



TARP SYSTEMS, PARTS & TARPS

P/N 1811475 Rev. A

OWNER'S MANUAL

QUICK·FLIP⁴™

ALUMINUM ARM SYSTEM

Electric System

READ BEFORE INSTALLING

3353 GRAN PARK WAY • STUART, FL 34997
PHONE: 1-800-327-8287 • FAX: 1-772-287-0431
www.DONOVAN-TARPS.com

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 800-327-8287, and sent, freight paid by us, to Donovan, 3353 SE Gran Park Way, Stuart, FL 34997. All products returned without an RMA# will be refused. When we issue the RMA#, we will also issue a call tag to have U.P.S. (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.

SHUR-CO®, LLC SERVICE AND DISTRIBUTION CENTERS

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2309 Shur-Lok St., Yankton, SD 57078
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Laker Rd., Rochester, Kent ME1 3QX
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For more information, log on to our website:

www.donovan-tarps.com

DONOVAN® HELP LINE: 1-800-327-8287

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 FL HELP LINE:
1-800-327-8287
 MON-FRI 8 AM-5 PM EASTERN 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 job site.**
- 5. Place safety decals in visible locations. Replace worn or damaged decals.**
- 6. 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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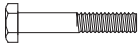
TOOLS REQUIRED

1. Wrenches - 1/2", 5/16", 9/16", 5/8", 3/4", 7/8"
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", 3/16"
6. Center Punch
7. Hammer
8. Tape Measure
9. Flat Head or Phillips Screwdriver
10. Grinder
11. Air or Electric Impact Driver w/9/16" Socket
12. Metal Saw
13. Steel Welder
14. Hex Driver Bit - 5/16"
15. Phillips Driver Bit - #2

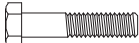
MAINTENANCE

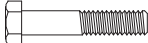
- Spray all bearings with penetrating oil as needed.
- Brush springs with steel brush weekly to remove dirt and spray with penetrating oil.
- Tighten any loose bolts.
- Replace damaged/bent parts.
- Replace worn or broken springs.
- Replace/repair worn or damaged tarps.


A 
1800802 Sheet Metal Screw - #10 x 1"


B 
1800783 Cap Screw - 1/4" x 1-1/2"


C 
1800998 Cap Screw - 5/16" x 1"

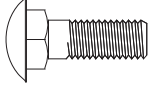
D 
1800972 Cap Screw - 5/16" x 1-1/2"


E 
1808682 Cap Screw - 5/16" x 1-5/8"


F 
1800270 Pan Hd. Cap Screw - 5/16" x 2-1/4"


G 
1800790 Cap Screw - 3/8" x 1-1/2"

H 
1804139 Cap Screw - 3/8" x 3-1/4"

J 
1800356 Carriage Bolt - 1/2" x 1-1/2"

K 
1801024 Cap Screw - 1/2" x 4"

L 
1800699 Lock Nut - 1/4"

M 
1800431 Hex Nut - 5/16"

N 
1808681 Nylon Lock Nut - 5/16" - Thin

P 
1800990 Lock Nut - 5/16"

Q 
1800993 Nylon Lock Nut - 3/8"

R 
1800995 Lock Nut - 1/2"

S 
1800784 Flat Washer - 1/4"

T 
1800787 Lock Washer - 5/16"

U 
1800989 Flat Washer - 5/16"

V 
1800991 Lock Washer - 3/8"

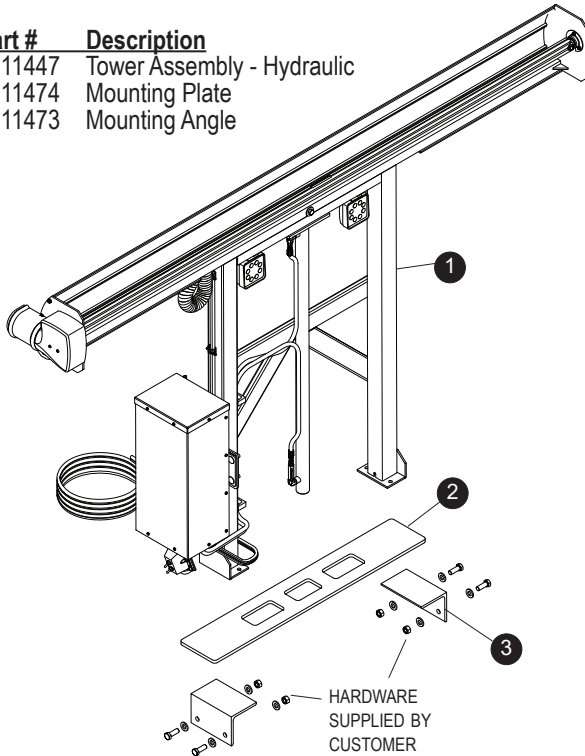
W 
1800994 Flat Washer - 3/8"

