



PULLTARPS®

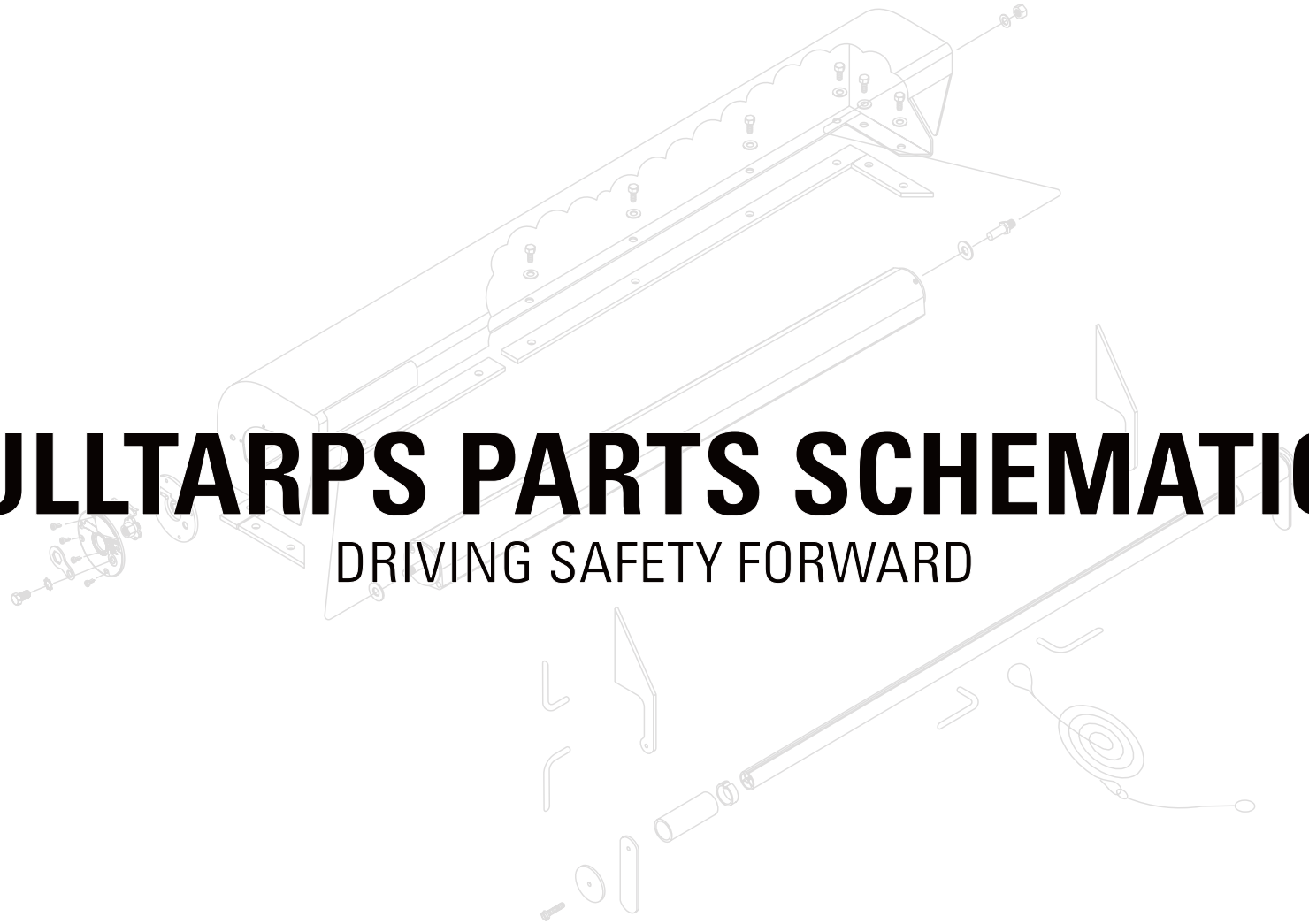


INSTALLATION INSTRUCTIONS

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PULLTARPS PARTS SCHEMATICS

DRIVING SAFETY FORWARD



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INSTALLATION INSTRUCTIONS

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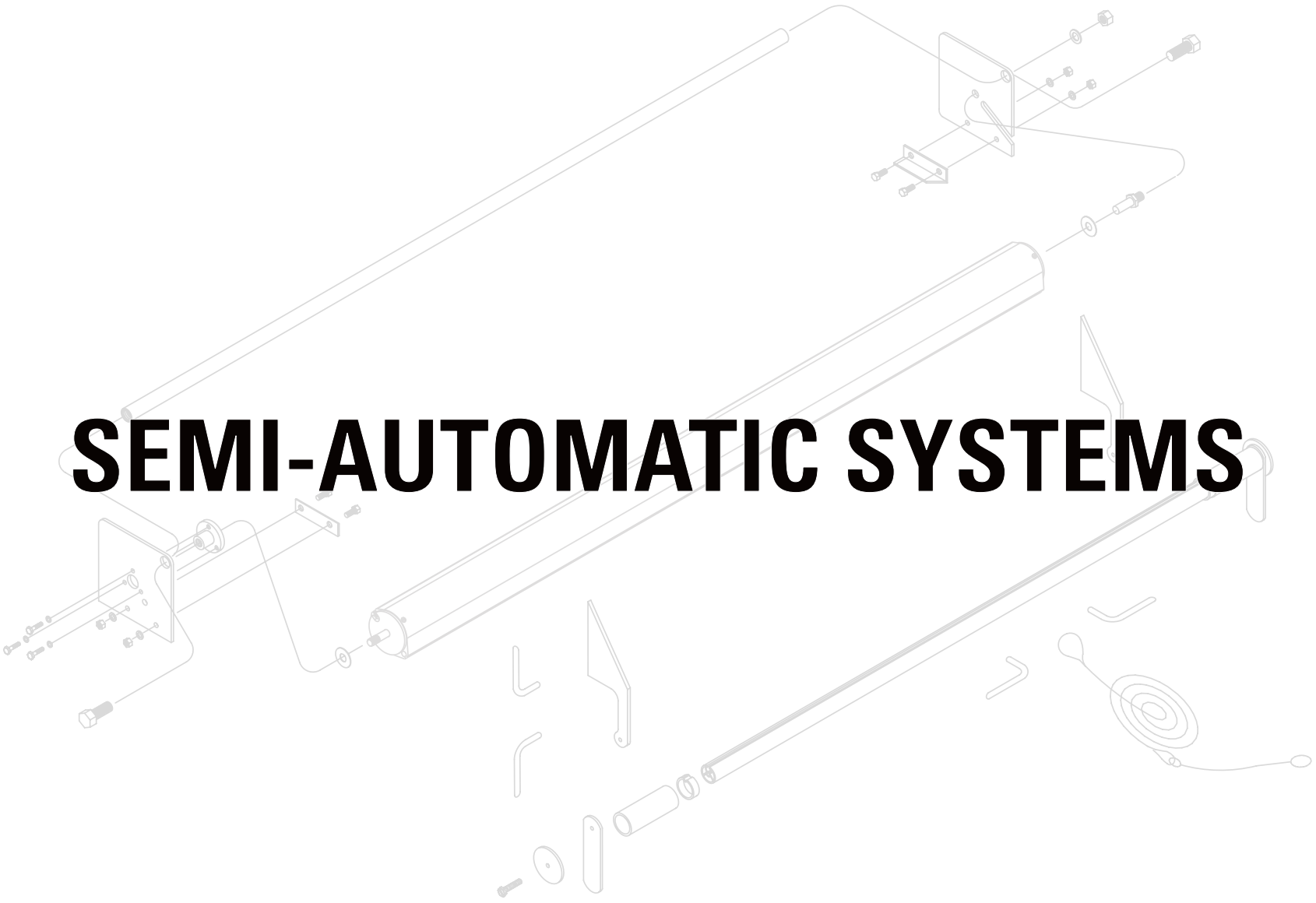
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INSTALLATION INSTRUCTIONS

Semi-Automatic Systems

SEMI-AUTOMATIC SYSTEMS

An exploded view diagram of a semi-automatic system. It shows two long, cylindrical actuators, one at the top and one at the bottom. Various components are shown in their relative positions as they would be assembled. These include mounting brackets, bolts, nuts, washers, and electrical wiring with connectors. At the bottom, there are also some L-shaped brackets and a coiled cable with a plug.



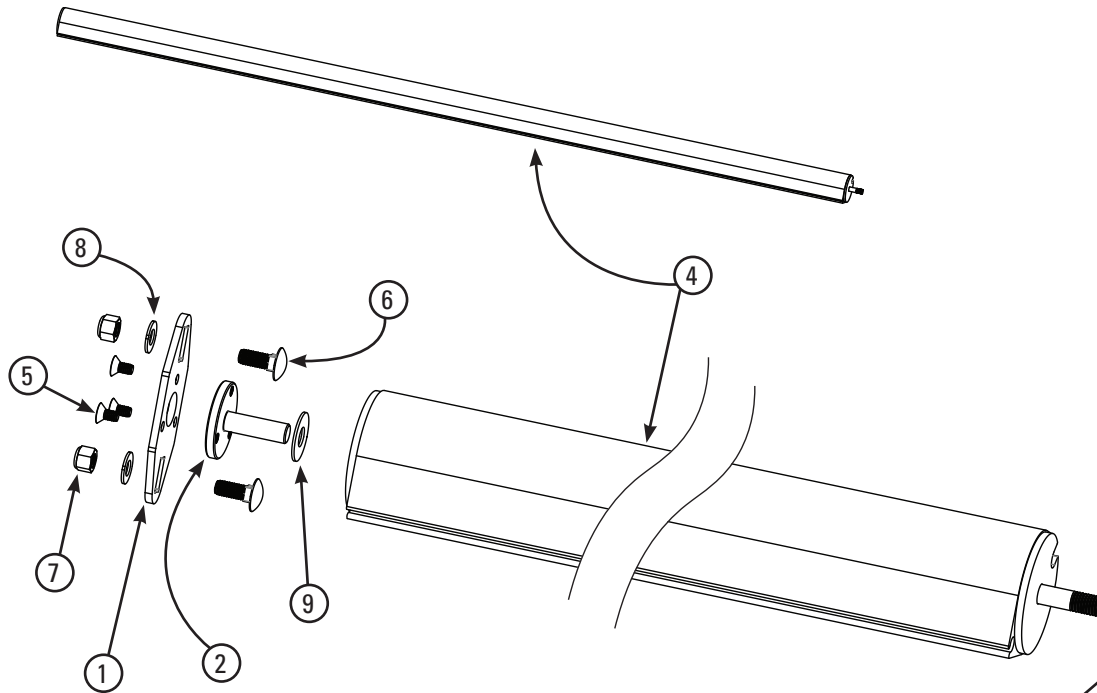
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INSTALLATION INSTRUCTIONS

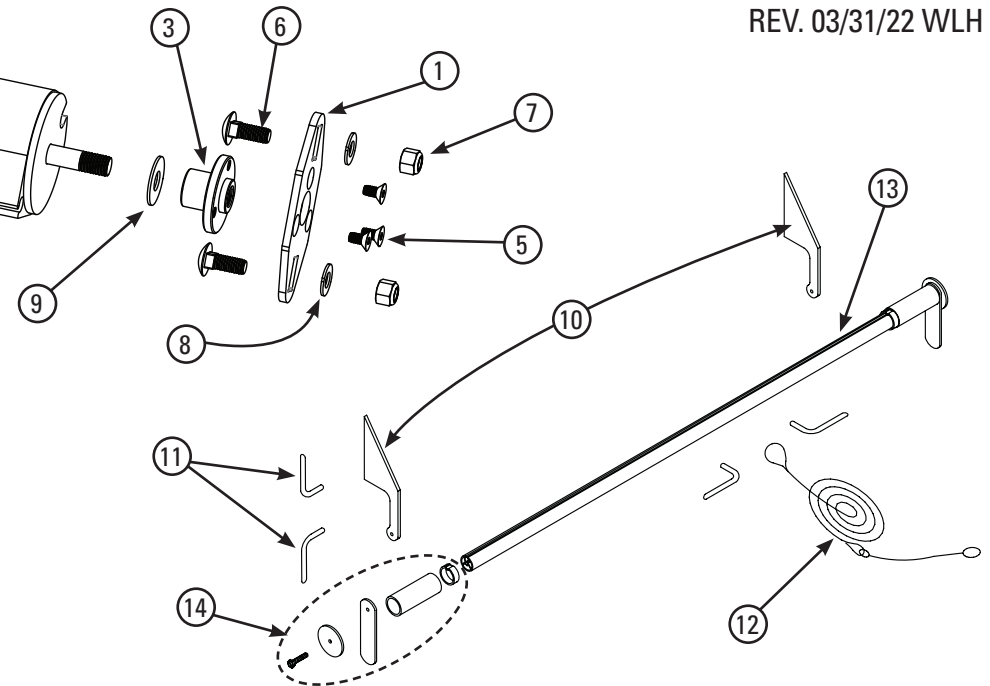
Semi-Automatic Systems

Core (Semi-Automatic) #185-3017 & 531-1850 (EZ-Fit) (Cut-to-Fit)



ITEM	PART #	DESCRIPTION	QTY
1	501-0293	Core End Plate	2
2	501-0805	Universal Bolt in Stud	1
3	501-0820	Valew Spring Shaft Anchor	1
4	501-1379	EZ-Measure Rollertube	1
5	503-2521	1/4-20 x 1/2 FH Socket	6
6	503-3720	3/8-16x1 CGE Bolt	4
7	504-3702	Nut, 3/8-16 Hex Nut	4
8	505-2502	1/4" USS Washer 5/16"	4
9	505-5002	Washer Nylon .51D X	2

REV. 03/31/22 WLH



Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
10	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
11	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
12	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
13	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
14	501-0612	Pullrod Hardware Kit	1

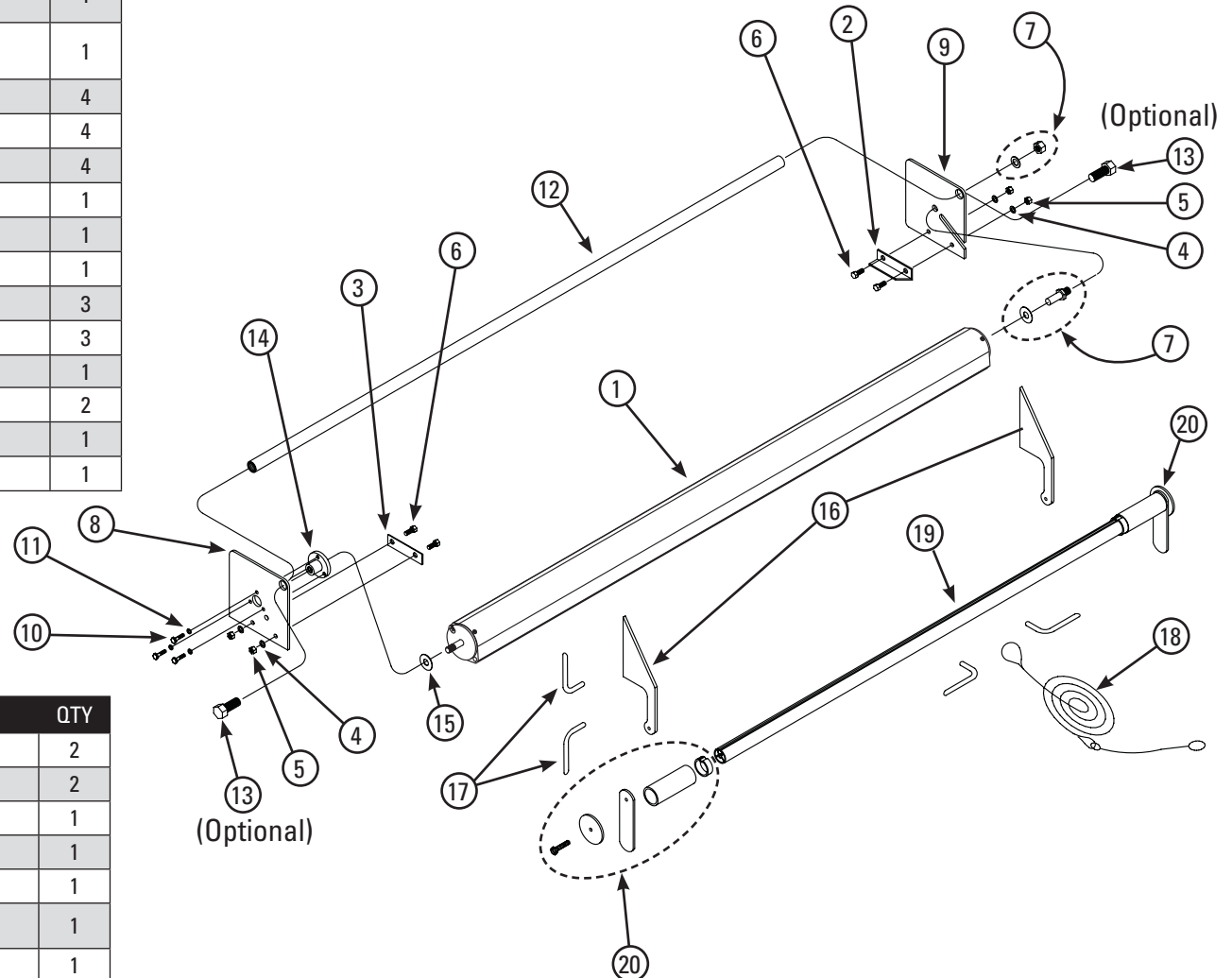
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems**

ITEM	PART #	DESCRIPTION	QTY
1	501-13XX	Roller Tube Assy 80,84,87,89,93,96,100"	1
2	501-152X	Open System Mount Brkt. (Specify Steel or Aluminum - Left)	1
3	501-152X	Open System Mount Brkt. (Specify Steel or Aluminum - Right)	1
4	505-2502	1/4" Flat Washer USS	4
5	504-3103	5/16"-18 Nyloc Nut	4
6	503-3104	5/16"-18 x 3/4"lg. Carriage Bolt	4
7	501-0632	System End Plate Stud Kit	1
8	501-0203	6" Open End Plate, (Drvr.)	1
9	501-0204	6" Open End Plate, (Pass.)	1
10	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	3
11	505-2503	1/4" Lock Washer	3
12	501-980X	Spacer Rod 7/8" (Optional)	1
13	503-7501	3/4" - 10 x 1"lg. HHCS Bolt (Optional)	2
14	501-0804	Steel Spring Shaft Anchor	1
15	505-5002	Nylon Washer	1

REV. 10/25/21 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
16	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
17	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
18	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
19	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
20	501-0612	Pullrod Hardware Kit	1

Open 6000M #101-0215
 (Widths of 80, 84, 87, 89, 93, 96, 100")




PULLTARPS®



INSTALLATION INSTRUCTIONS

Semi-Automatic Systems

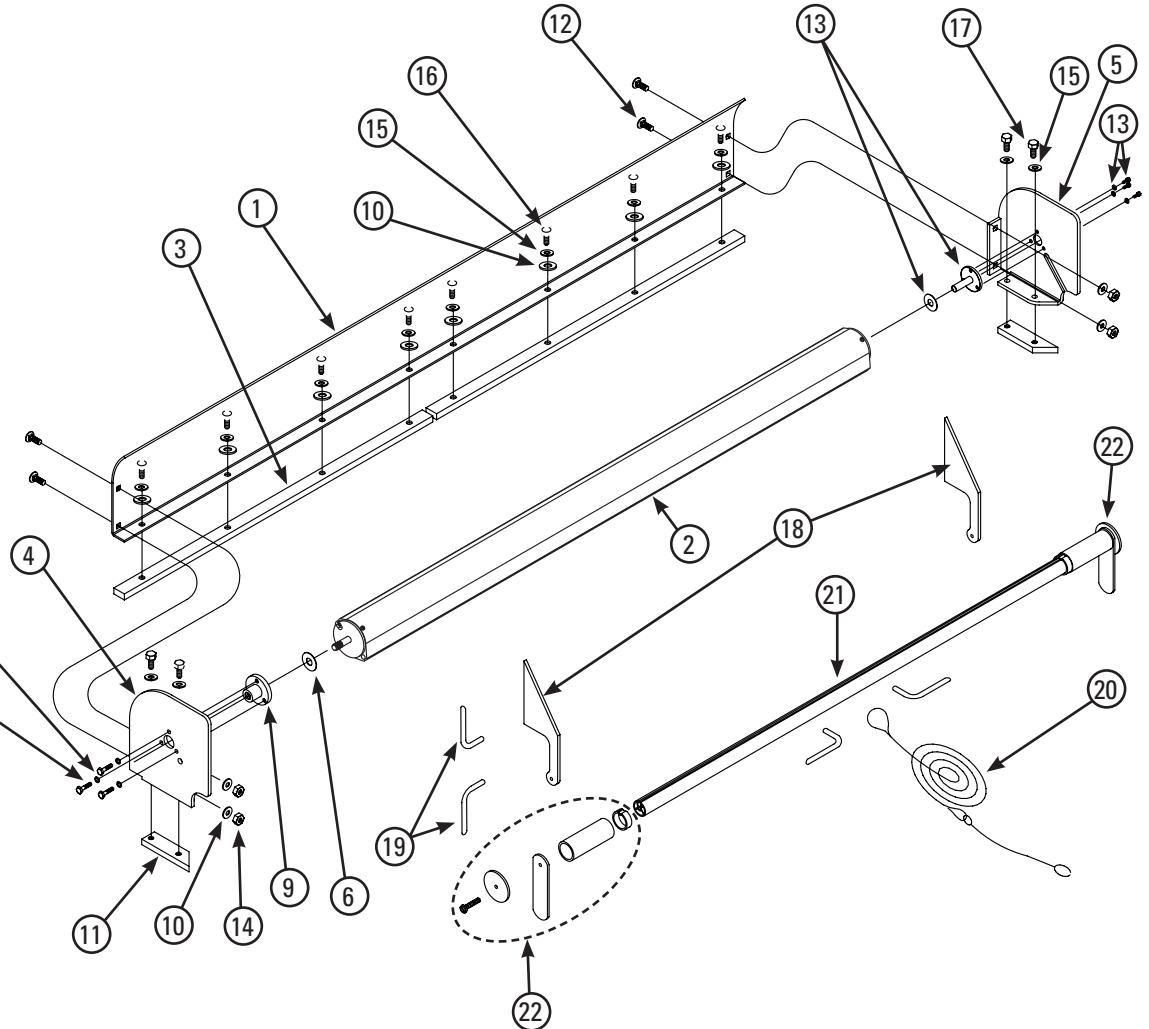
Aluminator™ 7000M #103-0215 (Widths of 80, 84, 87, 89, 93, 96, 100")

ITEM	PART #	DESCRIPTION	QTY
1	501-10XX	Alum. Wind Guard 80, 84, 87, 89, 93, 96, 100"	1
2	501-13XX	Alum. Roller Tube Assy 80,84,87,89,93,96,100"	1
3	501-15XX	Mounting Bar-Steel 40, 42, 43.5, 44.5, 46.5, 48, 50"	2
4	501-0207	7.5" Aluminum End Plate (Drvr.)	1
5	501-0208	7.5" Aluminum End Plate (Pass.)	1
6	505-5002	Nylon Washer	1
7	505-2503	1/4" Lock Washer	3
8	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	3
9	501-0804	Steel Spring Shaft Anchor	1
10	505-2502	1/4" Flat Washer USS	12
11	501-150X	5" Mounting Bar (Specify Steel or Aluminum)	2
12	503-3104	5/16" - 18 x 3/4"lg. Carriage Bolt	4
13	501-0805	Universal Bolt In Stud Kit	1
14	504-3103	5/16" - 18 Nyloc Nut	4
15	505-3102	5/16" Lock Washer	12
16	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	8
17	503-3102	5/16" - 18 x 1"lg. HHCS Bolt	4

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Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
18	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
19	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
20	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
21	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
22	501-0612	Pullrod Hardware Kit	1



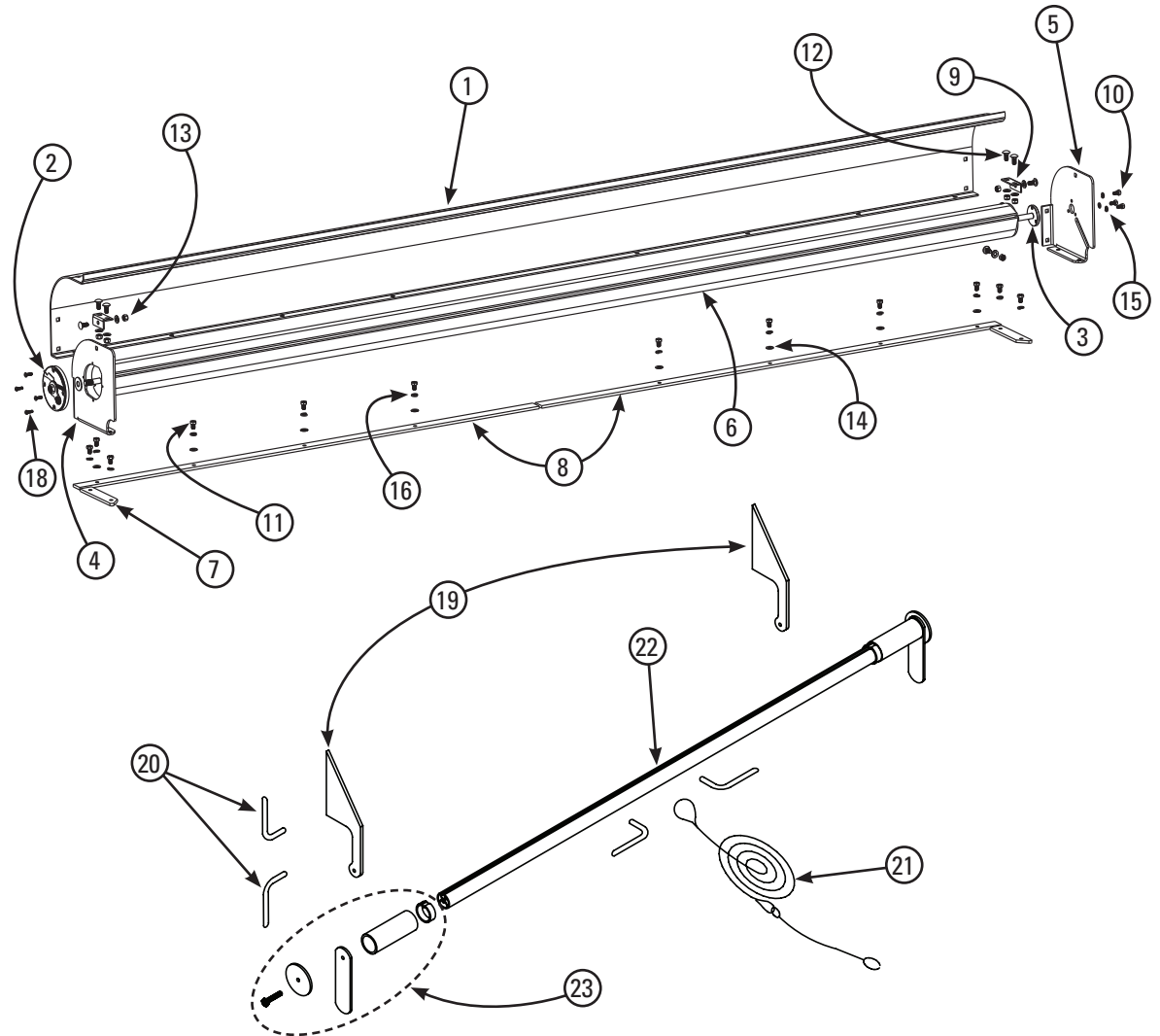
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems**

ITEM	PART #	DESCRIPTION	QTY
1	501-0181	100" Aluminum 8.5 Housing	1
2	501-0647	System End Plate Ratchet	1
3	501-0805	Universal Bolt in Stud	1
4	501-1056	8.5" Ratchet Aluminum End	1
5	501-1057	8.5" Aluminum End Plate Right	1
6	501-1307	100" Spring Roller Tube	1
7	501-1506	6" Steel Mounting Bar	2
8	501-1513	50" Mounting Bar - Steel	2
9	501-9934	Galvanized Steel Bracket	2
10	503-2503	1/4"-20 x 1/2" HHD Bolt	3
11	503-3101	5/16" - 18 x 1/2" Hex Bolt	12
12	503-3104	5/16" - 18 x 3/4" Carriage Bolt	10
13	504-3103	5/16" - 18 Nylock Nut Steel	10
14	505-2502	1/4" USS Washer 5/16"	18
15	505-2503	1/4" Lock Washer - Plated	3
16	505-3102	5/16" Lock Washer	12
17	505-5002	Washer Nylon .51D x 1.250D	2
18	506-9937	10-32 x 5/8" Philips Pan	4

REV. 10/27/21 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
19	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
20	501-0623	Rope Storage Kits (4 Steel Hooks)	1
21	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
22	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105")	1
23	501-0612	Pullrod Hardware Kit	1

Aluminator™ 8500M #117-0215
(Widths of 80, 84, 87, 89, 93, 96, 100")

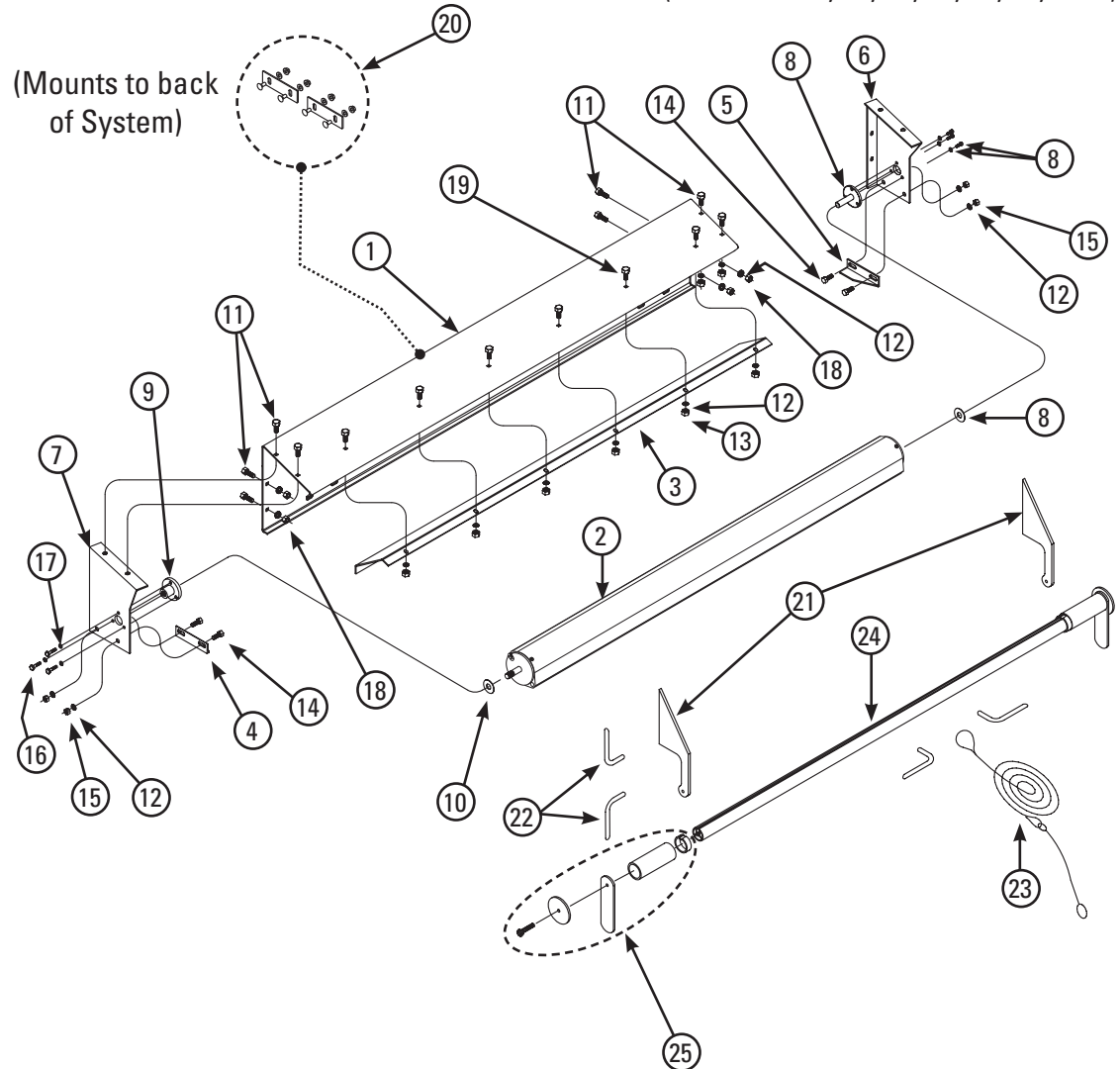
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems**

ITEM	PART #	DESCRIPTION	QTY
1	501-010X	Galv. Steel Protector Housing 80, 84, 87, 89, 93, 96, 100"	1
2	501-130X	Roller Assembly 80, 84, 87, 89, 93, 96, 100"	1
3	501-0138	48" x 5-1/2" Galv. Insert	1
4	501-152X	System Mount Bracket (Specify Steel or Aluminum - Left)	1
5	501-152X	System Mount Bracket (Specify Steel or Aluminum - Right)	1
6	501-0254	Passenger Side Plate for "N" System	1
7	501-0253	Driver Side Plate for "N" System	1
8	501-0633	Universal Bolt in Stud Kit	1
9	501-0804	Steel Spring Shaft Anchor	1
10	505-5002	Nylon Washer	1
11	503-2505	1/4" - 20 x 3/4"lg. Carriage Bolt	8
12	505-2502	1/4" Flat Washer USS	24
13	504-2506	1/4" - 20 Nyloc Nut (Thin)	12
14	503-3104	5/16" - 18 x 3/4"lg. Carriage Bolt	4
15	504-3103	5/16" - 18 Nyloc Nut	4
16	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	3
17	505-2503	1/4" Lock Washer	3
18	504-2503	1/4" - 20 Nyloc Nut	8
19	503-2501	1/4" - 20 x 1/2"lg. Carriage Bolt	12
20	501-06XX	Steel Protector System Hardware (Specify Steel or Aluminum)	1

Pullrod Hardware

REV. 10/25/21 WLH

ITEM	PART #	DESCRIPTION	QTY
21	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
22	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
23	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
24	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
25	501-0612	Pullrod Hardware Kit	1

Steel Protector™ #106-0215
 (Widths of 80, 84, 87, 89, 93, 96, 100")


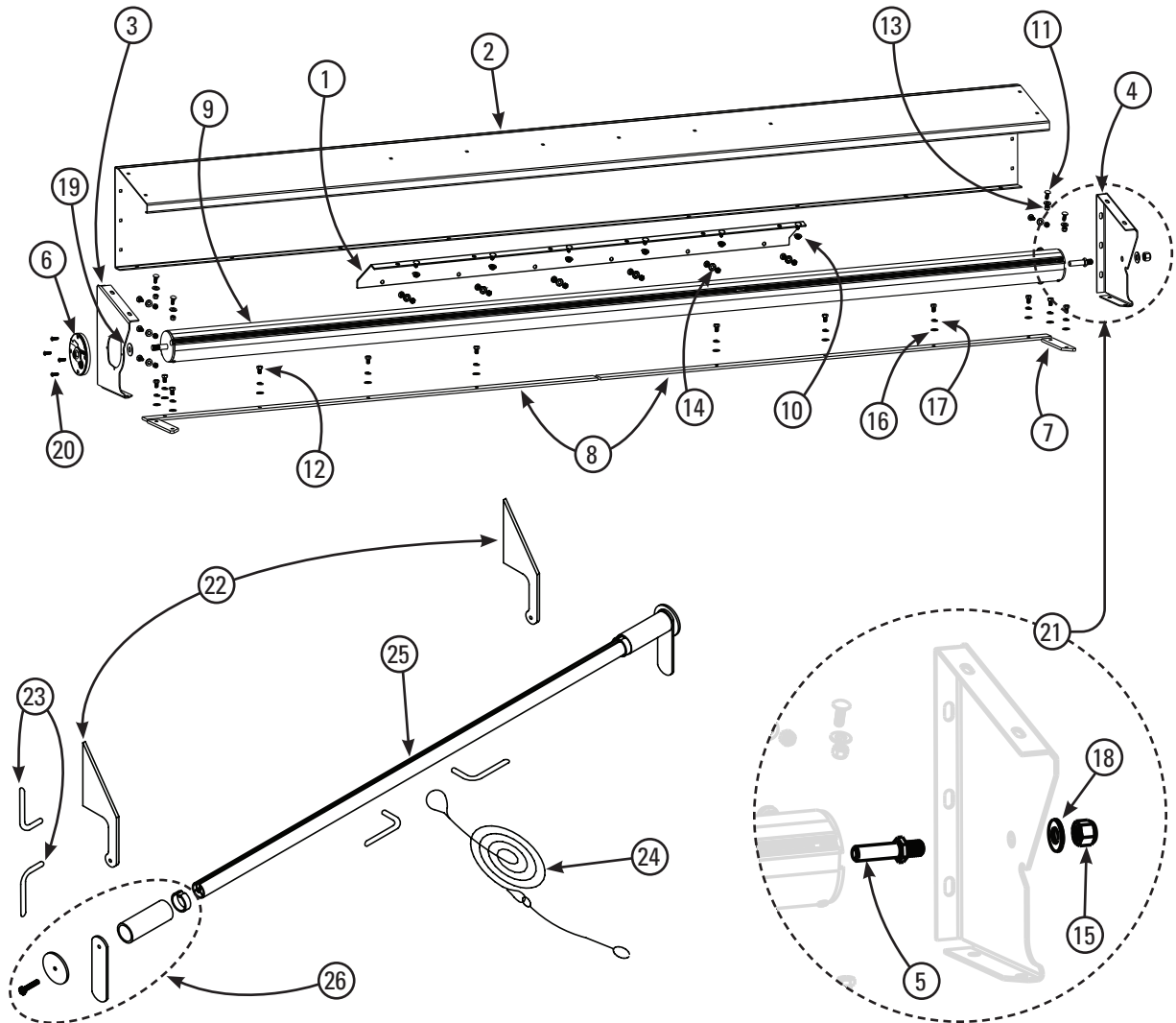
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****Steel Protector +™ #116-0215**
(Widths of 80, 84, 87, 89, 93, 96, 100")

ITEM	PART #	DESCRIPTION	QTY
1	501-0138	Galvanized Insert	1
2	501-018X to 019X	Galv. Steel Protector + Housing	1
3	501-0280	Protector + Ratchet End Plate	1
4	501-0281	Protector + End Plate Passenger	1
5	501-0801	System End Plate Stud 2.4" (Part of Kit #501-0632)	1
6	501-0647	System End Plate Ratchet	1
7	501-1505	6" Large Steel Mounting Bar	2
---	501-1506	6" Large Aluminum Mounting Bar	---
8	501-1520	50" Mounting Bar Aluminum	2
---	501-1513	50" Mounting Bar Steel	---
9	501-130X	Spring Roller Tube	1
10	503-2501	1/4" - 20 x 1/2" USS Carriage Bolt	12
11	503-2505	1/4" - 20 x 3/4" USS Carriage Bolt	10
12	503-3101	5/16" - 18 x 1/2" Hex Bolt	12
13	504-2503	1/4" - 20 USS Nylock Nut	10
14	504-2506	1/4" Hex Lock Nut "Thin" L/N Steel Zinc	12
15	504-5001	1/2" Crimp Nut (Part of Kit #501-0632)	1
16	505-2502	1/4" USS Washer 5/16" Hole	35
17	505-3102	5/16" Lock Washer	15
18	505-5001	1/2" AN Washer 1/16" Thick (Part of Kit #501-0632)	1
19	505-5002	Washer Nylon 0.5ID X	2
20	506-9937	10-31 x 5/8" Philips Pan	4
21	501-0632	System End Plate Stud Kit	1

Pullrod Hardware

REV. 06/18/23 WLH

ITEM	PART #	DESCRIPTION	QTY
22	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
23	501-0623	Rope Storage Kits (4 Steel Hooks)	1
24	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
25	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105")	1
26	501-0612	Pullrod Hardware Kit	1



