



TARPING SYSTEMS & ACCESSORIES

P/N 1128173 Rev. A

# OWNER'S MANUAL



## Arm System Belly Dumps, End Dumps, Dump Bodies & Pups

*READ BEFORE INSTALLING*

PO BOX 713 ■ 2309 SHUR-LOK STREET ■ YANKTON, SD 57078-0713  
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**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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*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. Do not operate under low-hung power lines. Always check for overhead obstructions before opening or closing.**
- 4. Open and close tarp only at the job site.**
- 5. Face vehicle into wind when opening and closing tarp.**
- 6. Install tarp on axle to roll off the top and toward the rear of the box.**
- 7. 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.

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**TOOLS REQUIRED**

1. Wrenches - 1/2", 9/16", 3/4"
2. Ratcheting Socket Wrench
3. Sockets - 1/2", 9/16", 3/4"
4. Allen Wrenches - 1/8", 5/32", 3/16"
5. Drill Bits (metal cutting) - 5/16", 3/8", 1/2"
6. Center Punch
7. Hammer
8. Tape Measure (2)
9. Flat Head or Phillips Screwdriver
10. Grinder or File
11. Air or Electric Impact Wrench w/9/16" Socket
12. Metal Saw

Additional tools needed, depending on kit configuration:

1. Retaining Ring Pliers
2. Wrench or Nut Driver - 10mm
3. Large Pipe Wrench
4. Steel Welder
5. Aluminum Welder

**MAINTENANCE**

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



1704491 Set Screw - 1/4" x 1/4"



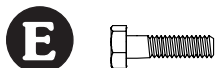
1700398 Self-Drilling Screw - 1/4" x 1/4"



1703327 Button Hd. Cap Screw - 1/4" x 5/8"



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



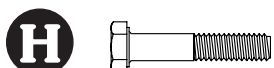
1700381 Cap Screw - 1/4" x 1"



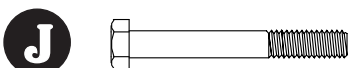
1701045 Cap Screw - 5/16" x 3/4"



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



1704451 Cap Screw - 5/16" x 1 5/8"



1703237 Cap Screw - 5/16" x 2 1/2"



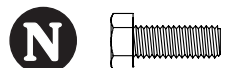
1704449 Set Screw - 3/8" x 1/2"



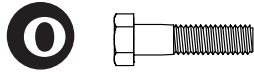
1704450 Set Screw - 3/8" x 3/4"



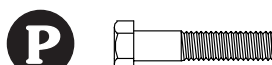
1700400 Self-Tapping Screw - 3/8" x 1"



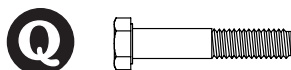
1701061 Cap Screw - 3/8" x 1"



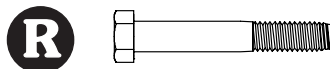
1701434 Cap Screw - 3/8" x 1 1/2"



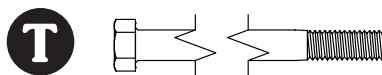
1700369 Cap Screw - 3/8" x 1 3/4"



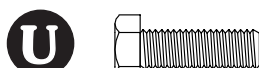
1704057 Cap Screw - 3/8" x 2"



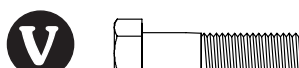
1702573 Cap Screw - 3/8" x 2 1/2"



1701528 Cap Screw - 3/8" x 6"



1702075 Cap Screw - 1/2" x 1 1/2"



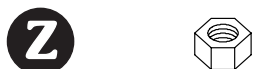
1701042 Cap Screw - 1/2" x 2"



1703290 Square Nut - 1/4"



1701543 Nylon Lock Nut - 1/4"



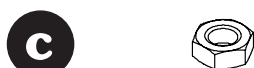
1700411 Hex Nut - 5/16"



1700419 Nylon Lock Nut - 5/16"



1704454 Nylon Lock Nut - Thin - 5/16"



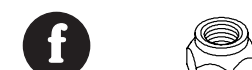
1701062 Hex Jam Nut - 5/16"



1700407 Hex Nut - 3/8"



1701580 Nylon Lock Nut - 3/8"



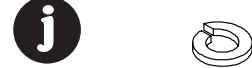
1702115 Nylon Lock Nut - 1/2"



1703218 Fender Washer - 1/4" x 1"



1700428 Flat Washer - 5/16"



1700433 Lock Washer - 5/16"



1700429 Flat Washer - 3/8"



1701176 Flat Washer - SAE - 3/8"



1700434 Lock Washer - 3/8"



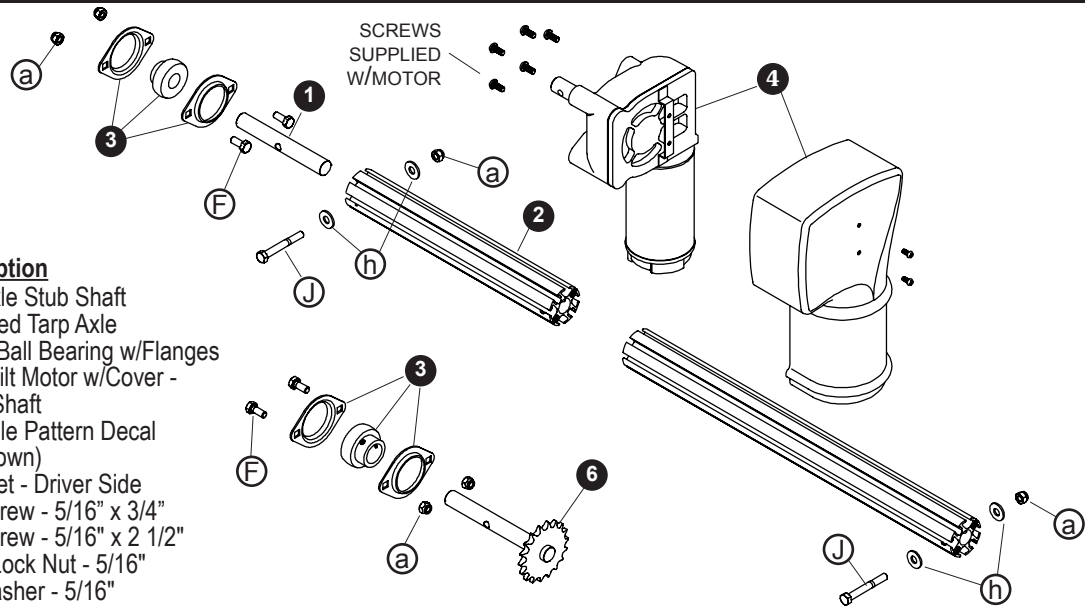
1702114 Flat Washer - 1/2"



1703373 Flat Washer - SAE - 1/2"

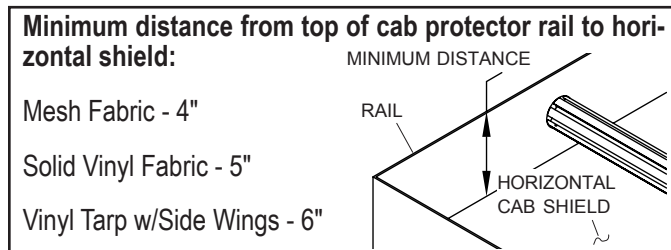


1702890 Flat Washer - 1 1/4"



Item	Part #	Description
1.	1114940	Tarp Axle Stub Shaft
2.	1114961	Threaded Tarp Axle
3.	1703374	Radial Ball Bearing w/Flanges
4.	1704878	Durabuilt Motor w/Cover - 3 1/8" Shaft
5.	1704494	Bolt-Hole Pattern Decal (not shown)
6.	1120376	Sprocket - Driver Side
F.	1701045	Cap Screw - 5/16" x 3/4"
J.	1703237	Cap Screw - 5/16" x 2 1/2"
a.	1700419	Nylon Lock Nut - 5/16"
h.	1700428	Flat Washer - 5/16"

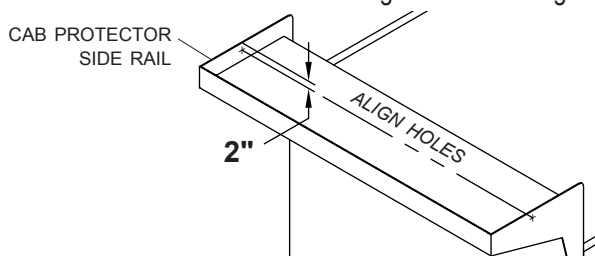
Before drilling holes in box, make sure there is enough room for tarp to roll up around tarp axle. Measure box and compare box measurements with those shown.



**STEP 1:** Determine tarp axle mounting location on cab protector. Location must keep spring-loaded arms from interfering with cab doors and exhaust stacks. Arms must not interfere with loading process.

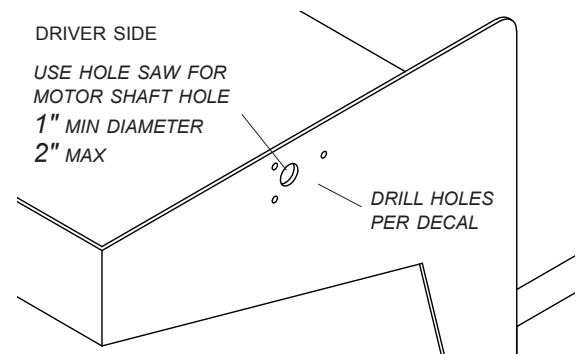
**NOTE:** If manual crank (page 30) will be installed on system at any time, spacers or brackets may need to be fabricated to align driver side tarp axle bracket with mounting surface for manual crank.

**STEP 2:** Prepare to cut holes to mount electric motor and axle bearing. At desired location on each side of cab protector, measure down 2" from top of cab protector side rail and mark location for center of tarp axle. Center of motor shaft hole and axle bearing hole must be aligned.



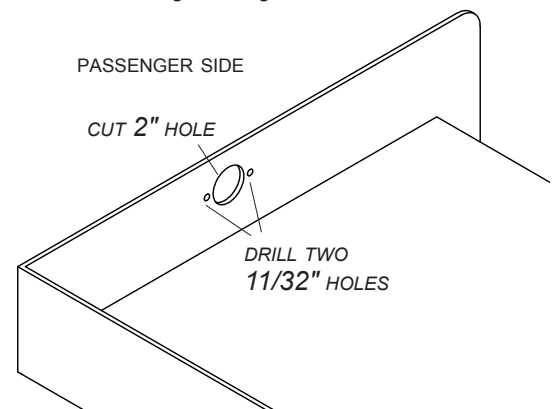
**NOTE:** Install mounting brackets directly across from each other, in line on opposite sides of box/cab guard.

**STEP 3A: Electric system.** On driver side, use stick-on bolt-hole pattern decal as guide to center punch and drill holes to mount electric motor.



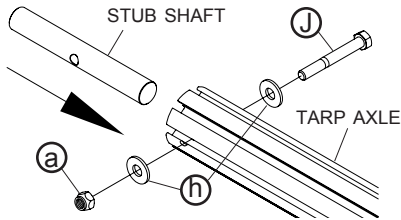
**STEP 3B: Manual system.** Cut matching hole pattern in driver side as illustrated for passenger side in step 4.

**STEP 4:** On passenger side, using 2" hole saw, drill hole for axle bearing at marked location. Center bearing flange over hole and use as guide to drill two 11/32" holes for fastening bearing.

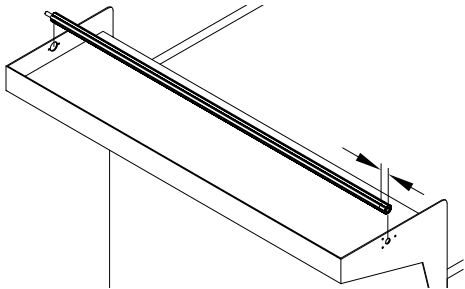




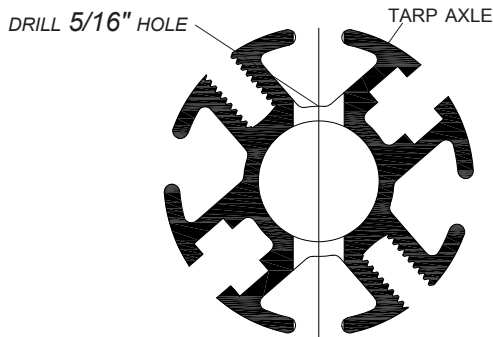
**STEP 5:** Insert stub shaft into end of tarp axle with drilled hole and fasten with screw **f**, washer **h** and nut **a**.



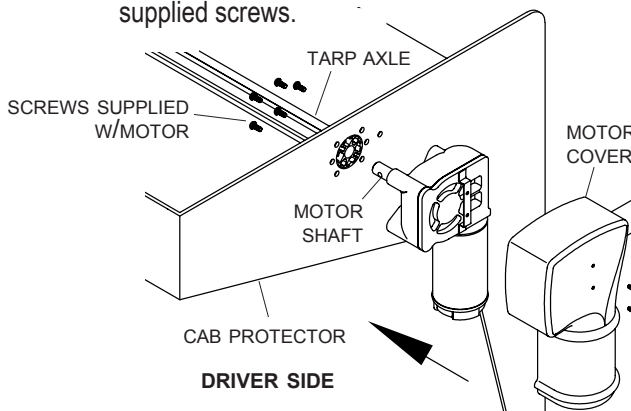
**STEP 6:** Measure inside distance between side rails on cab protector. Measure and mark tarp axle 1" shorter than this distance (do not include stub shaft in measurement). Cut squarely at mark and deburr cut end.



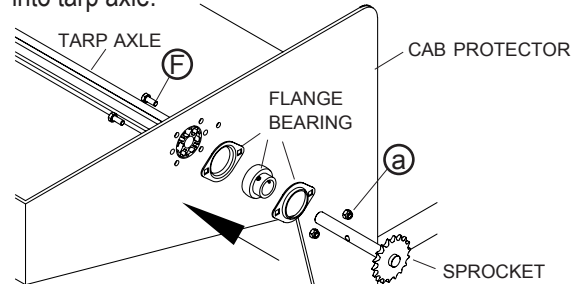
**STEP 7:** Drill 5/16" hole 5/8" in from cut end of tarp axle, aligning hole as shown.



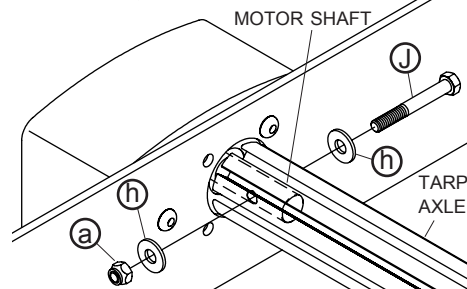
**STEP 8A: Electric system.** Insert stub shaft through bearing hole on passenger side of cab protector. Insert motor shaft through hole on driver side and slide tarp axle onto motor shaft. Fasten motor to cab protector with supplied screws.



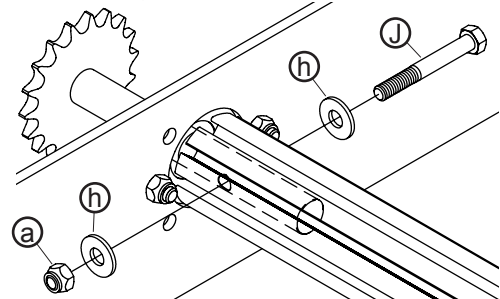
**STEP 8B: Manual system.** Loosely assemble flange bearing to cab protector using screws **f** and nuts **a**. Insert stub shaft through bearing hole on passenger side of cab protector. Insert sprocket shaft through bearing and into tarp axle.



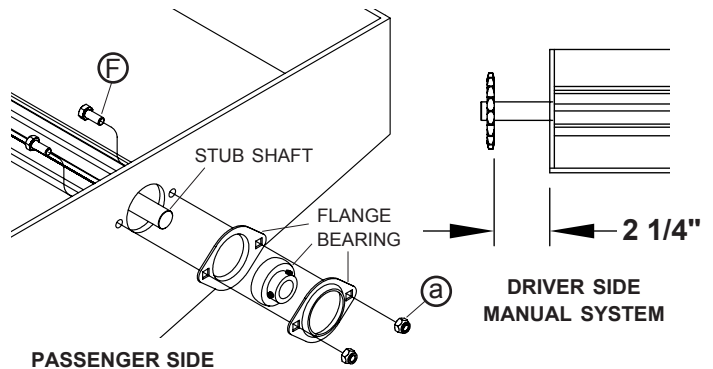
**STEP 9A: Electric system.** Fasten tarp axle to motor shaft with screw **f**, washers **h** and nut **a**.



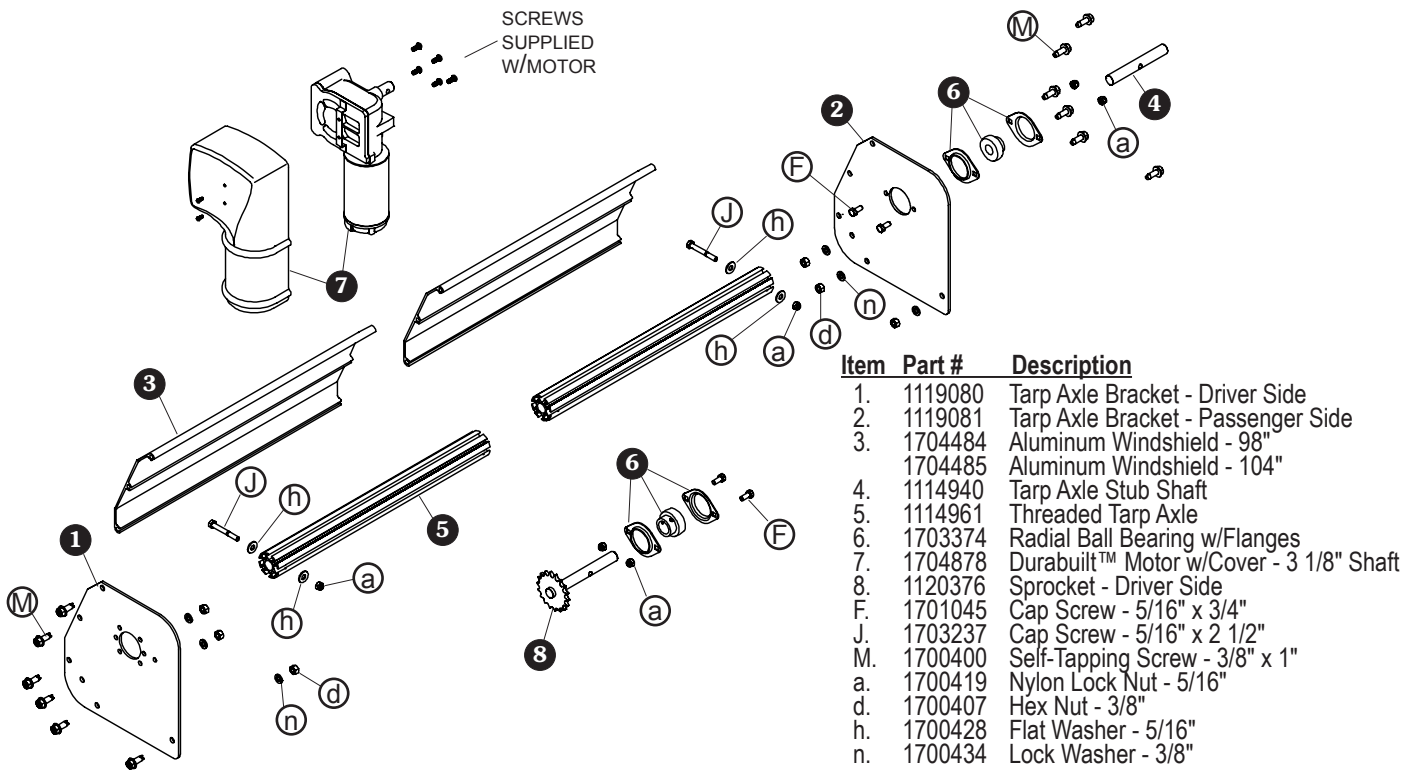
**STEP 9B: Manual system.** Fasten tarp axle to sprocket shaft with screw **f**, washers **h** and nut **a**.



**STEP 10A: Electric system.** Slide flange bearing over stub shaft and fasten to outside of cab protector with screws **f** and nuts **a**. Tighten set screws on bearing.



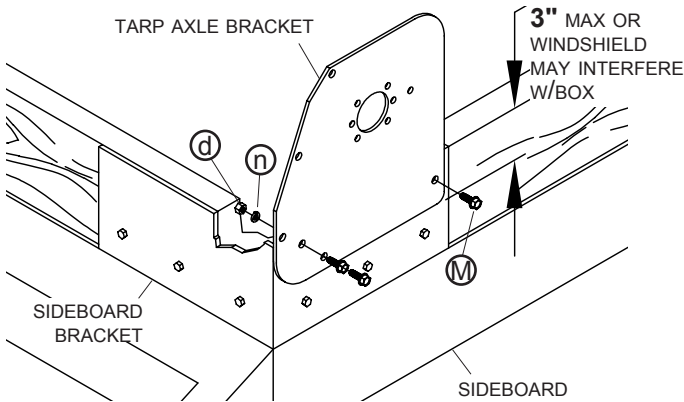
**STEP 10B: Manual system.** Follow instructions for electric system in step 10A. On driver side, adjust sprocket location as shown, then tighten all bearing fasteners and set screws.



**STEP 1:** Determine tarp axle bracket location on front of box. Position brackets so spring-loaded arms will not interfere with cab door, loader or exhaust stacks.

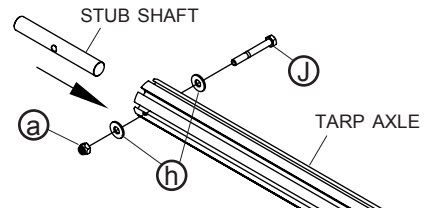
**NOTE:** If manual crank (page 30) will be installed on system at any time, spacers or brackets may need to be fabricated to align driver side tarp axle bracket with mounting surface for manual crank.

**STEP 2:** Using tarp axle bracket as guide, mark and drill 5/16" holes into metal framework on box. Fasten brackets with screws M, washers h and nuts a. If mounting to sideboards only, fasten with 3/8" x 2 1/2" carriage bolts, washers and nuts.

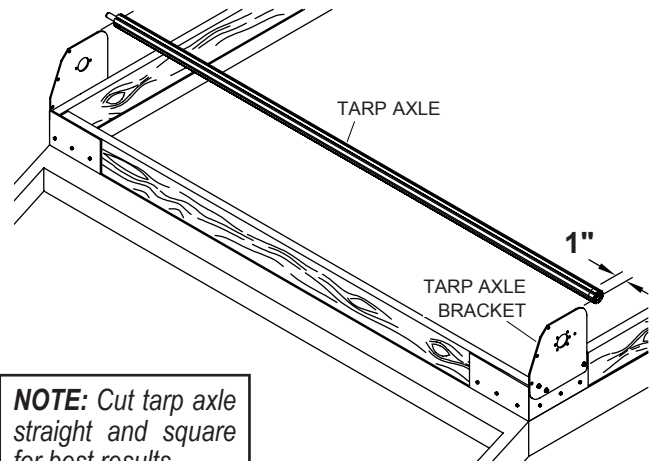


**NOTE:** Install mounting brackets directly across from each other, in line on opposite sides of box/cab guard.

**STEP 3:** Insert stub shaft into end of tarp axle with drilled hole and fasten with screw J, washers h and nut a.

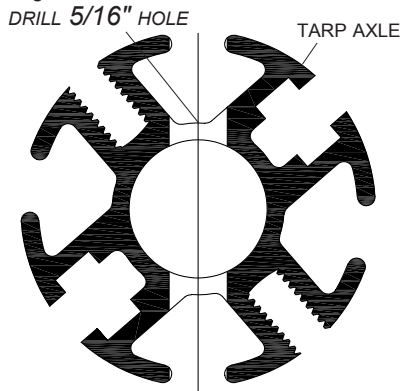


**STEP 4:** Measure distance between inside edges of tarp axle brackets. Measure and mark tarp axle 1" shorter than this distance.



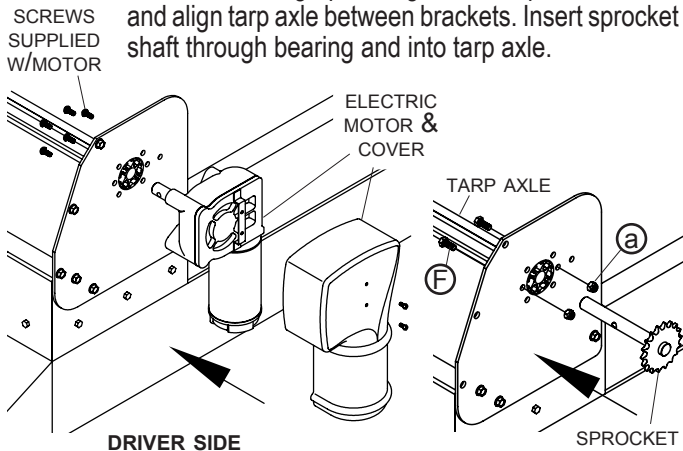
**NOTE:** Cut tarp axle straight and square for best results.

**STEP 5:** Remove tarp axle, cut squarely at mark and deburr cut end. Drill 5/16" hole 5/8" from cut end of axle, aligning hole as shown.



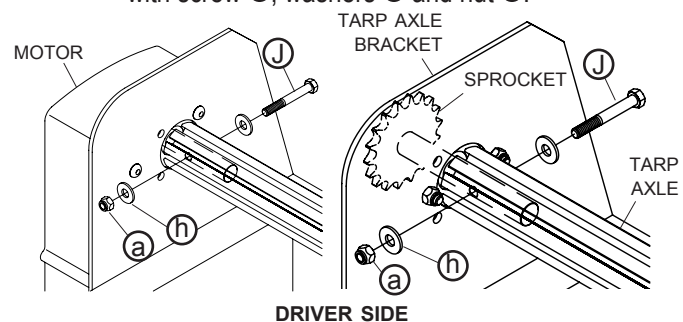
**STEP 6A: Electric motor.** Insert stub shaft through passenger side tarp axle bracket and align tarp axle between brackets. On driver side, insert motor shaft through bracket and into tarp axle. Fasten motor to bracket with supplied screws.

**STEP 6B: Manual crank.** On driver side, loosely fasten flange bearing to bracket with screws (F) and nuts (a). Insert stub shaft through passenger side tarp axle bracket and align tarp axle between brackets. Insert sprocket shaft through bearing and into tarp axle.



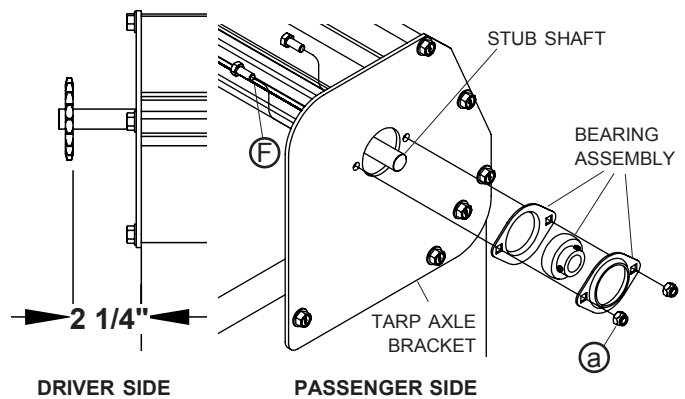
**STEP 7A: Electric system.** Fasten tarp axle to motor shaft with supplied screws.

**STEP 7B: Manual system.** Fasten tarp axle to sprocket shaft with screw (j), washers (h) and nut (a).

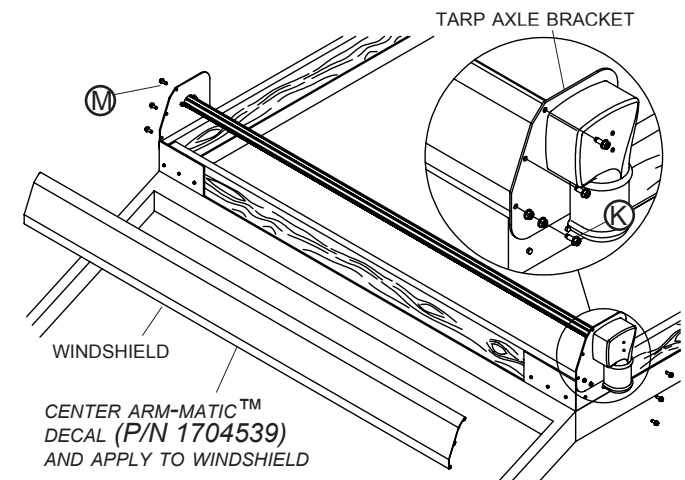


**STEP 8A: Electric system.** Slide bearing assembly over stub shaft and fasten to tarp axle bracket with screws (F) and nuts (a).

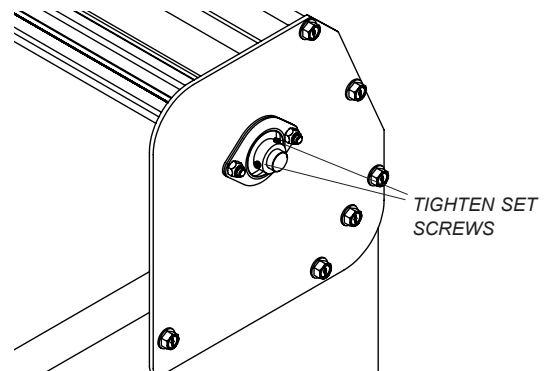
**STEP 8B: Manual system.** Slide bearing assembly over stub shaft and loosely fasten to tarp axle bracket with screws (F) and nuts (a). On driver side, adjust sprocket location, then tighten fasteners.



