

SHUR-CO®

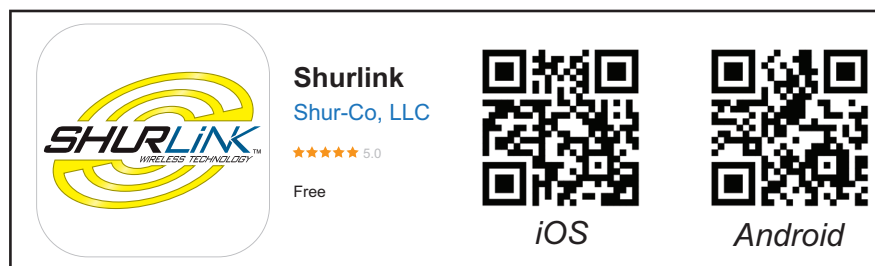


4500 Series HD Electric System for Aulick 43" Hinge, Hi-Lift, Live-Bottom Trailers

OWNER'S MANUAL



Download the ShurLink™ App




PHONE: 1.866.748.7435 | FAX: 1.605.665.0501

2309 SHURLOCK STREET | YANKTON, SD 57078-0713

www.SHURCO.com

**SAFETY INSTRUCTIONS**

At Shur-Co®, your safety is our top priority. Please read and thoroughly understand all instructions before operating all equipment. Failure to READ AND FOLLOW INSTRUCTIONS may result in system failure, property damage, or personal injury. Pay close attention to warnings, cautions, and operating instructions. The hazard symbol  alerts users of potentially hazardous conditions, and is followed by Caution, Warning, or Danger messages to indicate risk:

- **Danger**: (Red) Indicates an imminently hazardous situation that, if not avoided, **WILL** result in death or serious injury.
- **Warning**: (Orange) Indicates a potentially hazardous situation that, if not avoided, **COULD** result in death or serious injury.
- **Caution**: (Yellow) Indicates a potentially hazardous situation that, if not avoided, **MAY** result in minor or moderate injury or damage to the system.
- **Notice**: (Blue) Indicates operational notes or other essential information without addressing safety.

Regularly inspect equipment to ensure proper performance. Always repair or replace worn or damaged parts immediately to maintain safety. Safety decals are placed at critical locations on the equipment. Keep these decals clean and legible at all times. Replace any decal that is worn, damaged, painted over or otherwise unreadable. Replacement decals can be obtained by your local Shur-Co® dealer.

- Always wear safety glasses during installation and operation.
- Stay clear of moving parts.
- No other use of Shur-Co® equipment is authorized, except as designed.

SHUR-CO® TERMS OF SERVICE**ORDER
TERMS AND CONDITIONS****WARRANTY****PATENTS****SERVICE AND DISTRIBUTION CENTERS**

www.shurco.com/about-us/corporate-locations/

LOCATIONS

MESSAGE TO OWNERS

Thank you for choosing Shur-Co® for your tarping system needs. We appreciate your confidence in our products. Please note that while this manual provides comprehensive installation and operation instructions, your trailer may require minor adjustments to these guidelines.

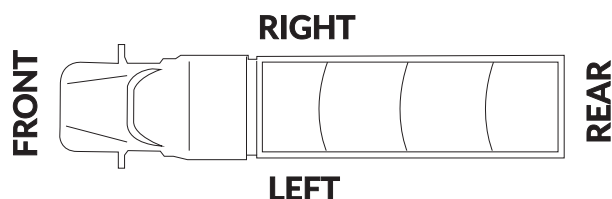
Visit Shurco.com to access the most current version of these instructions and other important product information.

QUESTIONS?
CALL OUR HELP LINE:
1-866-748-7435
MONDAY-FRIDAY
8 AM-5 PM CENTRAL TIME

MAINTENANCE

- Spray all bearings with penetrating oil as needed.
- Grease spring bearings as needed.
- Brush springs with a steel brush weekly to remove dirt, and spray with penetrating oil.
- Tighten loose bolts.
- Make sure arms are not hitting sides of box. Replace damaged/bent arms.
- Replace worn or broken springs.
- Replace/repair worn or damaged tarps.

VEHICLE ORIENTATION



REQUIRED TOOLS

1. Welder
2. Hammer
3. Center Punch or Transfer Punch
4. #3 Phillips Insert Bit
5. Air or Electric Impact Wrench (9/16" deep socket)
6. 7/16" Deep Socket
7. 3/8" Combination Wrench
8. 9/16" Combination Wrench
9. 1/2" Combination Wrench
10. 1/8" Hex Wrench Long T-Handle
11. 3/16" Hex Wrench Long T-Handle (recommended)
12. 7/32" Drill Bit
13. 5/16" Drill Bit (for 3/8" self-tapping screws)
14. 11/32" Drill Bit
15. 13/32" Drill Bit
16. 3/8" Drill
17. 1-1/8" Hole Saw
18. 1-1/2" Hole Saw
19. 2" Hole Saw (if bracket for conductor socket is not used)
20. Standard/Flathead Screwdriver
21. #2 Phillips Screwdriver
22. Utility Knife
23. Ratchet
24. Hack Saw (metal cutter)
25. Pliers
26. Snap-Ring Pliers
27. Wire Cutters
28. Grinder
29. Tape Measure

Inspect 4500 Series HD kit upon arrival.

NOTICE: This installation requires two people for safe and efficient completion.

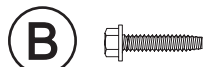


*PLEASE READ THE COMPLETE MANUAL BEFORE
PROCEEDING WITH INSTALLATION OR USE OF THE TARPING SYSTEM.*

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1704367 Cap Screw - #10 x 3/4"



1704905 Hex Flanged Cap Screw - #10



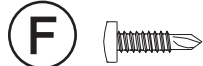
1700403 Self-Tapping Screw - 1/4" x 3/4"



1700398 Self-Drilling Screw - 1/4" x 3/4"



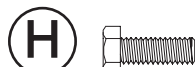
1704338 Self-Tapping Screw - 1/4" x 1"



1705198 Self-Drilling Screw - 1/4" x 1"



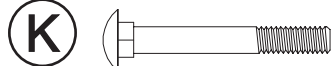
1701045 Cap Screw - 5/16" x 3/4"



1702926 Cap Screw - 5/16" x 7/8"



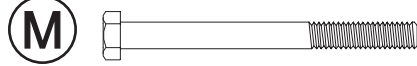
1704237 Carriage Bolt - 5/16" x 1"



1701455 Carriage Bolt - 5/16" x 2-1/2"



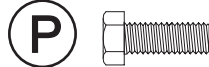
1704943 Shoulder Bolt - 3/8" x 2" - 5/16" x 1/2" Thd.



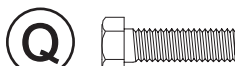
1201022 Cap Screw - 5/16" x 3-1/2"



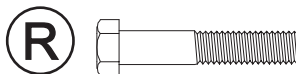
1700400 Self-Tapping Screw - 3/8" x 1"



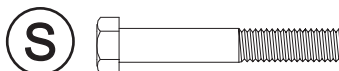
1701061 Cap Screw - 3/8" x 1"



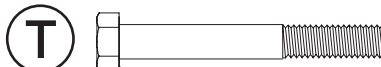
1702891 Cap Screw - 3/8" x 1-1/4"



1704264 Cap Screw - 3/8" x 2"



1702573 Cap Screw - 3/8" x 2-1/2"



1700371 Cap Screw - 3/8" x 3"



1808844 Nylon Lock Nut - #10



1706399 Top Lock Flanged Nut - 1/4"



1700411 Hex Nut - 5/16"



1704946 Flanged Top Lock Nut - 5/16"



1704931 Flanged Nylon Lock Nut - 5/16"



1704297 Nylon Lock Nut - 5/16" - ZP



1700419 Nylon Lock Nut - 5/16"



1700407 Hex Nut - 3/8"



1701062 Hex Jam Nut - 3/8"



1701580 Nylon Lock Nut - 3/8"



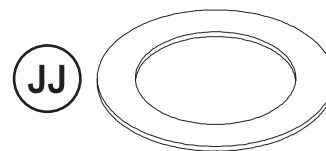
1702668 Top Lock Nut - 3/8"



1701283 Flanged Top Lock Nut - 3/8"



1700427 Flat Washer - 1/4"



1702890 Flat Washer - 1 1/4"



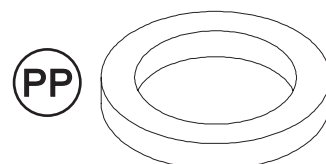
1700428 Flat Washer - 5/16"



1700434 Lock Washer - 3/8"



1700429 Flat Washer - 3/8"



1118318 Spacer Washer - 1/4" x 1.81"



1120291 Pivot Bracket Washer

**Inspect all parts in 4500 Series
HD electric kit upon arrival.**

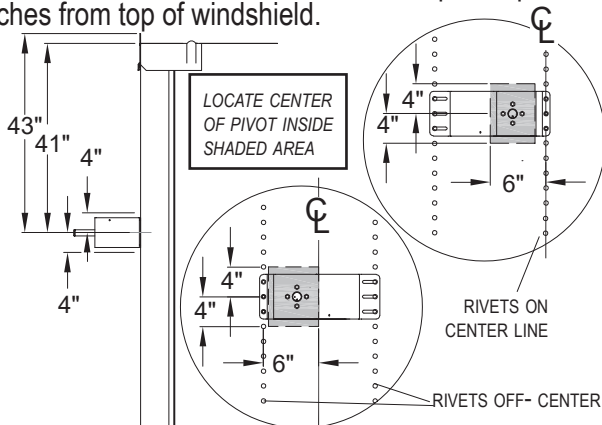
NOTICE: Use lock washers and nuts with self-tapping screws whenever possible.

Hardware	Hole Size	Material Thickness
With Lock Washers & Nuts	13/32"	No Minimum
Without Lock Washers & Nuts	5/16"	Minimum 3/16"

TIP: Read entire page before drilling holes. Determine if ribs are centered or off-center on the front and rear of the trailer.

FRONT OF TRAILER

STEP 1: Locate front pivot mount bracket on right side of trailer so center of pivot lies within shaded area shown below. Measure 41 inches down from top of cap or 43 inches from top of windshield.

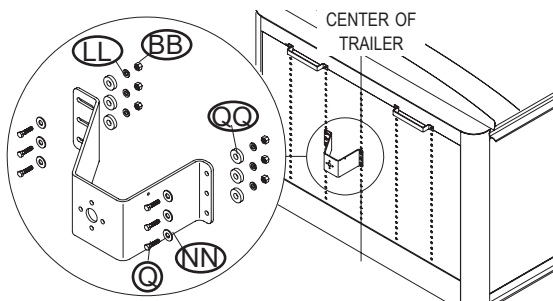


NOTICE: Mount front pivot bracket into support braces on trailer, if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support.

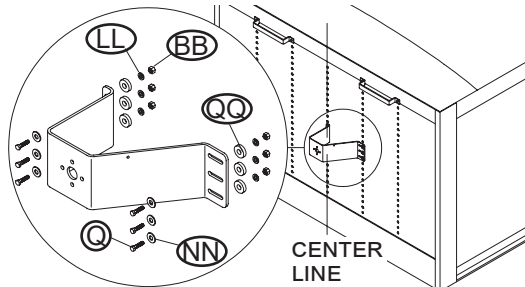
Before drilling any holes, make sure flex arm will have a clear pathway to operate.

STEP 2: Place pivot mount brackets on trailer in orientation shown below. Using brackets as guide, mark mounting hole locations.

RIVETS/CORRUGATIONS ON CENTER



RIVETS/CORRUGATION OFF CENTER

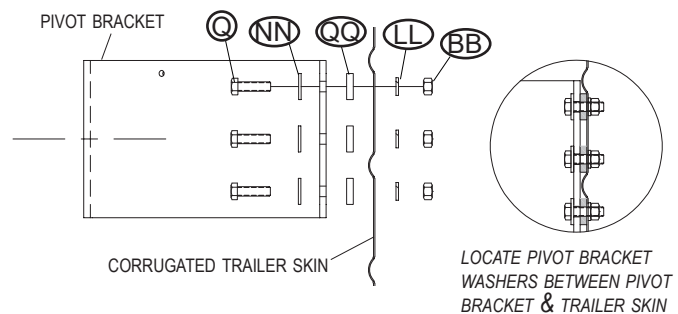


STEP 3: Remove rivets and mount brackets into rivet holes. If not possible, drill 13/32 inch holes in trailer. Fasten with screws (Q), flat washers (NN), lock washers (LL) and nuts (BB).

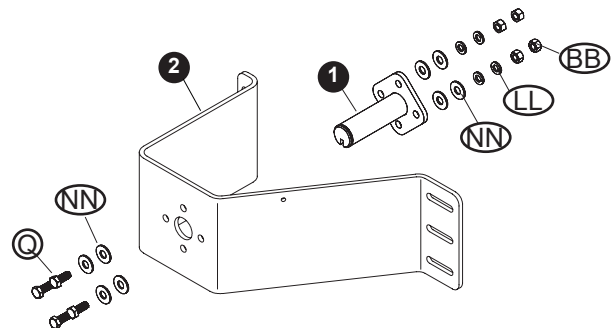
CORRUGATED TRAILERS

NOTICE: Use pivot bracket washers only when corrugation on trailer skin prevents bracket from contacting skin.

STEP 4: If installing pivot bracket or pivot mount bracket on horizontally corrugated trailer, center bracket between corrugations and use brackets as guide to mark hole locations. Mark and drill 13/32 inch holes in trailer and fasten with screws (Q), flat washers (NN), lock washers (LL), pivot bracket washers (QQ) and nuts (BB). Locate pivot bracket washers between pivot bracket and trailer skin as shown.

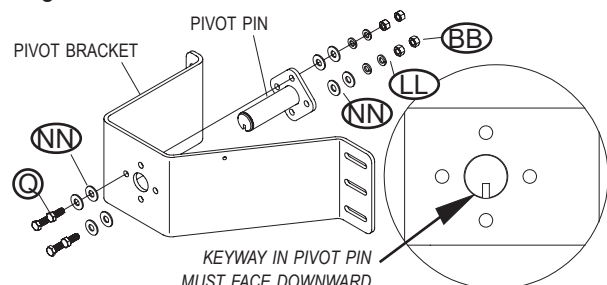


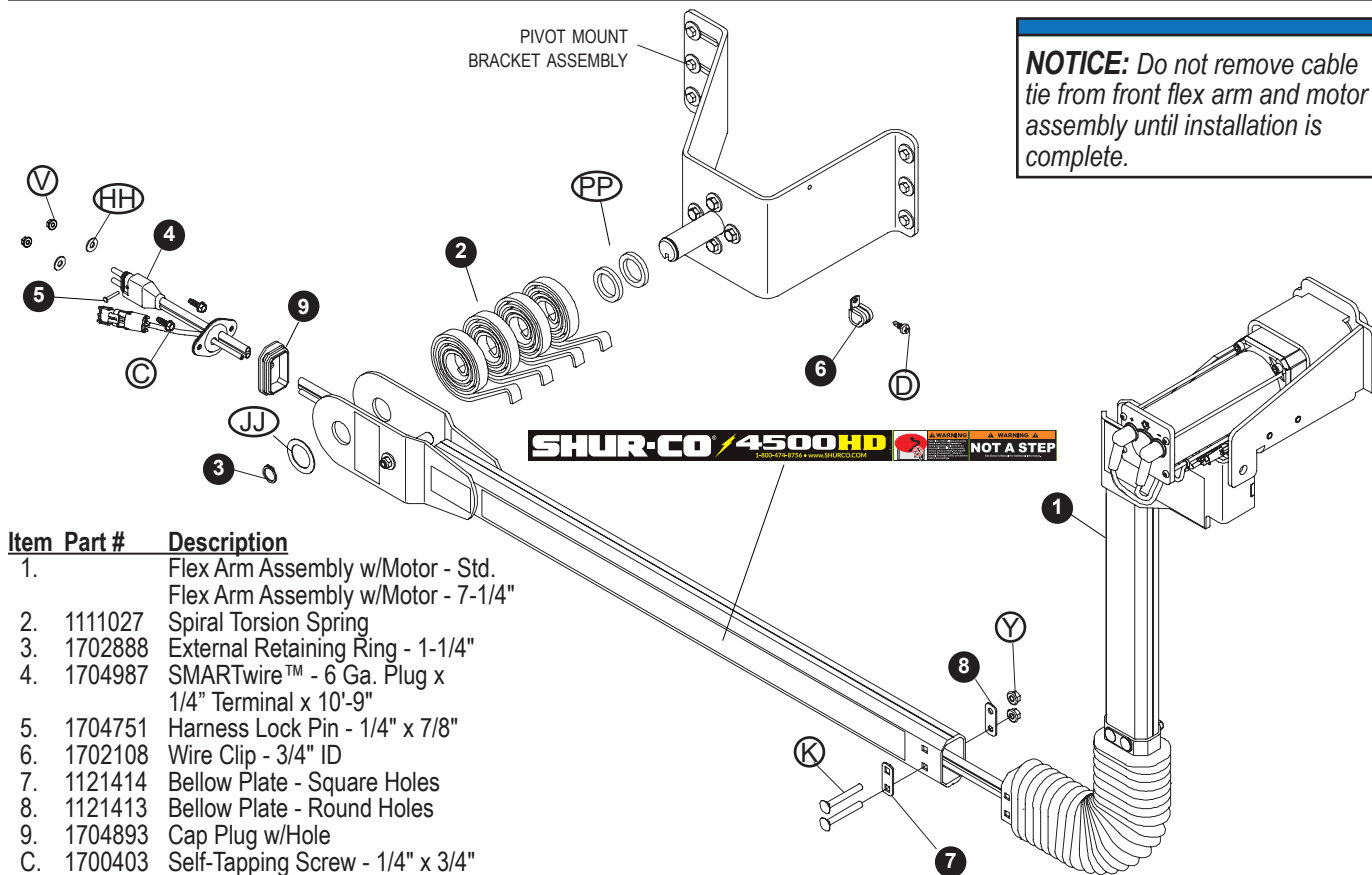
PIVOT PIN INSTALLATION



Item	Part #	Description
1.	1116920	Pivot Pin - 4 Spring
2.	1121578	Vertical Pivot Mount Bracket - 9-1/4" Standoff
Q.	1702891	Cap Screw - 3/8" x 1-1/4"
BB.	1700407	Hex Nut - 3/8"
LL.	1700434	Lock Washer - 3/8"
NN.	1700429	Flat Washer - 3/8"

STEP 1: Fasten pivot pin to pivot bracket with keyway facing downward as shown.