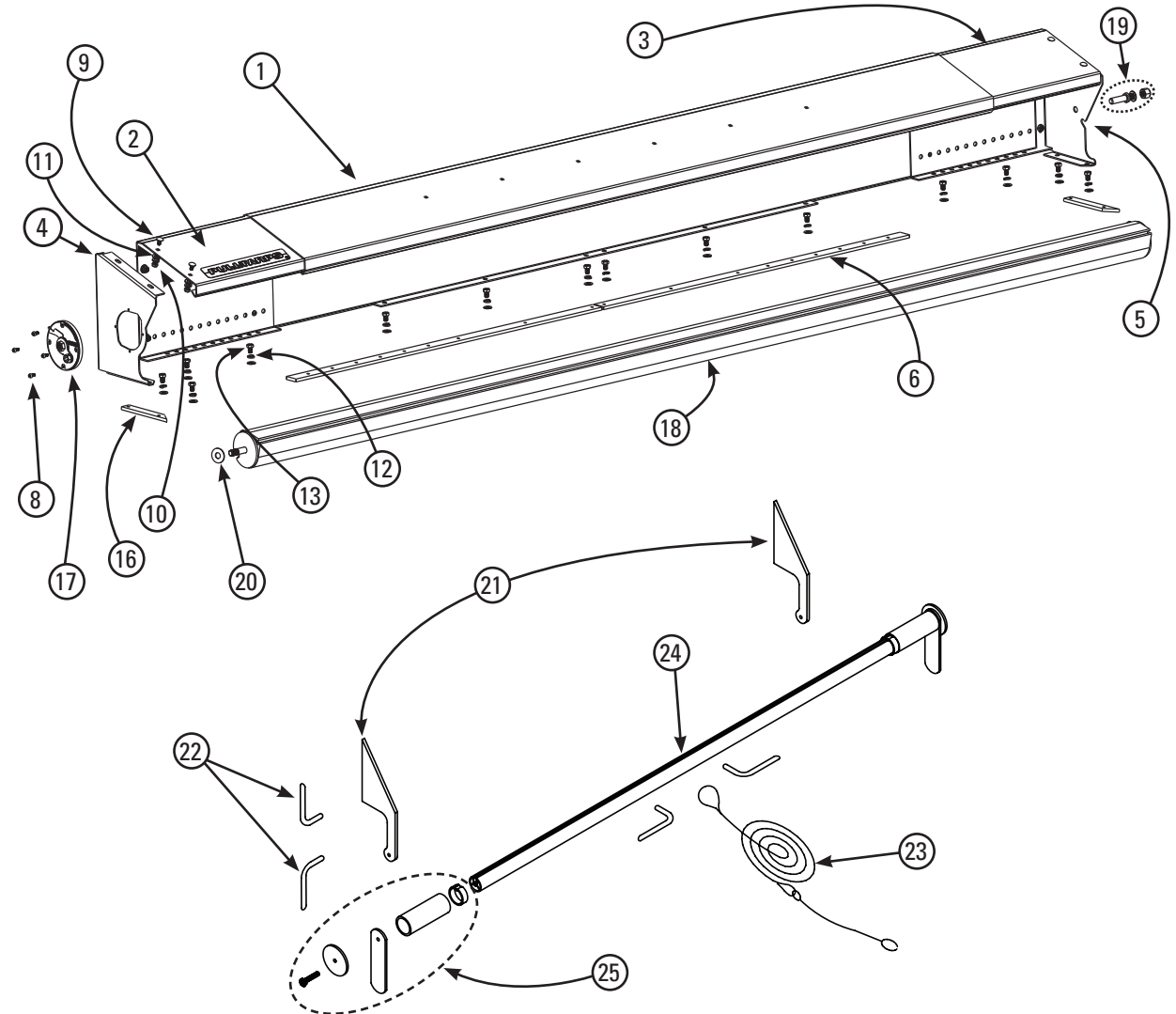
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****X-Pando™ (Adjustable) #116-3027, 116-3017**
(Widths of 78" - 100")

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 (Not Shown)	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 (Not Shown)	4
15	504-2504	1/4" - 20 Weld Nut - Single (Not Shown)	4
16	501-150X	5" 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

REV. 03/31/22 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
21	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
22	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
23	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
24	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
25	501-0612	Pullrod Hardware Kit	1



**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****X-Pando™ (Pre-Adjusted) #116-3028, 116-3018**

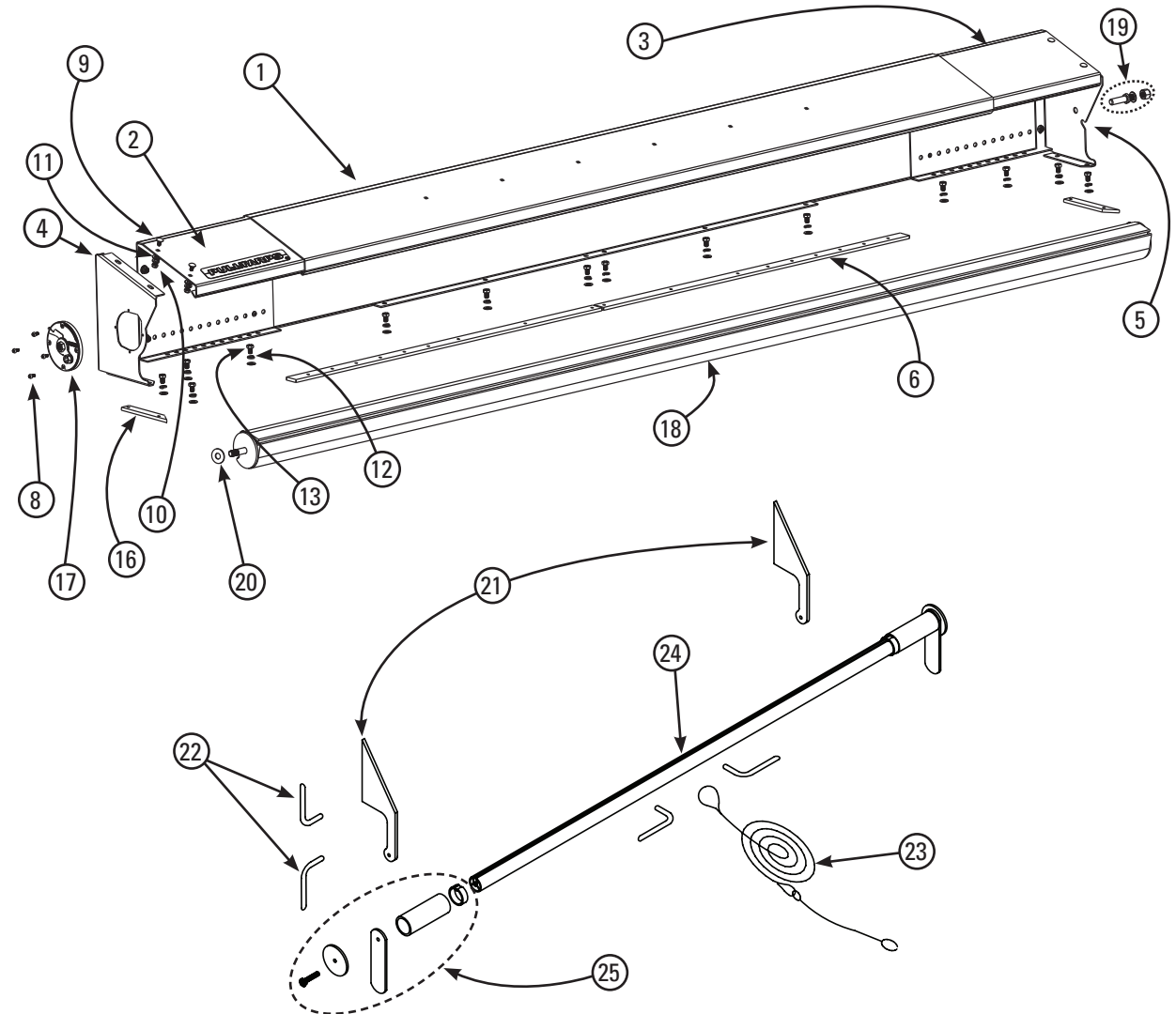
(Set to Size)

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 (Not Shown)	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 (Not Shown)	4
15	504-2504	1/4" - 20 Weld Nut - Single (Not Shown)	4
16	501-150X	5" Mounting Bar (Specify Steel or Aluminum)	2
17	501-0630	System End Plate Ratchet Assembly	1
18	501-13XX	Roller Tube Assembly 80, 84, 87, 89, 93, 96, 100"	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

REV. 03/31/22 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
21	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
22	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
23	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
24	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
25	501-0612	Pullrod Hardware Kit	1



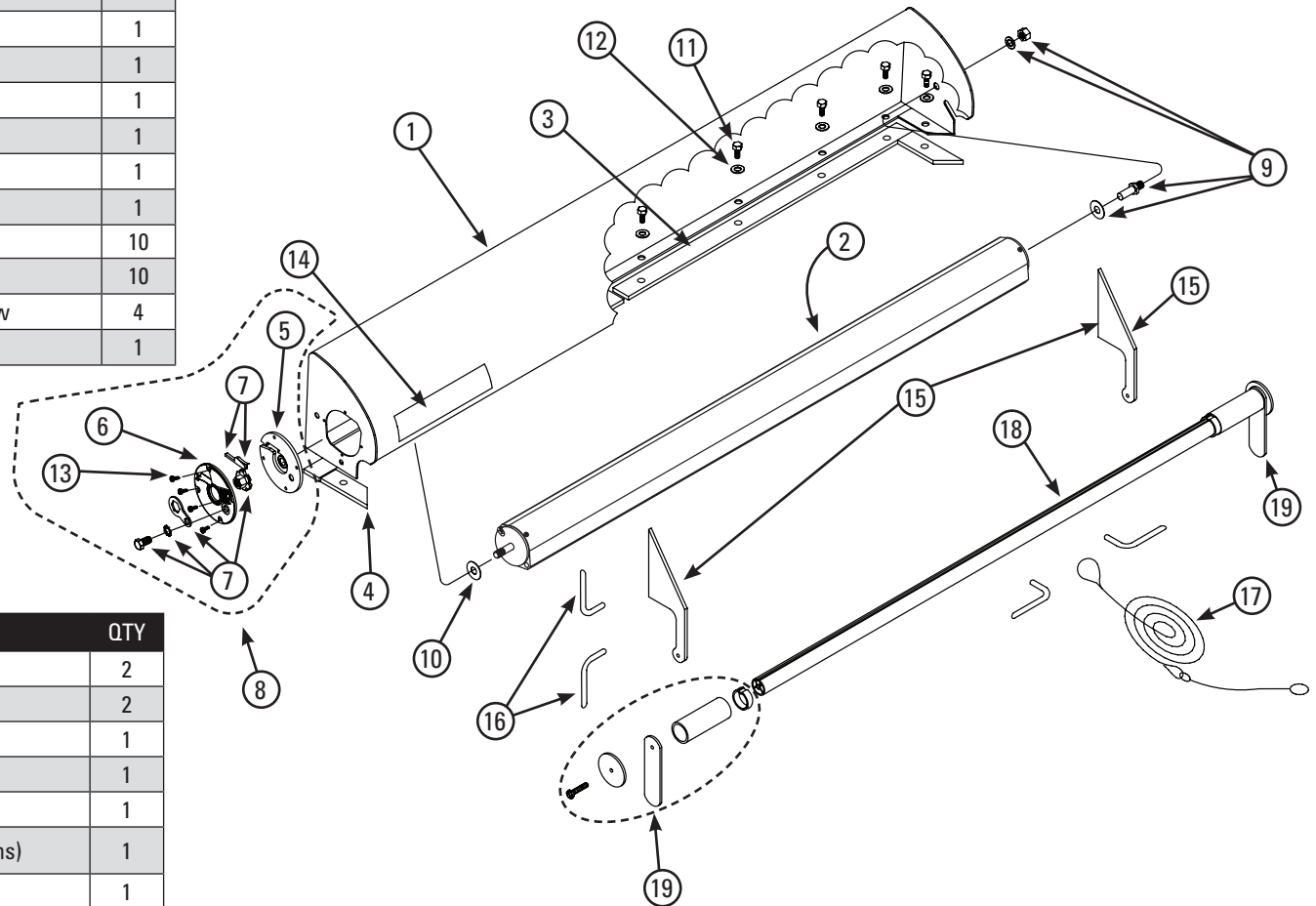
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****SuperShield™ 8500M #107-0215**
(Widths of 80, 84, 87, 89, 93, 96, 100")

ITEM	PART #	DESCRIPTION	QTY
1	501-01XX	8.5" Super Shield Housing 80, 84, 87, 89, 93, 96, 100"	1
2	501-13XX	Roller Tube Assy 80,84,87,89,93,96,100"	1
3	501-15XX	Mounting Bar 40, 42, 43.5, 44.5, 46.5, 48, 50" (Specify Steel or Aluminum)	2
4	501-150X	Small Steel Mounting Bar (Specify Steel or Aluminum)	2
5	501-0809	Ratchet Housing	1
6	501-0806	Ratchet Cover	1
7	501-0825	Ratchet Kit	1
8	501-0630	Ratchet Assembly	1
9	501-0632	System End Plate Stud Kit	1
10	505-5002	Nylon Washer	1
11	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	10
12	505-3102	5/16" Lock Washer	10
13	506-9905	#10 - 32 x 1/2"lg. Phillips Pan Screw	4
14	607-0061	Pulltarps Decal	1

REV. 10/25/21 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
15	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
16	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
17	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
18	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
19	501-0612	Pullrod Hardware Kit	1



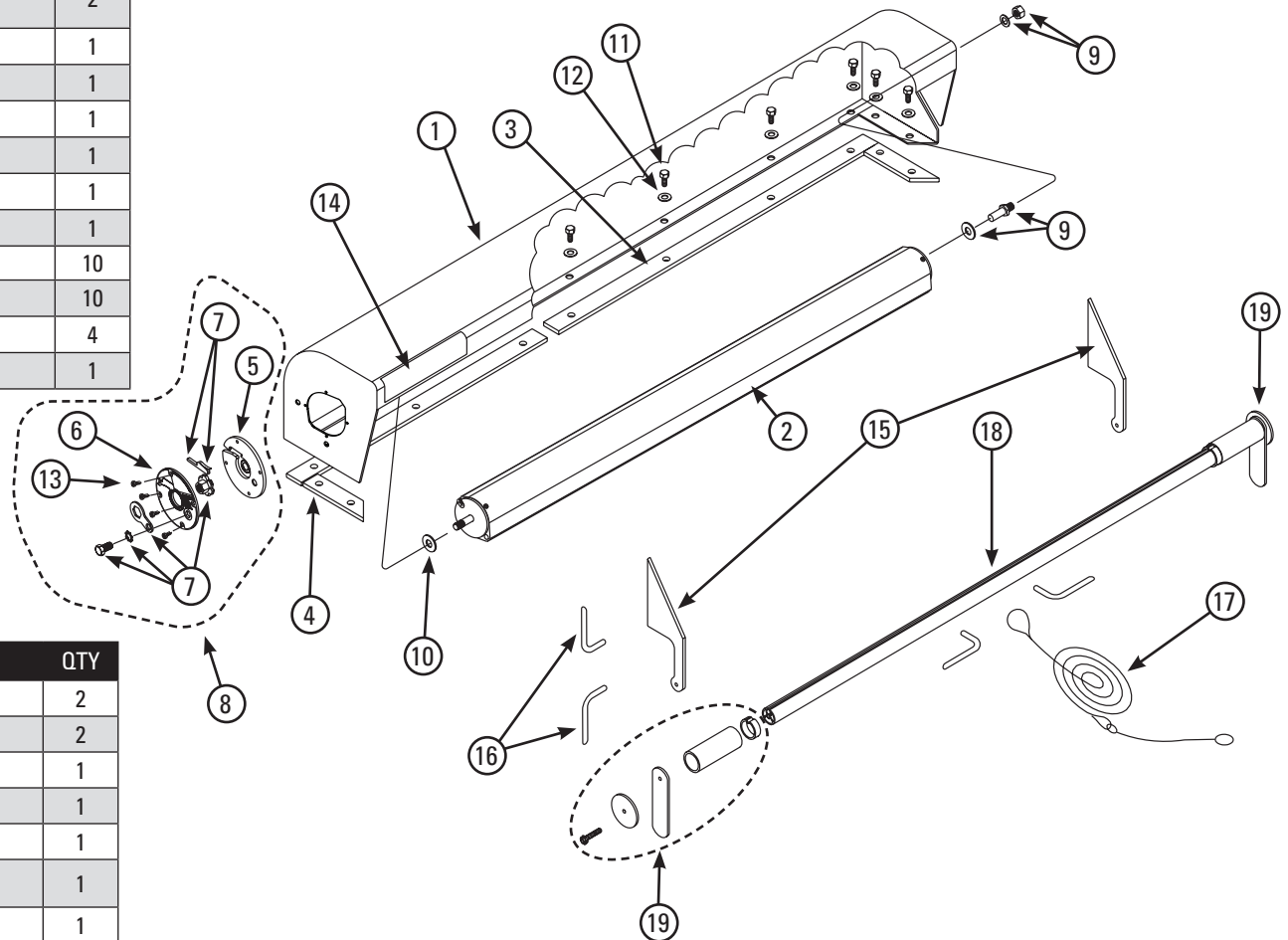
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****SuperShield™ 9500M #108-0215**
(Widths of 80, 84, 87, 89, 93, 96, 100")

ITEM	PART #	DESCRIPTION	QTY
1	501-01XX	9.5" Super Shield Housing 80, 84, 87, 89, 93, 96, 100"	1
2	501-13XX	Roller Tube Assy 80,84,87,89,93,96,100"	1
3	501-15XX	Mounting Bar-Steel 40, 42, 43.5, 44.5, 46.5, 48, 50" (Specify Steel or Aluminum)	2
4	501-150X	6" Large Mount (Specify Steel or Aluminum)	2
5	501-0809	Ratchet Housing	1
6	501-0806	Ratchet Cover	1
7	501-0825	Ratchet Kit	1
8	501-0630	Ratchet Assembly	1
9	501-0632	System End Plate Stud Kit	1
10	505-5002	Nylon Washer	1
11	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	10
12	505-3102	5/16" Lock Washer	10
13	506-9905	#10 - 32 x 1/2"lg. Phillips Pan Screw	4
14	607-0061	Pulltarps Decal	1

REV. 10/22/21 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
15	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
16	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
17	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
18	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
19	501-0612	Pullrod Hardware Kit	1



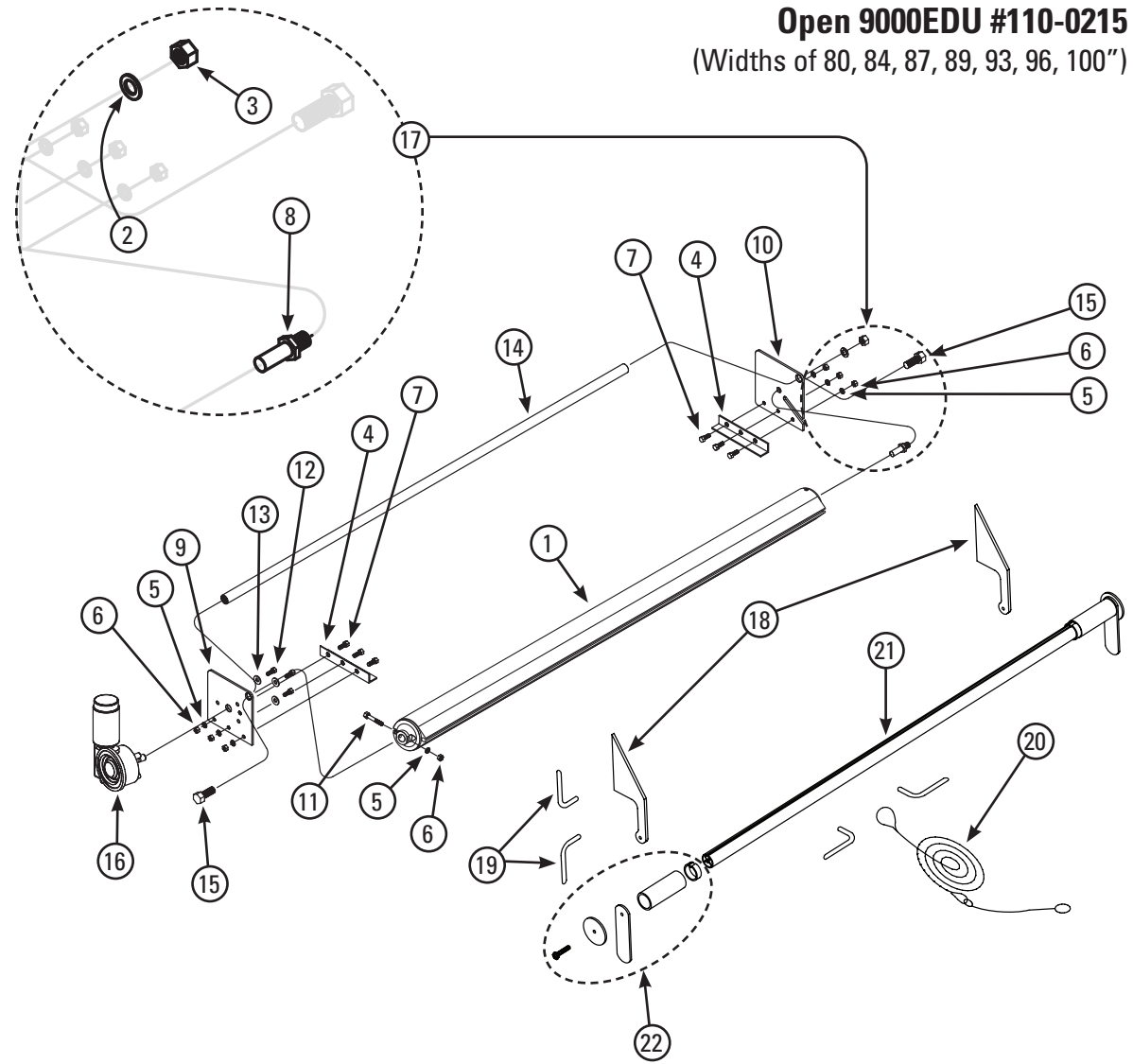
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems**

ITEM	PART #	DESCRIPTION	QTY
1	501-1310	Roller Tube Assy. 80, 84, 87, 89, 93, 96, 100"	1
2	505-5001	1/2" AN Flat Washer (Part of Kit #501-0632)	1
3	504-5001	1/2" - 13 Crimp Nut (Part of Kit #501-0632)	1
4	501-152X	Open System Mount Brkt. (Specify Steel or Aluminum)	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" (Part of Kit #501-0632)	1
9	501-0221	9" Open End Plate, Electric (Drv.)	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	501-980X	Spacer Rod 7/8" 80, 84, 87, 89, 93, 96, 100"	1
15	503-7501	3/4" - 10 x 1"lg. HHCS Bolt	2
16	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
--	514-0124	6 Ga. Electric Wire (Not shown)	100'
--	514-0101	Switch Assembly (Not shown)	1
17	501-0632	System End Plate Stud	1

REV. 06/19/23 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
18	501-0301	Tarp Return Ramps (Steel)	2
--	501-3102	Tarp Return Ramps (Alum.)	2
19	501-0643	Rope Storage Hooks (Steel)	4
--	501-0642	Rope Storage Hook (Alum.)	4
20	517-10XX	Pull Rope (20, 25, 30, 35, 40, 45, 50')	1
21	Determined by Length	Pullrod (85, 91, 93, 96, 99, 105" Lengths)	1
22	501-0612	Pullrod Hardware Kit	1



Open 9000EDU #110-0215
(Widths of 80, 84, 87, 89, 93, 96, 100")

**PULLTARPS®****INSTALLATION INSTRUCTIONS****Semi-Automatic Systems****SuperShield™ 9500EDU #111-0215**

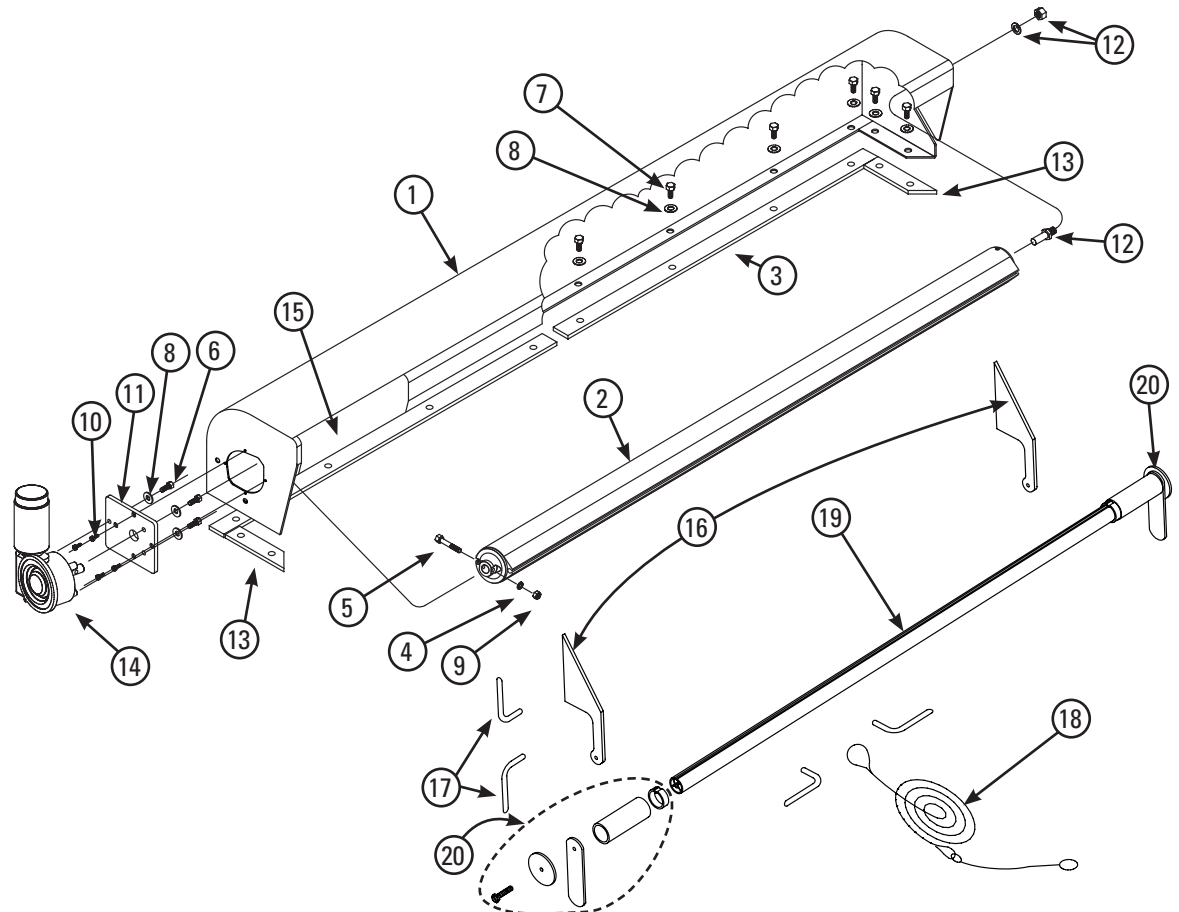
(Widths of 80, 84, 87, 89, 93, 96, 100")

ITEM	PART #	DESCRIPTION	QTY
1	501-01XX	SS Housing 9.5" 80, 84, 87, 89, 93, 96, 100"	1
2	501-13XX	Roller Tube Assy. 80,84,87,89,93,96,100"	1
3	501-15XX	Mounting Bar 40, 42, 43.5, 44.5, 46.5, 48, 50" (Specify Steel or Aluminum)	2
4	505-2502	1/4" Flat Washer USS	1
5	503-3108	5/16" - 18 x 1-3/4"lg. HHCS Bolt	1
6	503-3105	5/16" - 18 x 1"lg. HHCS Bolt	3
7	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	12
8	505-3102	5/16" Lock Washer	15
9	504-3103	5/16" - 18 Nyloc Nut	1
10	506-9905	#10 - 32 x 1/2"lg. Phillips Head Pan	4
11	501-1235	Alum. Adaptor Plate-SW Motor	1
12	501-0632	System End Plate Stud Kit	1
13	501-150X	6" Large Steel Mounting Brkt. (Specify Steel or Aluminum)	2
14	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
--	514-0121	6 Ga. Electric Wire (Not Shown)	100'
--	514-0505	Gray Quick Disconnect (Not Shown)	2
--	514-0101	Switch Assembly (Not shown)	1
15	607-0061	Pulltarps Decal	1

REV. 12/17/21 WLH

Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
16	501-0301	Tarp Return Ramps (Steel)	2
--	501-0302	Tarp Return Ramps (Alum.)	2
17	501-0621	Rope Storage Kits (4 Steel Hooks)	1
--	501-0608	Rope Storage Kits (4 Alum. Hooks)	1
18	517-10XX	Pull Rope (20, 25, 30, 35, 40, 50')	1
19	Determined by Length	Pullrod (85, 91, 93, 96, 100, 105" Lengths)	1
20	501-0612	Pullrod Hardware Kit	1



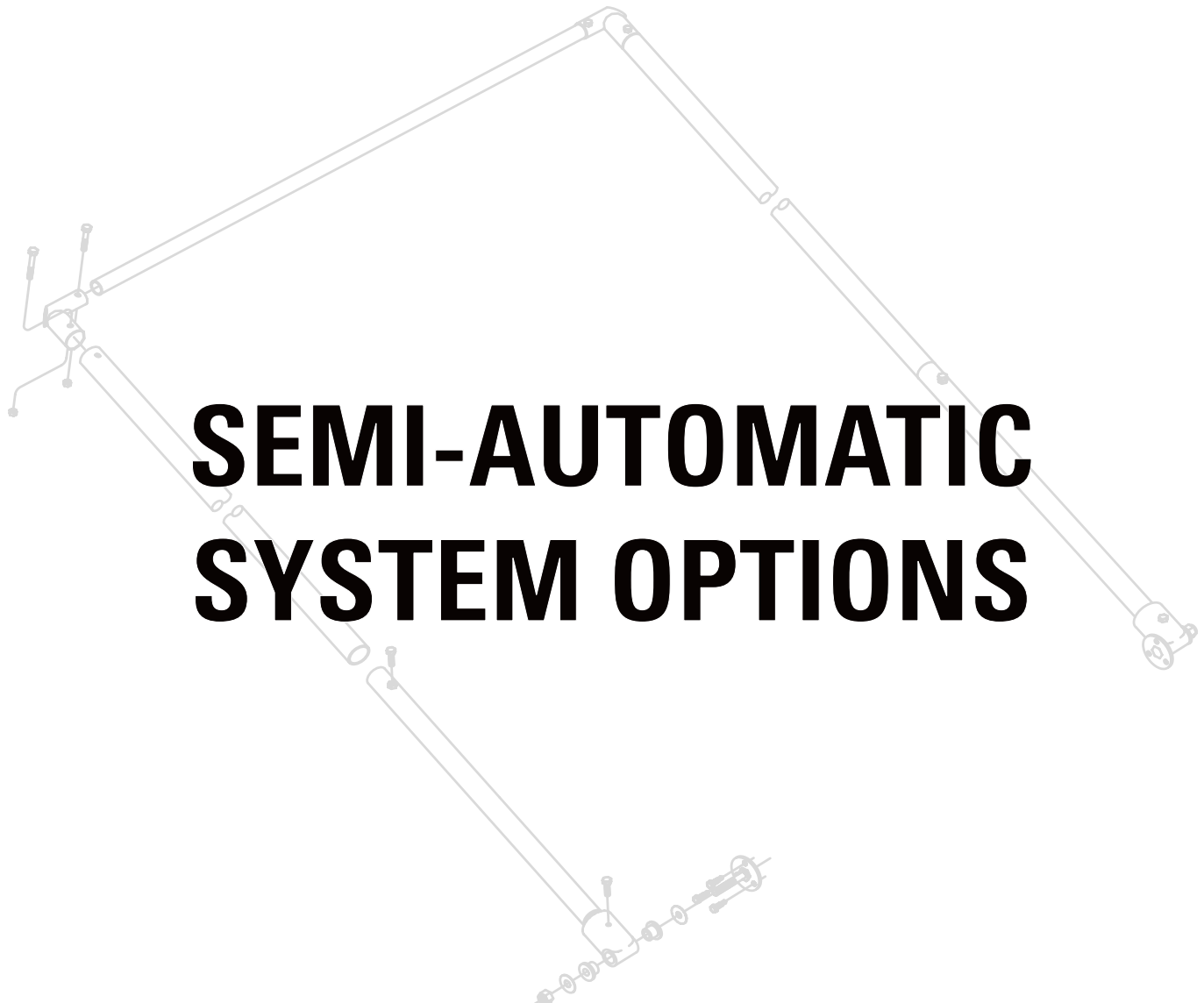


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INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

A faint, light gray line drawing of a scissor lift mechanism is visible in the background, showing the interconnected arms and joints of the system.

SEMI-AUTOMATIC SYSTEM OPTIONS



INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

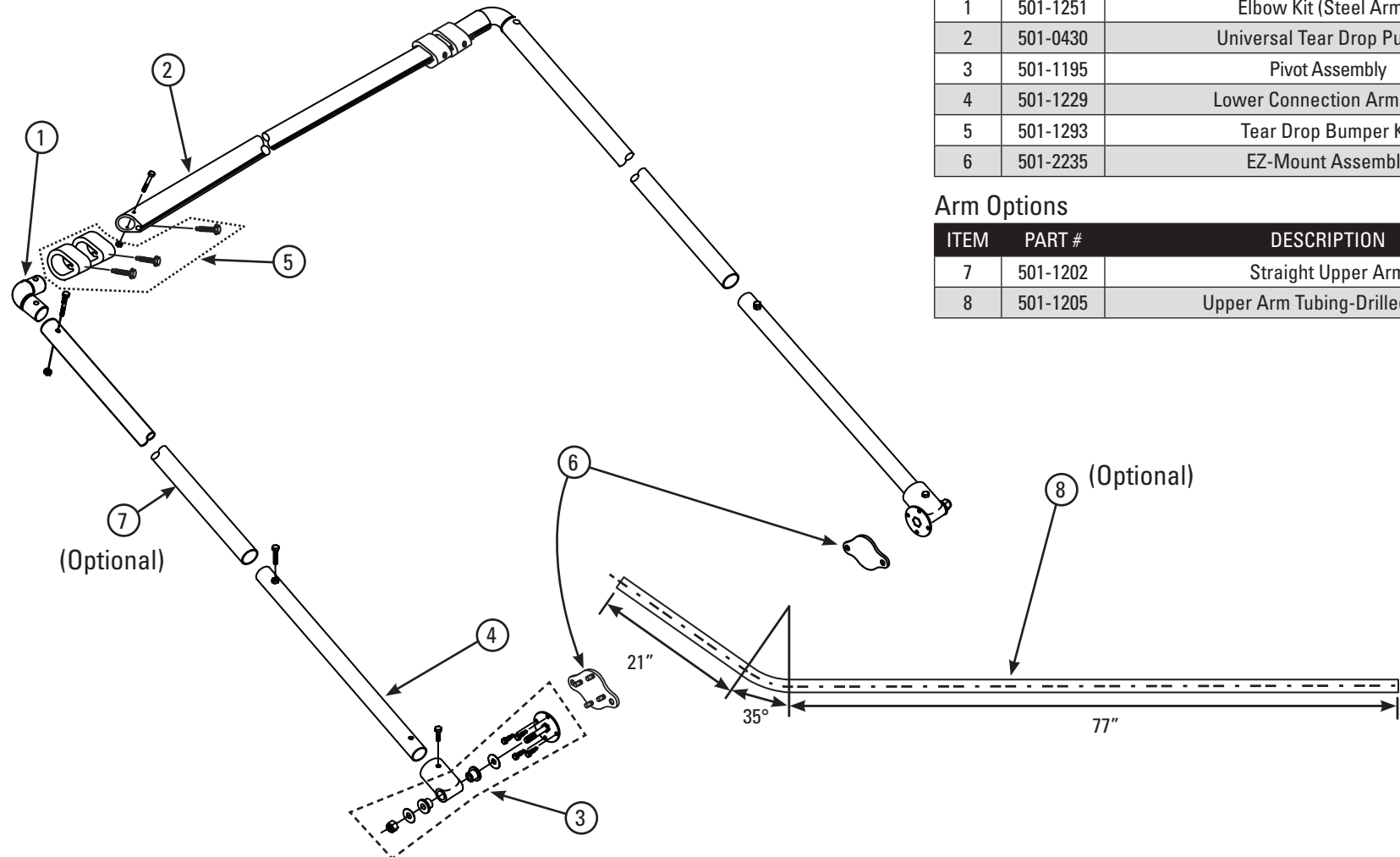
Steel Manual Arms (Complete Kits) #113-2214, 113-2215

ITEM	PART #	DESCRIPTION	QTY
1	501-1251	Elbow Kit (Steel Arms)	1
2	501-0430	Universal Tear Drop Pullbar	1
3	501-1195	Pivot Assembly	2
4	501-1229	Lower Connection Arm Tube	2
5	501-1293	Tear Drop Bumper Kit	1
6	501-2235	EZ-Mount Assembly	2

Arm Options

ITEM	PART #	DESCRIPTION	QTY
7	501-1202	Straight Upper Arm	2
8	501-1205	Upper Arm Tubing-Drilled-Bent	2

REV. 04/10/19 WLH





INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

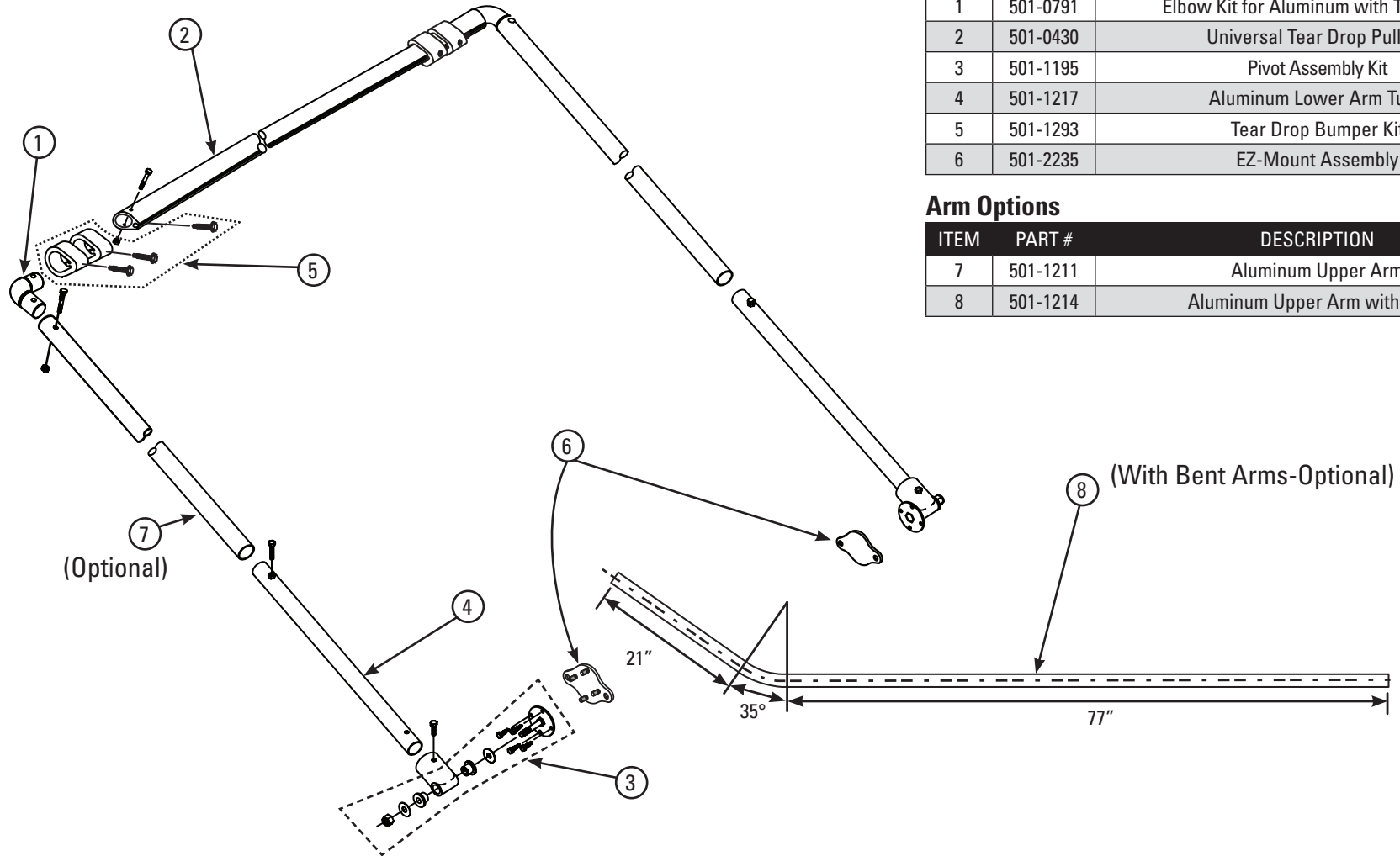
Aluminum Manual Arm Kits #113-2224, #113-2225

ITEM	PART #	DESCRIPTION	QTY
1	501-0791	Elbow Kit for Aluminum with Tear Drop	1
2	501-0430	Universal Tear Drop Pullbar	1
3	501-1195	Pivot Assembly Kit	2
4	501-1217	Aluminum Lower Arm Tube	2
5	501-1293	Tear Drop Bumper Kit	1
6	501-2235	EZ-Mount Assembly	2

Arm Options

ITEM	PART #	DESCRIPTION	QTY
7	501-1211	Aluminum Upper Arm	2
8	501-1214	Aluminum Upper Arm with Bend	2