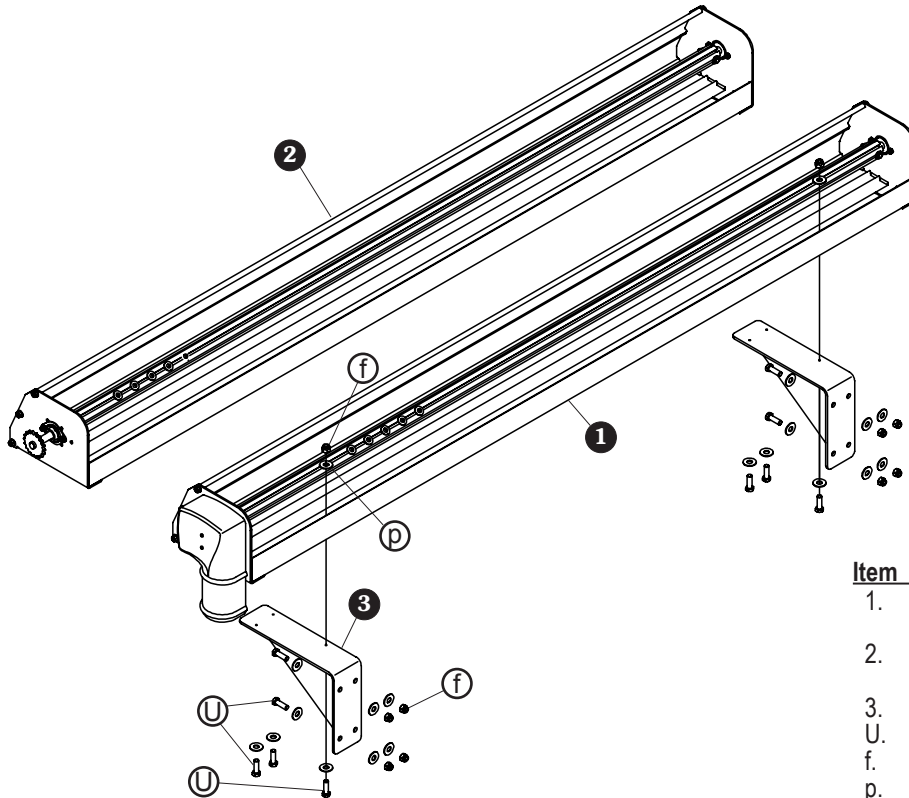
**STEP 9:** Cut windshield squarely to fit between tarp axle brackets. Deburr and fasten to brackets with screws (M).



**STEP 10:** Tighten set screws on ball bearing.





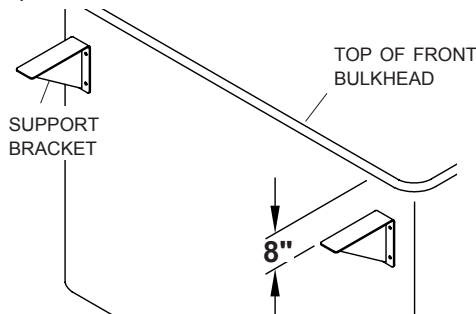


Item	Part #	Description
1.	1119082	Electric Tarp Housing Assembly - 98"
	1119088	Electric Tarp Housing Assembly - 104"
2.	1120371	Manual Tarp Housing Assembly - 98"
	1120372	Manual Tarp Housing Assembly - 104"
3.	1119092	Tarp Housing Support Bracket
U.	1702075	Cap Screw - 1/2" x 1 1/2"
f.	1702115	Nylon Lock Nut - 1/2"
p.	1702114	Flat Washer - 1/2"

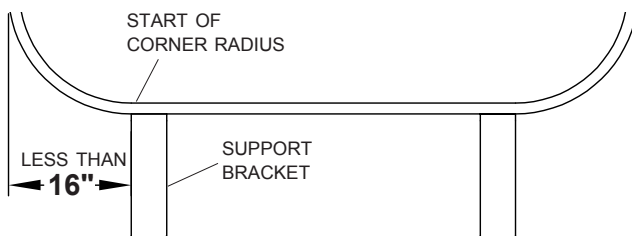
**NOTE: Manual crank.** Consider location of manual crank before proceeding. Fabricate bracket, if needed, so chain will align vertically between manual crank and sprocket on housing assembly. See step 1 on page 30.

**MOUNT HOUSING IN FRONT OF BOX**

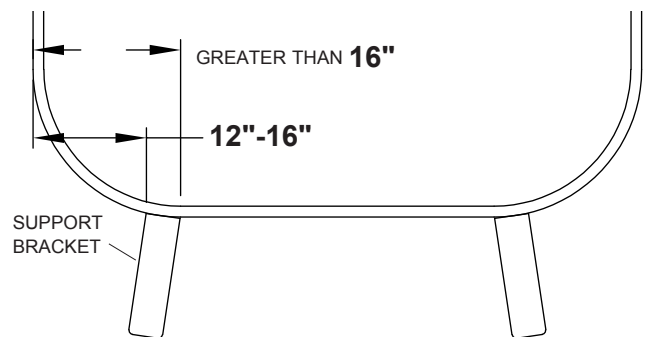
**STEP 1:** Locate top of support brackets 8" down from top of front bulkhead so top of housing is nearly flush with top of bulkhead.



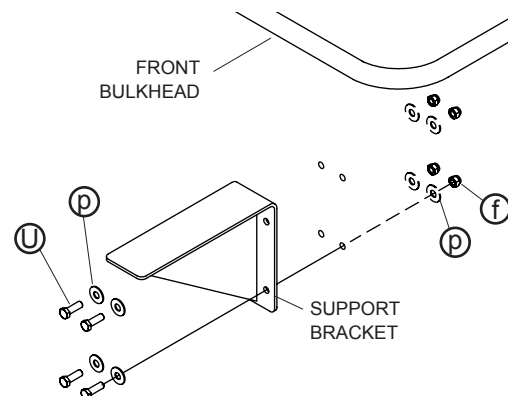
**STEP 2A: Corner radius 16" or less.** Align outside edge of support brackets at start of corner radius.



**STEP 2B: Corner radius greater than 16".** Align outside edges of support brackets 12" to 16" from outside of box.



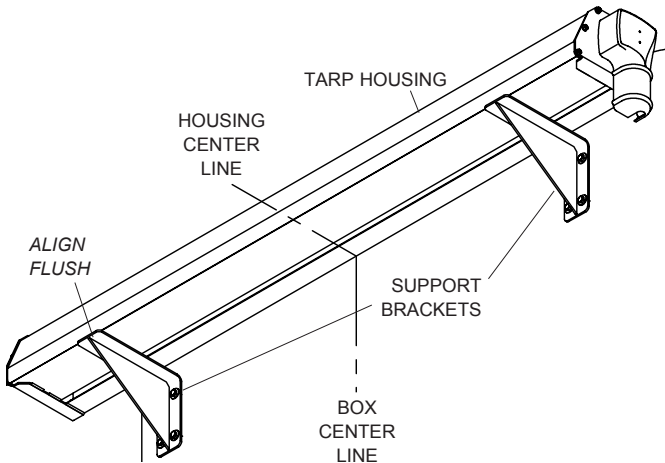
**STEP 3:** Mark and drill 1/2" holes at determined locations for support brackets and fasten brackets to front bulkhead with screws **U**, washers **p** and nuts **f**.



**STEP 4:** Set tarp housing assembly onto support brackets and center housing with box. Align front of windshield flush with front of support brackets and square with trailer. Clamp housing to support brackets.

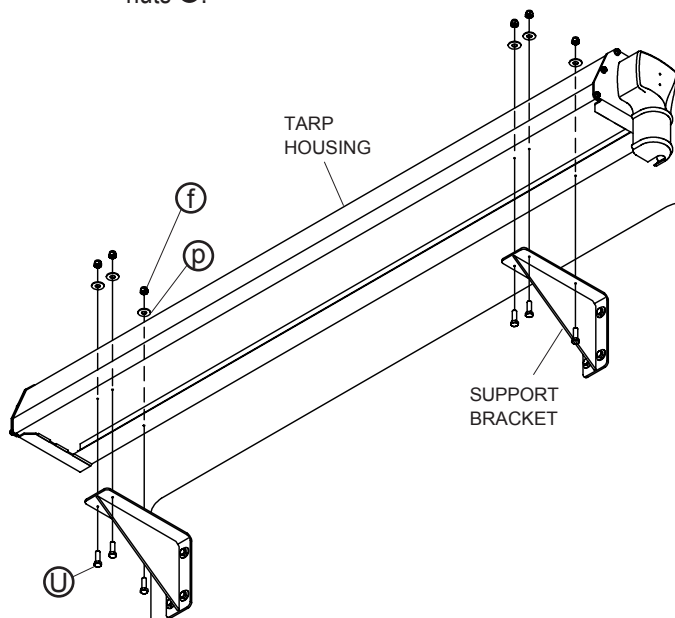
**ELECTRIC SYSTEM SHOWN**

**NOTE:** See step 1 on previous page for sprocket alignment with manual crank.



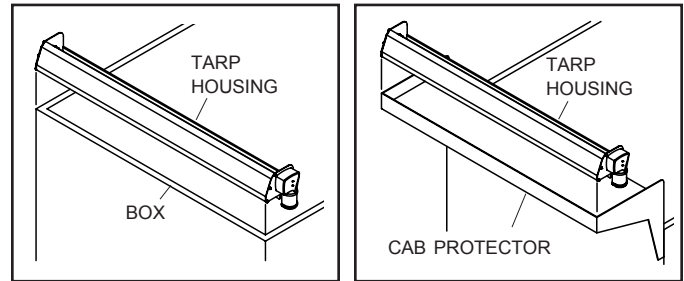
**NOTE:** Before drilling holes, make sure hole locations will allow adequate room inside housing for bolt heads and washers.

**STEP 5:** Drill 1/2" holes through brackets and housing. Fasten brackets to housing with screws **U**, washers **P** and nuts **f**.

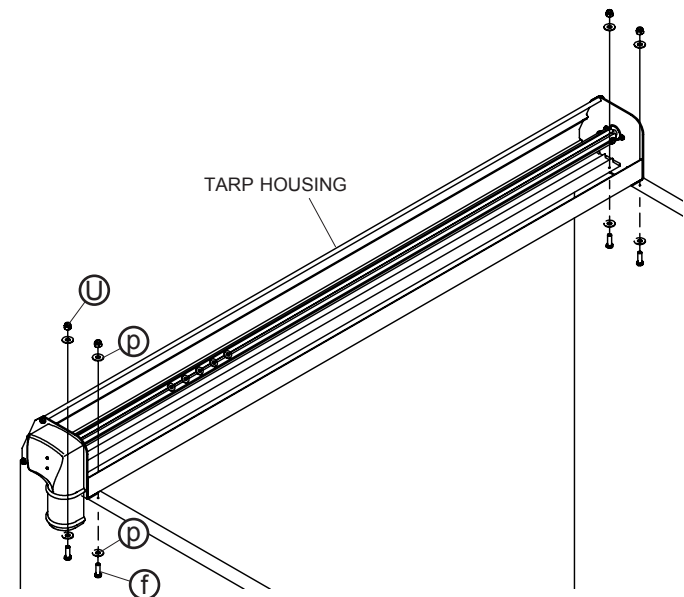


**MOUNT HOUSING TO TOP OF BOX OR CAB PROTECTOR**

**STEP 1:** Set tarp housing assembly on top of box or cab protector. Align front of housing flush with front of box/cab protector or as far forward as possible. Center housing on box or cab protector. Tarp arms must not interfere with cab doors, exhaust stacks or loading process.

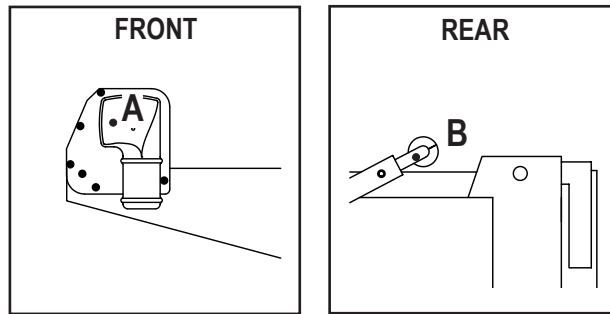


**STEP 2:** On each side of box/cab protector, if possible, drill two 1/2" holes through bottom of housing. Drill matching holes through top rail on box or cab protector supports. Fasten with screws **U**, washers **P** and nuts **f**.

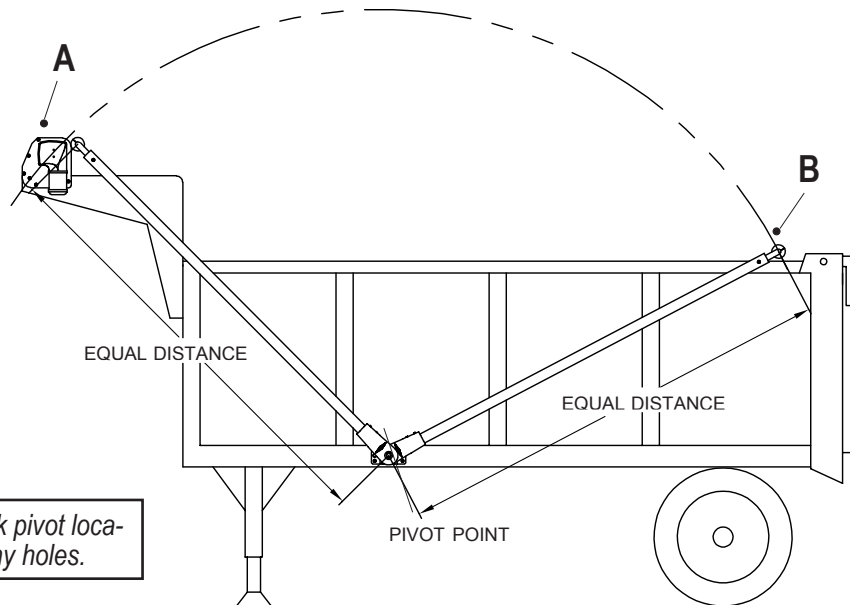


**NOTE:** If housing cannot be fastened directly to box/cab protector, additional bracketry may be required. Longer bolts, if needed, must be purchased separately.

**STEP 1:** Locate point A and B. Point A is center of tarp axle. Point B is desired resting point for tarp tube. Refer to diagram for locations of points A and B.

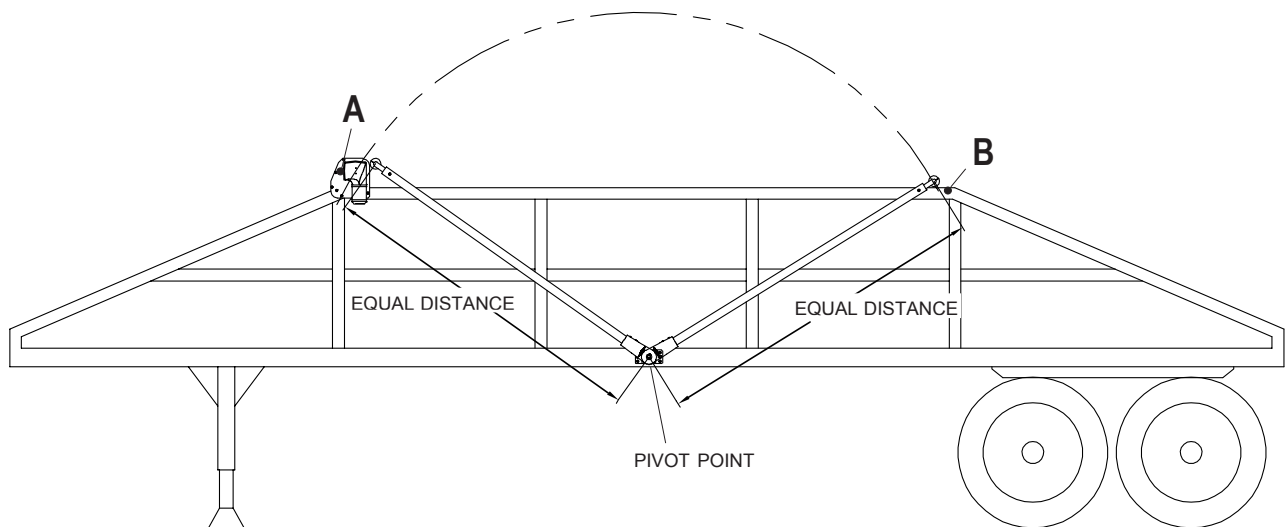


**STEP 2:** Locate and mark pivot point on bottom rail at equal distance between points A and B.



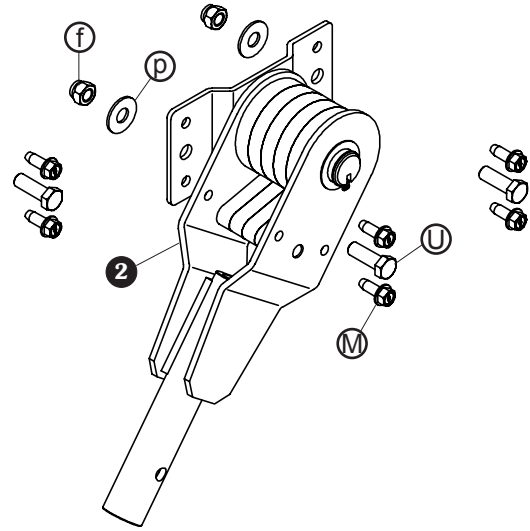
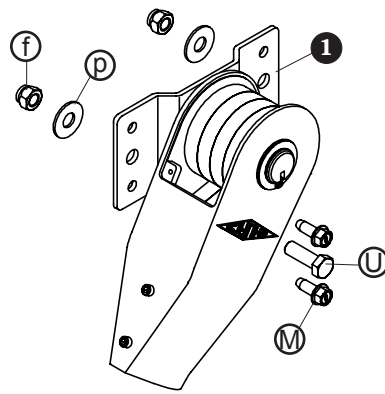
**NOTE:** Double check pivot location before drilling any holes.

**NOTE:** To determine pivot point on opposite side of box, first make sure box is square. Transfer measurement from point A to pivot point over to opposite side of box.



**NOTE:** Tapered, wedged, rounded or sloped trailers may require additional bracketry to offset and square arms with trailer.

Item	Part #	Description
1.	1119096	4-Spring Pivot Assembly - Driver Side
	1119097	4-Spring Pivot Assembly - Passenger Side
2.	1119105	5-Spring Pivot Assembly - Driver Side
	1119106	5-Spring Pivot Assembly - Passenger Side
M.	1700400	Self-Tapping Screw - 3/8" x 1"
U.	1702075	Cap Screw - 1/2" x 1 1/2"
f.	1702115	Nylon Lock Nut - 1/2"
p.	1702114	Flat Washer - 1/2"

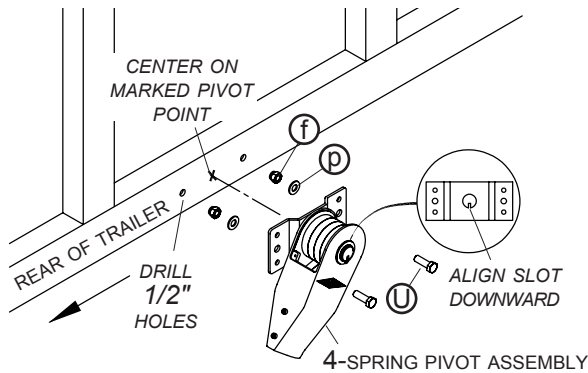


### 4-SPRING PIVOT ASSEMBLY

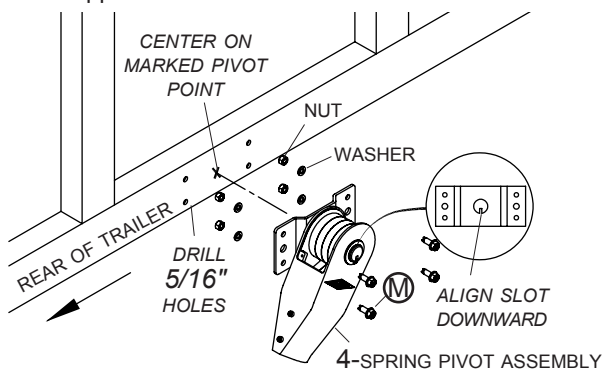
**STEP 1:** Clamp pivot assembly to box, centering shaft on marked pivot point with slot in shaft facing downward.

**NOTE:** Double check pivot location before drilling any holes.

**OPTION A -** Using holes in pivot bracket as guide, mark and drill two 1/2" holes in box. Fasten assembly to box with screws U, washers p and nuts f. Repeat on opposite side.



**OPTION B - Fasten to blind holes.** Drill four 5/16" holes in box. Fasten assembly to box with screws M and, if possible, secure with washers and nuts. Repeat on opposite side.

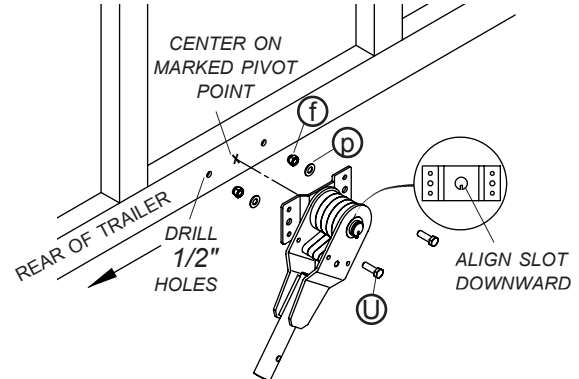


### 5-SPRING PIVOT ASSEMBLY

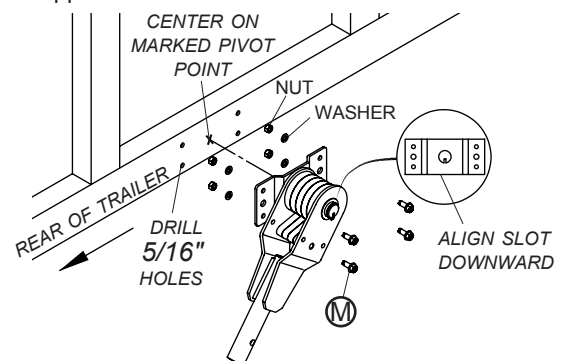
**STEP 1:** Clamp pivot assembly to box, centering shaft on marked pivot point with slot in shaft facing downward.

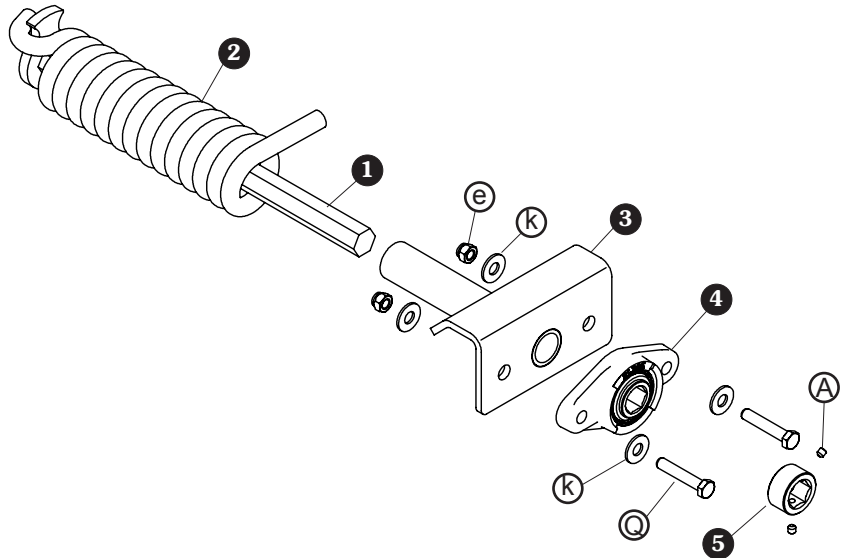
**NOTE:** Double check pivot location before drilling any holes.

**OPTION A -** Using holes in pivot bracket as guide, mark and drill two 1/2" holes in box. Fasten assembly to box with screws U, washers p and nuts f. Repeat on opposite side.



**OPTION B - Fasten to blind holes.** Drill four 5/16" holes in box. Fasten assembly to box with screws M and, if possible, secure with washers and nuts. Repeat on opposite side.

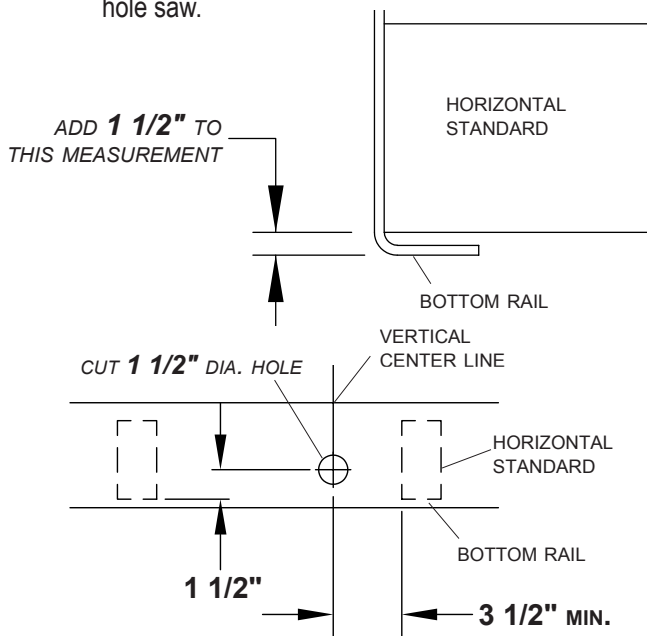




Item	Part #	Description
1.	1704480	Spring Shaft
2.	1704476	Torsion Spring- LHW
	1704477	Torsion Spring - RHW
3.	1118955	Spring Retainer Weldment
4.	1704456	Flange Bearing - 7/8" Hex
5.	1704489	Locking Collar
A.	1704491	Set Screw - 1/4" x 1/4"
Q.	1704057	Cap Screw - 3/8" x 2"
e.	1701580	Nylon Lock Nut - 3/8"
k.	1700429	Flat Washer - 3/8"

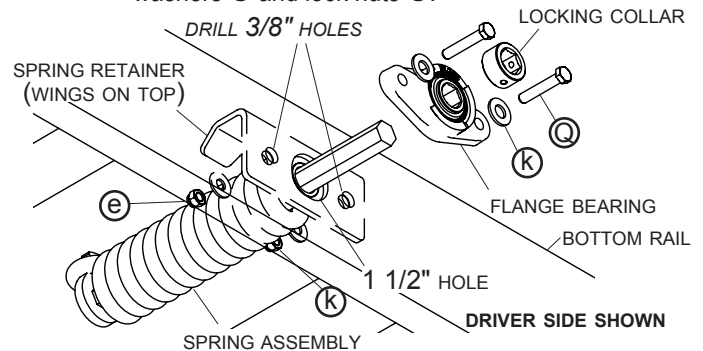
**STEP 1:** To determine height of pivot point from bottom of bottom rail, find distance between bottom of bottom rail to bottom of horizontal standard and add 1 1/2". Locate center point for spring shaft hole using center of pivot point found earlier as reference for vertical center line.

Intersection of vertical center line and a line at this height from bottom rail is center point of spring shaft hole. Cut hole in bottom rail using 1 1/2" diameter hole saw.

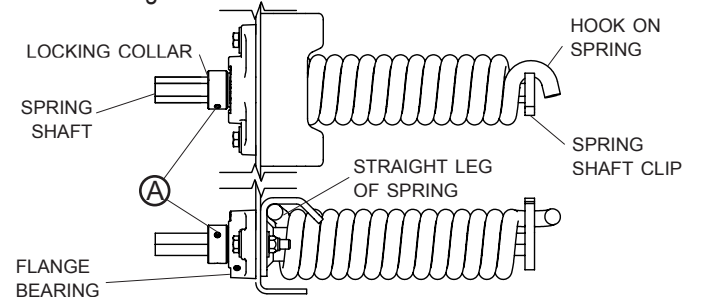


**NOTE:** Pivot point must be minimum of 3 1/2" away from nearest horizontal standard. Adjust location forward to fall short of tailgate and adjust rearward to fall short of tarp axle. If this will not work, drop plates may be used to drop spring assemblies below bottom rail, if there are no obstructions.

**STEP 2:** To install spring assembly, remove locking collar and flange bearing from preassembly. Center bore of flange bearing over 1 1/2" hole. Use flange bearing as guide to mark and drill 3/8" holes for mounting. Place spring assembly inside bottom rail with hex shaft protruding out through 1 1/2" hole. Slide flange bearing over shaft (wings of spring retainer should be on top). Insert screws (Q) through flange bearing, bottom rail and spring retainer. Fasten securely with washers (k) and lock nuts (e).

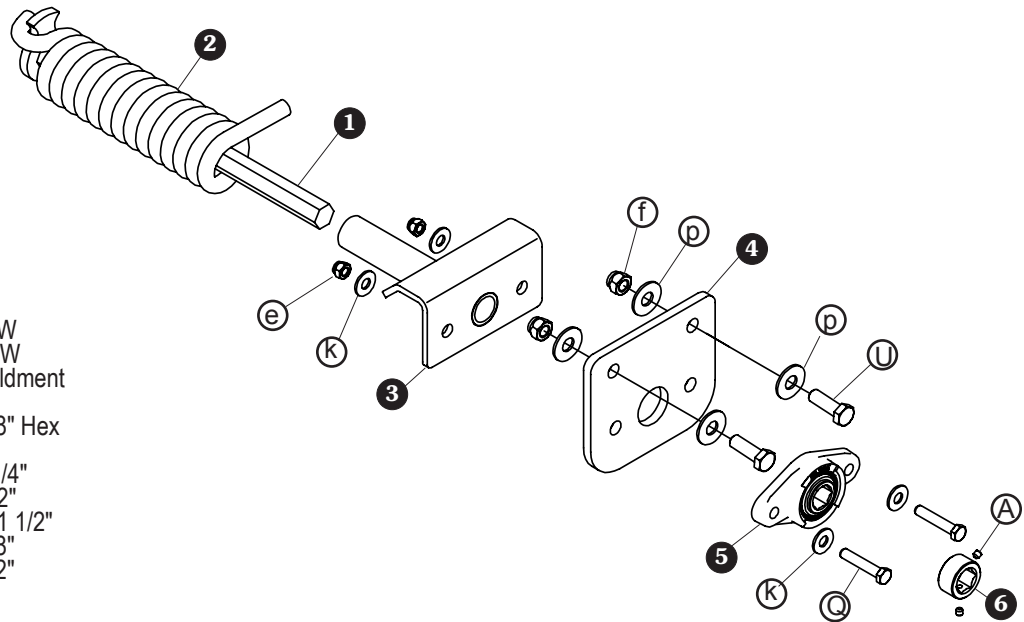


**STEP 3:** Set and lock spring shaft into position. Make sure spring is resting firmly against spring retainer with straight leg of spring rotated up and against wings of spring retainer. With spring in position, make sure clip on spring shaft is centered with hook on spring. Slide hex locking collar up against flange bearing and tighten to shaft with set screws (A).