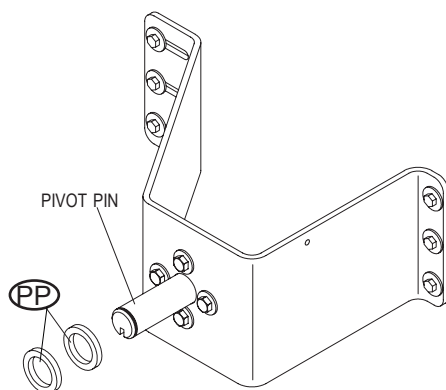
NOTICE: Do not remove cable tie from front flex arm and motor assembly until installation is complete.

Item	Part #	Description
1.		Flex Arm Assembly w/Motor - Std. Flex Arm Assembly w/Motor - 7-1/4"
2.	1111027	Spiral Torsion Spring
3.	1702888	External Retaining Ring - 1-1/4"
4.	1704987	SMARTwire™ - 6 Ga. Plug x 1/4" Terminal x 10'-9"
5.	1704751	Harness Lock Pin - 1/4" x 7/8"
6.	1702108	Wire Clip - 3/4" ID
7.	1121414	Bellow Plate - Square Holes
8.	1121413	Bellow Plate - Round Holes
9.	1704893	Cap Plug w/Hole
C.	1700403	Self-Tapping Screw - 1/4" x 3/4"
D.	1700398	Self-Drilling Screw - 1/4" x 3/4"
K.	1701455	Carriage Bolt - 5/16" x 2-1/2"
V.	1706399	Top Lock Flanged Nut - 1/4"
Y.	1704931	Flanged Nylon Lock Nut - 5/16"
HH.	1700427	Flat Washer - 1/4"
JJ.	1702890	Flat Washer - 1-1/4"
PP.	1118318	Spacer Washer - 1/4" x 1.28"

⚠ WARNING

Do not stand or climb on the flex arm. Doing so may result in a fall or impact, causing serious injury or death.

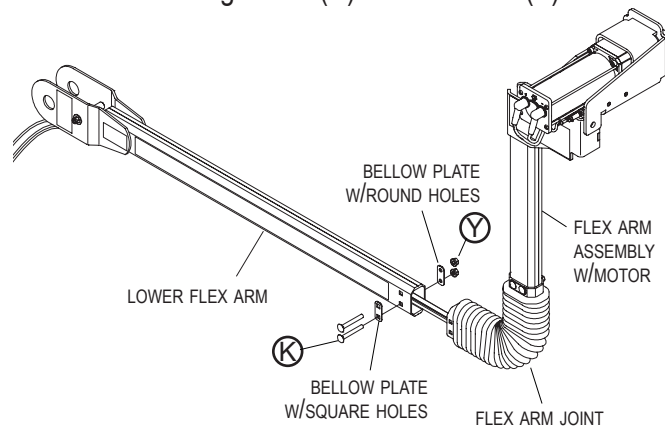
STEP 1: Assemble spacer washers (PP) onto pivot pin.



⚠ CAUTION

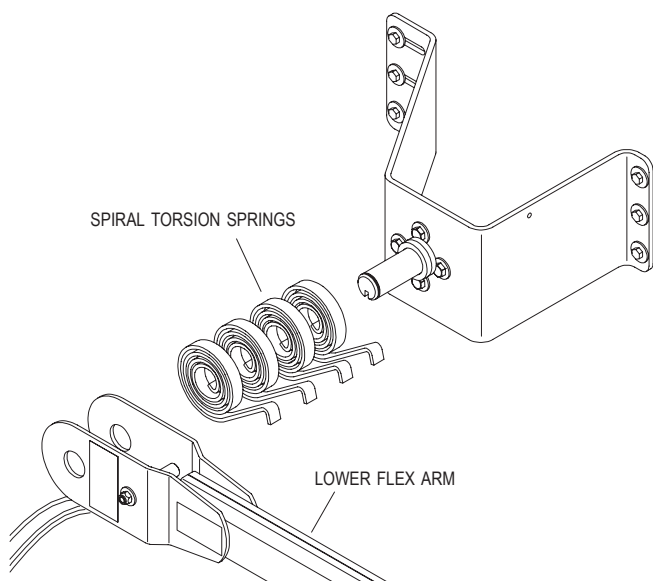
The arm assembly must be installed with the warning decals facing away from the trailer and in plain view.

STEP 2: Align holes in bellow, end fitting and bellow plates with holes in lower flex arm assembly as shown. Fasten with carriage bolts (K) and lock nuts (Y).

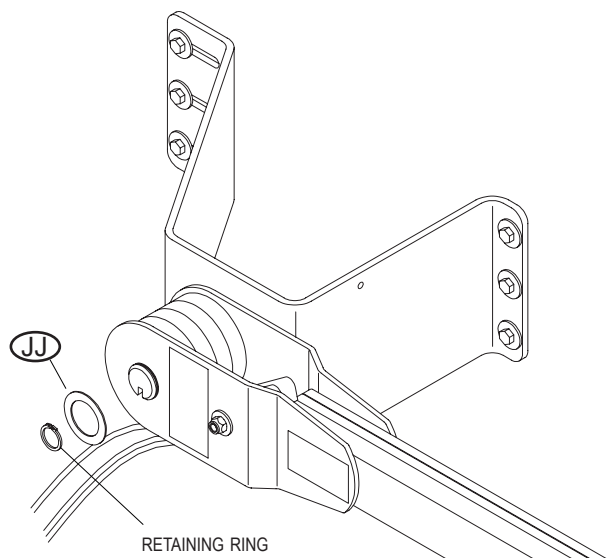


NOTICE: The motor assembly on the upper flex arm must face toward the trailer as shown.

STEP 3: Assemble spiral torsion springs and lower flex arm onto pivot pin. Hook springs over 3/8 inch x 3-1/2 inch cap screw and spacer tube on lower flex arm.



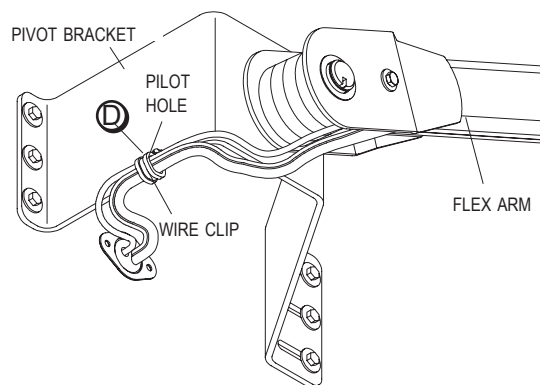
STEP 4: Secure with washer (JJ) and retaining ring.



⚠ WARNING

Flex arms are under tension while torsion springs are engaged. Use caution when assembling and disassembling arms. Failure to read and follow instructions may result in serious injury or death.

NOTICE: After all components are installed and system operation has been tested, choose appropriate pilot hole on the pivot bracket to secure the wire with the wire clip and self-drilling screw (D).



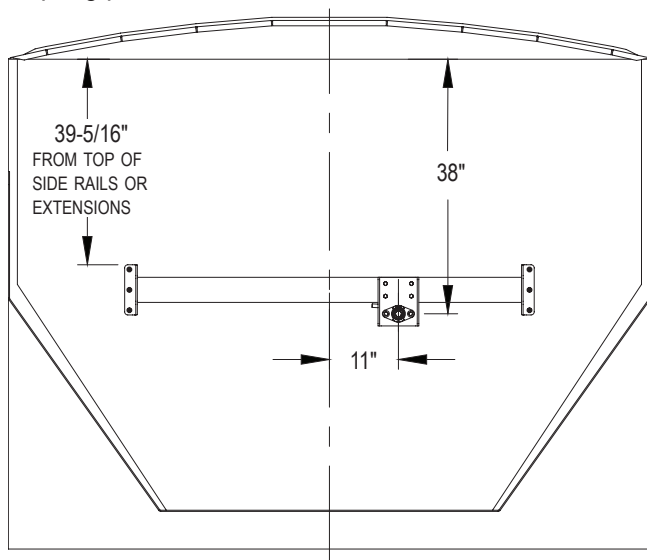
⚠ CAUTION

Fasten wire to the pilot hole on the opposite side of the pivot bracket, away from the flex arm, to prevent the wire from being pinched during operation.

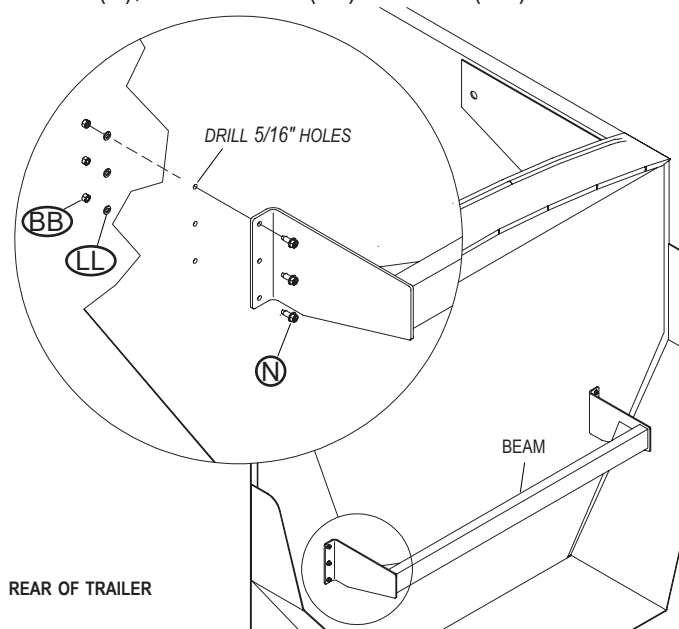
⚠ WARNING

Do not stand or climb on the flex arm. Doing so may result in a fall or impact, causing serious injury or death.

STEP 1: Center beam on rear of trailer, positioning beam so spring pivot shaft is located as shown.

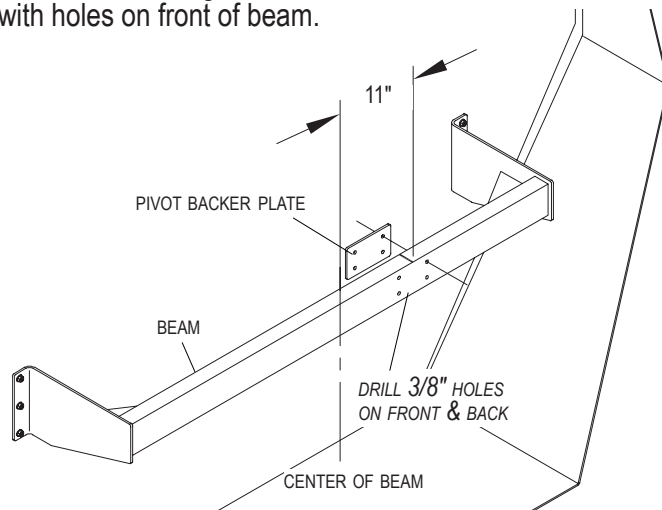


STEP 2: Hold beam in place and use as guide to mark and drill 5/16 inch holes into rear door. Fasten with screws (N), lock washers (LL) and nuts (BB).

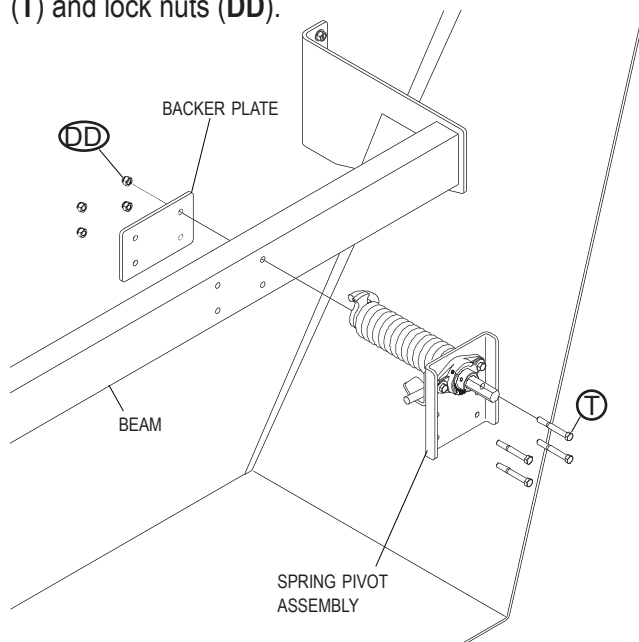


NOTICE: If fastening through tubing, alternative fasteners may be needed. Add bracing/reinforcement if door skin is too weak to support beam and spring pressure.

STEP 3: Fasten spring pivot assembly to beam. On front of beam, measure and mark 11 inch from center of beam toward curb side of trailer. Center pivot backer plate on mark and use as guide to locate and drill 3/8 inch holes. Place plate on backside of beam and repeat process to ensure alignment of holes on backside of beam with holes on front of beam.



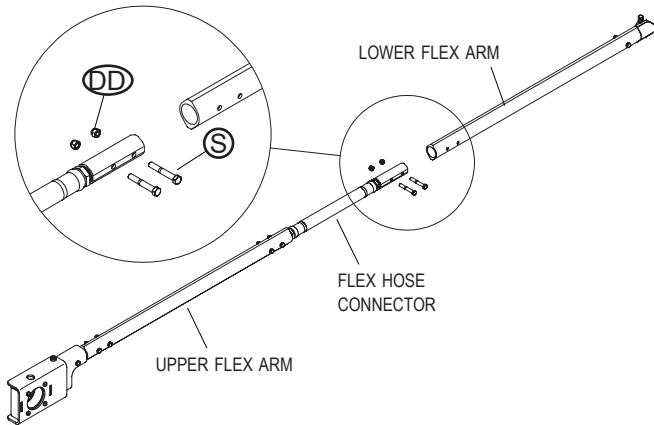
STEP 4: Place spring pivot assembly and backer plate on either side of beam as shown and fasten with screws (T) and lock nuts (DD).



⚠ WARNING

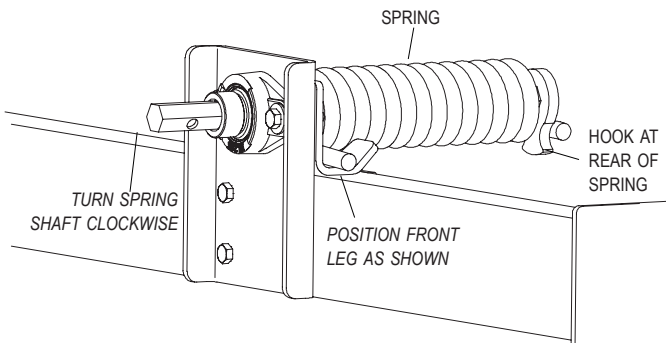
Flex arms are under tension while springs are engaged. Use caution when assembling and disassembling arms. Failure to read and follow instructions may result in serious injury or death.

STEP 1: Assemble flex arm. Align flex hose connector on upper flex arm assembly with lower flex arm as shown and slide connector into flex arm. Fasten connector to lower flex arm with screws (S) and lock nuts (DD). If flex arm comes pre-assembled, begin with STEP 2.

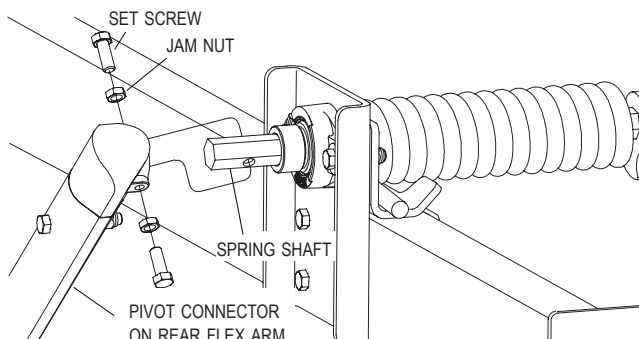


NOTICE: Make sure upper arm is oriented as shown with lower arm, otherwise arm can be damaged in operation.

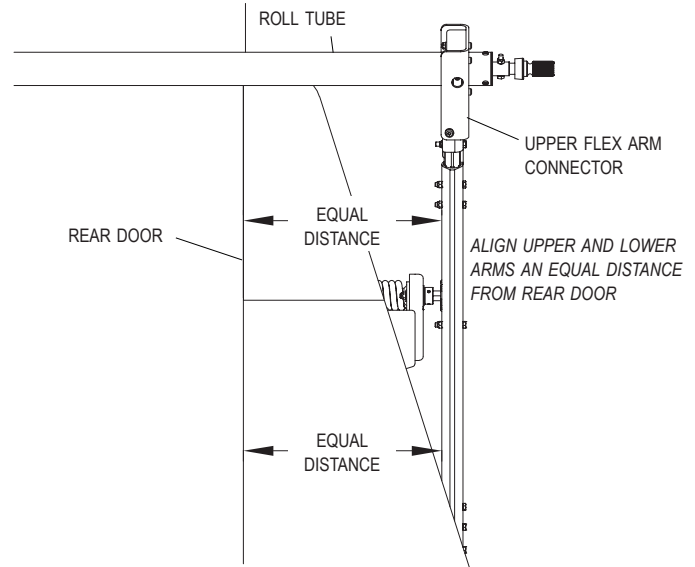
STEP 2: To correctly position spring and spring shaft, make sure front leg of spring is positioned as shown. Then turn shaft clockwise until shaft catches in hook at rear of spring.



STEP 3: Align rear flex arm with spring shaft as shown and slide pivot connector onto shaft. Align set screw in pivot connector with hole in shaft and tighten until screw bottoms out in hole. Tighten other set screw, then tighten jam nuts to lock set screws into shaft.