REV. 10/21/16 WLH





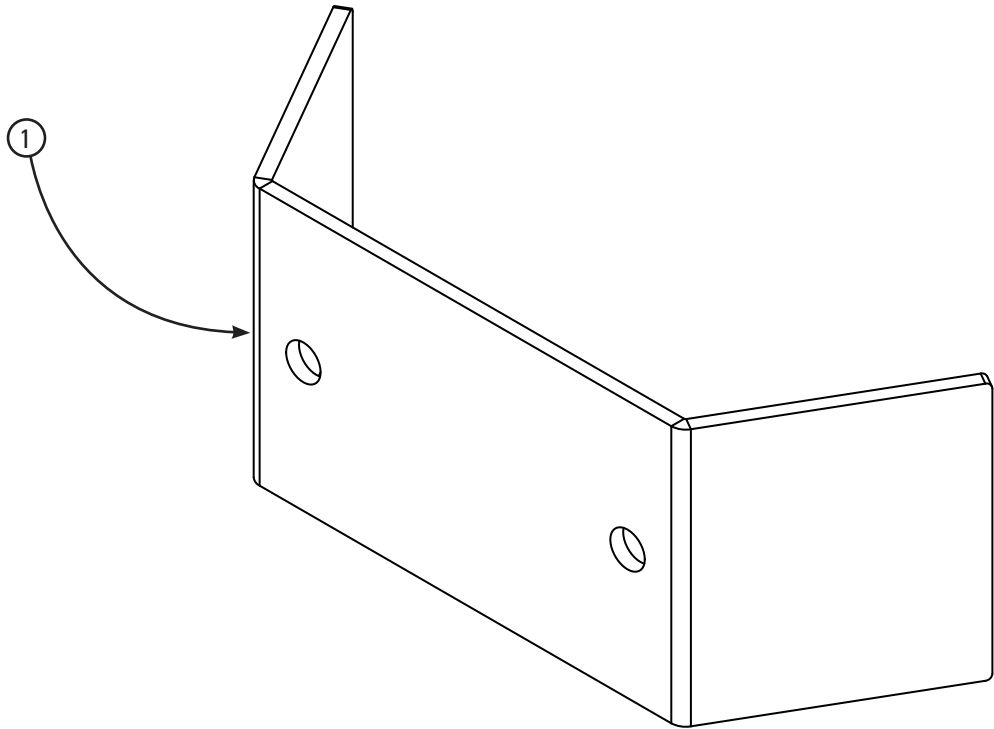
INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

Offset Bracket - 4 Inch #501-1560

ITEM	PART #	DESCRIPTION	QTY
1	501-1560	EZ-Mount Pivot Offset Mount - 4"	1

REV. 10/01/20 WLH



(Can be used with Manual and Automatic Arm Systems)



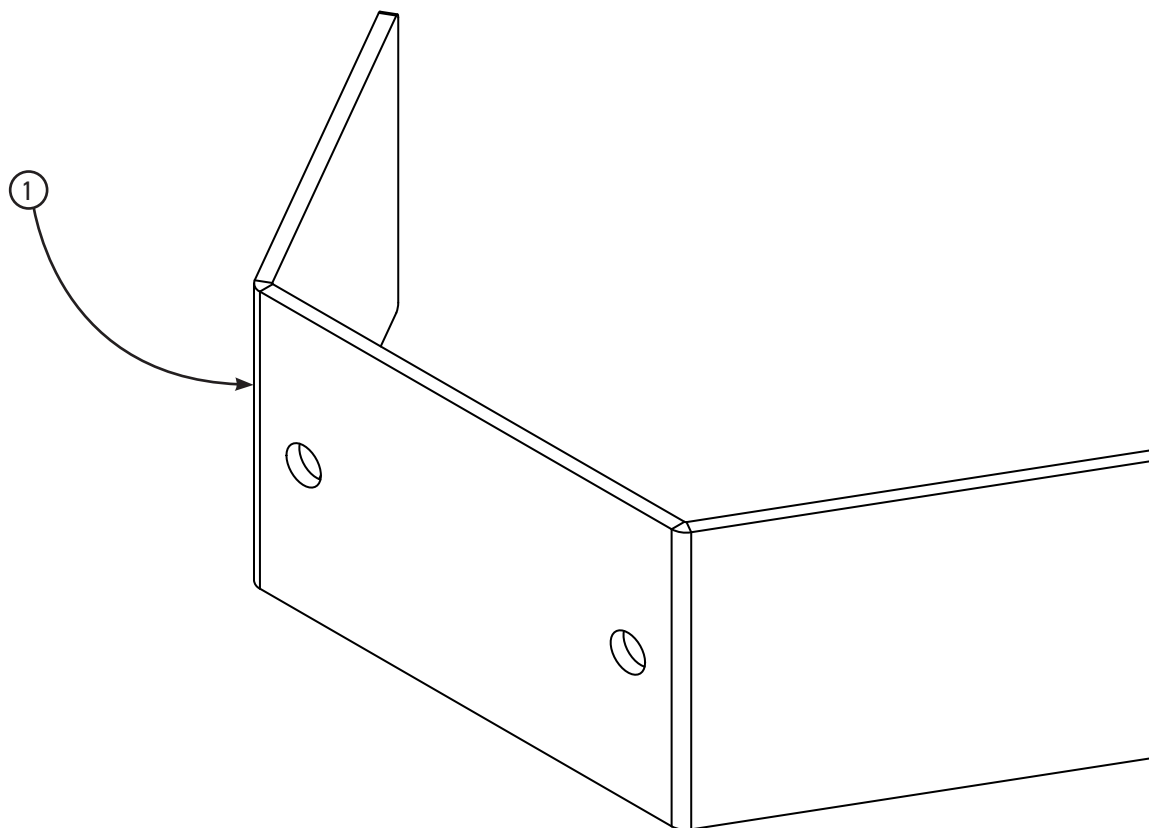
INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

Offset Bracket - 6 Inch #501-1561

ITEM	PART #	DESCRIPTION	QTY
1	501-1561	EZ-Mount Pivot Offset Mount - 6"	1

REV. 10/01/20 WLH



(Can be used with Manual and Automatic Arm Systems)



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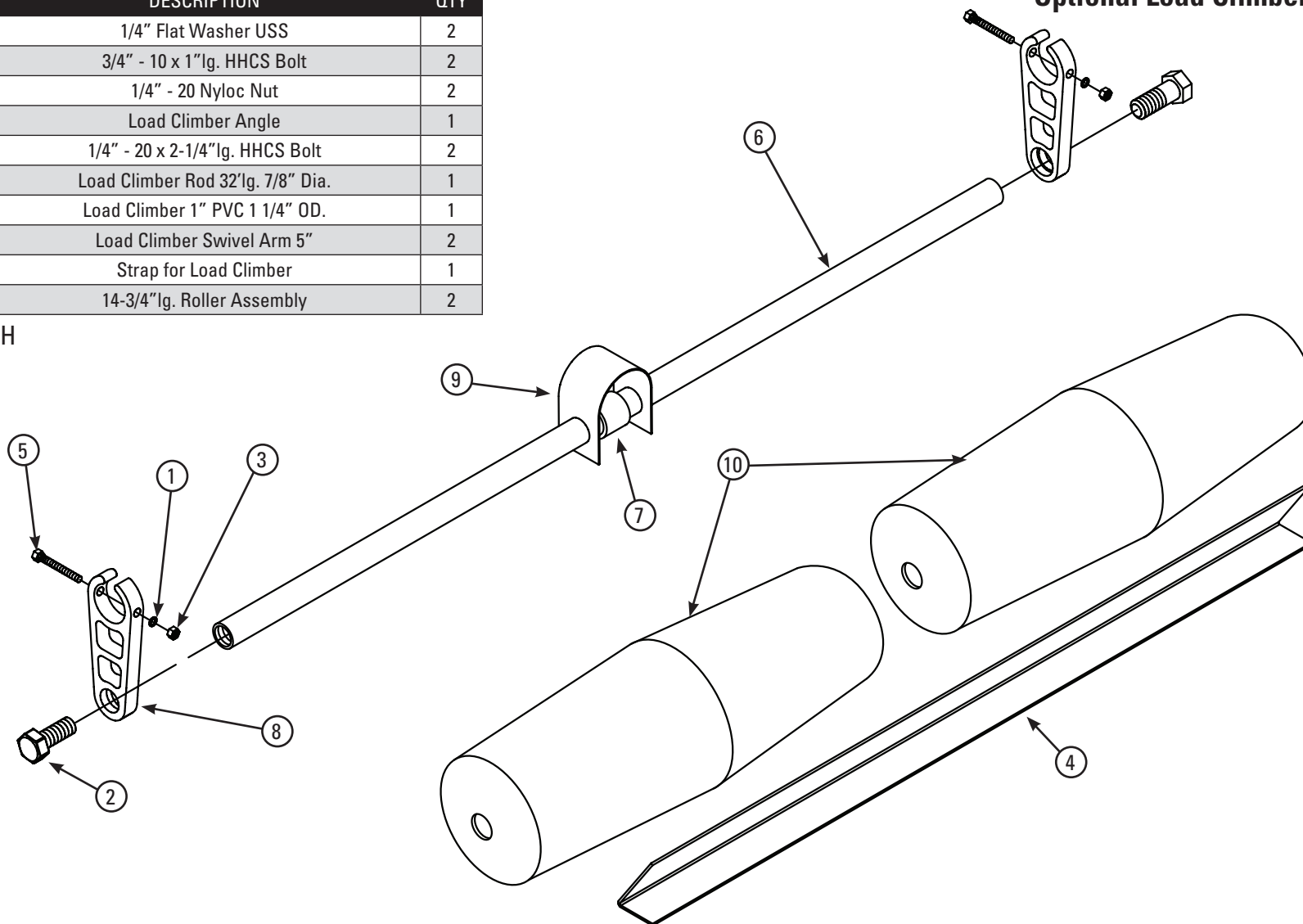
INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

ITEM	PART #	DESCRIPTION	QTY
1	505-2502	1/4" Flat Washer USS	2
2	503-7501	3/4" - 10 x 1"lg. HHCS Bolt	2
3	504-2503	1/4" - 20 Nyloc Nut	2
4	501-0905	Load Climber Angle	1
5	503-2514	1/4" - 20 x 2-1/4"lg. HHCS Bolt	2
6	501-0902	Load Climber Rod 32'lg. 7/8" Dia.	1
7	501-0909	Load Climber 1" PVC 1 1/4" OD.	1
8	501-0903	Load Climber Swivel Arm 5"	2
9	501-0912	Strap for Load Climber	1
10	501-0910	14-3/4"lg. Roller Assembly	2

REV. 10/14/16 WLH

Optional Load Climber #501-0901





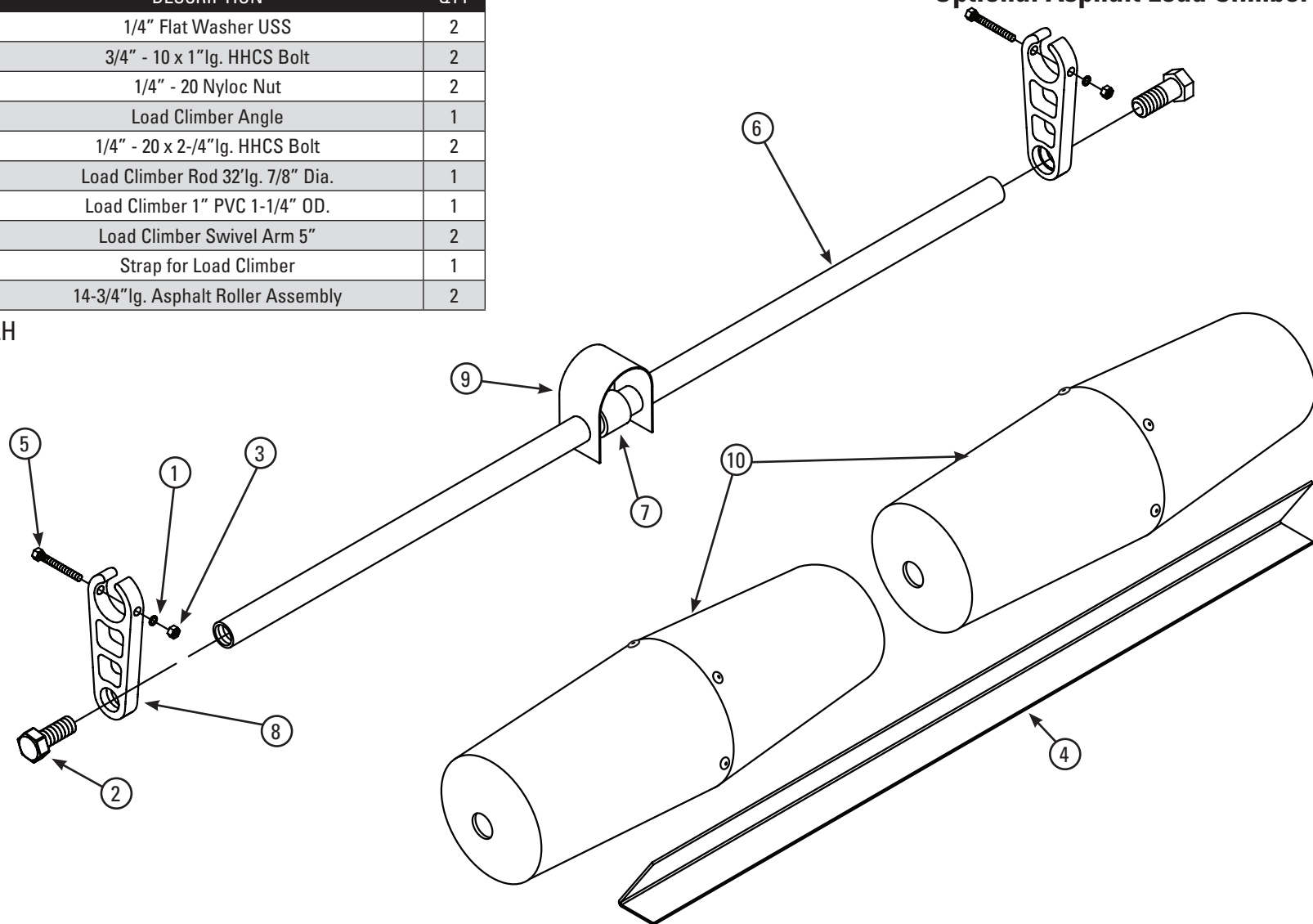
INSTALLATION INSTRUCTIONS

Semi-Automatic System Options

ITEM	PART #	DESCRIPTION	QTY
1	505-2502	1/4" Flat Washer USS	2
2	503-7501	3/4" - 10 x 1"lg. HHCS Bolt	2
3	504-2503	1/4" - 20 Nyloc Nut	2
4	501-0905	Load Climber Angle	1
5	503-2514	1/4" - 20 x 2-1/4"lg. HHCS Bolt	2
6	501-0902	Load Climber Rod 32'lg. 7/8" Dia.	1
7	501-0909	Load Climber 1" PVC 1-1/4" OD.	1
8	501-0903	Load Climber Swivel Arm 5"	2
9	501-0912	Strap for Load Climber	1
10	501-0914	14-3/4"lg. Asphalt Roller Assembly	2

REV. 10/14/16 WLH

Optional Asphalt Load Climber #501-0913





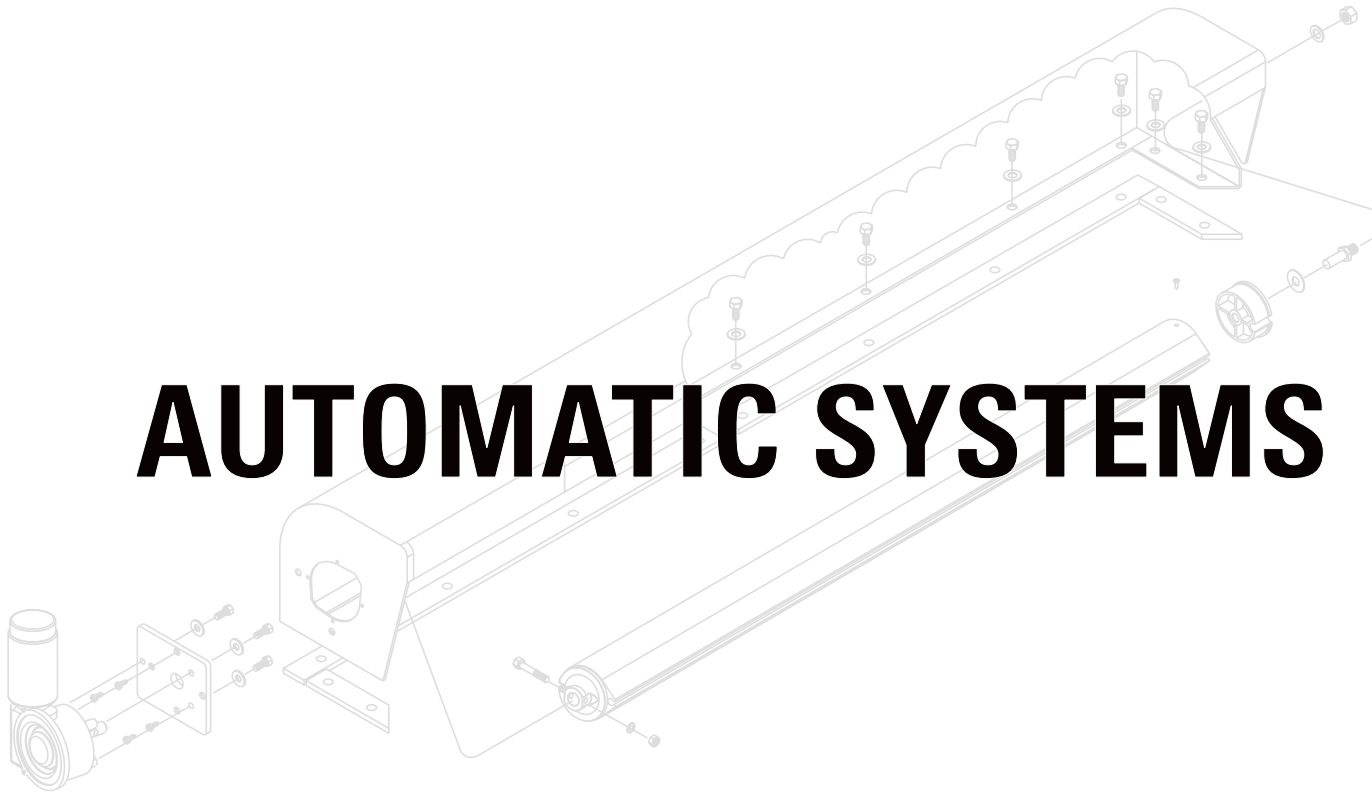
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INSTALLATION INSTRUCTIONS

Automatic Systems

AUTOMATIC SYSTEMS





PULLTARPS®



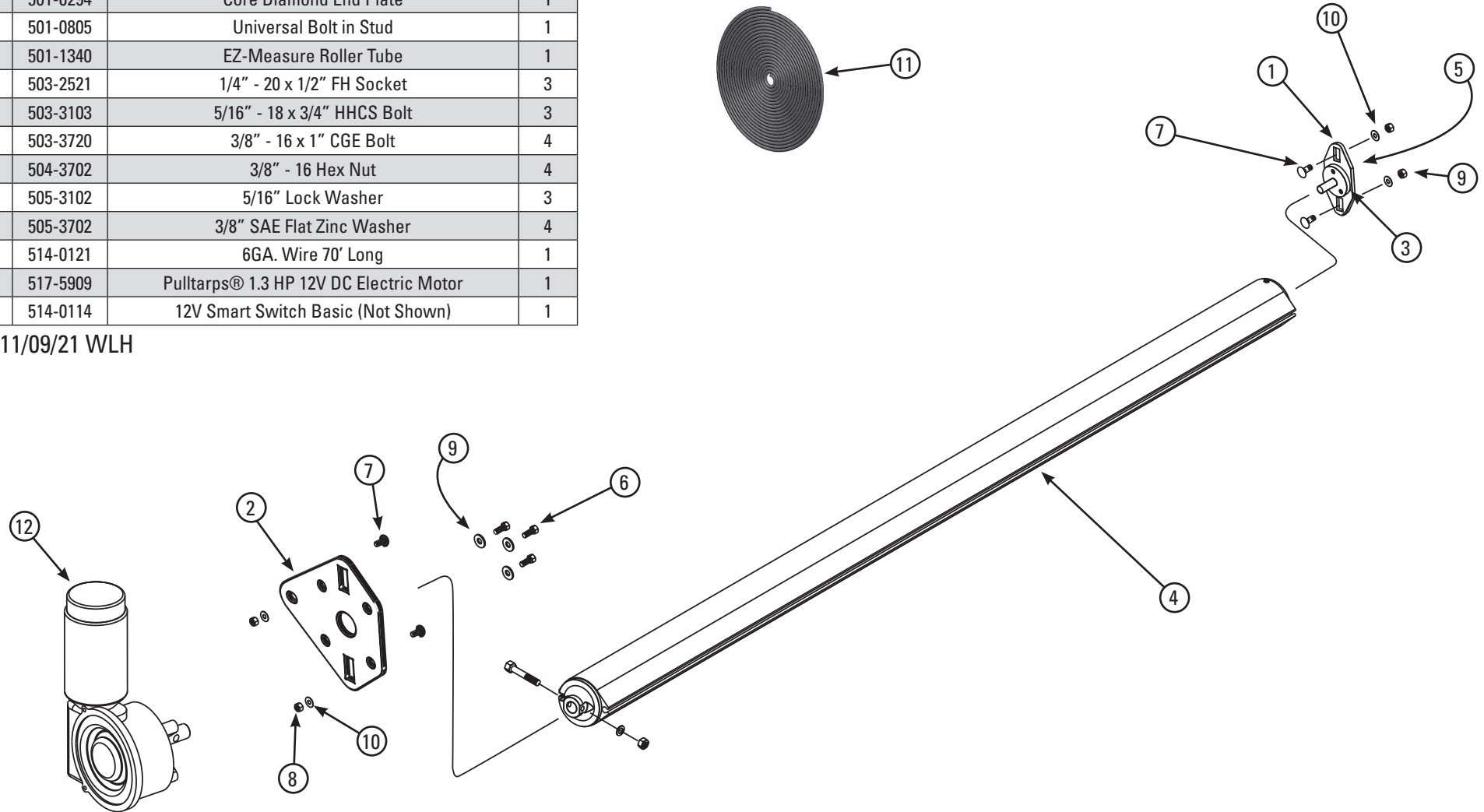
INSTALLATION INSTRUCTIONS

Automatic Systems

ITEM	PART #	DESCRIPTION	QTY
1	501-0293	Core End Plate	1
2	501-0294	Core Diamond End Plate	1
3	501-0805	Universal Bolt in Stud	1
4	501-1340	EZ-Measure Roller Tube	1
5	503-2521	1/4" - 20 x 1/2" FH Socket	3
6	503-3103	5/16" - 18 x 3/4" HHCS Bolt	3
7	503-3720	3/8" - 16 x 1" CGE Bolt	4
8	504-3702	3/8" - 16 Hex Nut	4
9	505-3102	5/16" Lock Washer	3
10	505-3702	3/8" SAE Flat Zinc Washer	4
11	514-0121	6GA. Wire 70' Long	1
12	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
--	514-0114	12V Smart Switch Basic (Not Shown)	1

REV. 11/09/21 WLH

Core (Automatic) #285-3017 & 531-2850 (EZ-Fit) (Cut-to-Fit)





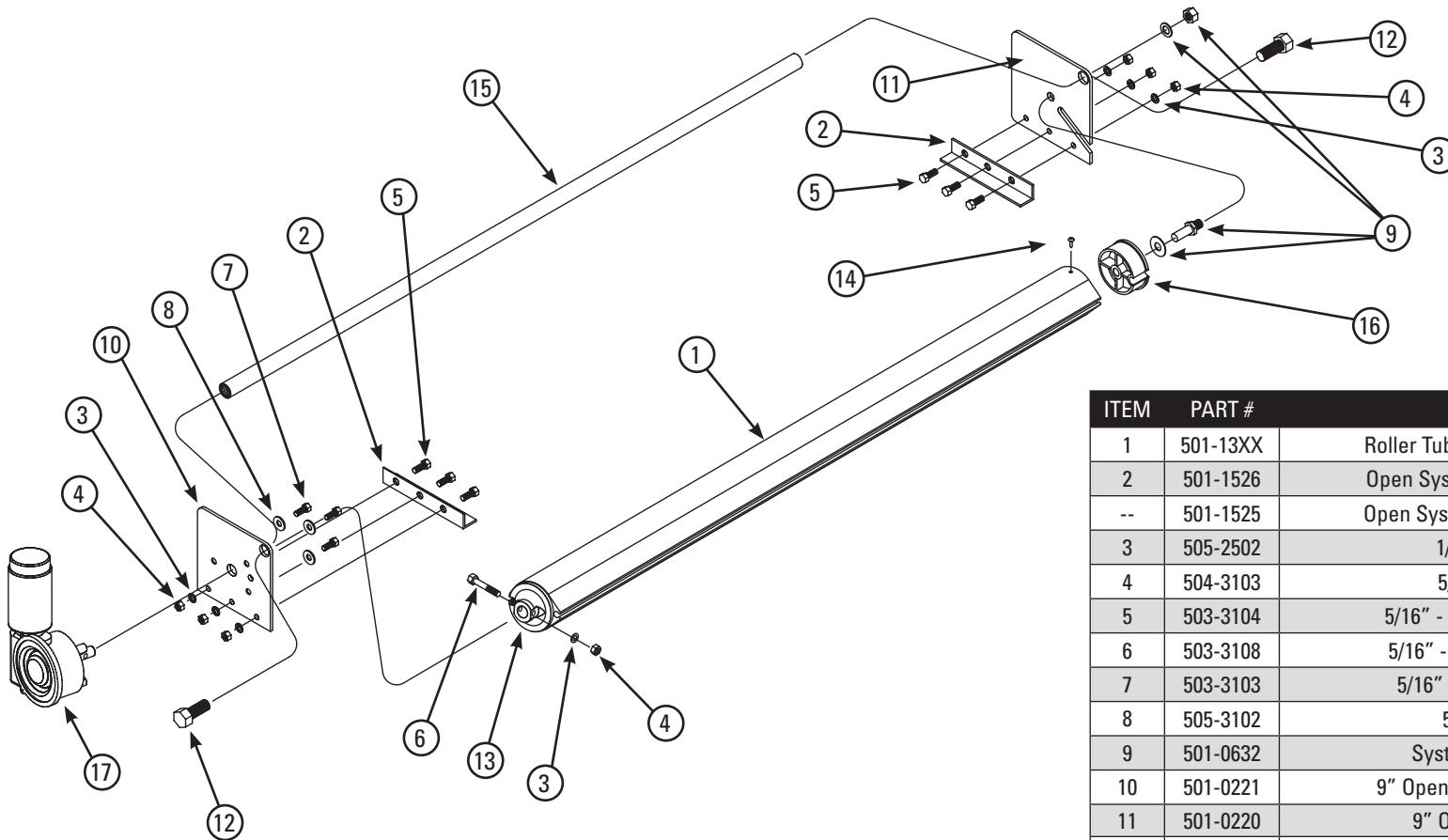
PULLTARPS®



INSTALLATION INSTRUCTIONS

Automatic Systems

Open 9000E #201-0215



ITEM	PART #	DESCRIPTION	QTY
1	501-13XX	Roller Tube 80, 84, 87, 89, 93, 96, 100"	1
2	501-1526	Open System Mount Bracket (Steel)	2
--	501-1525	Open System Mount Bracket (Alum.)	2
3	505-2502	1/4" Flat Washer USS	7
4	504-3103	5/16" - 18 Nyloc Nut	7
5	503-3104	5/16" - 18 x 3/4"lg. Carriage Bolt	6
6	503-3108	5/16" - 18 x 1-3/4"lg. HHCS Bolt	1
7	503-3103	5/16" - 18 x 3/4"lg. HHCS Bolt	3
8	505-3102	5/16" Lock Washer	3
9	501-0632	System End Plate Stud Kit	1
10	501-0221	9" Open End Plate, Electric (Drvr.)	1
11	501-0220	9" Open End Plate (Pass.)	1
12	503-7501	3/4" - 10 x 1"lg. HHCS Bolt	2
13	501-9915	Roller Drive Aluminum End Cap	1
14	506-9916	Screw #8 - 18 x 3/4" Self Drilling	1
15	501-980X	Spacer Rod 7/8" - 80, 84, 87, 89, 93, 96, 100"	1
16	517-0102	Flanged End Cap	1
17	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1

REV. 11/09/21 WLH



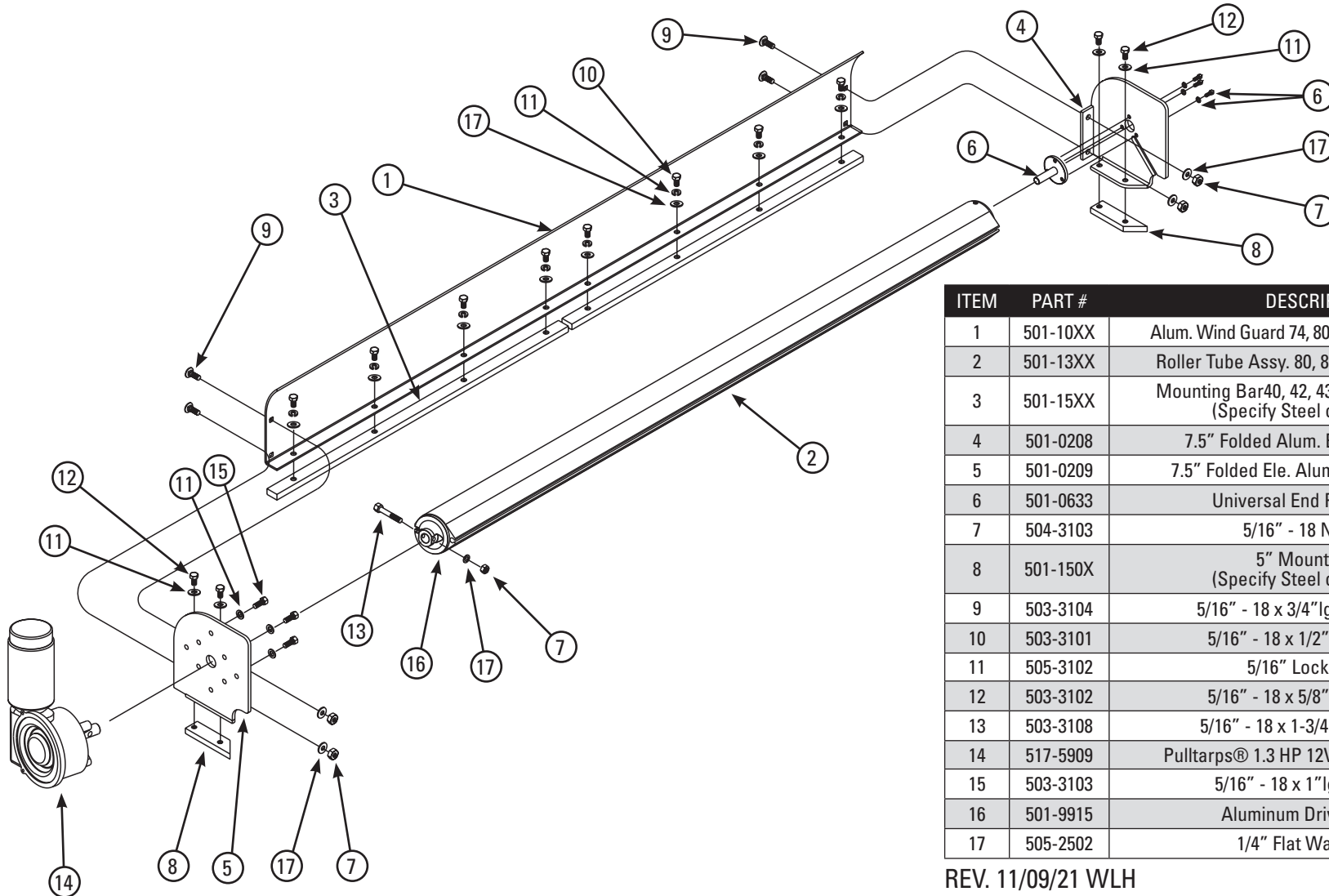
PULLTARPS®



INSTALLATION INSTRUCTIONS

Automatic Systems

Aluminator™ 7000E #204-0215



ITEM	PART #	DESCRIPTION	QTY
1	501-10XX	Alum. Wind Guard 74, 80, 84, 87, 89, 96, 96, 100"	1
2	501-13XX	Roller Tube Assy. 80, 84, 87, 89, 93, 96, 100"	1
3	501-15XX	Mounting Bar40, 42, 43.5, 44.5, 46.5, 48, 50" (Specify Steel or Aluminum)	2
4	501-0208	7.5" Folded Alum. End Plate (Pass.)	1
5	501-0209	7.5" Folded Ele. Alum. End Plate (Drvr.)	1
6	501-0633	Universal End Plate Stud Kit	1
7	504-3103	5/16" - 18 Nyloc Nut	5
8	501-150X	5" Mounting Bar (Specify Steel or Aluminum)	2
9	503-3104	5/16" - 18 x 3/4"lg. Carriage Bolt	4
10	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	8
11	505-3102	5/16" Lock Washer	15
12	503-3102	5/16" - 18 x 5/8"lg. HHCS Bolt	4
13	503-3108	5/16" - 18 x 1-3/4"lg. HHCS Bolt	1
14	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
15	503-3103	5/16" - 18 x 1"lg. HHCS Bolt	3
16	501-9915	Aluminum Driver End Cap	1
17	505-2502	1/4" Flat Washer USS	13

REV. 11/09/21 WLH



PULLTARPS®



INSTALLATION INSTRUCTIONS

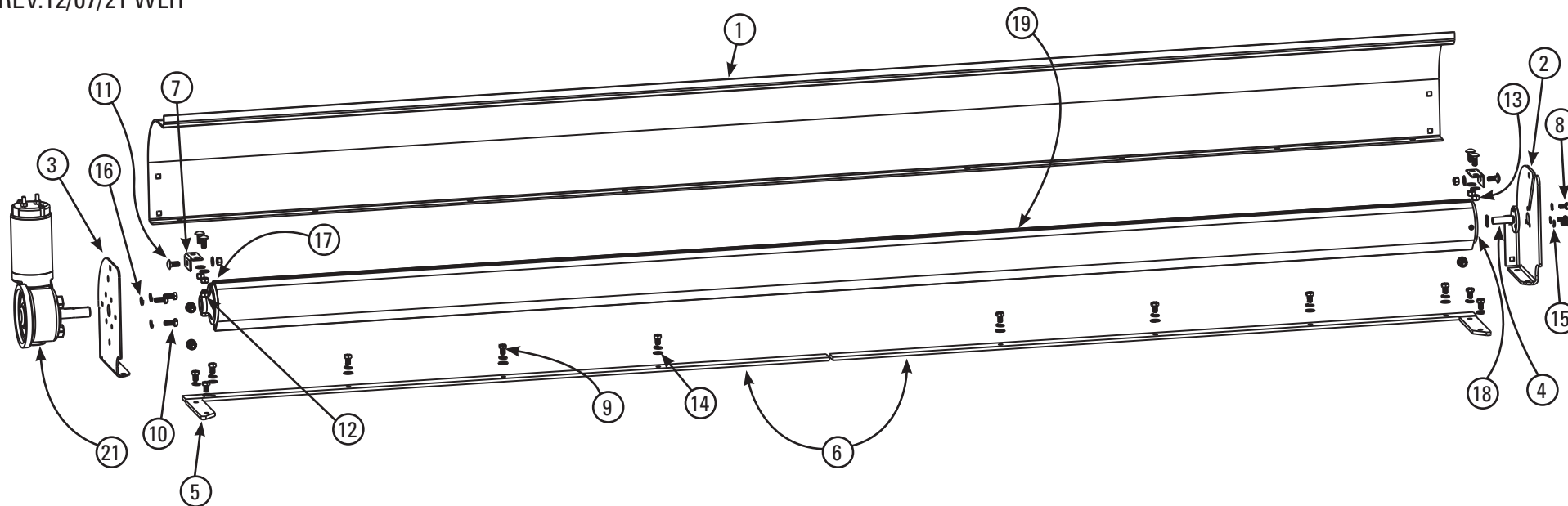
Automatic Systems

Aluminator™ 8500E #234-0215

ITEM	PART #	DESCRIPTION	QTY
1	501-0175	80" Aluminum 8.5" Housing	1
2	501-1051	8.5" Right Aluminum End Plate	1
3	501-1052	8.5" Electric Aluminum End Plate	1
4	501-0805	Universal Bolt in Stud	1
5	501-1506	6" Large Steel Mounting	2
6	501-1507	40" Mounting Bar-Steel	2
7	501-9934	Galvanized Steel Bracket	2
8	503-2503	1/4" - 20 x 1/2" HHD Bolt	3
9	503-3101	5/16" - 18 x 1/2" Hex Bolt	12
10	503-3103	5/16" - 18 x 3/4" HHCS Bolt	3
11	503-3104	5/16" - 18 x 3/4" Carriage Bolt	10

ITEM	PART #	DESCRIPTION	QTY
12	503-3108	5/16" - 18 x 1-3/4" HHCS Hex Bolt	1
13	504-3103	5/16" - 18 Nylock Nut Steel	11
14	505-2502	1/4" USS Washer 5/16"	19
15	505-2503	1/4" Lock Washer - Plated	3
16	505-3102	5/16" Lock Washer	15
17	501-9915	Roller Drive Aluminum End Cap	1
18	517-0102	Flanged End Cap	1
19	517-0502	78mm Roller Tube Galvanized	1
20	506-9916	Screw, #8 - 18 x 3/4" Self (Not Shown)	1
21	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1

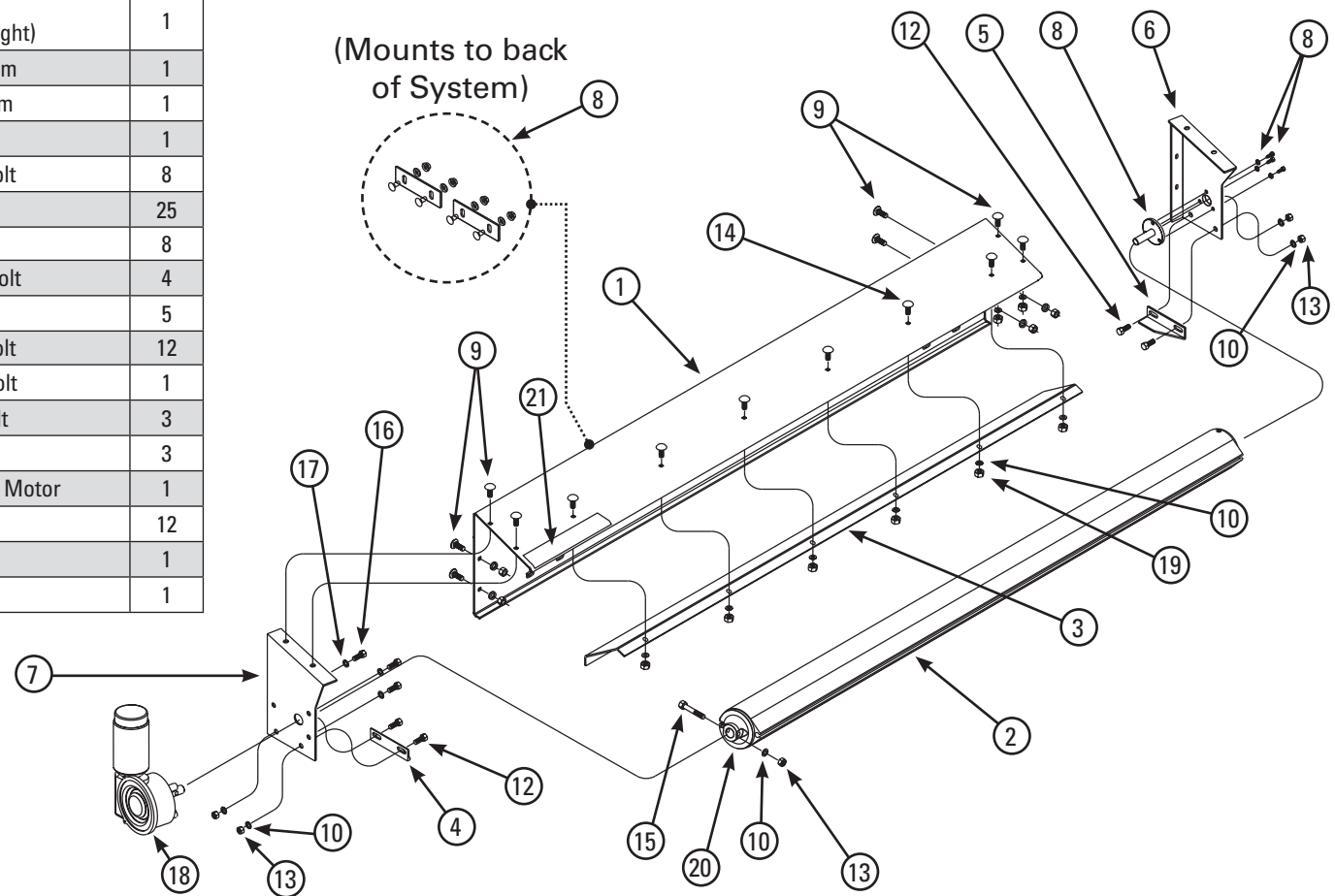
REV.12/07/21 WLH



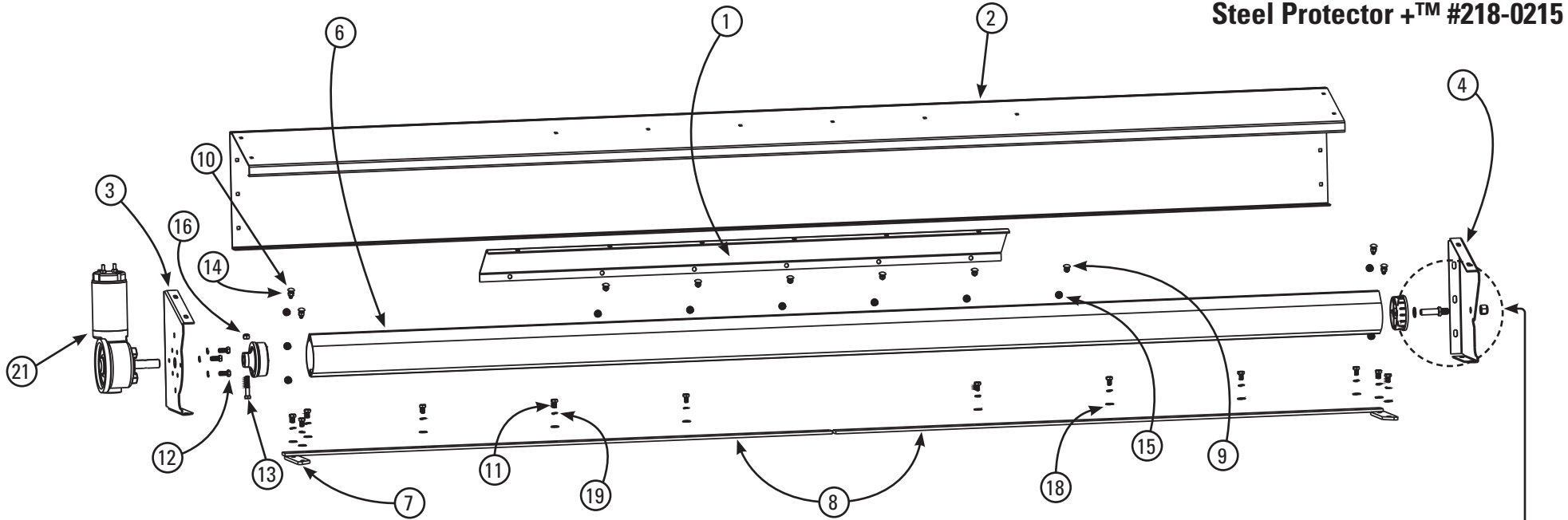
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Automatic Systems****Steel Protector™ #208-0215**

