



TARPING SYSTEMS & ACCESSORIES

P/N 1120856 Rev. G

OWNER'S MANUAL



Aluminum System for Semi Grain Trailer

READ BEFORE INSTALLING

PO BOX 713 ■ 2309 SHUR-LOK STREET ■ YANKTON, SD 57078-0713
PHONE 1-800-4-SHUR-LOK (1-800-474-8756) ■ FAX 605-665-0501
www.shurco.com

SHOP ONLINE: www.shopshurco.com

SHIPPING. Orders are shipped F.O.B. from the Shur-Co®, LLC sites listed below. No full freight is allowed or prepaid shipment accepted unless quoted and approved in writing prior to acceptance of the order. All shipments are made by the most reasonable means in accordance with size and weight of order, unless specified routing instructions are furnished by the customer. Shipments are made daily via U.P.S. and common carrier. Claims for shortages must be made within 10 days. All claims for damages or loss in transit must be made with the carrier. No collect calls will be accepted. To ensure delivery of orders, we need your full street address and phone number. When you receive your shipment, examine it carefully. Be sure all cartons listed on the delivery sheet are accounted for. Large items may be packaged separately. If a carton is damaged, open it and inspect the contents before signing for delivery. If merchandise is damaged, describe damage on the delivery receipt. Failure on your part to document damaged or missing merchandise on the delivery receipt releases the carrier of all liability; repair or replacement will be the customer's responsibility.

WARRANTY. We warrant all new products are free of defects in materials and workmanship.* This warranty is effective if products are properly installed and used for the purpose for which they were intended and applies to the original buyer only. Except as set forth above or in any product-specific warranty documentation, we make no other warranties, express or implied, including but not limited to warranties of merchantability of fitness for a particular use.

Returns of a product for warranty must be accompanied by a Return Merchandise Authorization number (RMA#), obtained by calling Customer Service at 866-748-7435, and sent, with freight paid by us, to Shur-Co®, LLC, 2309 Shur-Lok St., PO Box 713, Yankton, SD 57078. All products returned without an RMA# will be refused. When we issue the RMA#, we will also issue a call tag to have UPS (or other freight company) pick up the product. C.O.D. returns not accepted. We will pay no storage fees for a warranty product return prior to pick by us or the freight company. If a warranty product return is scheduled to be picked up by us, we will pick up the product at our earliest convenience.

If a product returned is found, in our judgement, to be defective in material or workmanship, our obligation under this warranty is limited to the repair or replacement of the product, which will be made by us. Repair or replacement will be at our discretion, with replacements being made using current products performing in the equivalent function. Labor charges, other than those incurred at our factory, including, but not limited to, any labor to install a repaired or replacement product, are not covered under this warranty. All expenses associated with delivering defective products to our factory and delivering repaired or replacement products from our factory to the owner will be paid by us.

If the product returned is found, in our judgement, to be non-warrantable, the owner will be contacted to authorize repair work, purchase of a replacement product or return of the product, all of which will be at the owner's expense. Payment authorization must be received by us before any non-warrantable product is repaired, replaced or returned. All expenses associated with delivering the repaired non-warrantable product, a replacement product or the non-warrantable product from our factory to the owner will be paid by the owner.

In no event will we be liable for any damages of any kind to person, product or property, including but not limited to indirect, incidental, special, consequential or punitive damages, or damages for loss of profits or revenue, even if we have been advised of the possibility of such damages. There are no warranties for used products or products that have been repaired, altered, modified or subjected to misuse, negligence or accident. We will not repair or replace products that fail or malfunction due to ordinary wear and tear, except as expressly noted in a product-specific warranty. Use of non-Shur-Co®, LLC parts in conjunction with Shur-Co®, LLC products will void this product warranty.

*Certain products have specific warranties that differ from this warranty, for example motors and electronics. Product-specific warranty documentation is available for these items. In the event of a conflict between this warranty and a product-specific warranty, the product-specific warranty will govern.

RETURN POLICY. All sales final. See WARRANTY above for return details.

OTHER. All prices, product listings, sizes, weights and manufacturing details are subject to change without notice. No person is authorized to modify the foregoing conditions of sale whatsoever.

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 Ph 800.474.8756 | Fax 605.665.0501

ShurTite™ Service Centers

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 Brantford, Ontario N3S 7P8
 Ph 800.265.0823 | Fax 519.751.3997

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 Decatur, IL 62526
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 3839 Midway Blvd.
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 Ph 866.356.0245 | Fax 515.576.5578

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 5100 Lakeshore Dr.
 Lexington, MI 48450
 Ph 800.327.8287 | Fax 772.287.0431

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 1746 4th Ave. NW
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 1100 N. Freedom, St. Rt. 88 & 14
 Ravenna, OH 44266
 Ph 866.356.0242 | Fax 330.297.5599


SHUR-CO® of TEXAS
 34505 I-10 West, S. Frontage Rd.
 Brookshire, TX 77423
 Ph 866.689.0039 | Fax 281.934.3311

SHUR-CO® UK, Ltd.
 Unit 41 Rochester Airport Estates
 Laker Rd., Rochester, Kent ME1 3QX
 Ph +44 (0)1795.473499
 Fax +44 (0)871.272.8278

For more info, log on to our website:
www.shurco.com

MESSAGE TO OWNERS

Thank you for buying this tarping system from Shur-Co®. We appreciate your confidence in our products. Please read and thoroughly understand this manual before installing and/or operating this system.

Pay particular attention to important safety and operating instructions, as well as warnings and cautions. The hazard symbol  is used to alert users to potentially hazardous conditions and is followed by caution, warning or danger messages.

Failure to READ AND FOLLOW INSTRUCTIONS could result in failure of your tarping system and/or personal injury. Your trailer requirements may, however, call for minor variations to these instructions.

Please inspect your tarping system periodically. Repair or replace worn or damaged parts to your system.

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

SAFETY

We at Shur-Co® are concerned with your safety and the safety of all those operating this system. Therefore, we have provided safety decals at various locations on your tarping system. Keep decals as clean as possible at all times. Replace any decal that has become worn or damaged, painted over or otherwise difficult to read. Replacement decals are available through Shur-Co® dealers.

SAFETY INSTRUCTIONS

- 1. Always wear safety glasses during installation and operation.**
- 2. Stay clear of moving parts.**
- 3. No other use of this system is authorized, except as designed.**

RUST PREVENTION

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

TABLE OF CONTENTS

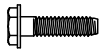
Hardware Identification..... 1
 Pivot Bracket Installation Front & Rear.....2-7
 Pivot Bracket Installation..... 8
 Universal Pivot Bracket Installation Vertical Trailer 9
 Front Flex Arm & Electric Motor Installation 10-11
 Rear Flex Arm Installation 12-13
 Roll Tube Extension Installation 14-16
 Electric Mounting & Wiring 17-21
 Wireless SMARTransmitter® Programming & Operating 22
 Program Wireless SMARTransmitter® to Receiver 23
 Change to Manual Power 24
 Electric Motor Replacement 25
 Reverse Roll Pivot Bracket Installation Front & Rear 26-28
 Reverse Roll Front Flex Arm & Electric Motor Installation 29-30
 Reverse Roll Rear Flex Arm Installation 31-32
 Replacement Parts 33-35
 Troubleshooting Guide 36

TOOLS REQUIRED

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. 5/16" Drill Bit (for 3/8" self-tapping screws)
13. 11/32" Drill Bit
14. 13/32" Drill Bit
15. 3/8" Drill
15. 1 1/8" Hole Saw
16. 2" Hole Saw (if bracket for conductor socket is not used)
17. Standard/Flathead Screwdriver
18. #2 Phillips Screwdriver
19. Utility Knife
20. Ratchet
21. Hack Saw (metal cutter)
22. Pliers
23. Snap Ring Pliers
24. Wire Cutters
25. Grinder
26. Tape Measure

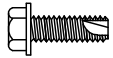
Inspect all parts in your 4500 Series electric kit upon arrival.

A



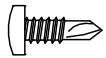
1704367 Cap Screw - #10 x 3/4"

B



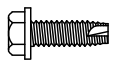
1700403 Self-Tapping Screw - 1/4" x 3/4"

C



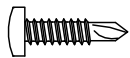
1700398 Self-Drilling Screw - 1/4" x 3/4"

D



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

E



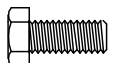
1704353 Self-Drilling Screw - 1/4" x 1"

F



1700381 Cap Screw - 1/4" x 1"

G



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

H



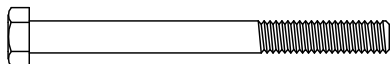
1702926 Cap Screw - 5/16" x 7/8"

J



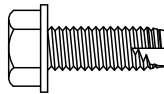
1703487 Cap Screw - 5/16" x 1 1/2"

K



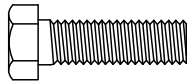
1201022 Cap Screw - 5/16" x 3 1/2"

L



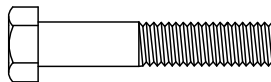
1700400 Self-Tapping Screw - 3/8" x 1"

M



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

N



1704264 Cap Screw - 3/8" x 2" - Grade 8

O



1700408 Hex Nut - 1/4"

P



1701543 Nylon Lock Nut - 1/4"

Q



1704946 Flanged Top Lock Nut - 5/16"

R



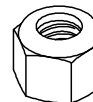
1700419 Nylon Lock Nut - 5/16"

S



1700407 Hex Nut - 3/8"

T



1701580 Nylon Lock Nut - 3/8"

U



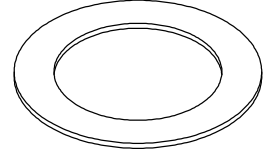
1700436 Lock Washer - 1/4"

V



1700427 Flat Washer - 1/4"

W



1702890 Flat Washer - 1 1/4"

Y



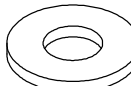
1700428 Flat Washer - 5/16"

Z



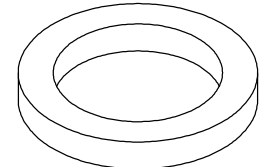
1700434 Lock Washer - 3/8"

a



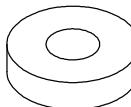
1700429 Flat Washer - 3/8"

b



1118318 Spacer Washer - 1/4" x 1.81"

c



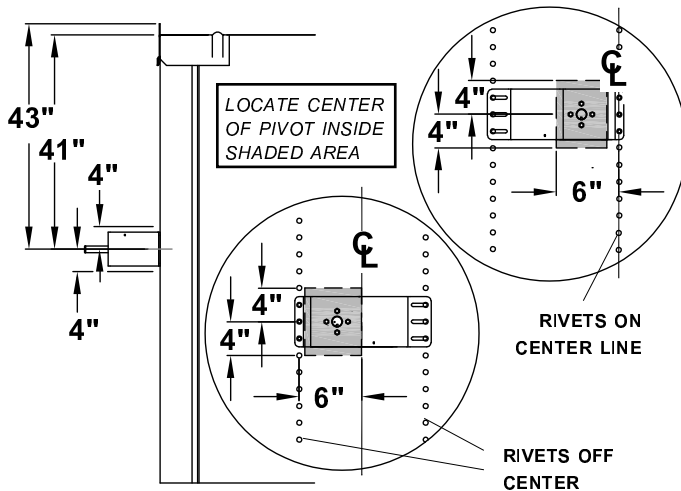
1120291 Pivot Bracket Washer

NOTE: Read pages 2 and 3 entirely before drilling holes.

Determine if rivets are centered or off center on front and rear of trailer.

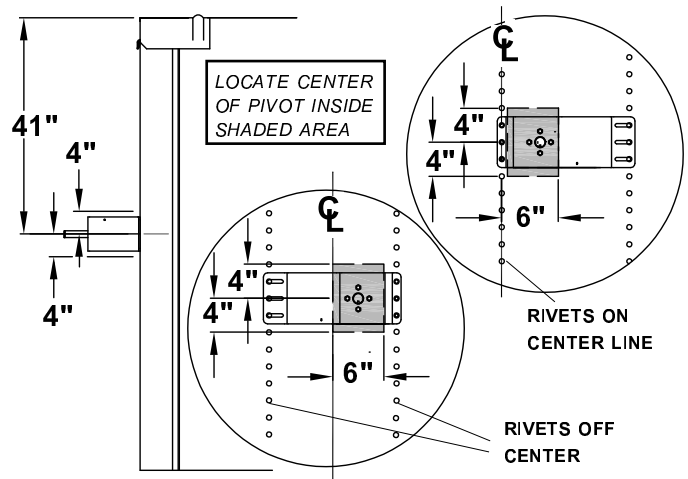
FRONT OF TRAILER

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



REAR OF TRAILER

STEP 2: Locate rear pivot mount bracket so that center of pivot lies within shaded area shown below.

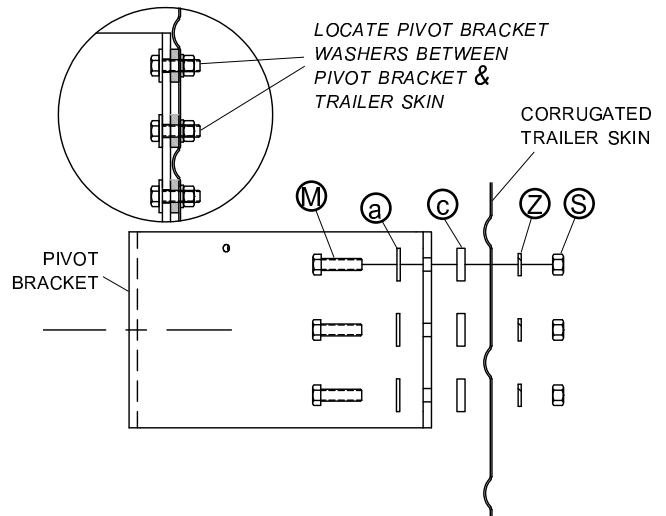


NOTE: Mount brackets into support braces on trailer, if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support. Before drilling any holes, make sure flex arm has a clear pathway to operate.

INSTALL BRACKETS ON HORIZONTALLY CORRUGATED TRAILERS

NOTE: Use pivot bracket washers **C** only when horizontal corrugation on trailer skin prevents bracket from contacting trailer skin.

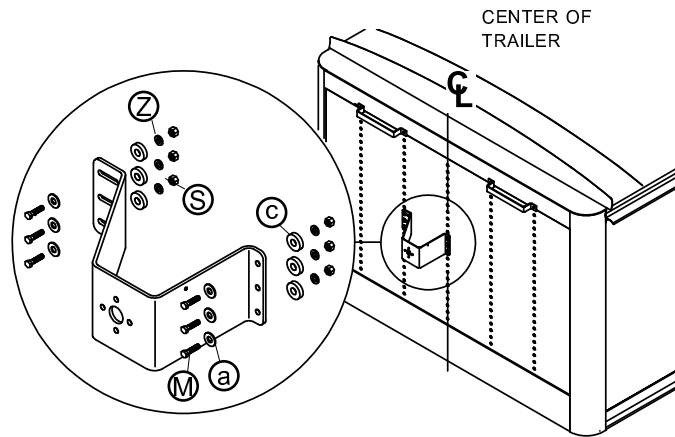
STEP 1: If installing pivot bracket or pivot mount bracket on horizontally corrugated trailer skin, use brackets as a guide to mark hole locations. Mark and drill 13/32" holes in trailer and fasten with 3/8" x 1 1/4" cap screws, flat washers, lock washers, pivot bracket washers and nuts. Locate pivot bracket washers between pivot bracket and trailer skin as shown.



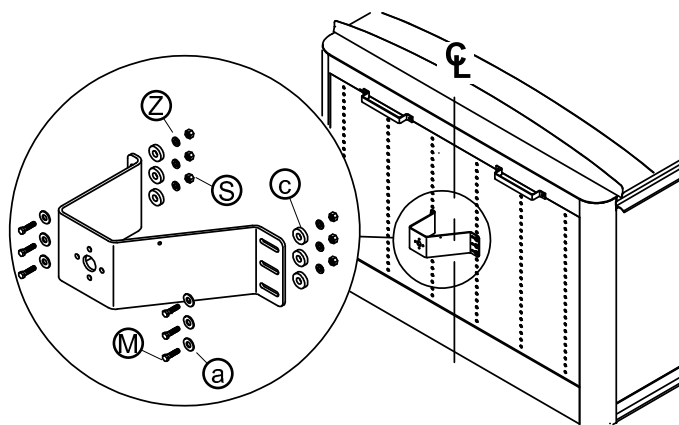
STEP 3: Place pivot mount brackets on trailer in orientation shown below. Using brackets as a guide, mark mounting hole locations.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

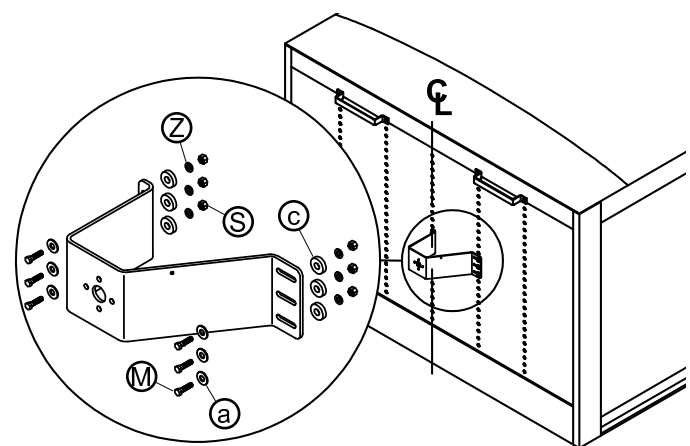


RIVETS/CORRUGATION OFF CENTER

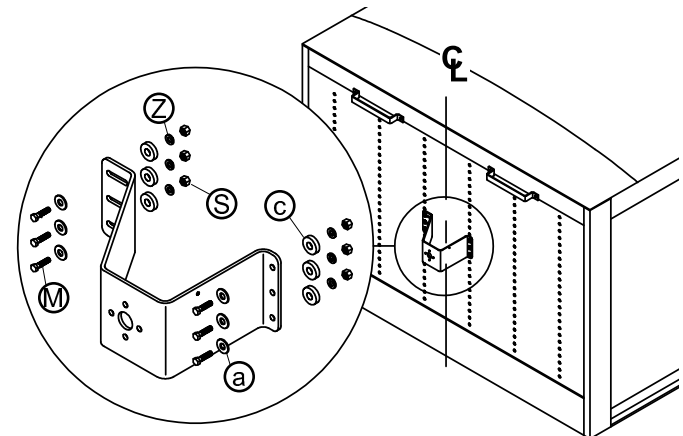


REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER




RIVETS/CORRUGATION OFF CENTER



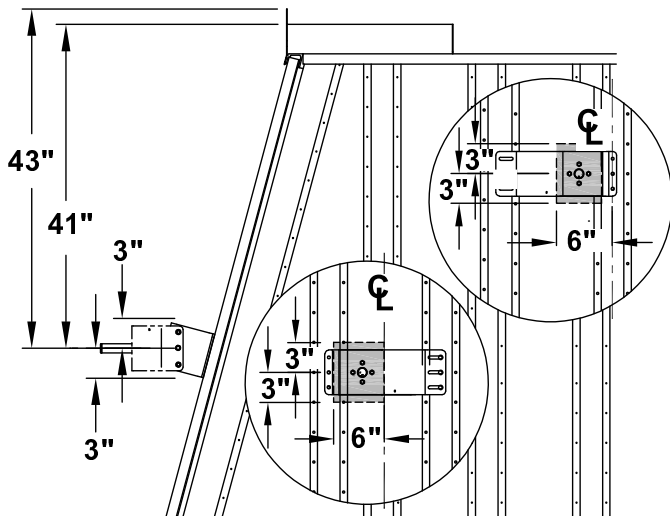
STEP 4: Remove rivets and mount brackets into rivet holes. If this is not possible, drill 13/32" holes in trailer. Fasten with screws **M**, washers **a**, **Z** and **C** and nuts **S**.

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

NOTE: Use pivot bracket washers  only when horizontal corrugation on trailer skin prevents bracket from contacting trailer skin (see instructions on page 2).

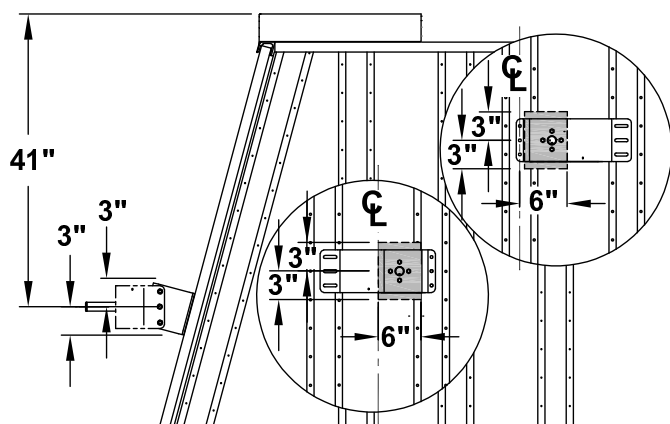
FRONT OF TRAILER

STEP 1: Locate sloped pivot mount bracket 41" down from top of cap or 43" from top of windshield, measuring vertically as shown. Do not measure along slope of trailer.



REAR OF TRAILER

STEP 2: Locate sloped pivot mount bracket 41" below top of cap, measuring vertically as shown. Do not measure along slope of trailer.



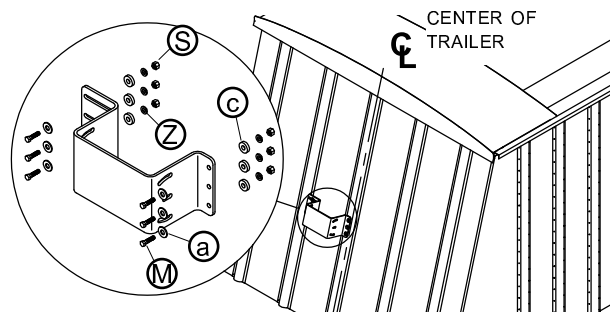
NOTE: Mount brackets into support braces on trailer if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support. If bracket does not sit flush with skin of trailer, install spacers between mounting bracket and skin of trailer to assure solid contact through support braces or backer plate.

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

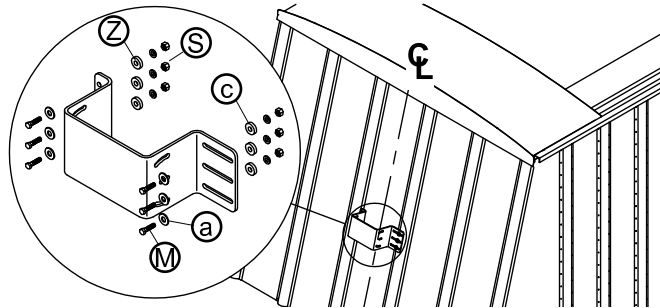
STEP 3: Place pivot mount brackets on trailer in orientation shown below. Using brackets as a guide, mark mounting hole locations.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

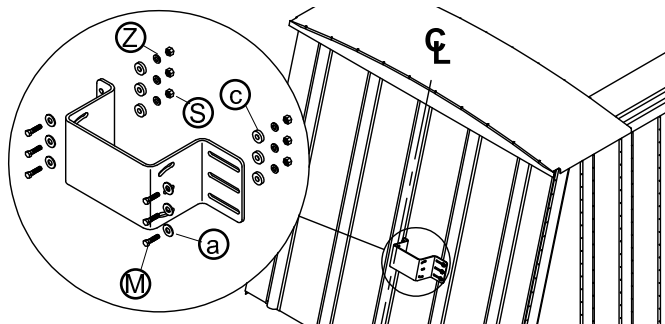


RIVETS/CORRUGATION OFF CENTER

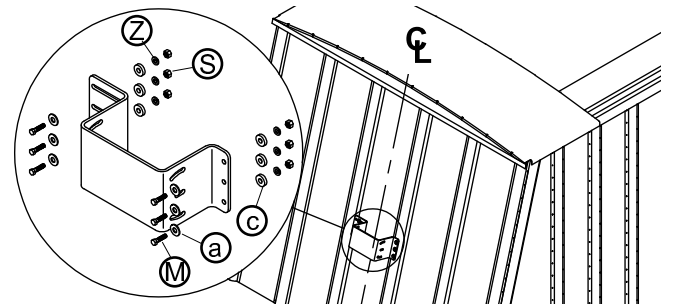






REAR OF TRAILER

RIVETS CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

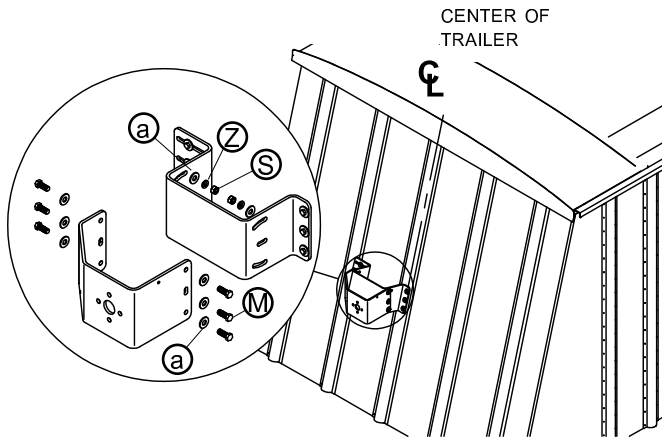


STEP 4: Drill 13/32" holes in trailer. Fasten sloped pivot mount bracket to trailer with screws , washers ,  and nuts .