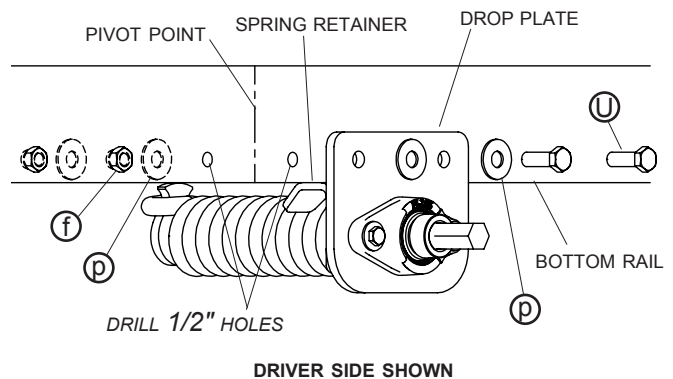
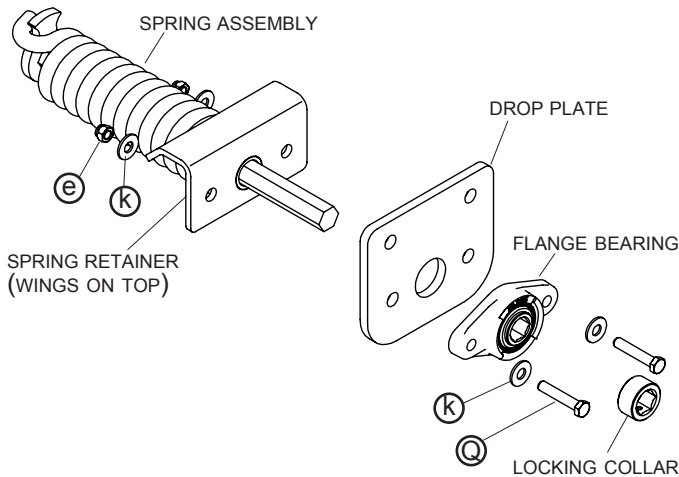


Item	Part #	Description
1.	1704480	Spring Shaft
2.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
3.	1118955	Spring Retainer Weldment
4.	1119107	Drop Plate
5.	1704456	Flange Bearing - 7/8" Hex
6.	1704489	Locking Collar
A.	1704491	Set Screw - 1/4" x 1/4"
Q.	1704057	Cap Screw - 3/8" x 2"
U.	1702075	Cap Screw - 1/2" x 1 1/2"
e.	1701580	Nylon Lock Nut - 3/8"
f.	1702115	Nylon Lock Nut - 1/2"
k.	1700429	Flat Washer - 3/8"
p.	1702114	Flat Washer - 1/2"



**STEP 1:** Remove locking collar and flange bearing from spring assembly. Place drop plate between flange bearing and spring retainer. Fasten flange bearing, drop plate and spring retainer together with wings of spring retainer on top.

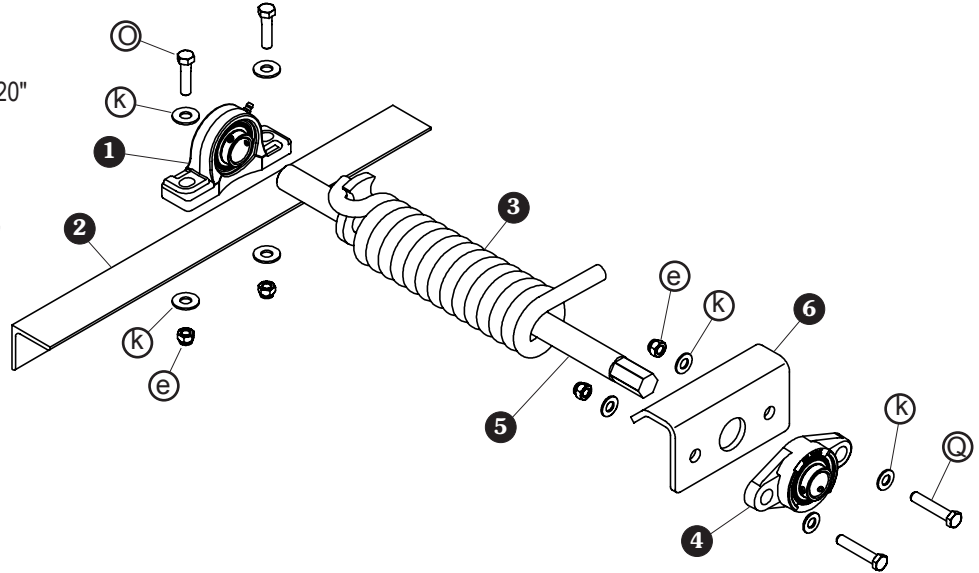
**STEP 2:** With drop plate centered with pivot point marked earlier, hold assembly up to bottom rail so top of spring retainer is against bottom of bottom rail. Using drop plate as guide, mark hole locations and drill 1/2" holes. Fasten assembly to bottom rail using 1/2" screws **U**, washers **p** and lock nuts **f**.



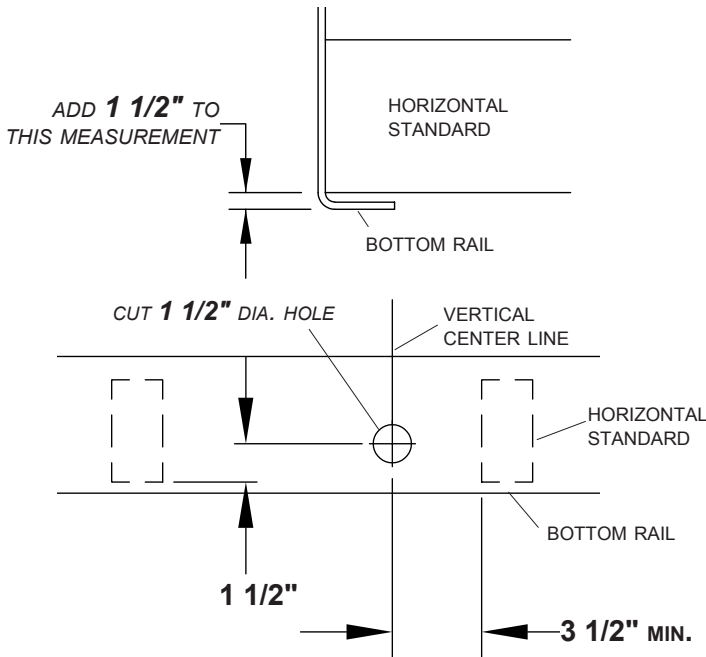
**NOTE:** Make sure spring shaft is centered in spring retainer.

**NOTE:** If spring assembly will interfere with objects under body, it may be necessary to mount spring assembly through bottom rail. See Underbody instructions.

Item	Part #	Description
1.	1119559	Pillow Block Bearing - 1"
2.	1119330	Bearing Support Angle - 20"
3.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
4.	1119560	Flange Bearing - 1"
5.	1704472	Spring Shaft - 1" OD
6.	1119329	Spring Retainer Bracket
O.	1701434	Cap Screw - 3/8" x 1 1/2"
Q.	1704057	Cap Screw - 3/8" x 2"
e.	1701580	Nylon Lock Nut - 3/8"
k.	1700429	Flat Washer - 3/8"

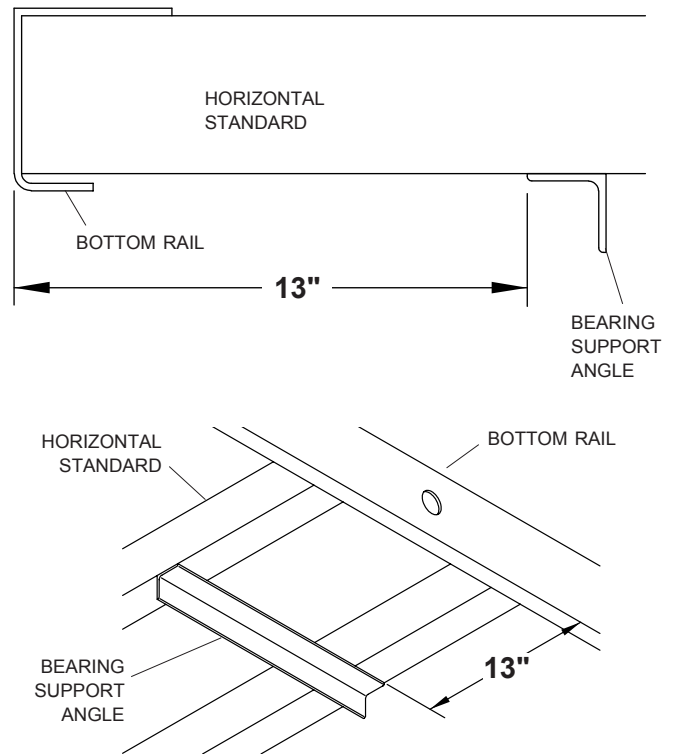


**STEP 1:** To determine height of pivot point from bottom of bottom rail, find distance between bottom of bottom rail to bottom of horizontal standard and add 1 1/2". Locate center point for spring shaft hole using center of pivot point found earlier as reference for vertical center line. Intersection of vertical center line and line at this height from bottom rail is center point of spring shaft hole. Cut hole in bottom rail using 1 1/2" diameter hole saw.



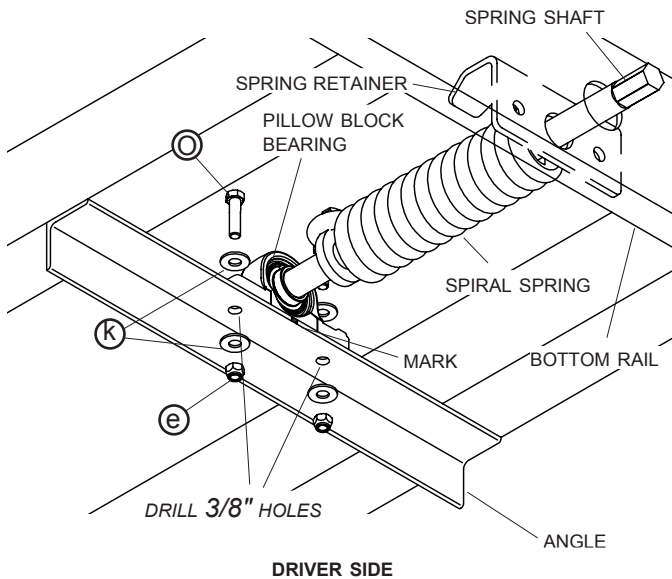
**NOTE:** Pivot point must be minimum of 3 1/2" away from nearest horizontal standard. Adjust location forward to fall short of tailgate and adjust rearward to fall short of tarp axle. If this will not work, drop plates may be used to drop spring assemblies below bottom rail if there are no obstructions.

**STEP 2:** Install bearing support angle under trailer. Outside edge of angle leg should be 13" from outside of bottom rail. Hold angle in place and weld or bolt, if necessary.

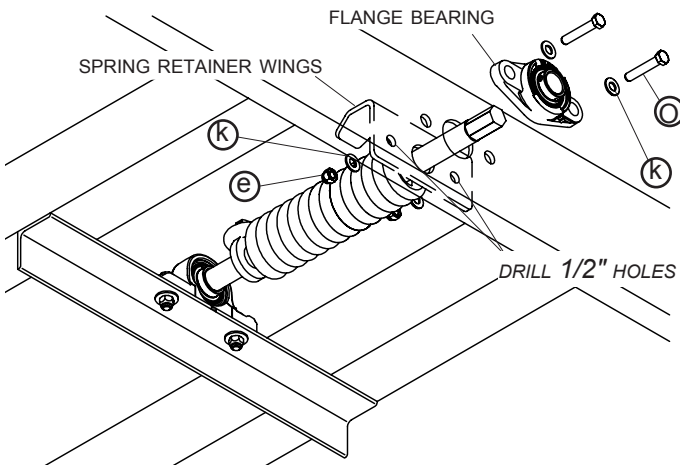


**STEP 3:** Find mounting location of pillow block bearing on bearing support angle. Measure from nearest horizontal standard to center of hole previously cut for spring shaft. Using same horizontal standard as reference point, transfer dimension onto outside edge of support angle.

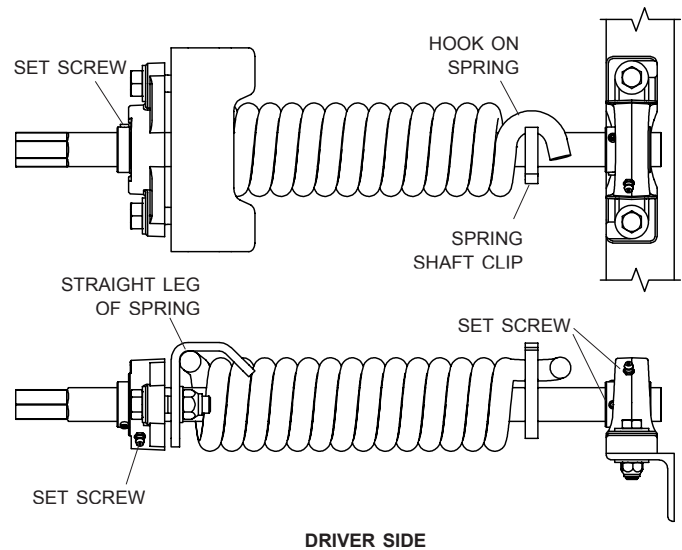
**STEP 4:** Assemble pillow block bearing, spiral spring and spring retainer onto spring shaft. Set pillow block bearing on top of angle and insert spring shaft through hole in bottom rail. Center pillow block with mark on angle and flush with outside edge of angle leg. Clamp pillow block in position. Drill 3/8" holes in bearing support angle to match holes in pillow block bearing. Fasten securely to angle with screws **(O)**, washers **(B)** and lock nuts **(e)**.



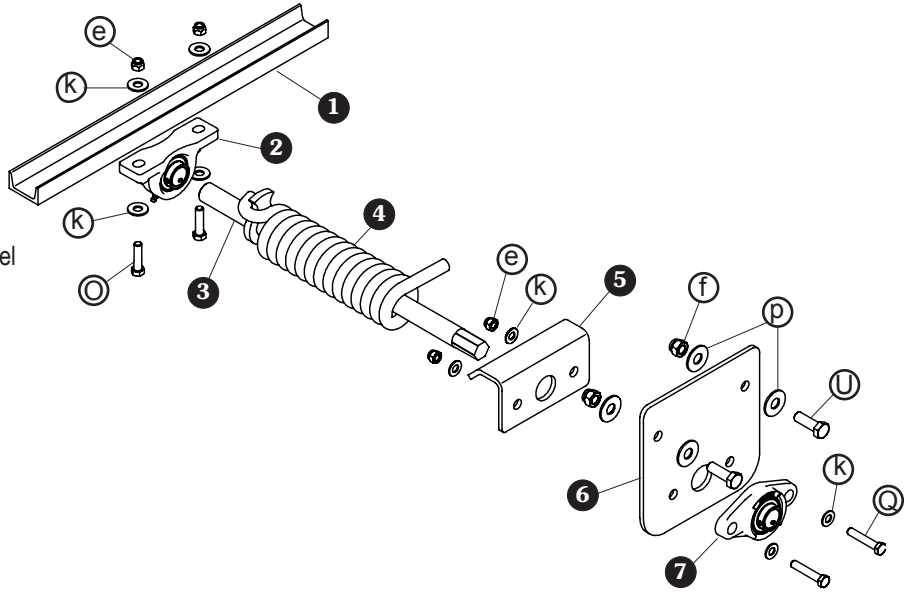
**STEP 5:** Slide flange bearing onto shaft and center it with spring shaft hole. Drill 3/8" holes to match holes in flange bearing. Use screws **(O)**, washers **(B)** and lock nuts **(e)** to securely fasten flange bearing and spring retainer to bottom rail. Make sure spring retainer wings are on top.



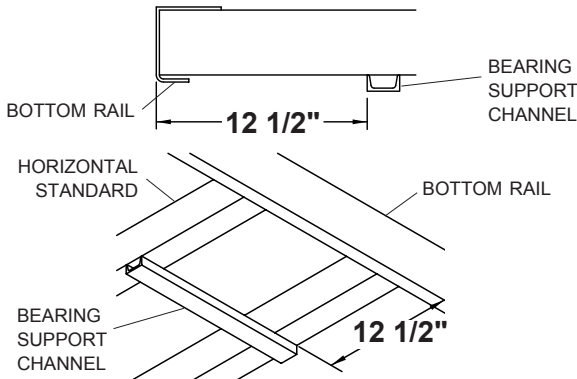
**STEP 6:** Make sure spring is resting firmly against spring retainer with straight leg of spring rotated up and against wings of spring retainer. Also, make sure clip on spring shaft is centered with hook on spring. With spring and shaft in correct locations, tighten set screws on bearings to lock shaft into place.



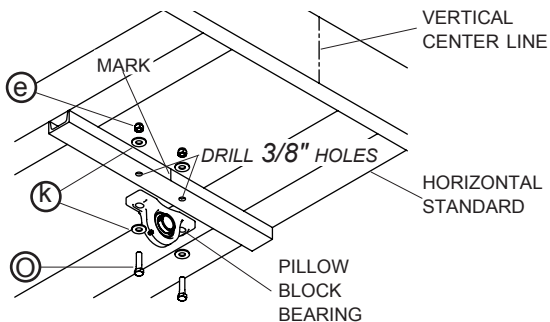
Item	Part #	Description
1.	1119564	Steel Bearing Support Channel
	1119565	Aluminum Bearing Support Channel
2.	1119559	Pillow Block Bearing - 1"
3.	1704472	Spring Shaft - 1" OD
4.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
5.	1119329	Spring Retainer Bracket
6.	1119110	Drop Plate
7.	1119560	Flange Bearing - 1" ID
O.	1701434	Cap Screw - 3/8" x 1 1/2"
Q.	1704057	Cap Screw - 3/8" x 2"
U.	1702075	Cap Screw - 1/2" x 1 1/2"
e.	1701580	Nylon Lock Nut - 3/8"
f.	1702115	Nylon Lock Nut - 1/2"
k.	1700429	Flat Washer - 3/8"
p.	1702114	Flat Washer - 1/2"



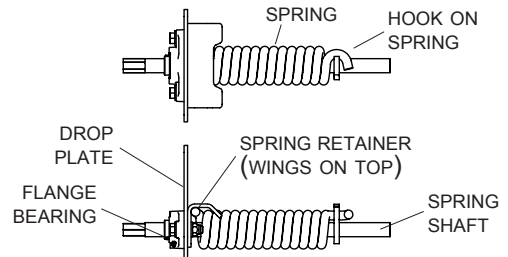
**STEP 1:** Install bearing support channel under trailer. Outside edge of channel should be 12 1/2" from outside of bottom rail. With channel held in place as shown, weld channel in place or bolt, if necessary.



**STEP 2:** Find distance from nearest horizontal standard to vertical center line of pivot point found previously. Using same horizontal standard as reference, transfer dimension onto channel and make mark. Mount pillow block bearing upside down on channel with center of bearing at mark just made. Drill 3/8" holes in channel to match bearing and fasten using 3/8" cap screws O, washers k and lock nuts e.

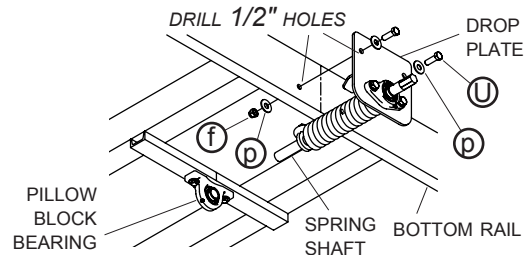


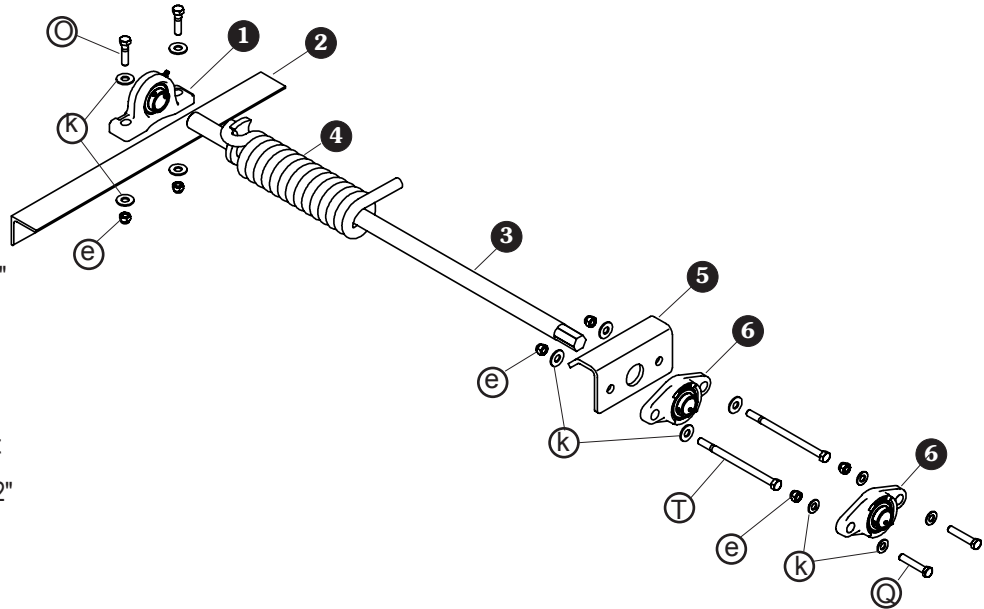
**STEP 3:** Place drop plate between flange bearing and spring retainer. Fasten flange bearing, drop plate and spring retainer together with wings of spring retainer on top. Slide spring shaft through spring, spring retainer and flange bearing as shown so spring is resting against spring retainer and clip on spring shaft is centered in hook on spring. Tighten set screws on flange bearing to lock shaft in place.



**NOTE:** Make sure spring shaft is centered in spring retainer.

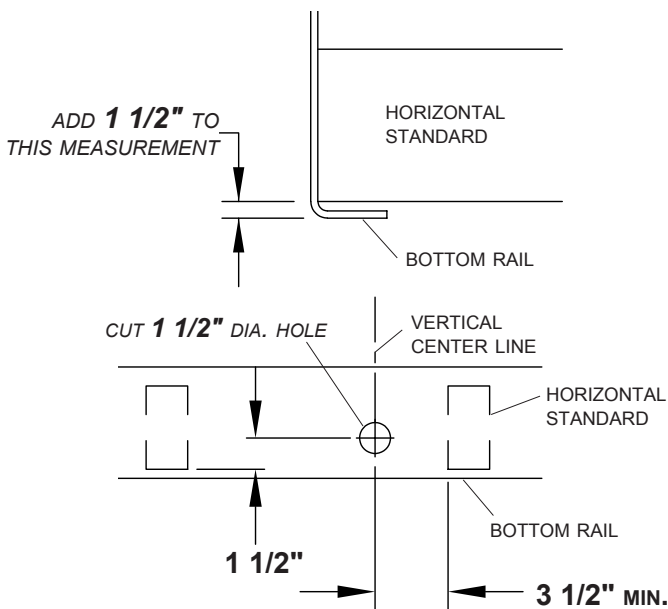
**STEP 4:** Slide spring shaft into pillow block bearing until drop plate is touching bottom rail. Hold assembly so spring shaft is level with trailer and drop plate is centered with vertical center line of pivot point. With assembly held in place, mark and drill 1/2" holes to match mounting holes in drop plate. Fasten assembly to bottom rail using screws U, washers p and lock nuts f. Tighten set screws on pillow block to lock it to shaft.





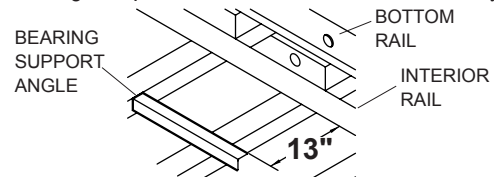
Item	Part #	Description
1.	1119559	Pillow Block Bearing - 1"
2.	1119330	Bearing Support Angle
3.	1704478	Spring Shaft - 1" x 27"
	1704473	Spring Shaft - 1" x 24"
	1704479	Spring Shaft - 1" x 31"
4.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
5.	1119329	Spring Retainer Bracket
6.	1119560	Flange Bearing - 1"
O.	1701434	Cap Screw - 3/8" x 1 1/2"
Q.	1704057	Cap Screw - 3/8" x 2"
T.	1701528	Cap Screw - 3/8" x 6"
e.	1701580	Nylon Lock Nut - 3/8"
k.	1700429	Flat Washer - 3/8"

**STEP 1:** To determine height of pivot point from bottom of bottom rail, find distance between bottom of bottom rail to bottom of horizontal standard and add 1 1/2". Locate center point for spring shaft hole using center of pivot point as reference for vertical center line. Intersection of vertical center line and line at this height from bottom rail is center point of spring shaft hole. Cut holes in bottom rail and interior rail using 1 1/2" diameter hole saw.



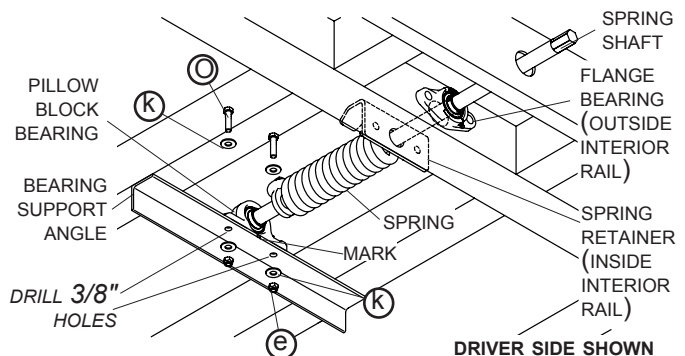
**NOTE:** Pivot point must be minimum of 3 1/2" away from nearest horizontal standard. Adjust location forward to fall short of tailgate and adjust rearward to fall short of tarp axle. If this will not work, drop plates may be used to drop spring assemblies below bottom rail, if there are no obstructions.

**STEP 2:** Install bearing support angle under trailer. Outside edge of angle leg should be 13" from inside of interior rail. Hold angle in place and weld or bolt, if necessary.



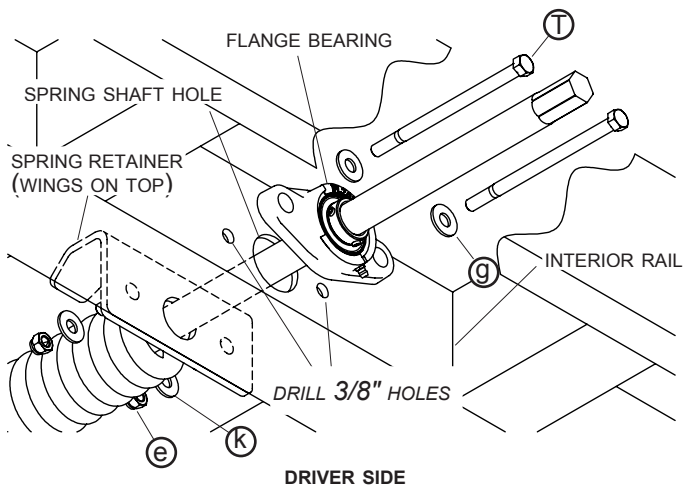
**STEP 3:** Measure from nearest horizontal standard to center of hole previously cut for spring shaft. Using same horizontal standard as reference point, transfer dimension onto outside edge of support angle for mounting location of pillow block bearing.

**STEP 4:** Assemble pillow block bearing, spiral spring, spring retainer and one flange bearing onto spring shaft. Spring retainer should be inside interior rail, with flange bearing outside interior rail. Set pillow block bearing on top of bearing support angle and insert spring shaft through holes in interior rail and bottom rail. Center pillow block with mark on angle and flush with outside edge of angle leg. Clamp pillow block in position. Drill 3/8" holes in bearing support angle to match holes in pillow block bearing. Fasten securely to angle with screws **O**, washers **k** and lock nuts **e**.

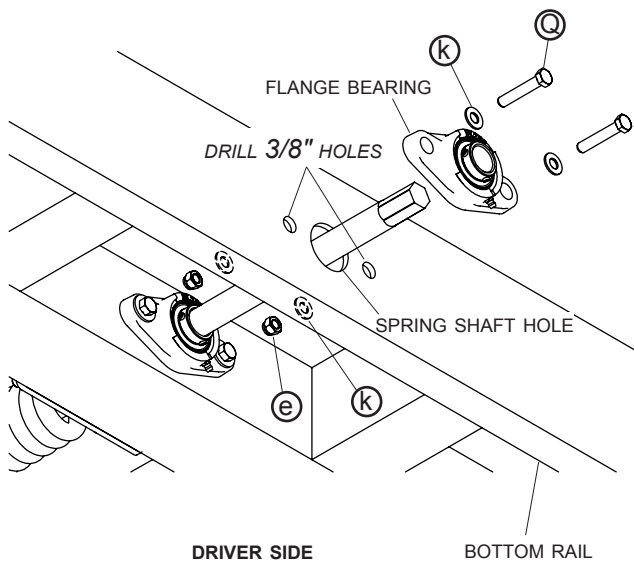




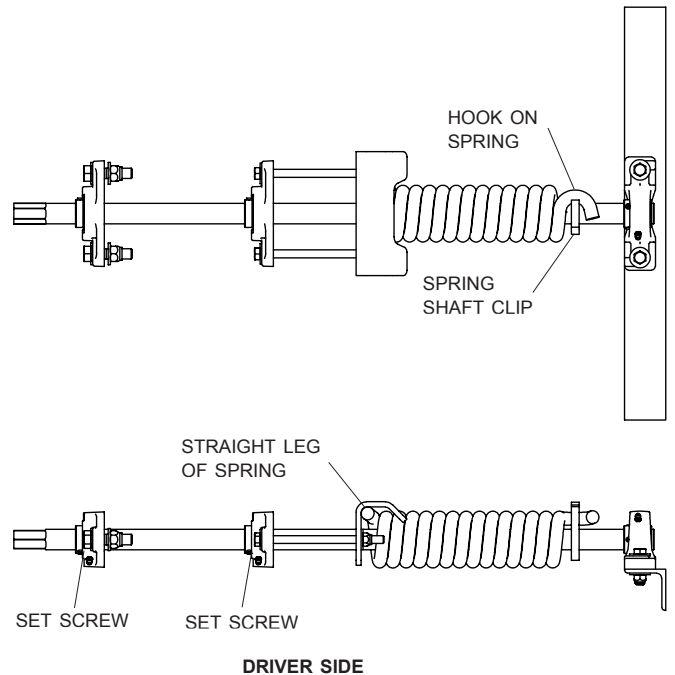
**STEP 5:** Center flange bearing with spring shaft hole. Drill 3/8" holes to match holes in flange bearing. Make sure spring retainer wings are on top. Use screws **T**, washers **B** and lock nuts **E** to securely fasten flange bearing and spring retainer to interior rail.