ITEM	PART #	DESCRIPTION	QTY
1	501-01XX	Galv. Steel Protector Hsg. 80, 84, 87, 89, 96, 96, 100"	1
2	501-13XX	Roller Tube Assy. 80, 84, 87, 89, 93, 96, 100"	1
3	501-0138	48" x 5 1/2" Galvanized Insert	1
4	501-152X	System Mount Bracket (Specify Steel or Aluminum - Left)	1
5	501-152X	System Mount Bracket (Specify Steel or Aluminum - Right)	1
6	501-0254	Right End Plate for "N" System	1
7	501-0255	Electric End Plate "N" System	1
8	501-0633	Universal Bolt In Stud Kit	1
9	503-2505	1/4" - 20 x 3/4"lg. Carriage Bolt	8
10	505-2502	1/4" Flat Washer USS	25
11	504-2503	1/4" - 20 Nyloc Nut	8
12	503-3104	5/16" - 18 x 3/4"lg. Carriage Bolt	4
13	504-3103	5/16" - 18 Nyloc Nut	5
14	503-2501	1/4" - 20 x 1/2"lg. Carriage Bolt	12
15	503-3108	5/16" - 18 x 1-3/4"lg. HHCS Bolt	1
16	503-3103	5/16" - 18 x 3/4"lg. HHCS Bolt	3
17	505-3102	5/16" Lock Washer	3
18	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
19	504-2506	1/4" - 20 x Nyloc Nut (Thin)	12
20	501-9915	Driver Aluminum End Cap	1
21	607-0061	Pulltarps Decal	1

ITEM	PART #	DESCRIPTION	QTY
22	501-06XX	Steel Protector System Hardware (Specify Steel or Aluminum)	1

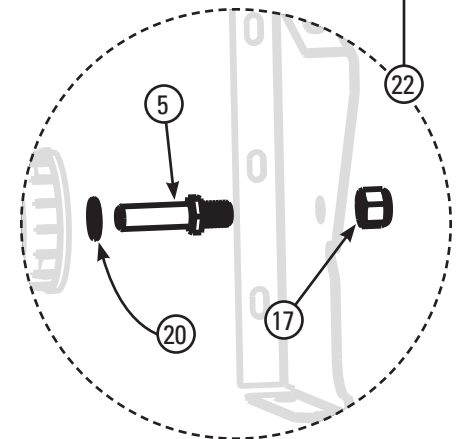


REV. 11/18/21 WLH

**PULLTARPS®****INSTALLATION INSTRUCTIONS****Automatic Systems****Steel Protector +™ #218-0215**

ITEM	PART #	DESCRIPTION	QTY
1	501-0138	Galvanized Insert	1
2	501-0190	87" Galvanized Steel Protector + Housing	1
3	501-0282	Protector + Electric End Plate	1
4	501-0281	Protector + End Plate Passenger	1
5	501-0801	System End Plate Stud 2.4"	1
6	501-1312	87" Roller Assembly for Electric Drive	1
7	501-1506	6" Large Steel Mounting Bar	2
8	501-1509	43.5" Mounting Bar Steel	2
9	503-2501	1/4" - 20 x 1/2" USS Carriage Bolt	12
10	503-2505	1/4" - 20 x 3/4" USS Carriage Bolt	10
11	503-3101	5/16" - 18 x 1/2" Hex Bolt	12

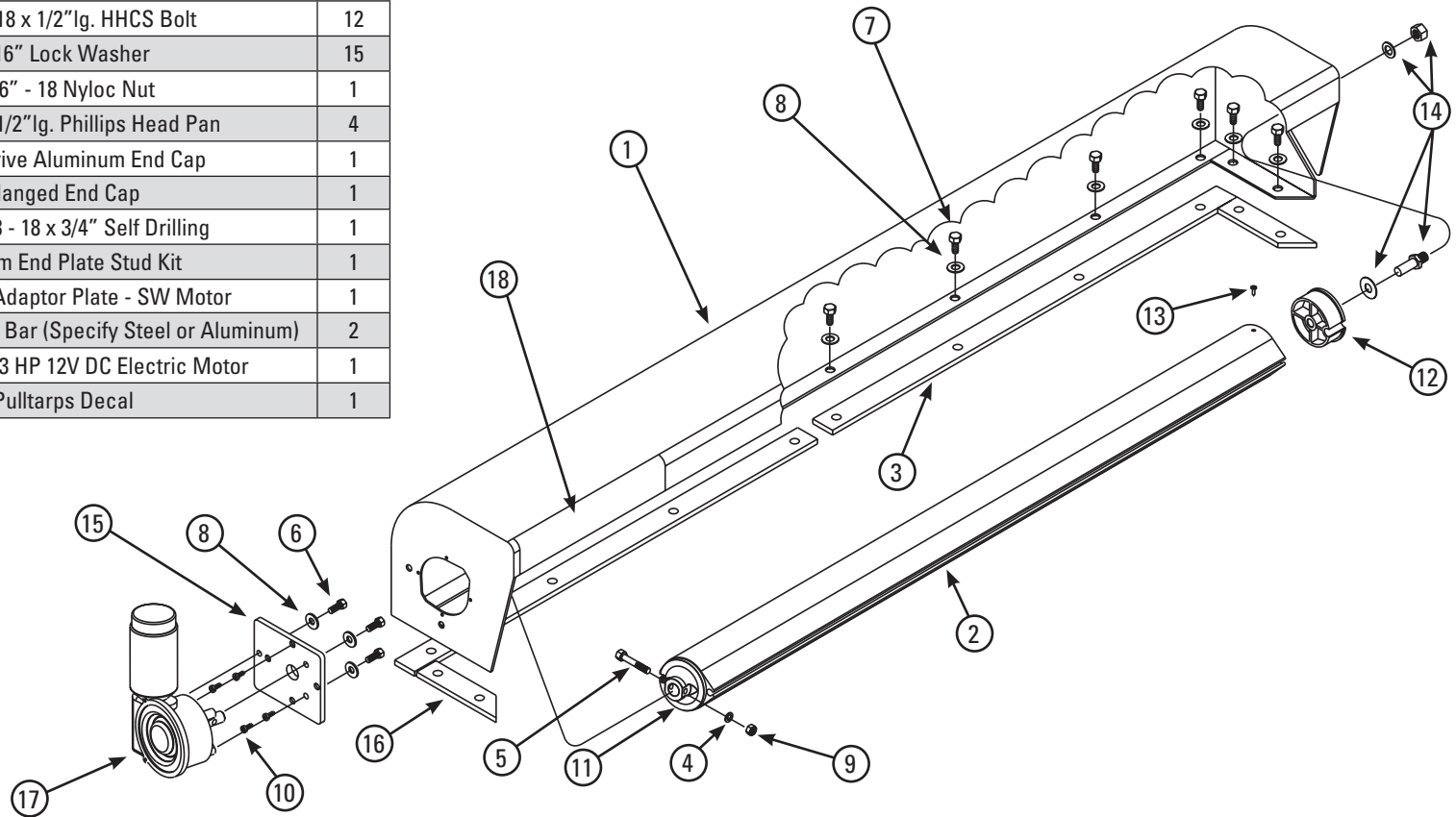
ITEM	PART #	DESCRIPTION	QTY
12	503-3103	5/16" - 18 x 3/4" HHCS Bolt	3
13	503-3108	5/16" - 18 x 1-3/4" HHCS Hex Bolt G2	1
14	504-2503	1/4" - 20 USS Nylock Nut	10
15	504-2506	1/4" Hex Lock Nut "Thin" L/N Steel Zinc	12
16	504-3103	5/16" - 18 Nylock Nut Steel Zinc	1
17	504-5001	1/2" Crimp Nut	1
18	505-2502	1/4" USS Washer 5/16" Hole	35
19	505-3102	5/16" Lock Washer	15
20	505-5001	1/2" AN Washer 1/16" Thick	1
21	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
22	501-0632	System End Plate Stud Kit	1



REV. 06/19/23 WLH

**PULLTARPS®****INSTALLATION INSTRUCTIONS****Automatic Systems****SuperShield™ 9500E #210-0215**

ITEM	PART #	DESCRIPTION	QTY
1	501-01XX	9.5" Super Shield Hsg. 80, 84, 87, 89, 93, 96, 100"	1
2	501-13XX	Roller Tube Assy. 80, 84, 87, 89, 93, 96, 100"	1
3	501-15XX	Mounting Bar 40, 42, 43.5, 44.5, 46.5, 48, 50" (Specify Steel or Aluminum)	2
4	505-2502	1/4" Flat Washer USS	1
5	503-3108	5/16" - 18 x 1-3/4"lg. HHCS Bolt	1
6	503-3105	5/16" - 18 x 1"lg. HHCS Bolt	3
7	503-3101	5/16" - 18 x 1/2"lg. HHCS Bolt	12
8	505-3102	5/16" Lock Washer	15
9	504-3103	5/16" - 18 Nyloc Nut	1
10	506-9905	#10 - 32 x 1/2"lg. Phillips Head Pan	4
11	501-9915	Roller Drive Aluminum End Cap	1
12	517-0102	Flanged End Cap	1
13	506-9916	Screw #8 - 18 x 3/4" Self Drilling	1
14	501-0632	System End Plate Stud Kit	1
15	501-1235	Aluminum Adaptor Plate - SW Motor	1
16	501-150X	6" Large Mounting Bar (Specify Steel or Aluminum)	2
17	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
18	607-0061	Pulltarps Decal	1



REV. 11/09/21 WLH



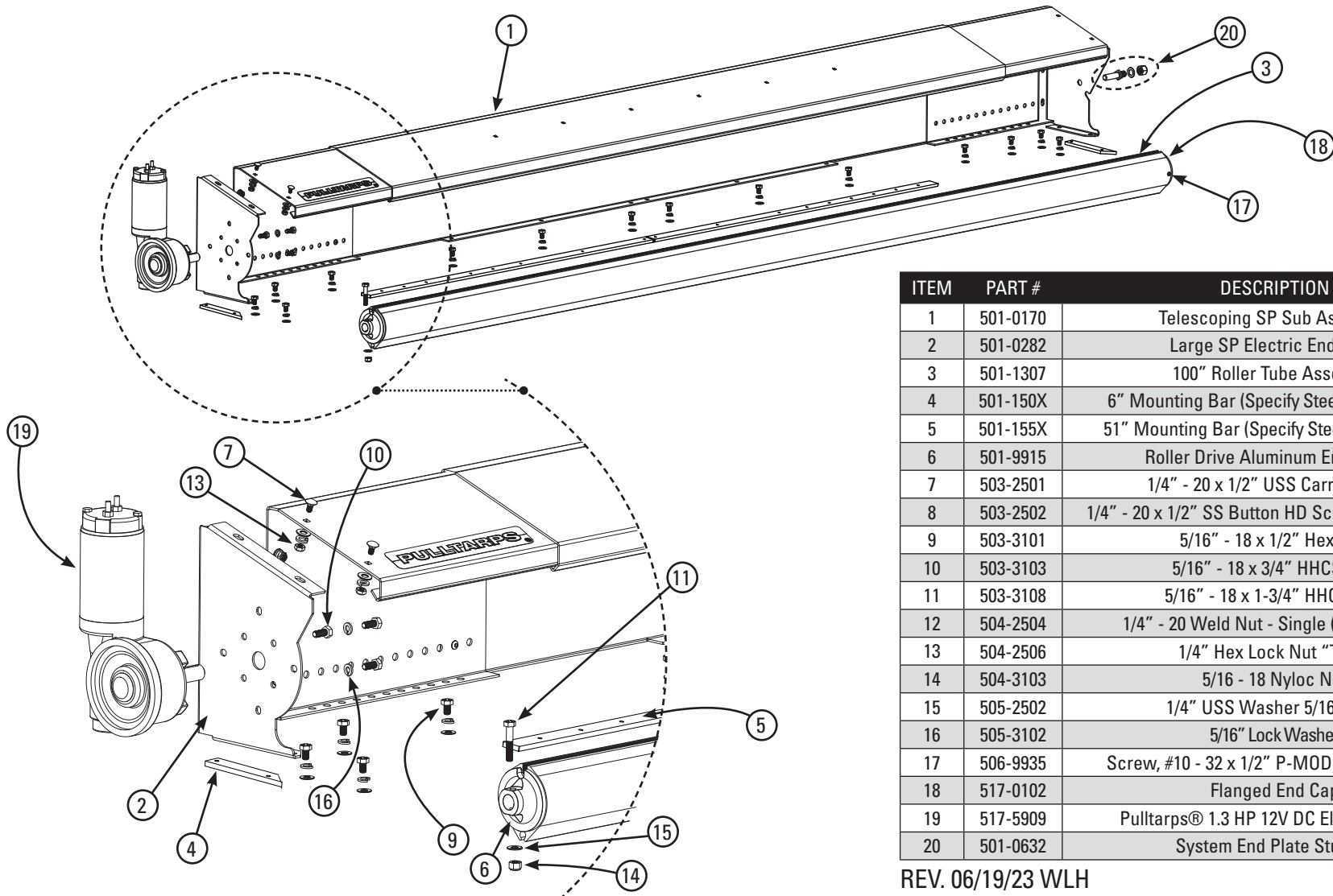
PULLTARPS®



INSTALLATION INSTRUCTIONS

Automatic Systems

X-Pando (Adjustable) #218-0215



ITEM	PART #	DESCRIPTION	QTY
1	501-0170	Telescoping SP Sub Assembly	1
2	501-0282	Large SP Electric End Plate	1
3	501-1307	100" Roller Tube Assembly	1
4	501-150X	6" Mounting Bar (Specify Steel or Aluminum)	2
5	501-155X	51" Mounting Bar (Specify Steel or Aluminum)	2
6	501-9915	Roller Drive Aluminum End cap 3"	1
7	503-2501	1/4" - 20 x 1/2" USS Carriage Bolt	5
8	503-2502	1/4" - 20 x 1/2" SS Button HD Screw (Not Shown)	4
9	503-3101	5/16" - 18 x 1/2" Hex Bolt	14
10	503-3103	5/16" - 18 x 3/4" HHCS Bolt	3
11	503-3108	5/16" - 18 x 1-3/4" HHCS Bolt	1
12	504-2504	1/4" - 20 Weld Nut - Single (Not Shown)	4
13	504-2506	1/4" Hex Lock Nut "Thin"	5
14	504-3103	5/16 - 18 Nyloc Nut	1
15	505-2502	1/4" USS Washer 5/16" Hole	6
16	505-3102	5/16" Lock Washer	17
17	506-9935	Screw, #10 - 32 x 1/2" P-MOD Truss Self Drl.	1
18	517-0102	Flanged End Cap	1
19	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor	1
20	501-0632	System End Plate Stud Kit	1

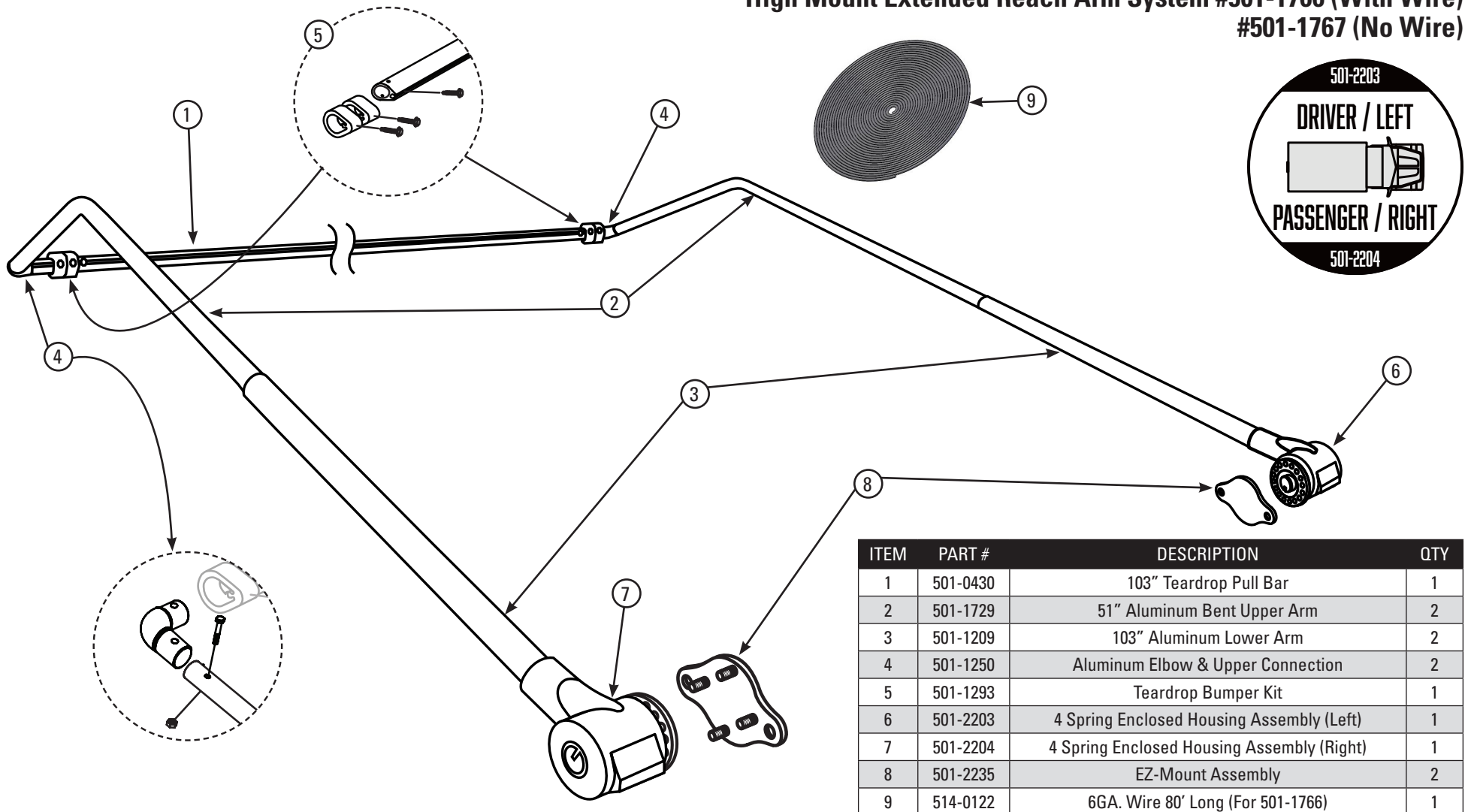
REV. 06/19/23 WLH



INSTALLATION INSTRUCTIONS

Automatic Systems

**High Mount Extended Reach Arm System #501-1766 (With Wire)
#501-1767 (No Wire)**



ITEM	PART #	DESCRIPTION	QTY
1	501-0430	103" Teardrop Pull Bar	1
2	501-1729	51" Aluminum Bent Upper Arm	2
3	501-1209	103" Aluminum Lower Arm	2
4	501-1250	Aluminum Elbow & Upper Connection	2
5	501-1293	Teardrop Bumper Kit	1
6	501-2203	4 Spring Enclosed Housing Assembly (Left)	1
7	501-2204	4 Spring Enclosed Housing Assembly (Right)	1
8	501-2235	EZ-Mount Assembly	2
9	514-0122	6GA. Wire 80' Long (For 501-1766)	1

Illustration view shown looking from passenger side to rear of vehicle.

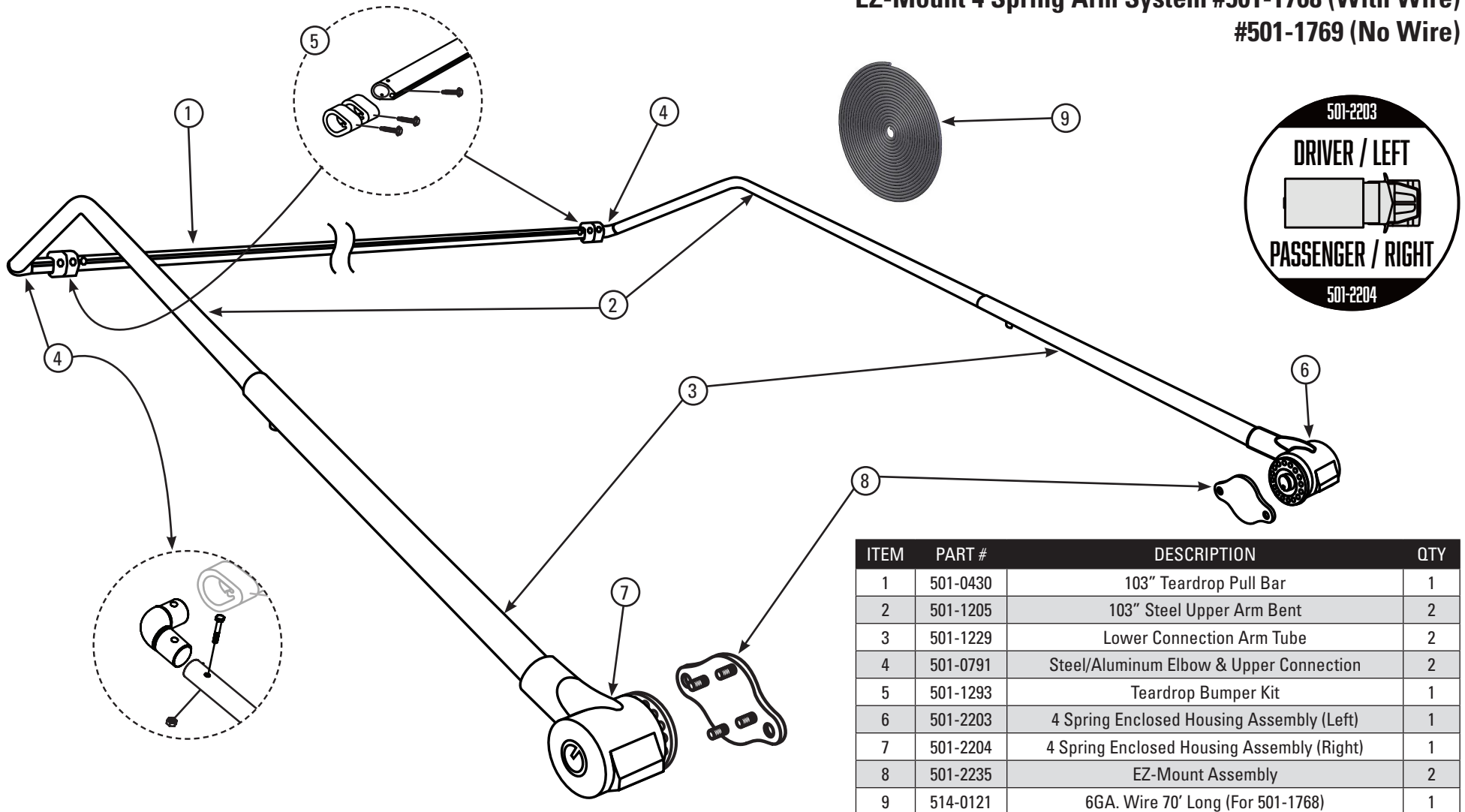
REV. 09/09/20 WLH



INSTALLATION INSTRUCTIONS

Automatic Systems

**EZ-Mount 4 Spring Arm System #501-1768 (With Wire)
#501-1769 (No Wire)**



ITEM	PART #	DESCRIPTION	QTY
1	501-0430	103" Teardrop Pull Bar	1
2	501-1205	103" Steel Upper Arm Bent	2
3	501-1229	Lower Connection Arm Tube	2
4	501-0791	Steel/Aluminum Elbow & Upper Connection	2
5	501-1293	Teardrop Bumper Kit	1
6	501-2203	4 Spring Enclosed Housing Assembly (Left)	1
7	501-2204	4 Spring Enclosed Housing Assembly (Right)	1
8	501-2235	EZ-Mount Assembly	2
9	514-0121	6GA. Wire 70' Long (For 501-1768)	1

Illustration view shown looking from passenger side to rear of vehicle.

REV. 09/09/20 WLH

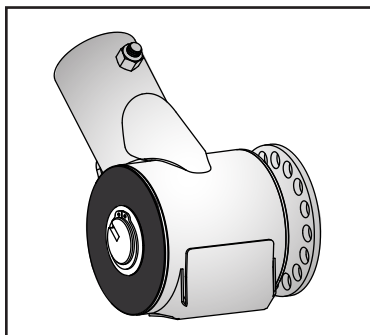
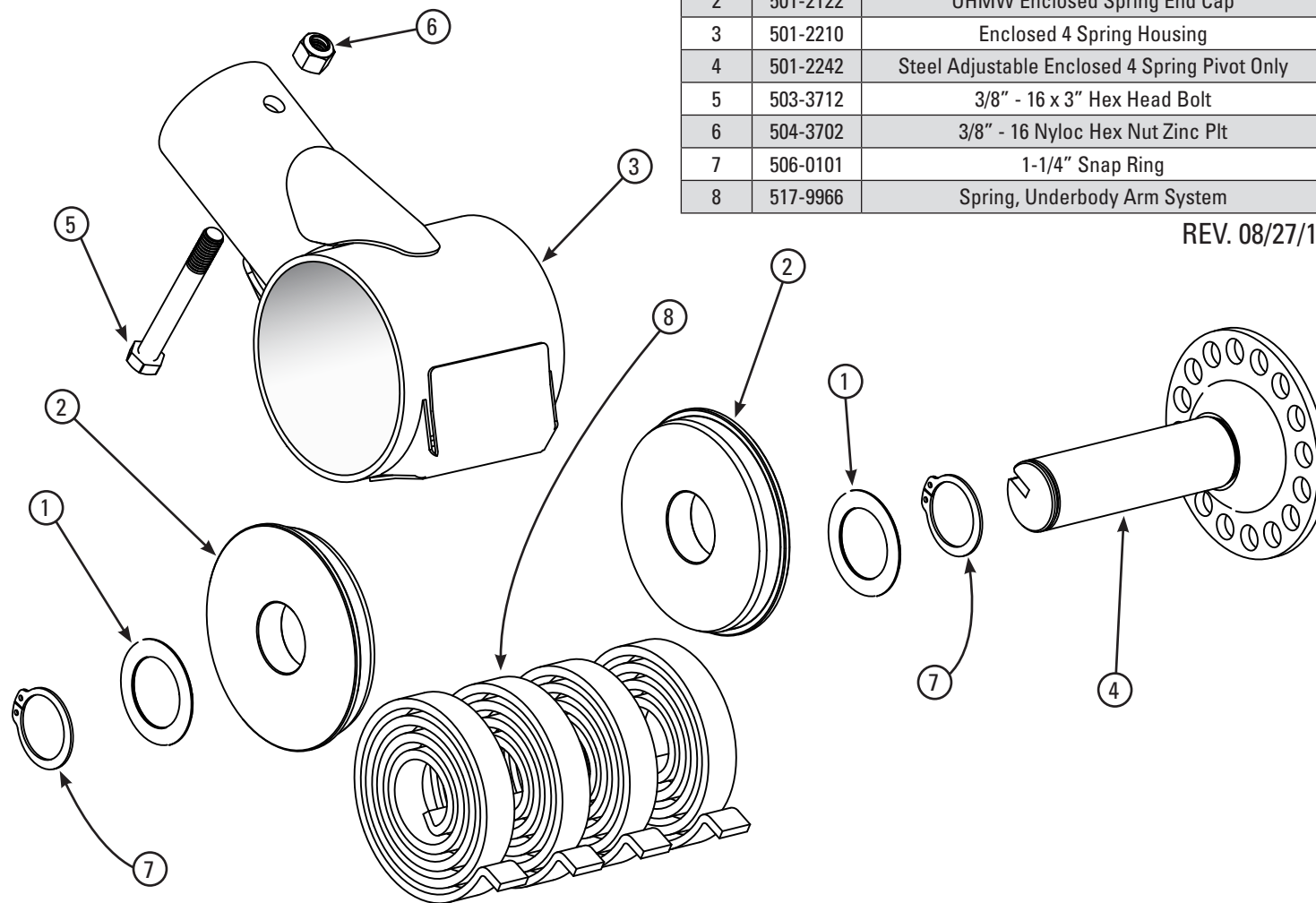


4 Spring Enclosed Housing Assembly Right #501-2204 (not shown) & Left #501-2203 (shown)



ITEM	PART #	DESCRIPTION	QTY
1	501-1162	Washer 1-7/8" x 1-1/4" Narrow Rim Bushing	2
2	501-2122	UHMW Enclosed Spring End Cap	2
3	501-2210	Enclosed 4 Spring Housing	1
4	501-2242	Steel Adjustable Enclosed 4 Spring Pivot Only	1
5	503-3712	3/8" - 16 x 3" Hex Head Bolt	1
6	504-3702	3/8" - 16 Nyloc Hex Nut Zinc Plt	1
7	506-0101	1-1/4" Snap Ring	2
8	517-9966	Spring, Underbody Arm System	4

REV. 08/27/19 WLH



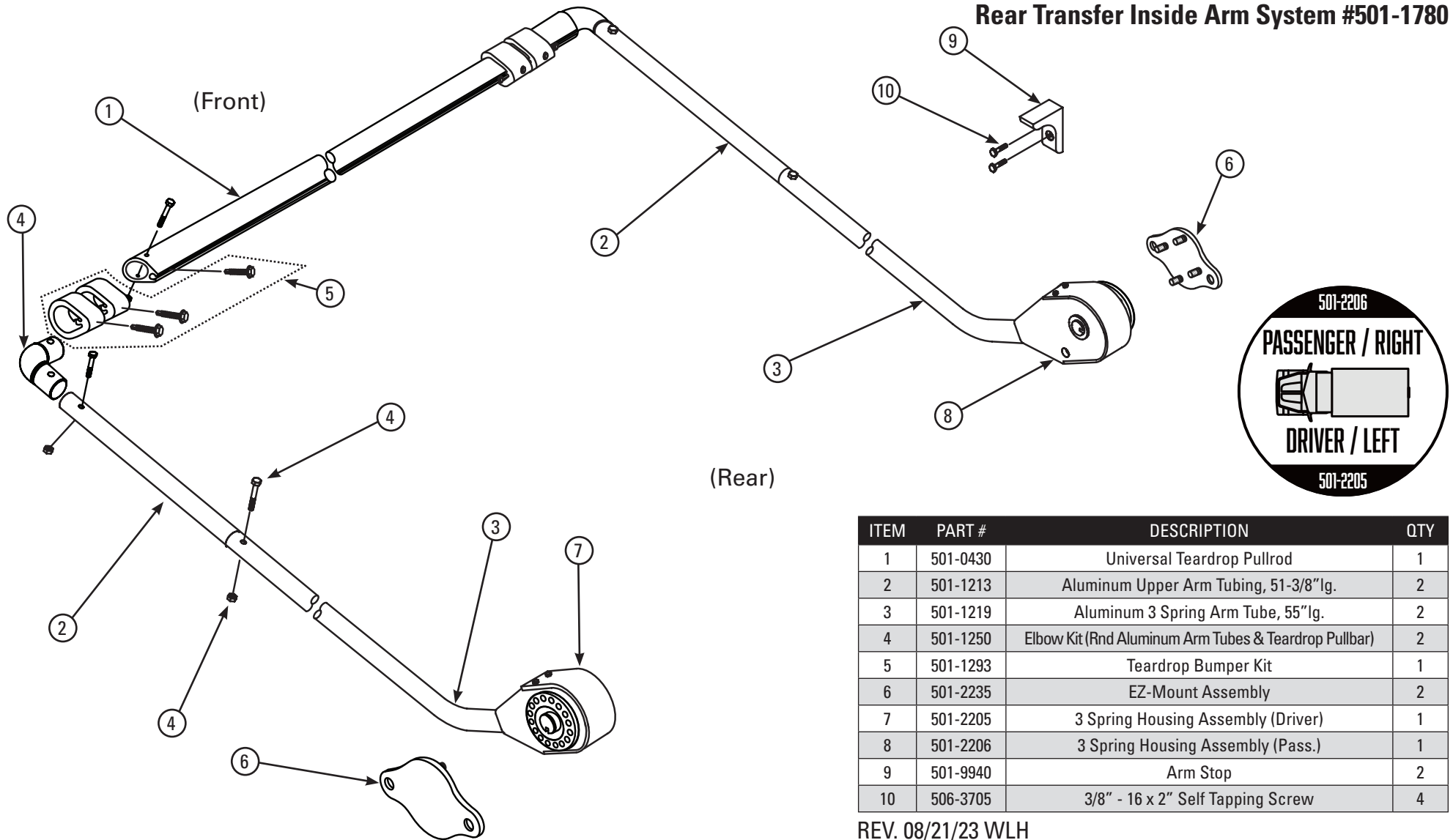
Assembled View of 501-2203



INSTALLATION INSTRUCTIONS

Automatic Systems

Rear Transfer Inside Arm System #501-1780

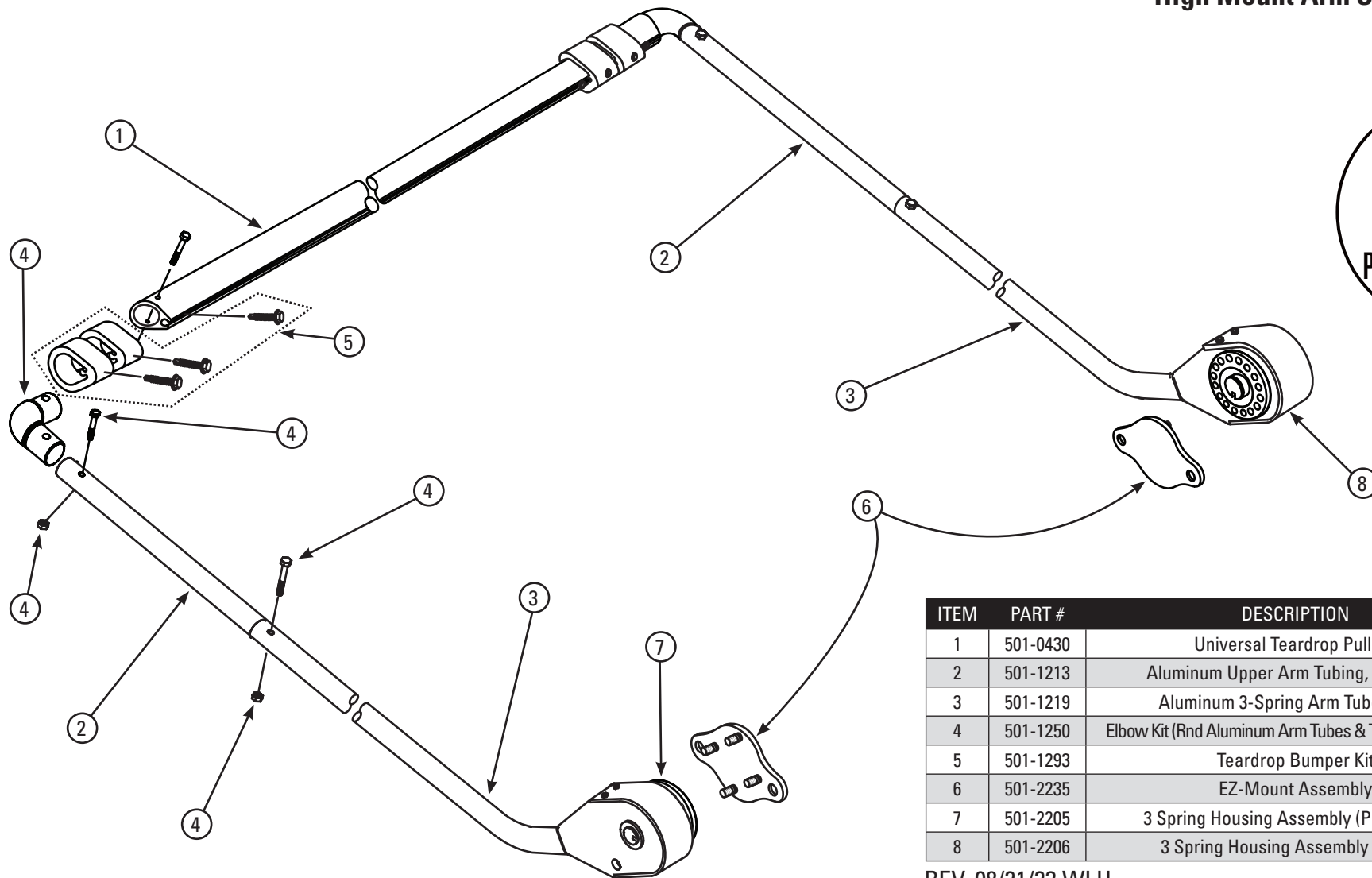


ITEM	PART #	DESCRIPTION	QTY
1	501-0430	Universal Teardrop Pullrod	1
2	501-1213	Aluminum Upper Arm Tubing, 51-3/8"lg.	2
3	501-1219	Aluminum 3 Spring Arm Tube, 55"lg.	2
4	501-1250	Elbow Kit (Rnd Aluminum Arm Tubes & Teardrop Pullbar)	2
5	501-1293	Teardrop Bumper Kit	1
6	501-2235	EZ-Mount Assembly	2
7	501-2205	3 Spring Housing Assembly (Driver)	1
8	501-2206	3 Spring Housing Assembly (Pass.)	1
9	501-9940	Arm Stop	2
10	506-3705	3/8" - 16 x 2" Self Tapping Screw	4

REV. 08/21/23 WLH



High Mount Arm System #501-1781



ITEM	PART #	DESCRIPTION	QTY
1	501-0430	Universal Teardrop Pullrod	1
2	501-1213	Aluminum Upper Arm Tubing, 51-3/8"lg.	2
3	501-1219	Aluminum 3-Spring Arm Tube, 55"lg.	2
4	501-1250	Elbow Kit (Rnd Aluminum Arm Tubes & Teardrop Pullbar)	2
5	501-1293	Teardrop Bumper Kit	1
6	501-2235	EZ-Mount Assembly	1
7	501-2205	3 Spring Housing Assembly (Passenger)	1
8	501-2206	3 Spring Housing Assembly (Driver)	1