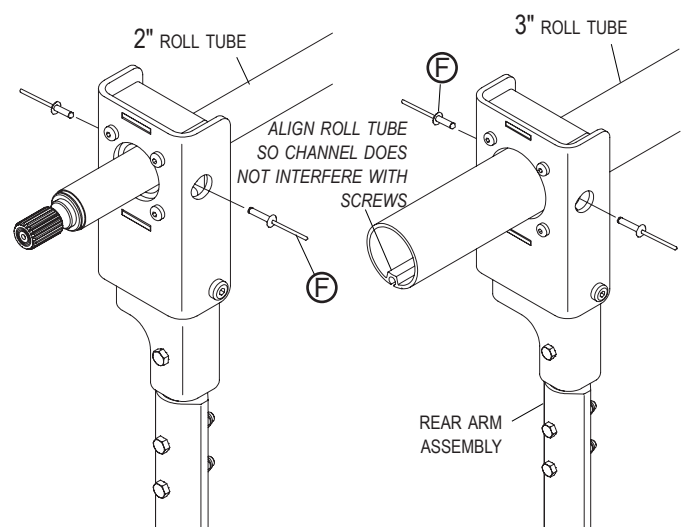
STEP 4: With tarp hanging loosely in closed position, lift flex arm up to roll tube and slide upper flex arm connector onto roll tube. Adjust connector forward or backward to align upper arm with lower arm on vertical plane. To check alignment, measure distance between upper and lower arms and rear door on trailer.



NOTICE: Wait to do this step until after front arm has been connected and both front and rear arms are correctly aligned.

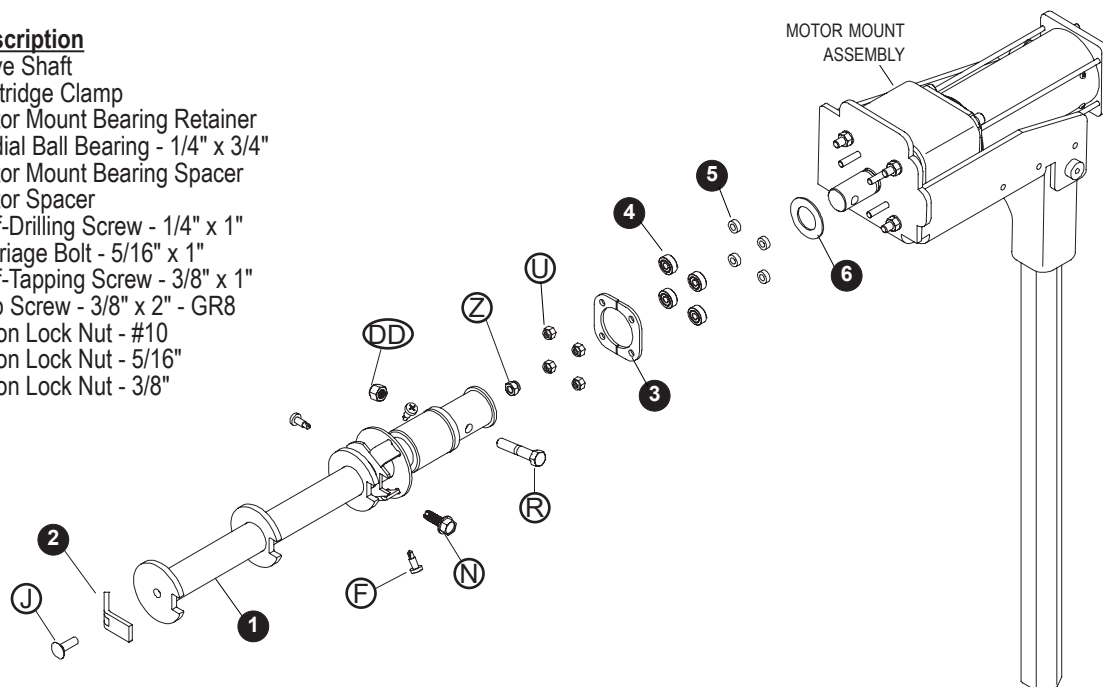
NOTICE: For systems using 3 inch roll tube, wait until after manual crank/spline adapter has been installed.

STEP 5: With rear arm correctly aligned, fasten rear arm bearing ring on rear arm assembly to roll tube with two screws (F) through bearing and into roll tube as shown.

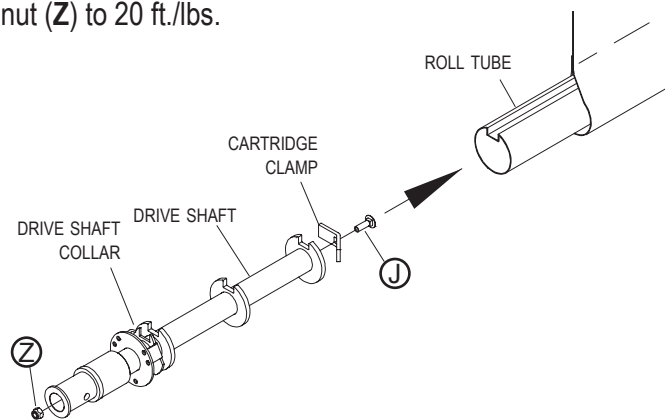


Item	Part #	Description
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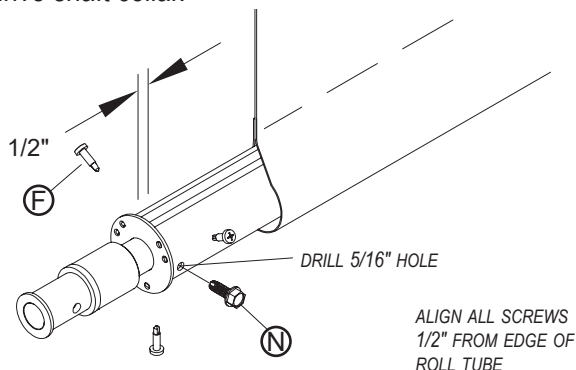
1.	1122264	Drive Shaft
2.	1118194	Cartridge Clamp
3.	1128243	Motor Mount Bearing Retainer
4.	1704736	Radial Ball Bearing - 1/4" x 3/4"
5.	1120680	Motor Mount Bearing Spacer
6.	1120679	Motor Spacer
F.	1705198	Self-Drilling Screw - 1/4" x 1"
J.	1704237	Carriage Bolt - 5/16" x 1"
N.	1700400	Self-Tapping Screw - 3/8" x 1"
R.	1704264	Cap Screw - 3/8" x 2" - GR8
U.	1808844	Nylon Lock Nut - #10
Z.	1704297	Nylon Lock Nut - 5/16"
DD.	1701580	Nylon Lock Nut - 3/8"



STEP 1: Loosely fasten cartridge clamp to drive shaft with screw (J) and lock nut (Z). Insert drive shaft into roll tube as shown. To secure drive shaft to roll tube, tighten nut (Z) to 20 ft./lbs.

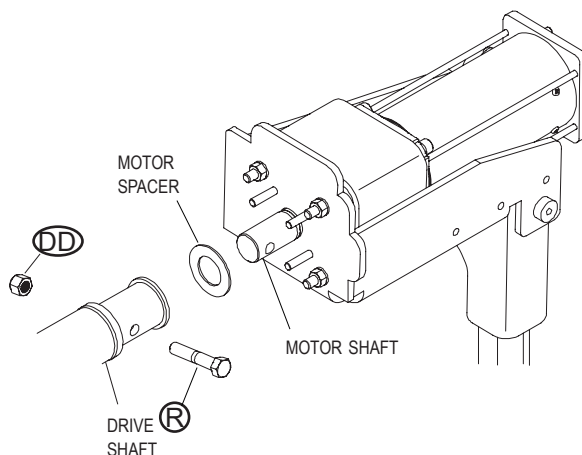


STEP 2: Install three screws (F) through roll tube and flats on drive shaft collar. Drill 5/16 inch hole between flats and collar, then fasten screw (N) through roll tube and drive shaft collar.



ALIGN ALL SCREWS
1/2" FROM EDGE OF
ROLL TUBE

STEP 3: Slide motor spacer over motor shaft. Slide drive shaft over motor shaft. Fasten with screws (R) and nuts (DD). Finger tighten only.



CAUTION

Avoid pinch points when sliding the roll tube extension over the motor shaft and during tightening. Keep hands and fingers clear of moving parts to prevent injury.

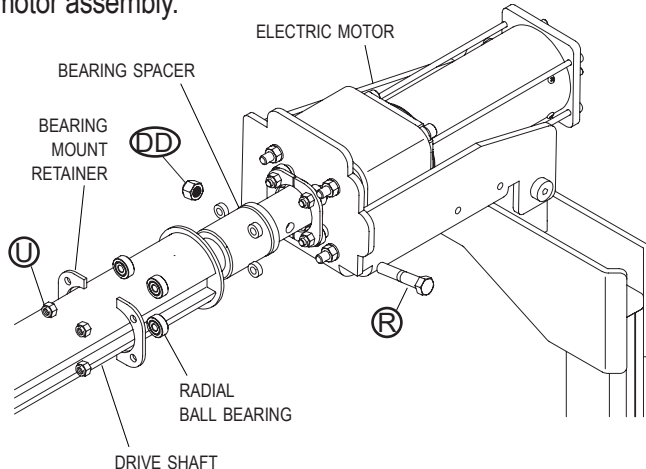
⚠ CAUTION

On certain trailers, clearance lights may obstruct the roll tube and could be damaged if caution is not taken. A deflector may need to be installed to prevent the roll tube from damaging the lights.

⚠ WARNING

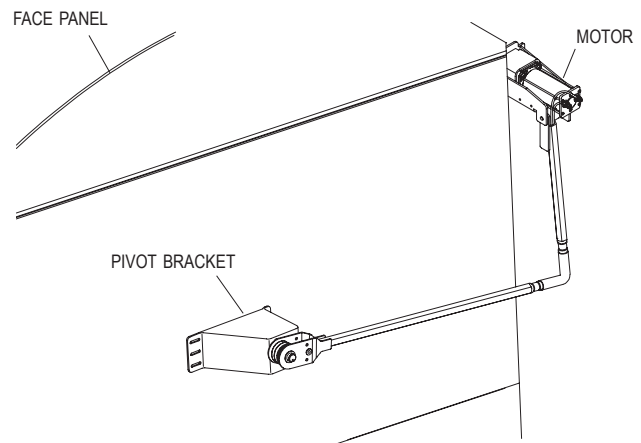
Flex arms are under tension while torsion springs are engaged. Use caution when assembling and disassembling arms. Failure to read and follow instructions may result in serious injury or death.

STEP 4: Fasten drive shaft to electric motor shaft with screw (R) and nut (DD). Install bearing spacers, radial ball bearings and bearing mount retainer and secure with 1/4 inch lock nuts (U). Remove cable tie from front arm/motor assembly.

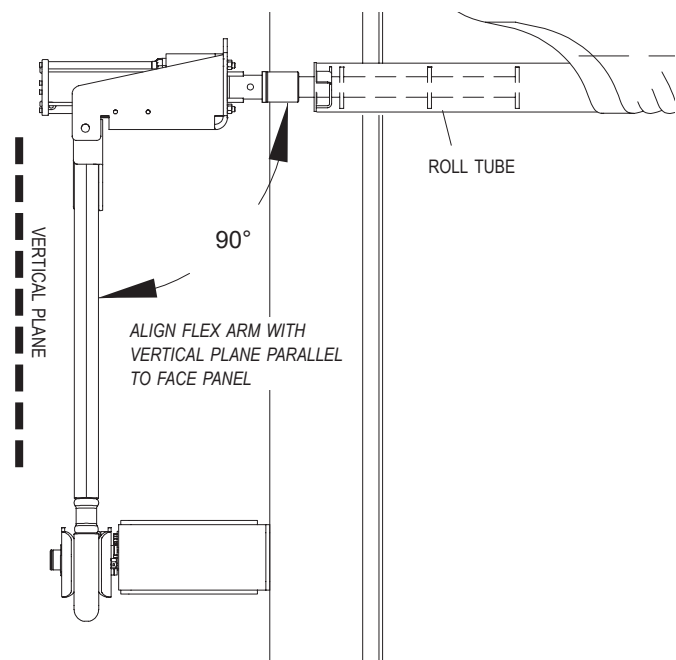
**⚠ CAUTION**

Do not leave the tarping system unattended until the flex arm is securely fastened to the roll tube extension.

STEP 5: Position motor as shown below. Make sure torsion springs load when tarp opens.

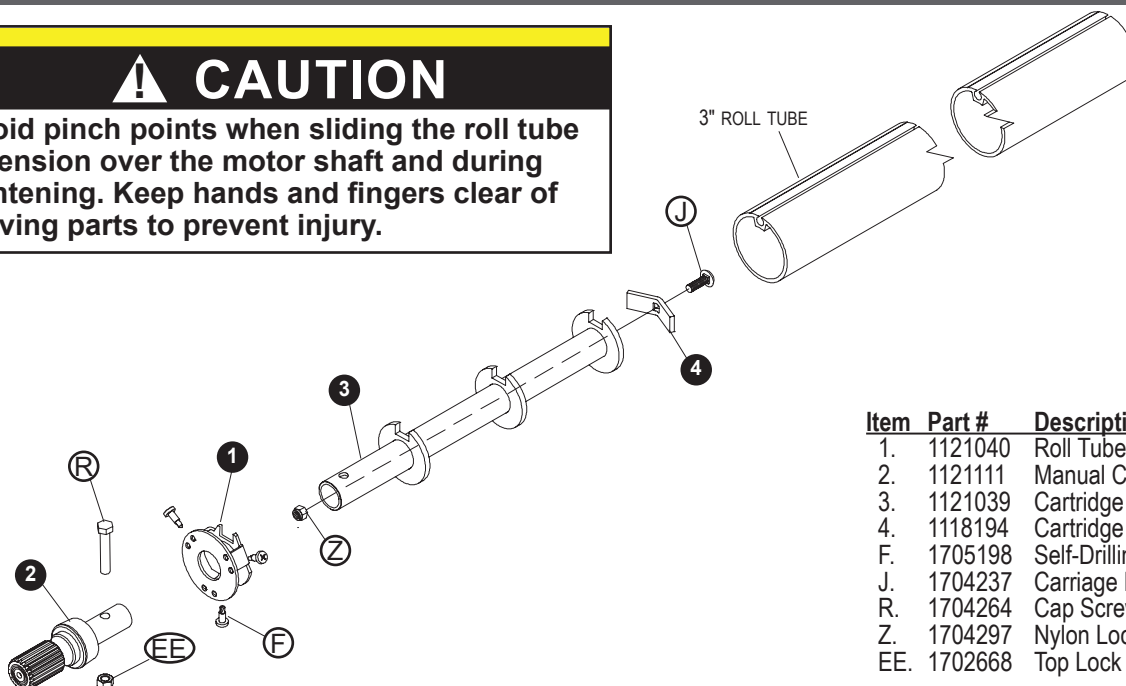


STEP 6: Align flex arm vertically with front of trailer and 90° to roll tube.



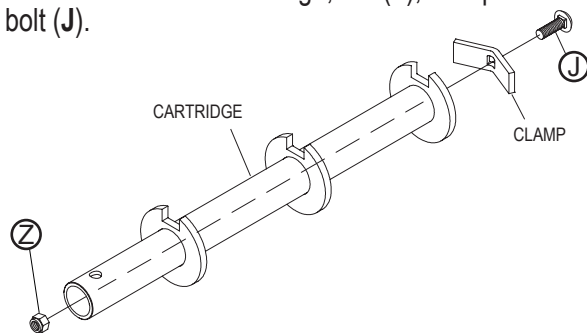
⚠ CAUTION

Avoid pinch points when sliding the roll tube extension over the motor shaft and during tightening. Keep hands and fingers clear of moving parts to prevent injury.

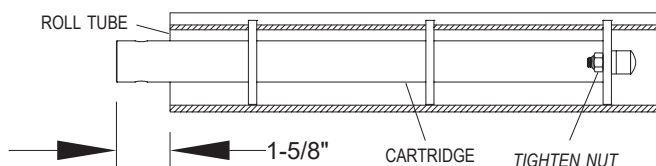


Item	Part #	Description
1.	1121040	Roll Tube Cap - 3" Spline
2.	1121111	Manual Crank Spline - 3" Tube
3.	1121039	Cartridge - 3" Spline End
4.	1118194	Cartridge Clamp
F.	1705198	Self-Drilling Screw - 1/4" x 1"
J.	1704237	Carriage Bolt - 5/16" x 1"
R.	1704264	Cap Screw - 3/8" x 2"
Z.	1704297	Nylon Lock Nut - 5/16"
EE.	1702668	Top Lock Nut - 3/8"

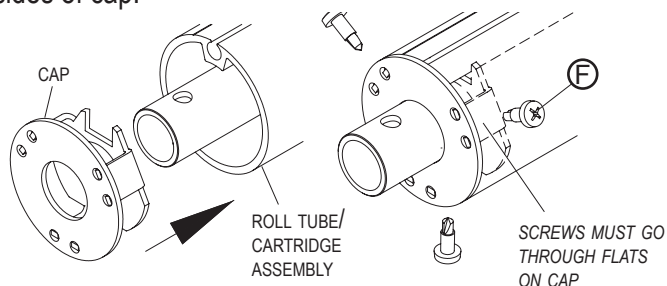
STEP 1: Assemble cartridge, nut (Z), clamp and carriage bolt (J).



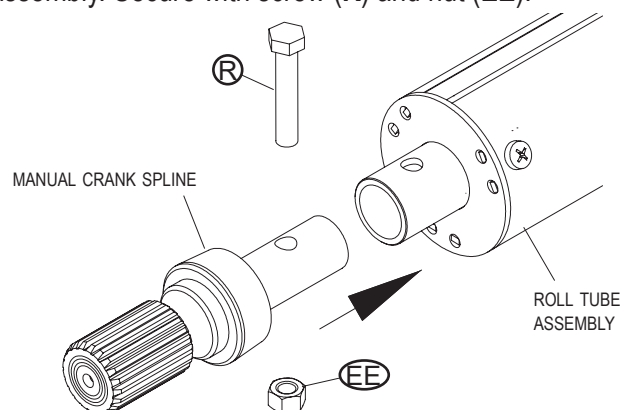
STEP 2: Insert cartridge assembly into roll tube. Position cartridge to extend 1-5/8 inch past end of roll tube. Tighten nut to 20 ft./lbs.