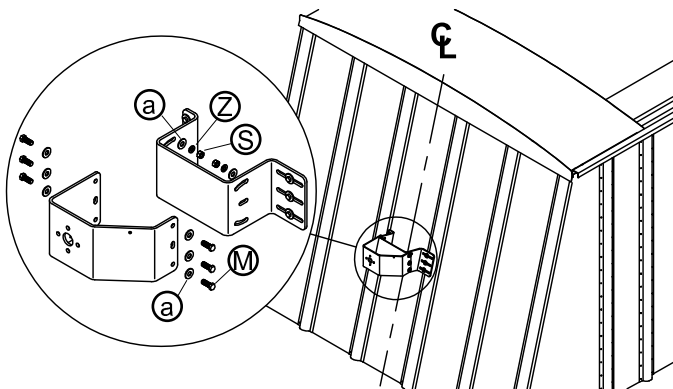
STEP 5: Place pivot brackets on pivot mount brackets in orientation shown below. Fasten pivot brackets to pivot mount brackets with 3/8" x 1 1/4" cap screws, flat washers, lock washers and nuts.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

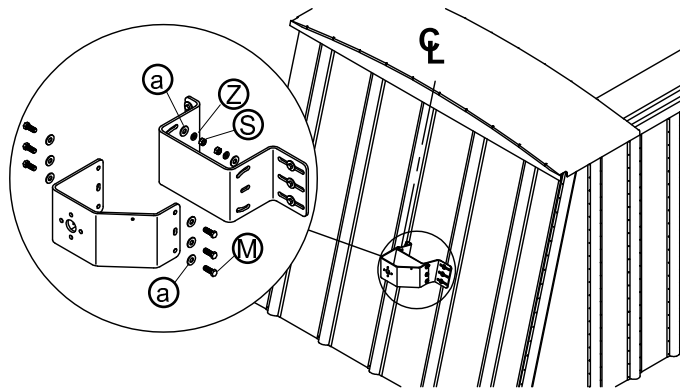


RIVETS/CORRUGATION OFF CENTER

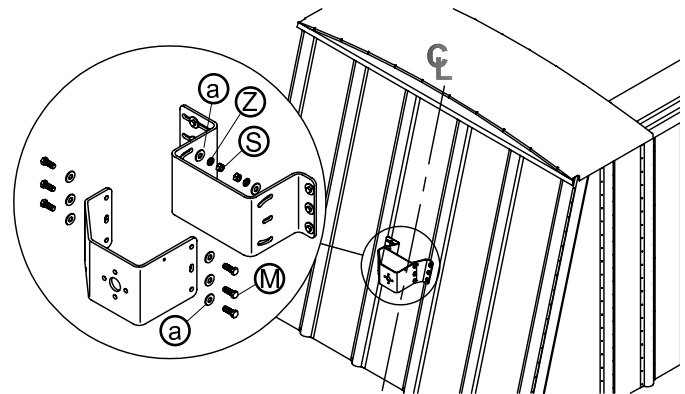



REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER



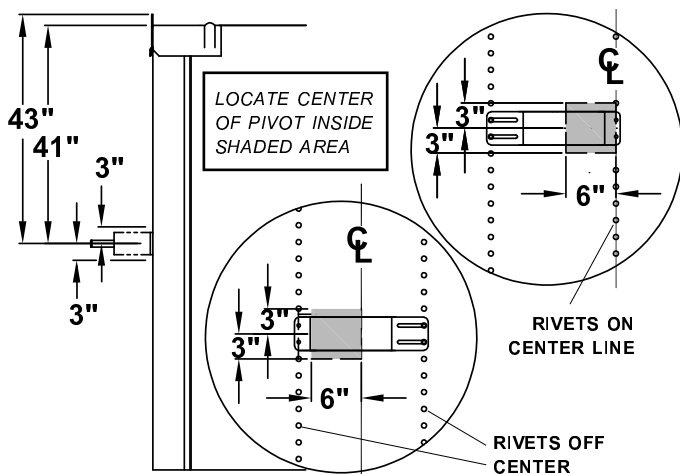
NOTE: Use pivot bracket washers  only when horizontal corrugation on trailer skin prevents bracket from contacting trailer skin (see instructions on page 2).

NOTE: Read entire page before drilling holes.

Determine if ribs are centered or off center on front and rear of trailer.

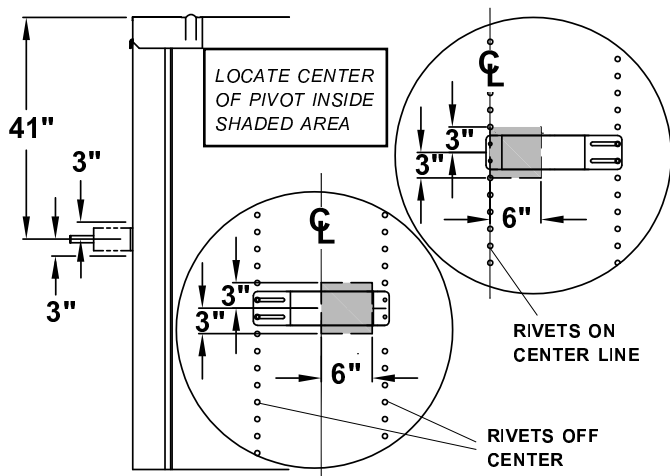
FRONT OF TRAILER

STEP 1: Locate front pivot mount bracket on passenger side of trailer so that center of pivot lies within shaded area shown below. Measure 42" down from top of cap or 44" from top of windshield.



REAR OF TRAILER

STEP 2: Locate rear pivot mount bracket so that center of pivot lies within shaded area shown below.

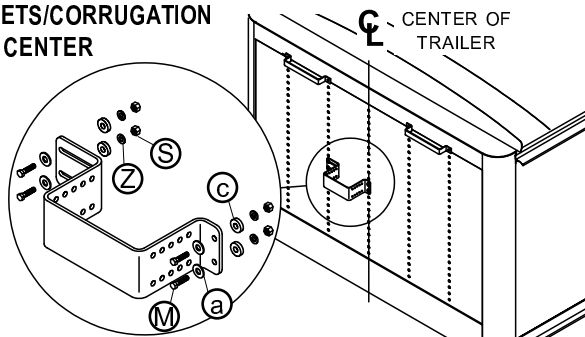


NOTE: Mount brackets into support braces on trailer if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support. Before drilling any holes, make sure flex arm has a clear pathway to operate.

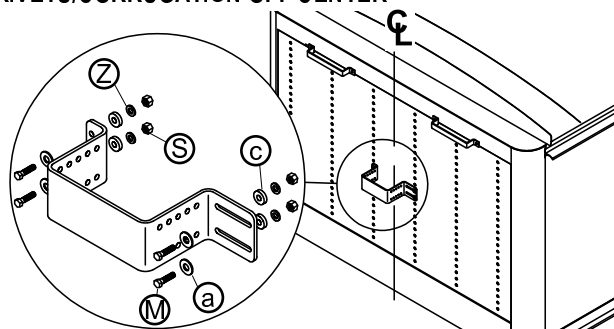
STEP 3: Place pivot mount brackets on trailer in orientation shown below. Using brackets as a guide, mark mounting hole locations.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

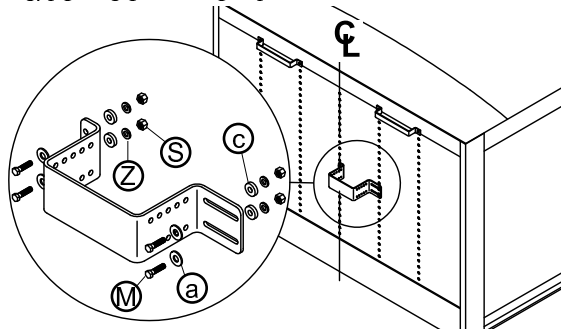


RIVETS/CORRUGATION OFF CENTER

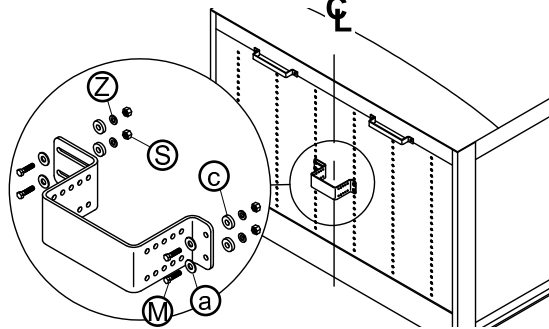






REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

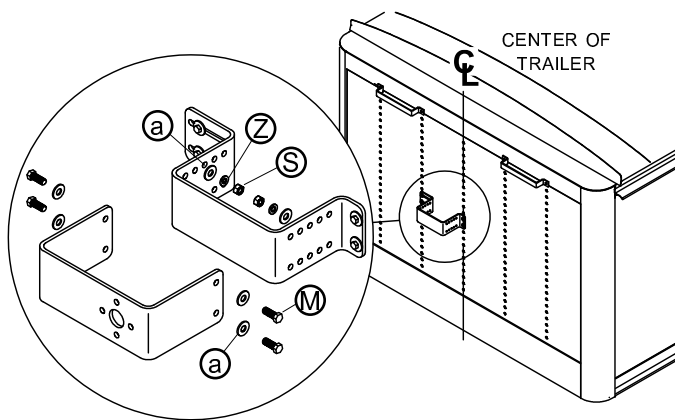


STEP 4: Remove rivets and mount brackets into rivet holes. If this is not possible, drill 13/32" holes in trailer. Fasten with screws , washers ,  and nuts .

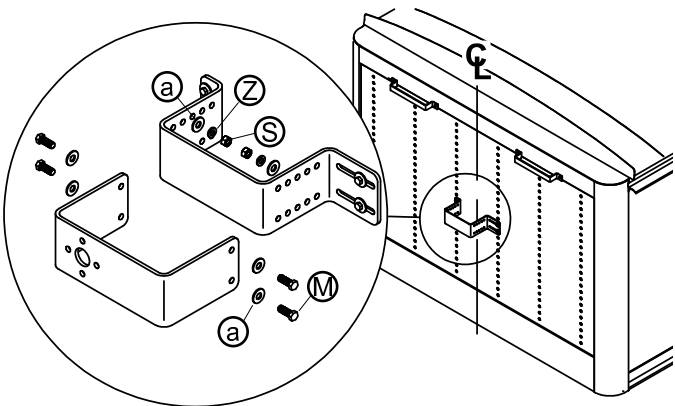
STEP 5: Place pivot brackets on pivot mount brackets in orientation shown below. Fasten pivot brackets to pivot mount brackets with 3/8" x 1 1/4" cap screws, flat washers, lock washers and nuts.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

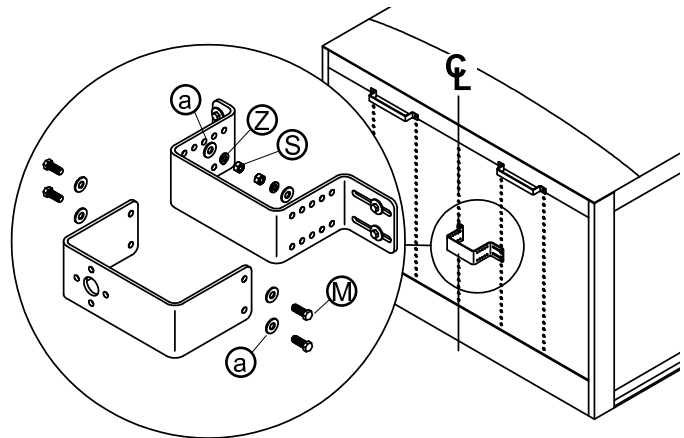


RIVETS/CORRUGATION OFF CENTER

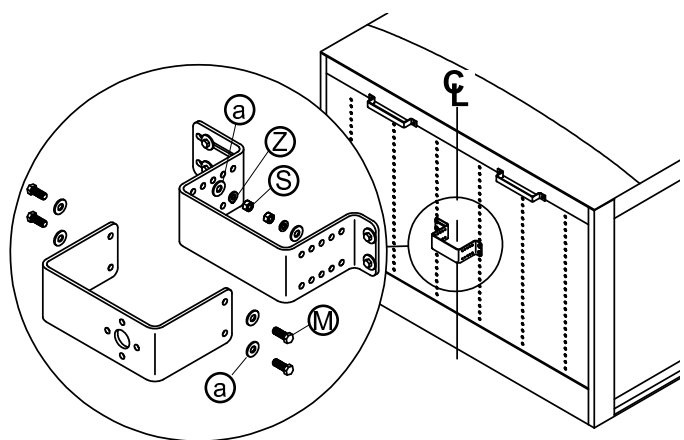


REAR OF TRAILER

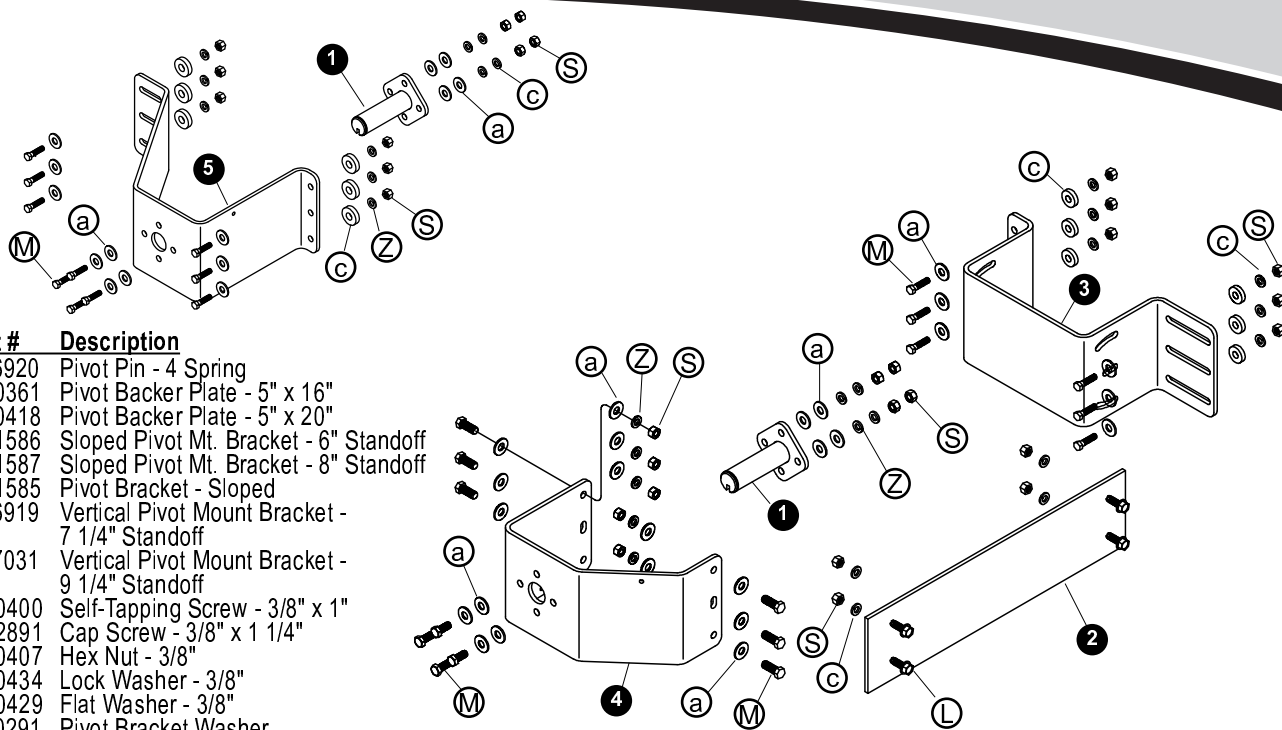
RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

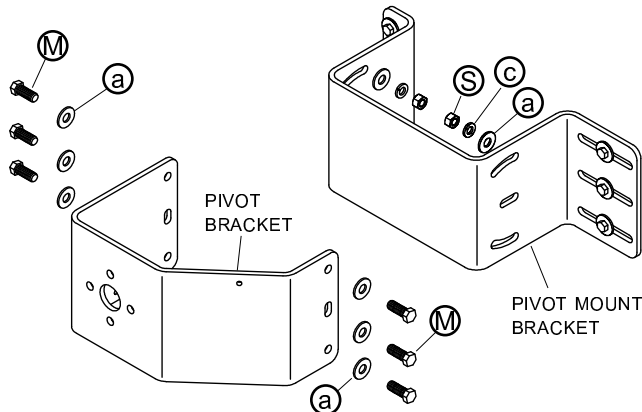


NOTE: Install pivot pin P/N 1116920 before fastening pivot bracket to pivot mount bracket. See page 9.

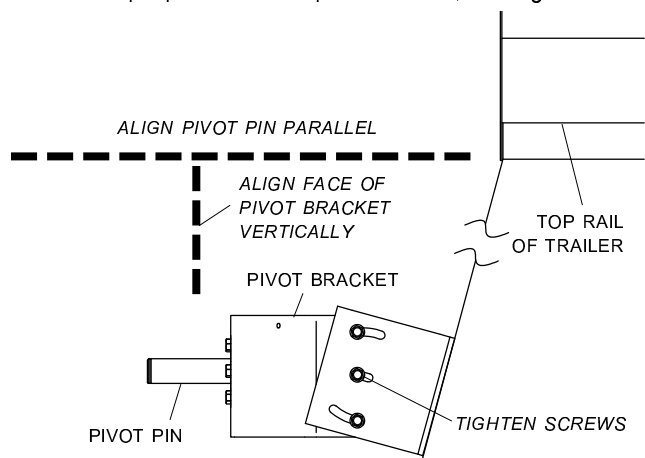


| Item | Part # | Description |
|------|---------|--|
| 1. | 1116920 | Pivot Pin - 4 Spring |
| 2. | 1120361 | Pivot Backer Plate - 5" x 16" |
| | 1120418 | Pivot Backer Plate - 5" x 20" |
| 3. | 1121586 | Sloped Pivot Mt. Bracket - 6" Standoff |
| | 1121587 | Sloped Pivot Mt. Bracket - 8" Standoff |
| 4. | 1121585 | Pivot Bracket - Sloped |
| 5. | 1116919 | Vertical Pivot Mount Bracket - 7 1/4" Standoff |
| | 1117031 | Vertical Pivot Mount Bracket - 9 1/4" Standoff |
| L. | 1700400 | Self-Tapping Screw - 3/8" x 1" |
| M. | 1702891 | Cap Screw - 3/8" x 1 1/4" |
| S. | 1700407 | Hex Nut - 3/8" |
| Z. | 1700434 | Lock Washer - 3/8" |
| a. | 1700429 | Flat Washer - 3/8" |
| c. | 1120291 | Pivot Bracket Washer |

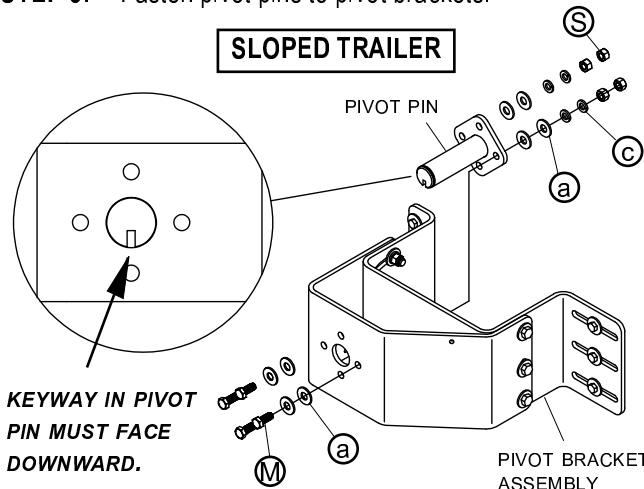
STEP 1: Align and loosely fasten pivot bracket to pivot mount bracket with 3/8" cap screws, lock washers and nuts.



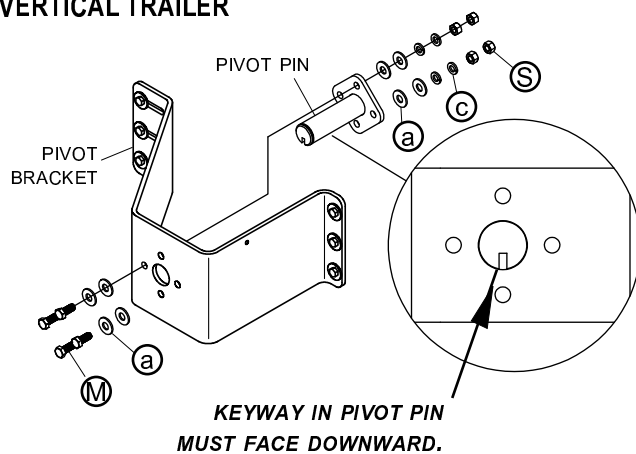
STEP 2: Align face of pivot bracket vertically and align pivot pin parallel with top rail of trailer, then tighten screws.

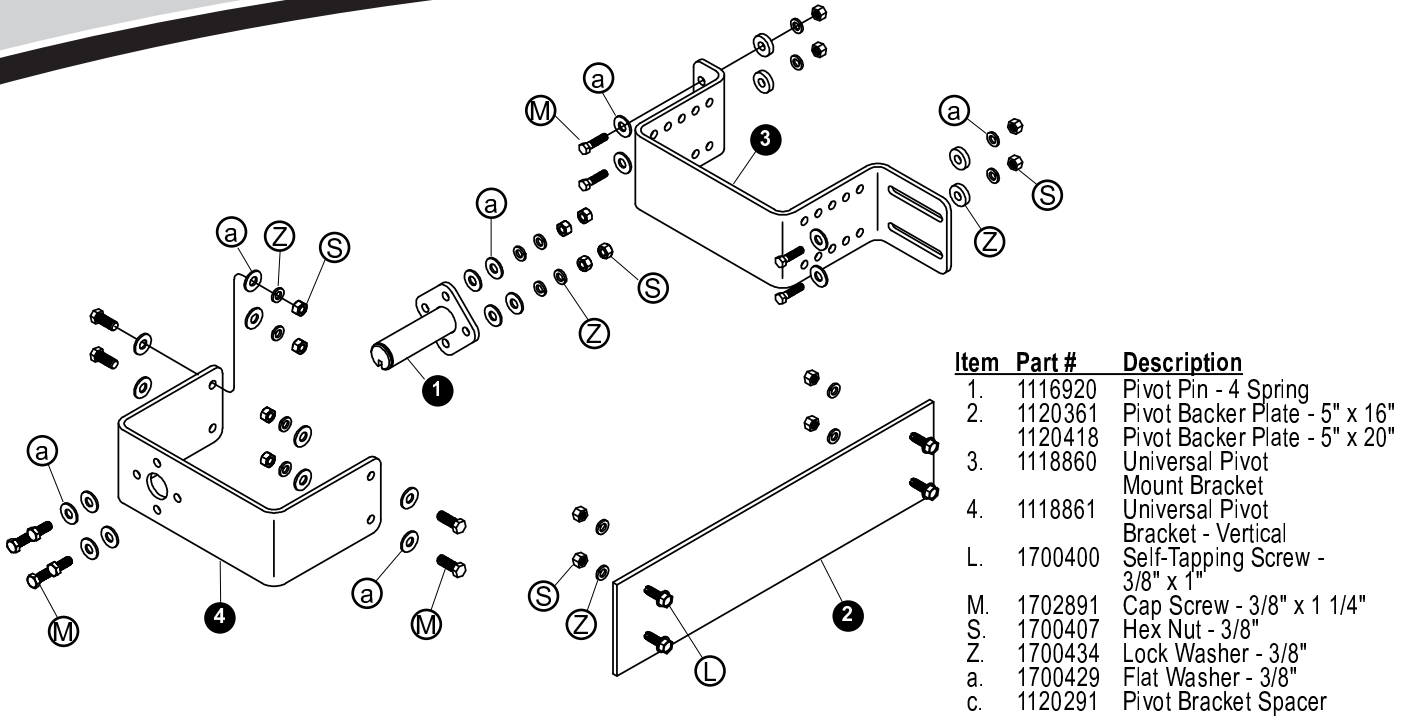


STEP 3: Fasten pivot pins to pivot brackets.