REV. 08/21/23 WLH



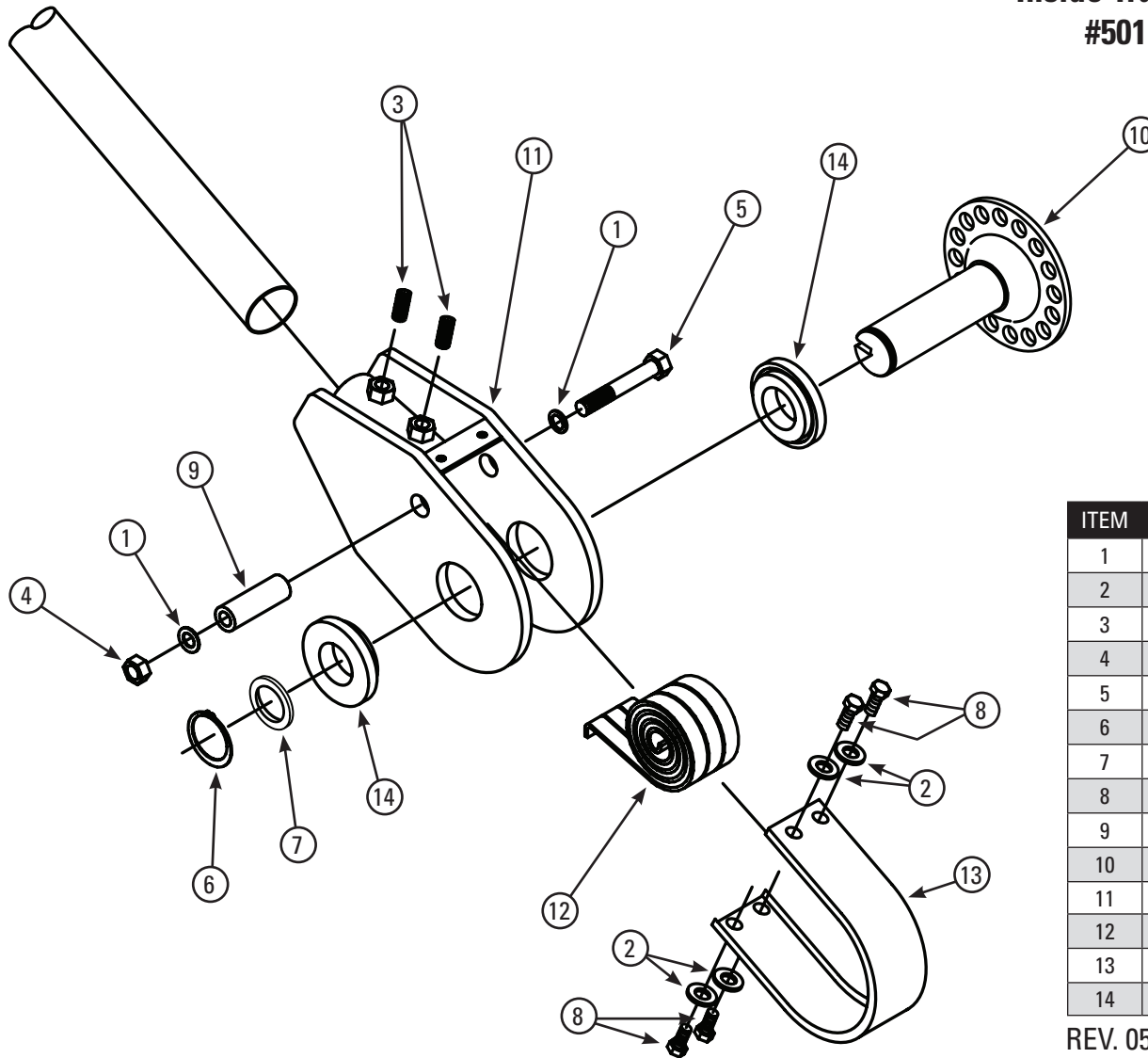
PULLTARPS®



INSTALLATION INSTRUCTIONS

Automatic Systems

Inside Transfer / Hight Mount 3 Spring Housing Assembly #501-2205 (Driver-Opposite), 501-2206 (Pass.-Shown)



ITEM	PART #	DESCRIPTION	QTY
1	505-5001	1/2" AN Flat Washer	2
2	505-2502	1/4" Flat Washer USS	4
3	506-5008	1/2" - 13 x 3/4" Set Screw	2
4	504-5004	1/2" - 13 Nyloc Nut	1
5	503-5011	1/2" - 13 x 3-1/4"lg. HHCS Bolt	1
6	506-0101	1-1/4" Snap Ring	1
7	501-1162	Washer, 1-7/8" x 1-1/4" Narrow Rim Bush	1
8	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	4
9	501-1158	Spring Connection - Arm System	1
10	501-2243	Steel Adjustable 3 & 4 Spring Pivot Only	1
11	501-1109	Spring Side Plate Assembly	1
12	517-9921	Small Spring for Arm System	3
13	501-1151	Arm Dust Cover	1
14	501-1155	UHMW Pivot Retainer 2-1/2" Dia.	2

REV. 05/07/25 WLH



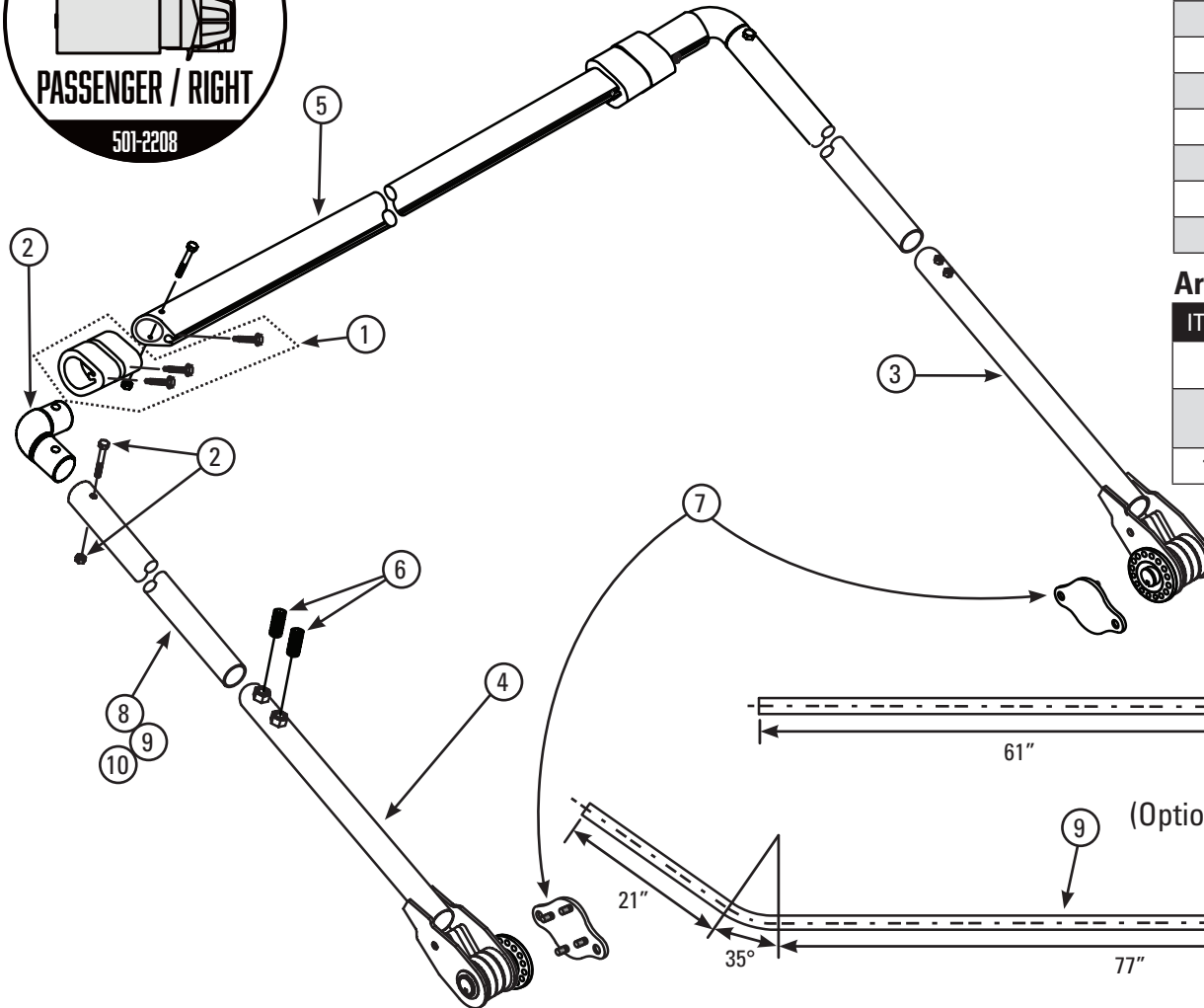
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INSTALLATION INSTRUCTIONS

Automatic Systems

Steel Arms to 22' #501-1756, 501-1755

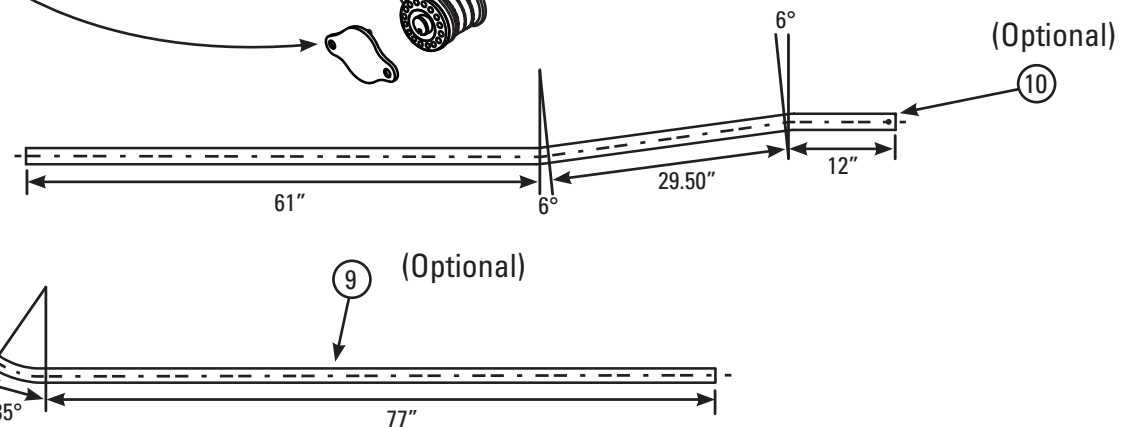


ITEM	PART #	DESCRIPTION	QTY
1	501-1293	Teardrop Bumper Kit	1
2	501-1251	Elbow Kit (For Steel)	1
3	501-2207	4 Spring Housing (Driver Side)	1
4	501-2208	4 Spring Housing (Pass. Side)	1
5	501-0430	Universal Teardrop Pullrod	1
6	506-5008	1/2" - 13 x 3/4"lg. Set Screw	4
7	501-2235	EZ-Mount Assembly	1
--	514-0120	6 Ga. Electric Wire	60'

Arm Options

ITEM	PART #	DESCRIPTION	QTY
8	501-1202	Steel Upper Arm Tubing (Included in 501-0782)	2
9	501-1205	Upper Arm Tubing, Drilled and Bent (Included in 501-0749)	2
10	501-1207	Offset Upper Arm Tube	2

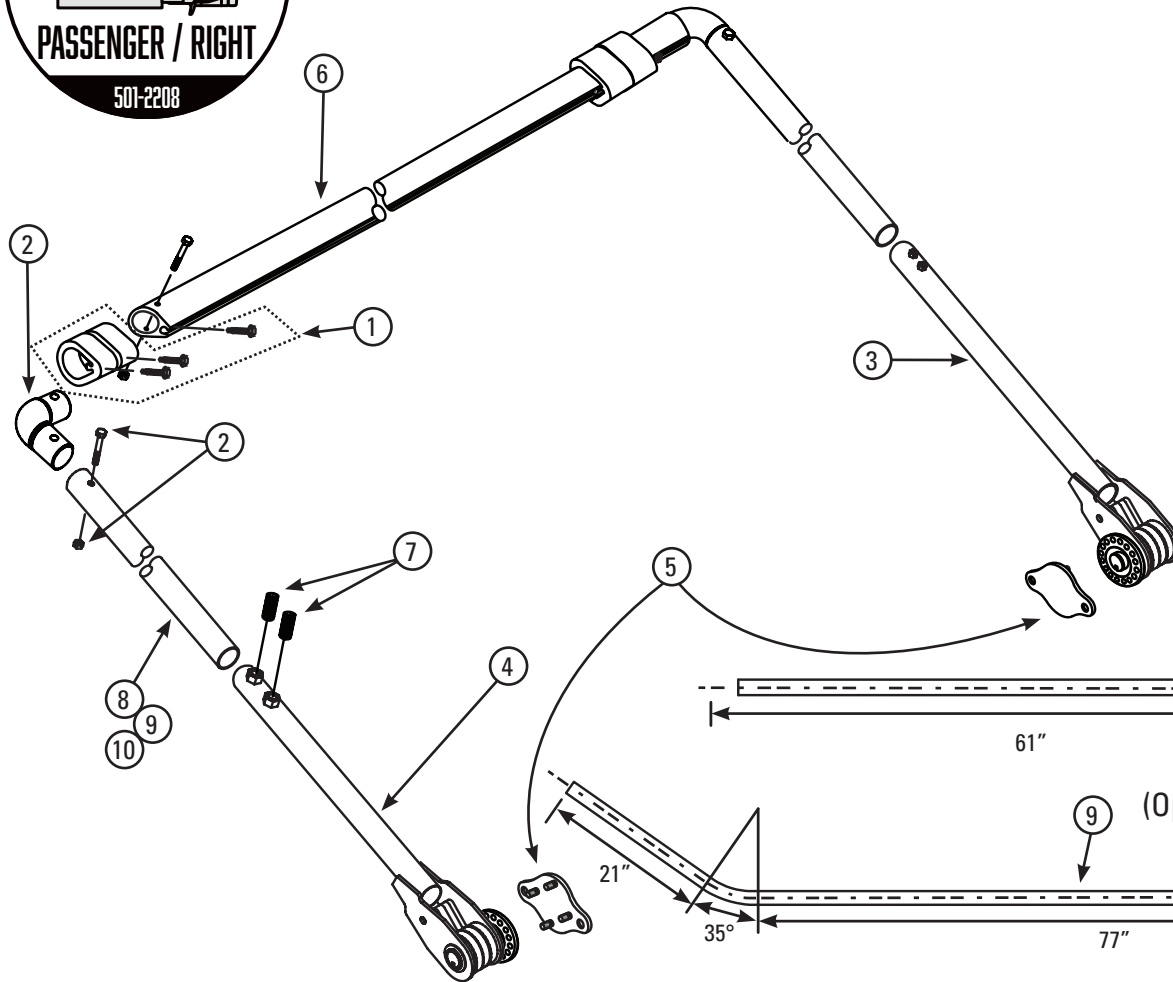
REV. 08/21/19 WLH





INSTALLATION INSTRUCTIONS

Automatic Systems



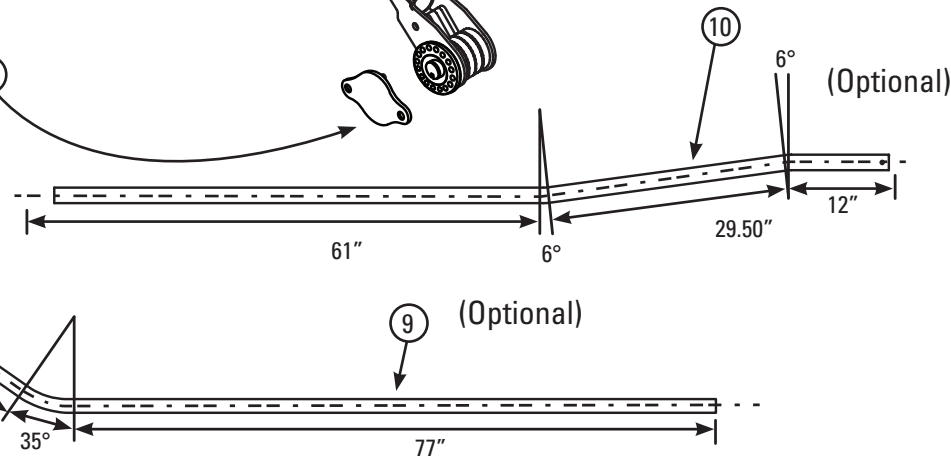
Steel Arms to 22' #501-1703, 501-1704

ITEM	PART #	DESCRIPTION	QTY
1	501-1293	Teardrop Bumper Kit	1
2	501-1251	Elbow Kit (For Steel)	1
3	501-2207	4 Spring Housing (Driver Side)	1
--	501-1253	Steel Offset 4 Spring Hsg. (Driver Side)	1
4	501-2208	4 Spring Housing (Pass. Side)	1
--	501-1254	Steel Offset 4 Spring Hsg. (Pass. Side)	1
5	501-2235	EZ-Mount Assembly	1
6	501-0430	Universal Teardrop Pullrod	1
7	506-5008	1/2" - 13 x 3/4"lg. Set Screw	4
--	514-0120	6 Ga. Electric Wire	60'

Arm Options

ITEM	PART #	DESCRIPTION	QTY
8	501-1202	Steel Upper Arm Tubing	2
9	501-1205	Upper Arm Tubing, Drilled and Bent	2
10	501-1207	Offset Upper Arm Tube	2

REV. 08/21/19 WLH

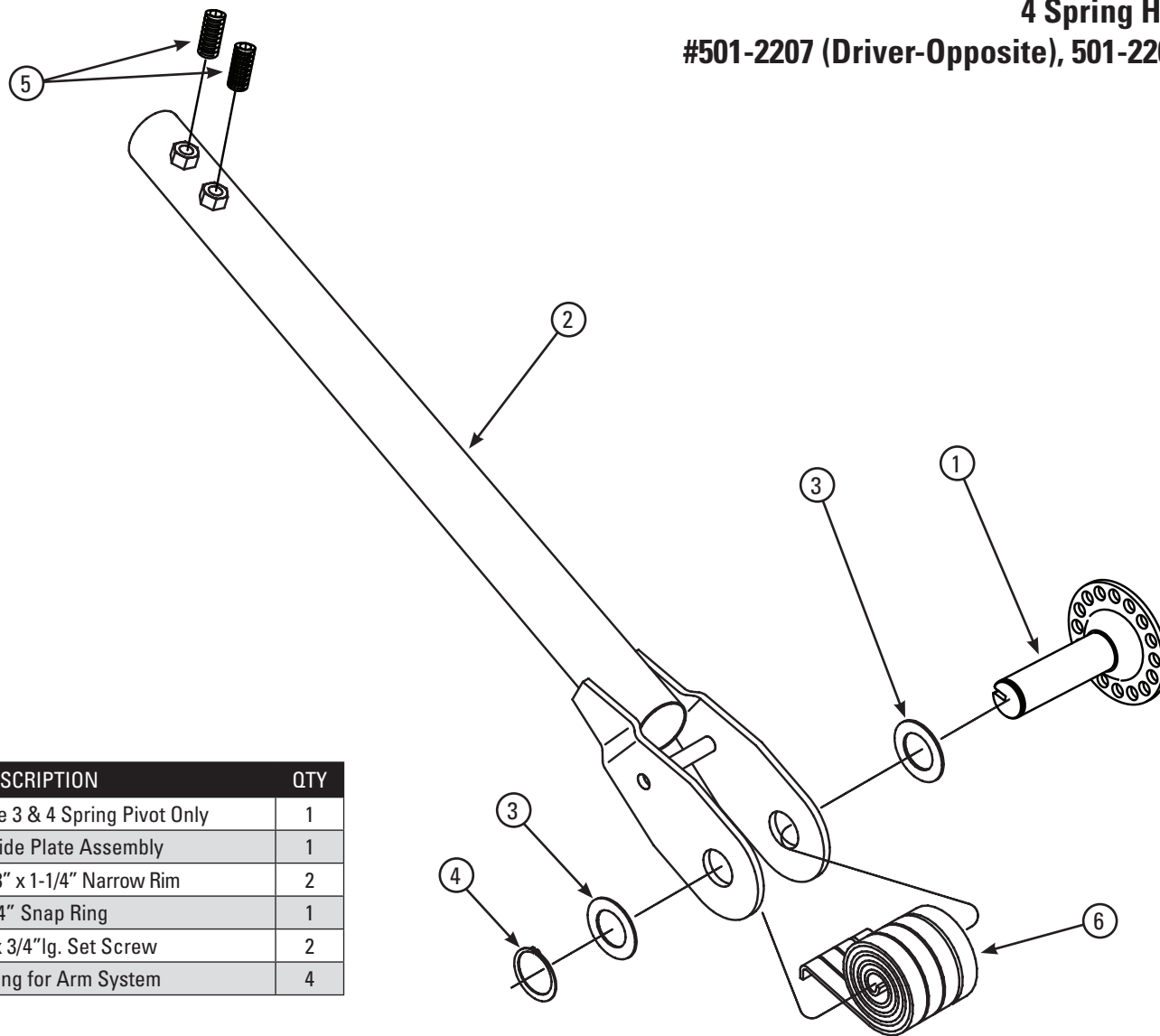




INSTALLATION INSTRUCTIONS

Automatic Systems

4 Spring Housing Assembly
#501-2207 (Driver-Opposite), 501-2208 (Pass.-Shown)



ITEM	PART #	DESCRIPTION	QTY
1	501-2243	Steel Adjustable 3 & 4 Spring Pivot Only	1
2	501-1110	4 Spring Side Plate Assembly	1
3	501-1162	Washer, 1 7/8" x 1-1/4" Narrow Rim	2
4	506-0101	1 1/4" Snap Ring	1
5	506-5008	1/2" - 13 x 3/4"lg. Set Screw	2
6	517-9921	Small Spring for Arm System	4

REV. 05/07/25 WLH

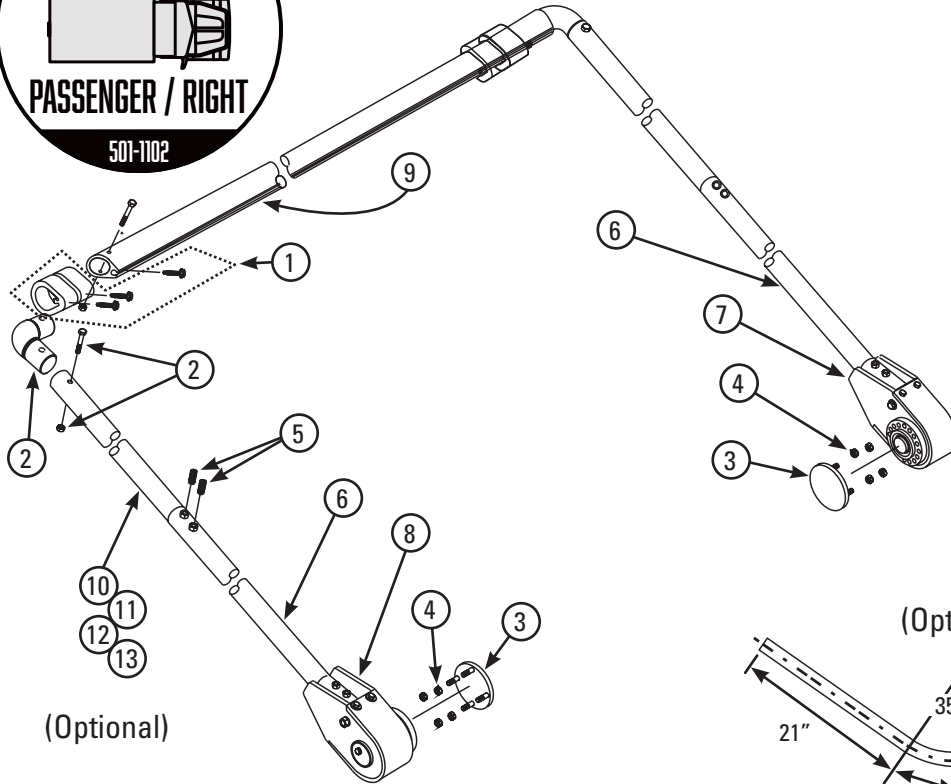
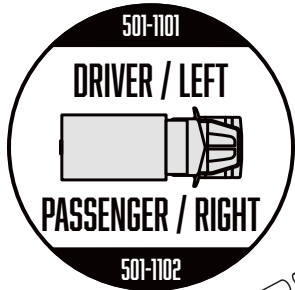


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INSTALLATION INSTRUCTIONS

Automatic Systems



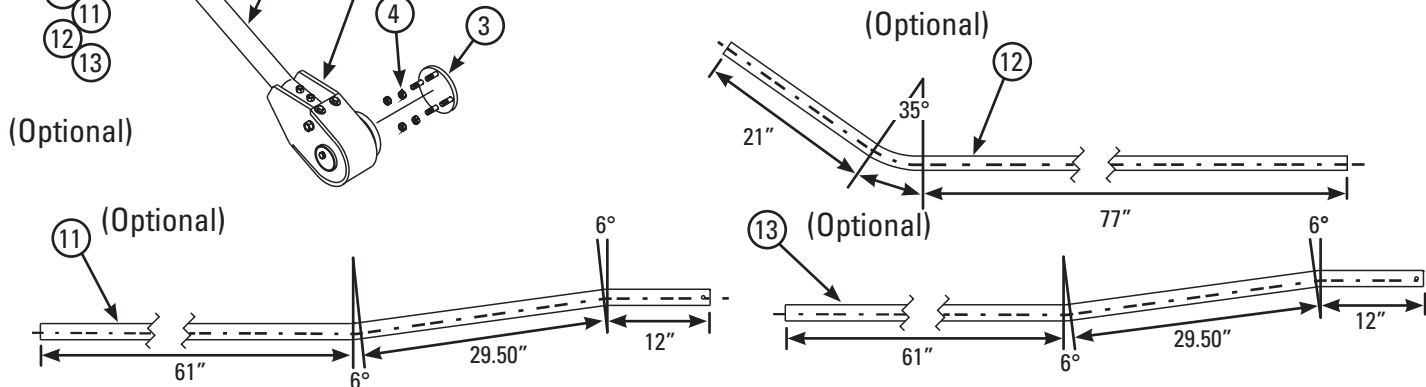
Single Spring Pivots with Steel Arms #501-0713, 501-1763

ITEM	PART #	DESCRIPTION	QTY
1	501-1293	Teardrop Bumper Kit	1
2	501-1251	Elbow Kit (For Steel)	1
3	501-2237	4" Arm Adaptor Plate Assembly	2
4	504-3705	3/8" - 16 Nyloc Nut (Thin)	8
5	506-5008	1/2" - 13 x 3/4"lg. Set Screw	4
6	501-1201	Lower Arm with Nuts	2
7	501-1101	Single Spring Housing (Driver)	1
8	501-1102	Single Spring Housing (Passenger)	1
9	501-0430	Universal Teardrop Pullbar	1
--	514-0213	6Ga. Electric Wire	90'

Arm Options

ITEM	PART #	DESCRIPTION	QTY
10	501-1202	Steel Upper Arm Tubing	2
11	501-1204	Offset Upper Arm Tube	2
12	501-1205	Upper Arm Tubing, Drilled and Bent	2
13	501-1207	Offset Upper Arm Tube	2

REV. 12/20/21 WLH





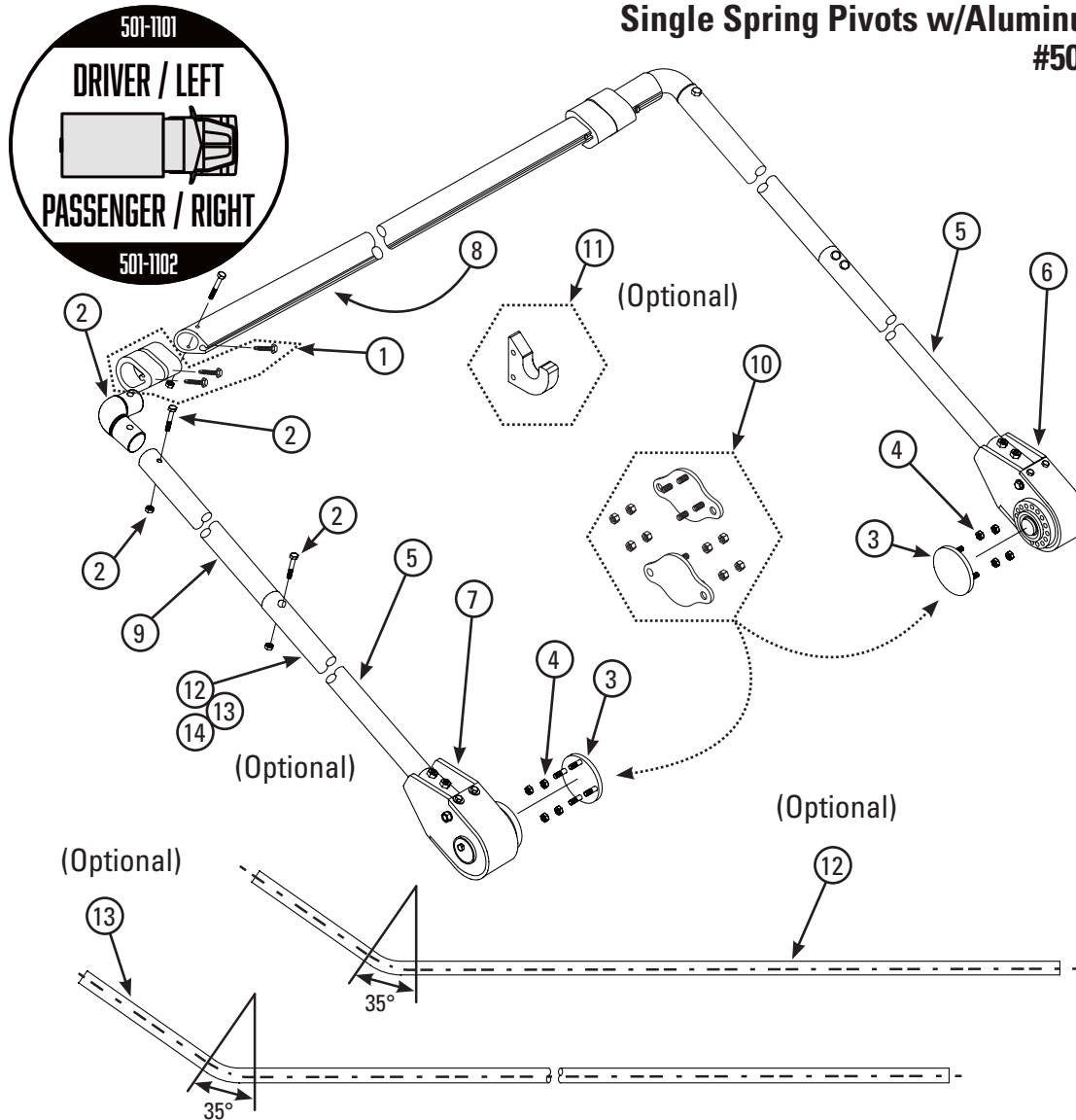
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INSTALLATION INSTRUCTIONS

Automatic Systems

Single Spring Pivots w/Aluminum Arms #501-0714, 501-0731, 501-1764, 501-1765 (No Wire) #501-0764, 501-0765, 501-0785, 501-0786 (With Wire 90' & 100')



ITEM	PART #	DESCRIPTION	QTY
1	501-1293	Teardrop Bumper Kit	1
2	501-0791	Elbow Kit (For Alum. with Teardrop)	1
3	501-2237	4" Arm Adaptor Plate Assembly	2
4	504-3705	3/8" - 16 Nyloc Nut (Thin)	8
5	501-1209	Aluminum Lower Arm Tube	2
6	501-1101	Single Spring Housing (Driver)	1
7	501-1102	Single Spring Housing (Passenger)	1
8	501-0430	Universal Teardrop Pullbar	1

Options

ITEM	PART #	DESCRIPTION	QTY
9	501-1211	Aluminum Upper Arm or Pullrod	2
10	501-2235	EZ-Mount Assembly	2
11	501-1247	Arm Catcher Assembly (Optional)	1
12	501-1214	Upper Arm Tubing, Drilled and Bent	2
13	501-1216	Aluminum Upper Arm Tube Bent - 12'	2
14	501-1212	Aluminum Upper Arm Tube - 12'	2

REV. 03/03/23 WLH



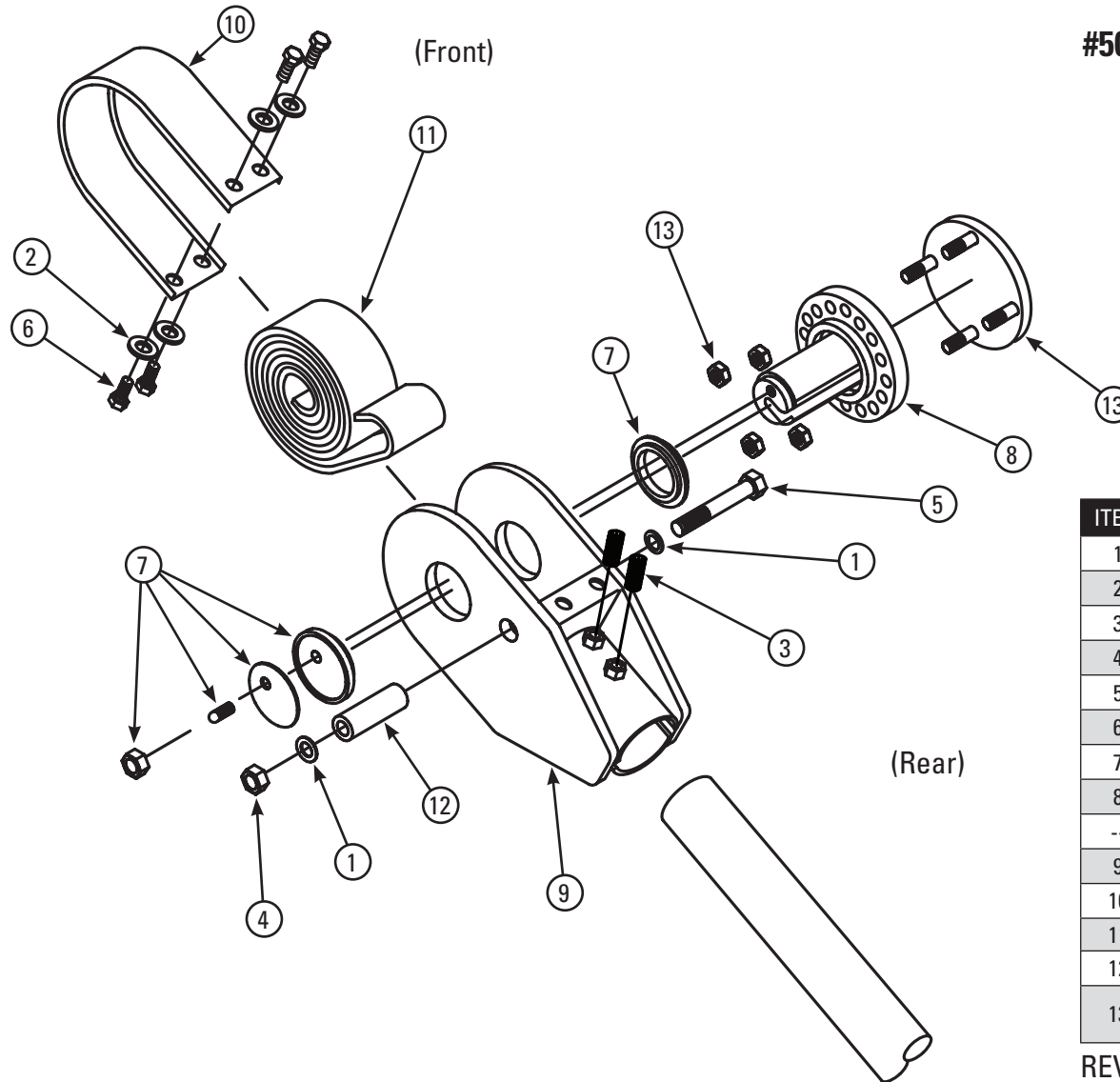
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INSTALLATION INSTRUCTIONS

Automatic Systems

Single Spring Housing Assembly #501-1101 (Driver-Shown), #501-1102 (Pass.-Opposite)

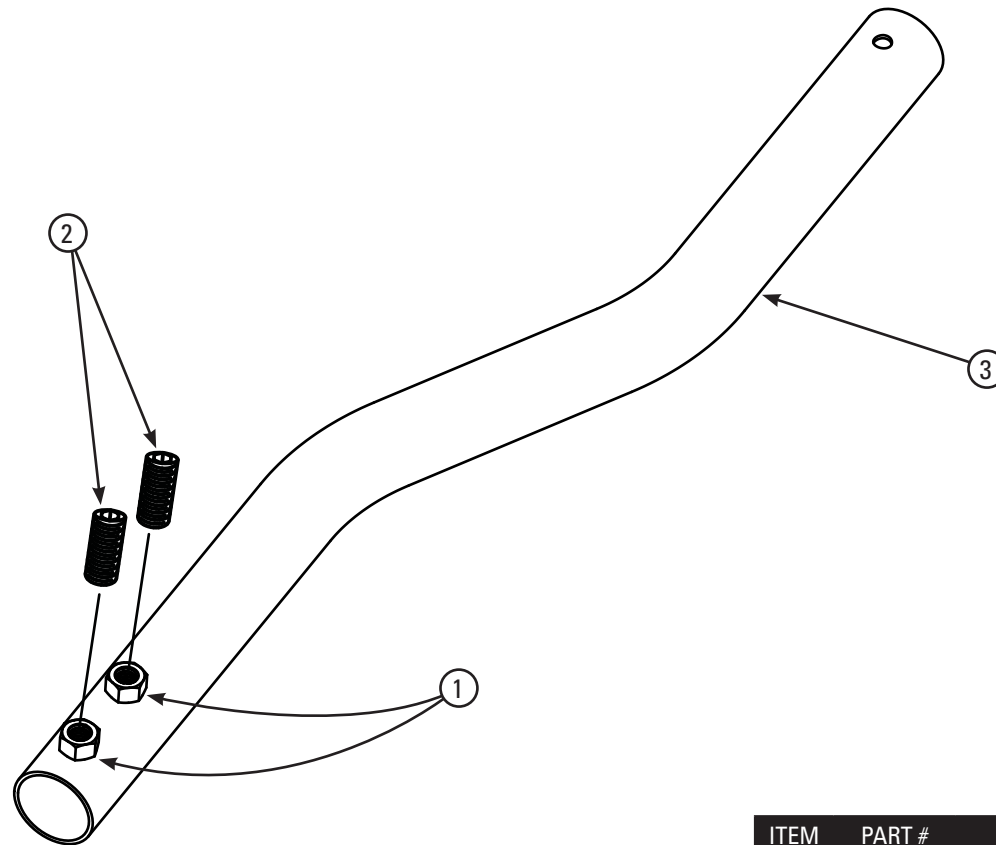


ITEM	PART #	DESCRIPTION	QTY
1	505-5001	1/2" AN Flat Washer	2
2	505-2502	1/4" Flat Washer USS	4
3	506-5008	1/2" - 13 x 3/4" Set Screw	2
4	504-5004	1/2" - 13 Nyloc Nut	1
5	503-5011	1/2" - 13 x 3-1/4"lg. HHCS Bolt	1
6	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	4
7	501-1181	Bushing Kit	1
8	501-1119	Pivot Assembly (Driver)	1
--	501-1120	Pivot Assembly (Passenger-Not Shown)	1
9	501-1109	Spring Side Plate Assembly	1
10	501-1151	Arm Dust Cover	1
11	501-1156	Rolled Spring Assembly with Strip	1
12	501-1158	Spring Connection (Arm System)	1
13	501-2237	4" Arm Adaptor Plate Assembly (Not part of Kit - Must be ordered separately.)	1

REV. 10/13/16 WLH



34" Steel Offset Arm #501-1203 (Left), 501-1204 (Right)



(Left Offset Arm Shown)

ITEM	PART #	DESCRIPTION	QTY
1	504-5003	1/2" - 13 Nut - Unplated	2
2	506-5008	1/2" - 13 x 3/4" Set Screw	2
3	517-0343	Tubing, Galvanized 1.9X .090X	1

REV. 04/12/19 WLH



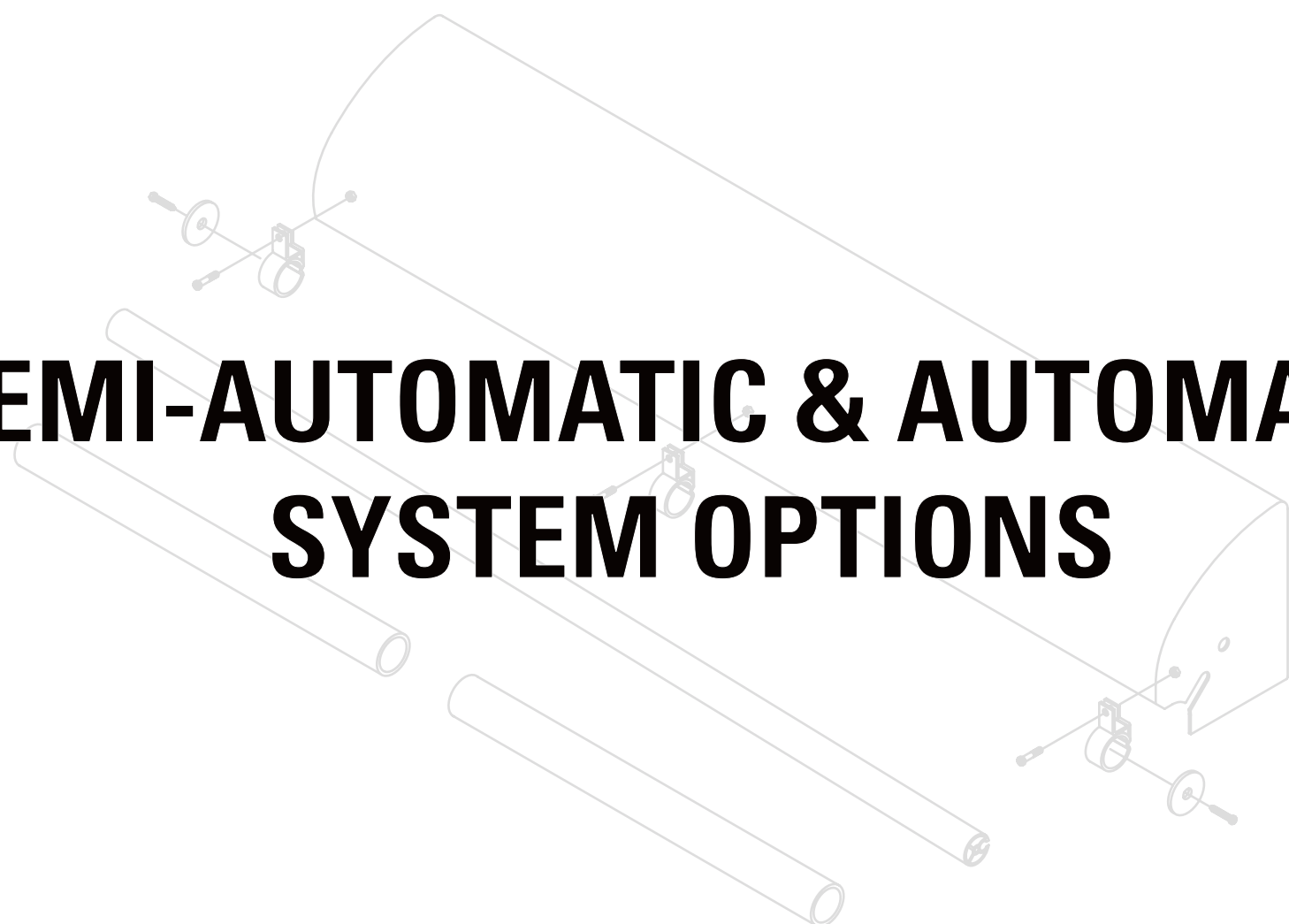
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INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

SEMI-AUTOMATIC & AUTOMATIC SYSTEM OPTIONS

A faint technical line drawing in the background shows various components of a tarp system. It includes a curved tarp section, several long cylindrical tubes, and mechanical assemblies with pulleys and cables, likely representing the semi-automatic or automatic retraction mechanisms.