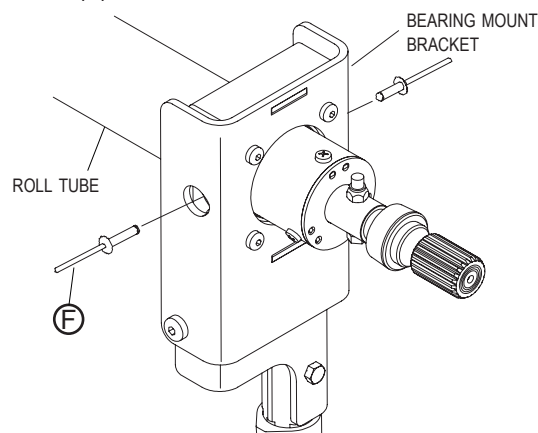
STEP 3: Insert cap into roll tube/cartridge assembly. Fasten three screws (F) through roll tube and flats on sides of cap.



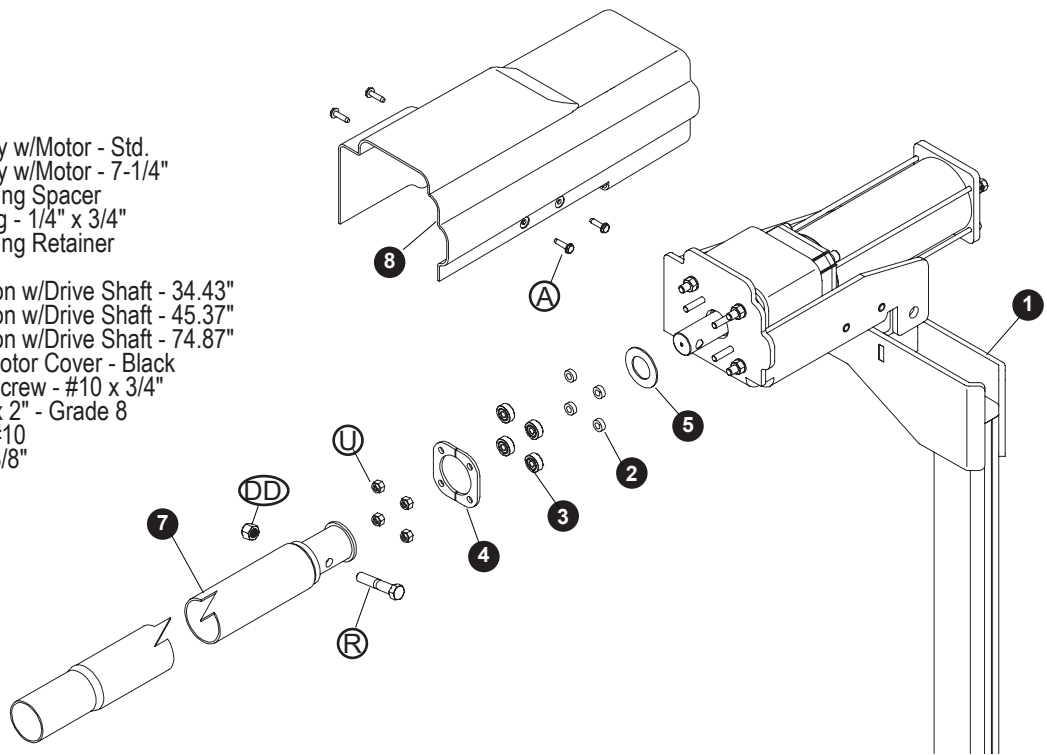
STEP 4: Insert manual crank spline into roll tube assembly. Secure with screw (R) and nut (EE).



STEP 5: When both front and rear flex arms are vertical, fasten bearing ring in bearing mount bracket to roll tube with two screws (F).

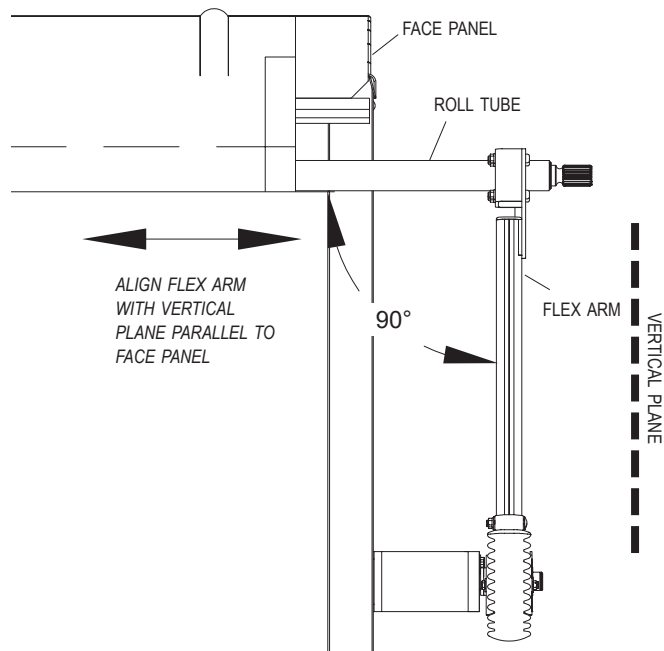


Item	Part #	Description
1.		Flex Arm Assembly w/Motor - Std.
		Flex Arm Assembly w/Motor - 7-1/4"
2.	1120680	Motor Mount Bearing Spacer
3.	1704736	Radial Ball Bearing - 1/4" x 3/4"
4.	1128243	Motor Mount Bearing Retainer
5.	1120679	Motor Spacer
7.	1120697	Roll Tube Extension w/Drive Shaft - 34.43"
	1120698	Roll Tube Extension w/Drive Shaft - 45.37"
	1120699	Roll Tube Extension w/Drive Shaft - 74.87"
8.	1704982	4500 Series HD Motor Cover - Black
A.	1704367	Hex Flange Cap Screw - #10 x 3/4"
R.	1704264	Cap Screw - 3/8" x 2" - Grade 8
U.	1808844	Nylon Lock Nut - #10
DD.	1701580	Nylon Lock Nut - 3/8"



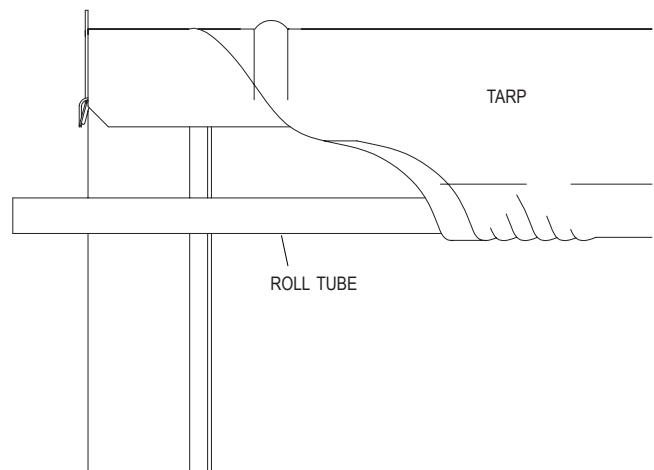
REAR OF TRAILER

STEP 1: Adjust roll tube toward front or rear of trailer so that rear flex arm lies on vertical plane parallel to face panel and perpendicular to roll tube extension. Mark roll tube where roll tube extension ends.



FRONT OF TRAILER

STEP 2: Slide tarp back on roll tube.

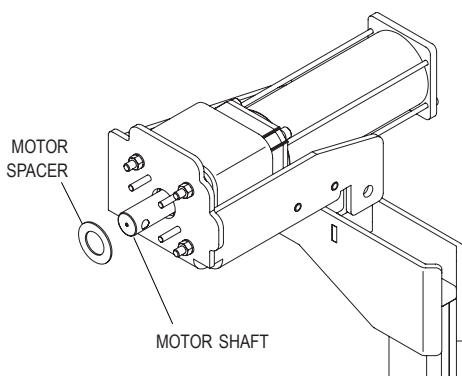


⚠ CAUTION

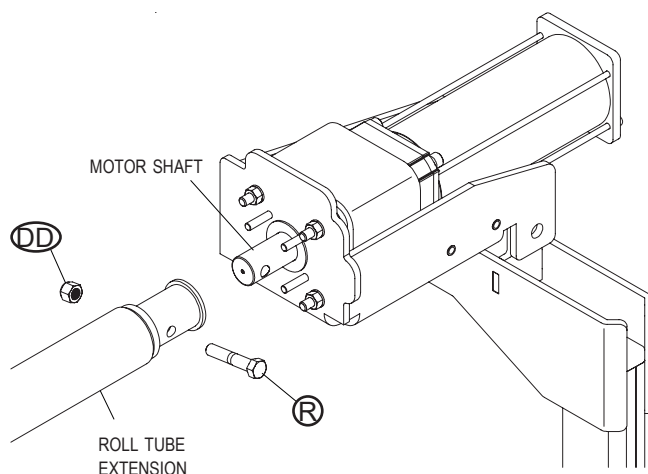
Avoid pinch points when sliding the roll tube extension over the motor shaft and during tightening. Keep hands and fingers clear of moving parts to prevent injury.

Fasten roll tube extension to motor mount bracket:

STEP 3A: Slide motor spacer over motor shaft.



STEP 3B: Slide roll tube extension over motor shaft. Fasten with screws (P) and lock nuts (DD). Finger tighten only.



STEP 4: Hold flex arm with motor and roll tube extension in vertical plane to trailer and 90° to roll tube. Mark roll tube at location to be cut.

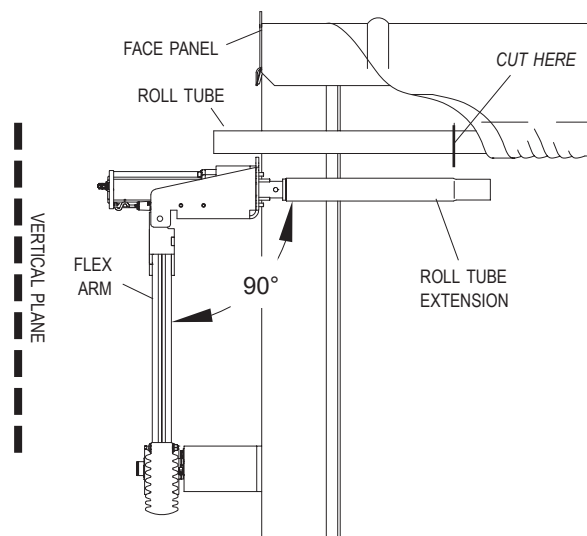
NOTICE: This installation requires two people for safe and efficient completion.



(x2)

⚠ CAUTION

On certain trailers, clearance lights may obstruct the roll tube and could be damaged if caution is not taken. A deflector may need to be installed to prevent the roll tube from damaging the lights.

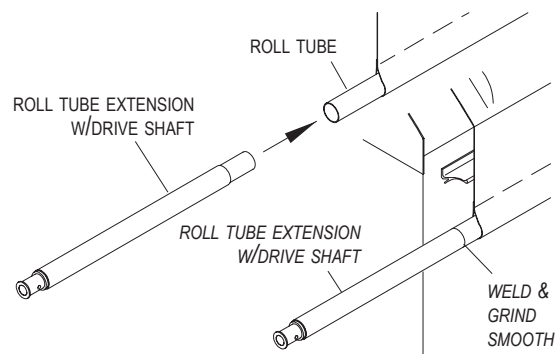


STEP 5: Reverse STEP 3B to unfasten and remove motor from roll tube extension. Remove roll tube extension from roll tube. Cut roll tube at marked location.

STEP 6: Insert swaged end of roll tube extension with drive shaft into roll tube. Align extension straight with roll tube and weld all around. Grind smooth.

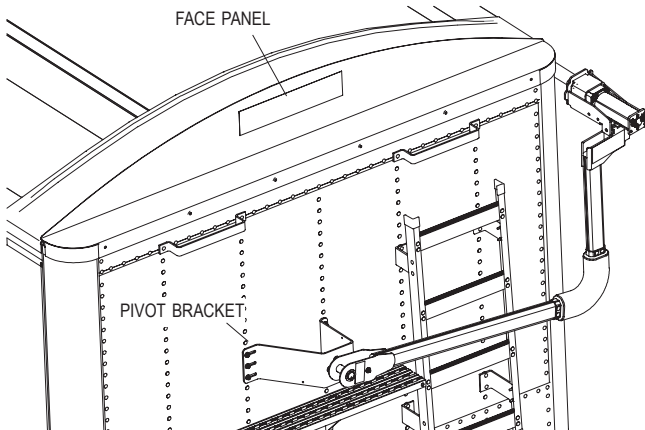
⚠ CAUTION

Pull the roll tube away from the tarp and trailer before welding to prevent weld spatter damage. Ensure the roll tube extension is aligned straight with the roll tube before welding to allow the tarp system to roll smoothly.



NOTICE: To prevent rust, paint all exposed metal, such as weld seams and/or metal exposed by grinding or cutting, with corrosion-resistant paint.

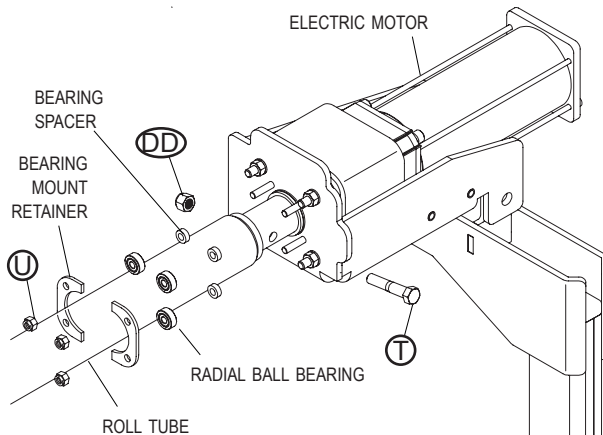
STEP 7: Slide roll tube/roll tube extension weldment back into position and align upper flex arm on front of trailer. Follow STEP 8 to install motor, positioning as shown below. Make sure torsion springs load when tarp opens.



⚠ WARNING

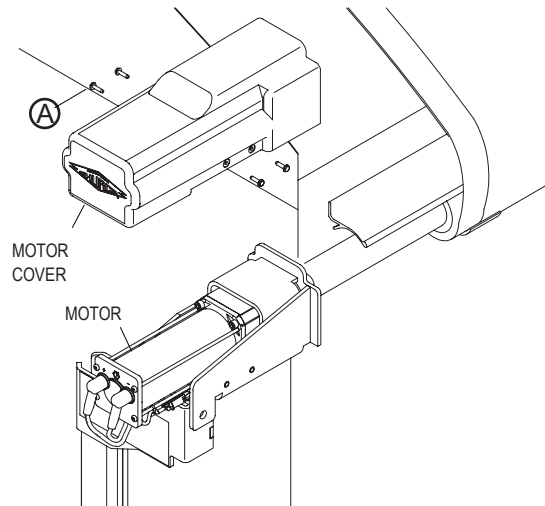
Flex arms are under tension while torsion springs are engaged. Use caution when assembling and disassembling arms. Failure to read and follow instructions may result in serious injury or death.

STEP 8: Refasten and secure roll tube to electric motor shaft with screw (R) and lock nut (DD). Install bearing spacers, radial ball bearings and bearing mount retainer and secure with lock nuts (U).



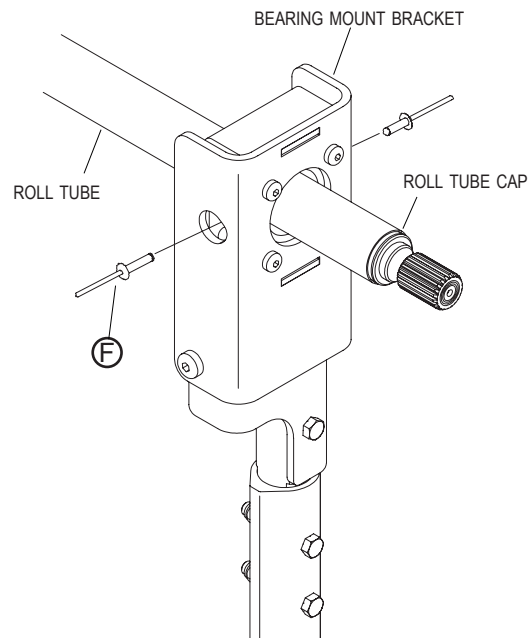
NOTICE: Verify again that the front arm is on a vertical plane and parallel to the face panel before proceeding. Make sure all fasteners holding the motor to the bearing mount plate are securely tightened.

STEP 9: Fasten motor cover onto motor with screws (A).

