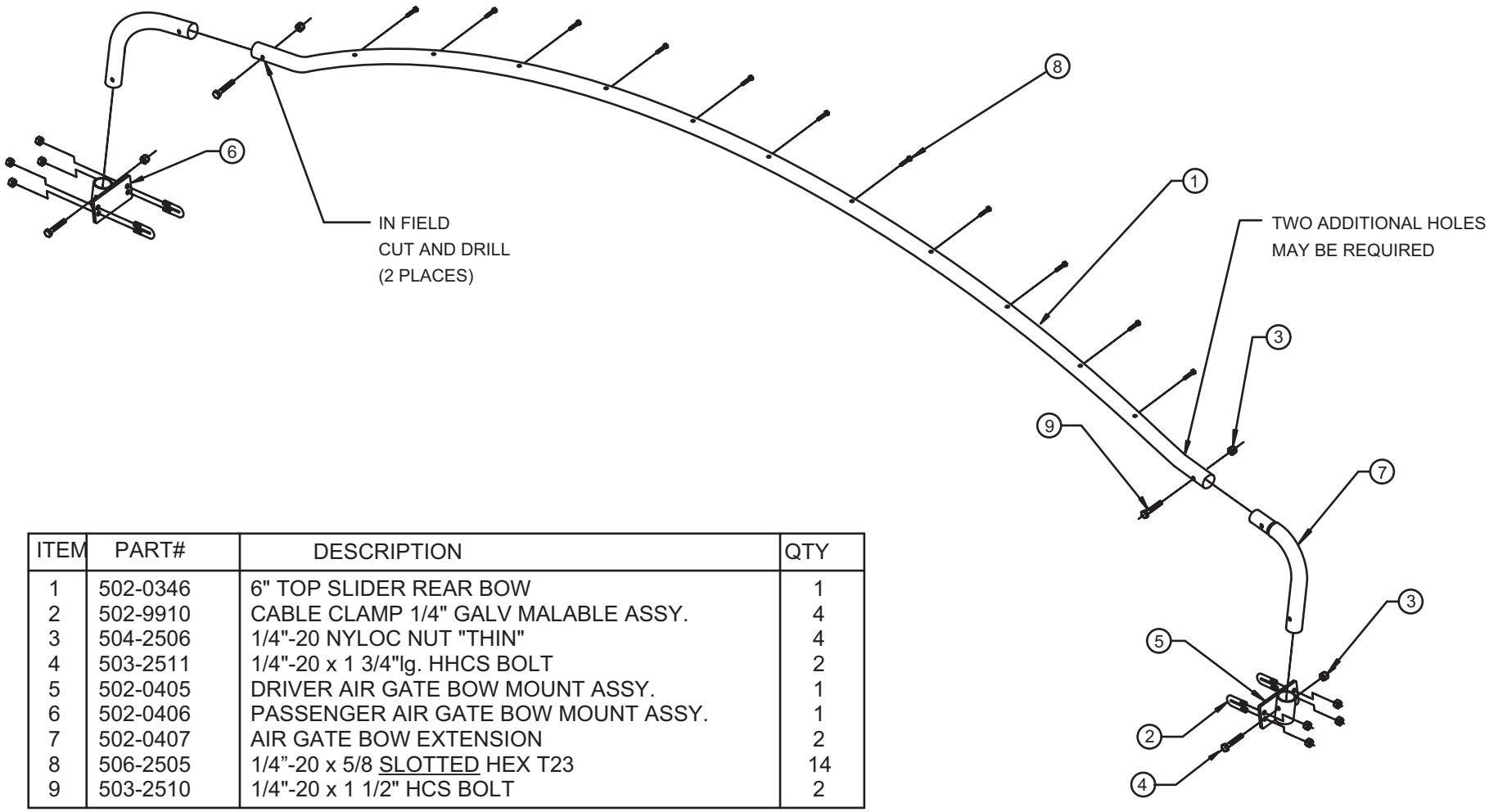
Twin Cable Top Slider Front Assembly and Associated Parts (301-XXXX)