**STEP 6:** Slide remaining flange bearing onto shaft outside exterior bottom rail and center it with spring shaft hole. Drill 3/8" holes to match holes in flange bearings. Use screws **Q**, washers **B** and lock nuts **E** to securely fasten flange bearing to bottom rail.



**STEP 7:** Make sure spring is resting firmly against spring retainer with straight leg of spring rotated up and against wings of spring retainer. Also, make sure clip on spring shaft is centered with hook on spring. With spring and shaft in these locations, tighten set screws on bearings to lock shaft into place.

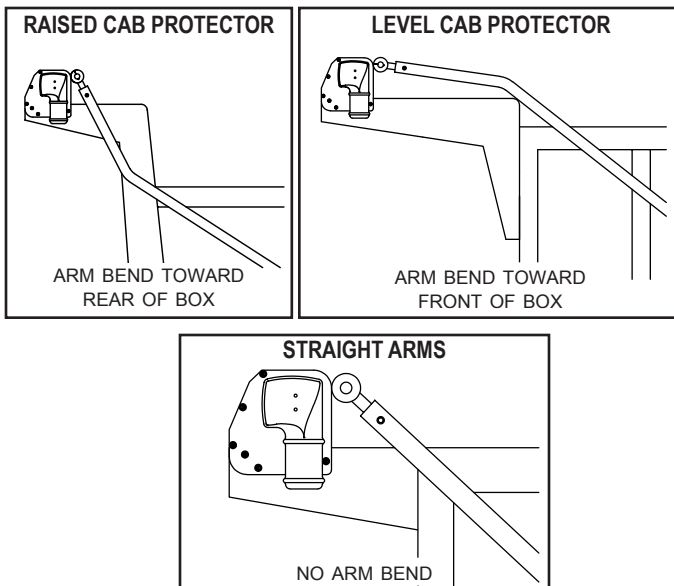


**! WARNING**  
 Apply arm warning decals (P/N 1704561) on box near spring pivot. Arms are under spring tension while springs are engaged. Use caution while assembling or disassembling arms.

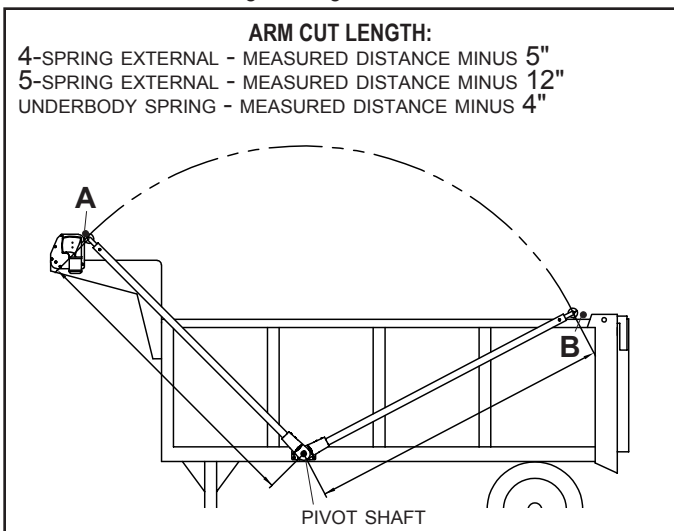
Item	Part #	Description
1.	1704465	Aluminum Return Arm - 10' w/2' Bend
	1704466	Aluminum Return Arm - 12' w/2' Bend
	1704467	Aluminum Return Arm - 14' w/2' Bend
	1704486	Aluminum Return Arm - 16'
	1704487	Aluminum Return Arm - 18'
	1704488	Aluminum Return Arm - 20'
R.	1702573	Cap Screw - 3/8" x 2 1/2"
e	1701580	Nylon Lock Nut - 3/8"
m.	1701176	Flat Washer - 3/8"

**NOTE:** Determine desired length and orientation of arms before attaching arms to spring pivot.

**STEP 1:** Determine which orientation works best for your application.

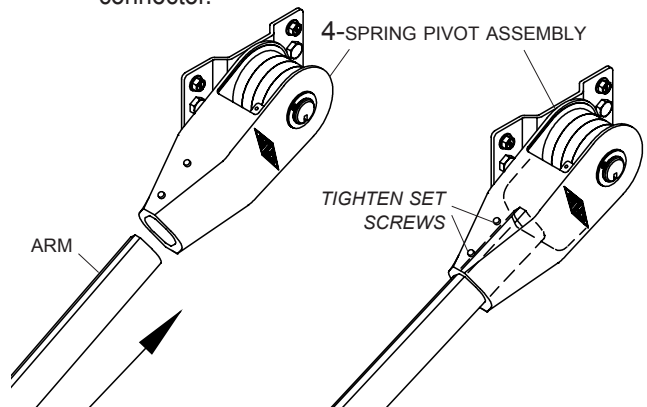


**STEP 2:** Determine arm length. Measure from center of pivot shaft to desired resting points for arm at front and rear of box. Find distance between point A and pivot shaft and between point B and pivot shaft. Calculate and cut arm length using shorter of two distances.



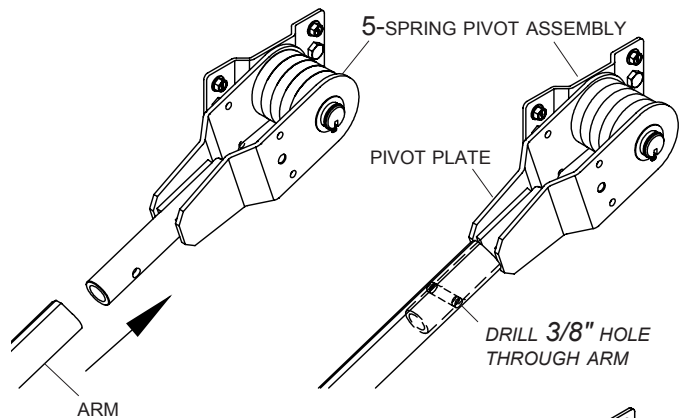
**4-SPRING PIVOT ASSEMBLY**

**STEP 3:** Slide arm into 4-spring pivot assembly until it contacts arm stop. Tighten set screws to secure arm to connector.

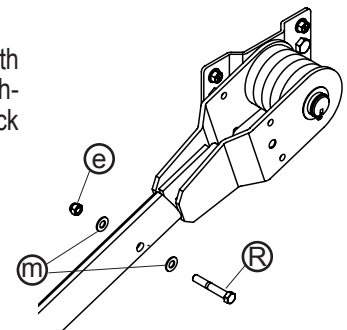


**5-SPRING PIVOT ASSEMBLY**

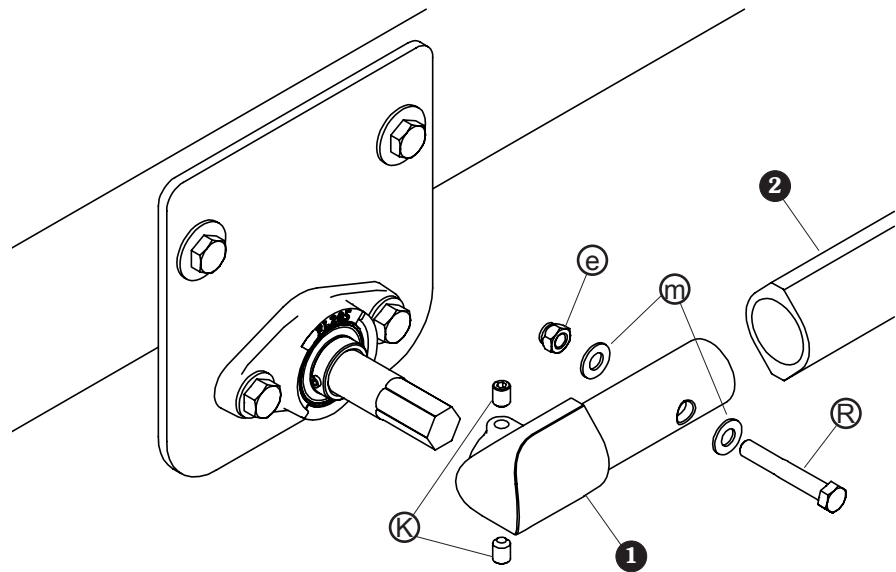
**STEP 3A:** Slide arm over tube on 5-spring pivot assembly until arm contacts pivot plates. Align arm as shown and drill 3/8" hole through arm. Drilled hole must align with hole in tube.



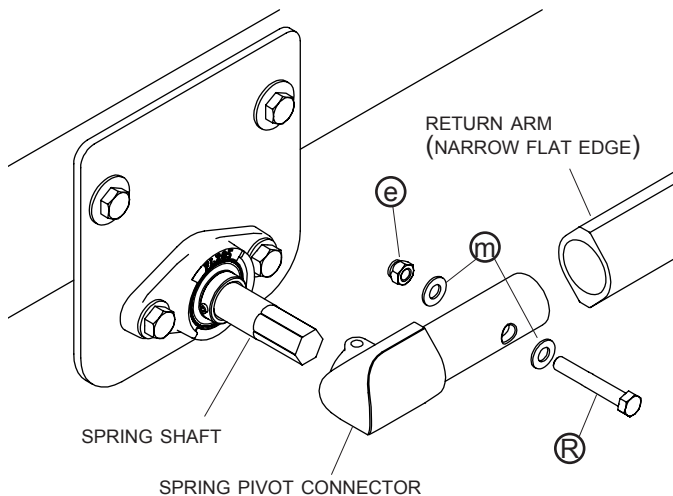
**STEP 3B:** Fasten securely with cap screw (R), washers (m) and nylon lock nut (e).



Item	Part #	Description
1.	1704471	Spring Pivot Connector
2.	1704466	Return Arm
K.	1704449	Set Screw - 3/8" x 1/2"
R.	1702573	Cap Screw - 3/8" x 2 1/2"
e.	1701580	Nylon Lock Nut - 3/8"
m.	1701176	Flat Washer - 3/8"

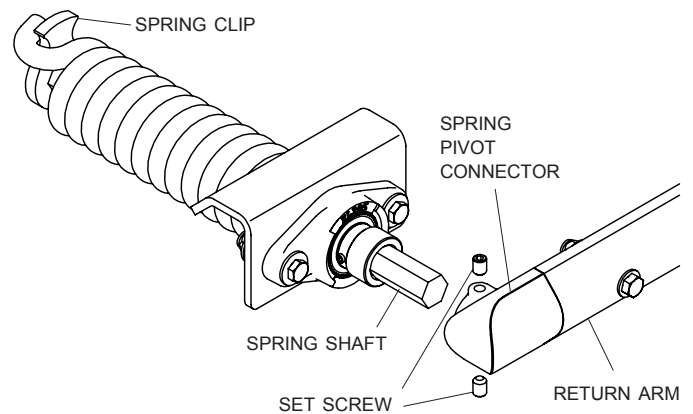


**STEP 1:** Slide spring pivot connector onto spring shaft. Slide return arm over pipe end of pivot connector until it contacts flat edge of connector, then let other end of arm rest on ground. Align arm so one narrow flat edge is pointing up so it matches outer profile of pivot connector. Drill 3/8" hole through arm that aligns with hole in pivot connector. Fasten securely with cap screw (R), washers (m) and lock nut (e).



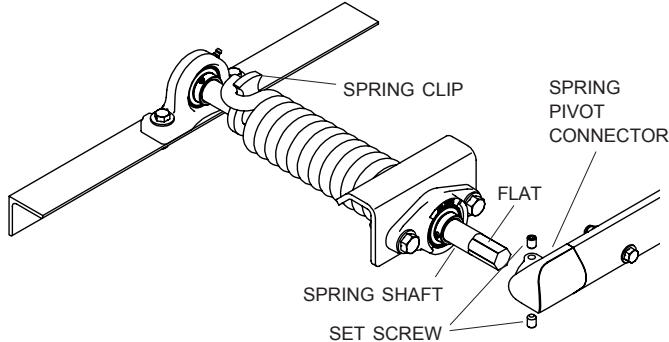
**STEP 2:** Before fastening spring pivot connector to spring shaft with set screws, set underbody springs at proper pre-load/tension for your application. Amount of pre-load on spring is dependent on length of box.

**BOXES UP TO 29':** Slide spring pivot connector off spring shaft. Turn shaft until spring clip engages rear hook on spring. Slide pivot connector onto shaft so return arm will be nearly horizontal when spring clip starts to engage hook of spring. Make sure pivot connector is fully over end of shaft before tightening set screws.



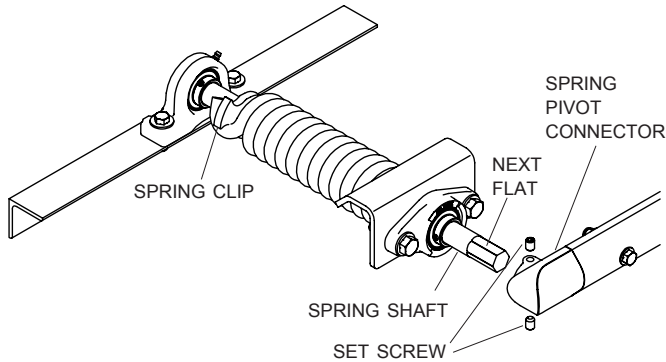
**BOXES 29'-34':** Slide pivot connector off spring shaft. Turn shaft until spring clip engages rear hook on spring. Using large pipe wrench, pre-load spring so next flat on hex end is nearly horizontal. Slide pivot connector fully onto shaft. With pivot connector slid back onto shaft and other end of arm resting on ground, tighten set screws.

SPRING CLIP STARTING TO ENGAGE



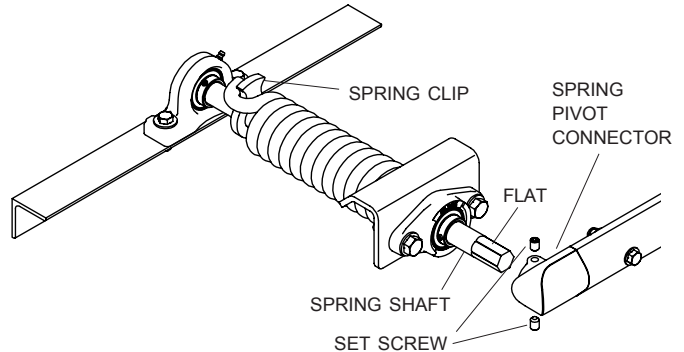
**NOTE:** Hex end of shaft is oriented with flat on top in this position.

SPRING PRE-LOADED TO NEXT FLAT ON HEX



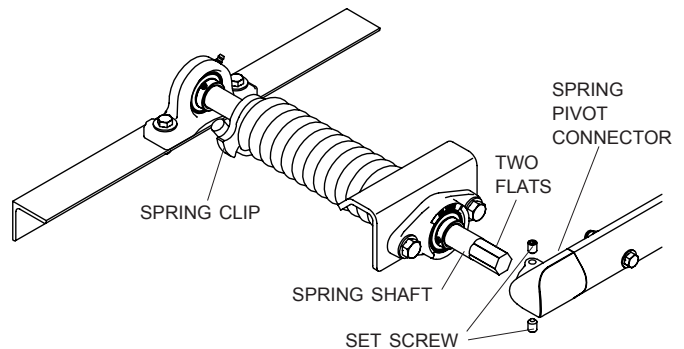
**BOXES 34'-37':** Slide pivot connector off spring shaft. Turn shaft until spring clip engages rear hook on spring. Using large pipe wrench, pre-load spring so shaft rotates nearly 1/3 turn or two flats of hex end until nearly horizontal. Slide pivot connector fully onto shaft. With pivot connector slid back onto shaft and other end of arm resting on ground, tighten set screws.

SPRING CLIP STARTING TO ENGAGE



**NOTE:** Hex end of shaft is oriented with flat on top in this position.

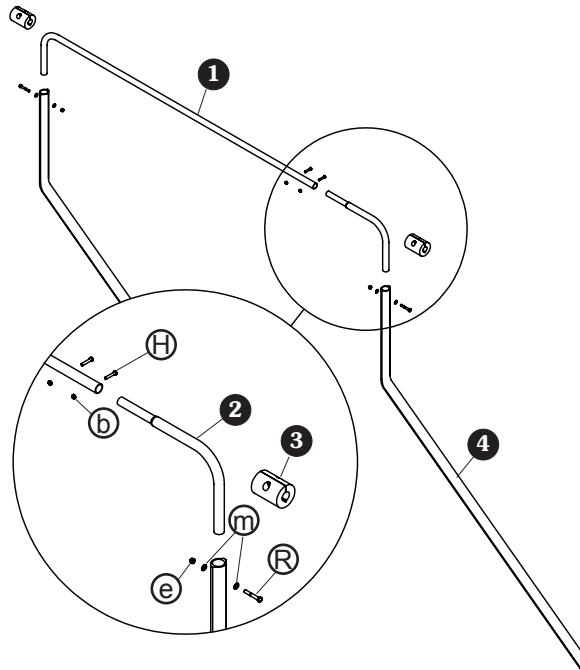
SPRING PRE-LOADED 1/3 TURN - OR TWO FLATS



**WARNING**

Use caution when pre-loading springs. Do not let go of pipe wrench until spring pressure is relieved.

Item	Part #	Description
1.	1118951	Tarp Tube Crossover
2.	1118952	Tarp Tube Elbow
3.	1704458	Rubber Bumper - 3 1/4" x 4 1/2"
4.	1704465	Aluminum Return Arm - 10' w/2' Bend
	1704466	Aluminum Return Arm - 12' w/2' Bend
	1704467	Aluminum Return Arm - 14' w/2' Bend
	1704486	Aluminum Return Arm - 16'
	1704487	Aluminum Return Arm - 18'
	1704488	Aluminum Return Arm - 20'
H.	1704451	Cap Screw - 5/16" x 1 5/8"
R.	1702573	Cap Screw - 3/8" x 2 1/2"
b.	1704454	Nylon Lock Nut - Thin - 5/16"
e.	1701580	Nylon Lock Nut - 3/8"
m.	1701176	Flat Washer - 3/8"

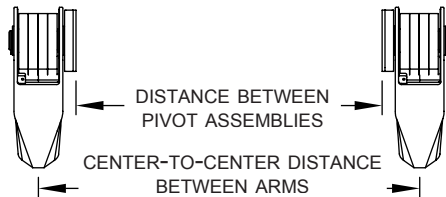


**STEP 1: Determine finished tarp tube length.** Measure center-to-center distance between tarp arms.

**EXTERNAL SPRINGS:**

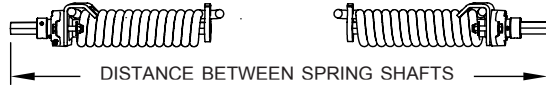
4-SPRING TARP TUBE LENGTH = INSIDE DISTANCE BETWEEN PIVOT ASSEMBLIES + 5"

5-SPRING TARP TUBE LENGTH = INSIDE DISTANCE BETWEEN PIVOT ASSEMBLIES + 5 3/8"

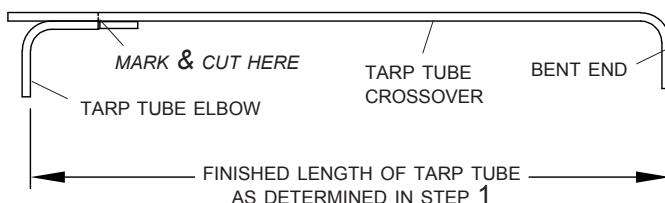


**UNDERBODY SPIRAL SPRINGS:**

TARP TUBE LENGTH = OUTSIDE DISTANCE BETWEEN SPRING SHAFTS - 1"

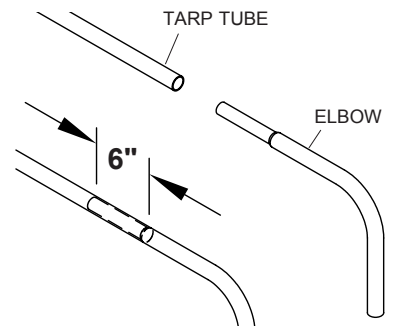


**STEP 2:** Overlap tarp tube elbow and tarp tube crossover as shown. Hook tape measure over bent end of tarp tube and measure to inside edge of elbow. Adjust position of elbow along tarp tube until elbow is positioned to attain finished tarp tube length as determined in step 1. Mark and cut tarp tube as shown.

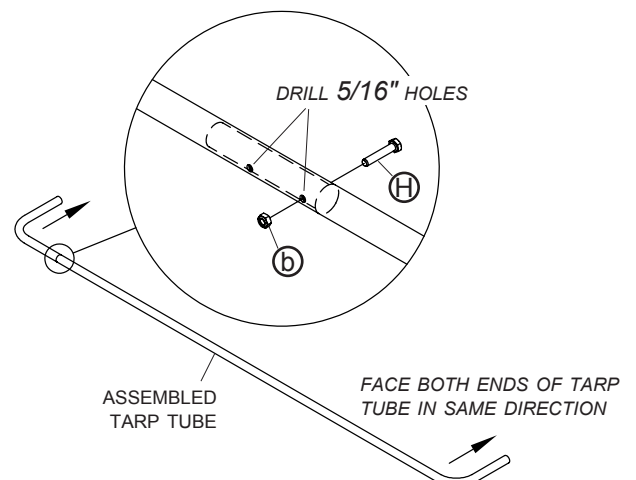


**STEP 3:** Insert 6" elbow into tarp tube.

**NOTE:** Deburr inside of tarp tube or outside of elbow if elbow will not easily slide into tarp tube.

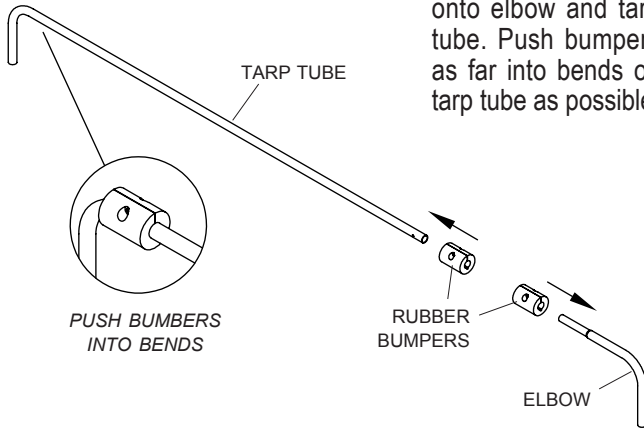


**STEP 4:** Lay assembled tarp tube on flat surface with ends of tube laying flat and facing same direction. Drill two 5/16" holes on tarp tube side of joint. Fasten with screw H and nut b.

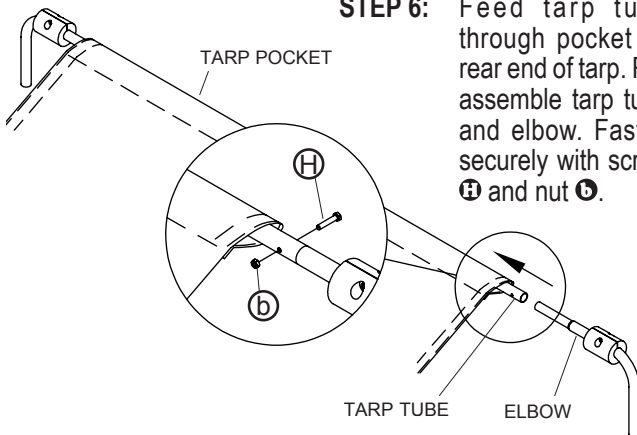




**STEP 5:** Slide rubber bumpers onto elbow and tarp tube. Push bumpers as far into bends on tarp tube as possible.



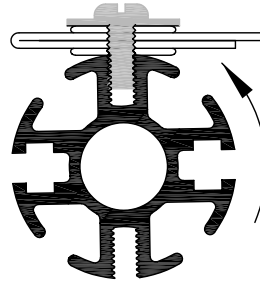
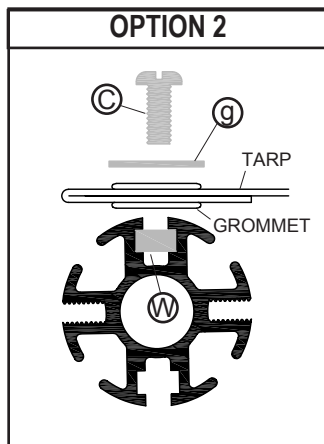
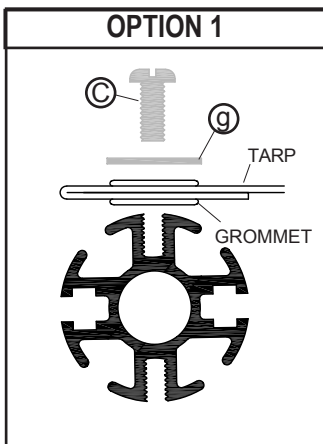
**STEP 6:** Feed tarp tube through pocket on rear end of tarp. Re-assemble tarp tube and elbow. Fasten securely with screw **(i)** and nut **(b)**.



**STEP 7:** Lay front edge of tarp across tarp axle and center tarp with box (cab guard may be off center). Start at center and work toward edges, pulling tarp tight.

**Option 1 -** Fasten screws **(c)** through washers **(g)** and grommets into threaded groove.

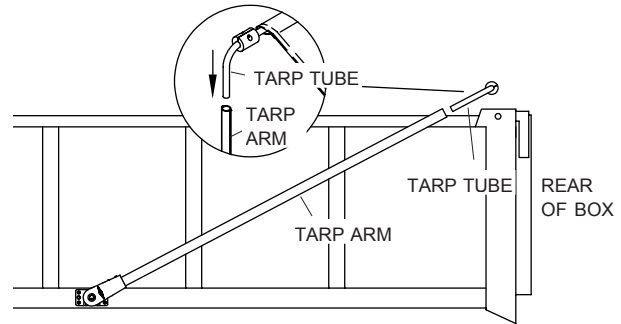
**Option 2 -** Install nuts **(w)** into axle groove, then fasten screws **(c)** through washers **(g)**, grommets and nuts **(w)**.



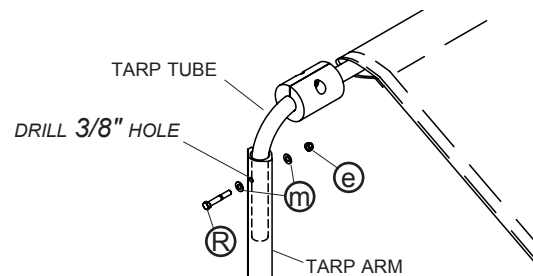
Tarp must wind open in direction shown. To prevent debris from entering tarp axle, position tarp to roll open off top of axle toward rear of box.

**STEP 8:** Position tarp arms at top rear of box. Insert ends of tarp tube into arms. Square up tarp tube with box by adjusting distance where tarp tube enters arms.

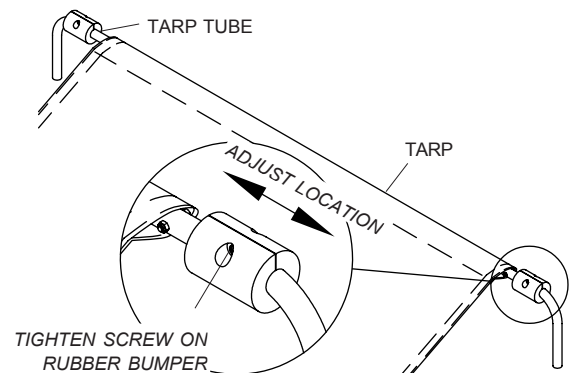
**NOTE:** First insert tarp tube as far as possible into tarp arms. Pull ends of tarp tube slightly out of each arm as needed to align tarp tube squarely across box.



**STEP 9:** With arms equally spaced from sides of box, drill 3/8" hole through each tarp arm and tarp tube. Fasten securely with screw **(i)**, washer **(m)** and nut **(e)**.

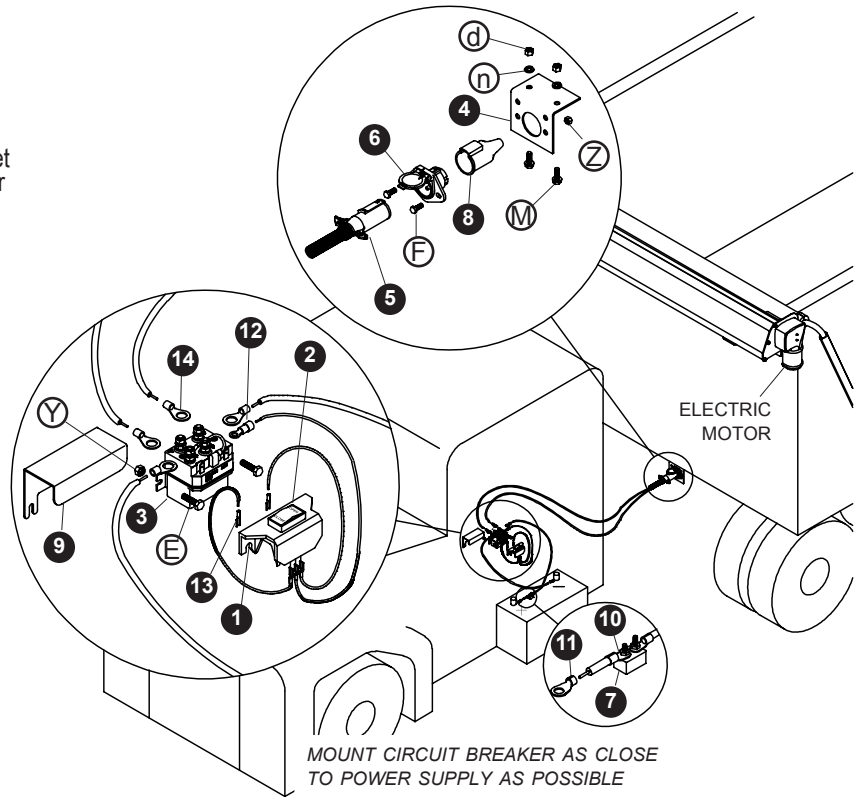
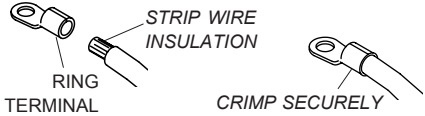


**STEP 10:** Center tarp on tarp tube and adjust location of rubber bumpers as desired. Tighten screws on rubber bumpers to secure bumpers to tarp tube.