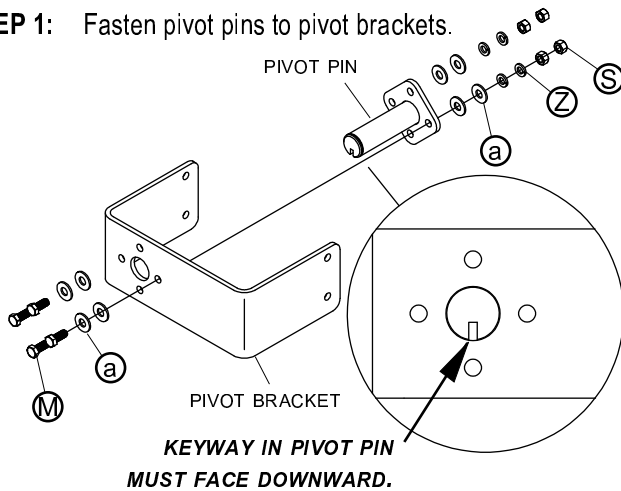


VERTICAL TRAILER

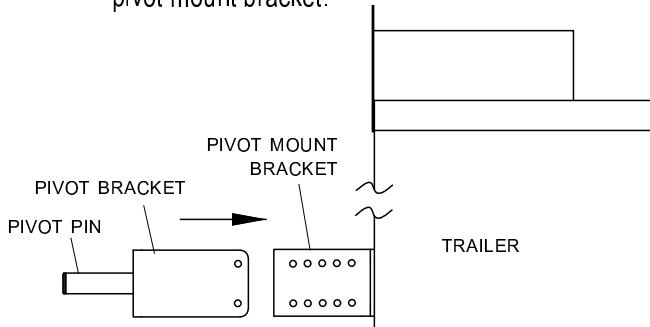




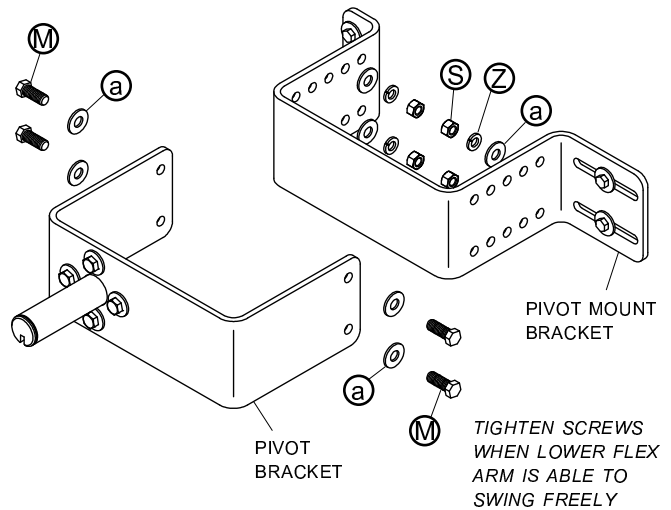
STEP 1: Fasten pivot pins to pivot brackets.

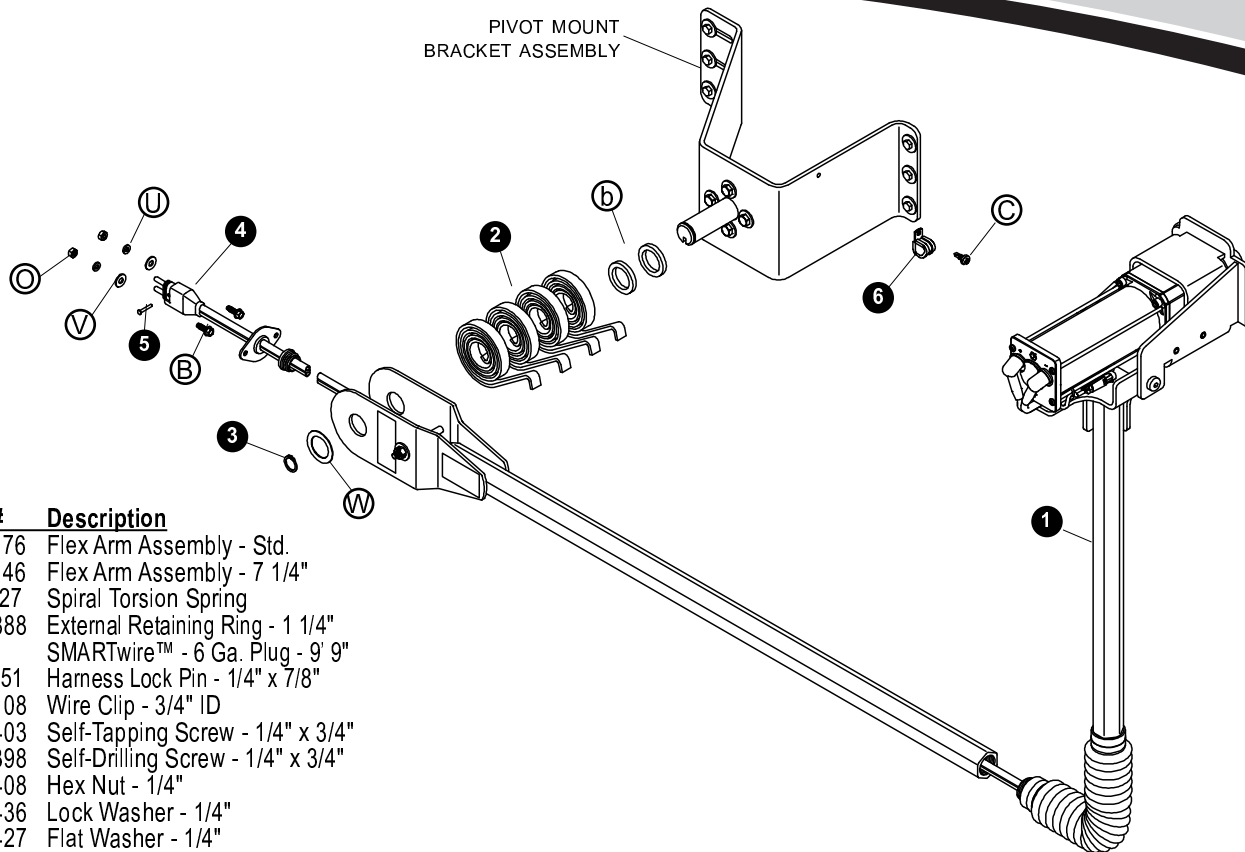


STEP 2: Determine which holes in pivot mount bracket are as close as possible to the trailer but, if used, will not cause lower flex arm to interfere with the ladder or walkway. Use these holes to fasten pivot bracket to pivot mount bracket.



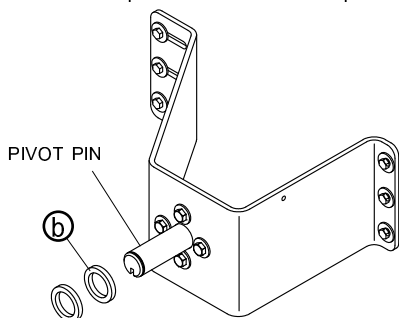
STEP 3: Align holes and loosely fasten pivot bracket to pivot mount bracket with 3/8" cap screws, flat washers, lock washers and nuts. Place lower pivot arm on pivot pin and check for lower flex arm clearance. Readjust pivot bracket position, if needed, and tighten screws when lower flex arm is able to swing freely.



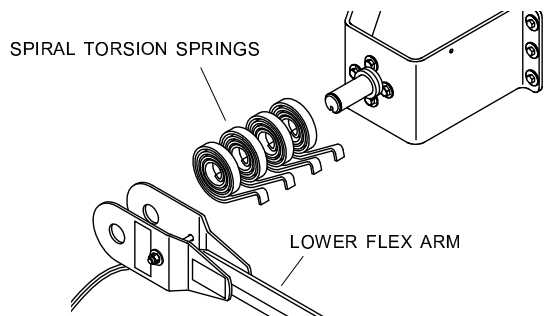


| Item | Part # | Description |
|------|---------|-----------------------------------|
| 1. | 1120976 | Flex Arm Assembly - Std. |
| | 1120646 | Flex Arm Assembly - 7 1/4" |
| 2. | 1111027 | Spiral Torsion Spring |
| 3. | 1702888 | External Retaining Ring - 1 1/4" |
| 4. | | SMARTwire™ - 6 Ga. Plug - 9' 9" |
| 5. | 1704751 | Harness Lock Pin - 1/4" x 7/8" |
| 6. | 1702108 | Wire Clip - 3/4" ID |
| B. | 1700403 | Self-Tapping Screw - 1/4" x 3/4" |
| C. | 1700398 | Self-Drilling Screw - 1/4" x 3/4" |
| O. | 1700408 | Hex Nut - 1/4" |
| U. | 1700436 | Lock Washer - 1/4" |
| V. | 1700427 | Flat Washer - 1/4" |
| W. | 1702890 | Flat Washer - 1 1/4" |
| b. | 1118318 | Spacer Washer - 1/4" x 1.28" |

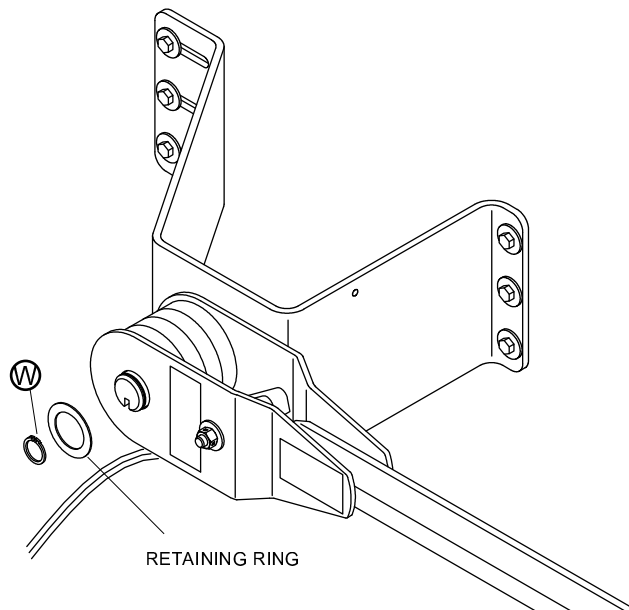
STEP 1: Assemble spacer washers onto pivot pin.



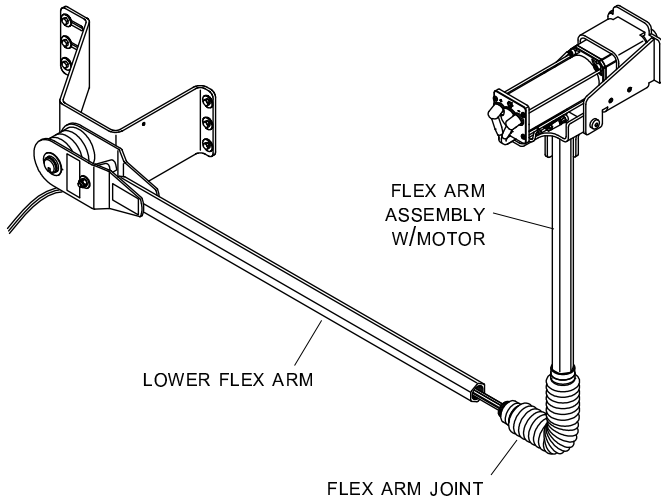
STEP 2: Assemble spiral torsion springs and lower flex arm onto pivot pin. Hook springs over 3/8" x 3 1/2" cap screw and spacer tube.



STEP 3: Secure with 1 1/4" flat washer and retaining ring.



STEP 4: Thread flex arm joint into lower flex arm. Hand tighten only.



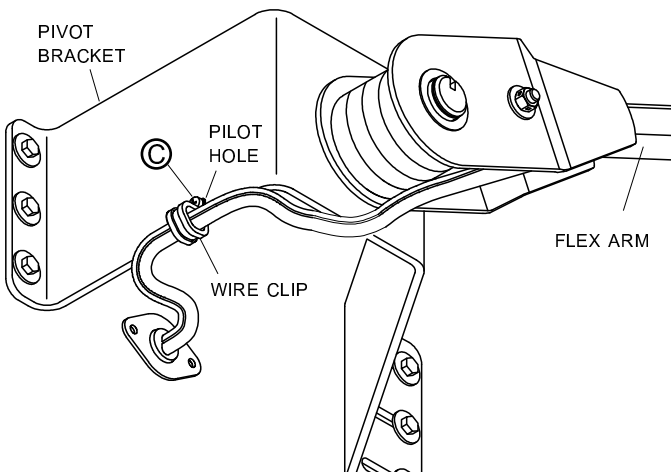
NOTE: Motor assembly on upper flex arm must face toward trailer as shown.



CAUTION

Do not twist wire when threading flex arm joint into lower flex arm.

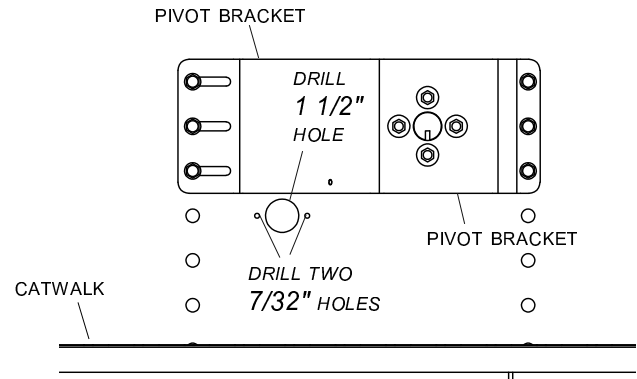
STEP 5: Choose appropriate pilot hole on pivot bracket to route 6-ga. wire from flex arm through trailer skin. Fasten wire clip to pilot hole with screw **C**.



NOTE: Fasten wire clip to pilot hole on opposite side of pivot bracket from flex arm to prevent wire from being pinched during operation.

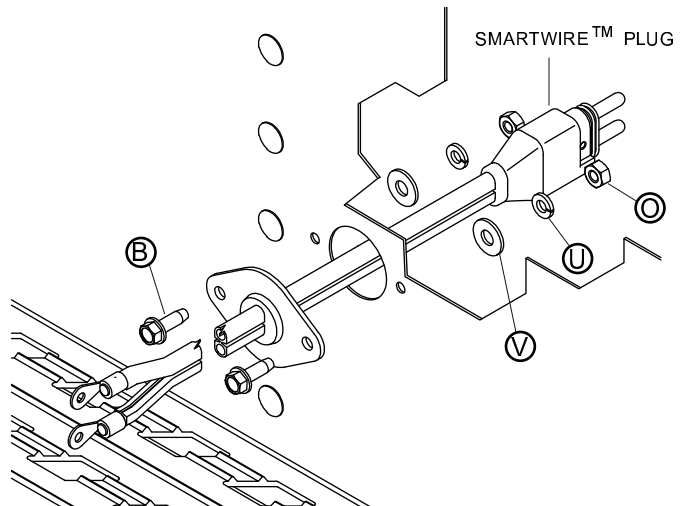
NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so wires will reach components with ample room for connection.

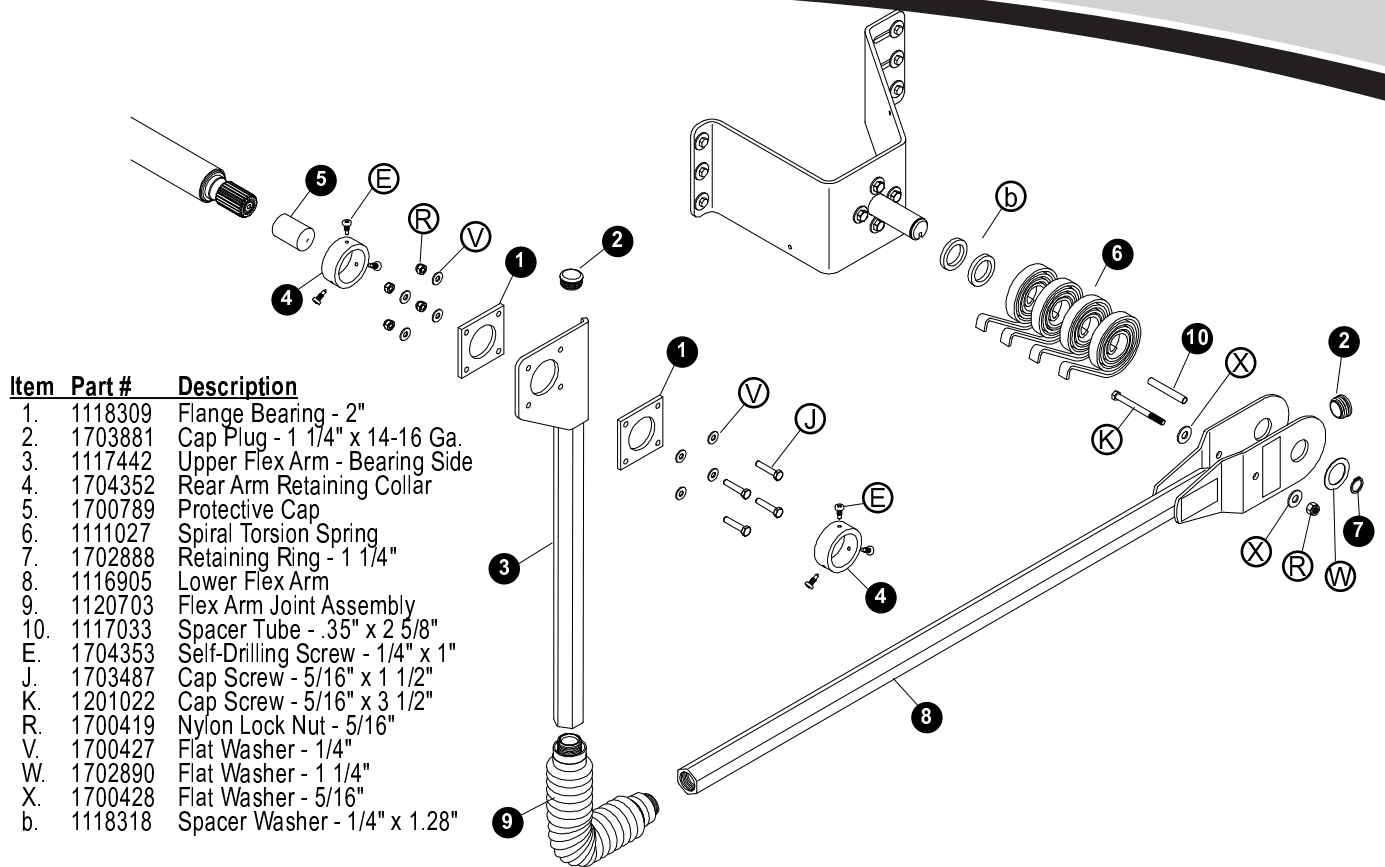
STEP 6: Measure 11" horizontally from center line of trailer and 1" down from lower edge of pivot bracket. Mark and drill 1 1/2" hole through trailer skin.



STEP 7: Align adapter plug with 1 1/2" hole. Using plug as a guide, mark and drill two 7/32" holes as shown.

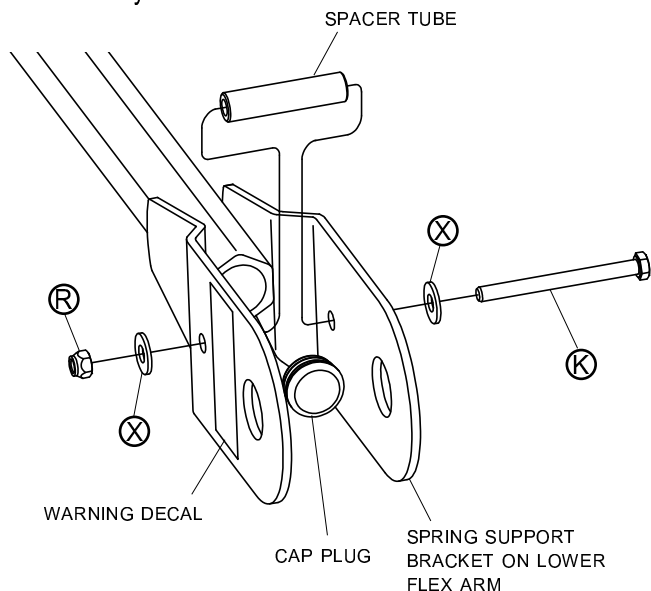
STEP 8: Fasten adapter plug to front of trailer with 1/4" x 3/4" cap screws, lock washers and nuts.





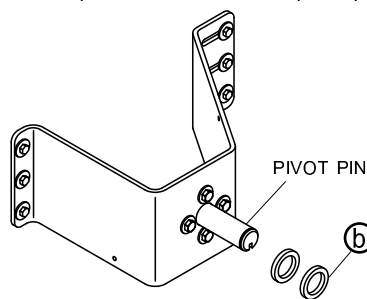
| Item | Part # | Description |
|------|---------|---------------------------------|
| 1. | 1118309 | Flange Bearing - 2" |
| 2. | 1703881 | Cap Plug - 1 1/4" x 14-16 Ga. |
| 3. | 1117442 | Upper Flex Arm - Bearing Side |
| 4. | 1704352 | Rear Arm Retaining Collar |
| 5. | 1700789 | Protective Cap |
| 6. | 1111027 | Spiral Torsion Spring |
| 7. | 1702888 | Retaining Ring - 1 1/4" |
| 8. | 1116905 | Lower Flex Arm |
| 9. | 1120703 | Flex Arm Joint Assembly |
| 10. | 1117033 | Spacer Tube - .35" x 2 5/8" |
| E. | 1704353 | Self-Drilling Screw - 1/4" x 1" |
| J. | 1703487 | Cap Screw - 5/16" x 1 1/2" |
| K. | 1201022 | Cap Screw - 5/16" x 3 1/2" |
| R. | 1700419 | Nylon Lock Nut - 5/16" |
| V. | 1700427 | Flat Washer - 1/4" |
| W. | 1702890 | Flat Washer - 1 1/4" |
| X. | 1700428 | Flat Washer - 5/16" |
| b. | 1118318 | Spacer Washer - 1/4" x 1.28" |

STEP 1: Install cap plug on lower flex arm. Fasten spacer tube into spring support bracket on lower flex arm with 5/16" x 3 1/2" cap screw, two flat washers and nylon lock nut.

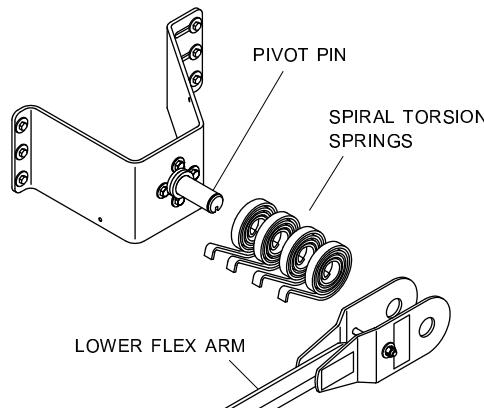


NOTE: Insert cap screw through flex arm so that head of screw will be on inside of assembly (toward the trailer). Warning label must be in plain view on outside of assembly.