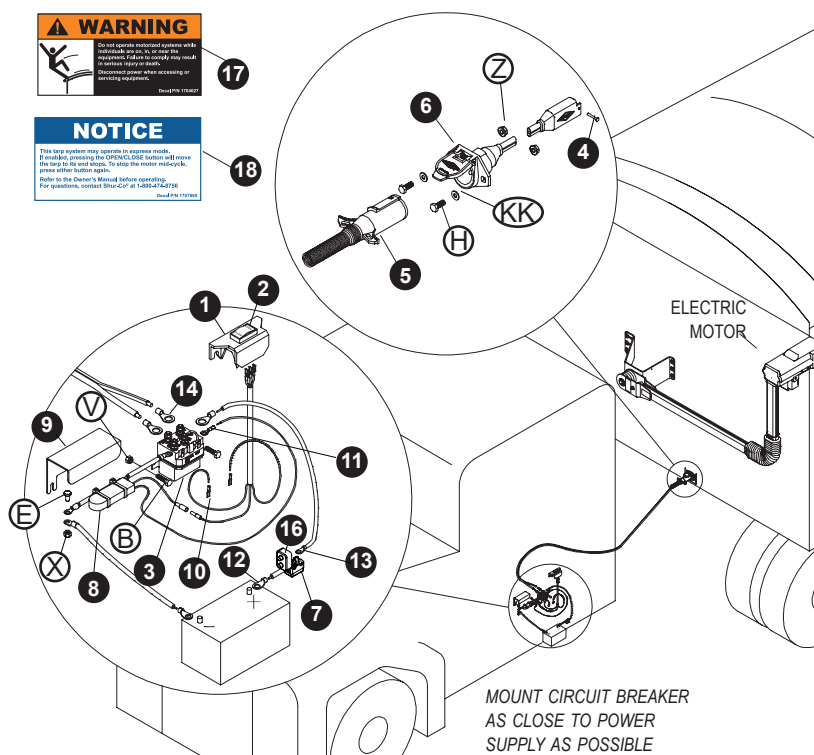


STEP 10: Adjust rear roll tube extension to align flex arm on vertical plane parallel to face panel. Do not drill holes and/or fasten until tarp and roll tube are in desired position.

STEP 11: When both front and rear flex arms are vertical, fasten two screws (F) into roll tube and roll tube cap.



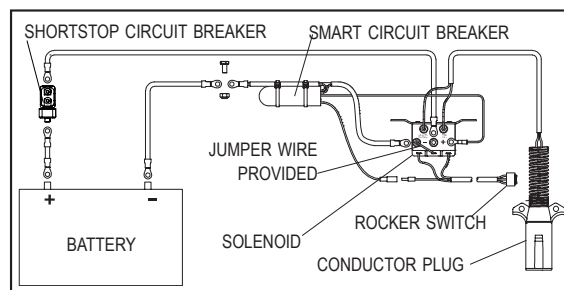
STEP 12: Re-fasten tarp to roll tube with existing U-clamps and screws. Tighten all fasteners securely. Tighten front and rear flex arm connections.



Item	Part #	Description
1.	1703661	Rocker Switch Mounting Bracket
2.	1116020	Rocker Switch
3.	1703845	Motor-Reversing Solenoid
4.	1704751	Harness Lock Pin - 1/4" x 7/8"
5.	1115385	Heavy-Duty Dual-Conductor Plug
6.	1120670	SMARTwire™ Dual-Conductor Socket
7.	1704354	40-Amp Reset Circuit Breaker - Shortstop
8.	1705624	50-Amp SMART Circuit Breaker
9.	1703896	Solenoid Cover
10.	1703659	Push-On Terminal - 14 Ga. 1/4"
11.	1704153	Ring Terminal - 14 Ga. x 1/4" Stud
12.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud
13.	1703245	Ring Terminal - 6 Ga. x #10 Stud
14.	1702707	Ring Terminal - 6 Ga. 1/4 Stud
15.	1704378	Dielectric Grease (not pictured)
16.	1704411	Circuit Breaker Boot - Red
17.	1704627	Motorized System Warning Decal
18.	1707865	Express Operation Decal
B.	1704905	Flanged Cap Screw - #10 x 1"
E.	1703959	Cap Screw - 1/4" x 3/4"
H.	1701045	Cap Screw - 5/16" x 3/4"
V.	1808844	Nylon Lock Nut - #10
X.	1701543	Nylon Lock Nut - 1/4"
Z.	1704946	Flanged Top Lock Nut - 5/16"
KK.	1700427	Flat Washer - 1/4"

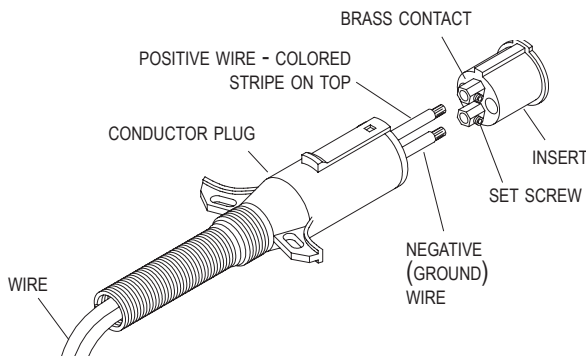
⚠ WARNING

When transporting trailer, wiring from in-cab rocker switch must be connected to 4500 HD system on trailer. If motor is not connected to power while in transit, tarp may unwind and blow off.



STEP 1: Mount solenoid in battery box or other location protected from elements and road debris. Solenoid posts should face up.

STEP 2: Assemble conductor plug. Unfasten screw and remove insert from plug housing. Feed 6-ga. dual wire through plug housing. Strip insulation back 1/2 inch and insert bare wire strands into brass contacts. Ensure there are no loose wire strands that could short circuit. Tighten set screws to secure wires. Replace insert into plug housing and secure screw.

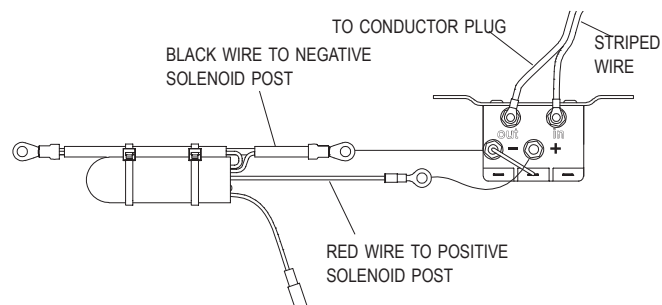


STEP 3: Route 6-ga. dual wire from conductor plug to solenoid and cut wire to length. Crimp and connect 1/4 inch ring-terminals to rear two solenoid posts. Striped wire should be connected to right rear post. Orient wires so shield can be mounted over solenoid later.

NOTICE: Cut wires to length and strip only enough wire insulation to install ring terminals. Insert bare wire into ring terminals and crimp securely.



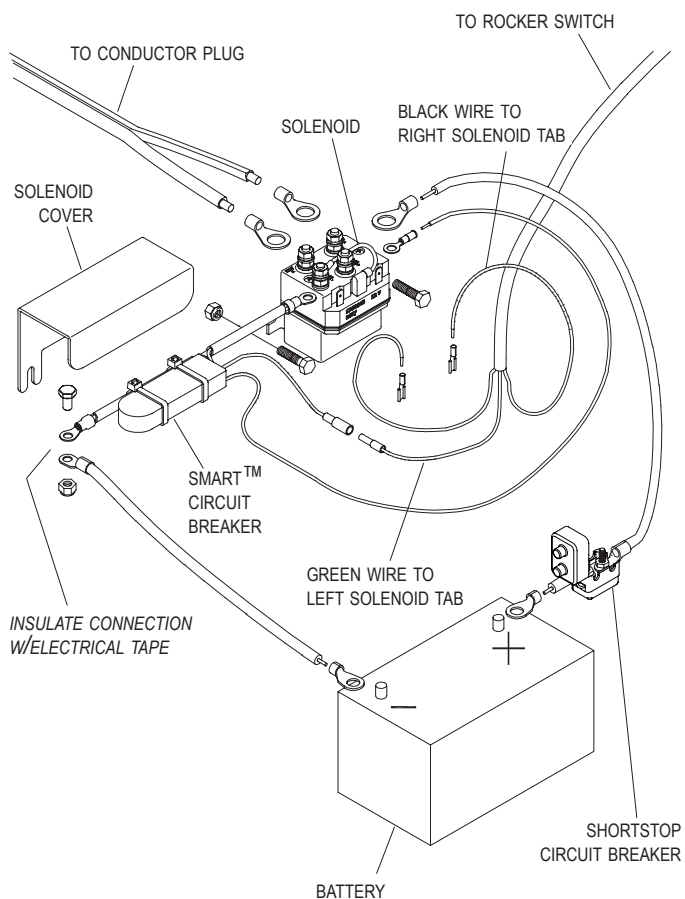
STEP 4: Connect SMART™ circuit breaker to solenoid.



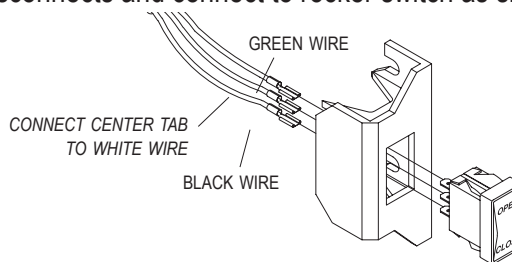
STEP 5: Connect SMART™ breaker to battery. Make jumper out of black 6-ga. wire (no stripe). Connect one end to battery negative post and bolt other ring-terminal to SMART™ breaker. Insulate bolted connection with electrical tape.

NOTICE: When splitting dual 6-ga. wire into separate halves to make jumper wires, use sharp knife to split webbing in order to prevent insulation from tearing and exposing metal strands.

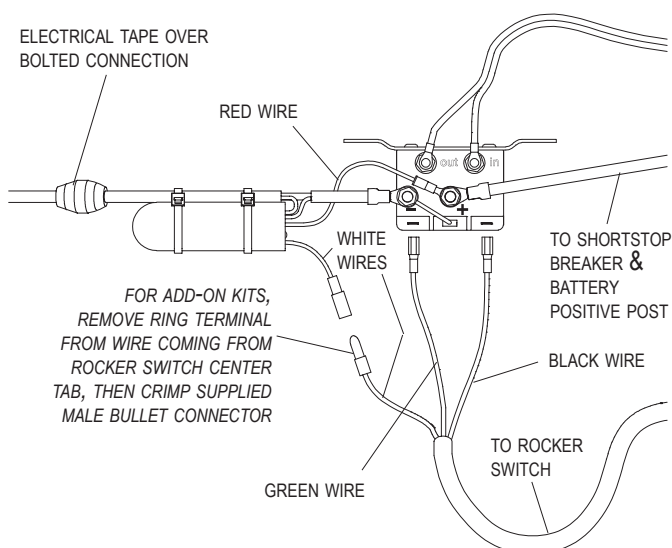
STEP 6: Push circuit breaker boot onto shortstop circuit breaker. Locate shortstop circuit breaker within 1 foot of battery positive post. Make jumper wires out of 6-ga. wire (with stripe) for connecting shortstop breaker between positive battery post and positive solenoid post. Connect breaker to positive solenoid post, but do not connect breaker to positive battery post at this time.



STEP 7: Mount rocker switch in cab in convenient location on dash panel or door jamb. Crimp female quick disconnects and connect to rocker switch as shown.

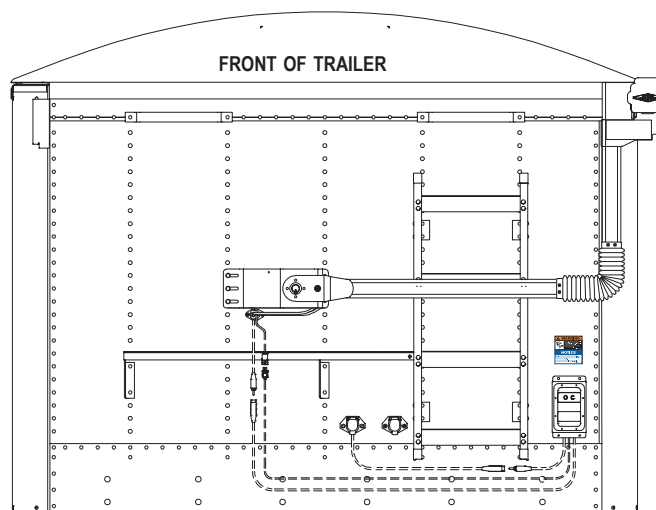


STEP 8: Route 14-ga. 3-conductor cable between rocker switch and solenoid.



STEP 9: Mount solenoid cover over solenoid and tighten fasteners.

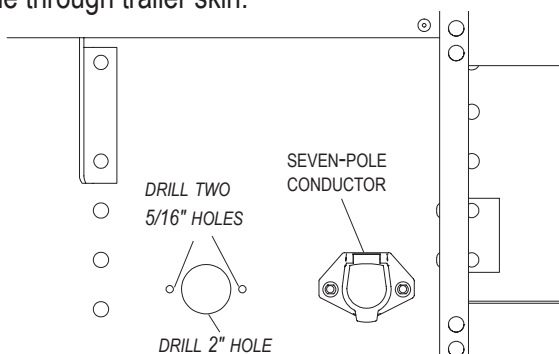
STEP 10: Connect shortstop breaker to battery positive post and test operation.



NOTICE: Wire lengths are predetermined. Before installing SMARTwire components, review and confirm wire routing so wires reach components with ample room for connection.

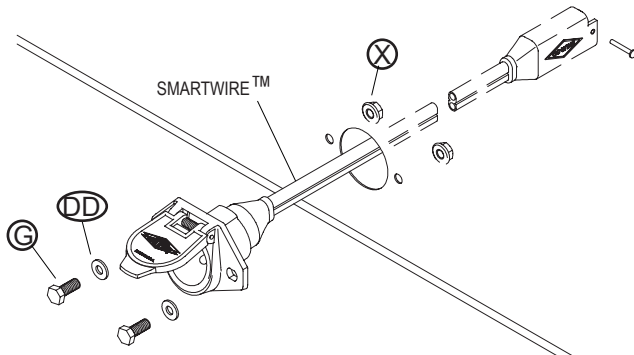
DUAL CONDUCTOR

STEP 11: Locate dual-pole conductor socket near 7-pole conductor socket as shown. Determine location and drill 2 inch hole through trailer skin.



STEP 12: Align socket over 2 inch hole. Using holes in flanges on socket as guide, mark and drill two 5/16 inch holes.

STEP 13: Fasten conductor socket to trailer with screws (G), flat washers (DD) and nuts (X).

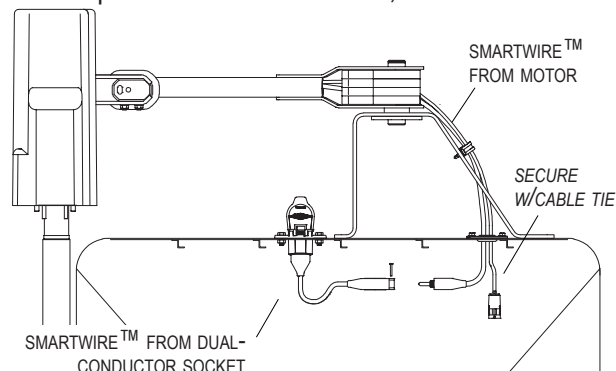


CAUTION

- Do not cut molded SMARTwire™ ends. Molded SMARTwire ends are designed with sealed connections to prevent corrosion; cutting the wire may lead to operational problems.
- Only the loose (unmolded) wire end may be cut.
- Bind excess wire with cable ties to prevent loose wire entanglement.

NOTICE: Coat all connections, including the conductor plug terminals, with dielectric grease to prevent corrosion.

STEP 14: Connect SMARTwire™ from electric motor to SMARTwire™ from dual-conductor socket. Coat each connection with dielectric grease and secure connection with lock pin. Secure all wires to trailer with cable clips and screws. If needed, use cable ties.

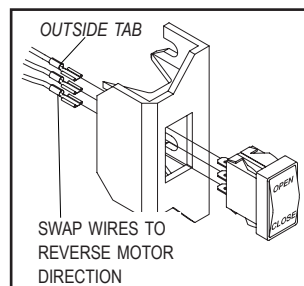


CAUTION

Ensure all hardware is secure before operating the system. Inspect the complete system at this time and make adjustments as required.

OPERATION:

A) Check motor direction by activating switch to OPEN. If switch is running system backwards, change wire leads the two outside tabs on the rocker switch



B) Close tarp: Push switch to CLOSE and hold.

Observe tarp and release switch when tarp is fully closed.

C) Open tarp: Push switch to OPEN and hold. Observe tarp and release switch when tarp is fully open.

NOTICE: Release switch at end of cycle or modified-reset circuit breaker will trip. After breaker resets, switch will activate motor again. To reduce unnecessary strain on tarp components, release switch at end of each cycle.

STEP 13: Identify a clean, dry surface area that is visible from the tarp system controls. Remove the backing from the warning decal (17) and notice decal (18). Apply them to the identified surface. Regularly inspect all safety decals for wear and adherence, and replace if necessary.