ITEM	PART #	DESCRIPTION	QTY
1	502-0114	1" SHAFT - 105 7/16"	1
2	502-0801	PILLOW BLOCK BEARING	3
3	504-3702	NUT, 3/8"-16 HEX NUT N	6
4	505-3702	WASHER, 3/8" SAE FLAT	6
5	506-3704	3/8"-16 X 1" 1/2" DBL	6
6	506-3103	SET SCREW, 5/16"-18	4
7	506-3703	3/8" X 1" SELF THREADING	8
8	502-0166	PILLOW BLOCK MOUNTING	2
9	502-0167	SMALL PILLOW BLOCK MOUNTING	1
10	502-0168	7.5" TWIN CABLE PULLEY	2
11	502-0326	16" TOP SLIDER BOW - 104" LG	***
	502-0327	16" TOP SLIDER BOW - 93" LG	***
	502-0321	12" TOP SLIDER BOW - 104" LG	***
	502-0323	12" TOP SLIDER BOW - 93" LG	***
	502-0322	6" TOP SLIDER BOW - 104" LG	***
	502-0324	6" TOP SLIDER BOW - 93" LG	***
12	502-0304	8" BOW SLIDER	***
13	502-9901	1/4" CABLE AS REQUIRED	***
14	502-9917	SLIDER STOP	2

GR 12/12/12 *** QUANTITIES VARY DEPENDING ON LENGTH ***

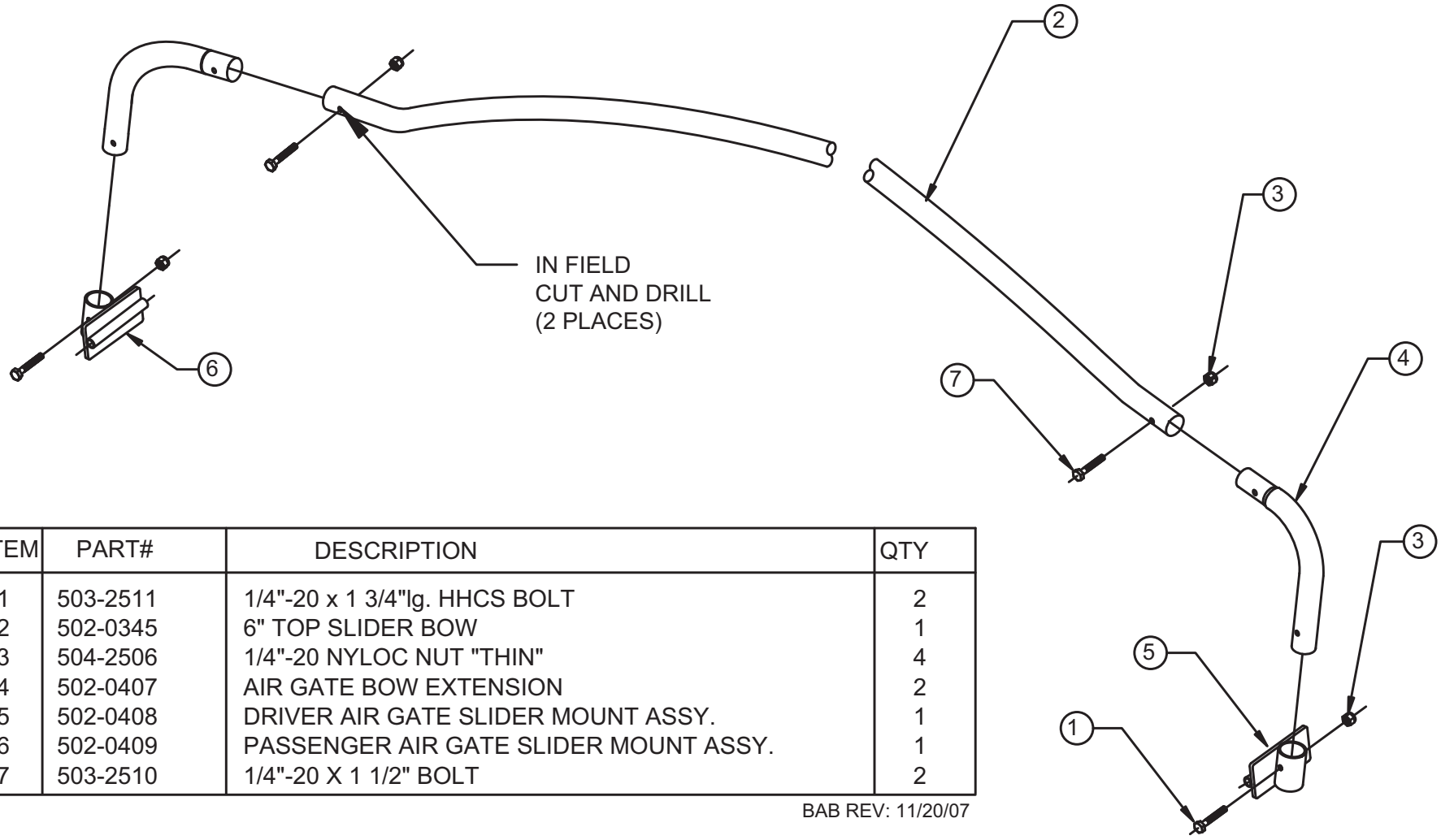
Top Slider Rear Air Gate Bow Assembly (Part # 502-0403)