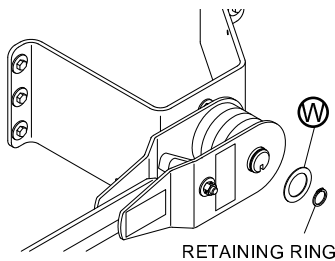
STEP 2: Assemble spacer washers onto pivot pin.



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

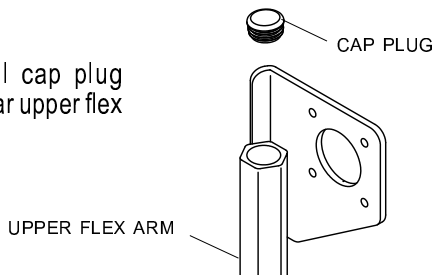


STEP 4: Secure with 1 1/4" flat washer and retaining ring.



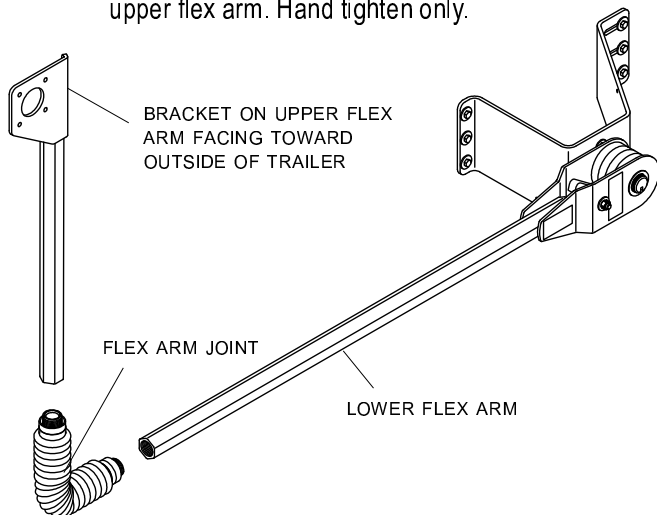
RETAINING RING

STEP 5: Install cap plug on rear upper flex arm.



UPPER FLEX ARM

STEP 6: Thread flex arm joint into lower flex arm, then into upper flex arm. Hand tighten only.



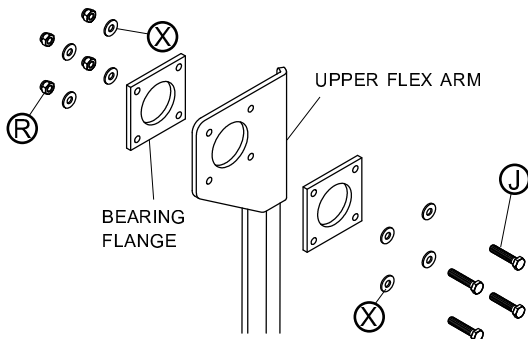
BRACKET ON UPPER FLEX ARM FACING TOWARD OUTSIDE OF TRAILER

FLEX ARM JOINT

LOWER FLEX ARM

NOTE: Bracket on upper flex arm must face toward outside of trailer as shown above.

STEP 7: Fasten bearing flanges to upper flex arm with 5/16" x 1 1/2" cap screws, flat washers and lock nuts as shown. Finger tighten only to allow for adjustment.



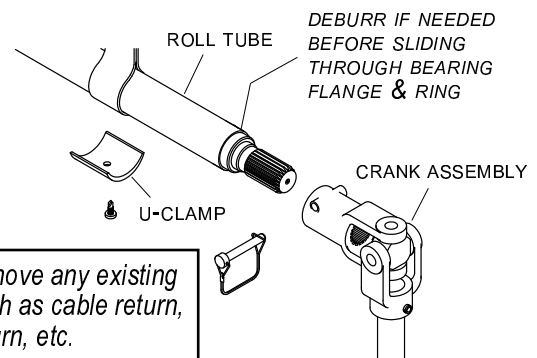
BEARING FLANGE

UPPER FLEX ARM

CAUTION

Do not open or close tarp without U-joint securely fastened to splined shaft with wire lock pin. Failure to do so could result in injury.

STEP 8: Roll tarp closed over box with roll tube hanging below latchplate. Remove crank assembly and U-clamps from roll tube.



DEBURR IF NEEDED BEFORE SLIDING THROUGH BEARING FLANGE & RING

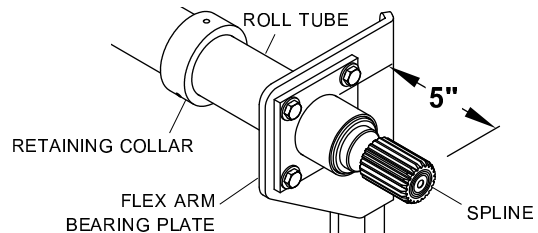
ROLL TUBE

U-CLAMP

CRANK ASSEMBLY

NOTE: Remove any existing returns, such as cable return, bungee return, etc.

STEP 9: Slide first retaining collar over roll tube. Slide roll tube and spline through upper flex arm assembly, extending end of splined shaft 5" past flex arm bearing plate.



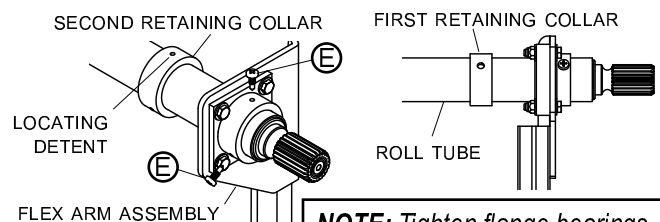
ROLL TUBE

RETAINING COLLAR

FLEX ARM BEARING PLATE

SPLINE

STEP 10: Slide second retaining collar onto roll tube. Align second retaining collar flush against flex arm assembly. Secure retaining collar to roll tube at three locating detents, using three provided 1/4" x 1" self-drilling screws.



SECOND RETAINING COLLAR

FIRST RETAINING COLLAR

LOCATING DETENT

FLEX ARM ASSEMBLY

ROLL TUBE

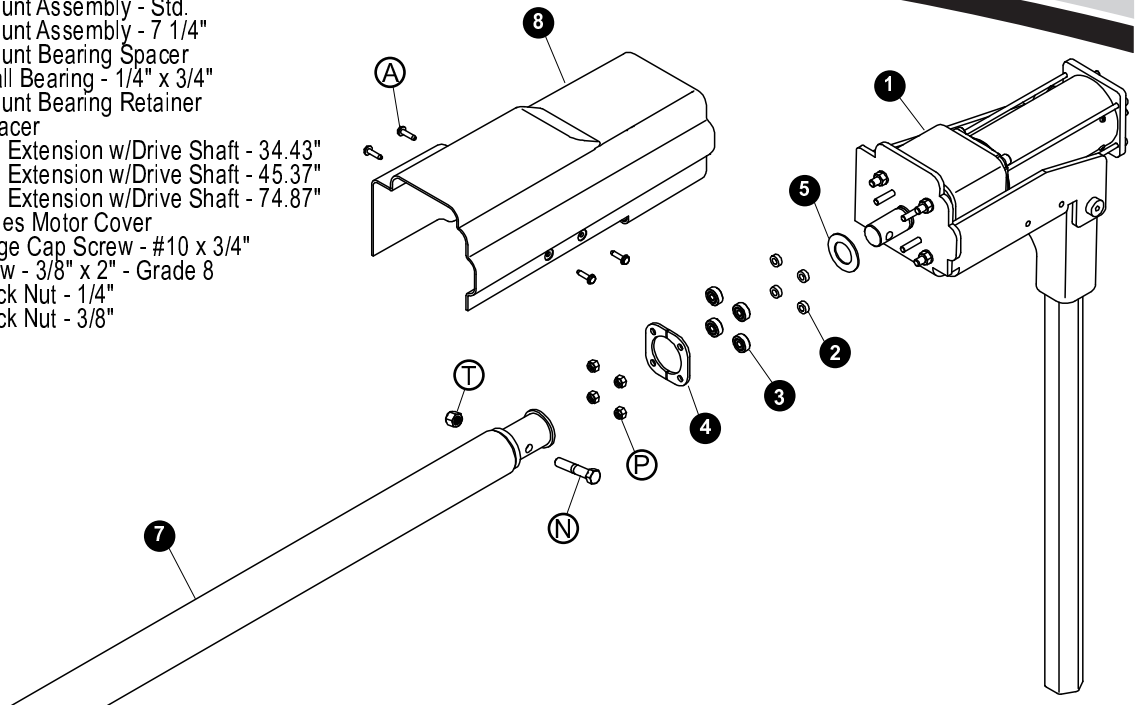
NOTE: Tighten flange bearings.

NOTE: Do not leave unattended until flex arm is securely fastened to roll tube extension as shown.

WARNING

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

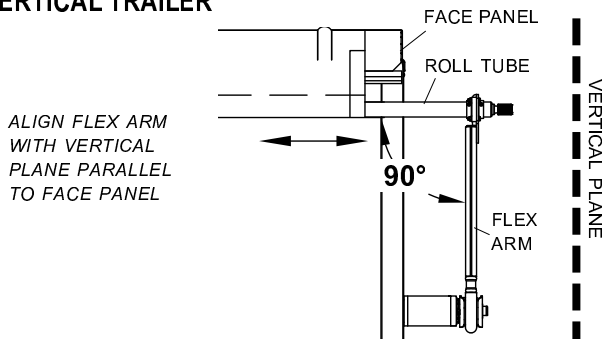
| Item | Part # | Description |
|------|---------|--|
| 1. | 1120766 | Motor Mount Assembly - Std. |
| | 1120781 | Motor Mount Assembly - 7 1/4" |
| 2. | 1120680 | Motor Mount Bearing Spacer |
| 3. | 1704736 | Radial Ball Bearing - 1/4" x 3/4" |
| 4. | 1120681 | Motor Mount Bearing Retainer |
| 5. | 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. | 1704769 | 4500 Series Motor Cover |
| A. | 1704367 | Hex Flange Cap Screw - #10 x 3/4" |
| N. | 1704264 | Cap Screw - 3/8" x 2" - Grade 8 |
| P. | 1701543 | Nylon Lock Nut - 1/4" |
| T. | 1701580 | Nylon Lock Nut - 3/8" |



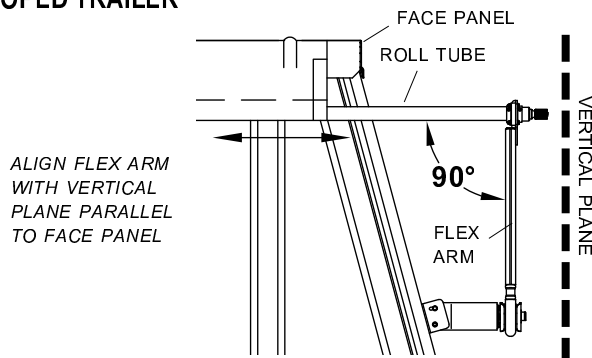
REAR OF TRAILER

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

VERTICAL TRAILER



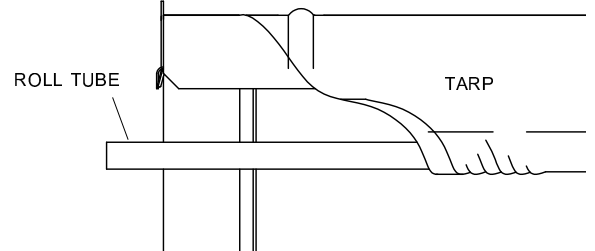
SLOPED TRAILER



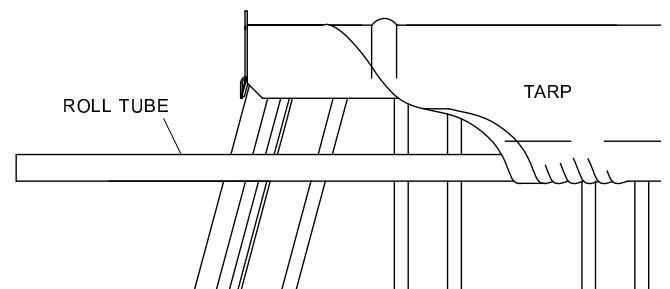
FRONT OF TRAILER

STEP 2: Slide tarp back on roll tube.

VERTICAL TRAILER

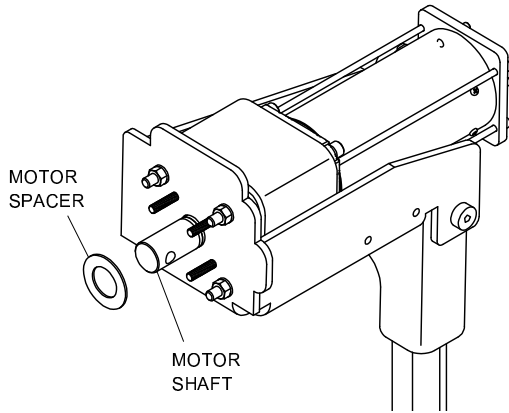


SLOPED TRAILER

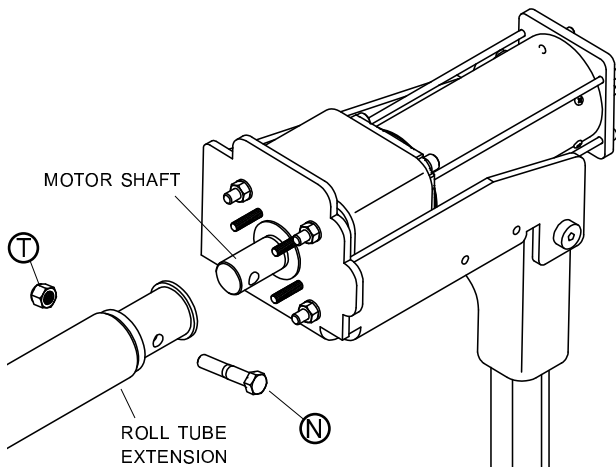


Fasten roll tube extension to motor mount bracket:

STEP 3A: Slide motor spacer over motor shaft.



STEP 3B: Slide roll tube extension over motor shaft. Fasten with 3/8" x 2" cap screws and lock nuts. 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.

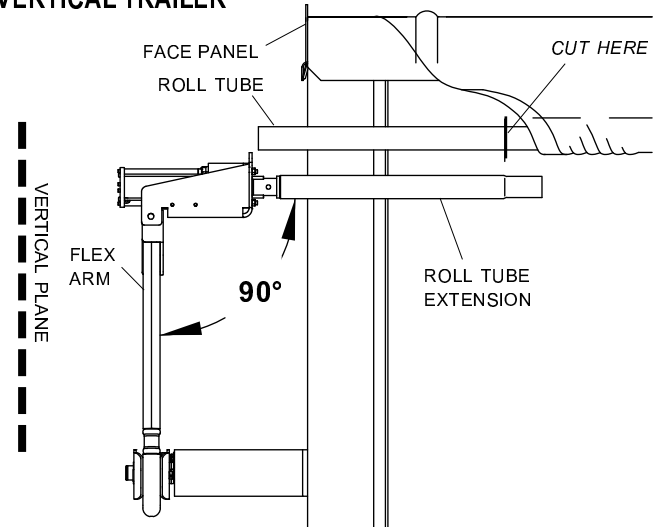
NOTE: Requires two people for safe installation.



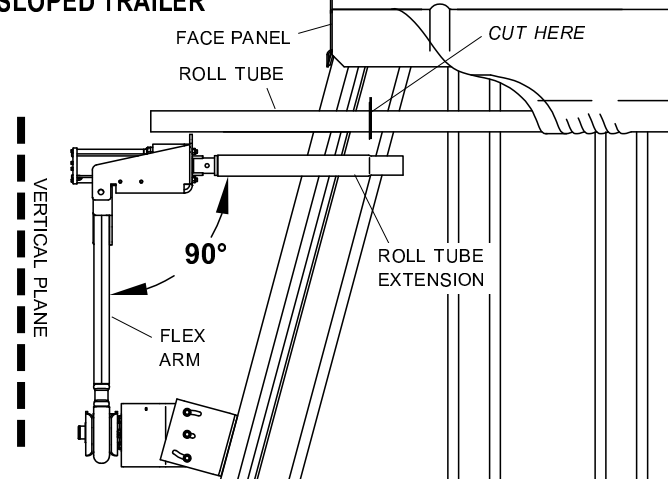
CAUTION

On certain trailers, clearance lights might be in the way of the roll tube and can be damaged if caution is not taken. In some instances, a 'deflector' might have to be installed to prevent the roll tube from causing damage to these lights.

VERTICAL TRAILER



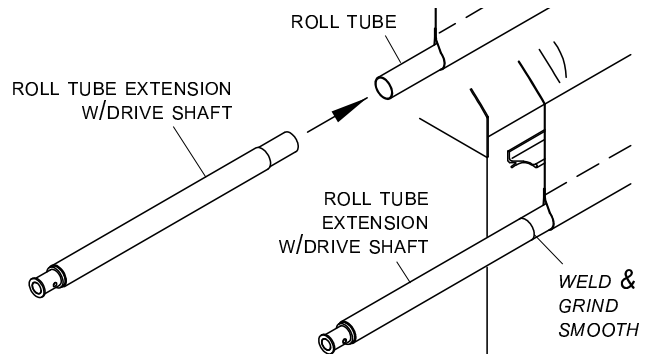
SLOPED TRAILER



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.

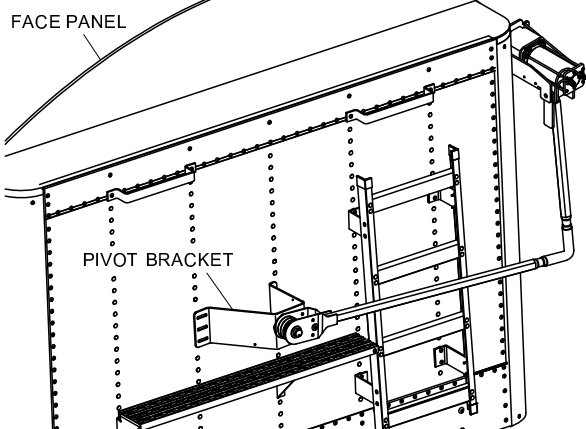
STEP 6: Insert swaged end of roll tube extension w/drive shaft into roll tube. Align extension straight with roll tube and weld all around. Grind smooth.

NOTE: Pull roll tube away from tarp and trailer before welding to protect from weld spatter. Align roll tube extension straight with roll tube before welding so tarp system will roll smoothly.



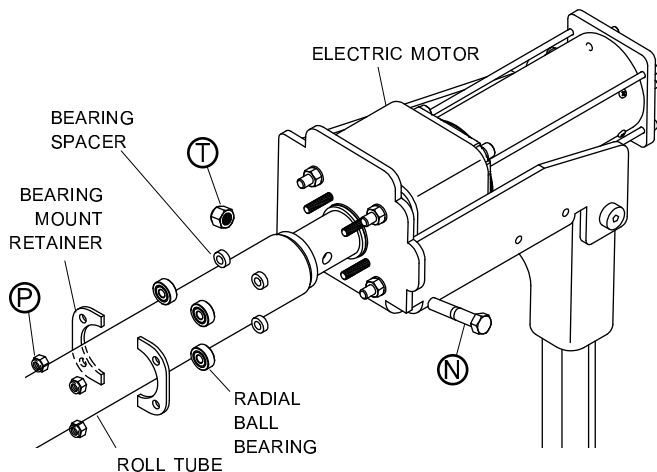
NOTE: To prevent rust, paint all exposed metal such as weld seams and/or metal exposed by grinding or cutting, with corrosion-resistant paint.

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 motor as shown below. Make sure torsion springs load when tarp opens.



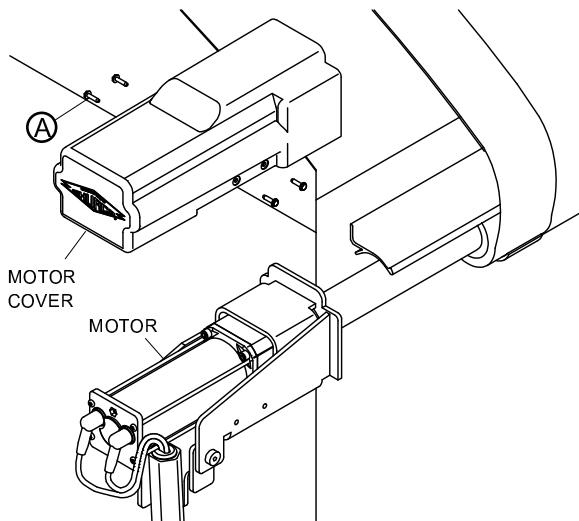
⚠ WARNING
Flex arms are under tension while torsion springs are engaged. Use caution while assembling and disassembling arms. Failure to read and follow instructions could result in serious injury or death.

STEP 8: Refasten and secure roll tube to electric motor shaft with 3/8" x 2" cap screw and lock nut. Install bearing spacers, radial ball bearings and bearing mount retainer and secure with 1/4" lock nuts.



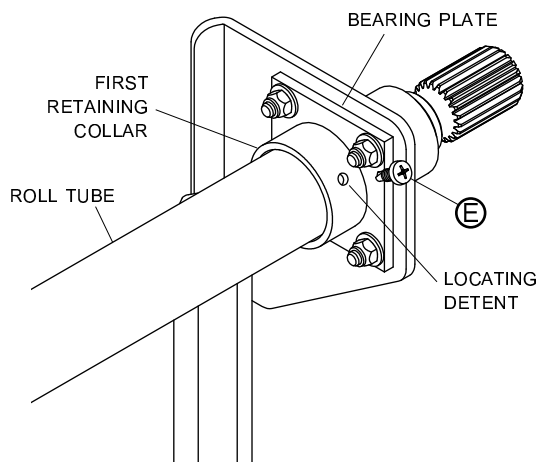
NOTE: Verify again that flex arm is on a vertical plane and is parallel to the face panel before proceeding. Make sure all fasteners holding motor to upper flex arm bracket are tightened securely.

STEP 9: Fasten motor cover onto motor with #10 x 3/4" screws.



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

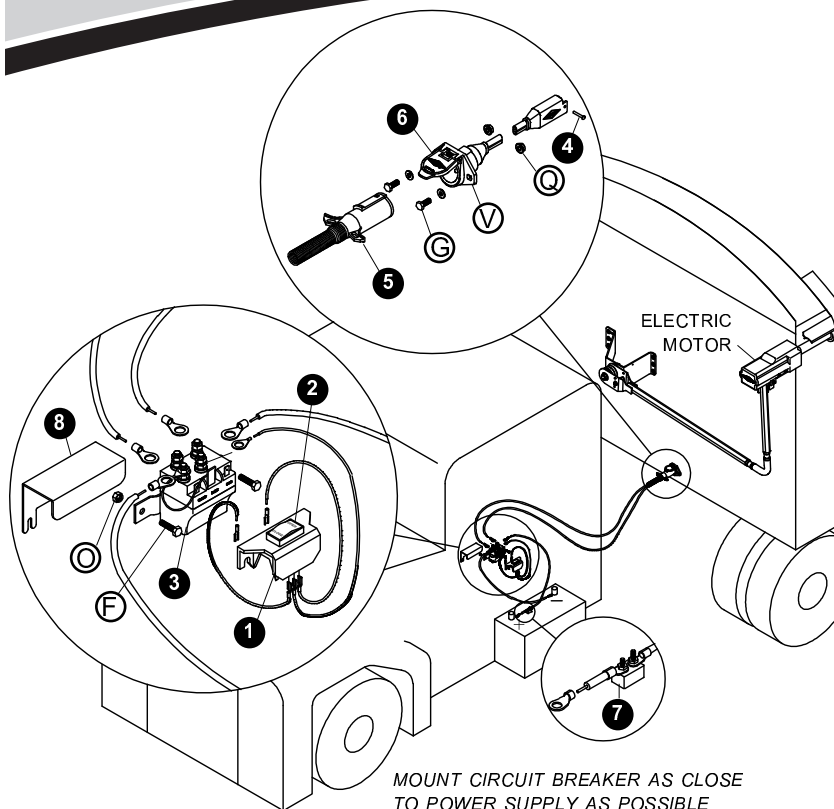
STEP 11: When both front and rear flex arms are vertical, slide first retaining collar flush with bearing plate. Fasten collar to roll tube at three locating detents, using three provided 1/4" x 1" self-drilling screws.