17



18

Item	Part #	Description
1.		ShurLink™ Receiver
2.	1115385	Heavy-Duty Dual-Conductor Plug
3.	1120670	SMARTwire™ Dual-Conductor Socket
4.	1703282	Rubber Grommet - 1-1/4" Insert
5.	1702108	Wire Clip - 3/4"
6.	1704354	40-Amp Modified-Reset Circuit Breaker
7.	1704378	Dielectric Grease (not pictured)
8.	1704411	Circuit Breaker Boot -Red
9.	1704627	Motorized System Warning Decal
10.	1707865	Express Operation Decal
E.	1704338	Self-Tapping Screw - 1/4" x 1"
G.	1701045	Cap Screw - 5/16" x 3/4"
H.	1702926	Cap Screw - 5/16" x 7/8"
X.	1704946	Flanged Top Lock Nut - 5/16"
AA.	1700419	Lock Nut - 5/16"
HH.	1700427	Flat Washer - 1/4"
KK.	1700428	Flat Washer - 5/16"

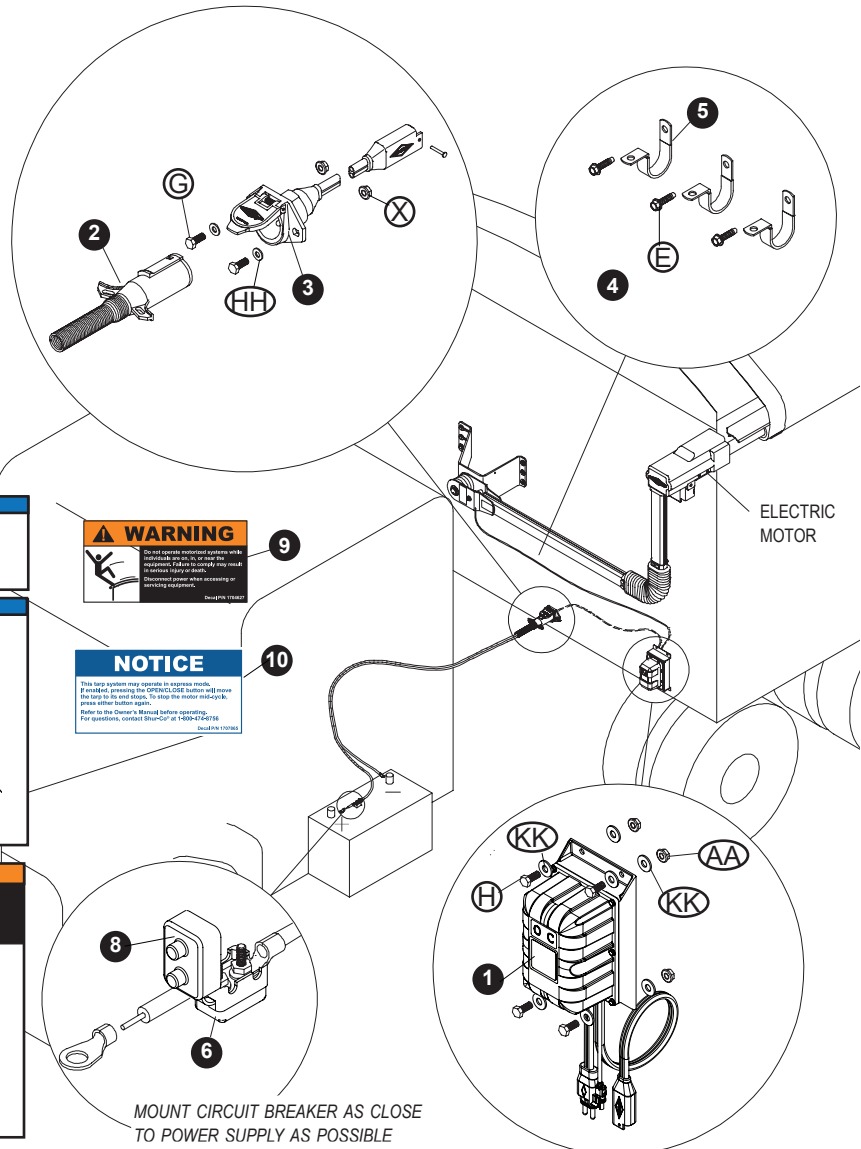
NOTICE: Only one electric tarp system can be hooked up at a time.

NOTICE: Cut wires to length and strip only enough wire insulation to install ring terminals. Insert bare wire into ring terminals and crimp securely.



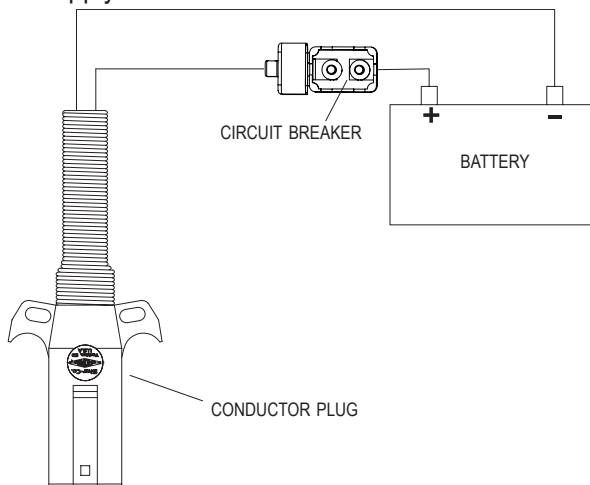
WARNING

Do not power any Shur-Co wireless system using a battery charger alone, as this may cause system abnormalities and malfunctions. Use a charged 12-volt vehicle battery to power the trailer instead.

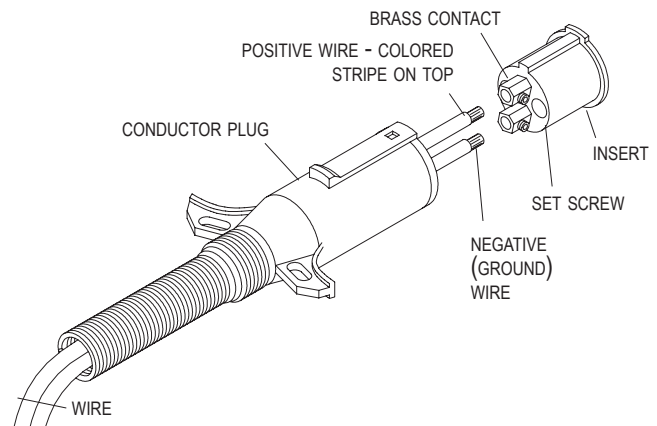


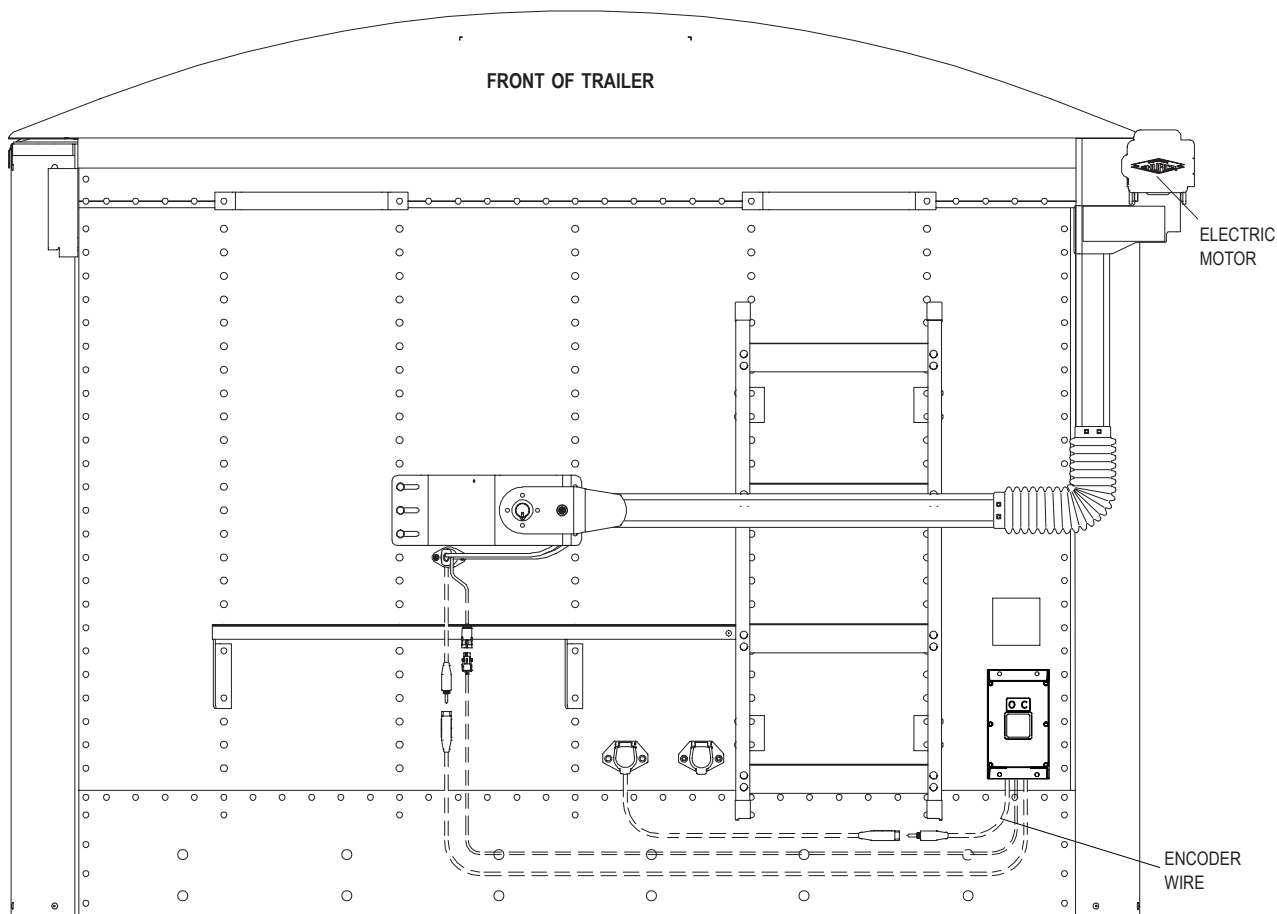
MOUNT CIRCUIT BREAKER AS CLOSE TO POWER SUPPLY AS POSSIBLE

STEP 1: Push circuit breaker boot onto circuit breaker. Mount circuit breaker as close as possible to battery or power supply.



STEP 2: Unfasten and remove insert from conductor plug. Feed 6-ga. wire through plug and into brass contacts on insert. Tighten set screws to secure wires. Replace insert into conductor plug and secure screw.

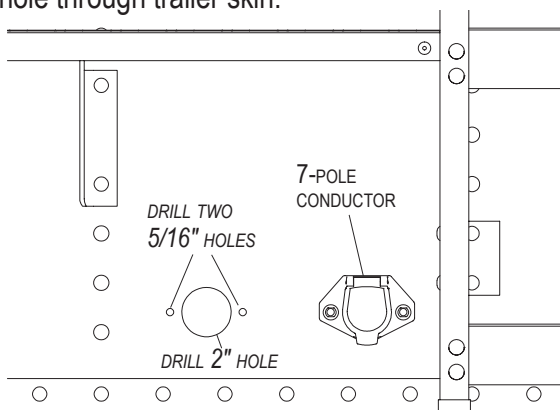




NOTICE: Wire lengths are predetermined. Before installing SMARTwire components, review and confirm wire routing so wires reach components with ample room for connection.

DUAL-CONDUCTOR SOCKET

STEP 1: Locate dual-pole conductor socket near 7-pole conductor socket as shown. Determine location and drill 2 inch hole through trailer skin.

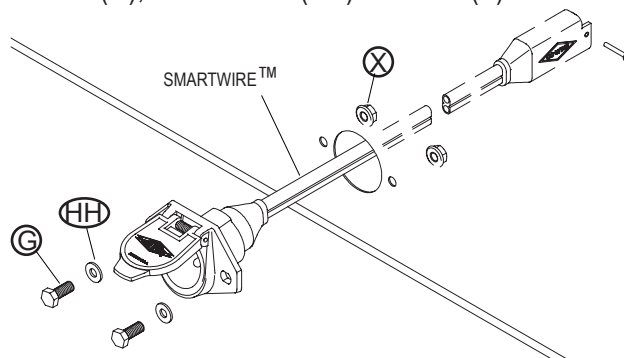


⚠ CAUTION

- Do not cut molded SMARTwire™ ends. Molded SMARTwire ends are designed with sealed connections to prevent corrosion; cutting the wire may lead to operational problems.
- Only the loose (unmolded) wire end may be cut.
- Bind excess wire with cable ties to prevent loose wire entanglement.

STEP 2: Align socket over 2 inch hole. Using holes in flanges on socket as guide, mark and drill two 5/16 inch holes.

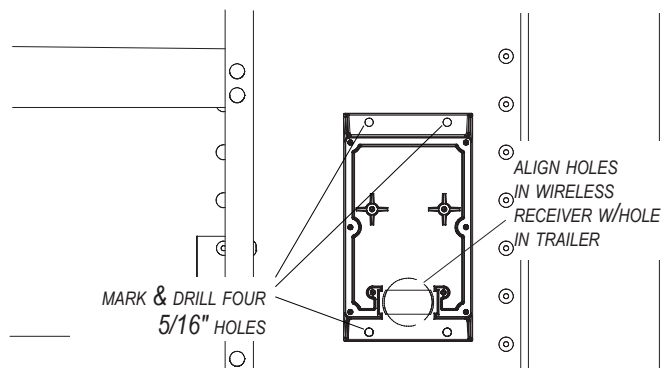
STEP 3: Fasten conductor socket to trailer with cap screws (G), flat washers (HH) and nuts (X).



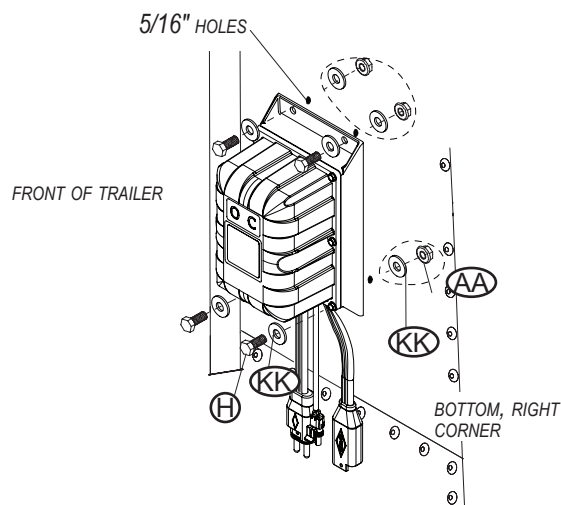
RECEIVER

STEP 4: Determine location for the receiver on the front corner of the trailer. Using holes in flanges on receiver base as guide, mark and drill four 5/16 inch holes as shown.

NOTICE: In order to clear travel area of front arm, locate the receiver as low as possible on the front of the trailer.

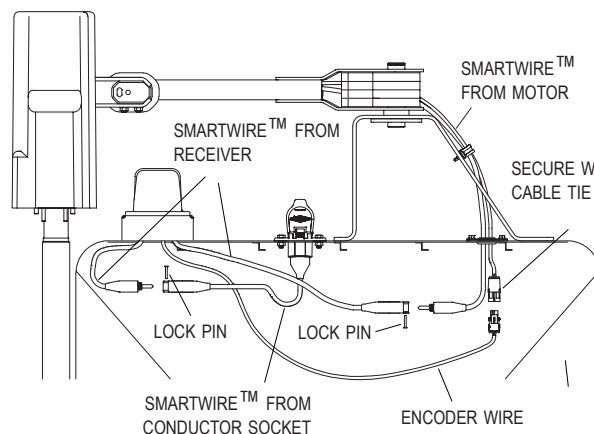


STEP 5: Align holes on receiver with holes on trailer. Fasten receiver to trailer with screws (H), lock washers and nylon lock nuts.



NOTICE: Coat all connections, including the conductor plug terminals, with dielectric grease to prevent corrosion.

STEP 6: Connect SMARTwire™ from receiver to SMARTwire™ from electric motor. Connect SMARTwire™ plug from receiver to SMARTwire™ from dual-conductor socket. Coat each connection with dielectric grease and secure connection with lock pin. If you have a ShurLink™ system, connect encoder wire from receiver to encoder wire from motor. Secure wires to trailer with cable clips and screws. If needed, use cable ties.



CAUTION

Ensure all hardware is secure before operating the system. Inspect the complete system at this time and make adjustments as required.

STEP 7: Identify a clean, dry surface area near the receiver. Remove the backing from the warning decal (9) and notice decal (10). Apply them to the identified surface. Regularly inspect all safety decals for wear and adherence, and replace if necessary.

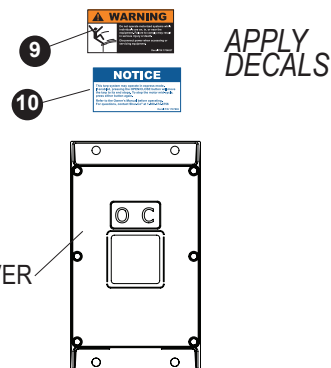


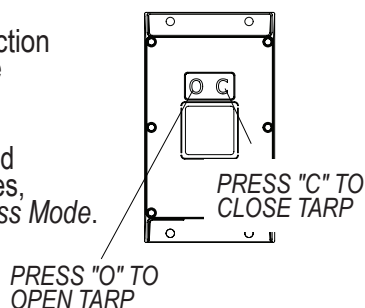
IMAGE 157

EXPRESS MODE

- **Express Mode:** The tarp system automatically enters Express Mode when operated using the buttons on the trailer-mounted receiver box or through the Shurlink™ remote system. In this mode, pressing the O (open) or C (close) button initiates an express operation to open or close the tarp. This operation will continue until either button is pressed again to stop, or it will automatically conclude once the tarp reaches the end of its travel.

TEST OPERATION

- Check the motor direction by pressing either the Open or Close button on the receiver.
- If the button is released and operation continues, the system is in *Express Mode*. To stop operation, press button again.



CHANGE MOTOR DIRECTION

If the open/close buttons are running the system backwards, download the app to change motor direction.

Follow QR code for Shurlink™ App Product Support



NOTICE: Receiver may be pressure washed, but keep nozzle at least 3 feet from system while spraying.

⚠ WARNING

Do not operate motorized systems while individuals are on, in, or near the equipment. Failure to comply may result in serious injury or death. Disconnect power when accessing or servicing equipment.

⚠ WARNING



**FLEX ARM
UNDER
SPRING
TENSION**

Read manual thoroughly before assembling or disassembling flex arm.

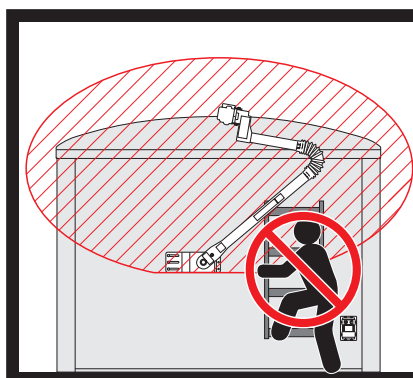
Failure to do so may result in serious injury or death.

Find Owner's Manual at:
www.shurco.com

Decal P/N 1703897

⚠ WARNING

Do not stand or climb on the flex arm. Doing so may result in a fall or impact, causing serious injury or death.



⚠ WARNING

Stay clear of the roll tarp and arm(s) sweep area, from front-to-back, during operation. Failure to do so may result in a fall/impact causing serious injury or death. For repair/-service of equipment, reference manual for proper safety precautions before proceeding.

⚠ WARNING

Flex arms are under tension while torsion springs are engaged. Use caution when assembling and disassembling arms. Failure to read and follow instructions may result in serious injury or death.

NOTICE: Store the hand crank arm in the truck or mount it to the trailer. (Example - above kingpin, near the apex.)

Perform following steps to convert 4500 Series HD Electric to manual crank operation.