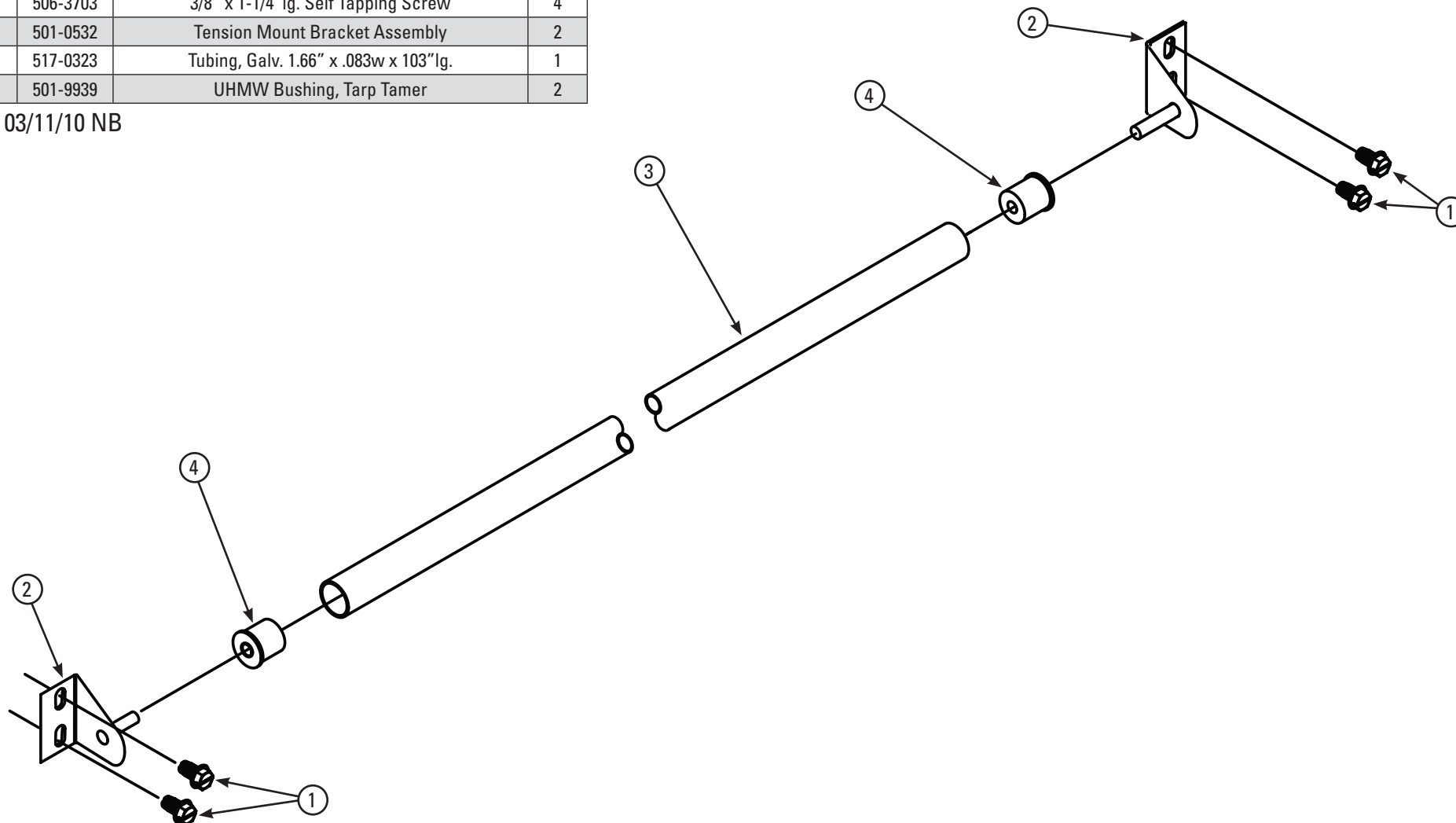
INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

Tarp Tamer #501-0701

ITEM	PART #	DESCRIPTION	QTY
1	506-3703	3/8" x 1-1/4"lg. Self Tapping Screw	4
2	501-0532	Tension Mount Bracket Assembly	2
3	517-0323	Tubing, Galv. 1.66" x .083w x 103"lg.	1
4	501-9939	UHMW Bushing, Tarp Tamer	2

REV. 03/11/10 NB





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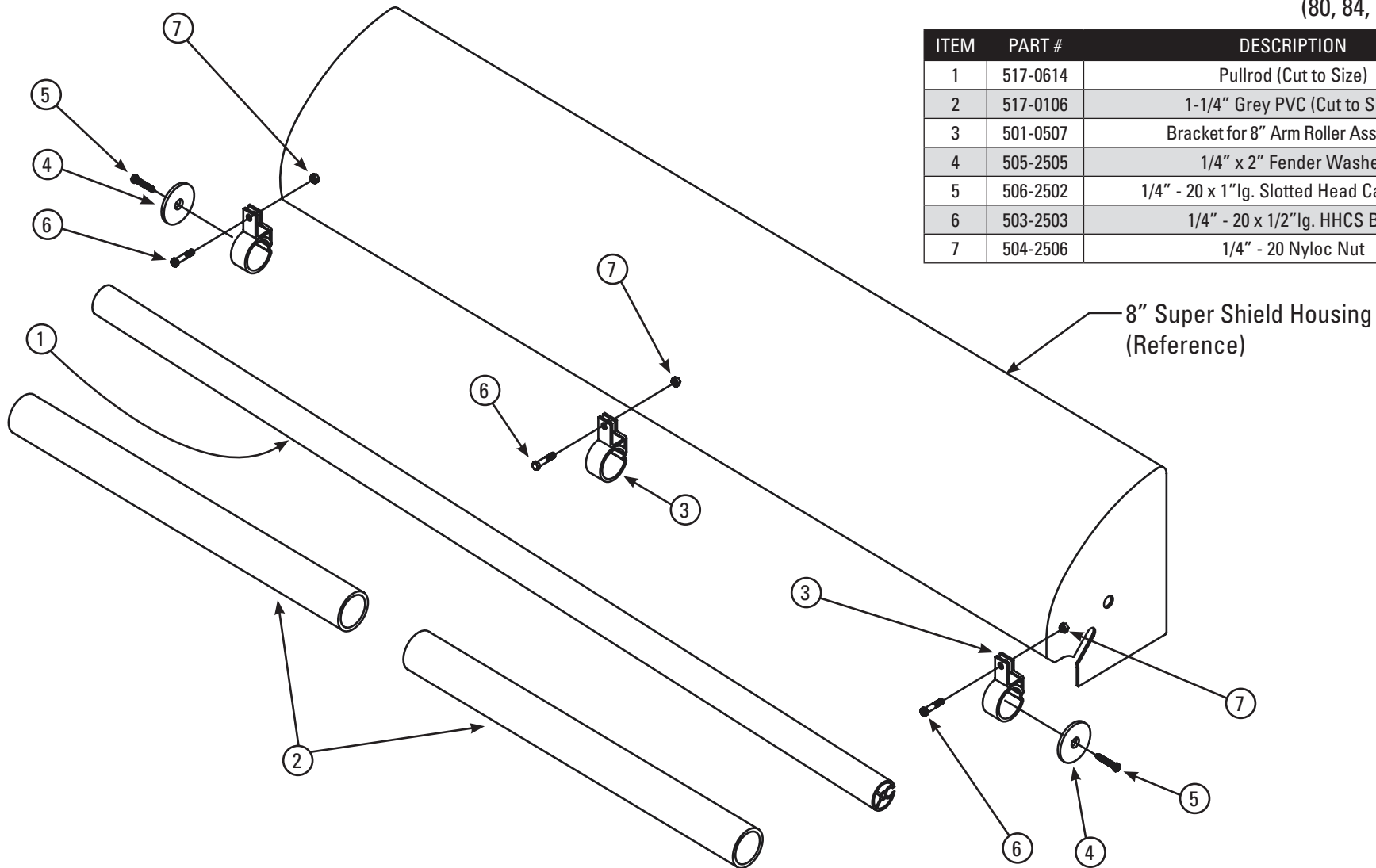


INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

S8 Roller Conversion #501-070X

(80, 84, 87, 89, 93, 96, 100")



ITEM	PART #	DESCRIPTION	QTY
1	517-0614	Pullrod (Cut to Size)	1
2	517-0106	1-1/4" Grey PVC (Cut to Size)	2
3	501-0507	Bracket for 8" Arm Roller Assembly	3
4	505-2505	1/4" x 2" Fender Washer	2
5	506-2502	1/4" - 20 x 1"lg. Slotted Head Cap Screw	2
6	503-2503	1/4" - 20 x 1/2"lg. HHCS Bolt	3
7	504-2506	1/4" - 20 Nyloc Nut	3

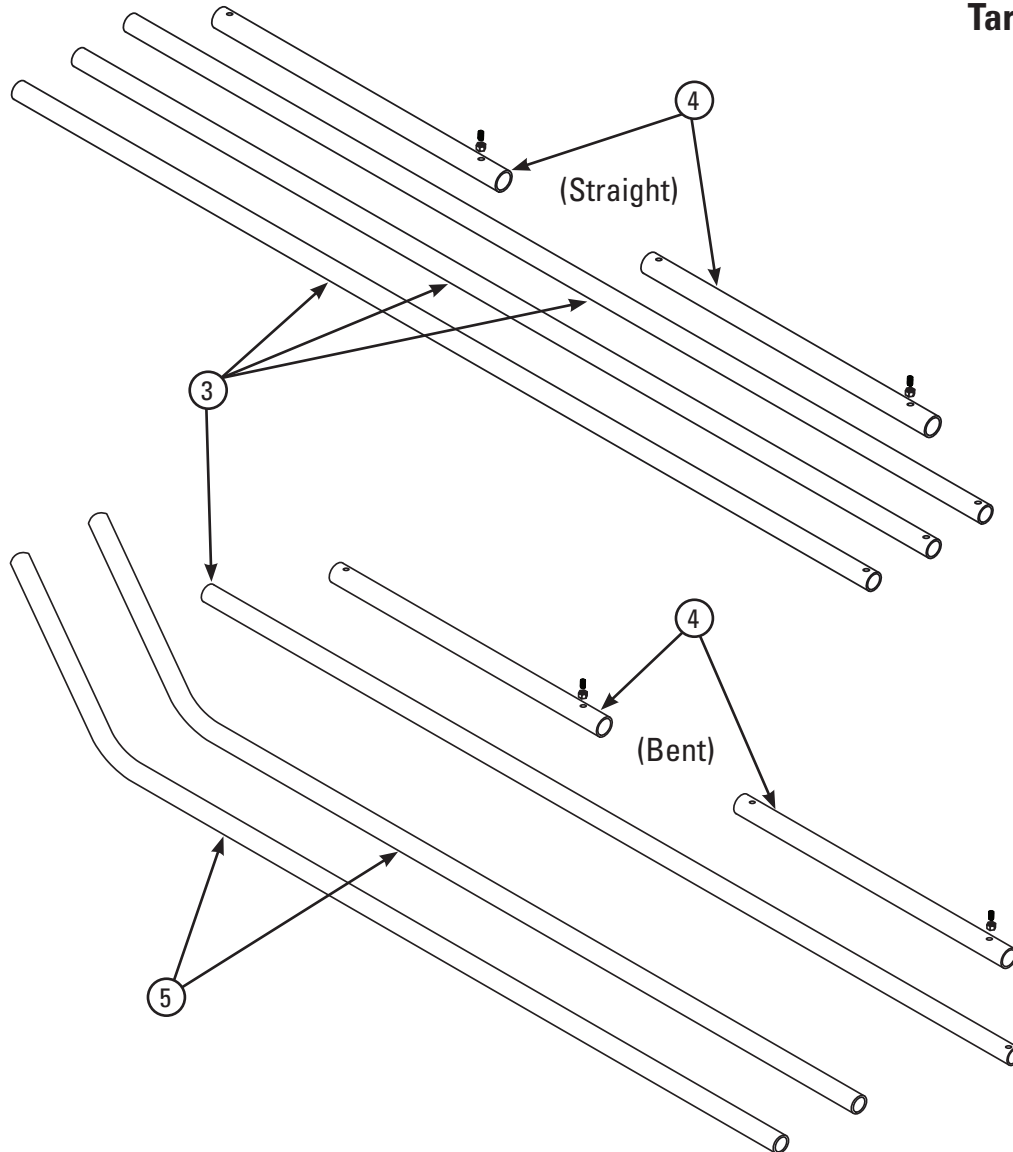
REV. 10/24/16 WLH



INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

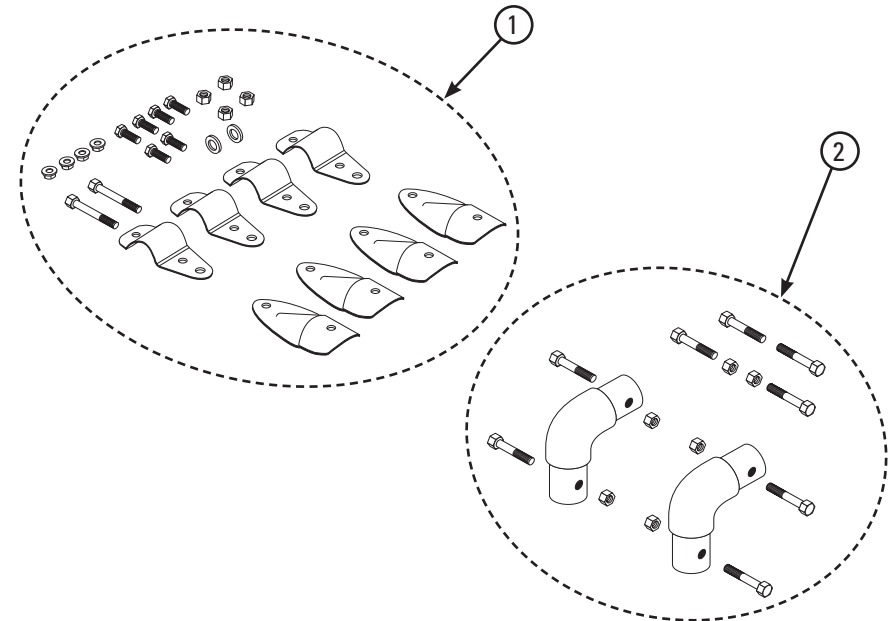
Tarp Tamer Bow to 21' Steel #501-1800 (Straight), #501-1801 (Bent)



Straight & Bent

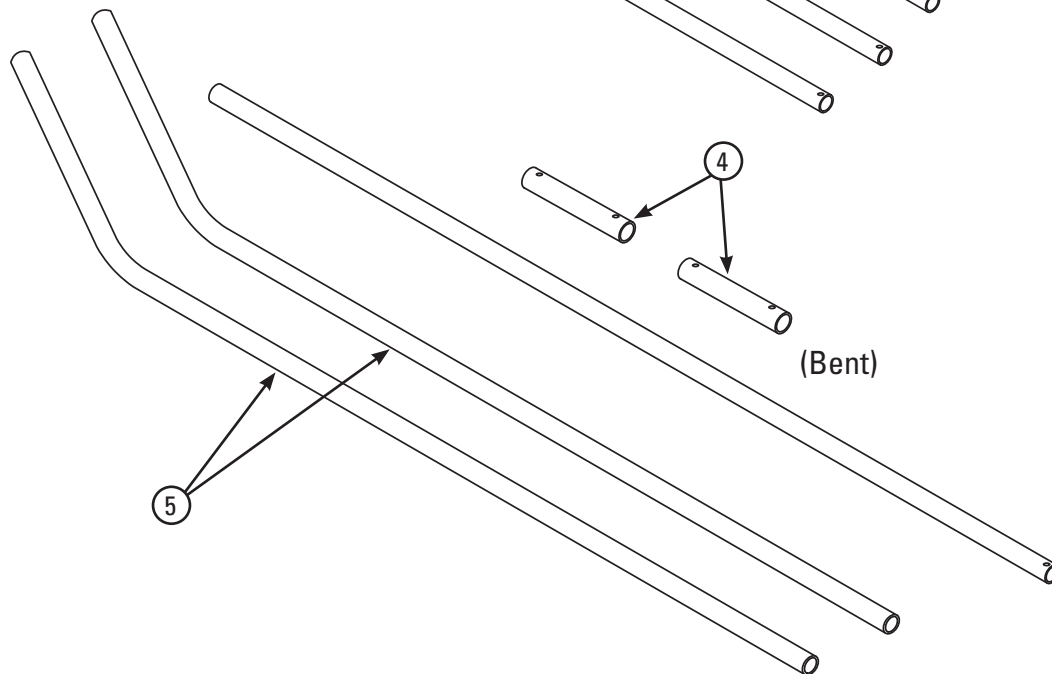
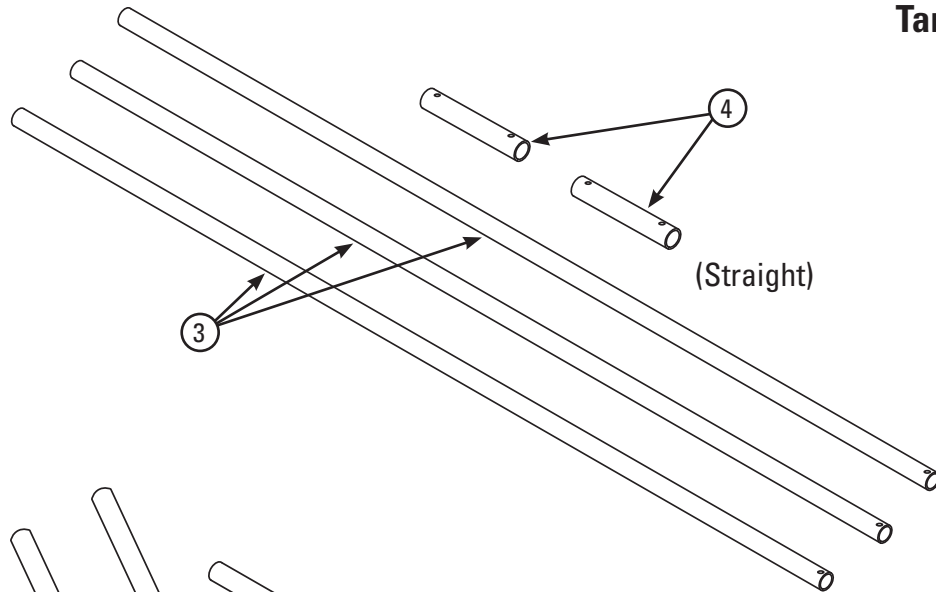
ITEM	PART #	DESCRIPTION	QTY
1	501-0796	Tarp Tamer Bow Hardware Kit (Straight)	1
--	--	Tarp Tamer Bow Hardware Kit (Bent)	1
2	501-1251	Elbow & Upper Conn. Hardware (Straight) - Steel	1
--	--	Elbow & Upper Conn. Hardware (Bent) - Steel	1
3	501-1202	Steel Upper Arm Tubing (Straight) - Drilled	3
--	--	Steel Upper Arm Tubing (Bent) - Drilled	1
4	501-1229	Lower Connection Arm Tube (Straight) - 34.25"	2
--	--	Lower Connection Arm Tube (Bent) - 34.25"	2
5	501-1205	Upper Arm Tubing (Bent) - Drilled	2

REV. 12/19/16 WLH





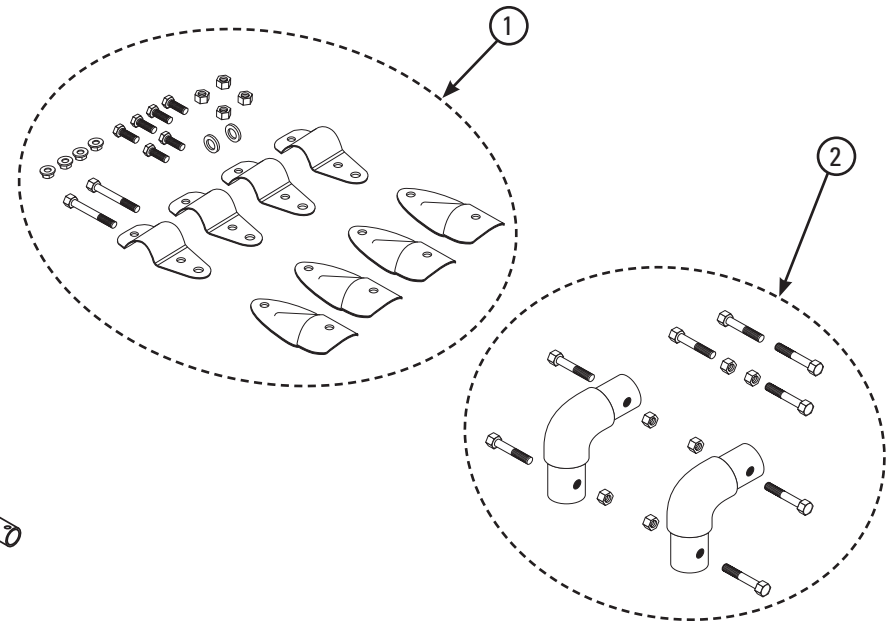
Tarp Tamer Bow to 21' Aluminum #501-1802 (Straight), #501-1803 (Bent)



Straight & Bent

ITEM	PART #	DESCRIPTION	QTY
1	501-0796	Tarp Tamer Bow Hardware Kit (Straight)	1
--	--	Tarp Tamer Bow Hardware Kit (Bent)	1
2	501-1250	Elbow & Upper Conn. Hardware (Straight) - Alum	1
--	--	Elbow & Upper Conn. Hardware (Bent) - Alum	1
3	501-1211	Aluminum Upper Arm or Pullrod (Straight)	3
--	--	Aluminum Upper Arm or Pullrod (Bent)	1
4	501-1217	Aluminum 4 Spring Arm Tube 30" Long (Straight)	2
--	--	Aluminum 4 Spring Arm Tube 30" Long (Bent)	2
5	501-1214	Aluminum Upper Arm (Bent) - Up to 33'	2

REV. 12/19/16 WLH





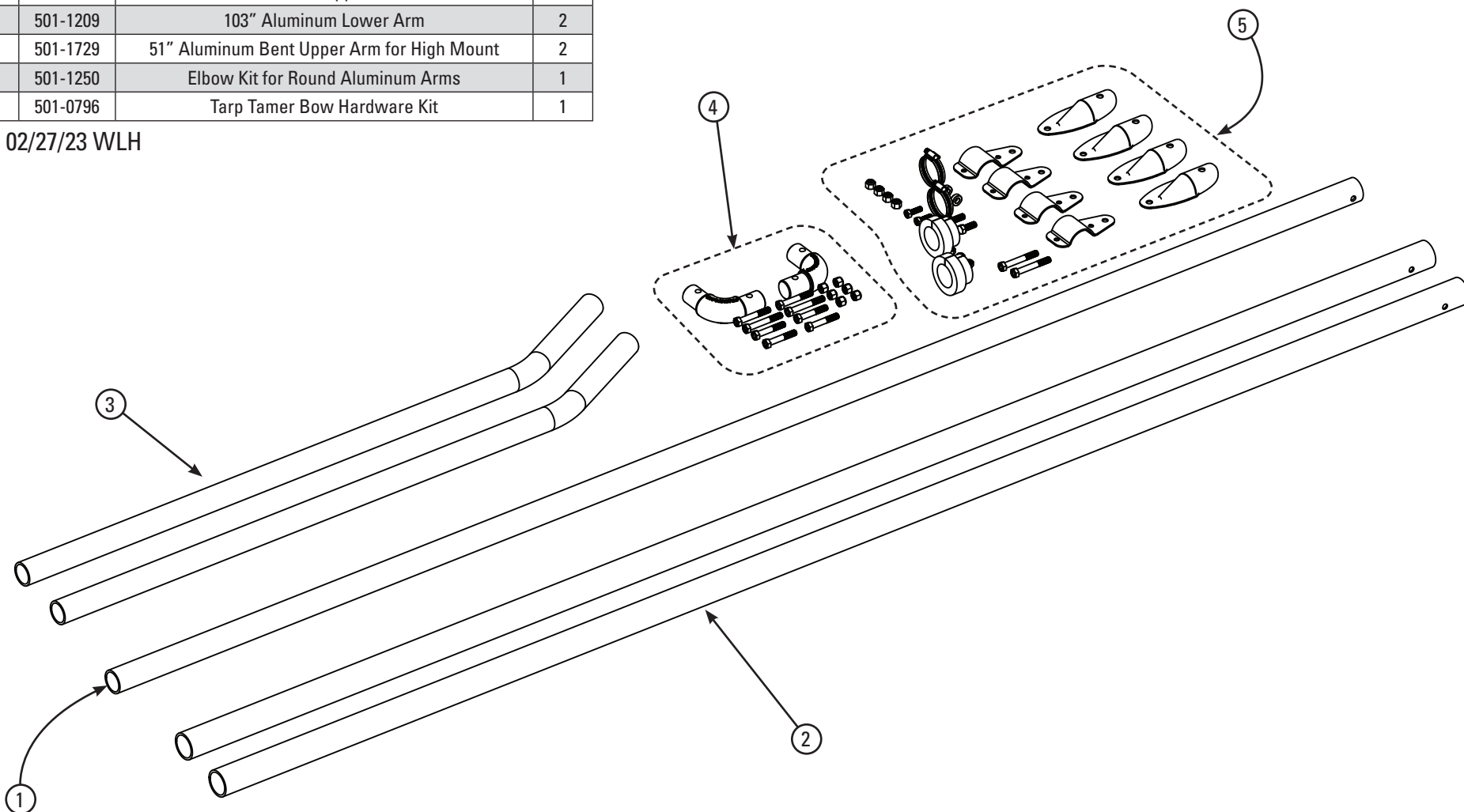
INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

ITEM	PART #	DESCRIPTION	QTY
1	501-1211	Aluminum Upper Arm	1
2	501-1209	103" Aluminum Lower Arm	2
3	501-1729	51" Aluminum Bent Upper Arm for High Mount	2
4	501-1250	Elbow Kit for Round Aluminum Arms	1
5	501-0796	Tarp Tamer Bow Hardware Kit	1

REV. 02/27/23 WLH

High Mount Tarp Tamer Bows #501-1807 (Bent)





PULLTARPS®



INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

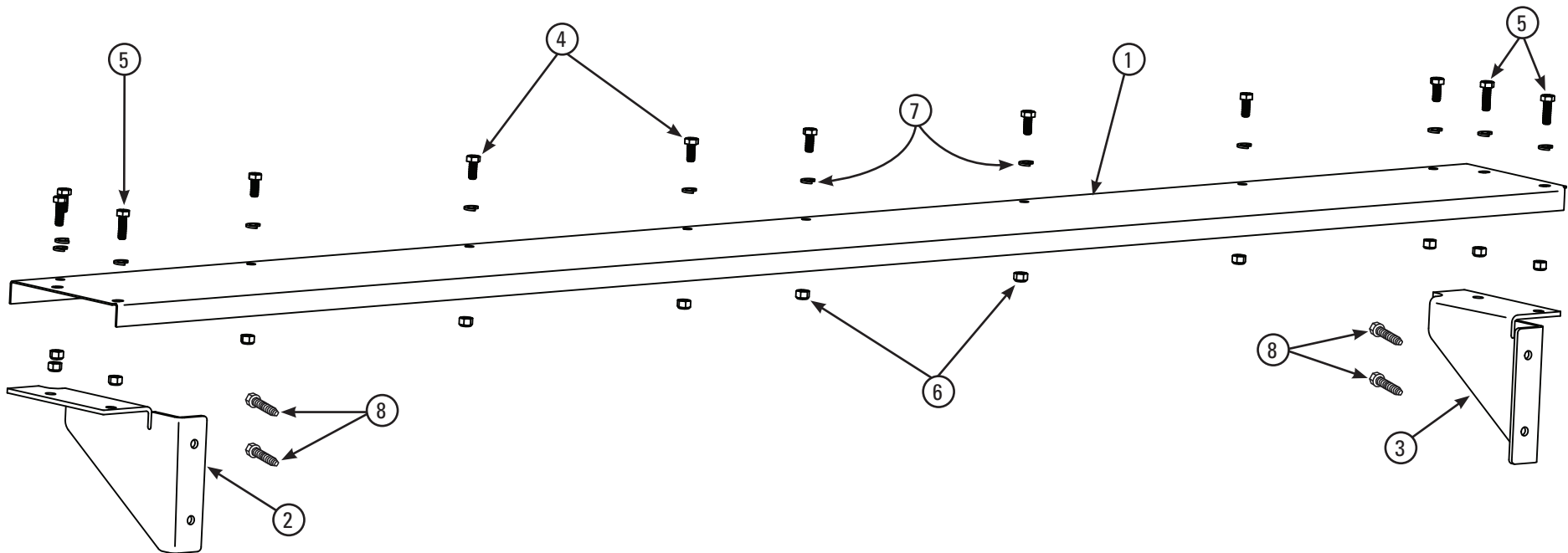
80" Wind Tray Kit / Aluminator 8500 Housing #501-1030 (Shown)

Width Options: #501-1031 (84"), #501-1032 (87"), #501-1033 (89"), #501-1034 (93"), 501-1035 (96") & 501-1036 (100")

ITEM	PART #	DESCRIPTION	QTY
1	501-1037	8.5 Aluminum Tray 80"	1
---	501-1038	8.5 Aluminum Tray 84" (Option)	1
---	501-1039	8.5 Aluminum Tray 87" (Option)	1
---	501-1040	8.5 Aluminum Tray 89" (Option)	1
---	501-1041	8.5 Aluminum Tray 93" (Option)	1
---	501-1042	8.5 Aluminum Tray 96" (Option)	1
---	501-1043	8.5 Aluminum Tray 100" (Option)	1

ITEM	PART #	DESCRIPTION	QTY
2	501-1044	Left Aluminum Tray Support	1
3	501-1045	Right Aluminum Tray Support	1
4	503-3103	5/16"-18 x 3/4" HHCS Bolt	8
5	503-3105	5/16"-18 x 1" HHCS Bolt G2	4
6	504-3103	5/16"-18 Nylock Nut	12
7	505-3102	5/16" Lock Washer	12
8	506-3703	3/8" - 16 x 1-1/4" Full Thread Stud	4

REV. 02/04/20 WLH

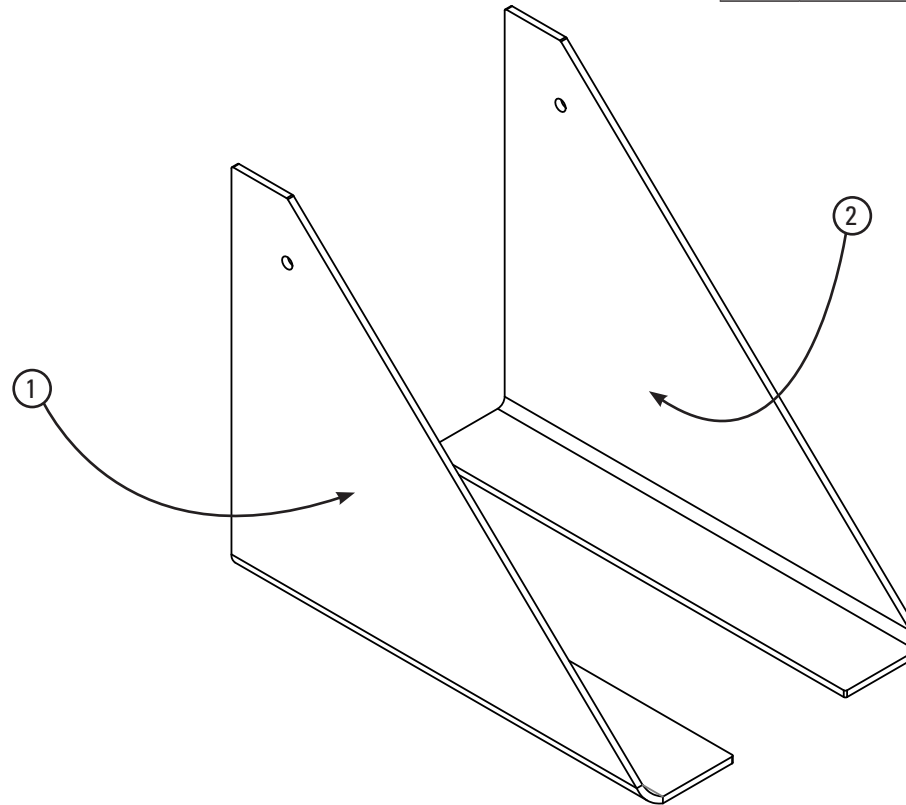




"B" Bracket Kit #501-0501

ITEM	PART #	DESCRIPTION	QTY
1	501-0503	Right Mounting Bracket "B" Position	1
2	501-0504	Left Mounting Bracket "B" Position	1

REV. 06/25/20 WLH

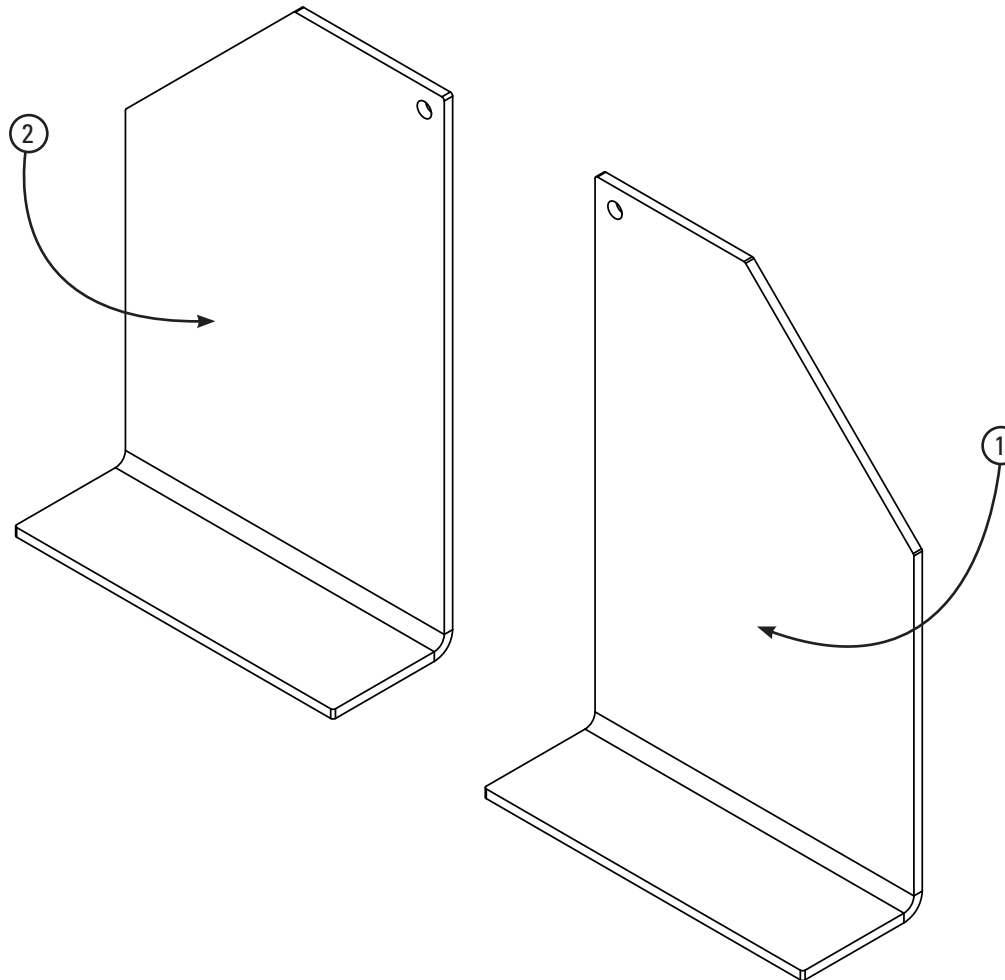




"B" Bracket Kit for "N" Style #501-0502

ITEM	PART #	DESCRIPTION	QTY
1	501-0505	Left Mounting Bracket "B" Position "N" Style T	1
2	501-0506	Right Mounting Bracket "B" Position "N" Style	1

REV. 06/25/20 WLH





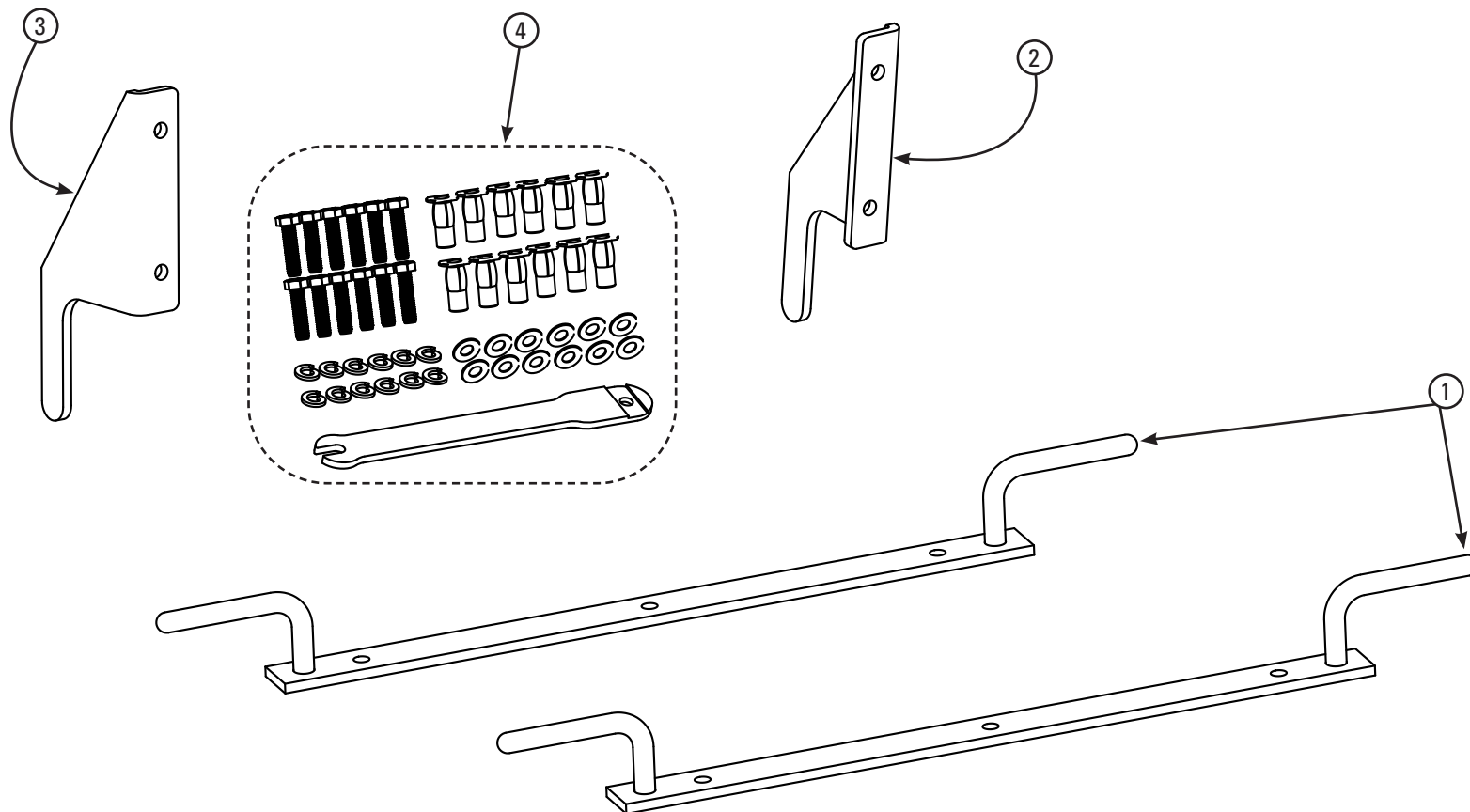
INSTALLATION INSTRUCTIONS

Semi-Automatic & Automatic Options

Bolt-On Return Ramp H/W Kit #501-0648

ITEM	PART #	DESCRIPTION	QTY
1	501-0554	Rope Hook Assembly Welded	2
2	501-0345	3" Tarp Return - Left	1
3	501-0346	3" Tarp Return - Right	1
4	501-0611	Plus-Nut System Mount Kit	1