NOTE: If front and rear bearing flange screws have been tightened, they must be loosened, readjusted and tightened securely.

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 Modified-Reset Circuit Breaker |
| 8. | 1703896 | Solenoid Cover |
| F. | 1700381 | Cap Screw - 1/4" x 1" |
| G. | 1701045 | Cap Screw - 5/16" x 3/4" |
| O. | 1700408 | Hex Nut - 1/4" |
| Q. | 1704946 | Flanged Top Lock Nut - 5/16" |
| V. | 1700427 | Flat Washer - 1/4" |



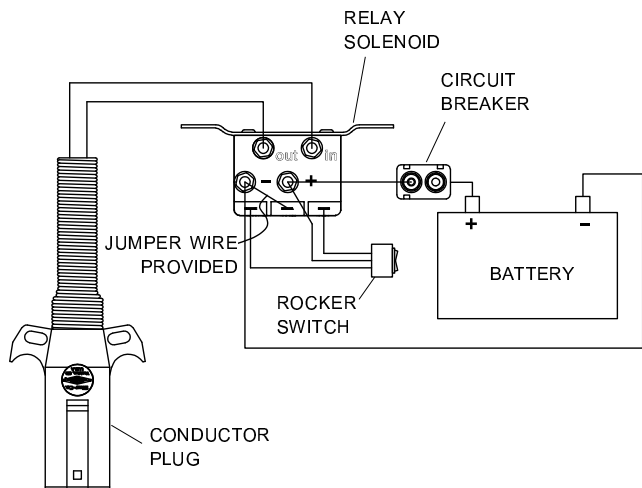
WARNING
 When transporting trailer, wiring from in-cab rocker switch must be connected to 4500HD system on trailer. If motor is not connected to cab-wired solenoid while in transit, tarp may unwind and blow off.

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

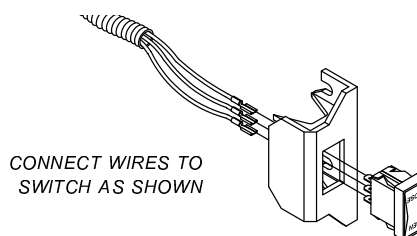
RING TERMINAL STRIP WIRE INSULATION CRIMP SECURELY

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

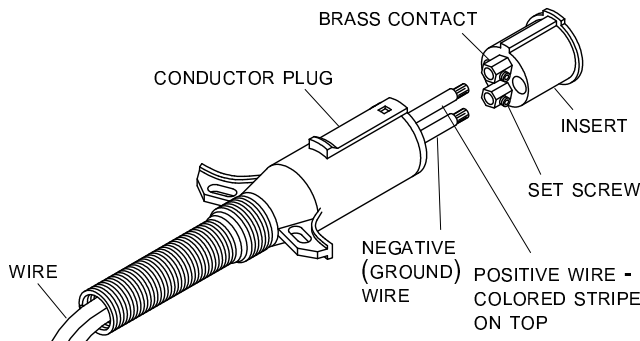
STEP 2: Mount solenoid in a suitable location - a ventilated area near the battery is ideal. Determine best route for wire. This is usually along the frame with existing wire harness. Run 6-ga. wire from conductor plug to solenoid and from power supply to solenoid as shown in diagram. Run 14-ga. wires from solenoid to switch.

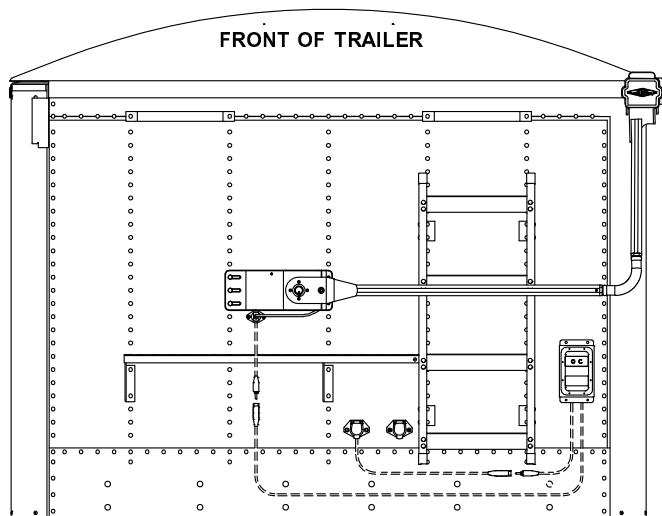


STEP 3: Locate rocker switch in a convenient operating location. Switch can be mounted in cab, on dash panel, on driver side door jamb or in a convenient location outside the cab.



STEP 4: 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.

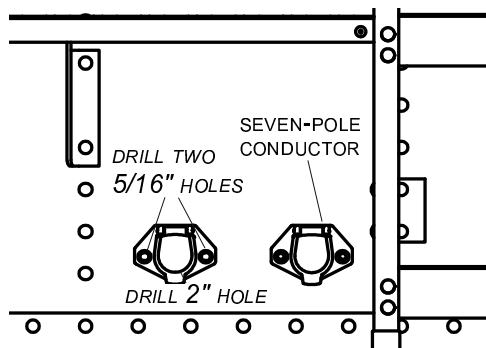




NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so wires will reach components with ample room for connection.

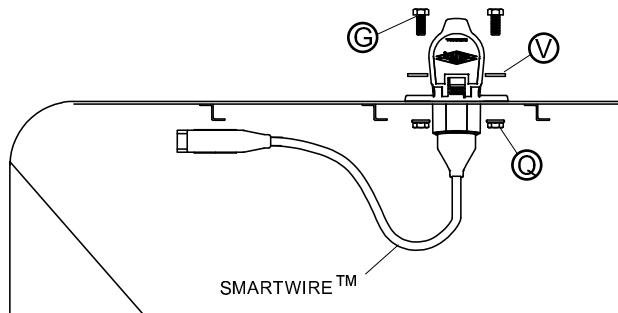
DUAL CONDUCTOR

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



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

STEP 3: Fasten conductor socket to trailer with 5/16" x 3/4" cap screws, flat washers and nuts.

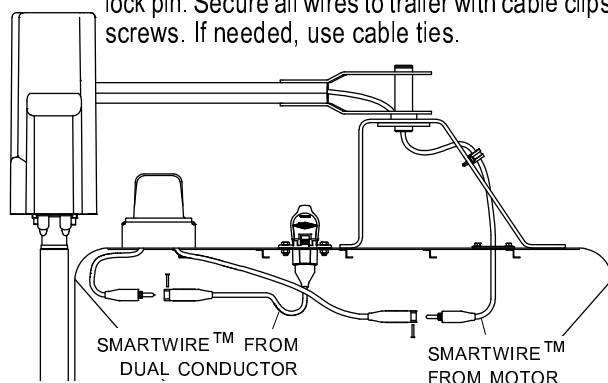


CAUTION

Do not cut SMARTwire™. Bind excess wire with cable ties.

WIRING SCHEMATIC

STEP 1: Connect SMARTwire™ from electric motor to SMARTwire™ from dual conductor and secure connection with lock pin. Secure all wires to trailer with cable clips and screws. If needed, use cable ties.



NOTE: Coat each connection with dielectric grease (P/N 1704378) to prevent corrosion.

CAUTION

Check all hardware for complete assembly before operating. Inspect system at this time and adjust as required.

OPERATION:

A) Check motor direction by activating switch to "OPEN." If switch is running system backwards, change wire leads on dual conductor plug to opposite connections.

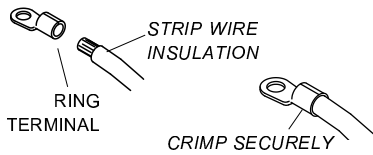
B) Close tarp: Push switch to "CLOSE" and hold. Observe tarp and release switch when tarp is fully closed.

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

NOTE: 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.

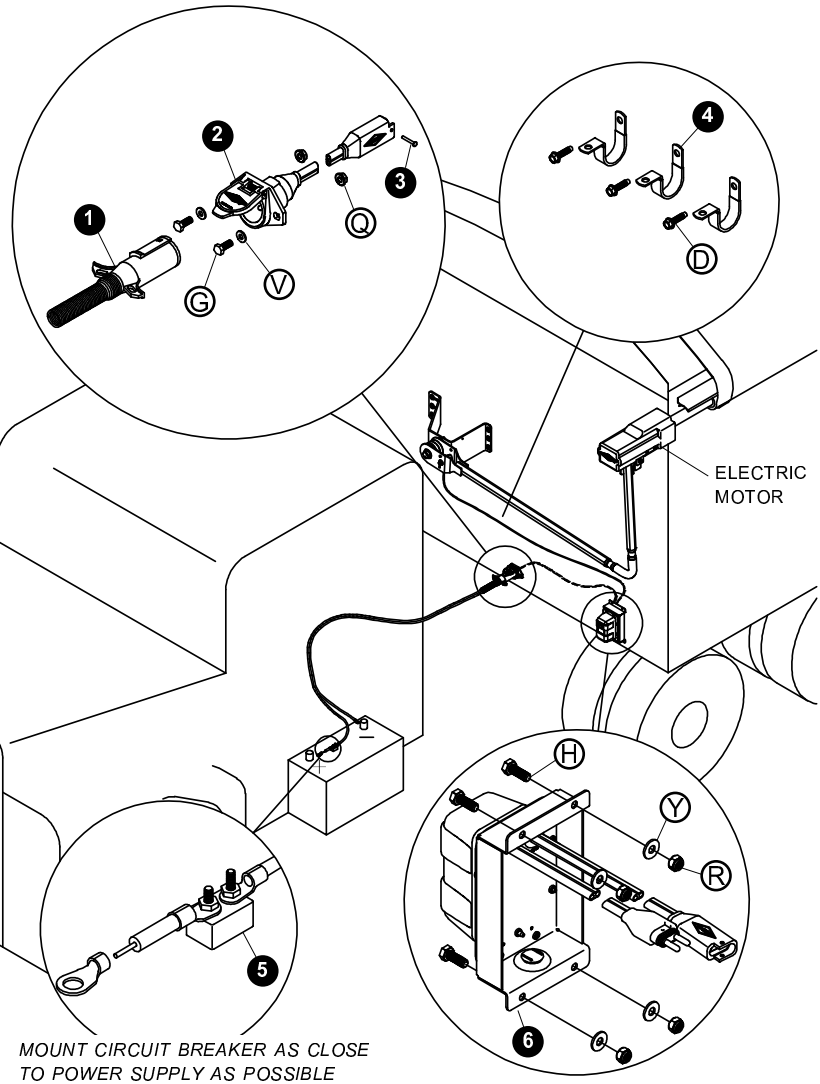
| Item | Part # | Description |
|------|---------|---------------------------------------|
| 1. | 1115385 | Heavy-Duty Dual-Conductor Plug |
| 2. | 1120670 | SMARTwire™ Dual-Conductor Socket |
| 3. | 1704751 | Harness Lock Pin - 1/4" x 7/8" |
| 4. | 1702108 | Wire Clip - 3/4" |
| 5. | 1704354 | 40-Amp Modified-Reset Circuit Breaker |
| 6. | | Shur-Co® Wireless Receiver |
| D. | 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" |
| Q. | 1704946 | Flanged Top Lock Nut - 5/16" |
| R. | 1700419 | Lock Nut - 5/16" |
| V. | 1700427 | Flat Washer - 1/4" |
| Y. | 1201237 | Flat Washer - 5/16" |

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

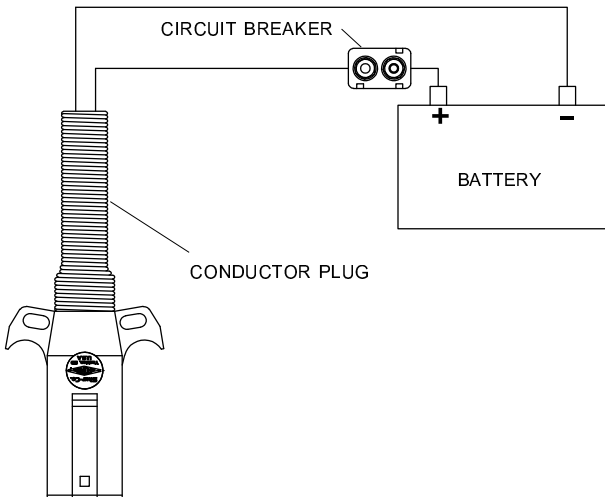


⚠ NOTICE

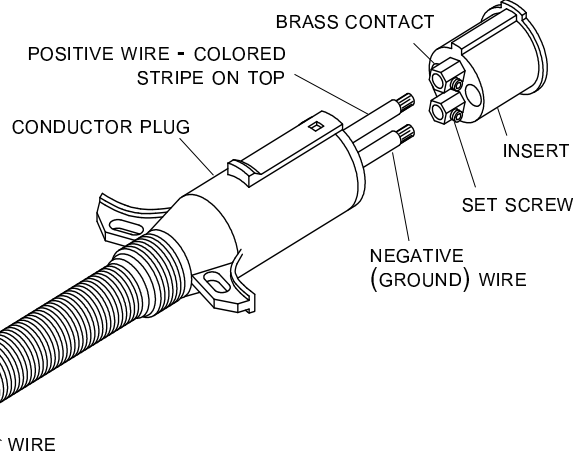
Do not power any Shur-Co® wireless system with battery charger alone, as this will likely cause system abnormalities and/or system malfunction. Instead, use a 12-volt truck/automobile battery to provide power to trailer.

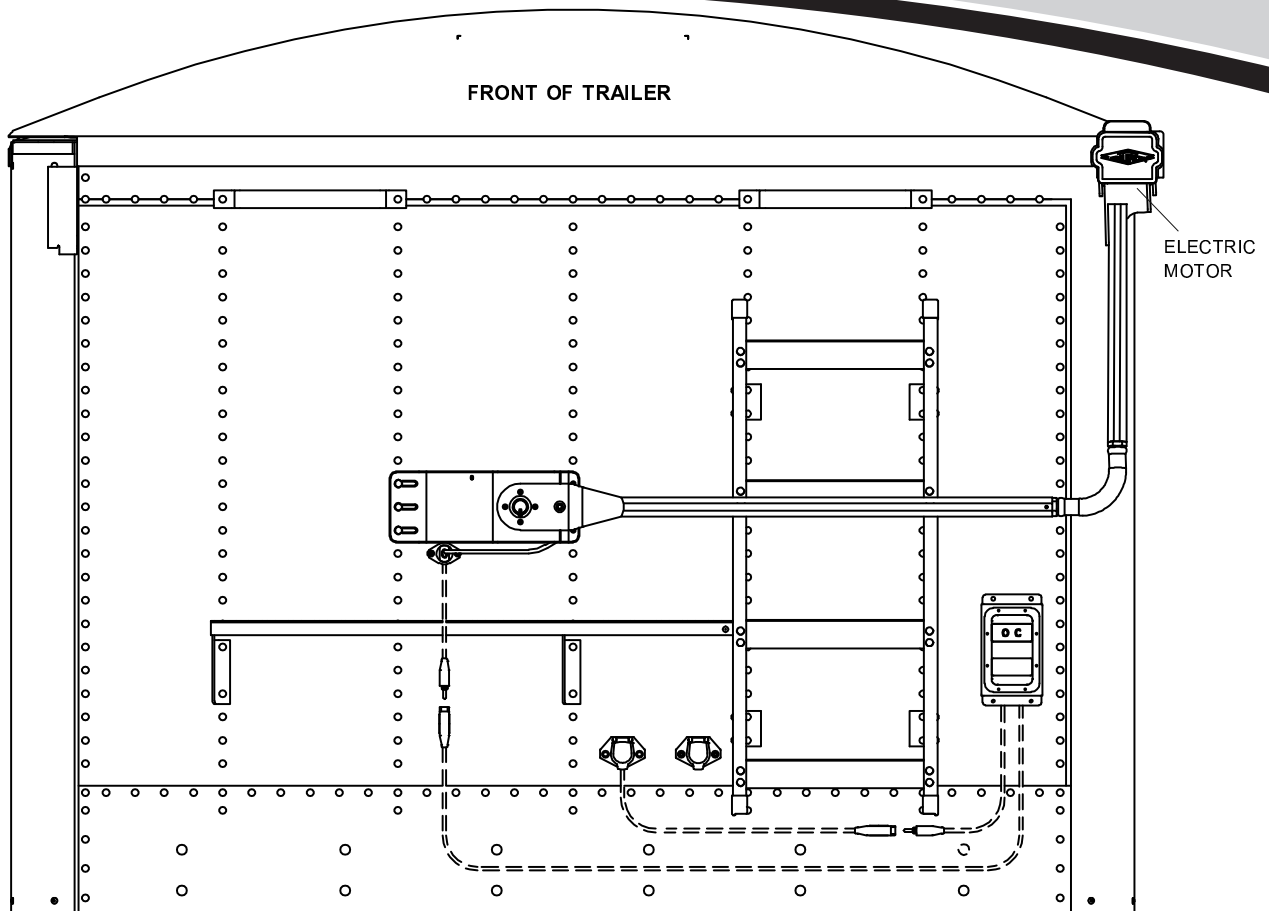


STEP 1: Mount circuit breaker as close as possible to battery or power supply.



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.

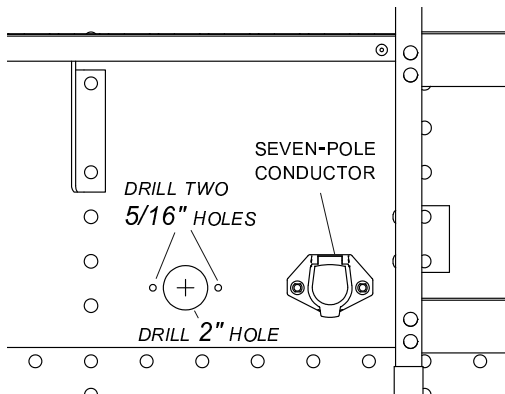




NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so that wires will reach components with ample room for connection.

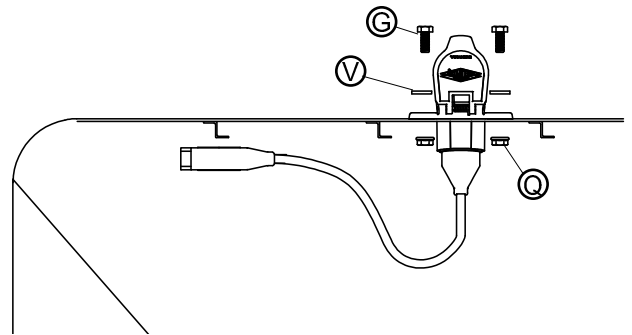
DUAL CONDUCTOR SOCKET

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



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

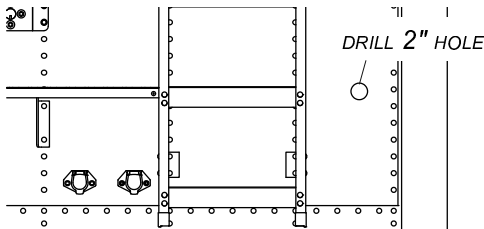
STEP 3: Fasten conductor socket to trailer with 5/16" x 3/4" cap screws, flat washers and nuts.



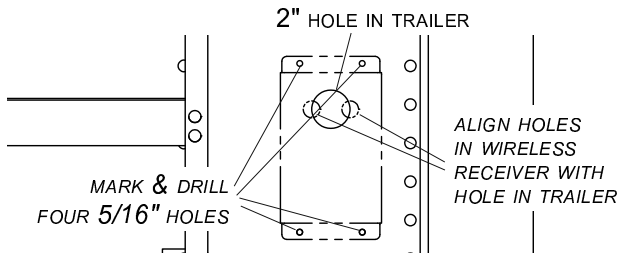
CAUTION
Do not fasten SMARTwire™ components to trailer through hopper walls.

SHUR-CO® WIRELESS RECEIVER

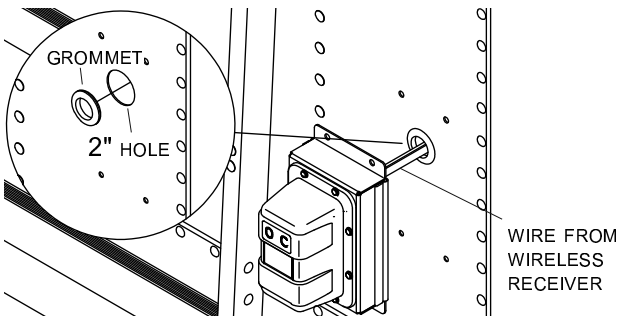
STEP 1: Locate Shur-Co® wireless receiver as shown in front view. Determine location and drill 2" hole through trailer skin.



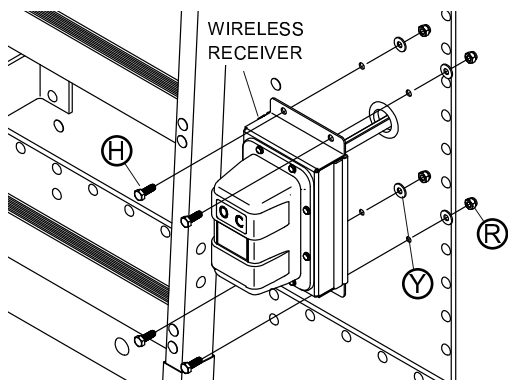
STEP 2: Align holes in wireless receiver over 2" hole in trailer as shown below. Using holes on flanges on receiver as a guide, mark and drill four 5/16" holes as shown.



STEP 3: Install grommet into 2" hole. Insert wire from wireless receiver through grommet.

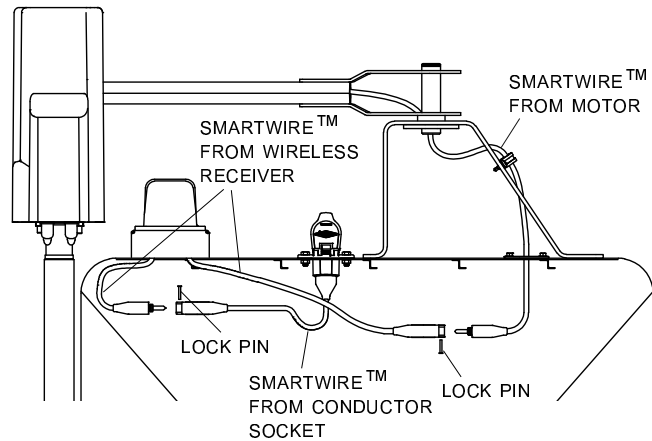


STEP 4: Align holes on wireless receiver with holes on trailer. Fasten receiver to trailer with 5/16" x 7/8" cap screws, lock washers and nuts.



WIRING SCHEMATIC

STEP 1: Connect SMARTwire™ from wireless receiver to SMARTwire™ from electric motor. Connect SMARTwire™ from wireless receiver to SMARTwire™ from conductor socket. Secure connections with lock pins. Secure wires to trailer with cable clips and screws. If needed, use cable ties.



NOTE: Coat each connection with dielectric grease (P/N 1704378) to prevent corrosion.

CAUTION

Check all hardware for complete assembly before operating. Inspect system at this time and adjust as required.

OPERATION:

A) Check motor direction by activating switch to "OPEN." If switch is running system backwards, change wire leads on dual conductor plug to opposite connections.

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.

NOTE: 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.

NOTE: The receiver may be pressure washed, but keep nozzle at least 3' from system while spraying.

Power-up/down:

The transmitter will power up when the lid is opened. The transmitter will power down when the lid is closed or when the lid is left open three minutes after the last button is pushed.

Standard operation:

After power-up, the first channel will be immediately active and the LED indicator for this channel will be flashing. The *Open/On* and *Close/Off* buttons are operational for the indicated active channel. While pressed, the LED indicator will flash faster, indicating channel operation.

The *Select* button will cycle between enabled channels. If only one channel is enabled, there will be no apparent change when the *Select* button is pressed.

Channel Programming Mode:

The Shur-Co® SMARTransmitter® has five channels. Pressing the *Select* button toggles through these channels. Unused channels can be disabled if desired, using the following process, but your transmitter is fully operational as shipped. This process may be skipped. Unused transmitter channels will not perform any functions.