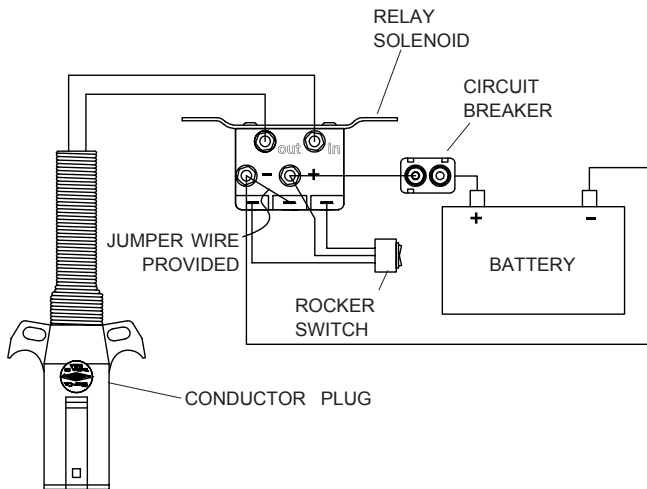
Item	Part #	Description
1.	1703661	Rocker Switch Mounting Bracket
2.	1116020	Rocker Switch
3.	1703845	Motor-Reversing Solenoid
4.	1109015	Mounting Bracket
5.	1115385	Heavy-Duty Dual-Conductor Plug
6.	1115386	Heavy-Duty Dual-Conductor Socket
7.	1703480	50-Amp Auto-Reset Circuit Breaker
8.	1704573	Conductor Socket Sealed Boot
9.	1703896	Solenoid Cover
10.	1703245	Ring Terminal - 6 Ga. x #10 Stud
11.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud
12.	1704153	Ring Terminal - 14 Ga. x 1/4" Stud
13.	1703659	Push On Terminal - 14 Ga. 1/4"
14.	1702707	Ring Terminal - 6 Ga. 1/4 Stud
E.	1700381	Cap Screw - 1/4" x 1"
F.	1701045	Cap Screw - 5/16" x 3/4"
M.	1700400	Self-Tapping Screw - 3/8" x 1"
Y.	1701543	Nylon Lock Nut - 1/4"
Z.	1700411	Hex Nut - 5/16"
d.	1700407	Hex Nut - 3/8"
n.	1700434	Lock Washer - 3/8"

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



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

**STEP 2: Mount solenoid.** Mount solenoid in a suitable location - a ventilated area near battery is ideal. Determine best route for wire, usually along 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.

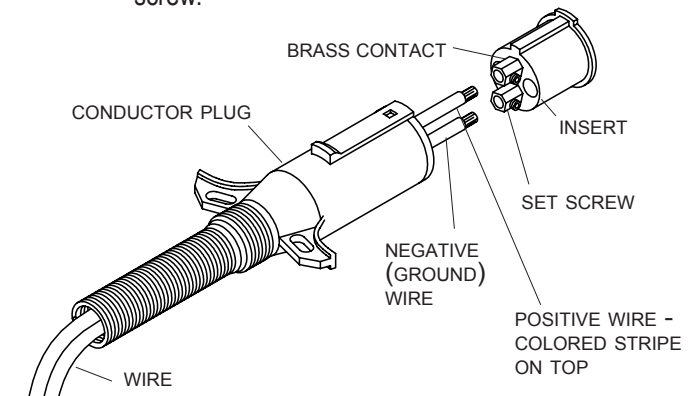


**STEP 3: Rocker switch.** Locate rocker switch in convenient operating location. Mount switch inside cab with bracket or install directly into dash panel.

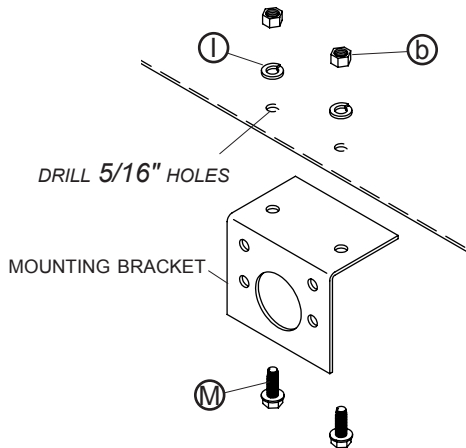


**! WARNING**  
Apply operation warning decal (P/N 1704562) provided in same location as switch.

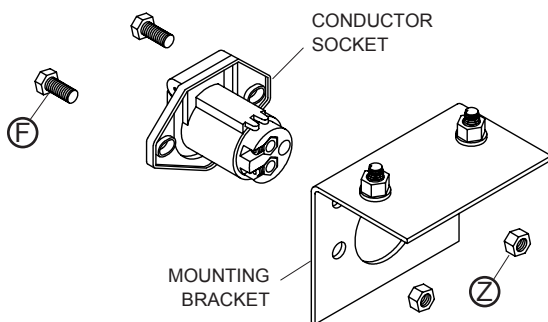
**STEP 4: Conductor plug.** Unfasten and remove insert from conductor plug. Feed 6-ga. wire through plug and into brass contacts on insert. Tighten set screws to secure wires. Replace insert into conductor plug and secure screw.



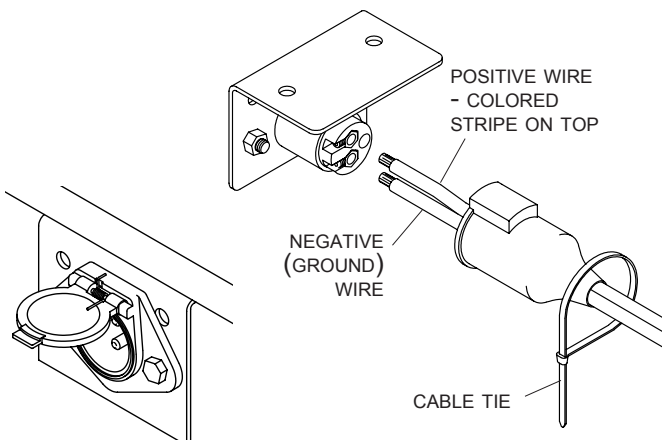
**STEP 1: Mounting bracket.** Mount bracket at suitable location on front of trailer, usually near existing plugs. Mark and drill 5/16" holes and fasten with 3/8" x 1" self-tapping screws **(M)**, lock washers **(L)** and nuts **(D)**.



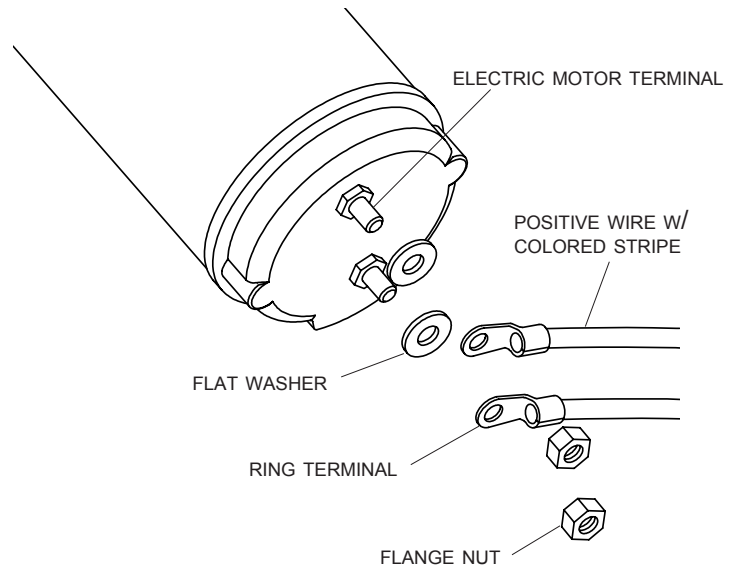
**STEP 2: Conductor Socket.** Fasten conductor socket into mounting bracket with screws **(F)** and nuts **(Z)**.



Run 6-ga. wire from motor and slide wire through sealed boot. Connect wire to conductor socket, aligning positive wire on socket with positive wire on conductor plug. Slide sealed boot against conductor socket and secure boot to wire with cable tie.



**STEP 3:** Connect wires to motor terminals.



## ⚠ 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 motor to opposite connections.

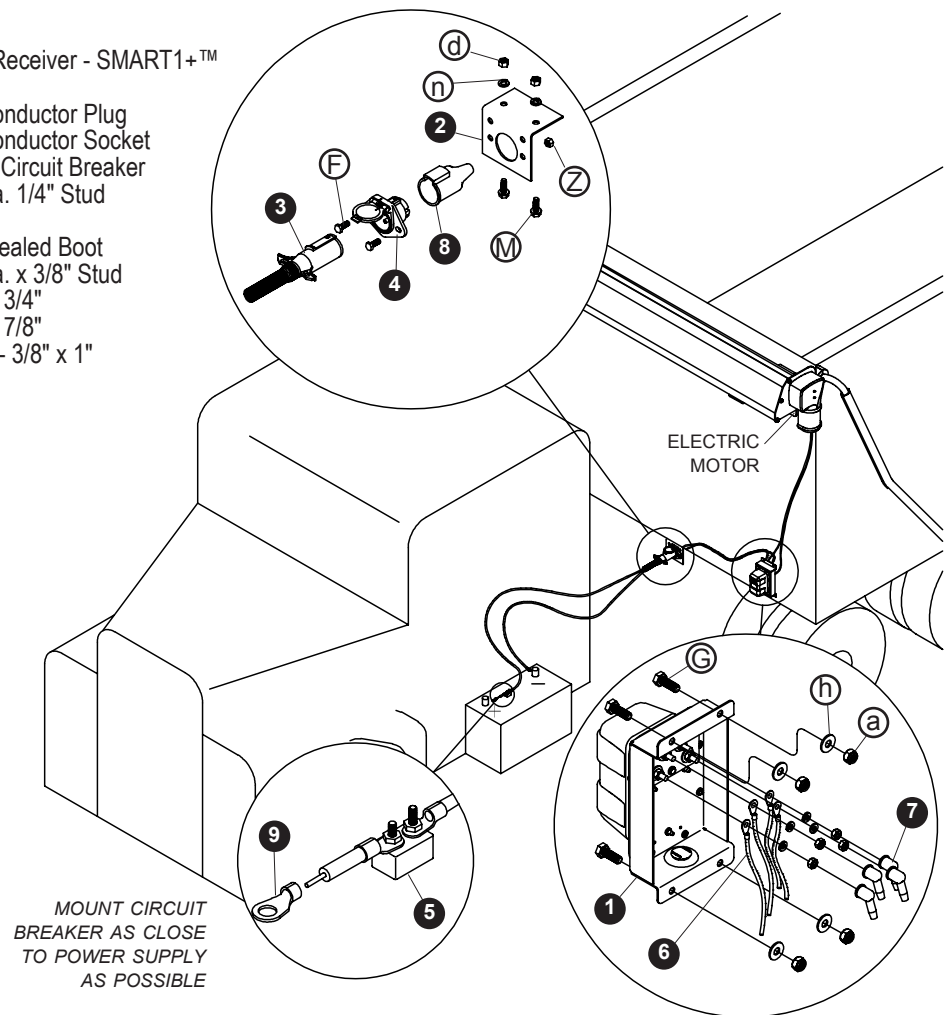
B) Close tarp: Push switch to "CLOSE" and hold. Observe tarp and release switch when tarp is fully closed.

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

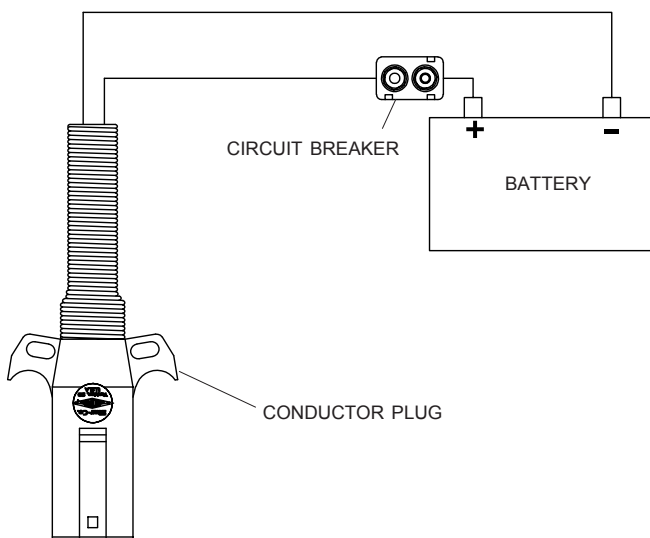
**NOTE:** Release switch at end of cycle or auto-reset circuit breaker will trip. After breaker resets, switch will activate motor again. To reduce unnecessary strain on tarp components, release switch at end of each cycle.

Item	Part #	Description
1.	1123582	Shur-Co® Wireless Receiver - SMART1+™
2.	1109015	Mounting Bracket
3.	1115385	Heavy-Duty Dual-Conductor Plug
4.	1115386	Heavy-Duty Dual-Conductor Socket
5.	1703480	50-Amp Auto-Reset Circuit Breaker
6.	1702707	Ring Terminal - 6 Ga. 1/4" Stud
7.	1704330	Rubber Boot
8.	1704573	Conductor Socket Sealed Boot
9.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud
F.	1701045	Cap Screw - 5/16" x 3/4"
G.	1702926	Cap Screw - 5/16" x 7/8"
M.	1700400	Self-Tapping Screw - 3/8" x 1"
Z.	1700411	Hex Nut - 5/16"
a.	1700419	Lock Nut - 5/16"
d.	1700407	Hex Nut - 3/8"
h.	1700428	Flat Washer - 5/16"
n.	1700434	Lock Washer - 3/8"

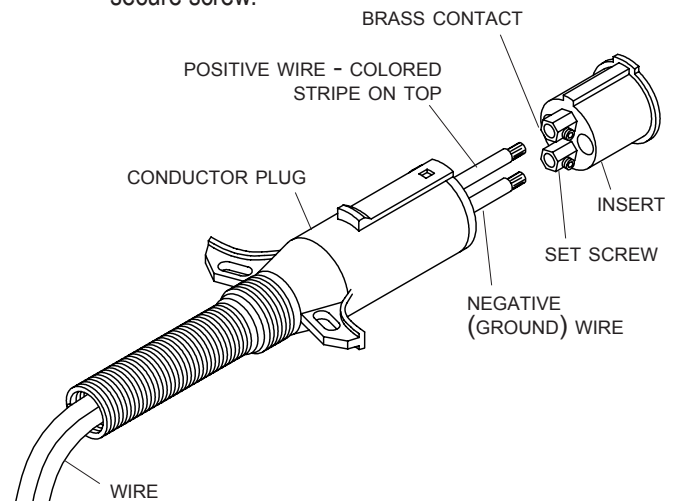
**NOTE:** Cut wires to length and strip only enough wire insulation to install ring terminals. Insert bare wire into ring terminals and crimp securely.



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

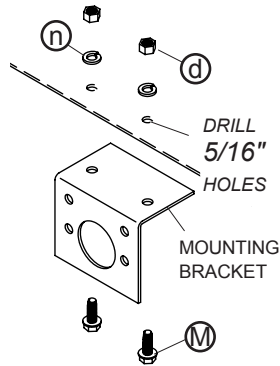


**STEP 2: Conductor plug.** Unfasten and remove insert from conductor plug. Feed 6-ga. wire through plug and into brass contacts on insert. Tighten set screws to secure wires. Replace insert into conductor plug and secure screw.

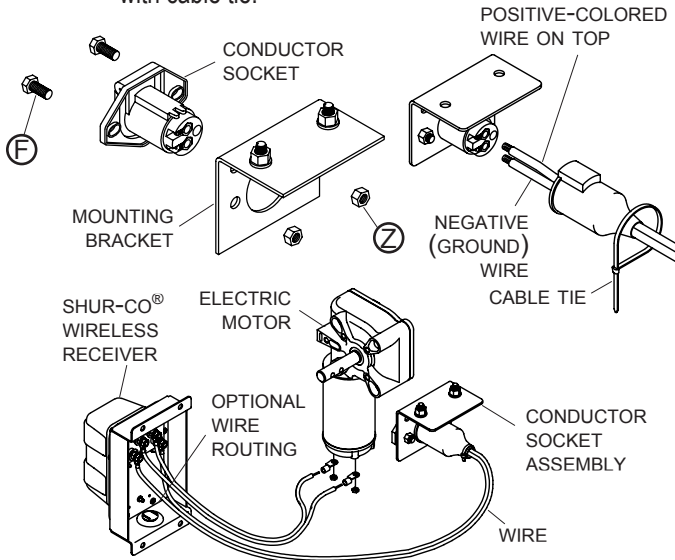


**STEP 1: Mounting bracket.**

Mount bracket at suitable location on front of trailer, usually near existing plugs. Mark and drill 5/16" holes and fasten with 3/8" x 1" self-tapping screws **M**, lock washers **n** and nuts **d**.



**STEP 2: Conductor socket.** Fasten conductor socket into mounting bracket with 5/16" x 3/4" cap screws **F** and nuts **Z**. Bring 6-ga. wire from motor through sealed boot. Connect wire ends to conductor socket, aligning positive wire on socket with positive wire on conductor plug. Slide sealed boot against conductor socket and secure boot to wire with cable tie.



**! WARNING**  
 Apply operation warning decal (P/N 1704562) in same location as receiver.

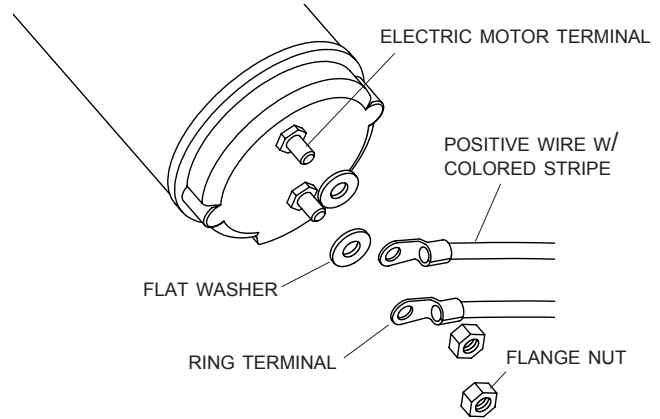
**STEP 3: Shur-Co® wireless receiver.** Run 6-ga. wire from electric motor to receiver. Route wire as desired. Insert end of this wire through rubber boots, then crimp 1/4" ring terminals onto wire ends. Remove nuts and lock washers from back of wireless receiver. Place positive wire on upper orange post and negative wire on upper black post. Secure lock washers and hex nuts. Coat with dielectric grease and install rubber boots over ring terminals.

**NOTE:** Use dielectric grease (P/N 1704378) to prevent corrosion on terminals.

Run 6-ga. wire from receiver to conductor socket through rubber boots. Crimp 1/4" ring terminals to wire ends. On back of wireless receiver, place positive wire on lower orange post and negative wire on lower black post. Secure with 1/4" lock washers and hex nuts. Coat with dielectric grease and install rubber boots over ring terminals. When wiring socket, align positive wire with positive wire on plug.

Mount wireless receiver at suitable location on front of trailer. Mark and drill 11/32" holes and fasten with 5/16" x 7/8" cap screws **G**, flat washers **b** and lock nuts **a**.

**STEP 4:** Connect wires to motor.



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

**Operation:**

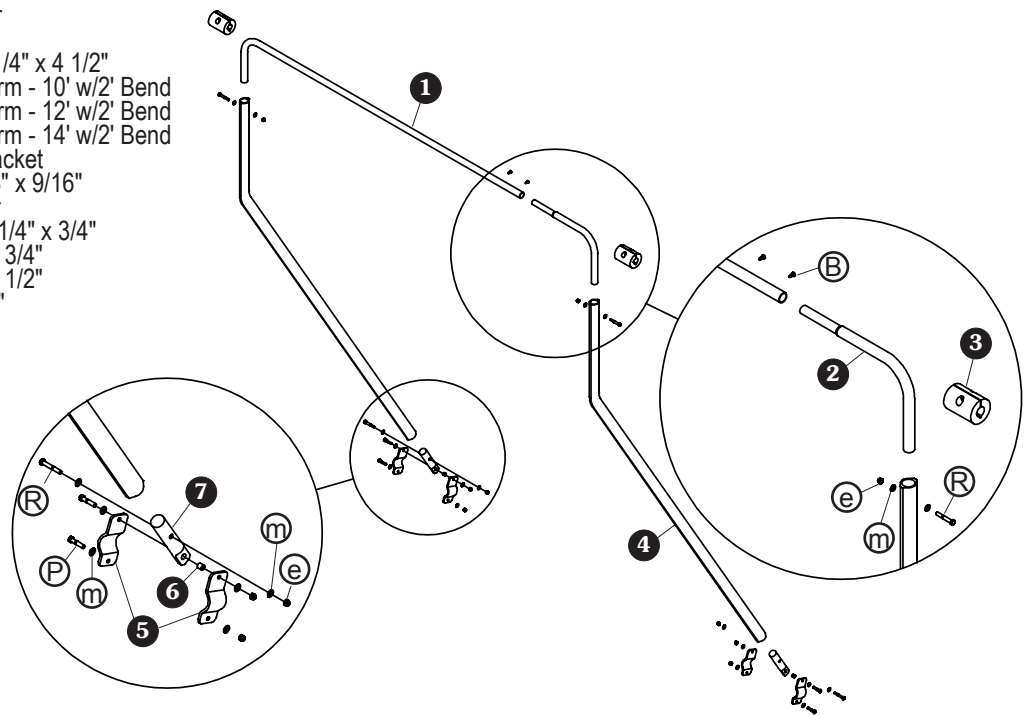
- A) Check motor direction by activating switch to "OPEN." If switch is running system backwards, change wire leads on motor to opposite connections.
- B) Close tarp: Push switch to "CLOSE" and hold. Observe tarp and release switch when tarp is fully closed.
- C) Open tarp: Push switch to "OPEN" and hold. Observe tarp and release switch when tarp is fully open.
- D) Remote operation: Refer to remote instruction manual.

**NOTE:** Release switch at end of cycle or auto-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.

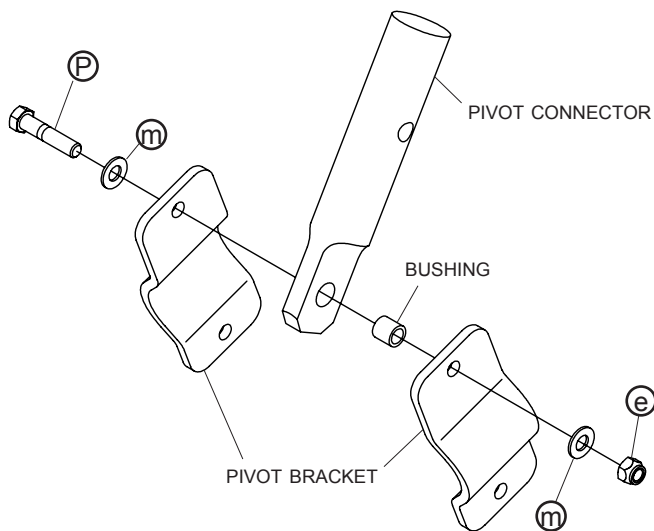
**NOTE: Pressure wash.** Receiver may be pressure washed, but keep nozzle at least 3' from system while spraying.



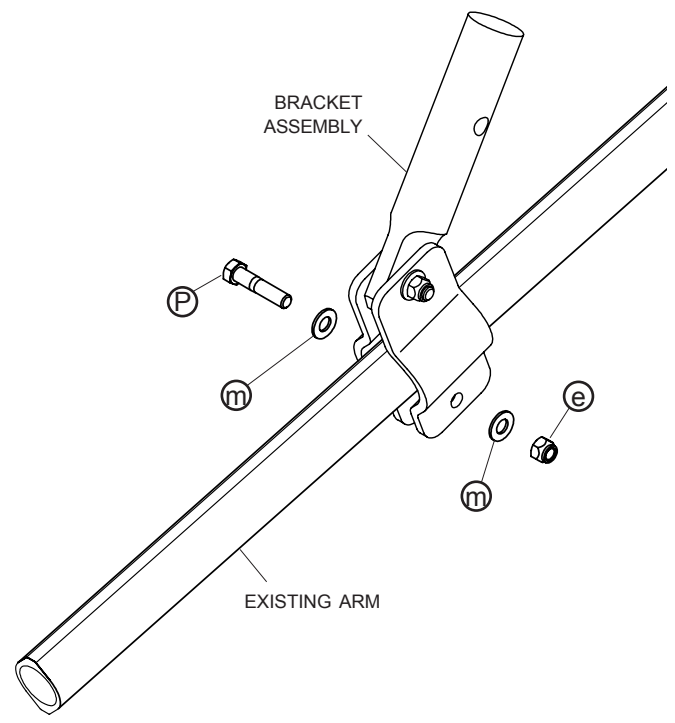
Item	Part #	Description
1.	1118951	Tarp Tube Crossover
2.	1118952	Tarp Tube Elbow
3.	1704458	Rubber Bumper - 3 1/4" x 4 1/2"
4.	1704465	Aluminum Tension Arm - 10' w/2' Bend
	1704466	Aluminum Tension Arm - 12' w/2' Bend
	1704467	Aluminum Tension Arm - 14' w/2' Bend
5.	1120104	Arm Pivot Clamp Bracket
6.	1704643	Bushing - 9/16" x 3/8" x 9/16"
7.	1704642	Arm Pivot Connector
B.	1700398	Self-Drilling Screw - 1/4" x 3/4"
P.	1700369	Cap Screw - 3/8" x 1 3/4"
R.	1702573	Cap Screw - 3/8" x 2 1/2"
e.	1701580	Nylon Lock Nut - 3/8"
m.	1701176	Flat Washer - 3/8"



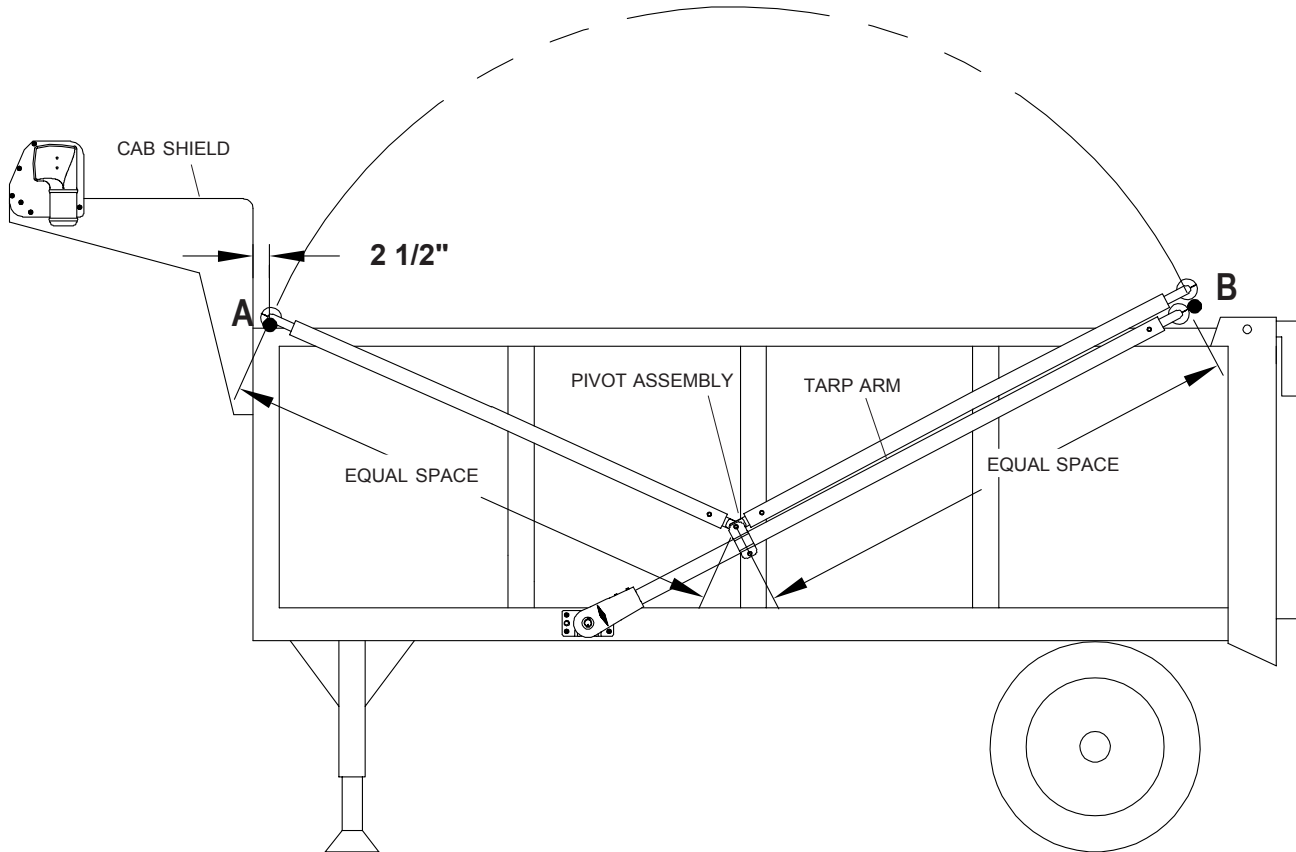
**STEP 1:** Assemble pivot connector to pivot bracket sections with screw **P**, washers **m**, spacer bushing and lock nut **e**. Leave connection loose enough to allow brackets to slide over return arms.



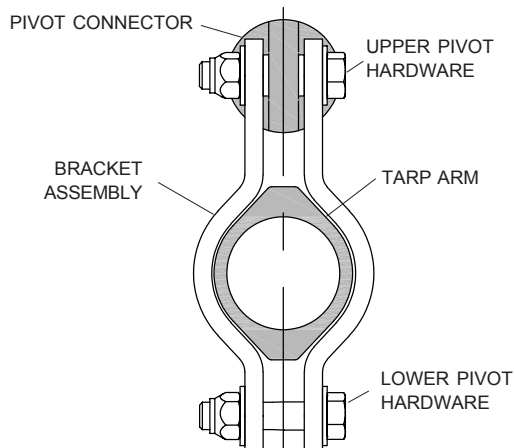
**STEP 2:** Install bracket assembly onto existing arm with screw **P**, washers **m** and nut **e**, leaving brackets loose enough to allow assembly to slide easily up and down arm.



**STEP 3:** Determine tension arm pivot location. Move pivot assembly until isame distance from points A and B as shown. Allow 2 1/2" clearance between cab shield and point A. Point B is located at back surface of existing tarp tube.