STEP 1: DISCONNECT POWER

Disconnect power from the front of the trailer.

STEP 2: REMOVE END CAP

On the rear end of the trailer, remove the protective cap from the roll tube.

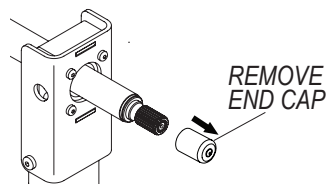


IMAGE 169

STEP 3: ATTACH HAND CRANK

Place splined U-joint onto splined shaft. Secure with wire lock pin.

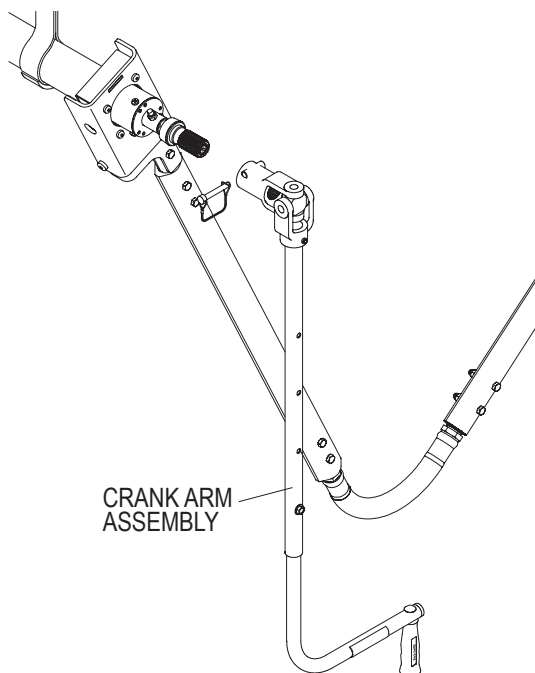
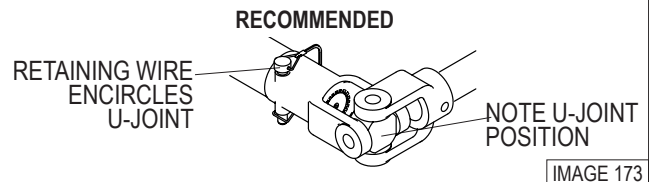


IMAGE 172

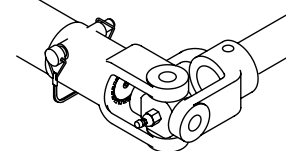
⚠ WARNING

Do not open or close the tarp unless the U-joint is securely fastened to the splined shaft with the wire lock pin. Failure to do so could result in severe injury or death.

NOTICE: The U-joint is designed to operate as shown in Image 173 and is able to withstand considerably more pressure in this position.

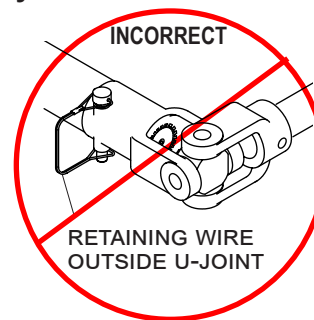


NOT RECOMMENDED



⚠ WARNING

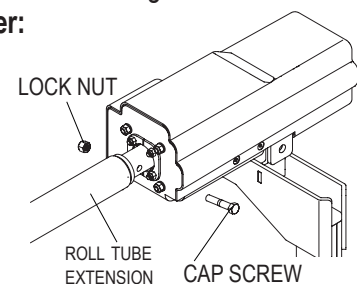
Ensure the retaining wire encircles the U-joint to prevent the wiring from catching during operation. Failure to do so could cause severe injury or death.



STEP 4: DISCONNECT MOTOR

At the Rear of the Trailer: Hold the crank handle to prevent the arms from rotating the roll tube.

At the Front of the Trailer: Have a second person remove the screw and nut from the motor shaft and roll tube extension.

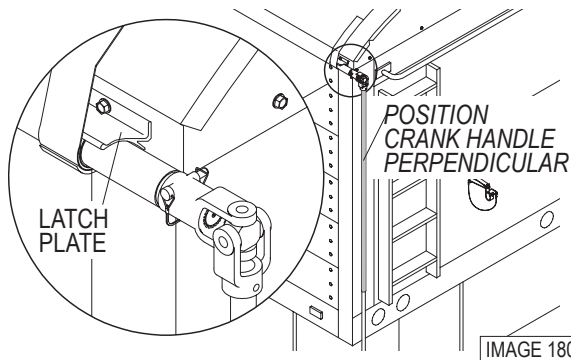


OPERATING INSTRUCTIONS

Use the crank arm assembly mounted at the rear of the trailer to manually open and close the tarp system until electrical system issues can be resolved. See the Shur-Lok® owner's manual for proper safety procedures at www.shurco.com.

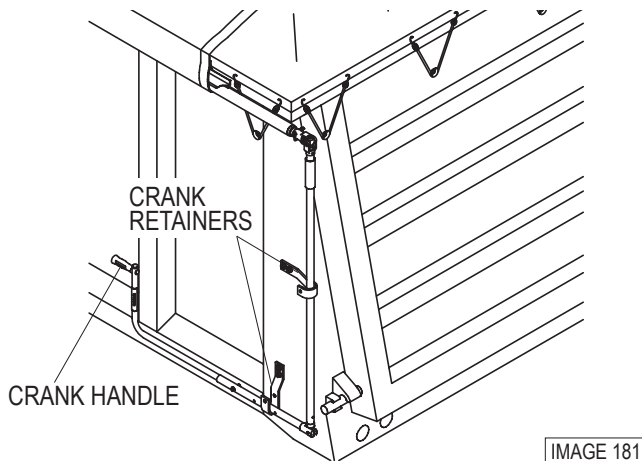
STEP 1:

Hold the crank firmly with both hands and roll the tarp closed under the latchplate. Bring the crank handle down perpendicular to the ground.



STEP 2:

Tighten the tarp by pushing the crank handle up into the crank retainers.



STEP 3:

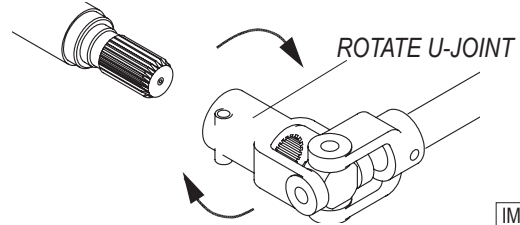
Check the tarp tension. It should take 40 to 60 pounds of pressure to force the crank handle into the crank retainer. The crank extension will bend 1/8 inch.

⚠ WARNING

Do not open or close the tarp unless the U-joint is securely fastened to the splined shaft with the wire lock pin. Failure to do so could result in severe injury or death.

STEP 4:

If required, adjust the tension by removing the U-joint from the splined shaft, rotating the U-joint tooth, and replacing it on the splined shaft.

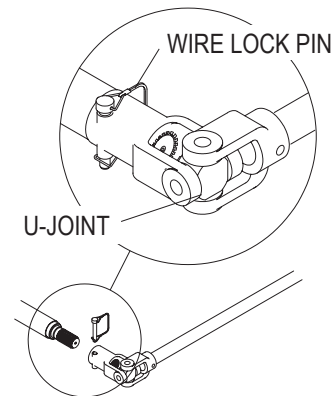


STEP 5:

Repeat Step 3 and Step 4 until the correct tension is achieved.

STEP 6:

Secure the U-joint to the splined shaft with the wire lock pin.



To uncover load:

1. Release the crank from the crank retainer.
2. Turn the crank clockwise (counter-clockwise for reverse roll) until the tarp has rolled up against the tarp stops.
3. Place the crank back into the crank retainer.

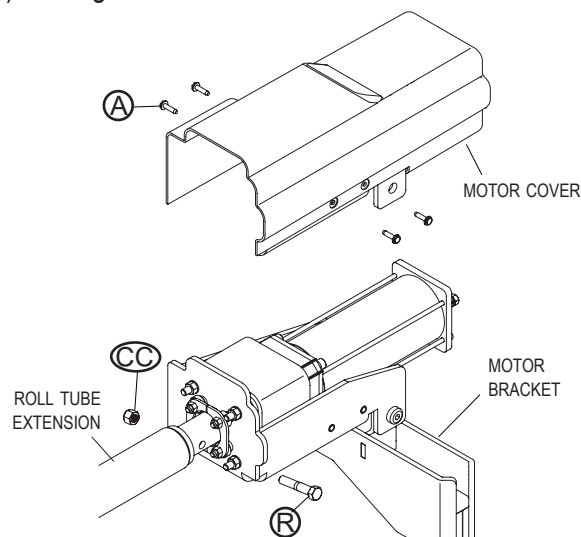
To cover load:

1. Release the crank from the crank retainer.
2. Turn the crank counter-clockwise (clockwise for reverse roll) until the tarp is unrolled over the edge of the trailer.
3. Continue cranking to roll the tarp up under the latchplate.
4. Bring the crank arm down to a vertical position.
5. Swing the crank arm up and place it into the crank retainer.

REMOVE EXISTING MOTOR

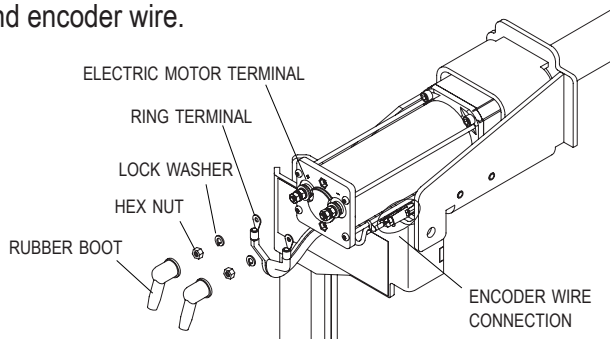
STEP 1: Close tarp, letting roll tube hang loose under latchplate.

STEP 2: Disconnect electric power to trailer. Unfasten and remove motor cover. Unfasten screw (R) and lock nut (CC) holding motor shaft to roll tube extension.

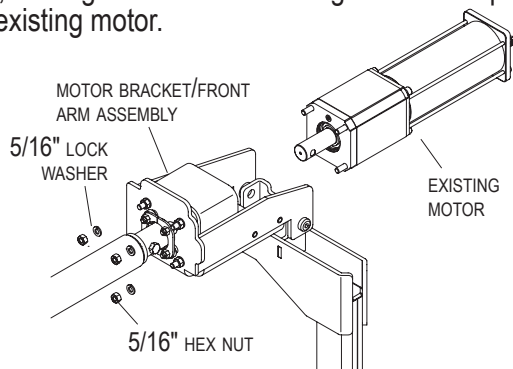


NOTICE: Leave roll tube fastened to motor bracket.

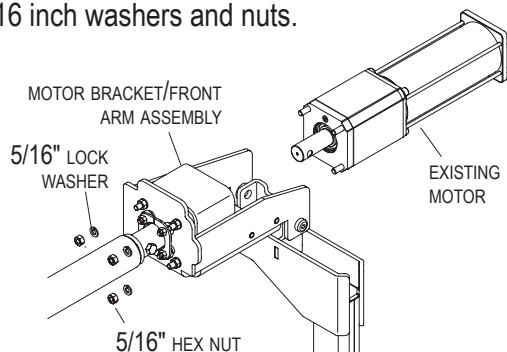
STEP 3: Disconnect electric wires from motor terminals and encoder wire.



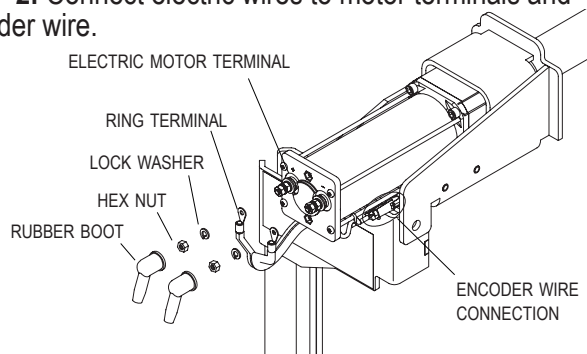
STEP 4: Unfasten and remove only 5/16 inch lock washers and hex nuts holding motor to motor bracket/front arm assembly, leaving motor mount bearing retainers in place. Remove existing motor.

**INSTALL NEW MOTOR**

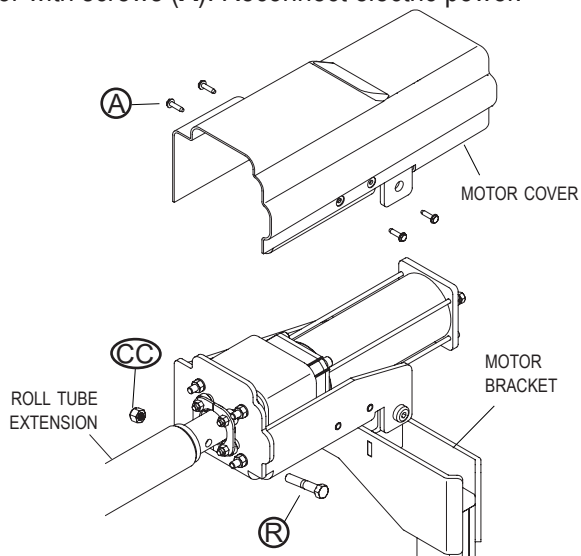
STEP 1: Install new motor. Fasten motor to motor bracket with 5/16 inch washers and nuts.



STEP 2: Connect electric wires to motor terminals and encoder wire.



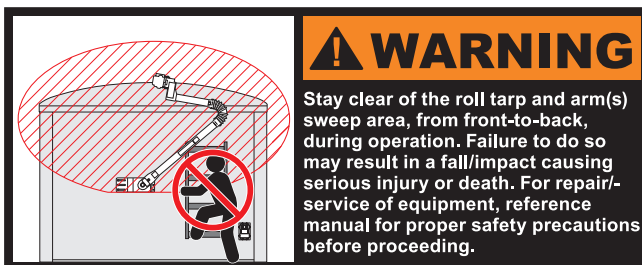
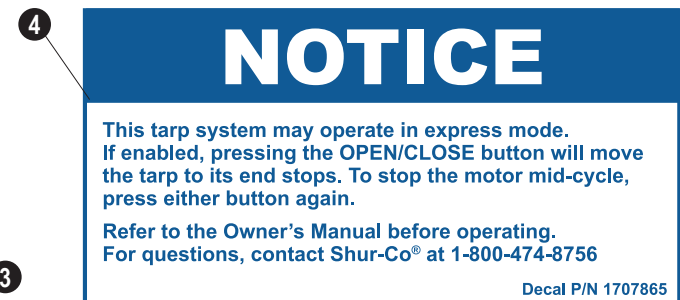
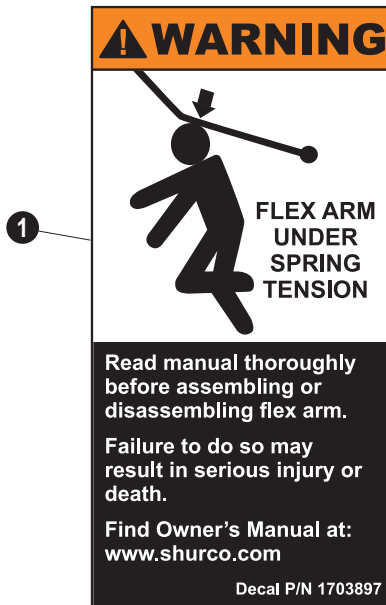
STEP 3: Fasten motor shaft to roll tube with screw (R) and lock nut (CC). Replace motor cover and fasten to motor with screws (A). Reconnect electric power.

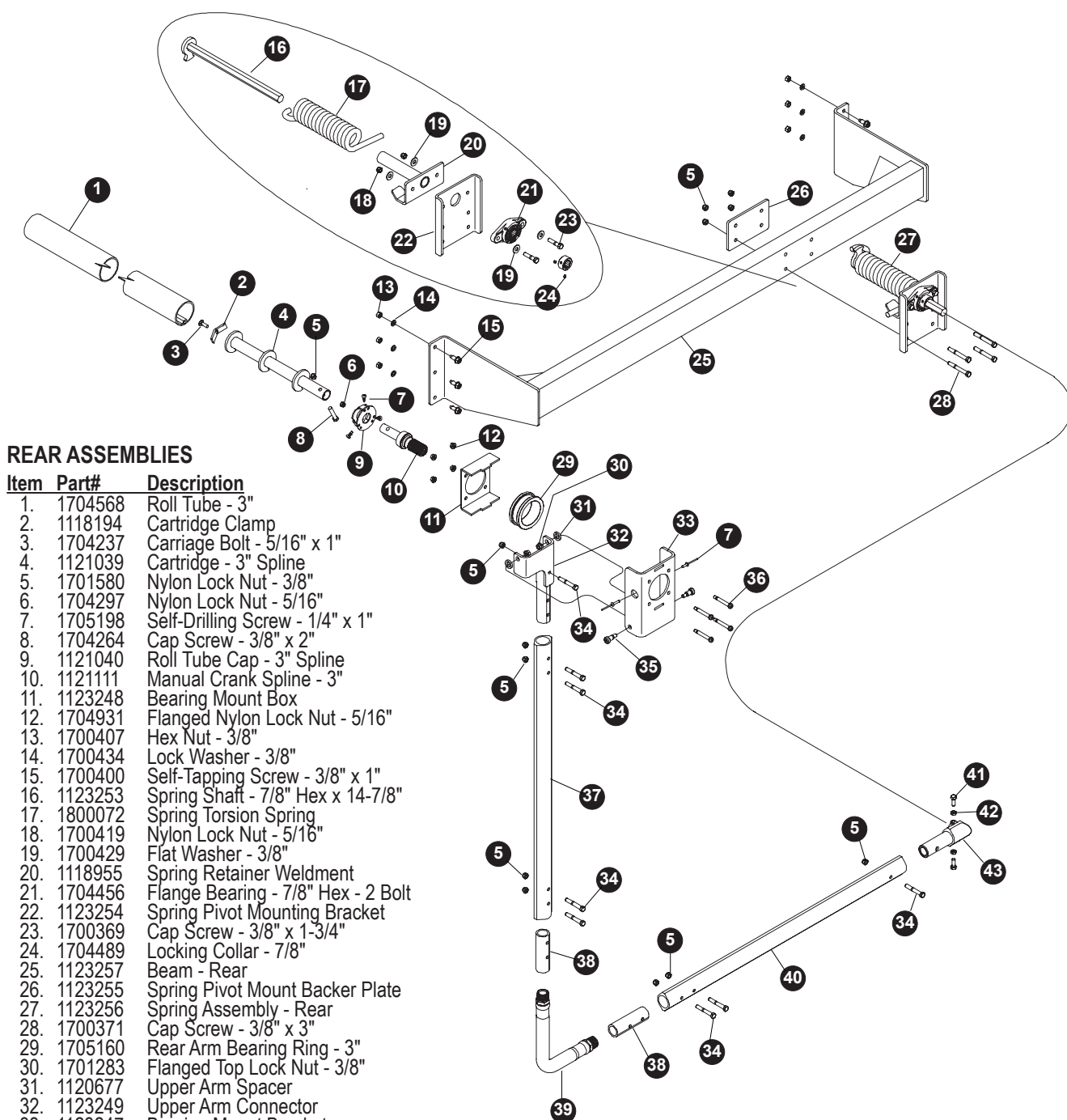
**CAUTION**

Ensure all hardware is secure before operating the system. Inspect the complete system at this time and make adjustments as required.