Hold the *Select* button down for 10 seconds and the transmitter will enter *Channel Programming Mode*. Each time *Channel Programming Mode* is entered, the status of all five channels must be reset.

While in *Channel Programming Mode*, the programmable channel will be indicated by a solid lit LED.

NOTE: The transmitter will NOT activate any motor or lighting system while the transmitter is in *Channel Programming Mode*.

Press the *Open/On* button to enable the current channel (designated by the indicator light). Press the *Close/Off* button to disable the current channel. The indicator light will automatically jump to the next channel.

After programming all five channels, the transmitter will display the programmed-channel status for all channels for three seconds. All enabled-channel LEDs will be lit solid and all disabled-channel LEDs will not be lit. Buttons will not function during this three-second period.

The transmitter will automatically exit *Channel Programming Mode* after three seconds and return to *Operational Mode*.

NOTE: If there is not at least one enabled channel after programming, the transmitter will not save the changes and will revert back to the previously saved channel settings.

TIP: To cancel your changes and exit *Channel Programming Mode*, close the transmitter cover.

Channel programming example:

The transmitter in this example is labeled with the following five channels:

- Tarp System
- Front Hopper
- Back Hopper
- Lights
- Auxilliary

These channel labels are for a standard agricultural transmitter. Your transmitter label may differ.

The task is to enable the *Tarp System*, *Front Hopper* and *Back Hopper* channels.

1. Hold down the *Select* button for 10 seconds. The transmitter will enter *Learn Mode*. The *Tarp System* channel LED will be lit. All other channel LEDs are off.
2. Press the *Open/On* button to enable the *Tarp System* channel. The *Front Hopper* LED will be lit.
3. Press the *Open/On* button to enable the *Front Hopper*. The *Back Hopper* LED will be lit.
4. Press the *Open/On* button to enable the *Back Hopper*. The *Lights* channel LED will be lit.
5. Press the *Close/Off* button to disable the lights. The *Auxilliary* LED will be lit.
6. Press the *Close/Off* button to disable the *Auxilliary* channel LED.
7. The transmitter will display all activated channels for three seconds. The transmitter will automatically exit *Channel Programming* and revert to *Operational Mode*. The *Tarp System* LED will be flashing, indicating that the channel is active and ready for operation.

SMARTransmitter® to receiver programming:

Shur-Co® SMARTrailer® wireless systems are typically pre-programmed at the factory or by the dealer and should be ready to use as shipped. Re-programming is necessary after replacement transmitters or receivers are installed.

Use the following method to program the RF receiver to accept and respond to signals from up to five transmitters. The receiver will not accept or respond to signals from transmitters that have not been programmed using this method.

1. Remove the receiver cover, pulling gently on the cover to prevent damage to wires that are connected to the rocker switch.
2. Check to be sure the 4500 Series is connected to the power supply. The receiver must be connected to power to be programmed. If a battery disconnect switch is installed, make sure it is turned on.
3. The receiver can learn to recognize and respond to up to five transmitters. Gather all of the transmitters to be introduced to the receiver. Open the transmitter lid(s) in order to turn them on.
4. Set the transmitter(s) to the appropriate channel (*Tarp System*, etc.). See *Transmitter Programming & Operating Instructions*.

NOTE: Read the following steps in their entirety before proceeding. Steps 6 to 8 must be completed within 10 seconds.

5. Press and hold the programming button on the bottom of the RF solenoid for five seconds. The solenoid will beep to indicate that it is in programming mode. Release the programming button.
6. Press the *Open/On* button on the first transmitter being introduced. The receiver will beep after receiving the transmitter signal.
7. Repeat step 6 for any remaining transmitters.
8. The receiver will expect five signals, so if you are programming less than five transmitters, press the *Open/On* button additional times on the last transmitter you are programming. Push the *Open/On* button a total of five times (see programming example).
9. After pushing the *Open/On* button five times, the receiver will beep twice to indicate that it has been programmed successfully.

NOTE: The receiver will exit program mode after 10 seconds, whether or not it has five *Open/On* button signals.

10. Verify that each transmitter is operating correctly. If none of the transmitters are operating correctly, verify that there are 12 to 14 volts from the receiver positive to negative, then repeat steps 3 to 9.

11. Refasten receiver cover.

Receiver programming example:

In this example, the receiver controls the 4500 Series motor. The task is to program the receiver to recognize three transmitters.

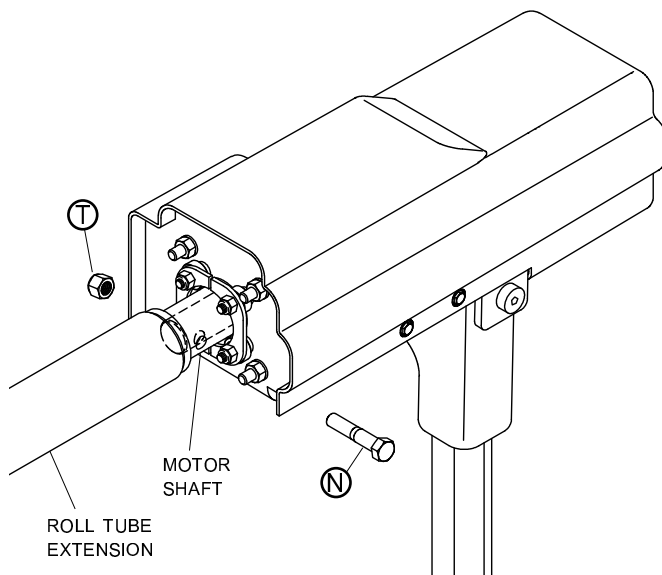
1. Remove the receiver cover and turn on the three transmitters.
2. Set all three transmitters to the tarp system channel.
3. Press and hold the programming button on the RF solenoid for five seconds. The solenoid will beep to indicate it has entered *Channel Programming Mode*. Release the programming button.
4. Press the *Open/On* button on the first transmitter. The receiver will beep to indicate that it has received a signal and memory slot #1 has been filled.
5. Press the *Open/On* button on the second transmitter. The receiver will beep to indicate that it has received a signal and memory slot #2 has been filled.
6. Press the *Open/On* button on the third transmitter. The receiver will beep to indicate that it has received a signal and memory slot #3 has been filled.
7. Press the *Open/On* button on the third transmitter again. The receiver will beep to indicate that it has received a signal and memory slot #4 has been filled.
8. Press the *Open/On* button on the third transmitter again. The receiver will beep twice to indicate that it has received a signal and memory slot #5 has been filled. The double beep also indicates that the receiver has exited programming mode.
9. Verify that the tarp system *Open* and *Close* operations are functioning correctly on all three transmitters.
10. Refasten the receiver cover to motor assembly.

Perform the following steps to change your 4500 Series Electric system to a manual crank operation:

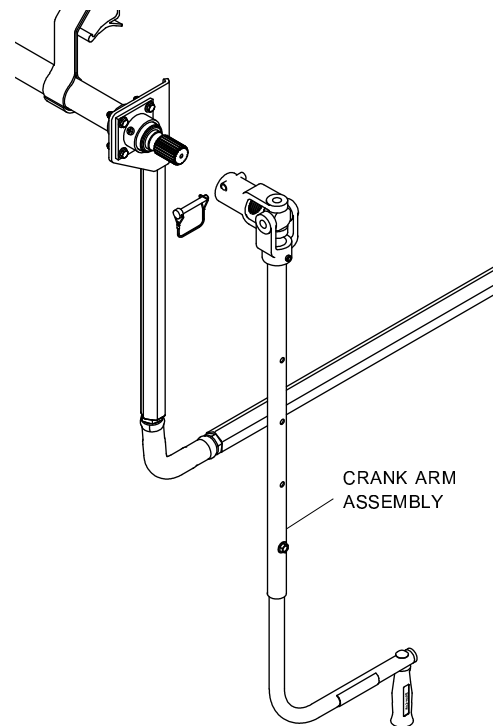
NOTE: Store manual crank arm in truck or mounted to trailer.
(Example - above kingpin in the apex.)

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

STEP 2: At front of trailer, remove 3/8" x 2" cap screw and lock nut from motor shaft and roll tube extension connection.



STEP 3: Remove protective cap and install crank arm assembly as shown in the Shur-Lok® owner's manual. View owner's manual at <http://www.shurco.com>.

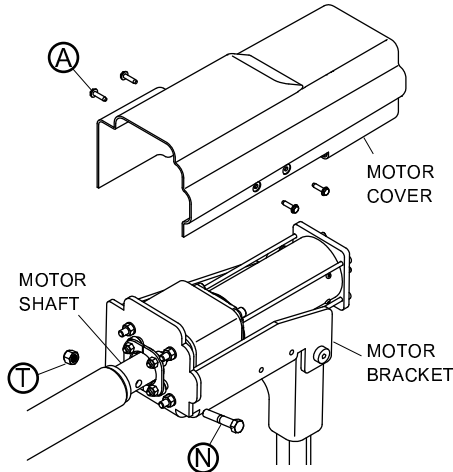


CAUTION

Do not open or close tarp without U-joint securely fastened to splined shaft with wire lock pin. Failure to do so could result in injury.

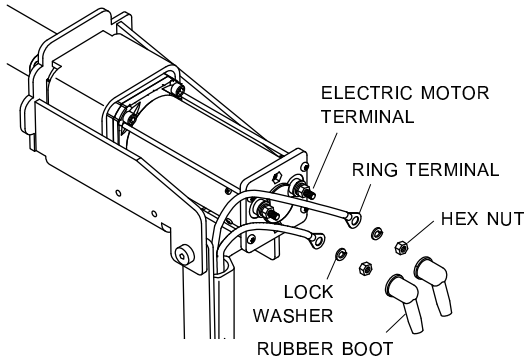
REMOVE EXISTING MOTOR

STEP 1: Disconnect electric power to trailer. Unfasten and remove motor cover. Unfasten 3/8" x 2" cap screw and lock nut holding motor shaft to roll tube/front arm assembly.

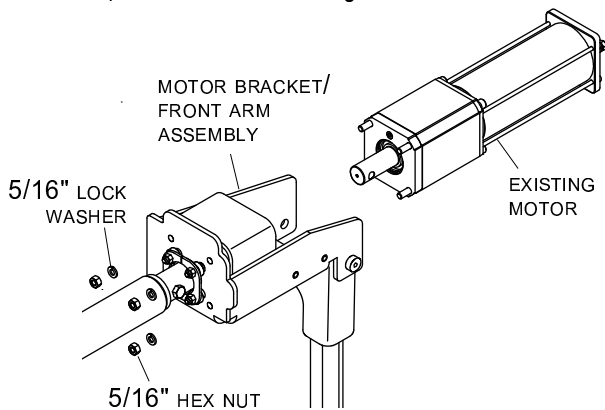


NOTE: Leave roll tube fastened to motor bracket.

STEP 2: Disconnect electric wires from motor terminals.

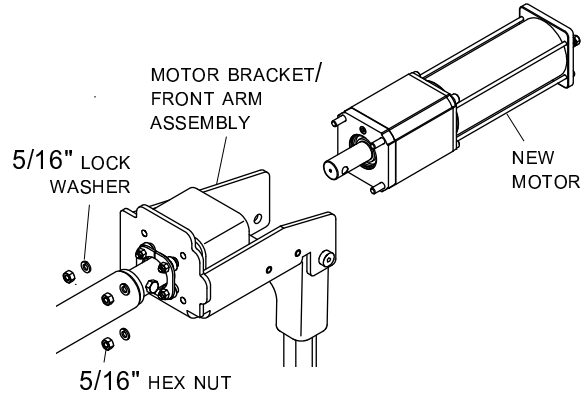


STEP 3: Unfasten and remove only 5/16" lock washers and hex nuts holding motor to motor bracket/front arm assembly, leaving motor mount bearing retainers in place. Remove existing motor.

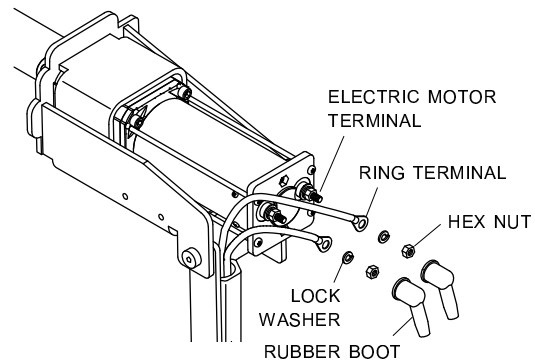


INSTALL NEW MOTOR

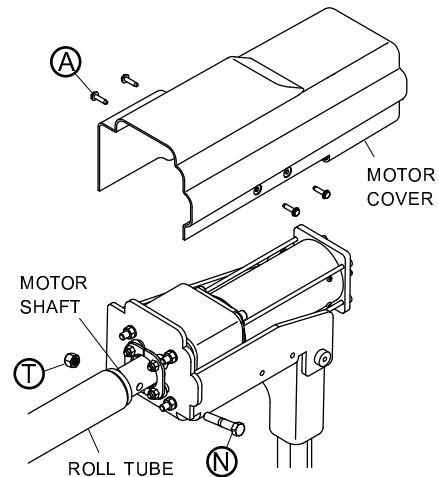
STEP 1: Install new motor. Fasten motor to motor bracket with 5/16" washers and nuts.



STEP 2: Connect electric wires to motor terminals.




STEP 3: Fasten motor shaft to roll tube with 3/8" x 2" cap screw and lock nut. Replace motor cover and fasten to motor with #10 x 3/4" cap screws. Reconnect electric power.



CAUTION

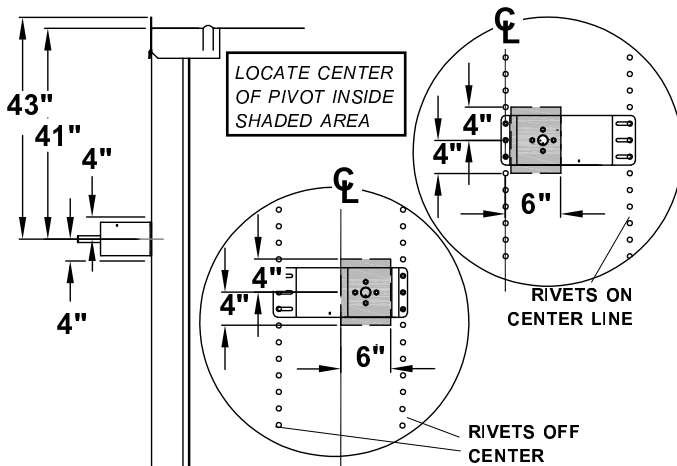
Check all hardware for complete assembly before operating. Inspect system at this time and adjust as required.

NOTE: Read entire page before drilling holes. Determine if rivets are centered or off center on front and rear of trailer.

NOTE: Use pivot bracket washers  only when horizontal corrugation on trailer skin prevents bracket from contacting trailer skin (see instructions on page 2).

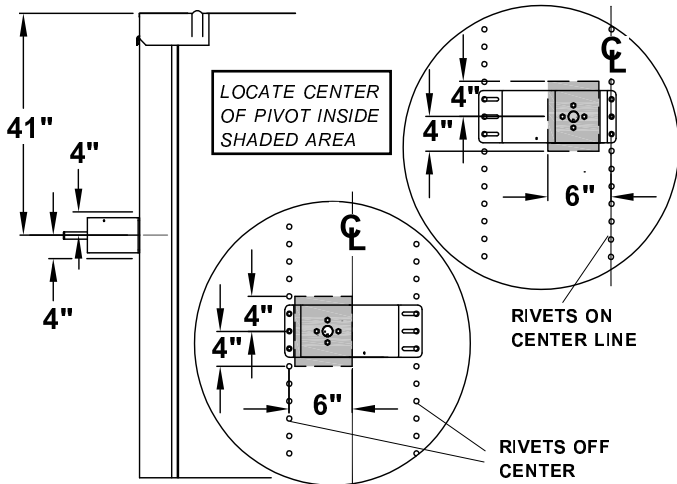
FRONT OF TRAILER

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



REAR OF TRAILER

STEP 2: Locate rear pivot mount bracket so that center of pivot lies within shaded area shown below.



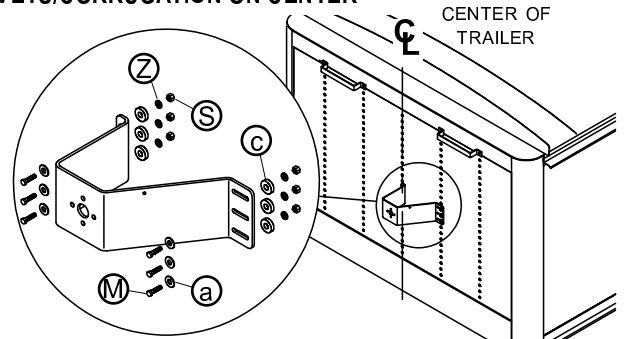
NOTE: Mount brackets into support braces on trailer if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support.

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

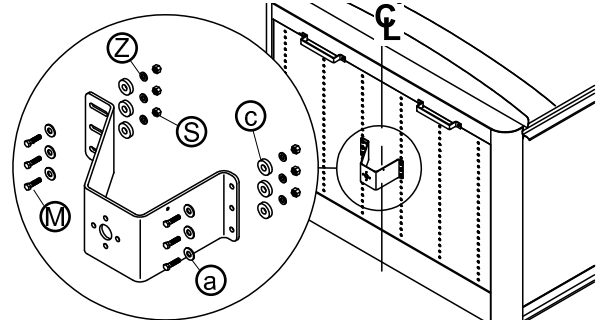
STEP 3: Place pivot mount brackets on trailer in orientation shown below. Using brackets as a guide, mark mounting hole locations.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

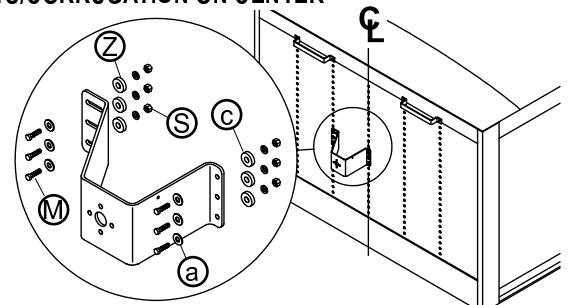


RIVETS/CORRUGATION OFF CENTER

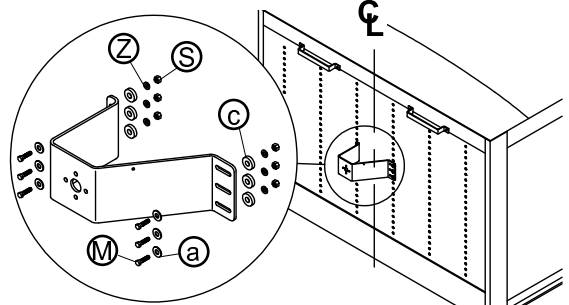


REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

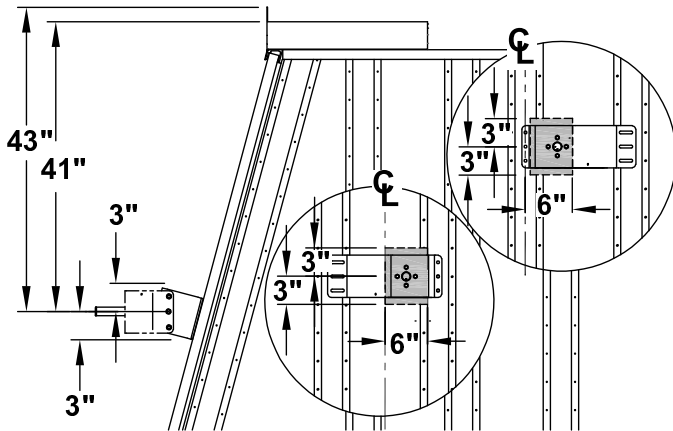


STEP 4: Remove rivets and mount brackets into rivet holes. If this is not possible, drill 13/32" holes in trailer. Fasten with 3/8" x 1 1/4" cap screws, flat washers, lock washers and nuts.

NOTE: Read entire page before drilling holes. Determine if rivets are centered or off center on front and rear of trailer.

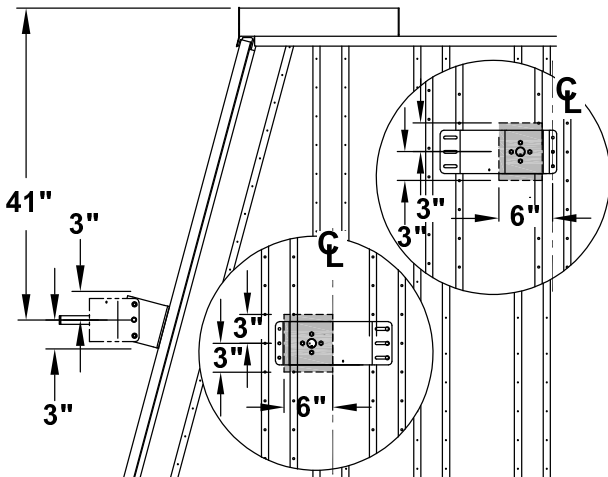
FRONT OF TRAILER

STEP 1: Locate sloped pivot mount bracket 41" down from top of cap or 43" from top of windshield, measuring vertically as shown. Do not measure along slope of trailer.




REAR OF TRAILER

STEP 2: Locate sloped pivot mount bracket 41" below top of cap, measuring vertically as shown. Do not measure along slope of trailer.



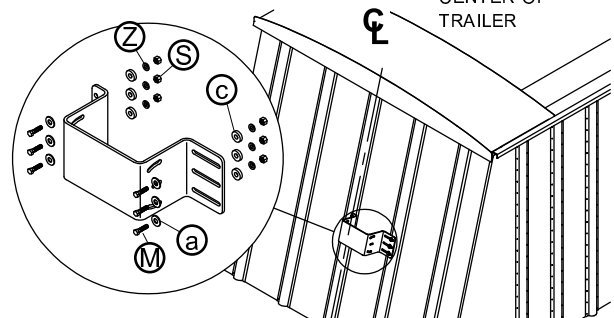
NOTE: Mount brackets into support braces on trailer, if possible. If bracket cannot be mounted into support braces, reinforce mounting area with backer plate for adequate support. If bracket does not sit flush with skin of trailer, install spacers between mounting bracket and skin of trailer to assure solid contact through support braces or backer plate. Before drilling any holes, make sure flex arm has a clear pathway to operate.

NOTE: Use pivot bracket washers  only when horizontal corrugation on trailer skin prevents bracket from contacting trailer skin (see instructions on page 2).

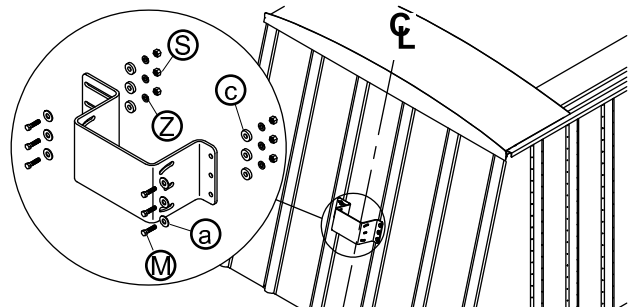
STEP 3: Place pivot mount brackets on trailer in orientation shown below. Using brackets as a guide, mark mounting hole locations.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

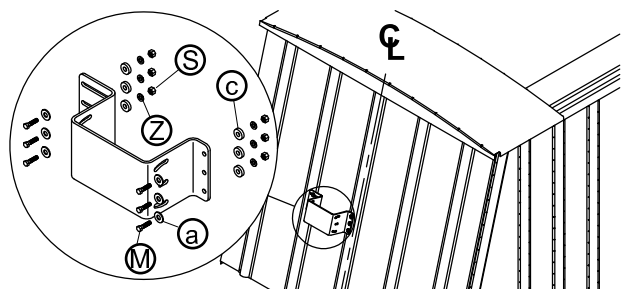


RIVETS/CORRUGATION OFF CENTER

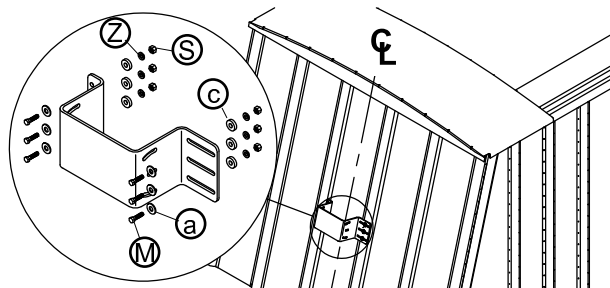


REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

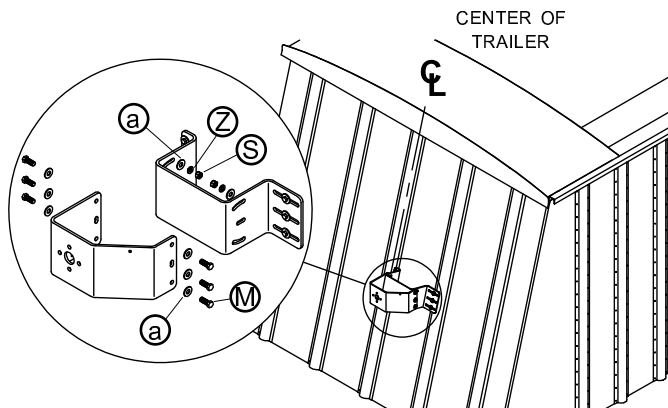


STEP 4: Drill 13/32" holes in trailer. Fasten sloped pivot mount bracket to trailer with 3/8" x 1 1/4" cap screws, flat washers, lock washers and nuts.