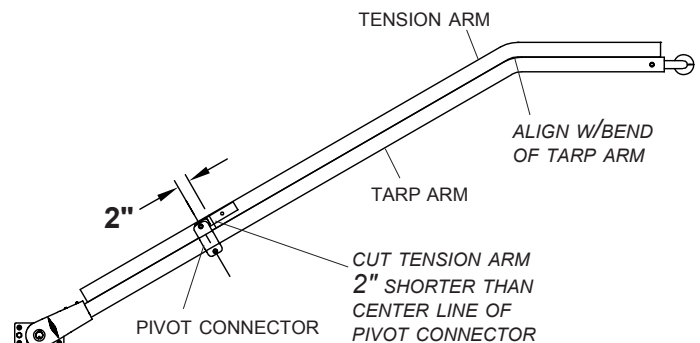


**STEP 4:** Align bracket assembly vertically as shown and clamp brackets to tarp arm by first tightening upper, then lower pivot hardware. Mount second pivot connector assembly in same location on other arm.

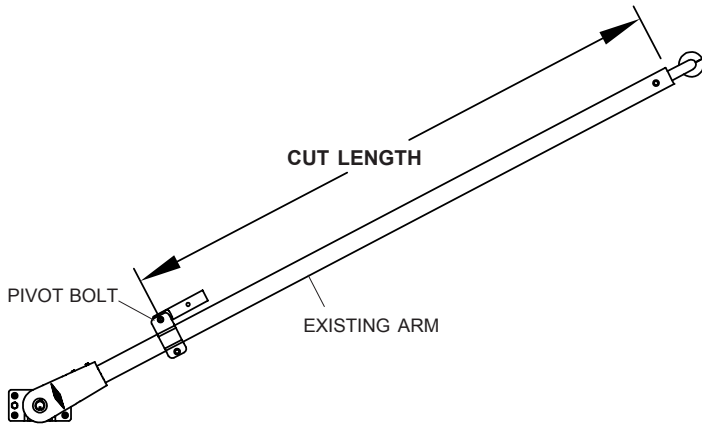


**STEP 5A: Determine tension arm length (bent arms).**

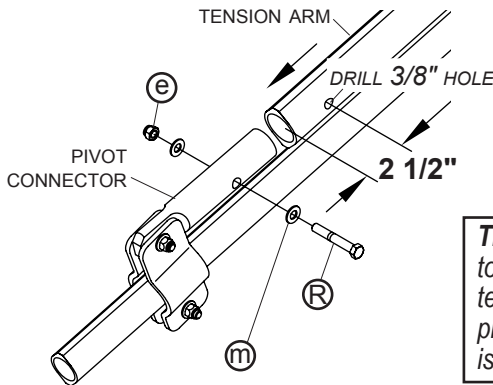
Mark top of existing arm on center line of pivot connector. Remove pivot connector. Lay tension arm over top of tarp arm, aligning bend in tension arm with bend in tarp arm. Transfer mark onto tension arm at pivot point center line. Cut tension arms 2" shorter than center line of pivot connector.



**STEP 5B: Determine tension arm length (straight arms).**  
Measure from center of pivot bolt to upper end of existing arm.



**STEP 6:** Drill 3/8" hole 2 1/2" from lower end of tension arms. Fasten arms to pivot connectors with screws **(R)**, washers **(M)** and nuts **(E)**.



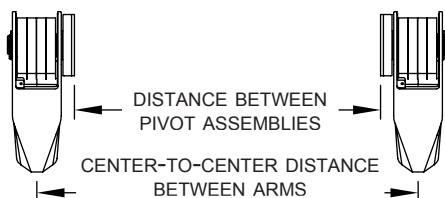
**TIP -** Strap arms together to keep tension arms in place until tarp tube is assembled.

**STEP 7: Determine finished tension tube length.** Measure center-to-center distance between tarp arms.

**EXTERNAL SPRINGS:**

4-SPRING TENSION TUBE LENGTH = INSIDE DISTANCE BETWEEN PIVOT ASSEMBLIES + 5"

5-SPRING TENSION TUBE LENGTH = INSIDE DISTANCE BETWEEN PIVOT ASSEMBLIES + 5 3/8"

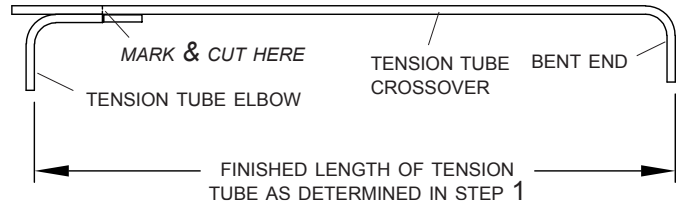


**UNDERBODY SPIRAL SPRINGS:**

TENSION TUBE LENGTH = OUTSIDE DISTANCE BETWEEN SPRING SHAFTS - 1"

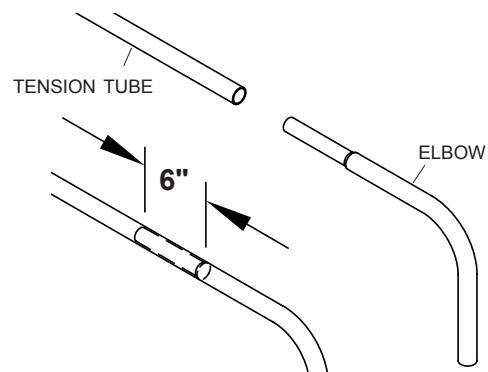


**STEP 8:** Overlap tension tube elbow and tension tube crossover as shown. Hook tape measure over bent end of tension tube and measure to inside edge of elbow. Adjust position of elbow along tension tube until elbow is positioned to attain finished tension tube length as determined in step 1. Mark and cut tension tube as shown.

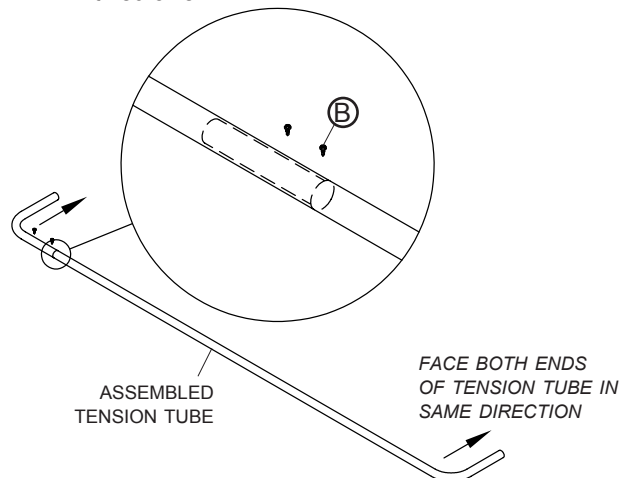


**STEP 9:** Insert elbow 6" into tube.

**NOTE:** Deburr inside of tension tube or outside of elbow if elbow will not slide easily into tension tube.

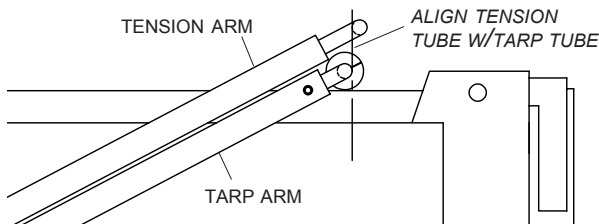
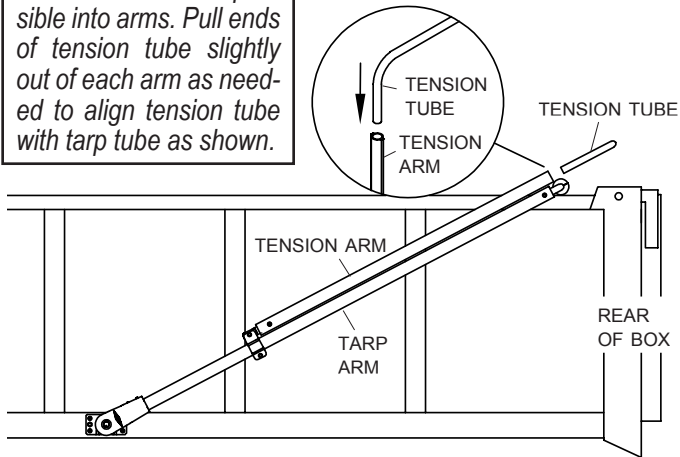


**STEP 10:** Lay assembled tension tube on flat surface with ends of tubes laying flat and facing same direction. Fasten with screws **(B)**.

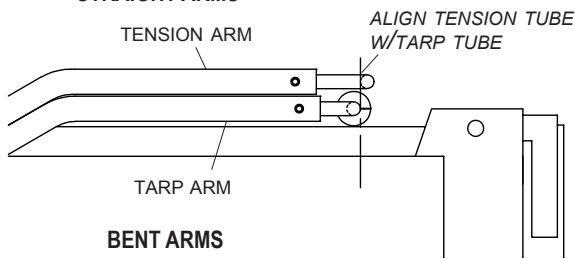


**STEP 11:** Position tension arms at top rear of box. Insert ends of tension tube into arms. Align tension tube with tarp tube by adjusting distance where tension tube enters arms. Align tension tube as shown in illustrations.

**NOTE:** First insert tension tube as far as possible into arms. Pull ends of tension tube slightly out of each arm as needed to align tension tube with tarp tube as shown.

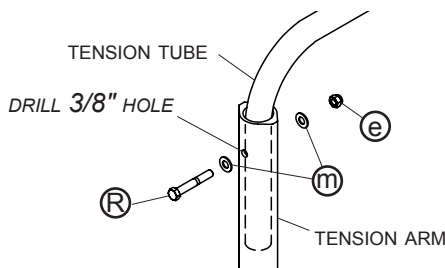


**STRAIGHT ARMS**

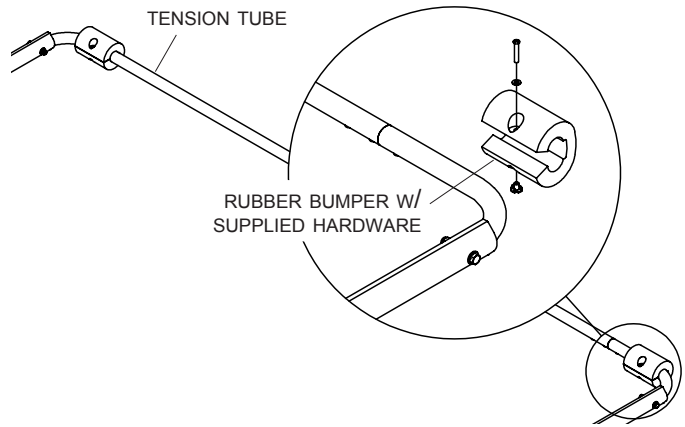


**BENT ARMS**

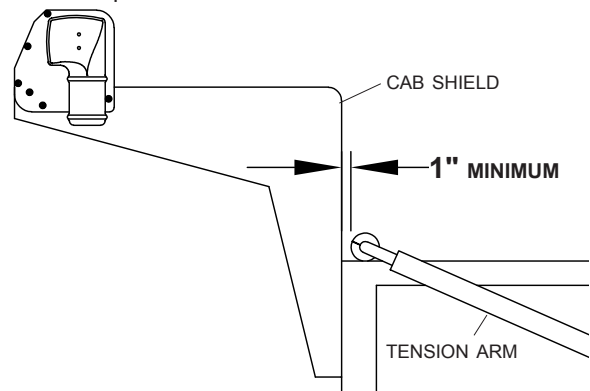
**STEP 12:** With arms equally spaced from sides of box, drill 3/8" hole through each arm and tension tube. Fasten securely with screws (R), washers (M) and nuts (E).



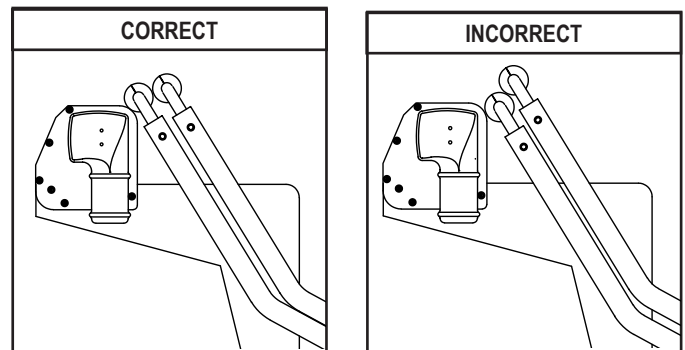
**STEP 13: Rubber bumpers.** Remove hardware from rubber bumpers. Pry bumpers open and slide bumpers onto tension tube. Align bumpers directly over bumpers on tarp tube and refasten hardware to secure bumpers to tension tube.

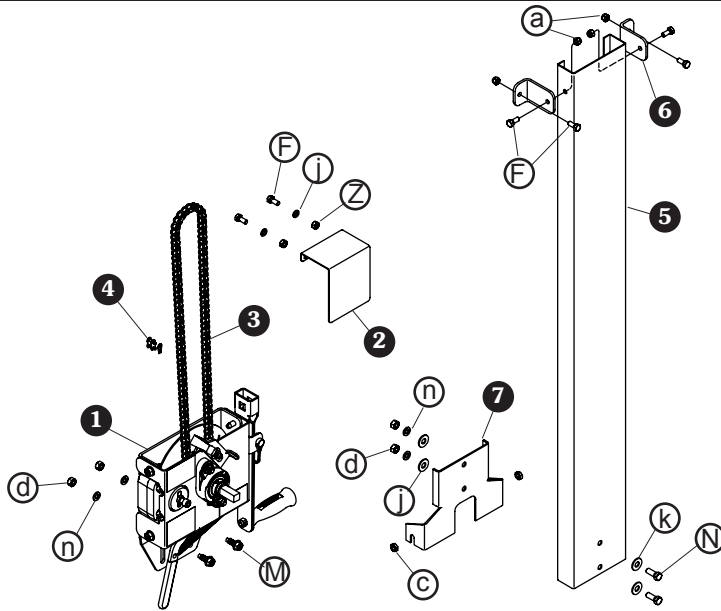


**STEP 14:** Rest tarp arms on rear of box and swing tension arms forward to rest tension tube on top rail behind cab shield. Verify there is about 1" clearance between rubber bumpers and cab shield. Check system operation. If tension tube contacts cab shield, adjust arm length or pivot location as needed.



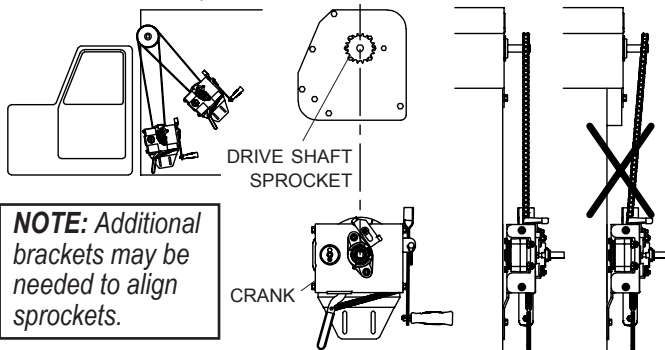
**STEP 15:** Check system operation by winding tarp to front of box. Make sure arms swing entirely open without binding. To verify correct installation, compare to diagram below.



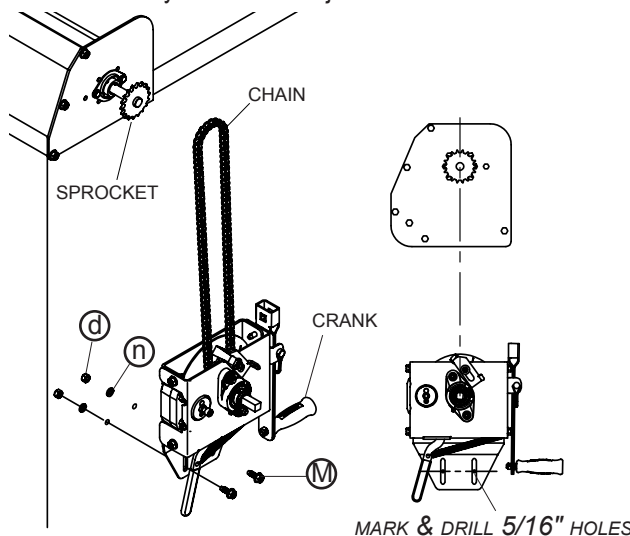


Item	Part #	Description
1.	1120349	Chain Drive Crank Assembly
2.	1120378	Chain Guard
3.	1109179	Roller Chain
4.	1701057	Connector Link
5.	1120399	Chain Guard - Full Length
6.	1120380	Chain Guard Bracket - Standard
	1120397	Chain Guard Bracket - Short
7.	1120379	Chain Guard Base Bracket
F.	1701045	Cap Screw - 5/16" x 3/4"
N.	1701061	Cap Screw - 3/8" x 1"
M.	1700400	Self-Tapping Screw - 3/8" x 1"
Z.	1700411	Hex Nut - 5/16"
a.	1700419	Nylon Lock Nut - 5/16"
d.	1700407	Hex Nut - 3/8"
c.	1701062	Hex Jam Nut - 3/8"
j.	1700433	Lock Washer - 5/16"
n.	1700434	Lock Washer - 3/8"
k.	1700429	Flat Washer - 3/8"

**STEP 1:** Determine mounting location for crank. Drive shaft sprocket and crank sprocket must line up to work correctly.

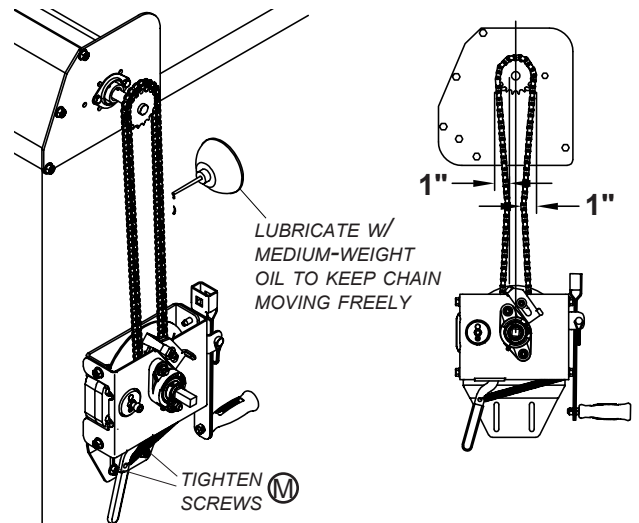


**STEP 2:** Using crank mounting holes as guide, mark and drill 5/16" holes in box. Fasten with screws (M), washers (n) and nuts (d), leaving fasteners loose enough for crank assembly to slide for adjustment.

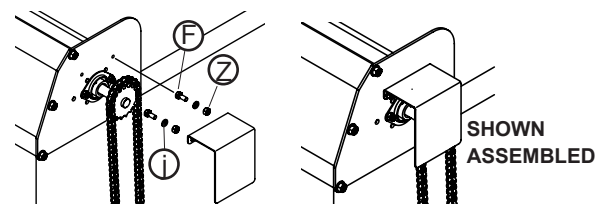


**STEP 3:** To determine chain length, wrap chain around both sprockets and pull crank assembly up until screws (M) are in middle of adjustment slots. Mark chain and remove excess links. Connect ends with connector link.

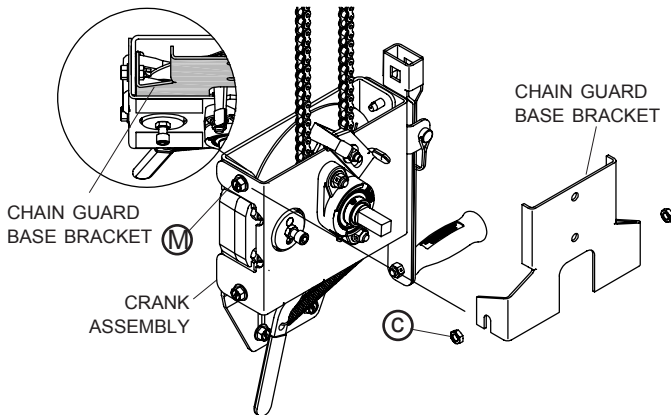
**STEP 4:** Adjust chain tension, having an assistant pull downward on crank assembly. When chain can be deflected about 1", tighten screws (M).



**STEP 5A: Standard chain guard.** Align chain guard over chain as shown. Using holes in chain guard as guide, mark and drill 5/16" holes. Fasten with screws (F), washers (i) and nuts (Z).

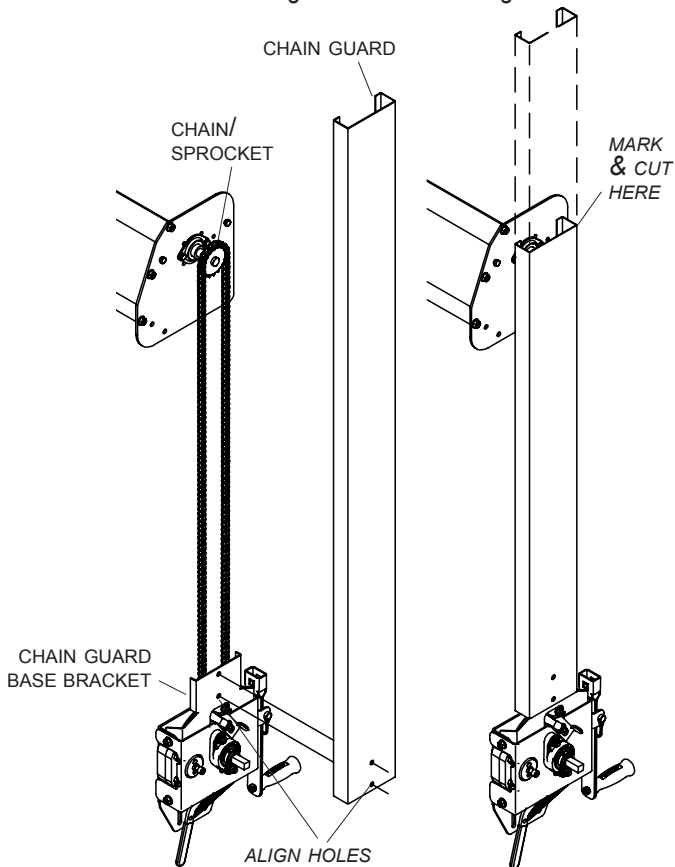


**STEP 5B: Install chain guard base bracket.** Slide bracket over existing screws **(M)** on crank assembly and fasten with jam nuts **(C)**.

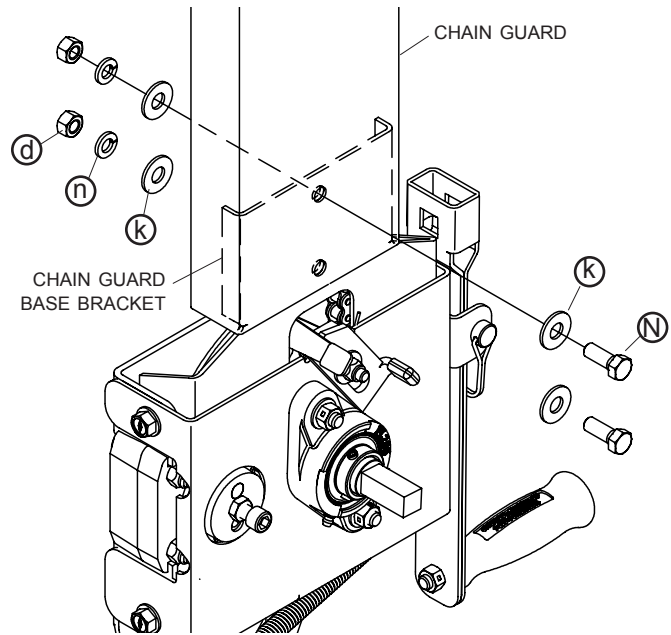


**NOTE:** Make sure bracket is aligned parallel to front face of crank assembly.

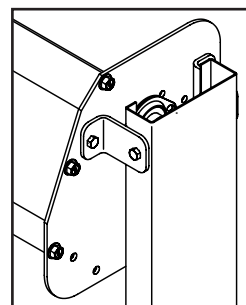
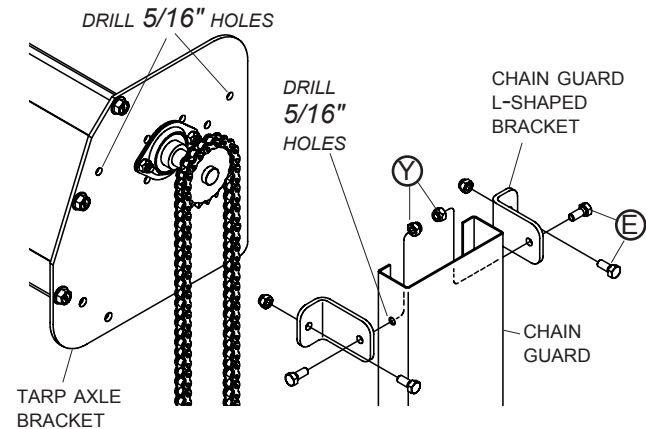
**STEP 6: Cut chain guard to length.** Align holes in chain guard and chain guard base bracket. Mark chain guard at point where guard extends past chain/sprocket. Remove chain guard and cut to length.



**STEP 7: Install chain guard.** Loosely fasten lower end of chain guard to chain guard base bracket with screws **(N)**, washers **(B)**, washers **(I)** and nuts **(D)**.



**STEP 8: Align top of chain guard and both chain guard L-shaped brackets with tarp axle bracket. Drill 5/16" holes through chain guard and tarp axle bracket. Fasten with screws **(E)** and lock nuts **(Y)**.**



**NOTE:** Make sure chain clears chain guard and mounting hardware before drilling holes.

**STEP 9:** Tighten all fasteners.



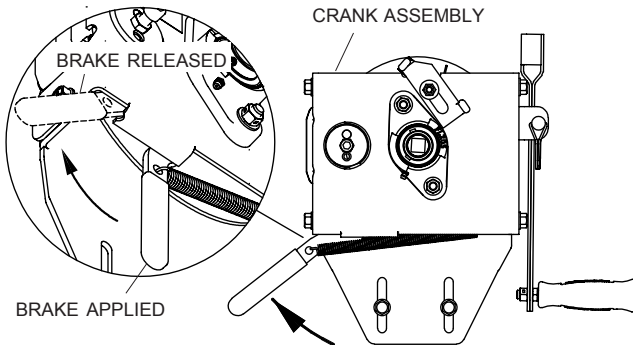


**WARNING**

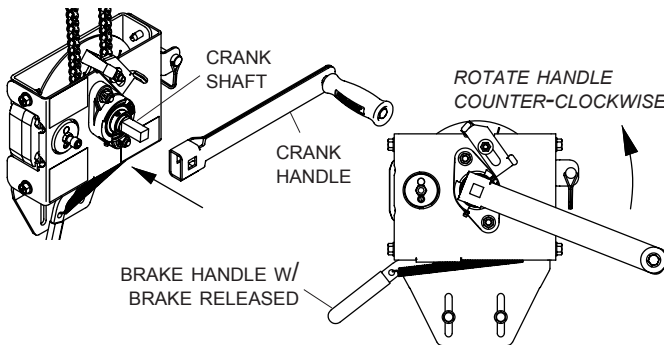
**Do not operate tarp system beneath power lines.  
Do not operate tarp system while people are near. Failure to follow these warnings could result in damages, serious injury or death.**

**TO OPEN TARP**

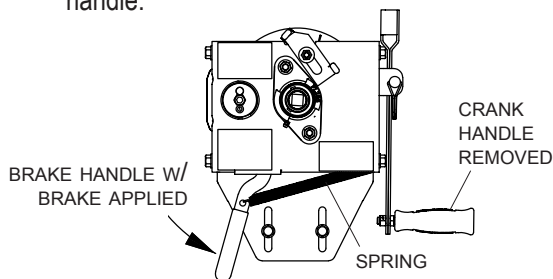
**STEP 1:** Pull brake handle into brake retainer to release brake.



**STEP 2:** Slide crank handle onto square crank shaft. Crank counter-clockwise until tarp is open completely.



**STEP 3:** Pull brake handle out of brake retainer. Allow spring to pull handle and apply brake, then remove crank handle.



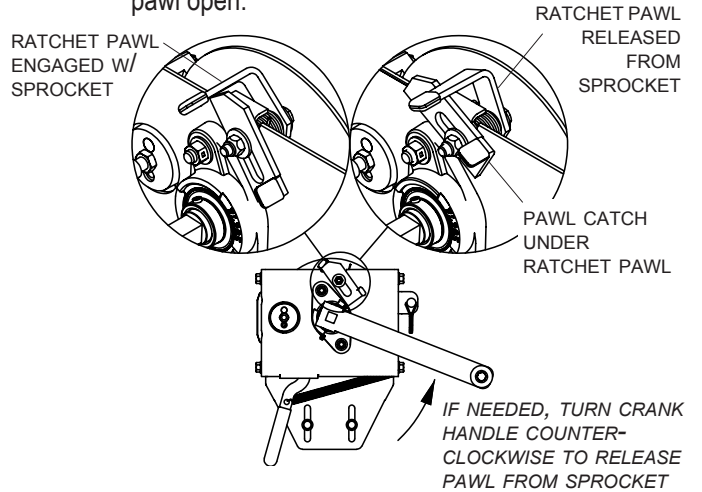
**WARNING**

**Always remove crank handle before closing tarp. Failure to do so could result in damages, serious injury or death.**

**TO CLOSE TARP**

**STEP 1:** Make sure brake is applied (see step 1 under *To Open Tarp*).

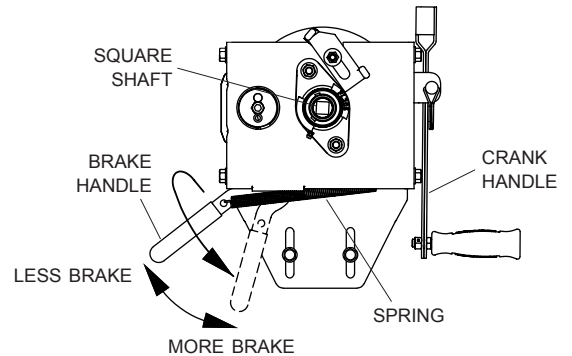
**STEP 2:** Rotate ratchet pawl clockwise to release pawl from sprocket. Slide pawl catch under ratchet pawl to hold pawl open.