Decals

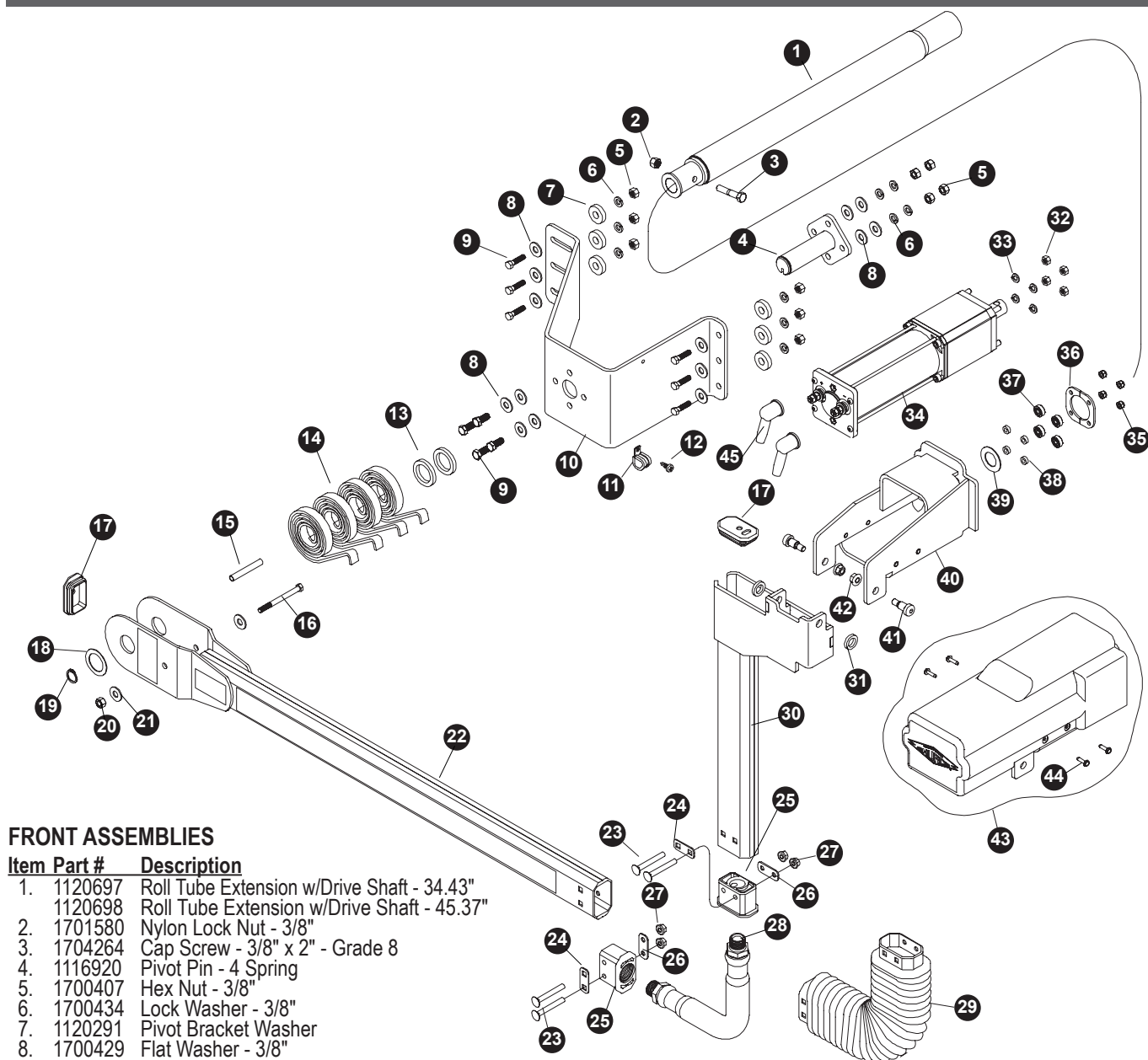
Item	Part #	Description
1.	1703897	Flex Arm Tension Warning Decal
2.	1704627	Motorized System Warning Decal
3.	1707862	Flex Arm Step Warning Decal
4.	1707865	Express Operation Decal





REAR ASSEMBLIES

Item	Part#	Description
1.	1704568	Roll Tube - 3"
2.	1118194	Cartridge Clamp
3.	1704237	Carriage Bolt - 5/16" x 1"
4.	1121039	Cartridge - 3" Spline
5.	1701580	Nylon Lock Nut - 3/8"
6.	1704297	Nylon Lock Nut - 5/16"
7.	1705198	Self-Drilling Screw - 1/4" x 1"
8.	1704264	Cap Screw - 3/8" x 2"
9.	1121040	Roll Tube Cap - 3" Spline
10.	1121111	Manual Crank Spline - 3"
11.	1123248	Bearing Mount Box
12.	1704931	Flanged Nylon Lock Nut - 5/16"
13.	1700407	Hex Nut - 3/8"
14.	1700434	Lock Washer - 3/8"
15.	1700400	Self-Tapping Screw - 3/8" x 1"
16.	1123253	Spring Shaft - 7/8" Hex x 14-7/8"
17.	1800072	Spring Torsion Spring
18.	1700419	Nylon Lock Nut - 5/16"
19.	1700429	Flat Washer - 3/8"
20.	1118955	Spring Retainer Weldment
21.	1704456	Flange Bearing - 7/8" Hex - 2 Bolt
22.	1123254	Spring Pivot Mounting Bracket
23.	1700369	Cap Screw - 3/8" x 1-3/4"
24.	1704489	Locking Collar - 7/8"
25.	1123257	Beam - Rear
26.	1123255	Spring Pivot Mount Backer Plate
27.	1123256	Spring Assembly - Rear
28.	1700371	Cap Screw - 3/8" x 3"
29.	1705160	Rear Arm Bearing Ring - 3"
30.	1701283	Flanged Top Lock Nut - 3/8"
31.	1120677	Upper Arm Spacer
32.	1123249	Upper Arm Connector
33.	1123247	Bearing Mount Bracket
34.	1702573	Cap Screw - 3/8" x 2-1/2"
35.	1704778	Shoulder Bolt - 1/2" x 5/8" - 3/8" x 1/2" Thread
36.	1704943	Shoulder Bolt - 3/8" x 2" - 5/16" x 1/2" Thread
37.	1123244	Upper Flex Arm
38.	1123245	Flex Arm Joint Connector
39.	1704048	Flex Arm Joint
40.	1123246	Lower Flex Arm
41.	1701061	Cap Screw - 3/8" x 1"
42.	1701062	Hex Nut - 3/8"
43.	1704471	Spring Pivot Connector Hex Shaft



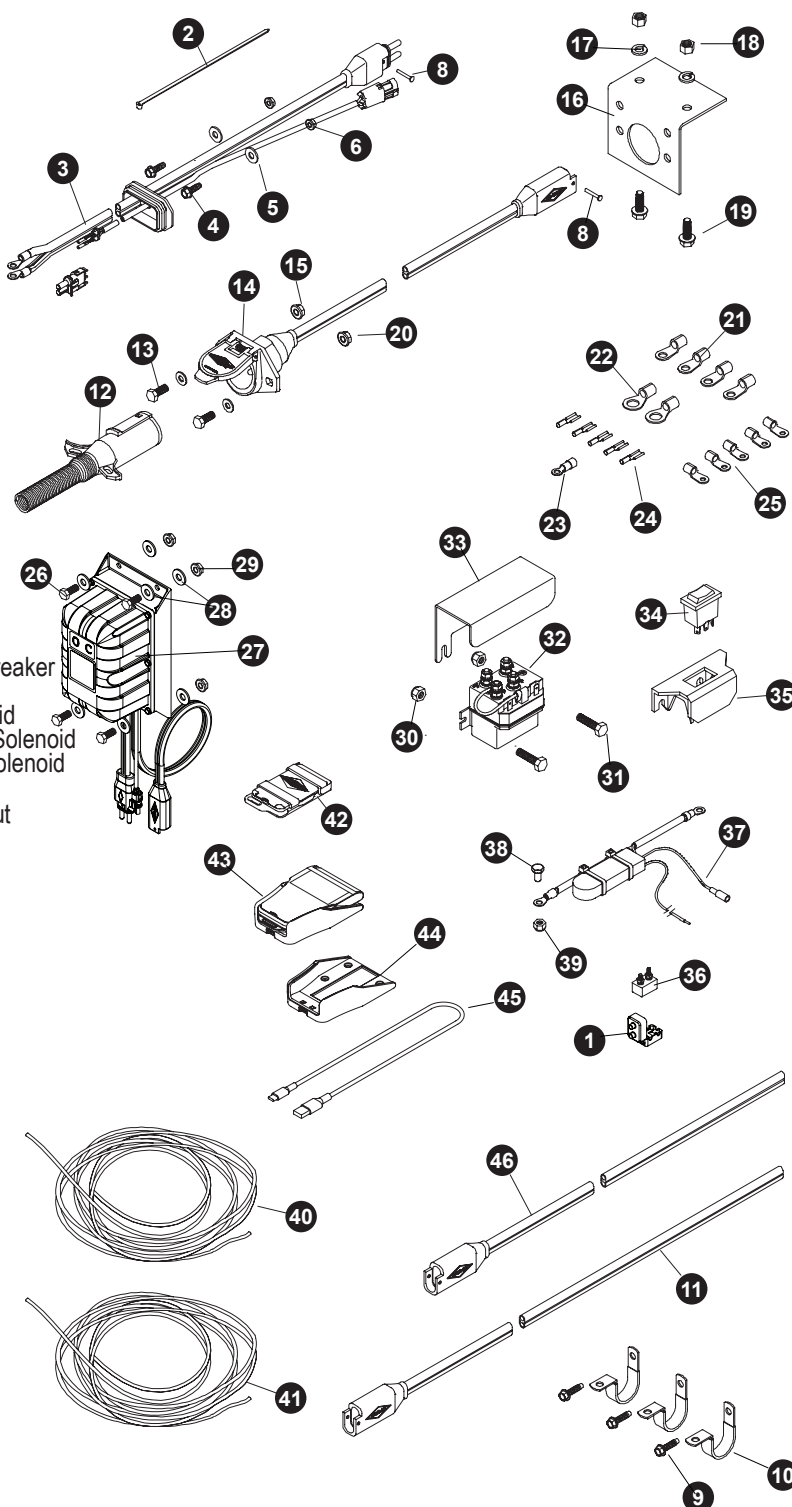
FRONT ASSEMBLIES

Item	Part #	Description
1.	1120697	Roll Tube Extension w/Drive Shaft - 34.43"
	1120698	Roll Tube Extension w/Drive Shaft - 45.37"
2.	1701580	Nylon Lock Nut - 3/8"
3.	1704264	Cap Screw - 3/8" x 2" - Grade 8
4.	1116920	Pivot Pin - 4 Spring
5.	1700407	Hex Nut - 3/8"
6.	1700434	Lock Washer - 3/8"
7.	1120291	Pivot Bracket Washer
8.	1700429	Flat Washer - 3/8"
9.	1702891	Cap Screw - 3/8" x 1-1/4"
10.	1121578	Pivot Mt. Bracket - Vertical - 9-1/4" Standoff
	1121582	Pivot Mt. Bracket - Vertical - 7-1/4" Standoff
11.	1702108	Wire Clip - 3/4" ID
12.	1700398	Self-Drilling Screw - 1/4" x 3/4"
13.	1118318	Spacer Washer - 1/4" x 1.81" OD x 1.28"
14.	1111027	Spiral Torsion Spring
15.	1117033	Spacer Tube - .35" x 2-5/8"
16.	1201022	Cap Screw - 5/16" x 3-1/2"
17.	1704893	Cap Plug w/Hole
18.	1702890	Flat Washer - 1-1/4"
19.	1702888	External Retaining Ring - 1-1/4"
20.	1700419	Nylon Lock Nut - 5/16"
21.	1700428	Flat Washer - 5/16"
22.	1121617	Lower Flex Arm w/Warning Decals (Includes items 15; 16; 20; 21; 22)
23.	1701455	Carriage Bolt - 5/16" x 2-1/2"
24.	1121414	Bellow Plate - Square Holes
25.	1704891	End Fitting - 4500 Series HD
26.	1121413	Bellow Plate - Round Holes
27.	1704931	Flanged Nylon Lock Nut - 5/16"

Item	Part #	Description
28.	1706825	Flex Arm Joint
29.	1704775	4500 Series HD Bellow
30.	1121289	Upper Flex Arm - Motor
31.	1120677	Upper Arm Spacer
32.	1700411	Hex Nut - 5/16"
33.	1700433	Lock Washer - 5/16"
34.	1120967	4500 Series HD Electric Motor
35.	1701543	Nylon Lock Nut - 1/4"
36.	1128243	Motor Mount Bearing Retainer
37.	1704736	Radial Ball Bearing - 1/4" x 3/4"
38.	1120680	Motor Mount Bearing Spacer
39.	1120679	Motor Spacer
40.	1120776	4500 Series HD Motor Mount - 7-1/4"
	1120662	4500 Series HD Motor Mount - Standard
41.	1704778	Shoulder Bolt - 1/2" x 5/8" - 3/8" x 1/2" Thd.
42.	1701283	Flanged Top Lock Nut - 3/8"
43.	1121659	4500 Series HD Motor Cover Kit - Black
44.	1704367	Hex Flange Cap Screw - #10 x 3/4"
45.	1704330	Rubber Boot

ELECTRIC COMPONENTS

Item	Part #	Description
	1116473	Cab Wiring Kit - Rocker Switch
	1119643	Cab Wiring Kit - Remote - 30'
	1116930	Trailer Wiring Kit - Rocker Switch
	1118368	Electric Parts Kit w/Rocker Switch - 40-Amp Mod.
	1119366	Junction Box Kit - Unassembled 6 Hole
1.	1704411	Circuit Breaker Boot - Red
2.	1703231	Cable Tie - 8"
3.	1704987	SMARTwire™ - 6 Ga. - 1/4" Terminal x10'-9"
4.	1700403	Self-Tapping Screw - 1/4" x 3/4"
5.	1700427	Flat Washer - 1/4"
6.	1706399	Top Lock Flanged Nut - 1/4"
8.	1704751	Harness Lock Pin - 1/4" x 7/8"
9.	1704338	Self-Tapping Screw - 1/4" x 1"
10.	1702108	Wire Clip - 3/4"
11.	1704989	SMARTwire™ - 4 Ga. x 90' - Socket
12.	1115385	Heavy-Duty Dual-Conductor Plug
13.	1701045	Cap Screw - 5/16" x 3/4"
14.	1119557	Heavy-Duty Dual-Conductor Socket
15.	1704573	Conductor Socket Sealing Boot
16.	1109015	Mounting Bracket
17.	1700434	Lock Washer - 3/8"
18.	1700407	Hex Nut - 3/8"
19.	1700400	Self-Tapping Screw - 3/8" x 1"
20.	1700411	Hex Nut - 5/16"
21.	1703245	Ring Terminal - 6 Ga. x #10 Stud - Motor/Breaker
22.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud - Battery
23.	1704153	Ring Terminal - 14 Ga. x 1/4" Stud - Solenoid
24.	1703659	Push-On Terminal - 14 Ga. x 1/4" - Switch/Solenoid
25.	1702707	Ring Terminal - 6 Ga. x 1/4" Stud - Motor/Solenoid
26.	1702926	Cap Screw - 5/16" x 7/8"
27.	1131586	ShurLink™ Receiver Non-Exp - Bottom Output
	1131572	ShurLink™ Receiver Exp - Bottom Output
28.	1700428	Flat Washer - 5/16"
29.	1700419	Lock Nut - 5/16"
30.	1808844	Nylon Lock Nut - #10
31.	1704905	Hex Flanged Cap Screw - #10 x 1"
32.	1703845	Motor-Reversing Solenoid
33.	1703896	Solenoid Cover
34.	1116020	Rocker Switch
35.	1703661	Rocker Switch Mounting Bracket
36.	1704354	40-Amp Modified-Reset Circuit Breaker
37.	1705624	SMART™ Circuit Breaker - 50 Amp
38.	1703959	Cap Screw - 1/4" x 3/4"
39.	1701543	Nylon Lock Nut - 1/4"
40.	1703822	Dual-Conductor Wire - 6 Ga. - 259 Strand
41.	1116482	Electrical Wire - 14 Ga. 3 Lead - 15'
42.	1131576	5-Channel ShurLink EZR™ Remote
43.	1131575	ShurLink PRO™ Remote w/Cradle & Charging Cable
44.	1706751	ShurLink PRO™ Replacement Cradle
45.	1706836	USB Charging Cable Type A to C
46.	1704998	SMARTwire™ - 6 Ga. x 65' - Socket



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