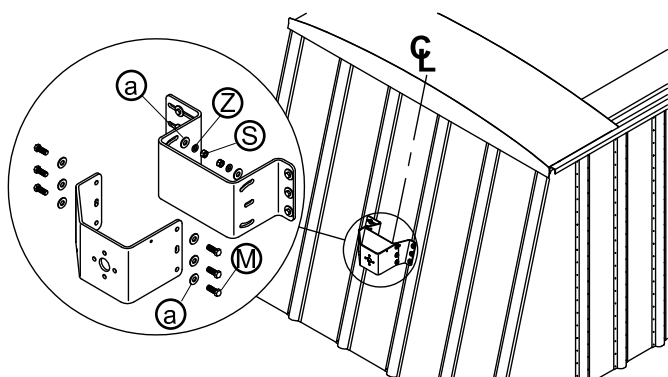
STEP 5: Place pivot brackets on pivot mount brackets in orientation shown below. Fasten pivot brackets to pivot mount brackets with 3/8" x 1 1/4" cap screws, flat washers, lock washers and nuts.

FRONT OF TRAILER

RIVETS/CORRUGATION ON CENTER

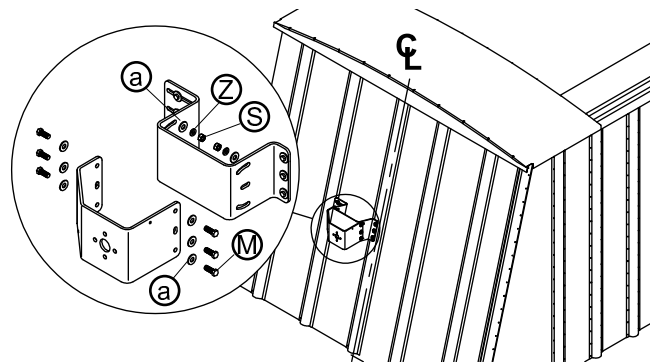


RIVETS/CORRUGATION OFF CENTER

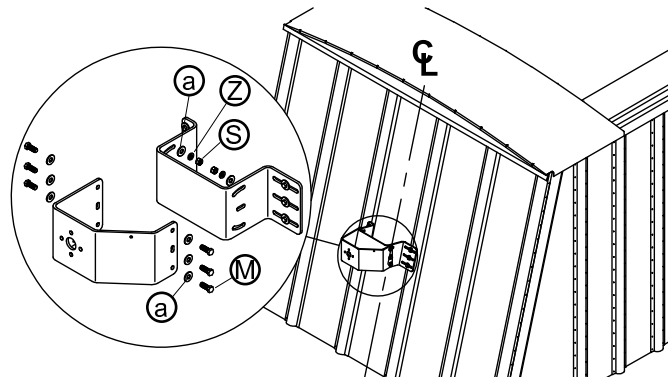


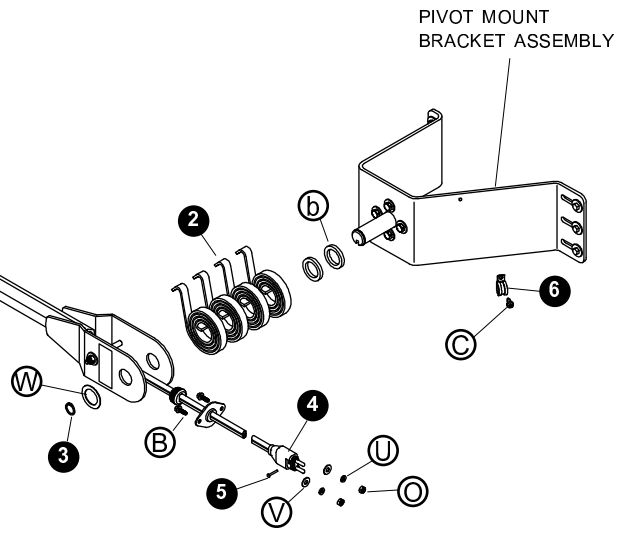
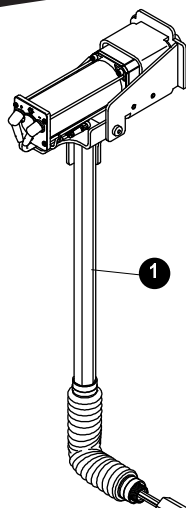
REAR OF TRAILER

RIVETS/CORRUGATION ON CENTER



RIVETS/CORRUGATION OFF CENTER

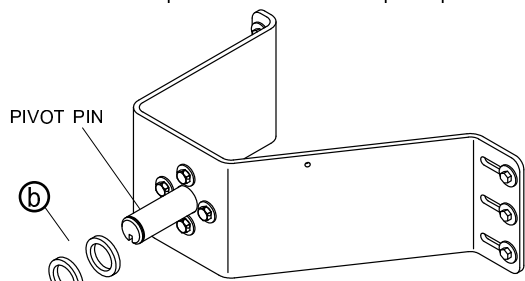




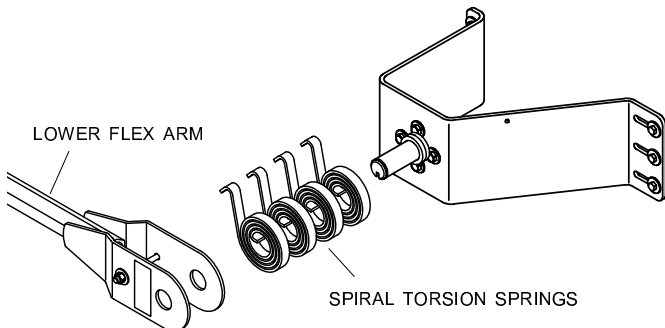
Item Part # Description

- 1. 1120476 Flex Arm Assembly - Std.
- 1120646 Flex Arm Assembly - 7 1/4"
- 2. 1111027 Spiral Torsion Spring
- 3. 1702888 External Retaining Ring - 1 1/4"
- 4. SMARTwire® - 6 Ga. Plug - 9' 9"
- 5. 1704751 Harness Lock Pin - 1/4" x 7/8"
- 6. 1702108 Wire Clip - 3/4" ID
- B. 1700403 Self-Tapping Screw - 1/4" x 3/4"
- C. 1700398 Self-Drilling Screw - 1/4" x 3/4"
- O. 1700408 Hex Nut - 1/4"
- U. 1700436 Lock Washer - 1/4"
- V. 1700427 Flat Washer - 1/4"
- W. 1702890 Flat Washer - 1 1/4"
- b. 1118318 Spacer Washer - 1/4" x 1.28"

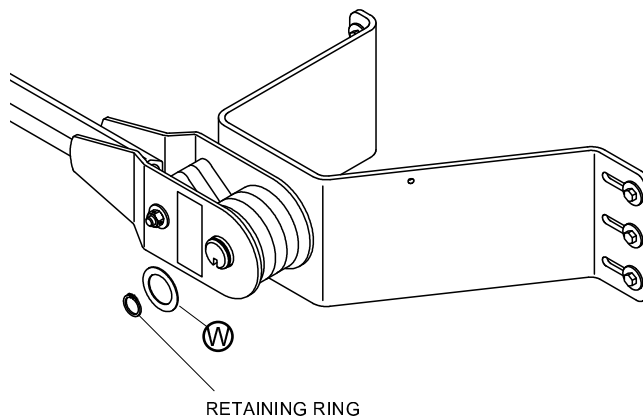
STEP 1: Assemble spacer washers onto pivot pin.



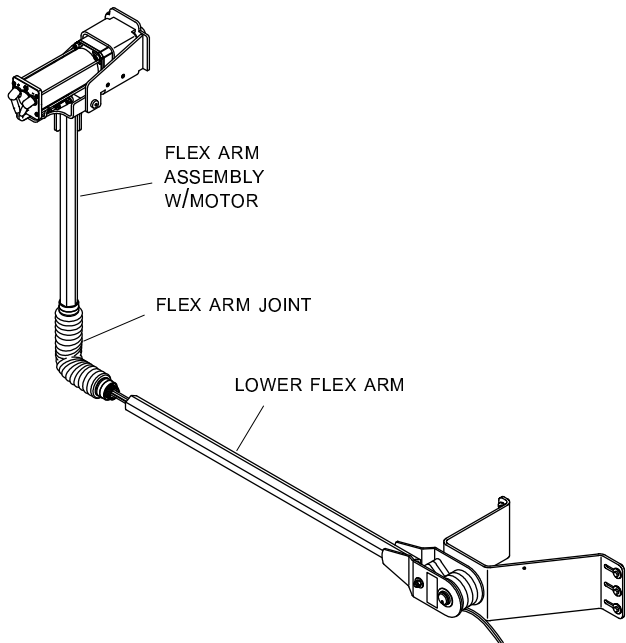
STEP 2: Assemble spiral torsion springs and lower flex arm onto pivot pin. Hook springs over 3/8" x 3 1/2" cap screw and spacer tube.



STEP 3: Secure with 1 1/4" flat washer and retaining ring.



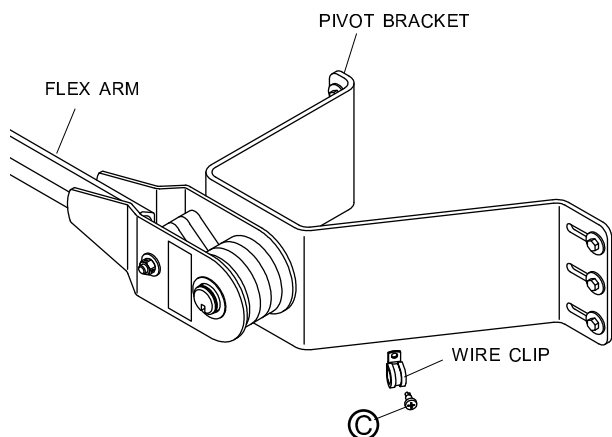
STEP 4: Thread flex arm joint into lower flex arm. Hand tighten only.



CAUTION
Do not twist wire when threading flex arm joint into lower flex arm.

NOTE: Motor assembly on upper flex arm must face toward trailer as shown.

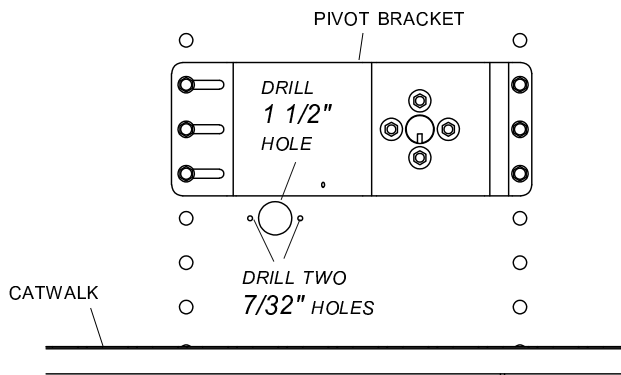
STEP 5: Route 6-ga. wire from flex arm through trailer skin. Fasten wire to pivot bracket with wire clip and self-drilling screw (C) in location shown.



NOTE: Fasten wire clip with self-drilling screw on opposite side of pivot bracket from flex arm to prevent wire from being pinched during operation.

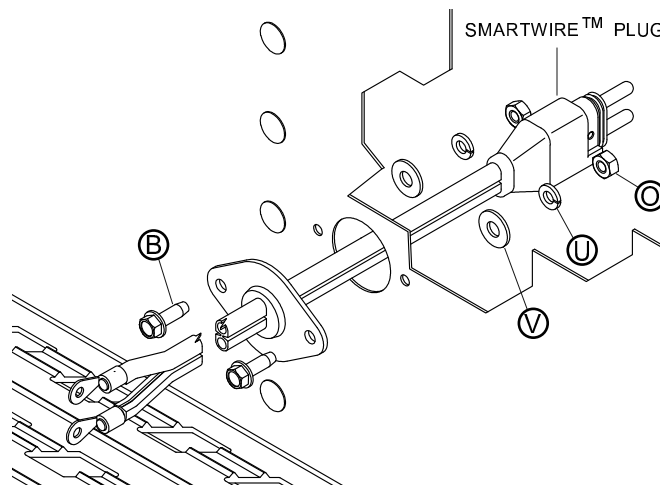
NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so wires will reach components with ample room for connection.

STEP 6: Measure 11" horizontally from center line of trailer and 1" down from lower edge of pivot bracket. Mark and drill 1 1/2" hole through trailer skin.

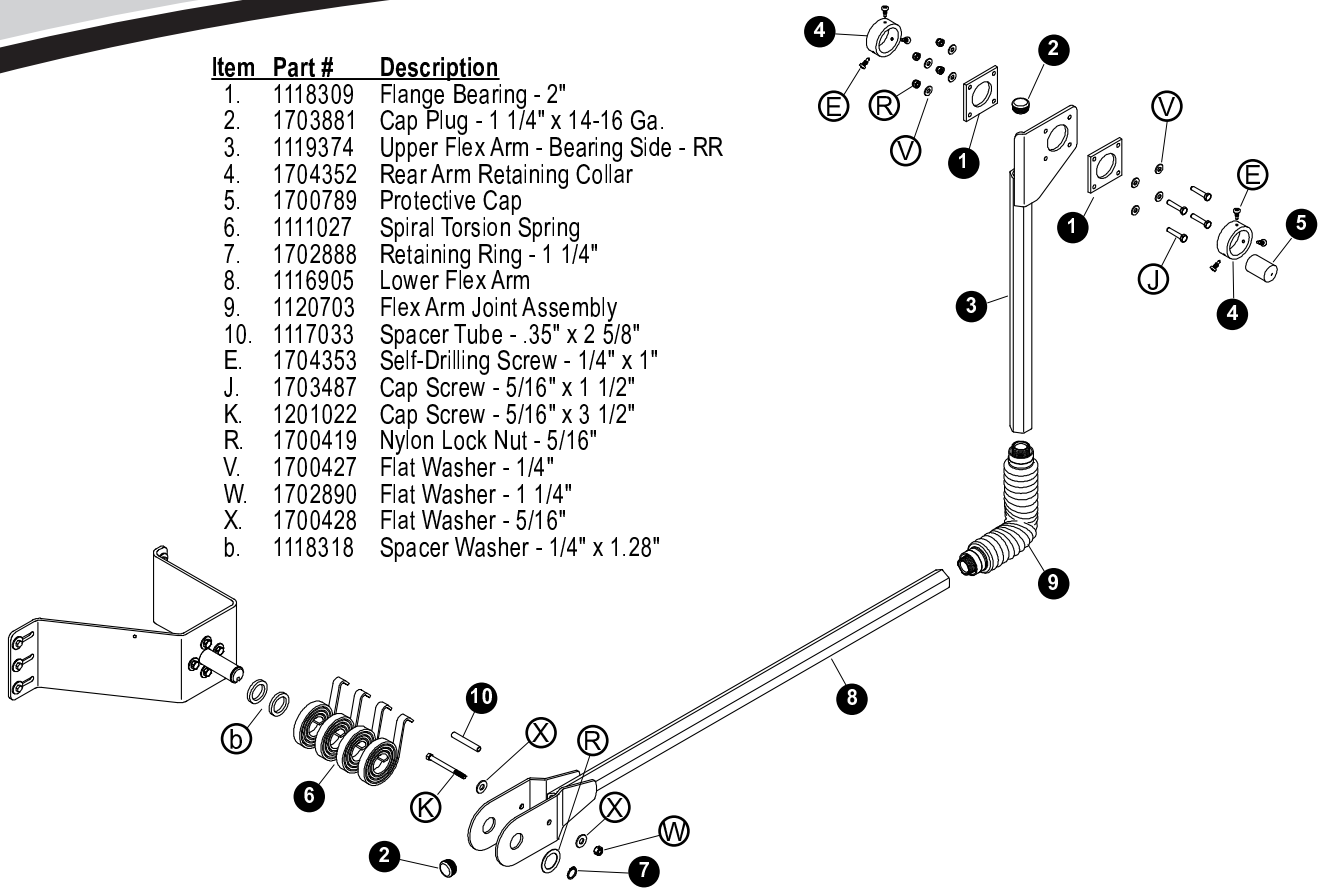


STEP 7: Align adapter plug with 1 1/2" hole. Using plug as a guide, mark and drill two 7/32" holes as shown.

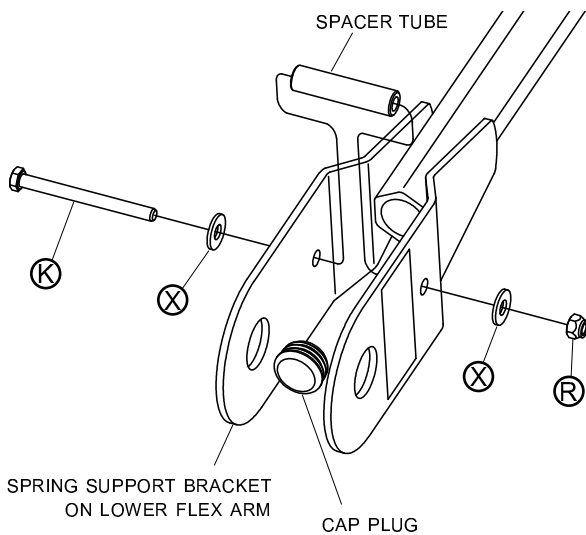
STEP 8: Fasten adapter plug to front of trailer with 1/4" x 3/4" cap screws, lock washers and nuts.



| Item | Part # | Description |
|------|---------|------------------------------------|
| 1. | 1118309 | Flange Bearing - 2" |
| 2. | 1703881 | Cap Plug - 1 1/4" x 14-16 Ga. |
| 3. | 1119374 | Upper Flex Arm - Bearing Side - RR |
| 4. | 1704352 | Rear Arm Retaining Collar |
| 5. | 1700789 | Protective Cap |
| 6. | 1111027 | Spiral Torsion Spring |
| 7. | 1702888 | Retaining Ring - 1 1/4" |
| 8. | 1116905 | Lower Flex Arm |
| 9. | 1120703 | Flex Arm Joint Assembly |
| 10. | 1117033 | Spacer Tube - .35" x 2 5/8" |
| E. | 1704353 | Self-Drilling Screw - 1/4" x 1" |
| J. | 1703487 | Cap Screw - 5/16" x 1 1/2" |
| K. | 1201022 | Cap Screw - 5/16" x 3 1/2" |
| R. | 1700419 | Nylon Lock Nut - 5/16" |
| V. | 1700427 | Flat Washer - 1/4" |
| W. | 1702890 | Flat Washer - 1 1/4" |
| X. | 1700428 | Flat Washer - 5/16" |
| b. | 1118318 | Spacer Washer - 1/4" x 1.28" |

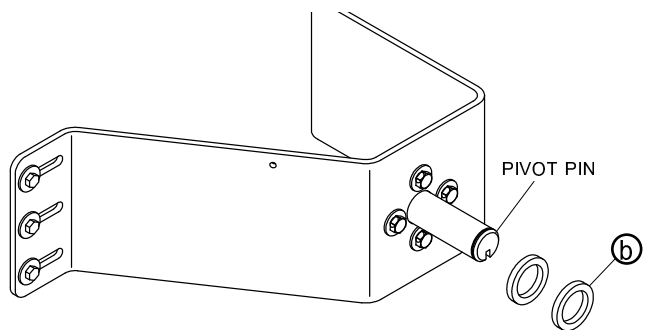


STEP 1: Install cap plug on lower flex arm. Fasten spacer tube into spring support bracket on lower flex arm with 5/16" x 3 1/2" cap screw, two flat washers and nylon lock nut.

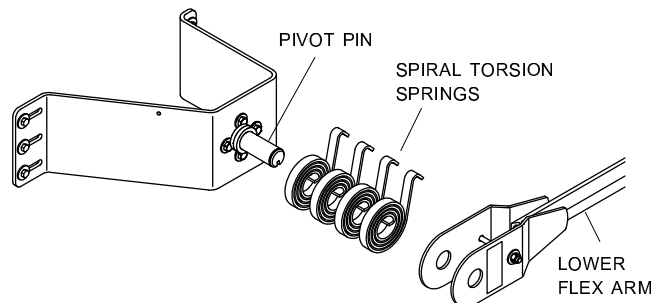


NOTE: Insert cap screw through flex arm so that head of screw will be on inside of assembly (toward the trailer). Warning label must be in plain view on outside of assembly.

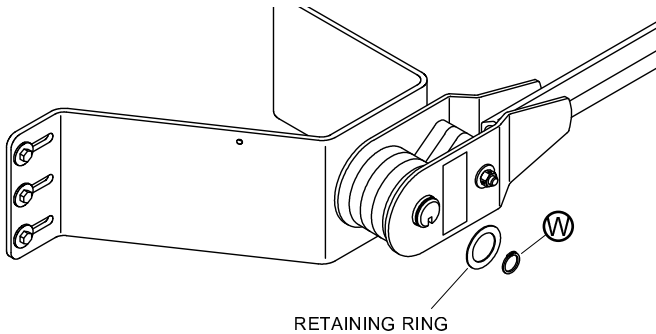
STEP 2: Assemble spacer washers on to pivot pin.



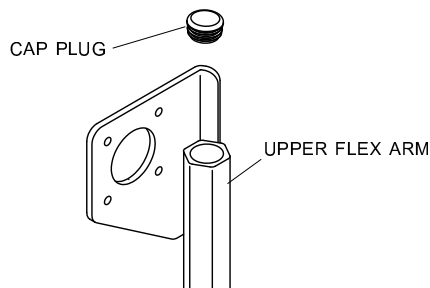
STEP 3: Assemble spiral torsion springs and lower flex arm on to pivot pin. Hook springs over 3/8" x 3 1/2" cap screw.



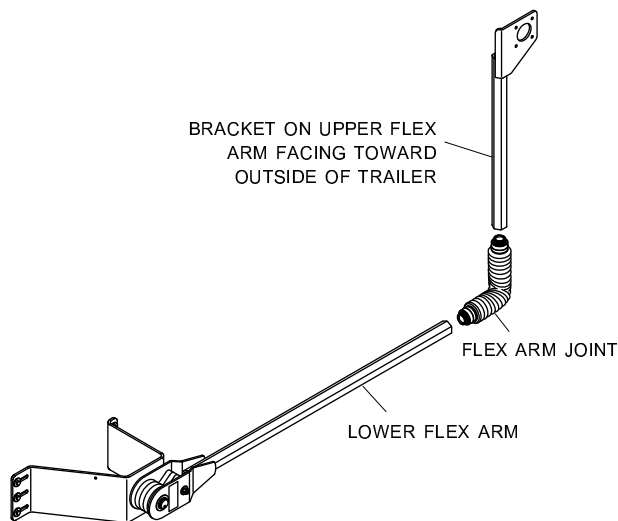
STEP 4: Secure with 1 1/4" flat washer and retaining ring.



STEP 5: Install cap plug on rear upper flex arm.