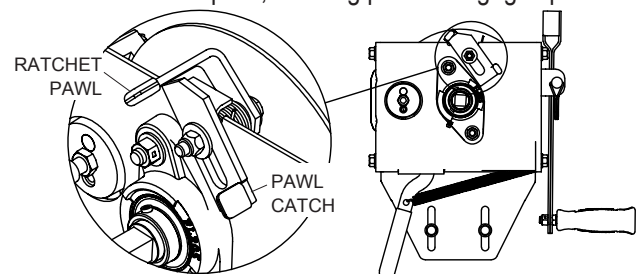
**WARNING**

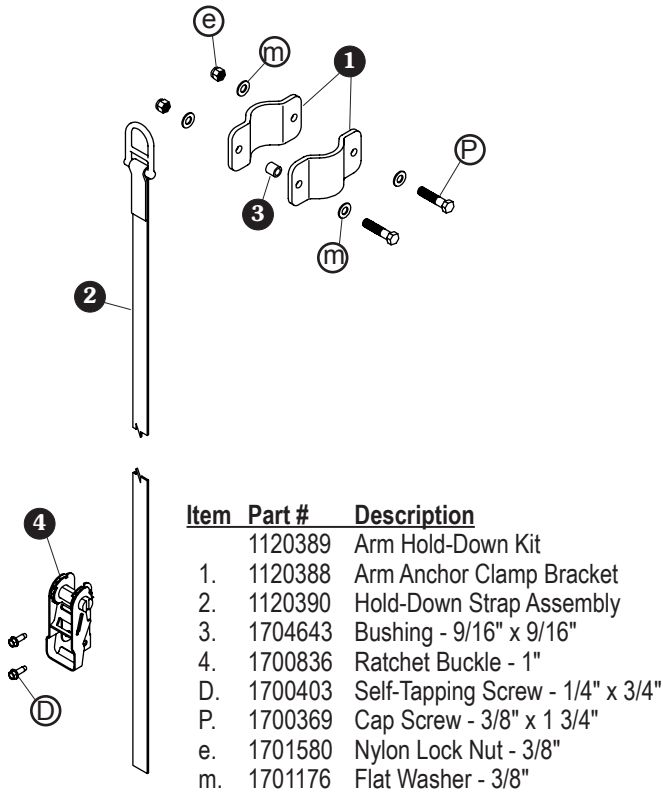
**Do not release ratchet pawl unless brake is applied. Only release ratchet pawl when closing tarp. Failure to follow these warnings could result in damages, serious injury or death.**

**STEP 3:** Remove crank handle from square shaft. Pull back on brake handle to release brake and deploy tarp. Speed of tarp deployment is controlled with brake handle.

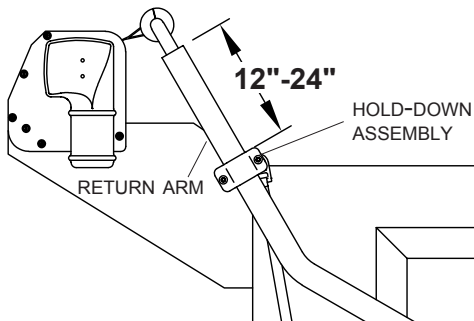


**STEP 4:** After tarp is closed, slide pawl catch out from under ratchet pawl, allowing pawl to engage sprocket.

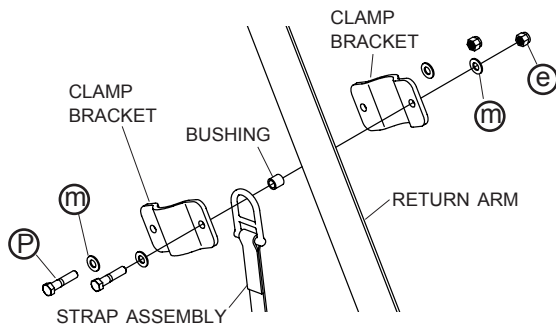




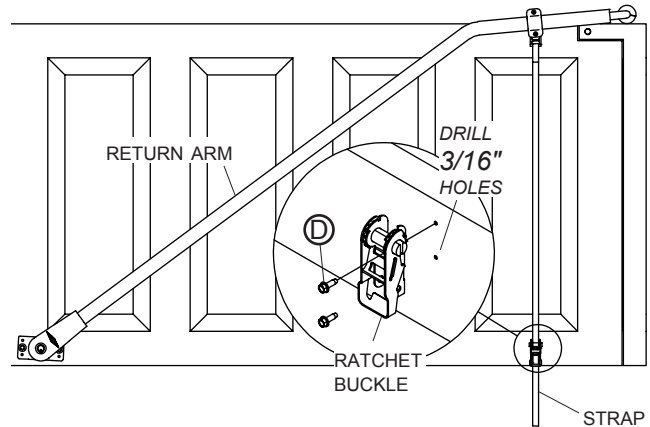
**STEP 1:** Locate return arm hold-down assemblies 12" to 24" from outer ends of return arms, one on each side of trailer.



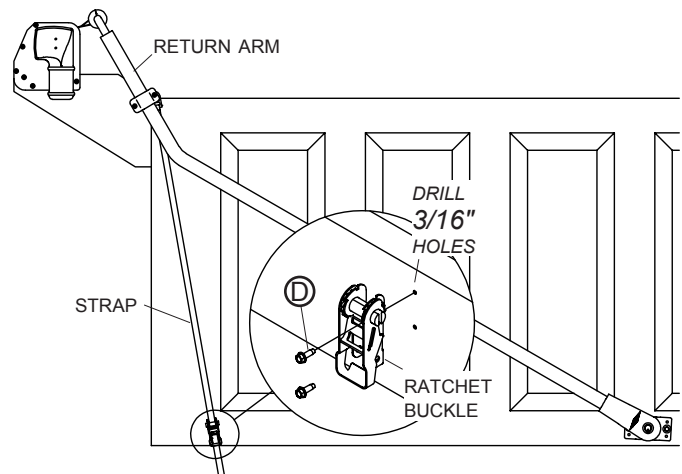
**STEP 2:** Align clamp brackets around return arm, placing bushing and strap assembly as shown. Fasten with screws P, washers m and lock nuts e.



**STEP 3:** With return arms in closed position, let hold-down strap hang and align ratchet buckle with strap. Using holes in buckle as guide, mark and drill 3/16" holes. Fasten buckle to trailer with screws D.



**STEP 4:** With return arms in open position, let hold-down strap hang. Locate ratchet buckle on lower edge of trailer, aligning buckle and strap. Using lower hole in buckle as a guide, mark and drill 3/16" hole. Fasten buckle to trailer with screw D. Rotate buckle so strap and buckle are parallel. Using top hole on buckle as guide, drill 3/16" hole and fasten with screw D.

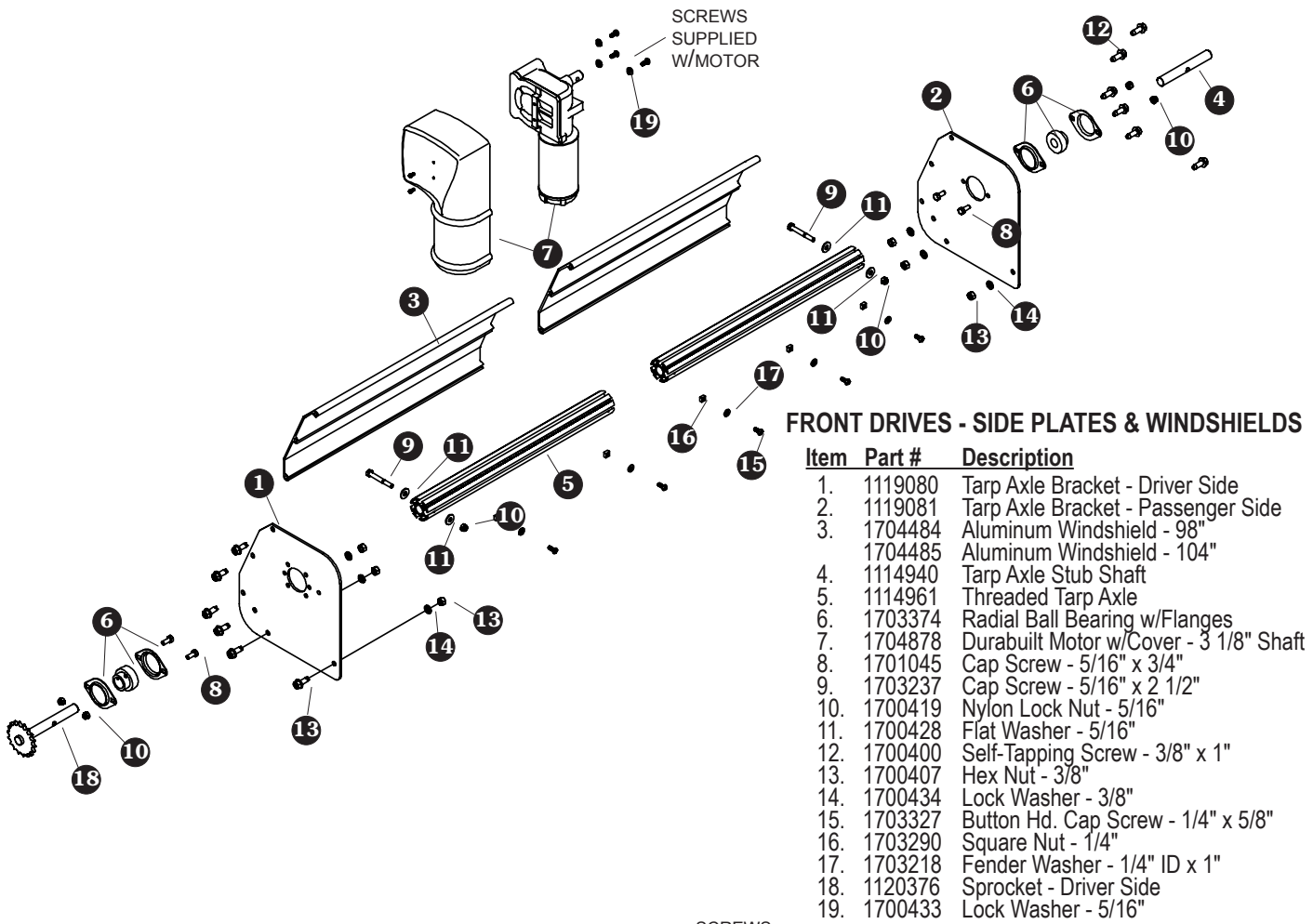


**STEP 5:** Run strap through buckle and tighten. Remove excess length from strap and melt end to prevent fraying.

**STEP 6:** Repeat steps 1 through 5 for return arm on other side of trailer.

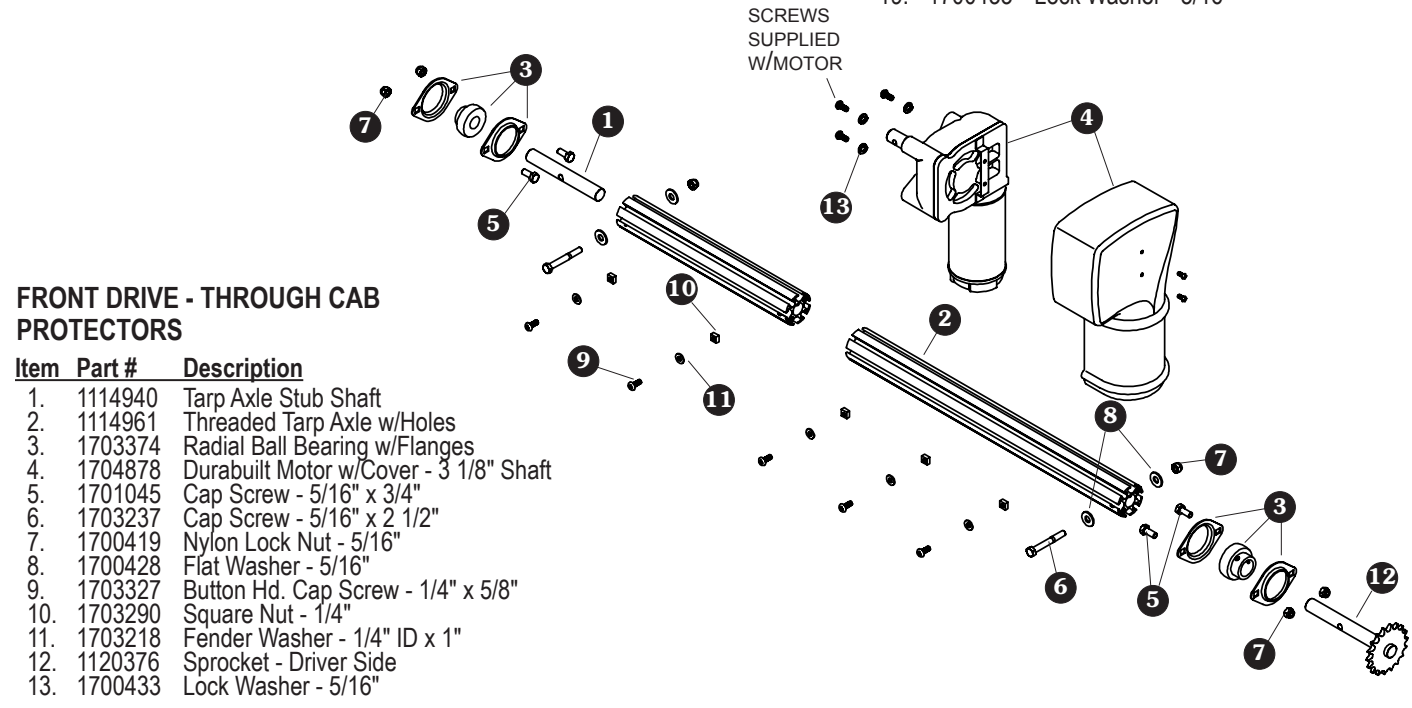
Our **Advanced Troubleshooting Guide** is available on our website:  
<http://www.shurco.com>, or call our Help Line: **1-866-748-7435**.

<b>Problem:</b>	<b>Try This:</b>
<p>The SMART1+™ remote 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"> <li>1. Make sure the battery is placed correctly.</li> <li>2. The battery may be dead and must be replaced. Replacement high-capacity SMART1+™ remote batteries may be purchased from Shur-Co® (P/N 1704597).</li> <li>3. The SMART1+™ remote may be damaged. Call Shur-Co's Help Line.</li> </ol>
<p>The SMART1+™ remote is not working.</p> <p>I can operate the system with the rocker switch, but not with the remote. The SMART1+™ remote channel light (Tarp System, for example) is blinking, and when I press the Open/On button, the light blinks faster.</p>	<ol style="list-style-type: none"> <li>1. Make sure the remote is set to the right channel. If you cannot set the remote to the desired channel (Tarp System, for example), the remote must be reprogrammed. See the SMART1+™ remote programming instructions.</li> <li>2. Make sure you are within a couple feet of the receiver and try again.               <ol style="list-style-type: none"> <li>a) 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.</li> </ol> </li> <li>3. Reprogram the receiver. See the receiver programming instructions. If this doesn't work, call Shur-Co's Help Line.</li> </ol>
<p>The system will not operate with the rocker switch or with the SMART1+™ remote.</p> <p>When I try to use the rocker switch or SMART1+™ remote, I don't hear any noises (a clicking noise, for example) from the receiver.</p>	<ol style="list-style-type: none"> <li>1. Make sure the master disconnect switch is turned to the "ON" position.</li> <li>2. The circuit breaker may have tripped. Wait one minute and try again.</li> <li>3. Check the vehicle's battery to make sure it isn't dead.</li> <li>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.</li> <li>5. Call Shur-Co's Help Line.</li> </ol>
<p>The system will not operate with the rocker switch or with the SMART1+™ remote.</p> <p>When I try to use the rocker switch or SMART1+™ remote, I hear a clicking noise but nothing happens.</p>	<ol style="list-style-type: none"> <li>1. Verify that you have at least 12V on the back side of the receiver on the battery hookup posts.</li> <li>2. Call Shur-Co's Help Line.</li> </ol>
<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"> <li>1. Call Shur-Co's Help Line.</li> </ol>
<p>The rocker switch is sticking.</p>	<ol style="list-style-type: none"> <li>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.</li> </ol> <p><b>Pressure Wash:</b> The receiver may be pressure washed, but keep nozzle at least 3' from system while spraying.</p>



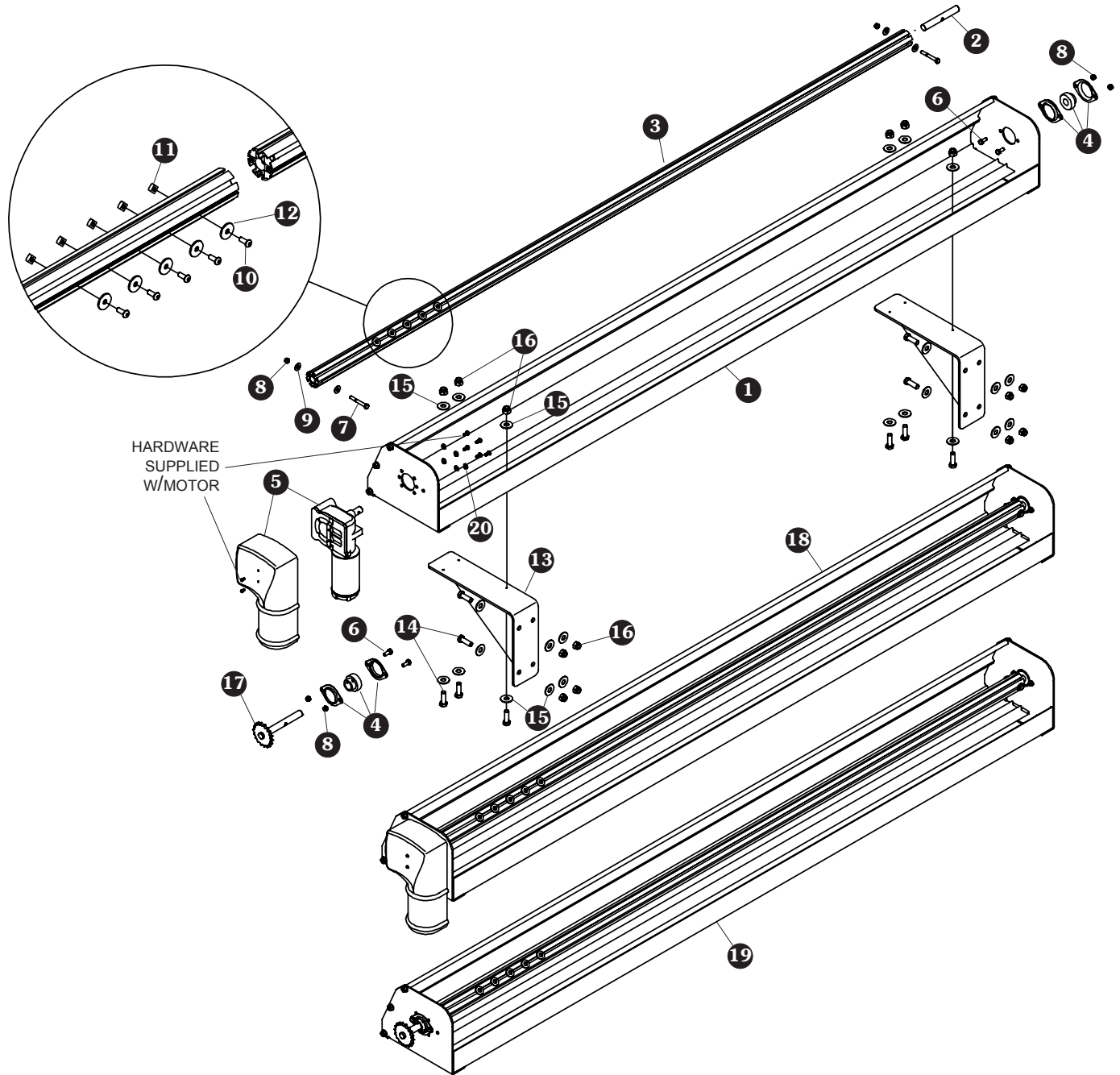
**FRONT DRIVES - SIDE PLATES & WINDSHIELDS**

Item	Part #	Description
1.	1119080	Tarp Axle Bracket - Driver Side
2.	1119081	Tarp Axle Bracket - Passenger Side
3.	1704484	Aluminum Windshield - 98"
	1704485	Aluminum Windshield - 104"
4.	1114940	Tarp Axle Stub Shaft
5.	1114961	Threaded Tarp Axle
6.	1703374	Radial Ball Bearing w/Flanges
7.	1704878	Durabuilt Motor w/Cover - 3 1/8" Shaft
8.	1701045	Cap Screw - 5/16" x 3/4"
9.	1703237	Cap Screw - 5/16" x 2 1/2"
10.	1700419	Nylon Lock Nut - 5/16"
11.	1700428	Flat Washer - 5/16"
12.	1700400	Self-Tapping Screw - 3/8" x 1"
13.	1700407	Hex Nut - 3/8"
14.	1700434	Lock Washer - 3/8"
15.	1703327	Button Hd. Cap Screw - 1/4" x 5/8"
16.	1703290	Square Nut - 1/4"
17.	1703218	Fender Washer - 1/4" ID x 1"
18.	1120376	Sprocket - Driver Side
19.	1700433	Lock Washer - 5/16"



**FRONT DRIVE - THROUGH CAB PROTECTORS**

Item	Part #	Description
1.	1114940	Tarp Axle Stub Shaft
2.	1114961	Threaded Tarp Axle w/Holes
3.	1703374	Radial Ball Bearing w/Flanges
4.	1704878	Durabuilt Motor w/Cover - 3 1/8" Shaft
5.	1701045	Cap Screw - 5/16" x 3/4"
6.	1703237	Cap Screw - 5/16" x 2 1/2"
7.	1700419	Nylon Lock Nut - 5/16"
8.	1700428	Flat Washer - 5/16"
9.	1703327	Button Hd. Cap Screw - 1/4" x 5/8"
10.	1703290	Square Nut - 1/4"
11.	1703218	Fender Washer - 1/4" ID x 1"
12.	1120376	Sprocket - Driver Side
13.	1700433	Lock Washer - 5/16"



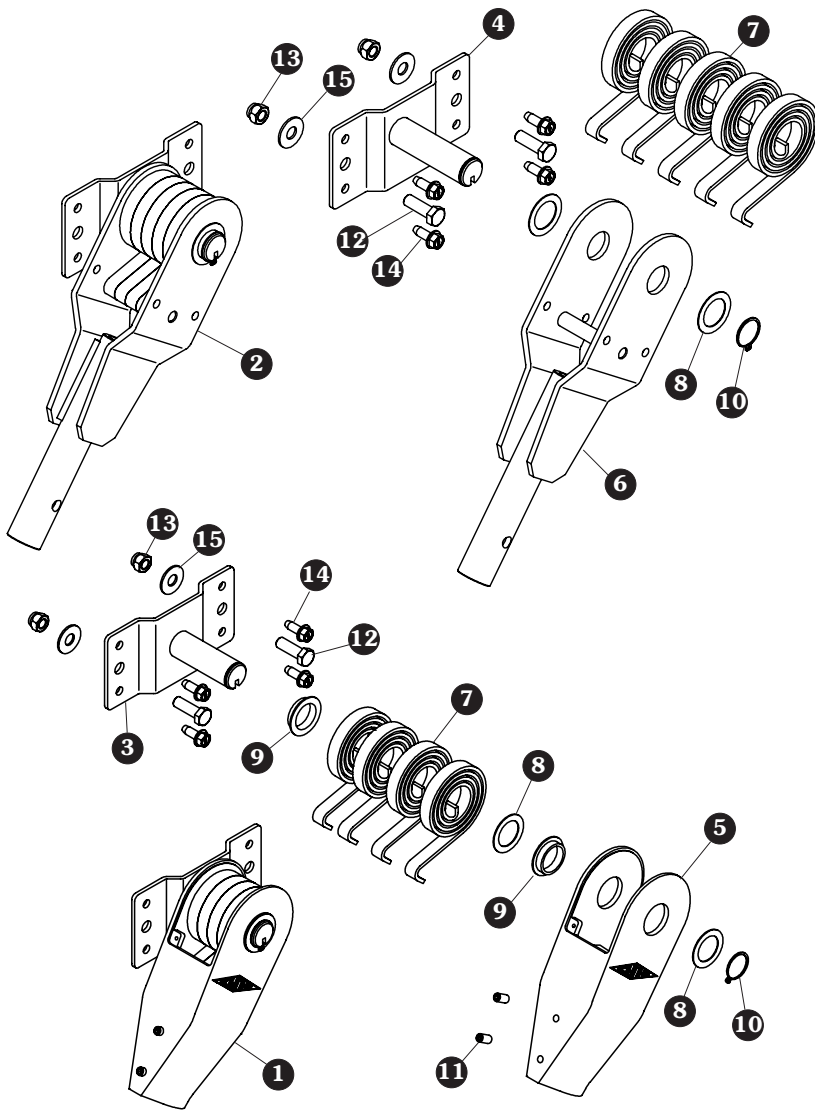
HARDWARE  
SUPPLIED  
W/MOTOR

**FRONT DRIVES - TARP HOUSINGS & SUPPORT BRACKETS**

Item	Part #	Description
1.	1119083	Tarp Housing - 98"
	1119089	Tarp Housing - 104"
2.	1114940	Tarp Axle Stub Shaft
3.	1115614	Threaded Tarp Axle - 95"
	1119086	Threaded Tarp Axle - 103"
4.	1703374	Radial Ball Bearing w/Flanges
5.	1704878	Durabuilt Motor w/Cover - 3 1/8" Shaft
6.	1701045	Cap Screw - 5/16" x 3/4"
7.	1703237	Cap Screw - 5/16" x 2 1/2"
8.	1700419	Nylon Lock Nut - 5/16"
9.	1700428	Flat Washer - 5/16"
10.	1703327	Button Hd. Cap Screw - 1/4" x 5/8"

Item	Part #	Description
11.	1703290	Square Nut - 1/4"
12.	1703218	Fender Washer - 1/4" x 1"
13.	1119092	Tarp Housing Support Bracket
14.	1702075	Cap Screw - 1/2" x 1 1/2"
15.	1702114	Flat Washer - 1/2"
16.	1702115	Nylon Lock Nut - 1/2"
17.	1120376	Sprocket - Driver Side
18.	1119082	Electric Tarp Housing Assembly - 98"
	1119088	Electric Tarp Housing Assembly - 104"
19.	1120371	Manual Tarp Housing Assembly - 98"
	1120372	Manual Tarp Housing Assembly - 104"
20.	1700433	Lock Washer - 5/16"



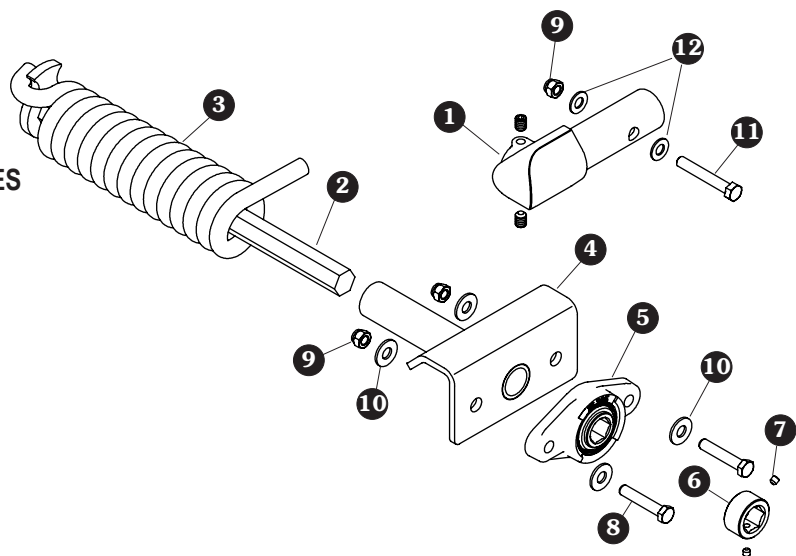


**4-SPRING & 5-SPRING EXTERNAL PIVOTS**

Item	Part #	Description
1.	1119096	4-Spring Pivot Assembly - Driver Side
	1119097	4-Spring Pivot Assembly - Passenger Side
2.	1119105	5-Spring Pivot Assembly - Driver Side
	1119106	5-Spring Pivot Assembly - Passenger Side
3.	1119098	4-Spring Pivot Bracket
4.	1116994	5-Spring Pivot Bracket
5.	1704474	4-Spring Pivot Connector
6.	1118950	5-Spring Pivot Connector
7.	1111027	Spiral Torsion Spring - 1 1/4" Pins
8.	1702890	Flat Washer - 1 1/4"
9.	1704468	Flange Bushing
10.	1702888	External Retaining Ring - 1 1/4"
11.	1704450	Set Screw - 3/8" x 3/4"
12.	1702075	Cap Screw - 1/2" x 1 1/2"
13.	1702115	Nylon Lock Nut - 1/2"
14.	1700400	Self-Tapping Screw - 3/8" x 1"
15.	1702114	Flat Washer - 1/2"

**UNDERBODY HEX SHAFT SPRING ASSEMBLIES**

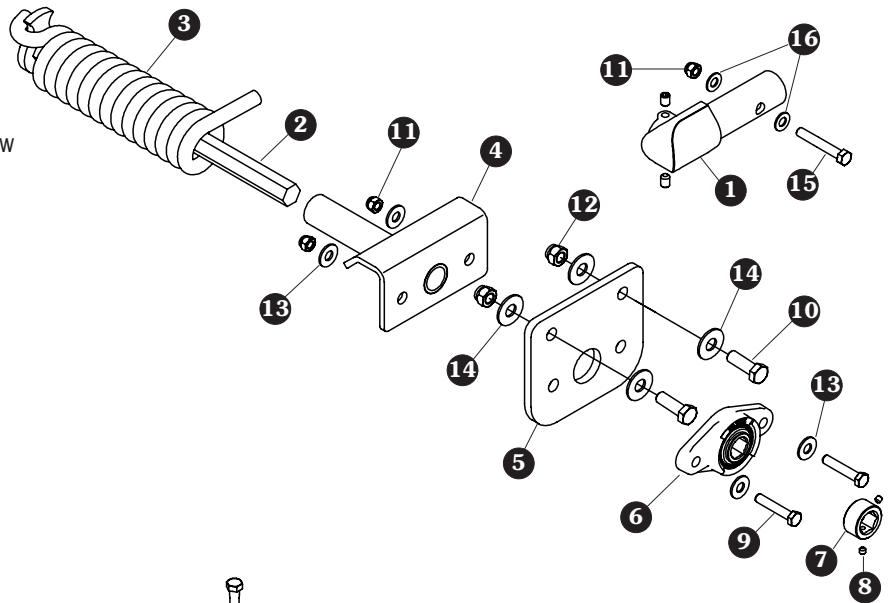
Item	Part #	Description
1.	1119112	Spring Pivot Connector w/Set Screw
2.	1704480	Spring Shaft
3.	1704476	Torsion Spring- LHW
	1704477	Torsion Spring - RHW
4.	1118955	Spring Retainer Weldment
5.	1704456	Flange Bearing - 7/8" Hex
6.	1704489	Locking Collar
7.	1704491	Set Screw - 1/4" x 1/4"
8.	1704057	Cap Screw - 3/8" x 2"
9.	1701580	Nylon Lock Nut - 3/8"
10.	1700429	Flat Washer - 3/8"
11.	1702573	Cap Screw - 3/8" x 2 1/2"
12.	1701176	Flat Washer - 3/8"