ITEM	PART#	DESCRIPTION	QTY
1	502-0346	6" TOP SLIDER REAR BOW	1
2	502-9910	CABLE CLAMP 1/4" GALV MALABLE ASSY.	4
3	504-2506	1/4"-20 NYLOC NUT "THIN"	4
4	503-2511	1/4"-20 x 1 3/4"lg. HHCS BOLT	2
5	502-0405	DRIVER AIR GATE BOW MOUNT ASSY.	1
6	502-0406	PASSENGER AIR GATE BOW MOUNT ASSY.	1
7	502-0407	AIR GATE BOW EXTENSION	2
8	506-2505	1/4”-20 x 5/8 SLOTTED HEX T23	14
9	503-2510	1/4"-20 x 1 1/2" HCS BOLT	2

NB REV: 7/28/11

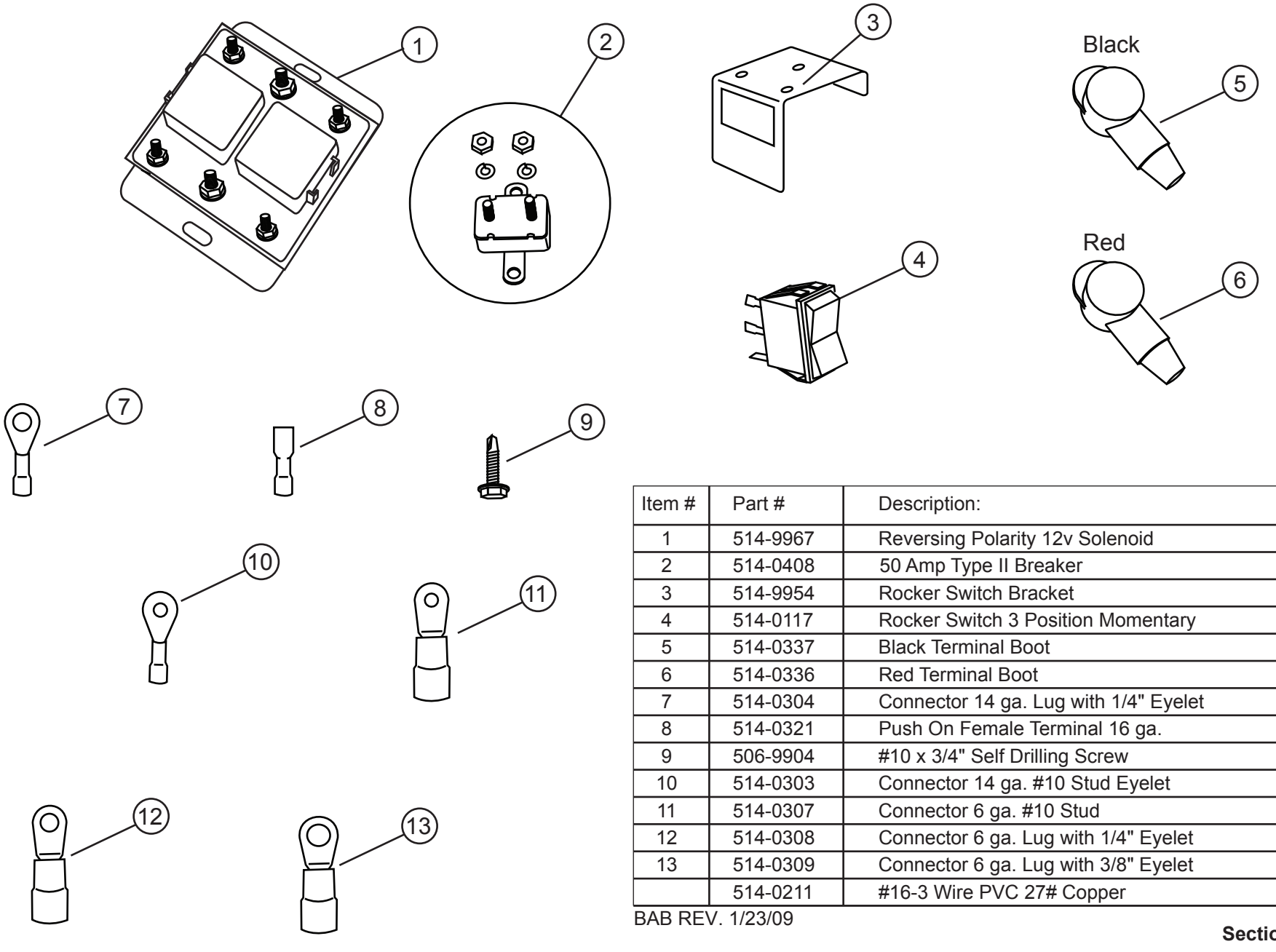
Top Slider Air Gate Bow Assembly (Part # 502-0404)



ITEM	PART#	DESCRIPTION	QTY
1	503-2511	1/4"-20 x 1 3/4"lg. HHCS BOLT	2
2	502-0345	6" TOP SLIDER BOW	1
3	504-2506	1/4"-20 NYLOC NUT "THIN"	4
4	502-0407	AIR GATE BOW EXTENSION	2
5	502-0408	DRIVER AIR GATE SLIDER MOUNT ASSY.	1
6	502-0409	PASSENGER AIR GATE SLIDER MOUNT ASSY.	1
7	503-2510	1/4"-20 X 1 1/2" BOLT	2

BAB REV: 11/20/07

Smart Switch Basic Kit (Part # 514-0114)



Item #	Part #	Description:	QTY:
1	514-9967	Reversing Polarity 12v Solenoid	1
2	514-0408	50 Amp Type II Breaker	1
3	514-9954	Rocker Switch Bracket	1
4	514-0117	Rocker Switch 3 Position Momentary	1
5	514-0337	Black Terminal Boot	2
6	514-0336	Red Terminal Boot	2
7	514-0304	Connector 14 ga. Lug with 1/4" Eyelet	1
8	514-0321	Push On Female Terminal 16 ga.	3
9	506-9904	#10 x 3/4" Self Drilling Screw	6
10	514-0303	Connector 14 ga. #10 Stud Eyelet	2
11	514-0307	Connector 6 ga. #10 Stud	2
12	514-0308	Connector 6 ga. Lug with 1/4" Eyelet	6
13	514-0309	Connector 6 ga. Lug with 3/8" Eyelet	2
	514-0211	#16-3 Wire PVC 27# Copper	25 Ft.

BAB REV. 1/23/09