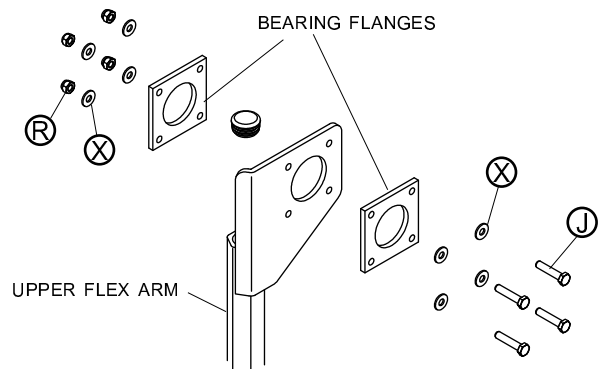
STEP 6: Thread flex arm joint into lower flex arm, then into upper flex arm. Hand tighten only.



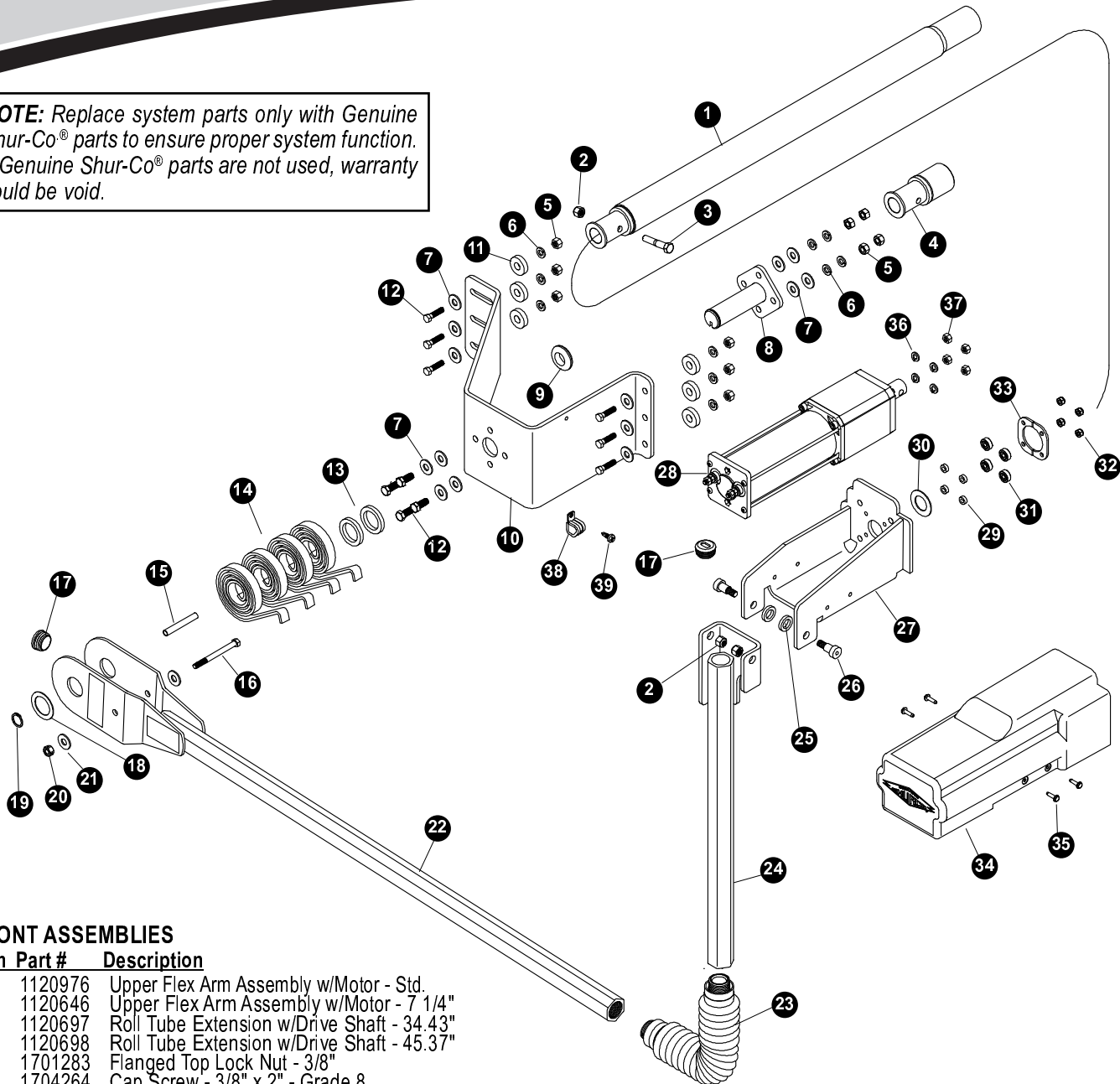
NOTE: Bracket on upper flex arm must face toward outside of trailer as shown above.

NOTE: Go to page 13 to continue installing your reverse roll 4500 Series tarping system.

STEP 7: Fasten bearing flanges to upper flex arm with 5/16" x 1 1/2" cap screws, flat washers and lock nuts as shown. **Finger tighten only to allow for adjustment.**



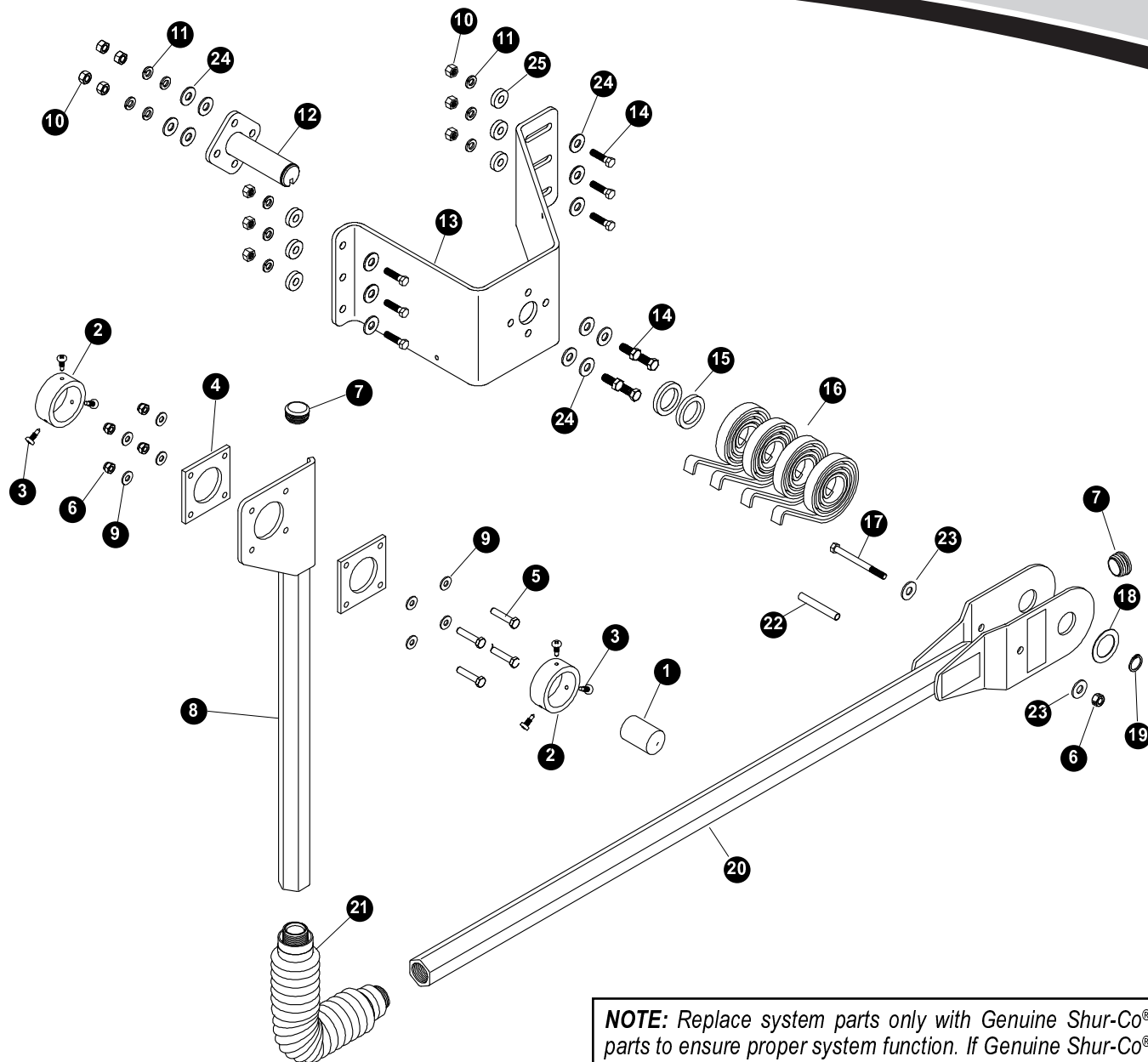
NOTE: Replace system parts only with Genuine Shur-Co® parts to ensure proper system function. If Genuine Shur-Co® parts are not used, warranty could be void.



FRONT ASSEMBLIES

| Item | Part # | Description |
|------|---------|--|
| | 1120976 | Upper Flex Arm Assembly w/Motor - Std. |
| | 1120646 | Upper Flex Arm Assembly w/Motor - 7 1/4" |
| 1. | 1120697 | Roll Tube Extension w/Drive Shaft - 34.43" |
| | 1120698 | Roll Tube Extension w/Drive Shaft - 45.37" |
| 2. | 1701283 | Flanged Top Lock Nut - 3/8" |
| 3. | 1704264 | Cap Screw - 3/8" x 2" - Grade 8 |
| 4. | 1120645 | Roll Tube Drive Shaft |
| 5. | 1700407 | Hex Nut - 3/8" |
| 6. | 1700434 | Lock Washer - 3/8" |
| 7. | 1700429 | Flat Washer - 3/8" |
| 8. | 1116920 | Pivot Pin - 4 Spring |
| 9. | 1703282 | Rubber Grommet - 1 1/4" Insert |
| 10. | 1121578 | Pivot Mt. Bracket - Vertical - 9 1/4" Standoff |
| 11. | 1120291 | Pivot Bracket Washer |
| 12. | 1702891 | Cap Screw - 3/8" x 1 1/4" |
| 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. | 1703882 | Cap Plug w/Hole - 1 1/4" |
| 18. | 1702890 | Flat Washer - 1 1/4" |
| 19. | 1702888 | Retaining Ring - 1 1/4" |
| 20. | 1700419 | Nylon Lock Nut - 5/16" |
| 21. | 1700428 | Flat Washer - 5/16" |
| 22. | 1116905 | Lower Flex Arm |

| Item | Part # | Description |
|------|---------|--|
| 23. | 1120703 | Flex Arm Joint Assembly |
| 24. | 1120676 | Upper Flex Arm - Front |
| 25. | 1120677 | Upper Arm Spacer |
| 26. | 1704778 | Shoulder Bolt - 1/2" x 5/8" - 3/8" x 1/2" Thd. |
| 27. | 1120776 | 4500 Motor Mount - 7 1/4" |
| | 1120662 | 4500 Motor Mount |
| 28. | 1120967 | 4500 Electric Motor |
| 29. | 1120680 | Motor Mount Bearing Spacer |
| 30. | 1120679 | Motor Spacer |
| 31. | 1704736 | Radial Ball Bearing - 1/4" x 3/4" |
| 32. | 1701543 | Nylon Lock Nut - 1/4" |
| 33. | 1120681 | Motor Mount Bearing Retainer |
| 34. | 1704769 | 4500 Series Motor Cover |
| 35. | 1704367 | Hex Flange Cap Screw - #10 x 3/4" |
| 36. | 1700433 | Lock Washer - 5/16" |
| 37. | 1700411 | Hex Nut - 5/16" |
| 38. | 1702108 | Wire Clip - 3/4" ID |
| 39. | 1700398 | Self-Drilling Screw - 1/4" x 3/4" |



NOTE: Replace system parts only with Genuine Shur-Co® parts to ensure proper system function. If Genuine Shur-Co® parts are not used, warranty could be void.

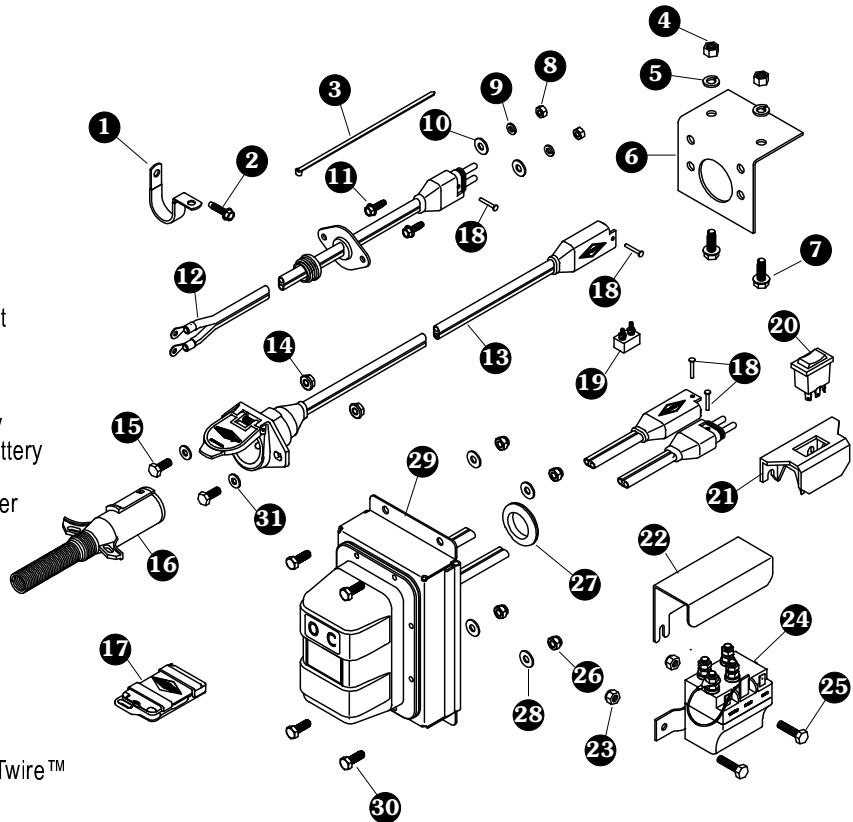
REAR ASSEMBLIES

| Item | Part # | Description |
|------|---------|--|
| 1. | 1700789 | Protective Cap |
| 2. | 1704352 | Rear Arm Retaining Collar |
| 3. | 1704353 | Self-Drilling Screw - 1/4" x 1" |
| 4. | 1118309 | Flange Bearing - 2" |
| 5. | 1703487 | Cap Screw - 5/16" x 1 1/2" |
| 6. | 1700419 | Nylon Lock Nut - 5/16" |
| 7. | 1703881 | Cap Plug - 1 1/4" x 14-16 Ga. |
| 8. | 1117442 | Upper Flex Arm - Bearing Side |
| | 1119374 | Upper Flex Arm - Bearing Side - Reverse Roll |
| 9. | 1700427 | Flat Washer - 1/4" |
| 10. | 1700407 | Hex Nut - 3/8" |
| 11. | 1700434 | Lock Washer - 3/8" |
| 12. | 1116920 | Pivot Pin - 4 Spring |

| Item | Part # | Description |
|------|---------|--|
| 13. | 1121578 | Pivot Mount Bracket - Vertical - 9 1/4" Standoff |
| 14. | 1702891 | Cap Screw - 3/8" x 1 1/4" |
| 15. | 1118318 | Spacer Washer - 1/4" x 1.81" OD x 1.28" |
| 16. | 1111027 | Spiral Torsion Spring |
| 17. | 1201022 | Cap Screw - 5/16" x 3 1/2" |
| 18. | 1702890 | Flat Washer - 1 1/4" |
| 19. | 1702888 | Retaining Ring - 1 1/4" |
| 20. | 1116905 | Lower Flex Arm |
| 21. | 1120703 | Flex Arm Joint Assembly |
| 22. | 1117033 | Spacer Tube - .35" x 2 5/8" |
| 23. | 1700428 | Flat Washer - 5/16" |
| 24. | 1700429 | Flat Washer - 3/8" |
| 25. | 1120291 | Pivot Bracket Washer |

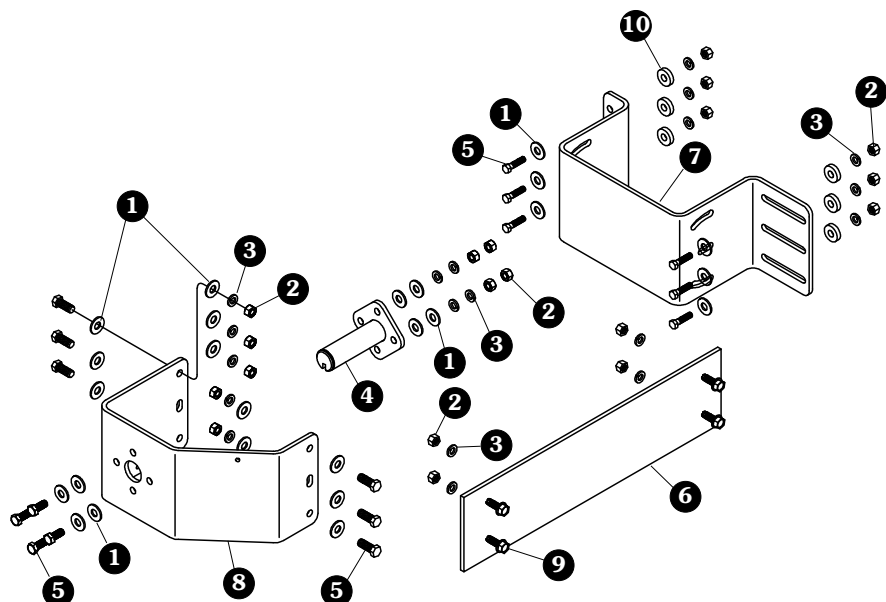
4500 SERIES ELECTRIC COMPONENTS

| Item | Part # | Description |
|------|---------|---|
| 1. | 1702108 | Wire Clip - 3/4" |
| 2. | 1704338 | Self-Tapping Screw - 1/4" x 1" |
| 3. | 1703231 | Cable Tie - 8" |
| 4. | 1700407 | Hex Nut - 3/8" |
| 5. | 1700434 | Lock Washer - 3/8" |
| 6. | 1109015 | Mounting Bracket |
| 7. | 1700400 | Self-Tapping Screw - 3/8" x 1" |
| 8. | 1700408 | Hex Nut - 1/4" |
| 9. | 1700436 | Lock Washer - 1/4" |
| 10. | 1700427 | Flat Washer - 1/4" |
| 11. | 1700403 | Self-Tapping Screw - 1/4" x 3/4" |
| 12. | | SMARTwire™ - 6 Ga. - Plug - 9' 9" |
| 13. | 1120670 | SMARTwire™ Dual-Conductor Socket |
| 14. | 1704946 | Flanged Top Lock Nut - 5/16" |
| 15. | 1701045 | Cap Screw - 5/16" x 3/4" |
| 16. | 1115385 | Heavy-Duty Dual-Conductor Plug |
| 17. | 1118437 | 5-Channel SMARTtransmitter® Battery |
| | 1704597 | SMARTtransmitter™ Replacement Battery |
| 18. | 1704751 | Harness Lock Pin - 1/4" x 7/8" |
| 19. | 1704354 | 40-Amp Modified-Reset Circuit Breaker |
| 20. | 1116020 | Rocker Switch |
| 21. | 1703661 | Rocker Switch Mounting Bracket |
| 22. | 1703896 | Solenoid Cover |
| 23. | 1701543 | Nylon Lock Nut - 1/4" |
| 24. | 1703845 | Motor Reversing Solenoid |
| 25. | 1700381 | Cap Screw - 1/4" x 1" |
| 26. | 1700419 | Lock Nut - 5/16" |
| 27. | 1202938 | Rubber Grommet - 1 1/2" Insert |
| 28. | 1700428 | Flat Washer - 5/16" |
| 29. | | Shur-Co® Wireless Receiver - SMARTwire™ |
| 30. | 1702926 | Cap Screw - 5/16" x 7/8" |
| 31. | 1700427 | Flat Washer - 1/4" |



SLOPED PIVOT MOUNTS

| Item | Part # | Description |
|------|---------|--|
| 1. | 1700429 | Flat Washer - 3/8" |
| 2. | 1700407 | Hex Nut - 3/8" |
| 3. | 1700434 | Lock Washer - 3/8" |
| 4. | 1116920 | Pivot Pin - 4 Spring |
| 5. | 1702891 | Cap Screw - 3/8" x 1 1/4" |
| 6. | 1120361 | Pivot Backer Plate - 5" x 16" |
| | 1120418 | Pivot Backer Plate - 5" x 20" |
| 7. | 1121586 | Pivot Mount Bracket - Sloped - 6" Standoff |
| | 1121587 | Pivot Mount Bracket - Sloped - 8" Standoff |
| 8. | 1121585 | Pivot Bracket - Sloped |
| 9. | 1700400 | Self-Tapping Screw - 3/8" x 1" |
| 10. | 1120291 | Pivot Bracket Washer |



Our **Advanced Troubleshooting Guide** is available on our website: <http://www.shurco.com>, or call our Help Line: **1-866-748-7435**.

| PROBLEM: | TRY THIS: |
|--|---|
| <p>The SMARTransmitter® is not working.</p> <p>None of the lights on the remote turn on when I open the lid.</p> | <ol style="list-style-type: none"> 1. Make sure the battery is placed correctly. 2. The battery may be dead and must be replaced. Replacement high-capacity SMARTransmitter® batteries may be purchased from Shur-Co® (P/N 1704597). 3. The SMARTransmitter® may be damaged. Call Shur-Co's Help Line. |
| <p>The SMARTransmitter® is not working.</p> <p>I can operate the system with the rocker switch but not with the remote. The SMARTransmitter® channel light (<i>Tarp System</i>, for example) is blinking, and when I press the <i>Open/On</i> button, the light blinks faster.</p> | <ol style="list-style-type: none"> 1. Make sure the remote is set to the right channel. If you cannot set the remote to the desired channel (<i>Tarp System</i>, for example), the remote must be reprogrammed. See the SMARTransmitter® programming instructions. 2. Make sure you are within a couple feet of the receiver and try again. If it works at short range but not at greater distances, you have a range problem. A new battery may be needed. If the remote battery is not the cause, call Shur-Co's Help Line. 3. Reprogram the receiver. See the receiver programming instructions. If this doesn't work, call Shur-Co's Help Line. |
| <p>The system will not operate with the rocker switch or with the SMARTransmitter®.</p> <p>When I try to use the rocker switch or SMARTransmitter®, I don't hear any noises (a clicking noise, for example) from the receiver.</p> | <ol style="list-style-type: none"> 1. Make sure the master disconnect switch is turned to the "ON" position. 2. The circuit breaker may have tripped. Wait one minute and try again. 3. Check the vehicle's battery to make sure it isn't dead. 4. Check all connections from the battery to the system. Check for polarity, good connections and corrosion. Verify that you have at least 12V on the back side of the receiver on the battery hookup posts. 5. Call Shur-Co's Help Line. |
| <p>The system will not operate with the rocker switch or with the SMARTransmitter®.</p> <p>When I try to use the rocker switch or SMARTransmitter®, I hear a clicking noise, but nothing happens.</p> | <ol style="list-style-type: none"> 1. Verify that you have at least 12V on the back side of the receiver on the battery hookup posts. 2. Call Shur-Co's Help Line. |
| <p>The rocker switch is not sticking, but the motor continues to run after I release the rocker switch.</p> | <ol style="list-style-type: none"> 1. Call Shur-Co's Help Line. |
| <p>The rocker switch is sticking.</p> | <ol style="list-style-type: none"> 1. Check the switch for excessive dirt, rocks or other objects. If the rocker switch cannot be cleaned, call Shur-Co's Help Line for a replacement receiver. The receiver may be pressure washed, but keep nozzle at least 3' from system while spraying. |

Our **Advanced Troubleshooting Guide** is available on our website: <http://www.shurco.com>, or call our Help Line: **1-866-748-7435**.

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- **Genuine Replacement Parts**

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 - Sidewinder™
 - Sidewinder™ 350
 - HyTower™ SL
 - HyTower™ DL
 - Double-Flip™

TARPING SYSTEMS & ACCESSORIES