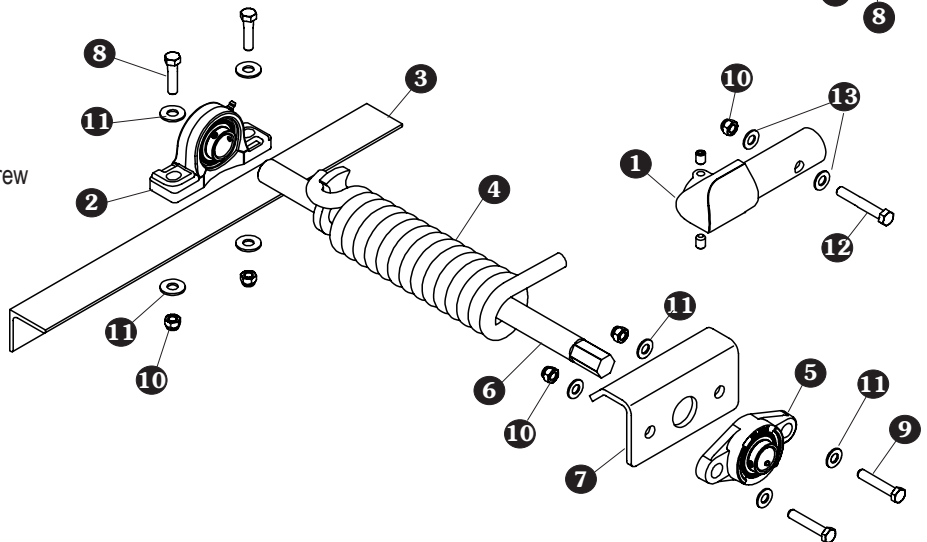
**UNDERRAIL HEX  
SHAFT SPRING ASSEMBLIES**

Item	Part #	Description
1.	1119112	Spring Pivot Connector w/Set Screw
2.	1704480	Spring Shaft
3.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
4.	1118955	Spring Retainer Weldment
5.	1119107	Drop Plate
6.	1704456	Flange Bearing - 7/8" Hex
7.	1704489	Locking Collar
8.	1704491	Set Screw - 1/4" x 1/4"
9.	1704057	Cap Screw - 3/8" x 2"
10.	1702075	Cap Screw - 1/2" x 1 1/2"
11.	1701580	Nylon Lock Nut - 3/8"
12.	1702115	Nylon Lock Nut - 1/2"
13.	1700429	Flat Washer - 3/8"
14.	1702114	Flat Washer - 1/2"
15.	1702573	Cap Screw - 3/8" x 2 1/2"
16.	1701176	Flat Washer - 3/8"



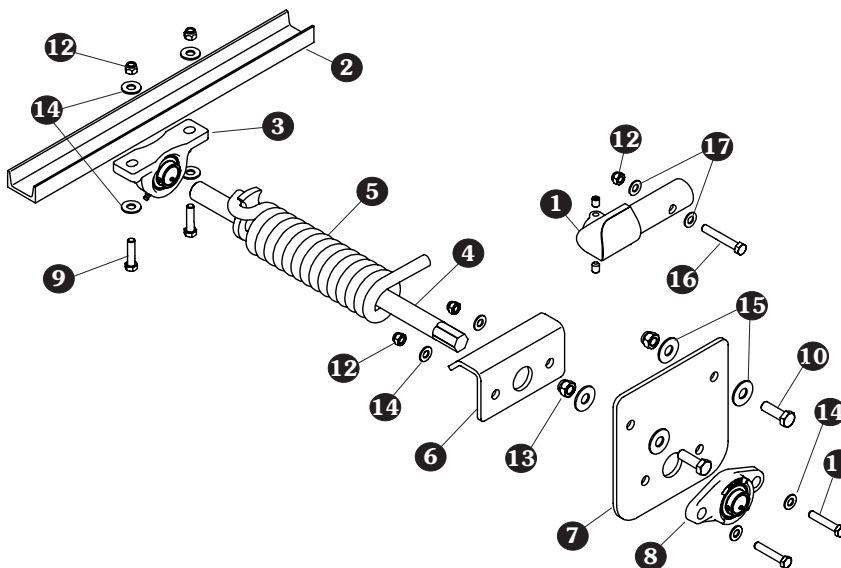
**UNDERBODY HEX/ROUND  
SHAFT SPRING ASSEMBLIES**

Item	Part #	Description
1.	1119112	Spring Pivot Connector w/Set Screw
2.	1119559	Pillow Block Bearing - 1"
3.	1119330	Bearing Support Angle - 20"
4.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
5.	1119560	Flange Bearing - 1"
6.	1704472	Spring Shaft - 1" OD
7.	1119329	Spring Retainer Bracket
8.	1701434	Cap Screw - 3/8" x 1 1/2"
9.	1704057	Cap Screw - 3/8" x 2"
10.	1701580	Nylon Lock Nut - 3/8"
11.	1700429	Flat Washer - 3/8"
12.	1702573	Cap Screw - 3/8" x 2 1/2"
13.	1701176	Flat Washer - 3/8"



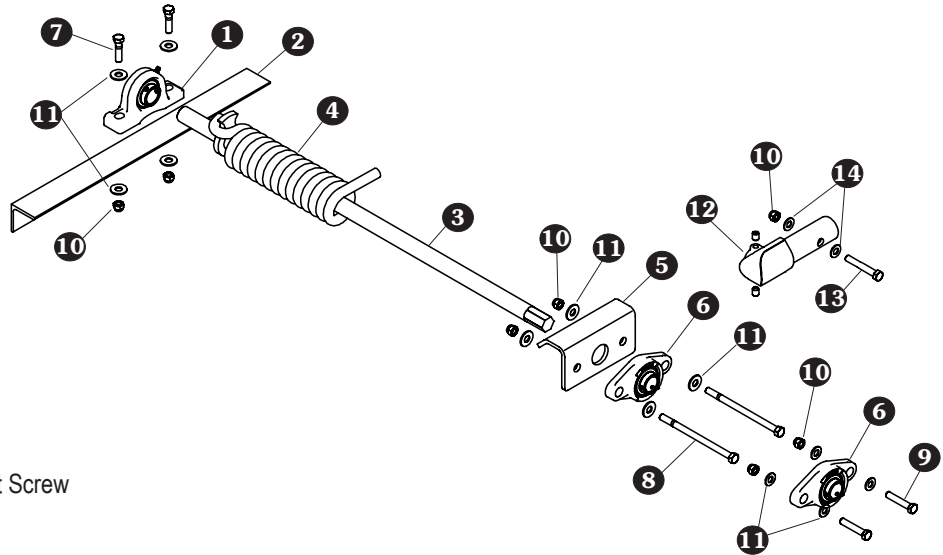
**UNDERRAIL HEX/ROUND SHAFT  
SPRING ASSEMBLIES**

Item	Part #	Description
1.	1119112	Spring Pivot Connector w/Set Screw
2.	1119564	Steel Bearing Support Channel
	1119565	Aluminum Bearing Support Channel
3.	1119559	Pillow Block Bearing - 1"
4.	1704472	Spring Shaft - 1" OD
5.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
6.	1119329	Spring Retainer Bracket
7.	1119110	Drop Plate
8.	1119560	Flange Bearing - 1" ID
9.	1701434	Cap Screw - 3/8" x 1 1/2"
10.	1702075	Cap Screw - 1/2" x 1 1/2"
11.	1704057	Cap Screw - 3/8" x 2"
12.	1701580	Nylon Lock Nut - 3/8"
13.	1702115	Nylon Lock Nut - 1/2"
14.	1700429	Flat Washer - 3/8"
15.	1702114	Flat Washer - 1/2"
16.	1702573	Cap Screw - 3/8" x 2 1/2"
17.	1701176	Flat Washer - 3/8"



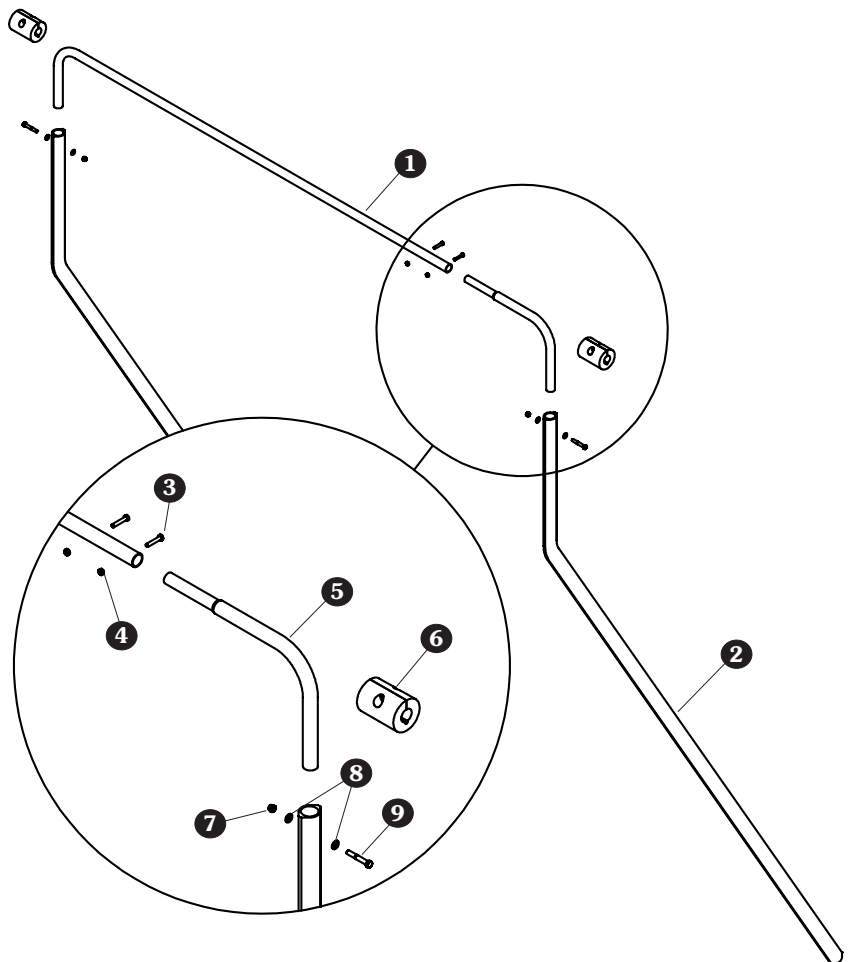
**UNDERBODY ASSEMBLIES  
FRAMELESS TRAILERS**

Item	Part #	Description
1.	1119559	Pillow Block Bearing - 1"
2.	1119330	Bearing Support Angle
3.	1704478	Spring Shaft - 1" x 27"
	1704473	Spring Shaft - 1" x 24"
	1704479	Spring Shaft - 1" x 31"
4.	1704476	Torsion Spring - LHW
	1704477	Torsion Spring - RHW
5.	1119329	Spring Retainer Bracket
6.	1119560	Flange Bearing - 1"
7.	1701434	Cap Screw - 3/8" x 1 1/2"
8.	1701528	Cap Screw - 3/8" x 6"
	1700373	Cap Screw - 3/8" x 5"
9.	1704057	Cap Screw - 3/8" x 2"
10.	1701580	Nylon Lock Nut - 3/8"
11.	1700429	Flat Washer - 3/8"
12.	1119112	Spring Pivot Connector w/Set Screw
13.	1702573	Cap Screw - 3/8" x 2 1/2"
14.	1701176	Flat Washer - 3/8"



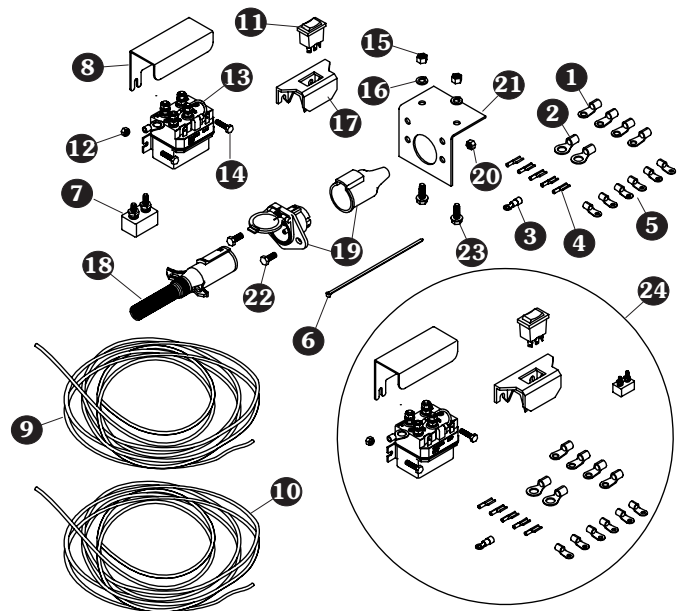
**ARM ASSEMBLIES**

Item	Part #	Description
1.	1118951	Tarp Tube Crossover
2.	1704465	Aluminum Return Arm - 10' w/2' Bend
	1704466	Aluminum Return Arm - 12' w/2' Bend
	1704467	Aluminum Return Arm - 14' w/2' Bend
	1704486	Aluminum Return Arm - 16'
	1704487	Aluminum Return Arm - 18'
	1704488	Aluminum Return Arm - 20'
3.	1704451	Cap Screw - 5/16" x 1 5/8"
4.	1704454	Nylon Lock Nut - Thin - 5/16"
5.	1118952	Tarp Tube Elbow
6.	1704458	Rubber Bumper - 3 1/4" x 4 1/2"
7.	1701580	Nylon Lock Nut - 3/8"
8.	1701176	Flat Washer - 3/8"
9.	1702573	Cap Screw - 3/8" x 2 1/2"



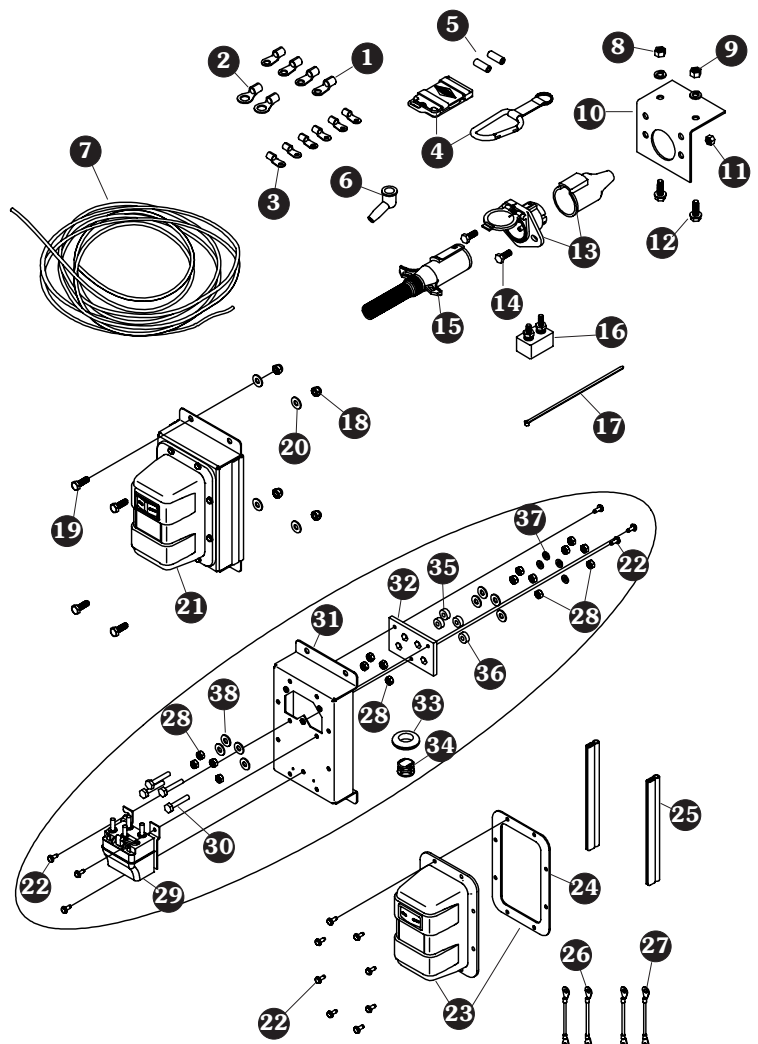
**ROCKER SWITCH WIRING**

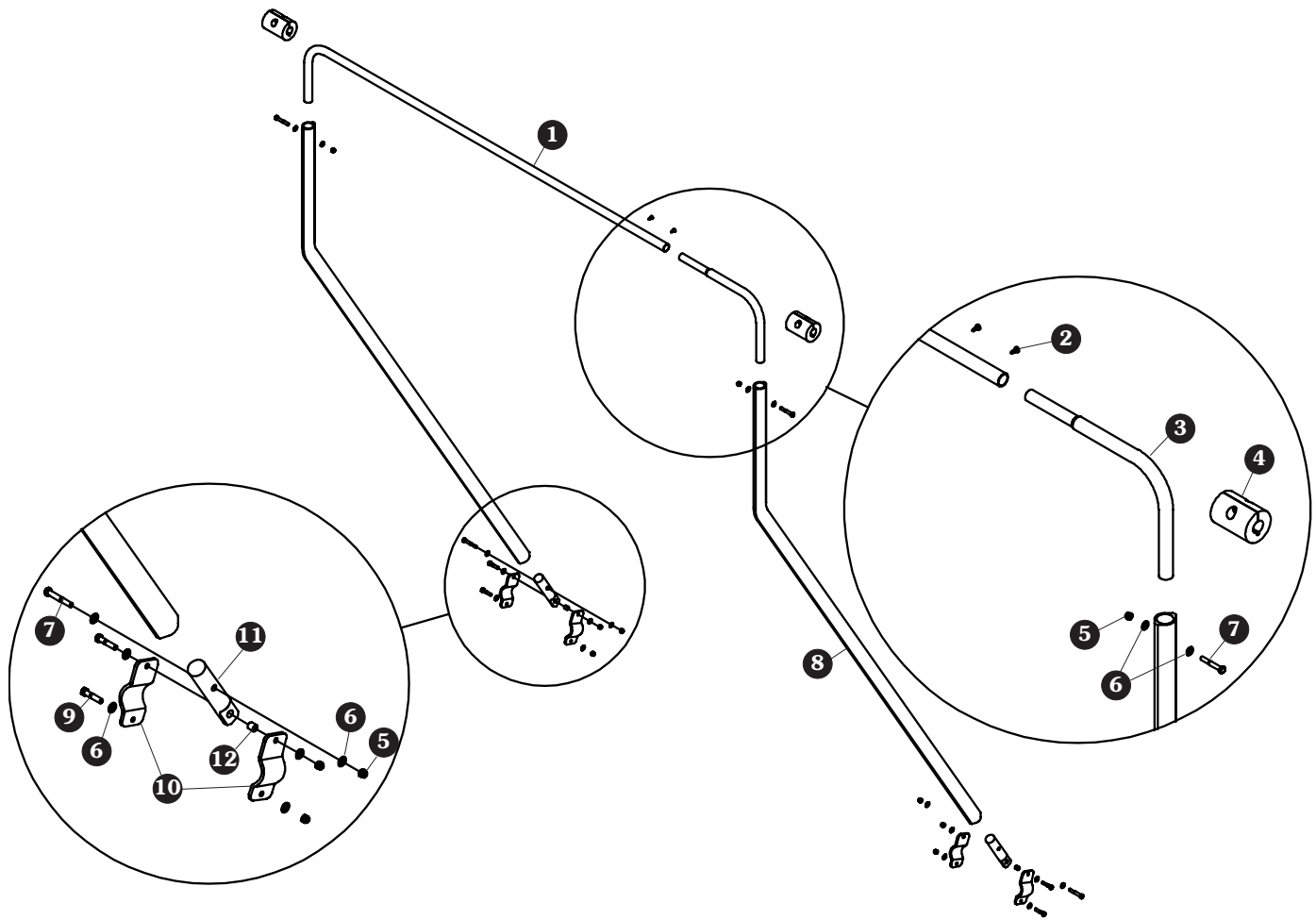
Item	Part #	Description
	1109016	Dual-Pole Conductor w/Hardware
1.	1703245	Ring Terminal - 6 Ga. x #10 Stud - Motor/Breaker
2.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud - Battery
3.	1704153	Ring Terminal - 14 Ga. x 1/4" Stud - Solenoid
4.	1703659	Push-On Terminal - 14 Ga. x 1/4" - Switch/Solenoid
5.	1702707	Ring Terminal - 6 Ga. x 1/4" Stud - Motor/Solenoid
6.	1703231	Cable Tie - 8"
7.	1703480	50-Amp Auto-Reset Circuit Breaker
8.	1703896	Solenoid Cover
9.	1703822	Dual Conductor Wire - 6 Ga. 259 Strand
10.	1116482	Electrical Wire - 14 Ga. Lead - 15'
11.	1116020	Rocker Switch
12.	1701543	Nylon Lock Nut - 1/4"
13.	1703845	Motor-Reversing Solenoid
14.	1700381	Cap Screw - 1/4" x 1"
15.	1700407	Hex Nut - 3/8"
16.	1700434	Lock Washer - 3/8"
17.	1703661	Mounting Bracket - Rocker Switch
18.	1115385	Heavy-Duty Dual-Conductor Plug
19.	1119557	Heavy-Duty Dual-Conductor Socket w/Boot
20.	1700441	Hex Nut - 5/16"
21.	1109015	Mounting Bracket - Conductor Plug
22.	1701045	Cap Screw - 5/16" x 3/4"
23.	1700400	Self-Tapping Screw - 3/8" x 1"
24.	1116271	Electrical Parts Kit - Rocker Switch - 50 Amp



**SMART1+™ REMOTE WIRING**

Item	Part #	Description
	1109016	Dual-Pole Connector w/Hardware
1.	1703245	Ring Terminal - 6 Ga. x #10 Stud - Motor/Breaker
2.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud - Battery
3.	1702707	Ring Terminal - 6 Ga. x 1/4" Stud - Motor/Solenoid
4.	1123161	5-Channel SMART1+™
5.	1705163	SMART1+™ Remote Battery - AAA - SMART1+™
6.	1704330	Rubber Boot
7.	1703822	Dual-Conductor Wire - 6 Ga. 259 Strand
8.	1700407	Hex Nut - 3/8"
9.	1700434	Lock Washer - 3/8"
10.	1109015	Mounting Bracket
11.	1700441	Hex Nut - 5/16"
12.	1700400	Self-Tapping Screw - 3/8" x 1"
13.	1119557	Heavy-Duty Dual-Conductor Socket w/Boot
14.	1701045	Cap Screw - 5/16" x 3/4"
15.	1115385	Heavy-Duty Dual-Conductor Plug
16.	1703480	50-Amp Auto-Reset Circuit Breaker
17.	1703231	Cable Tie - 8"
18.	1700419	Nylon Lock Nut - 5/16"
19.	1702926	Cap Screw - 5/16" x 7/8"
20.	1700428	Flat Washer - 5/16"
21.	1123582	Shur-Co® Wireless Receiver - SMART1+™
22.	1704308	Cap Screw - #10 x 1/2"
23.	1123604	Solenoid Cover w/Gasket - SMART1+™
24.	1704309	Solenoid Cover Gasket
25.	1704369	Trim Seal (per foot)
26.	1704316	12-Ga. Wire - 3" Red
27.	1704317	12-Ga. Wire - 3" Black
28.	1700408	Hex Nut - 1/4"
29.	1704312	Motor-Reversing Solenoid - 3 Pt. Mt.
30.	1704343	Cap Screw - 1/4" x 1 1/2"
31.	1118296	Modular Control Bracket
32.	1118297	Insulating Plate
33.	1703282	Rubber Grommet - 1 1/4"
34.	1701595	End Plug - 1"
35.	1118037	Plastic Washer - Black
36.	1118250	Plastic Washer - Orange
37.	1700436	Lock Washer - 1/4"
38.	1700427	Flat Washer - 1/4"



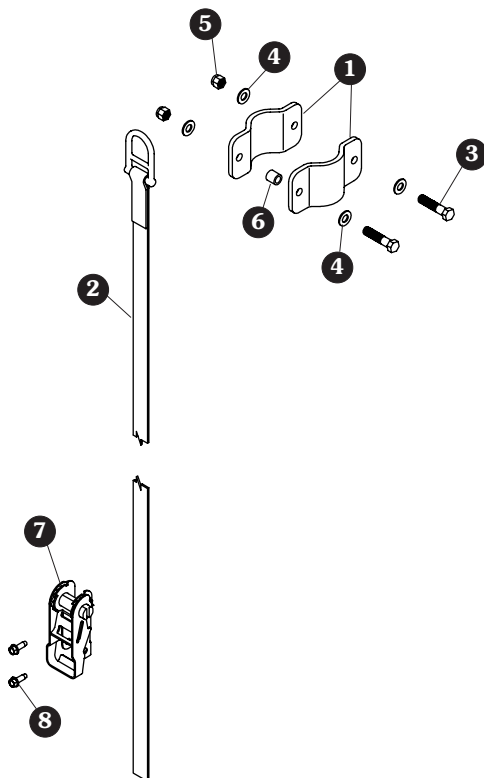
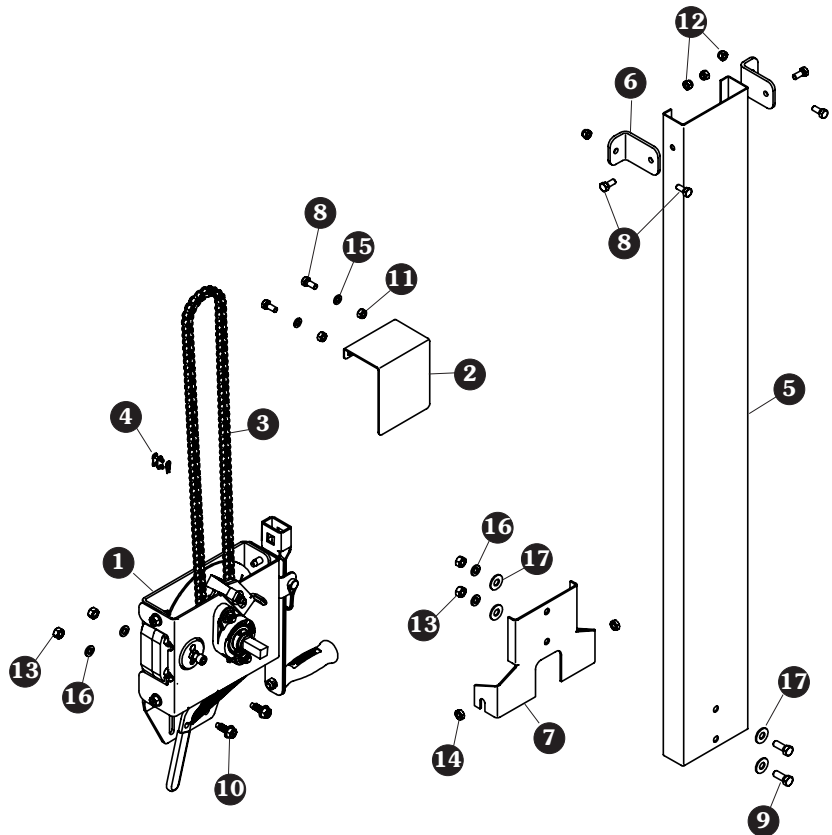


**TENSION ARMS**

Item	Part #	Description
1.	1118951	Tarp Tube Crossover
2.	1700398	Self-Drilling Screw - 1/4" x 3/4"
3.	1118952	Tarp Tube Elbow
4.	1704458	Rubber Bumper - 3 1/4" x 4 1/2"
5.	1701580	Nylon Lock Nut - 3/8"
6.	1701176	Flat Washer - 3/8"
7.	1702573	Cap Screw - 3/8" x 2 1/2"
8.	1704465	Aluminum Tension Arm - 10' w/2' Bend
	1704466	Aluminum Tension Arm - 12' w/2' Bend
	1704467	Aluminum Tension Arm - 14' w/2' Bend
9.	1700369	Cap Screw - 3/8" x 1 3/4"
10.	1120104	Arm Pivot Clamp Bracket
11.	1704642	Arm Pivot Connector
12.	1704643	Bushing - 9/16" x 3/8" x 9/16"

**MANUAL CRANKS**

Item	Part #	Description
1.	1120349	Chain Drive Crank Assembly
2.	1120378	Chain Guard
3.	1109179	Roller Chain
4.	1701057	Connector Link
5.	1120399	Chain Guard - Full Length
6.	1120380	Chain Guard Bracket - Standard
	1120397	Chain Guard Bracket - Short
7.	1120379	Chain Guard Base Bracket
8.	1701045	Cap Screw - 5/16" x 3/4"
9.	1701061	Cap Screw - 3/8" x 1"
10.	1700400	Self-Tapping Screw - 3/8" x 1"
11.	1700411	Hex Nut - 5/16"
12.	1700419	Nylon Lock Nut - 5/16"
13.	1700407	Hex Nut - 3/8"
14.	1701062	Hex Jam Nut - 3/8"
15.	1700433	Lock Washer - 5/16"
16.	1700434	Lock Washer - 3/8"
17.	1700429	Flat Washer - 3/8"



**RETURN ARM HOLD-DOWNS**

Item	Part #	Description
	1120389	Arm Hold-Down Kit
1.	1120388	Arm Anchor Clamp Bracket
2.	1120390	Hold-Down Strap Assembly
3.	1700369	Cap Screw - 3/8" x 1 3/4"
4.	1701176	Flat Washer - 3/8"
5.	1701580	Nylon Lock Nut - 3/8"
6.	1704643	Bushing - 9/16" x 9/16"
7.	1700836	Ratchet Buckle - 1"
8.	1700403	Self-Tapping Screw - 1/4" x 3/4"







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