REV. 06/25/20 WLH





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INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

WASTE SYSTEMS DUAL STAGE TOWER AUTOMATIC & SEMI-AUTOMATIC





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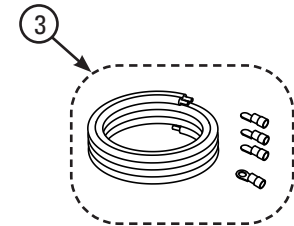
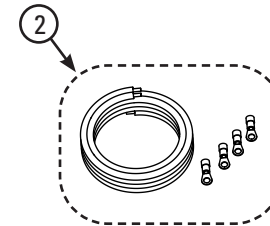
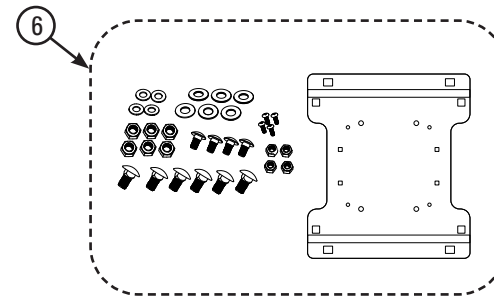
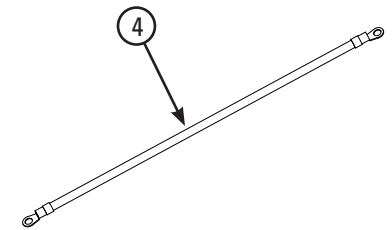
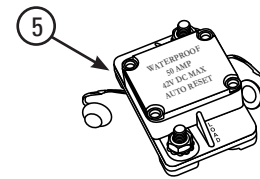
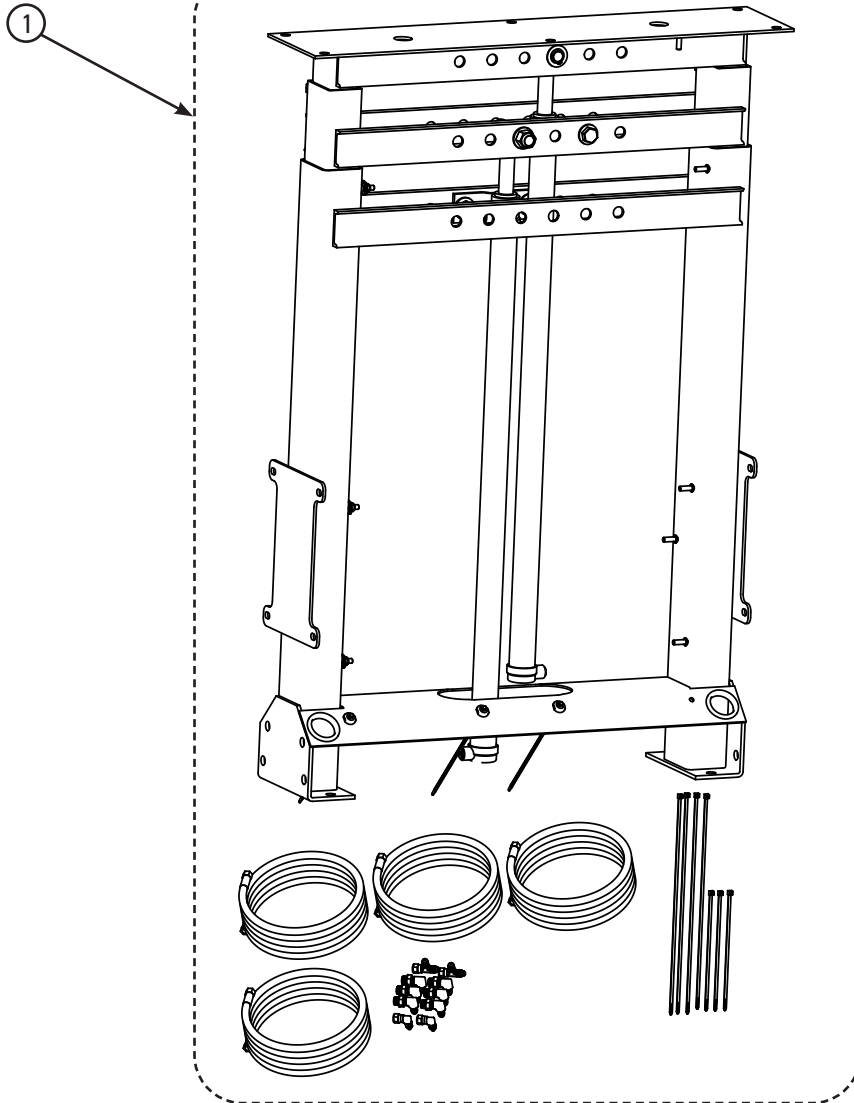
INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Dual Stage Electric Tower #513-0014

ITEM	PART #	DESCRIPTION	QTY
1	513-0080	Dual Stage Electric Tower	1
2	514-9986	10' Pump Power Wire	1
3	514-9989	10' Switch Power Wire	1
4	514-9987	18" Battery Wire	1
5	514-0432	50 Amp Type 1 Breaker	1
6	501-0687	Tower Tray Hardware Kit	1

REV. 08/31/18 WLH





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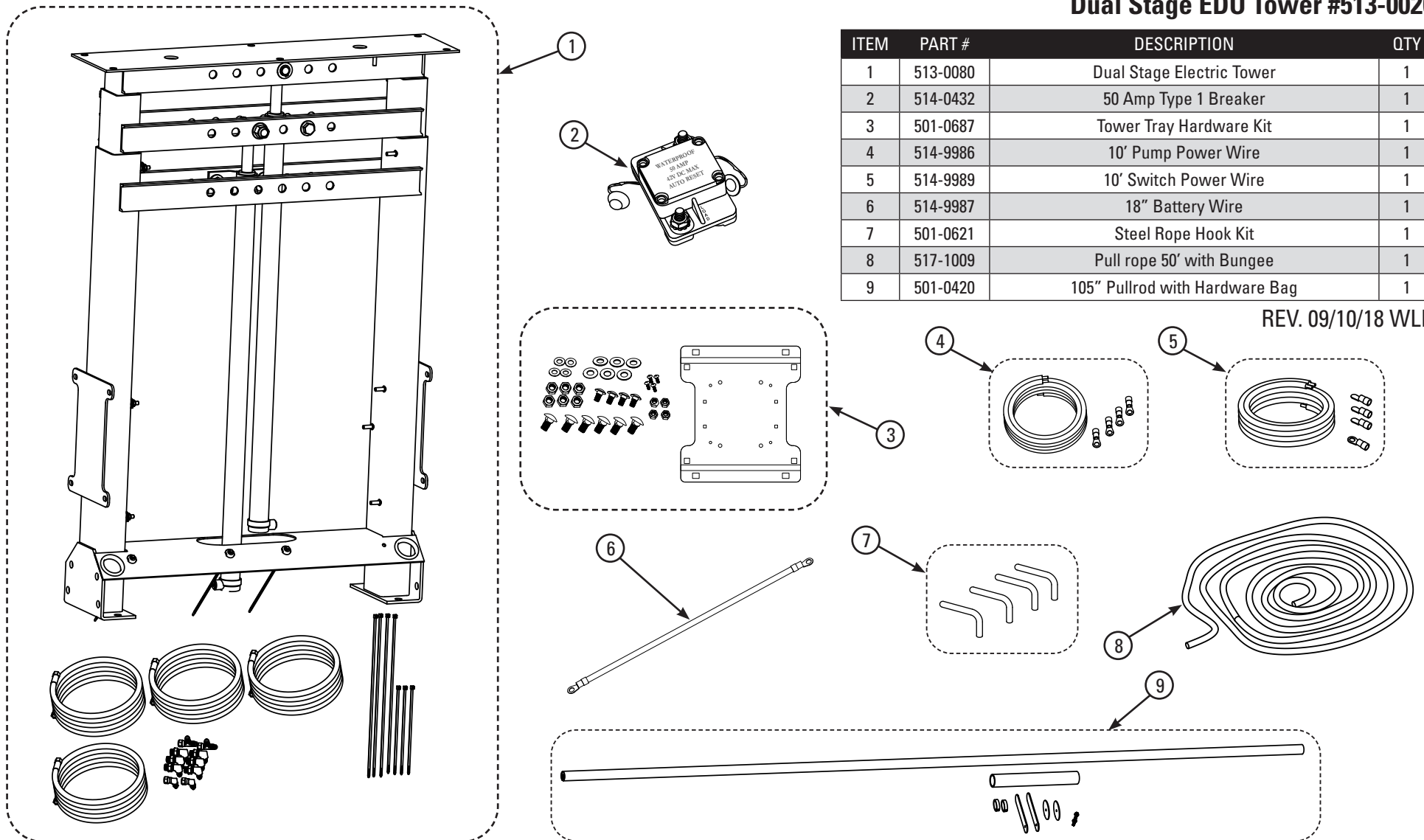
INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Dual Stage EDU Tower #513-0020

ITEM	PART #	DESCRIPTION	QTY
1	513-0080	Dual Stage Electric Tower	1
2	514-0432	50 Amp Type 1 Breaker	1
3	501-0687	Tower Tray Hardware Kit	1
4	514-9986	10' Pump Power Wire	1
5	514-9989	10' Switch Power Wire	1
6	514-9987	18" Battery Wire	1
7	501-0621	Steel Rope Hook Kit	1
8	517-1009	Pull rope 50' with Bungee	1
9	501-0420	105" Pullrod with Hardware Bag	1

REV. 09/10/18 WLH





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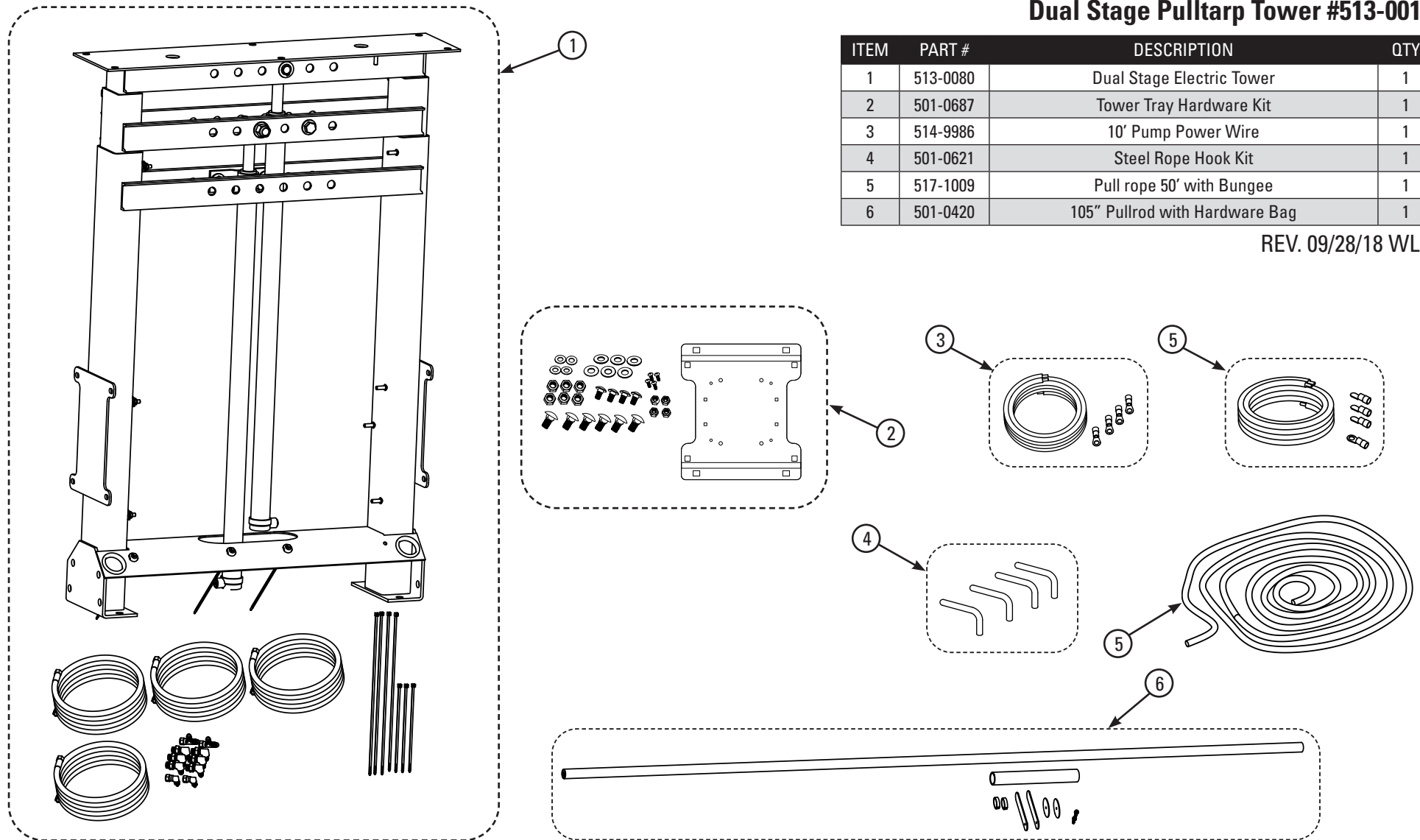
INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Dual Stage Pulltarp Tower #513-0019

ITEM	PART #	DESCRIPTION	QTY
1	513-0080	Dual Stage Electric Tower	1
2	501-0687	Tower Tray Hardware Kit	1
3	514-9986	10' Pump Power Wire	1
4	501-0621	Steel Rope Hook Kit	1
5	517-1009	Pull rope 50' with Bungee	1
6	501-0420	105" Pullrod with Hardware Bag	1

REV. 09/28/18 WLH





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INSTALLATION INSTRUCTIONS

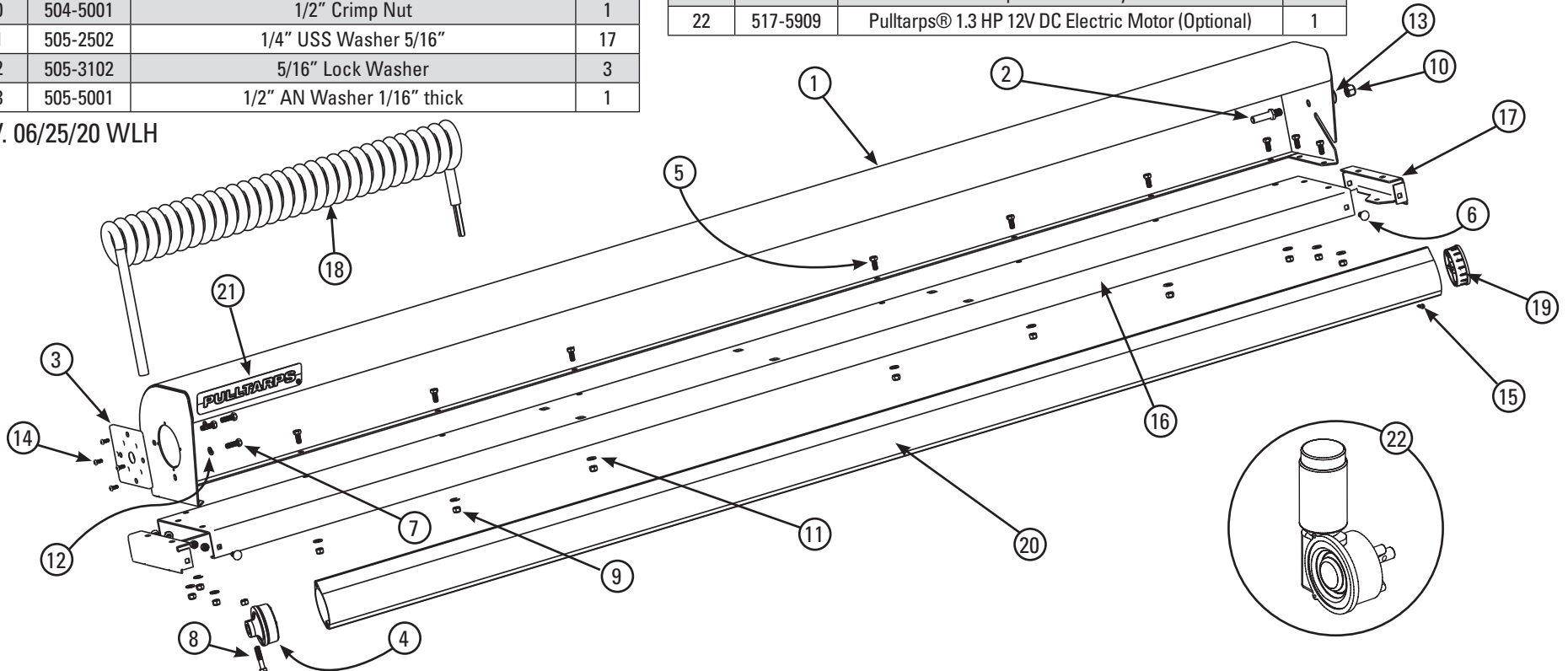
Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

SuperShield™ 9500E 100" Tower Assembly with Tray #513-0081

ITEM	PART #	DESCRIPTION	QTY
1	501-0121	9.5" x 100" SuperShield™ Housing	1
2	501-0801	System End Plate Stud	1
3	501-1235	Aluminum Adapter Plate	1
4	501-9915	Roller Drive Aluminum End Cap 3"	1
5	503-3103	5/16" - 18 x 3/4" Hex Bolt	12
6	503-3104	5/16" - 18 x 3/4" Carriage Bolt	4
7	503-3105	5/16" - 18 x 1" HHCS Bolt G2	3
8	503-3108	5/16" - 18 1-3/4" HHCS Hex Bolt G2	1
9	504-3103	5/16" - 18 Nylock Nut Steel	17
10	504-5001	1/2" Crimp Nut	1
11	505-2502	1/4" USS Washer 5/16"	17
12	505-3102	5/16" Lock Washer	3
13	505-5001	1/2" AN Washer 1/16" thick	1

ITEM	PART #	DESCRIPTION (Continued)	QTY
14	506-9905	10 - 32 x 1/2" Philips Pan Head Screw	4
15	506-9916	Screw, #8 - 18 x 3/4" Self Drilling	1
16	513-0079	100" R/R Tower Tray	1
17	513-0090	Tower End Support Insert	2
18	514-0216	110" 2 Stage Tower Coil Wire	1
19	517-0102	Flanged End Cap	1
20	517-0511	SuperShield 9500 100" Electric Galv. Roller Tube	1
21	607-0061	Pulltarps Decal for System	1
22	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor (Optional)	1

REV. 06/25/20 WLH





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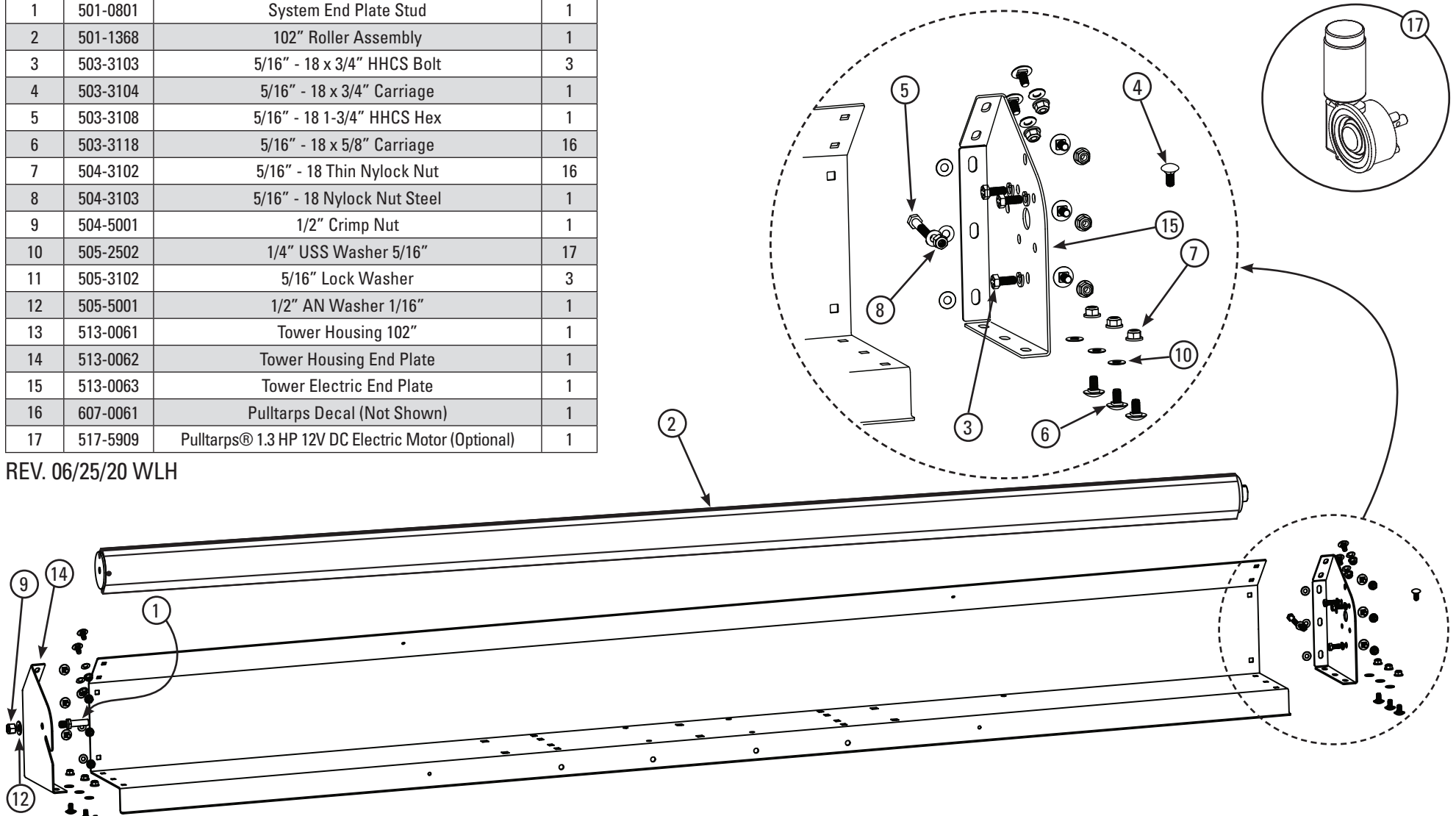
INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Open 9000E 102" Tower Assembly with Tray #513-0017

ITEM	PART #	DESCRIPTION	QTY
1	501-0801	System End Plate Stud	1
2	501-1368	102" Roller Assembly	1
3	503-3103	5/16" - 18 x 3/4" HHCS Bolt	3
4	503-3104	5/16" - 18 x 3/4" Carriage	1
5	503-3108	5/16" - 18 1-3/4" HHCS Hex	1
6	503-3118	5/16" - 18 x 5/8" Carriage	16
7	504-3102	5/16" - 18 Thin Nylock Nut	16
8	504-3103	5/16" - 18 Nylock Nut Steel	1
9	504-5001	1/2" Crimp Nut	1
10	505-2502	1/4" USS Washer 5/16"	17
11	505-3102	5/16" Lock Washer	3
12	505-5001	1/2" AN Washer 1/16"	1
13	513-0061	Tower Housing 102"	1
14	513-0062	Tower Housing End Plate	1
15	513-0063	Tower Electric End Plate	1
16	607-0061	Pulltarps Decal (Not Shown)	1
17	517-5909	Pulltarps® 1.3 HP 12V DC Electric Motor (Optional)	1

REV. 06/25/20 WLH





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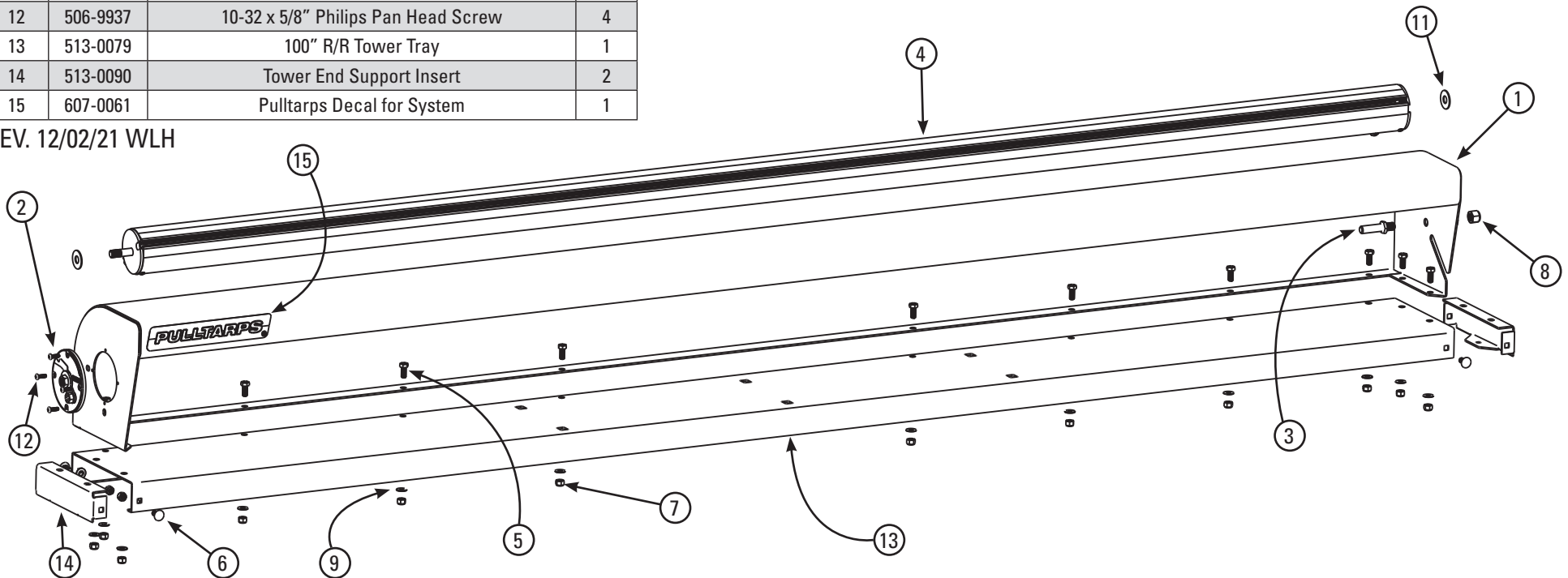
INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

SuperShield™ 9500M 100" Tower Assembly with Tray #513-0082

ITEM	PART #	DESCRIPTION	QTY
1	501-0121	9.5" x 100" SuperShield™ Housing	1
2	501-0647	System End Plate Ratchet	1
3	501-0801	System End Plate Stud	1
4	501-1307	100" Spring Roller Tube	1
5	503-3101	5/16" - 18 x 1/2" Hex Bolt	12
6	503-3104	5/16" - 18 x 3/4" Carriage Bolt	4
7	504-3103	5/16" - 18 Nylock Nut Steel	16
8	504-5001	1/2" Crimp Nut	1
9	505-2502	1/4" USS Washer 5/16"	16
10	505-5001	1/2" AN Washer 1/16" Thick (Not Shown)	1
11	505-5002	Washer Nylon .51D x 1.25OD	2
12	506-9937	10-32 x 5/8" Philips Pan Head Screw	4
13	513-0079	100" R/R Tower Tray	1
14	513-0090	Tower End Support Insert	2
15	607-0061	Pulltarps Decal for System	1

REV. 12/02/21 WLH

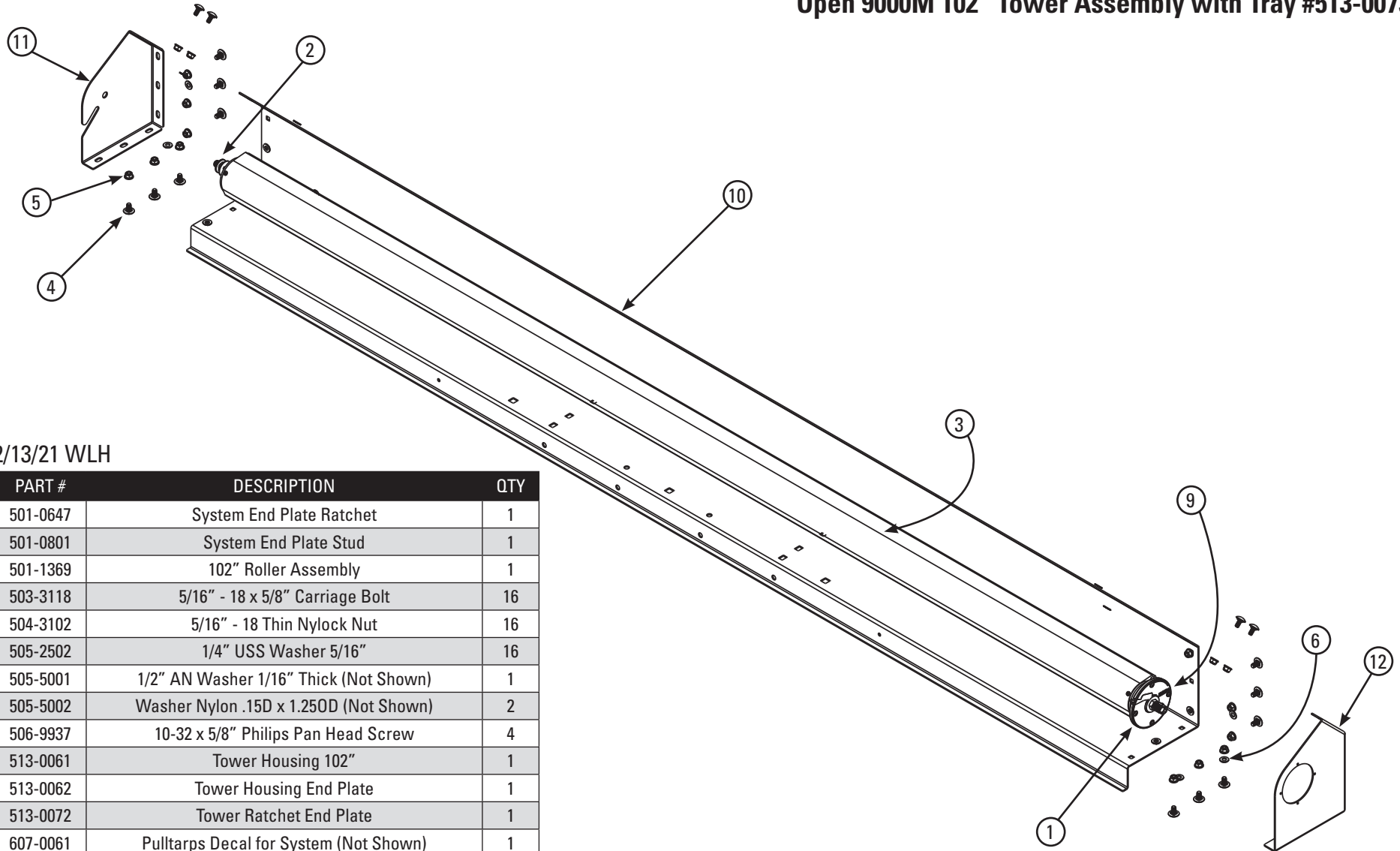




INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Open 9000M 102" Tower Assembly with Tray #513-0073



REV. 12/13/21 WLH

ITEM	PART #	DESCRIPTION	QTY
1	501-0647	System End Plate Ratchet	1
2	501-0801	System End Plate Stud	1
3	501-1369	102" Roller Assembly	1
4	503-3118	5/16" - 18 x 5/8" Carriage Bolt	16
5	504-3102	5/16" - 18 Thin Nylock Nut	16
6	505-2502	1/4" USS Washer 5/16"	16
7	505-5001	1/2" AN Washer 1/16" Thick (Not Shown)	1
8	505-5002	Washer Nylon .15D x 1.25OD (Not Shown)	2
9	506-9937	10-32 x 5/8" Philips Pan Head Screw	4
10	513-0061	Tower Housing 102"	1
11	513-0062	Tower Housing End Plate	1
12	513-0072	Tower Ratchet End Plate	1
13	607-0061	Pulltarps Decal for System (Not Shown)	1



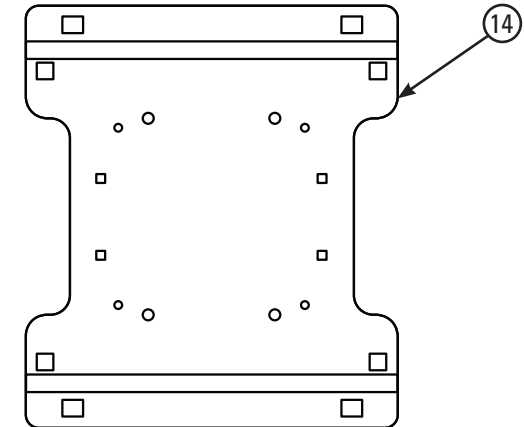
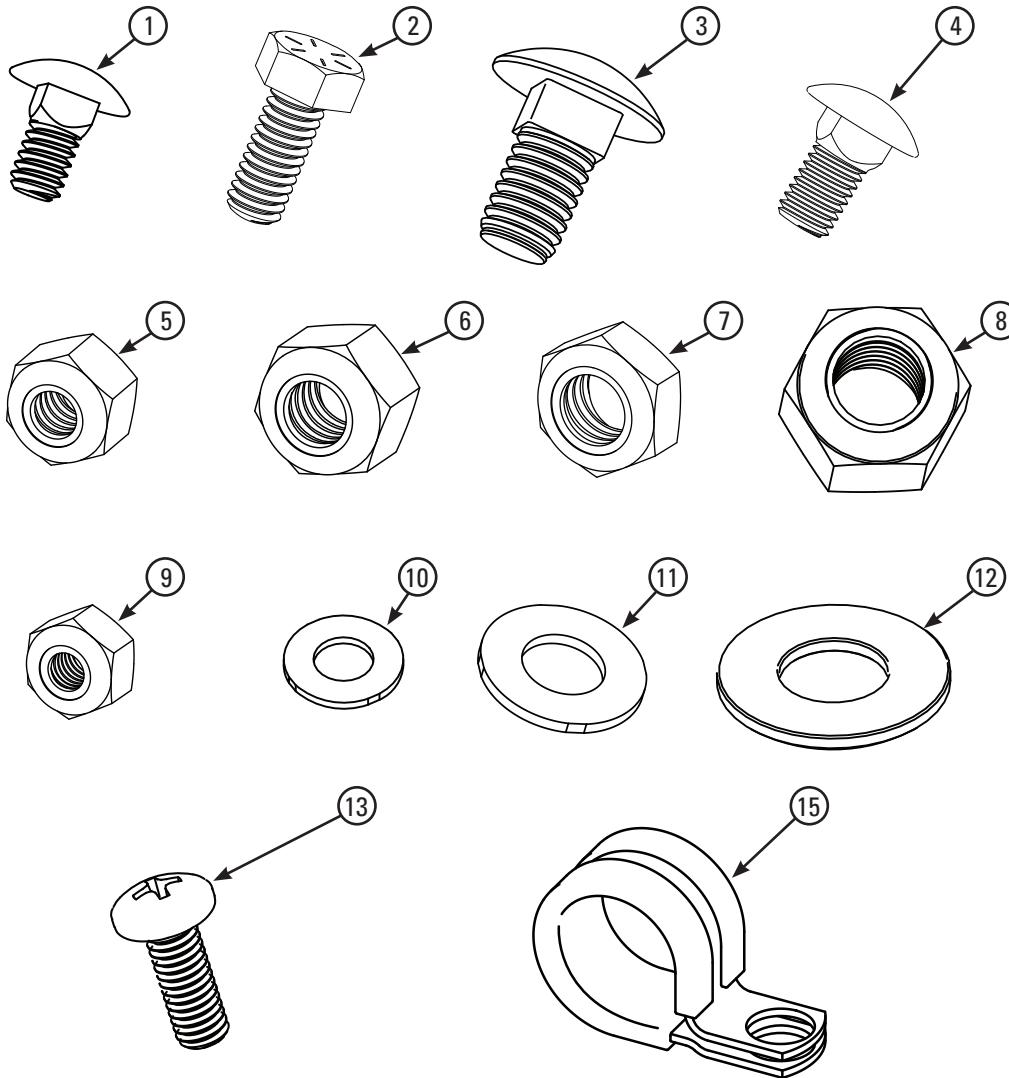
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INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

Tower Tray Hardware Kit #501-0687 (Illustrations not to scale)



ITEM	PART #	DESCRIPTION	QTY
1	503-2501	1/4" - 20 x 1/2" USS Carriage Bolt	2
2	503-3103	5/16" - 18 x 3/4" HHCS Bolt	2
3	503-3717	3/8" - 16 x 3/4" Carriage Bolt	8
4	503-5020	1/2" - 13 x 1" Carriage Bolt	6
5	504-2503	1/4" - 20 USS Nylock Nut	2
6	504-3103	5/16" - 18 Nylock Nut Steel Zinc	2
7	504-3705	3/8" - 16 Nylock Nut "Thin"	8
8	504-5004	1/2" - 13 Nylock Nut	6
9	504-9903	10 - 32 Nylock Nut	4
10	505-2502	1/4" USS Washer 5/16" Hole	4
11	505-3702	Washer 3/8" SAE Flat Zinc	8
12	505-5004	1/2" USS Flat Washer	6
13	506-9905	10 - 32 x 1/2" Philips Pan Head Screw	4
14	513-0093	Universal Tower Switch Plate	1
15	514-9977	Wire Clamps 3/4" ID	2

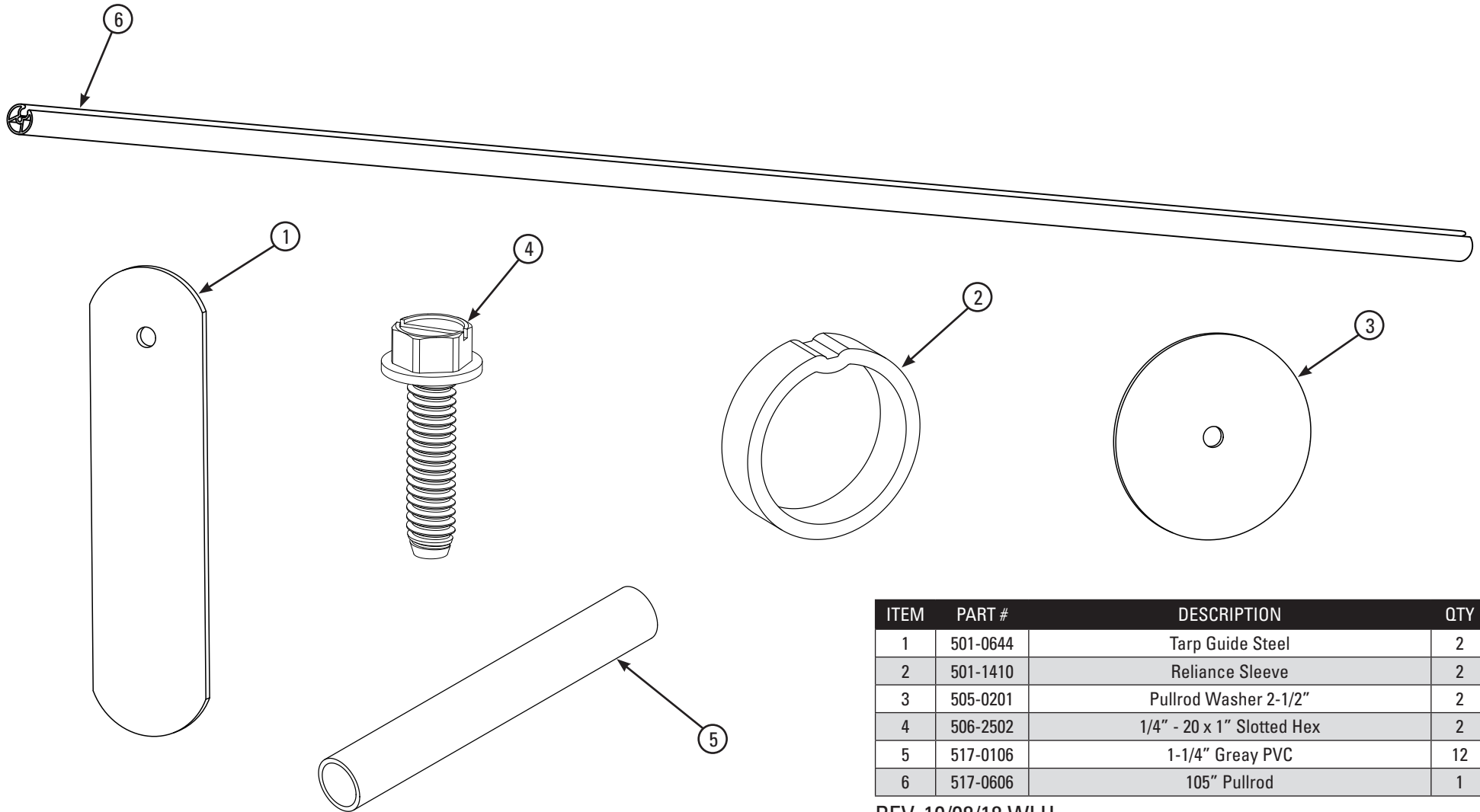
REV. 09/13/18 WLH



INSTALLATION INSTRUCTIONS

Waste Systems - Dual Stage Tower Automatic & Semi-Automatic

105" Pullrod with Hardware #501-0420 (Illustrations not to scale)



ITEM	PART #	DESCRIPTION	QTY
1	501-0644	Tarp Guide Steel	2
2	501-1410	Reliance Sleeve	2
3	505-0201	Pullrod Washer 2-1/2"	2
4	506-2502	1/4" - 20 x 1" Slotted Hex	2
5	517-0106	1-1/4" Grey PVC	12
6	517-0606	105" Pullrod	1

REV. 10/08/18 WLH

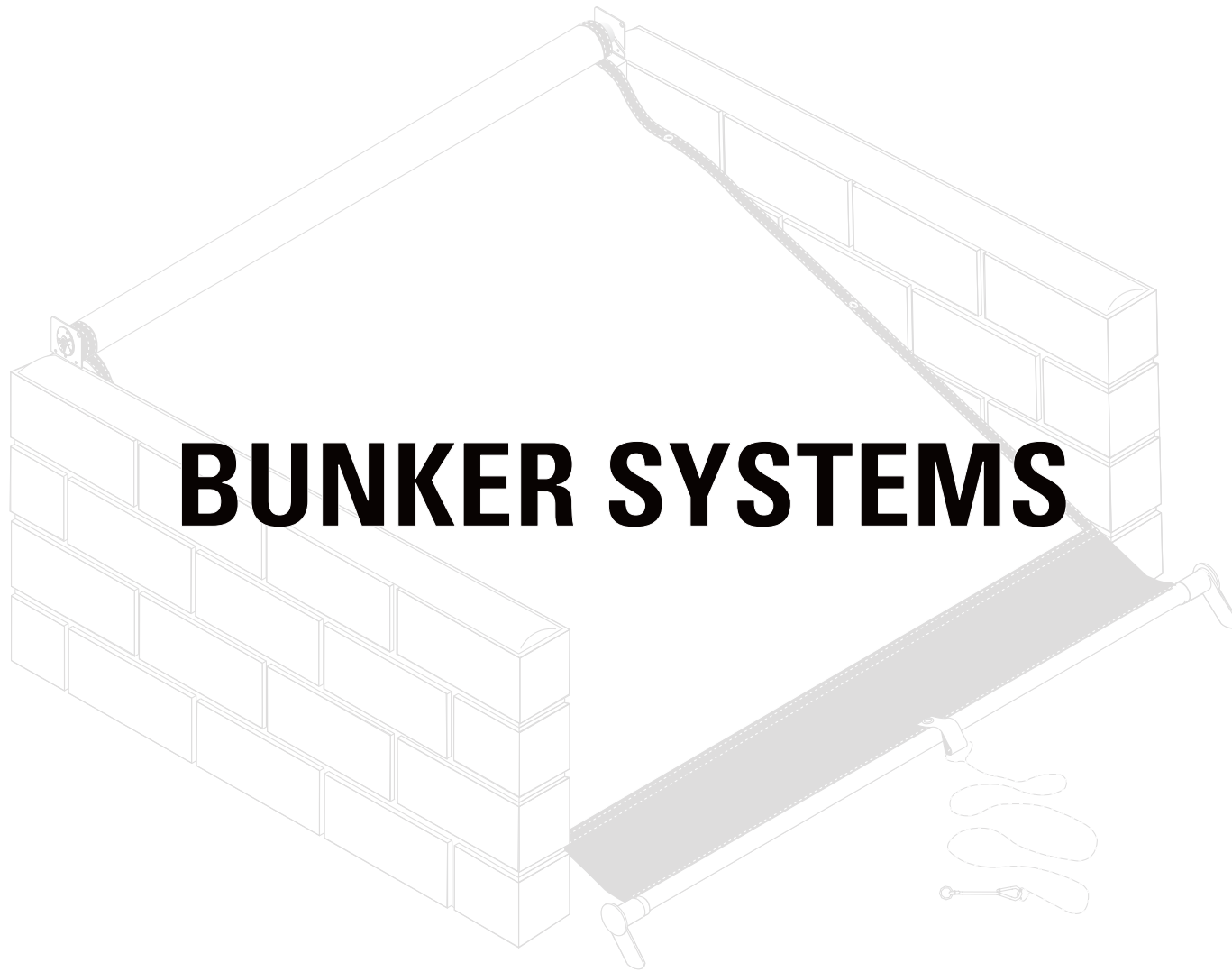


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INSTALLATION INSTRUCTIONS

Bunker Systems



BUNKER SYSTEMS

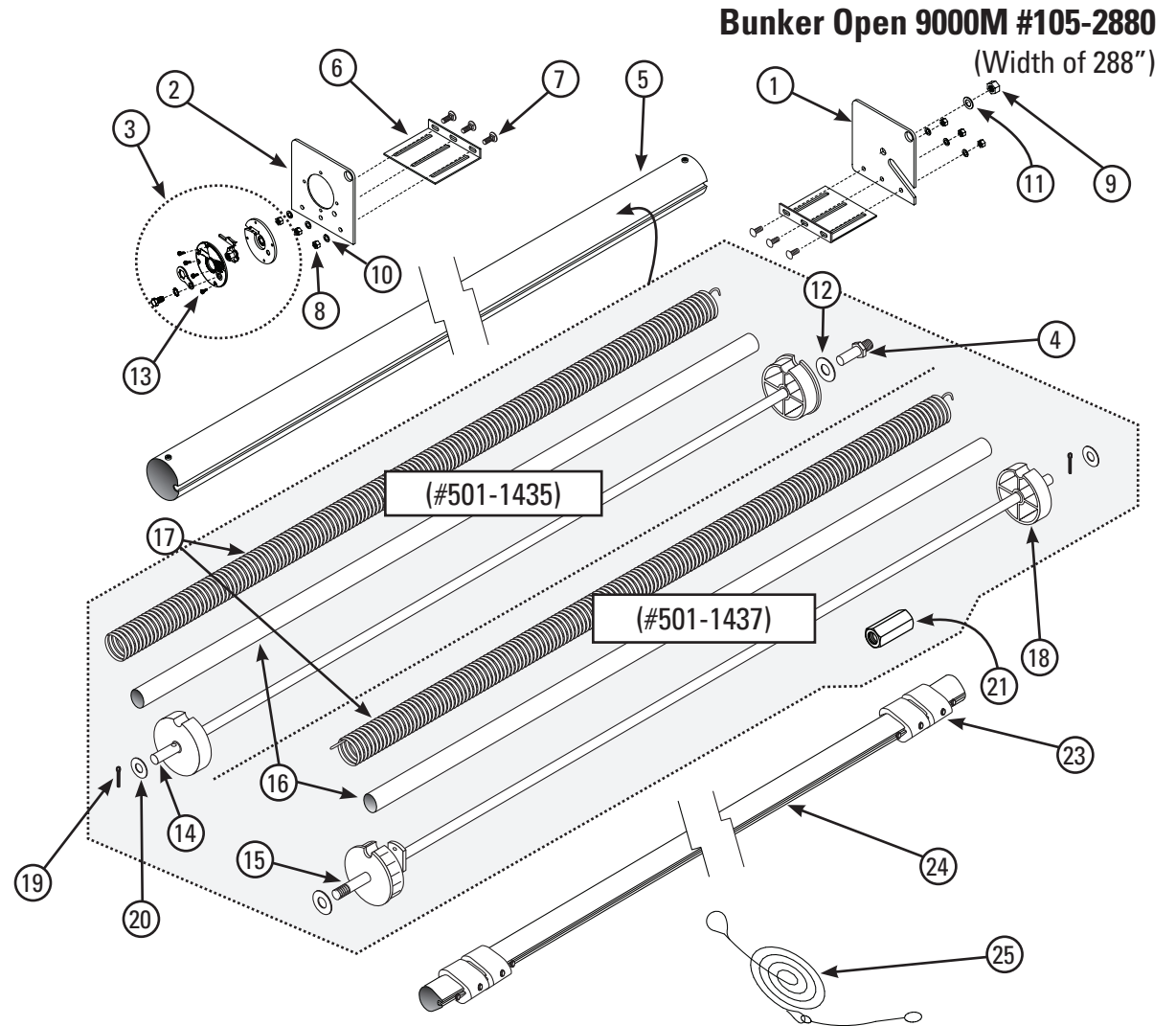
**PULLTARPS®****INSTALLATION INSTRUCTIONS****Bunker Systems**

ITEM	PART #	DESCRIPTION	QTY
1	501-0220	9" End Plate without Stud	1
2	501-0289	9" Bunker End Plate	1
3	501-0647	System End Plate Ratchet Assembly	1
4	501-0801	System End Plate Stud	1
5	501-1370	288" Bunker Roller Tube	1
6	501-1555	Bunker System Mounting Bracket	2
7	503-3104	5/16" - 18 x 3/4" Carriage Bolts	6
8	504-3102	5/16" - 18 Jam Nyloc Nut	6
9	504-5001	1/2" Crimp Nut	1
10	505-2502	1/4" USS Washer 5/16" ID	6
11	505-5001	1/2" AN Washer 1/16" TK	1
12	505-5002	Washer Nylon 0.5 ID x 1.25 OD x 0.63 TK	4
13	506-9937	10-32 x 5/8" Phillips Pan Head Screw	4
14	501-1420	1/2" x 66" Spring Shaft with CAD	1
15	501-1403	1/2" x 66" Spring Shaft with CAD	1
16	501-1411	1/2" x 59.5" PVC SCH 40 Spacer	2
17	517-9916	Main Spring	2
18	517-0104	Torque Block	2
19	506-1201	1/8" x 1" Cotter Pin	2
20	505-5001	1/2" AN Washer 1/16" TK	2
21	504-5007	1/2" - 13 x 1-3/4" Coupling Nut	1
22	501-0649	Bolt-On Bunker Hardware Kit (Not Shown)	1

REV. 06/17/22 WLH

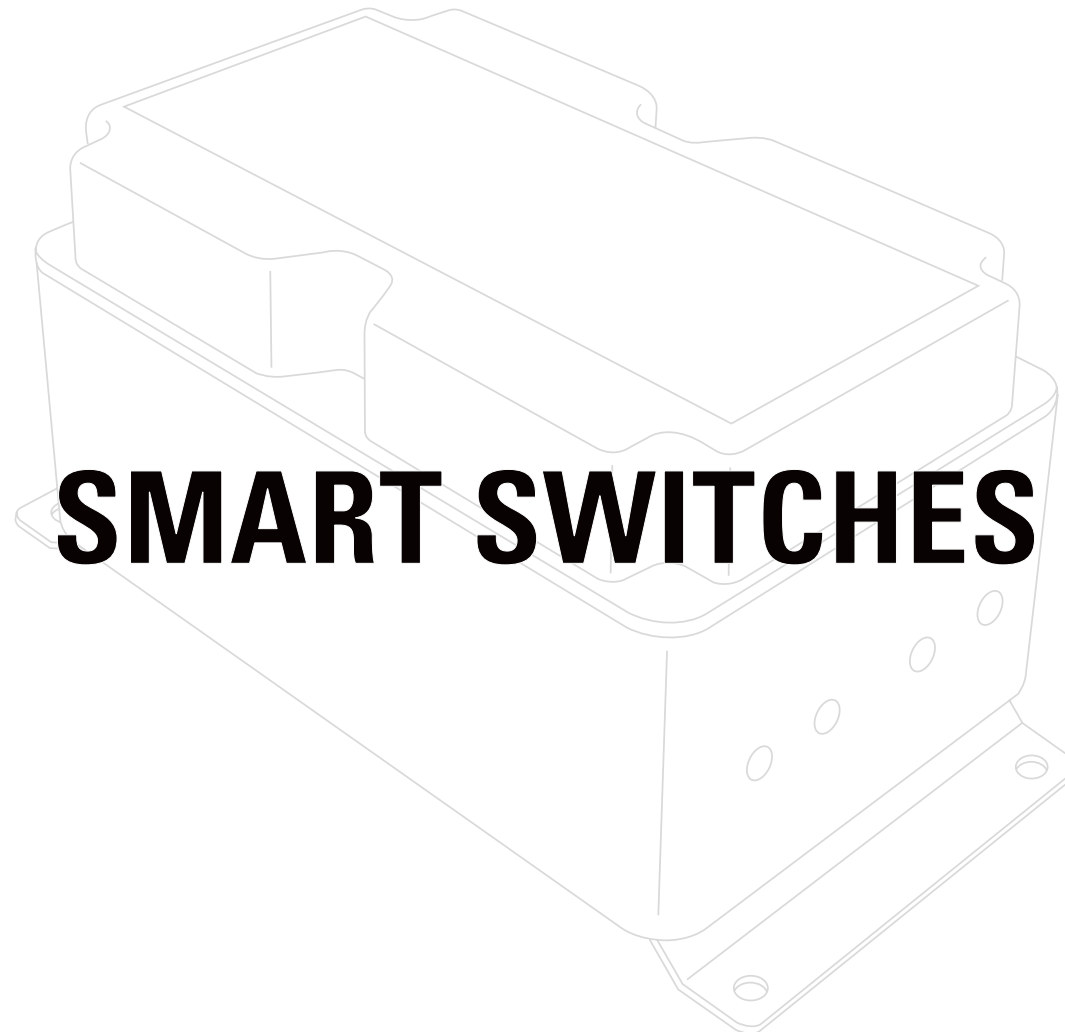
Universal Teardrop Pullrod Hardware

ITEM	PART #	DESCRIPTION	QTY
23	501-1293	Teardrop Bumper Kit	1
24	517-0636	288" Teardrop Pull Bar	1
25	517-1009	50' Pull Rod with Bungee	1





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SMART SWITCHES



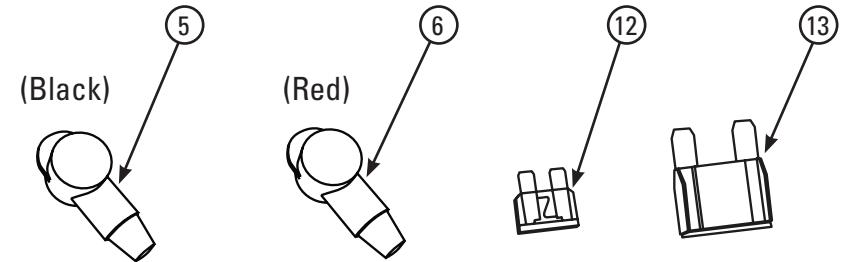
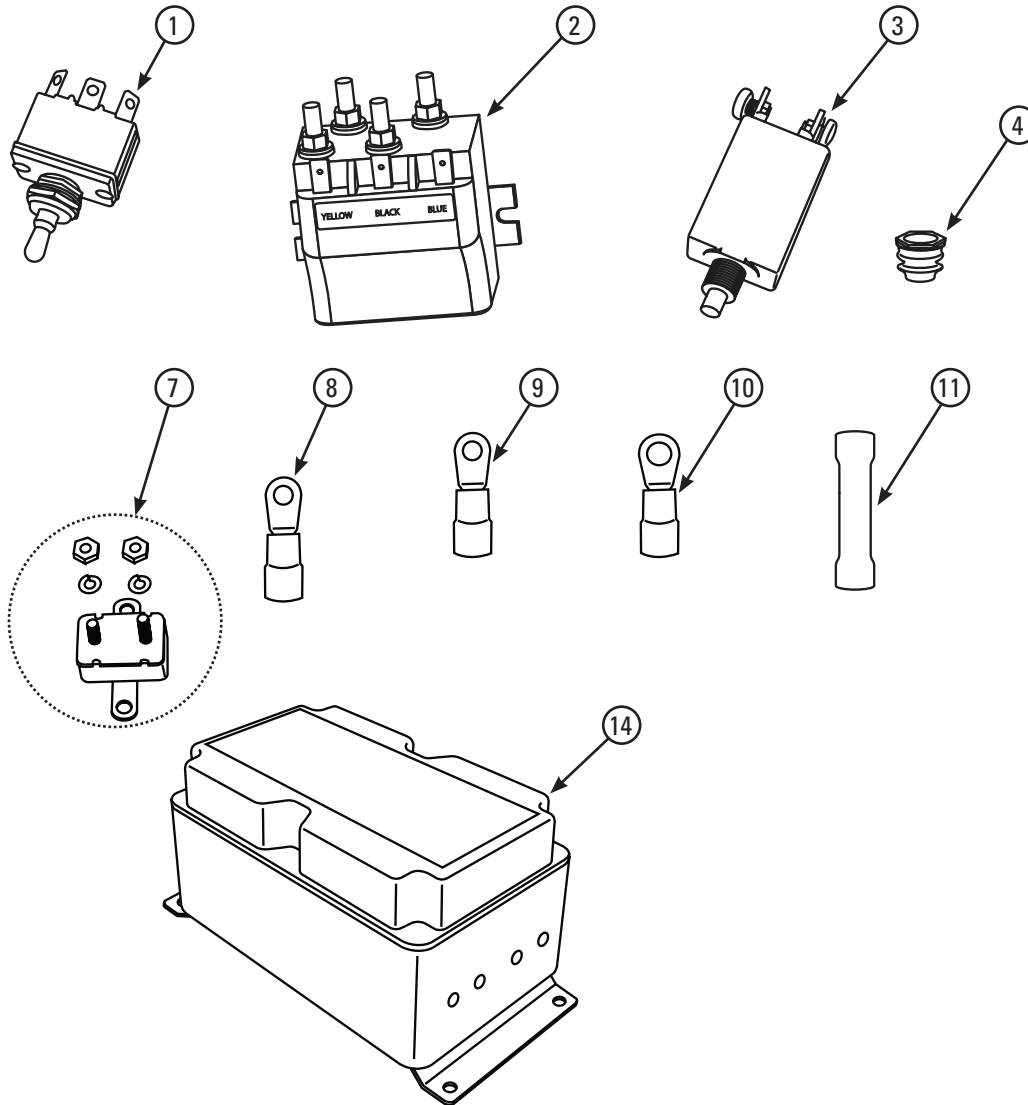
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INSTALLATION INSTRUCTIONS

Smart Switches

Smart Switch with External Switch - 24 Volt #501-9949



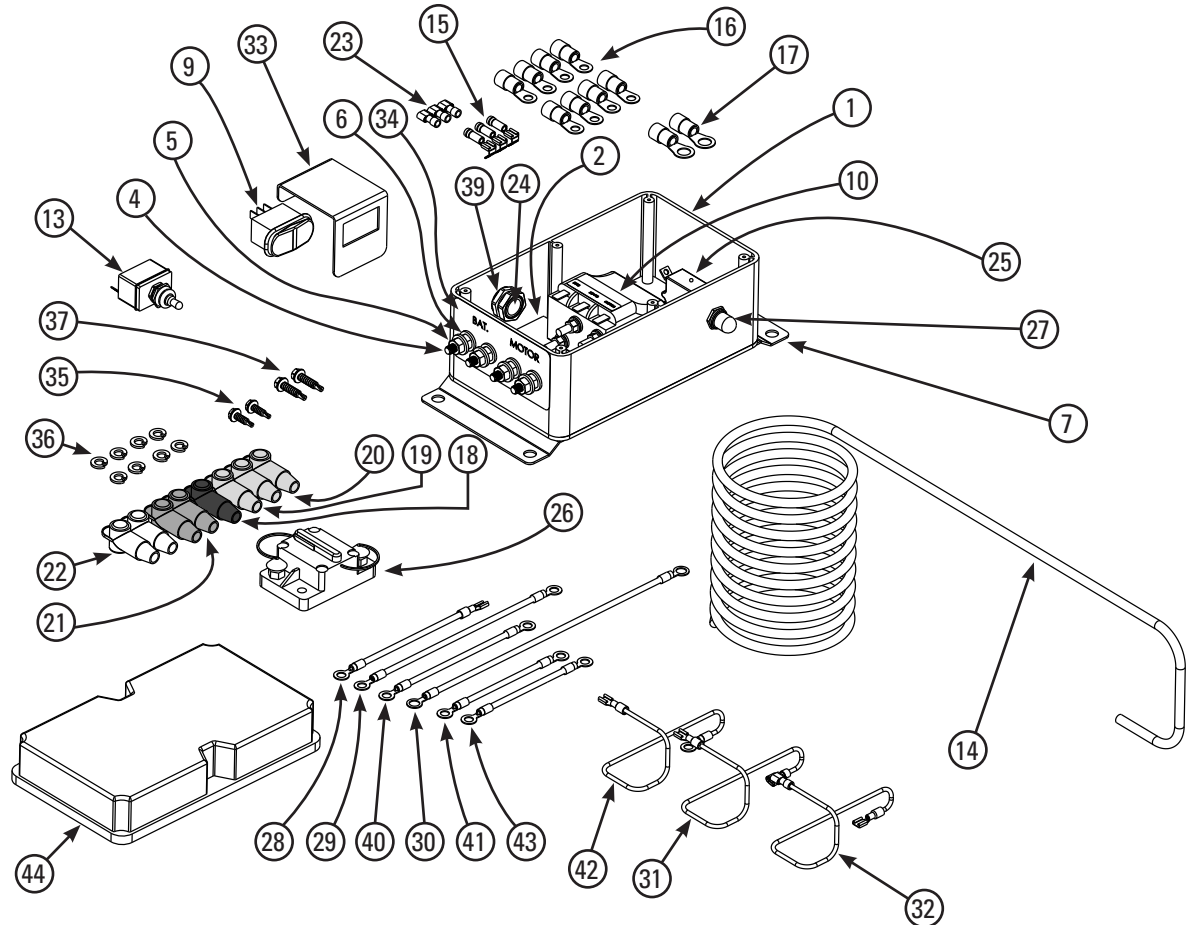
ITEM	PART #	DESCRIPTION	QTY
1	514-0130	Sealed Toggle Switch	1
2	514-9958	Solenoid 24 Volt	1
3	514-0407	50 Amp Circuit Breaker	1
4	419	Boot for 50 Amp Circuit Breaker	1
5	514-0317	Black Terminal Boot	2
6	514-0319	Red Terminal Boot	2
7	514-0413	24V Amp type III Breaker	6
8	514-0307	Connector 6 Ga. #10 Stud	4
9	514-0308	Connector 6 Ga. Lug with 1/4" Eyelet	6
10	514-0309	Connector 6 Ga. Lug with 3/8" Eyelet	2
11	514-0318	Butt Connector 6 Ga.	1
12	514-0415	15 Amp 32V DC Blade Fuse	1
13	514-0417	80 Amp Blade Fuse	1
14	517-9923	Plastic Flanged Solenoid Box	1

REV. 12/19/17 WLH

**PULLTARPS®****INSTALLATION INSTRUCTIONS****Smart Switches**

ITEM	PART #	DESCRIPTION	QTY
1	517-9934	Plastic Flanged Solenoid Box	1
2	501-9947	Solenoid Inside Mounting Plate	1
3	503-2501	1/4 - 20 X 1/2" USS Carriage Bolt (Not shown)	4
4	503-2508	1/4 - 20 X 1" HHCS GR5	4
5	504-2502	1/4 - 20 Brass Nut	8
6	505-2501	1/4 SAE Thin Zinc Washer	8
7	501-9948	Solenoid Mounting Plate	1
8	504-2506	1/4" Hex Lock Nut "Thin" L/N Stl Znc (Not shown)	4
9	514-0117	Rocker Switch 3 Position Momentary	1
10	514-9996	Reversing High AMP Contactor	1
11	506-9905	10-32 X 1/2" Philips Pan Head Screw (Not shown)	2
12	504-9903	10-32 Nylock Nut (Not shown)	2
13	514-0130	Sealed Toggle Switch	1
14	514-0211	#16-3 Wire PVC 27 # Copper	1
15	514-0306	Push On Spade Term. 22-18 Pigback	3
16	514-0308	Connector 6 GA Lug with 1/4" Hole	8
17	514-0309	Connector 6 GA Lug with 3/8" Hole	2
18	514-0317	Black Terminal Boot for 6 GA	1
19	514-0319	Red Terminal Boot for 6 GA	1
20	514-0336	8-2 GA Red Boot Small	2
21	514-0342	Blue Terminal Boot for 6 GA	2
22	514-0343	Yellow Terminal Boot for 6 GA	2
23	514-0321	Push-On Femal Term 16 GA .25 Wide	3
24	514-0323	Strain Relief 1/2" NPT	1
25	514-0407	50 AMP "Push to Reset"	1
26	514-0434	50 AMP Type III Breaker HIGH-AMP	1
27	514-0420	Boot for Breaker	1
28	514-9921	4" Black 10 GA Jumper with 1/4" Eyelets	1
29	514-9918	6" Red 10 GA Jumper with Eyelets	1
30	514-9932	9" Red 10 GA Jumper with Loop/Loop	1
31	514-9941	12" Orange 14 GA Jumper Spade/Spade	1
32	514-9943	12" Blue 14 GA Jumper 1/4" Spade - 1/4" Spade Insul	1
33	514-9954	Rocker Switch Bracket - Large	1
34	607-0214	Electric Switch Label	1
35	506-9904	#10-16 X 3/4" Self Drilling Screw Hrd Stl Znc Hex HD	2
36	505-2503	1/4" Lock Washer - Plated	8
37	506-9929	12-14 X 1 Self Tapping TEK	2
38	514-0325	Strain Relief Seal Ring (Not shown)	1
39	514-0324	Strain Relief Lock Nut	1

REV. 05/07/20 WLH

Cab External Switch 12 Volt #501-9952 & 501-9952C

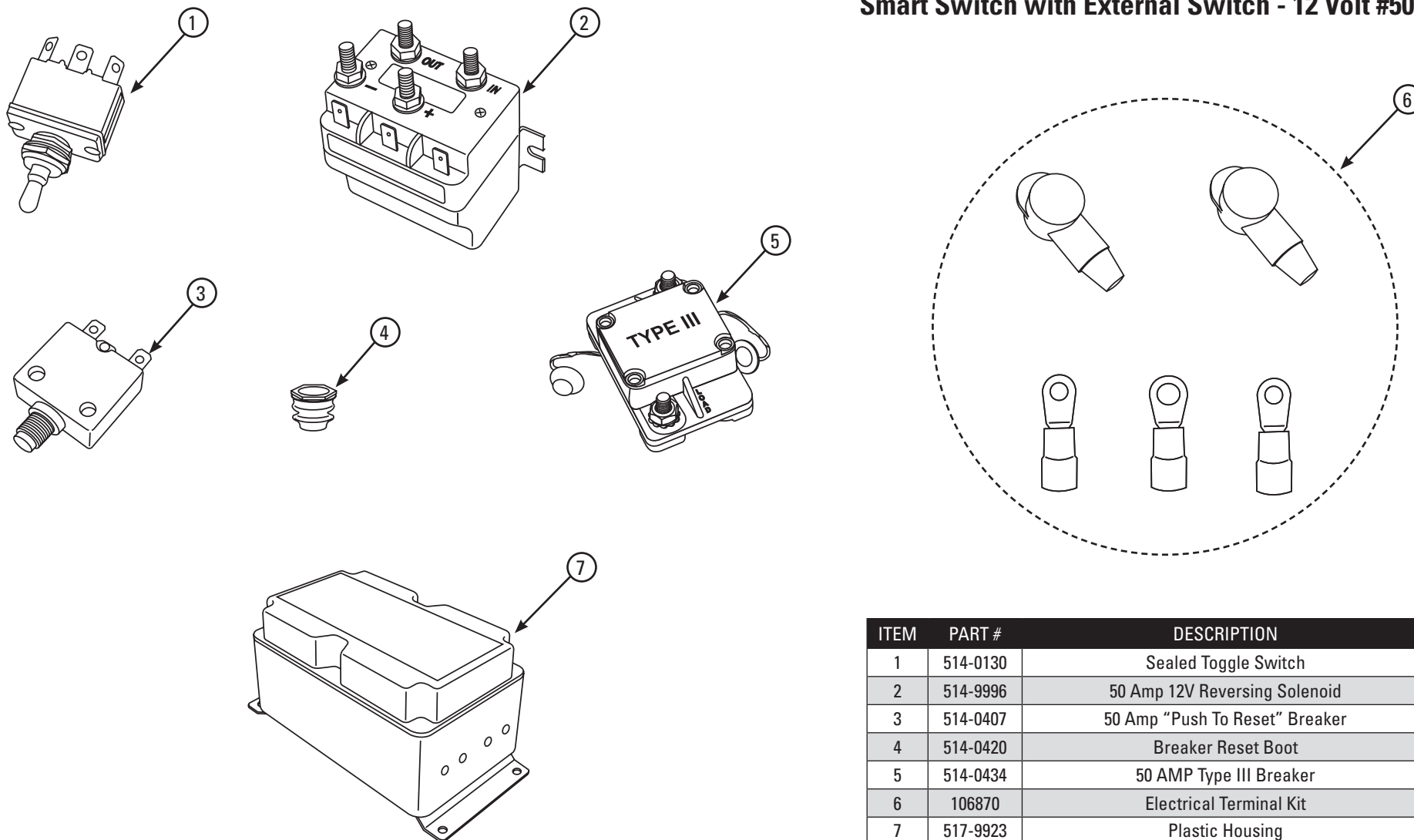
ITEM	PART #	DESCRIPTION	QTY
40	514-9953	4" Black 10 GA Jumper with 1/4" Eyelets	1
41	514-9963	3" Orange 10 GA Jumper with 1/4" Eyelets	1
42	514-9964	12" Red 14 GA Jumper with Spade/Ring	1
43	514-9966	3" Blue 10 GA Jumper with Loop/Loop	1
44	517-9923	Plastic Flanged Solenoid Box (Cover)	1



INSTALLATION INSTRUCTIONS

Smart Switches

Smart Switch with External Switch - 12 Volt #501-9953



ITEM	PART #	DESCRIPTION	QTY
1	514-0130	Sealed Toggle Switch	1
2	514-9996	50 Amp 12V Reversing Solenoid	1
3	514-0407	50 Amp "Push To Reset" Breaker	1
4	514-0420	Breaker Reset Boot	1
5	514-0434	50 AMP Type III Breaker	1
6	106870	Electrical Terminal Kit	1
7	517-9923	Plastic Housing	1

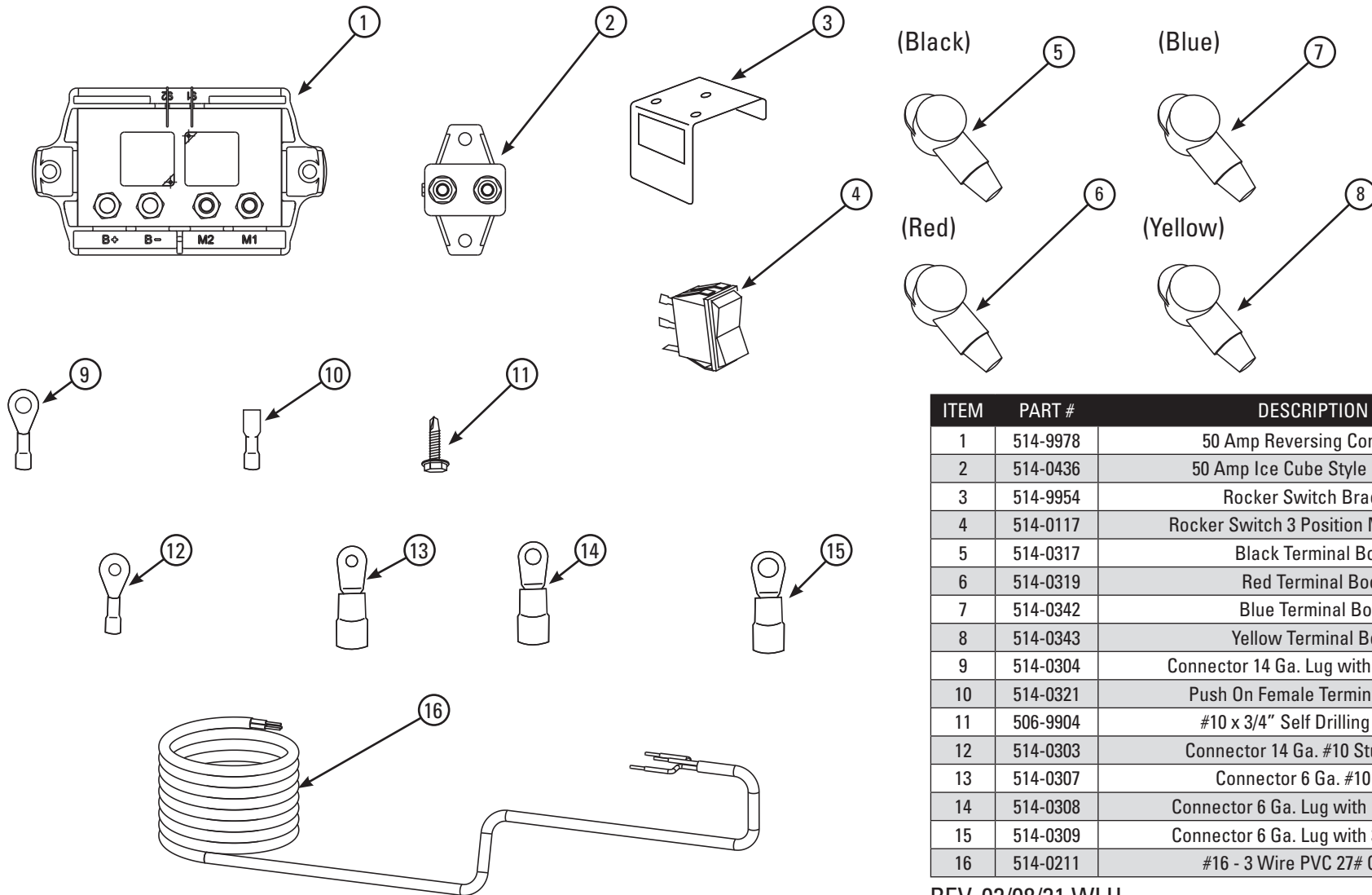
REV. 12/21/21 WLH



INSTALLATION INSTRUCTIONS

Smart Switches

Smart Switch Basic Kit #514-0114

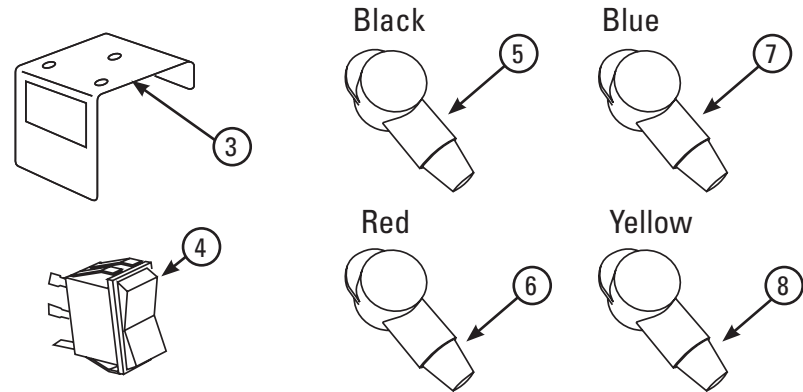
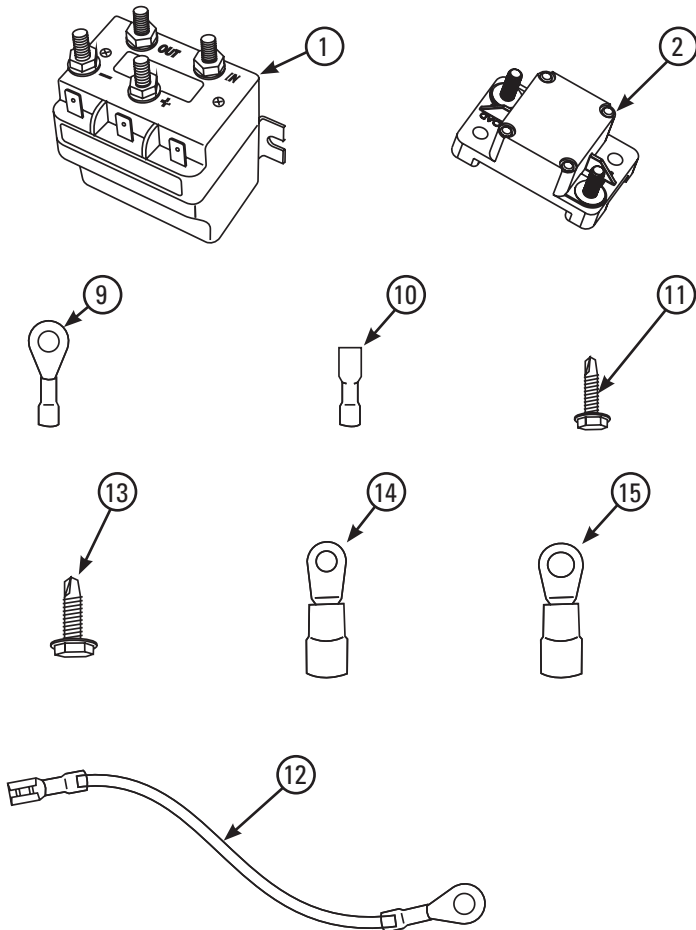


ITEM	PART #	DESCRIPTION	QTY
1	514-9978	50 Amp Reversing Contactor	1
2	514-0436	50 Amp Ice Cube Style Breaker	1
3	514-9954	Rocker Switch Bracket	1
4	514-0117	Rocker Switch 3 Position Momentary	1
5	514-0317	Black Terminal Boot	1
6	514-0319	Red Terminal Boot	3
7	514-0342	Blue Terminal Boot	2
8	514-0343	Yellow Terminal Boot	2
9	514-0304	Connector 14 Ga. Lug with 1/4" Eyelet	1
10	514-0321	Push On Female Terminal 16 Ga.	5
11	506-9904	#10 x 3/4" Self Drilling Screw	6
12	514-0303	Connector 14 Ga. #10 Stud Eyelet	2
13	514-0307	Connector 6 Ga. #10 Stud	2
14	514-0308	Connector 6 Ga. Lug with 1/4" Eyelet	4
15	514-0309	Connector 6 Ga. Lug with 3/8" Eyelet	2
16	514-0211	#16 - 3 Wire PVC 27# Copper	25'

REV. 02/08/21 WLH



Deluxe High Amp Switch Kit - 12 Volt #514-0139



ITEM #	PART #	DESCRIPTION	QTY
1	514-9996	Reversing Polarity 12v Solenoid	1
2	514-0434	50 AMP Type III Breaker HIGH-AMP	1
3	514-9954	Rocker Switch Bracket	1
4	514-0117	Rocker Switch 3 Position Momentary	1
5	514-0337	Black Terminal Boot	1
6	514-0336	Red Terminal Boot	3
7	514-0342	Blue Terminal Boot	2
8	514-0343	Yellow Terminal Boot	2
9	514-0304	Connector 14 ga. Lug with 1/4" Eyelet	1
10	514-0321	Push On Female Terminal 16 ga.	5
11	506-9904	#10 x 3/4" Self Drilling Screw	4
12	514-9921	4" Black 10ga. Jumper Wire	1
13	506-9929	#12-14 Self Drilling TEK Screw	2
14	514-0308	Connector 6 ga. Lug with 1/4" Eyelet	8
15	514-0309	Connector 6 ga. Lug with 3/8" Eyelet	2
--	514-0211	#16-3 Wire PVC 27# Copper	25Ft.

REV. 10/01/20 WLH