Y 
1800996 Flat Washer - 1/2"

TARP INSPECTION

Tarp length: Measure tarp length with slight tension applied. Compare actual tarp length with length stated on sheet attached to tarp. If tarp length does not match length on sheet, do not proceed. Call your local dealer or call Shur-Co® FL Customer Service at 1-800-327-8287.

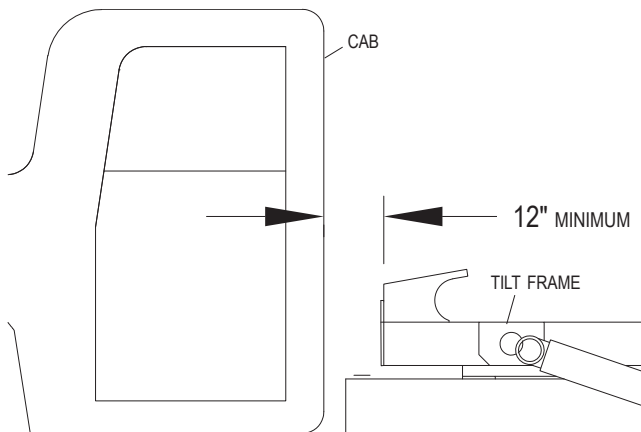
Item Part #	Description
1. 1811447	Tower Assembly - Hydraulic
2. 1811474	Mounting Plate
3. 1811473	Mounting Angle



CLEARANCE REQUIREMENTS

There must be at least 12" clearance between components and tilt frame. If existing exhaust system or hydraulic system components are located between tilt frame and cab, adjust component locations as needed to achieve 12" of clearance.

If existing components interfere with base assembly installation, and if moving existing components is not practical, fabricate brackets as needed to prevent interference.

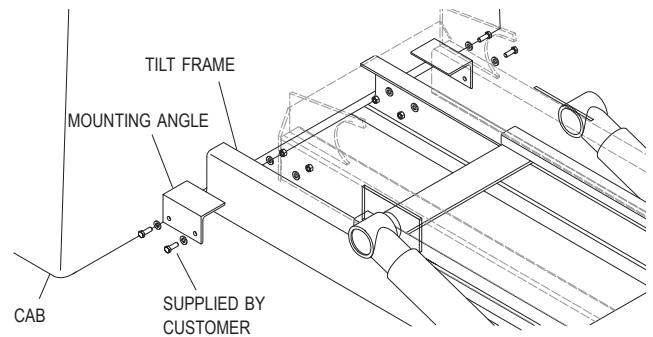


CAUTION

To prevent damage to and ensure proper operation of Quick Flip™ IV system, center base assembly between cab and hoist with at least 12" of clearance.

TOWER ASSEMBLY INSTALLATION

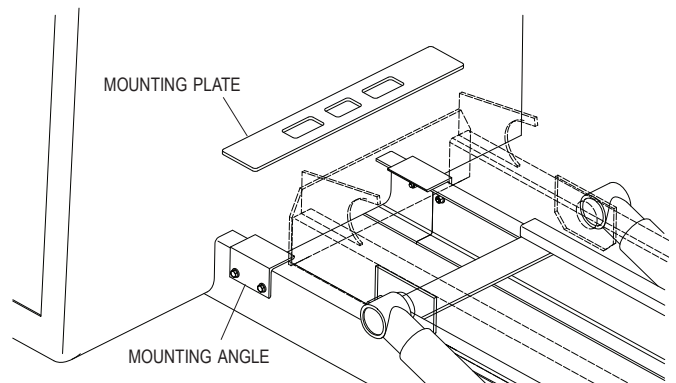
STEP 1: Locate mounting angles on both sides of truck frame, centering brackets between cab and tilt frame. Align angles on frame, mark and drill 5/8" holes and fasten with 5/8" x 2" grade 8 cap screws, flat washers and lock nuts (supplied by customer) or weld in place (see caution).



CAUTION

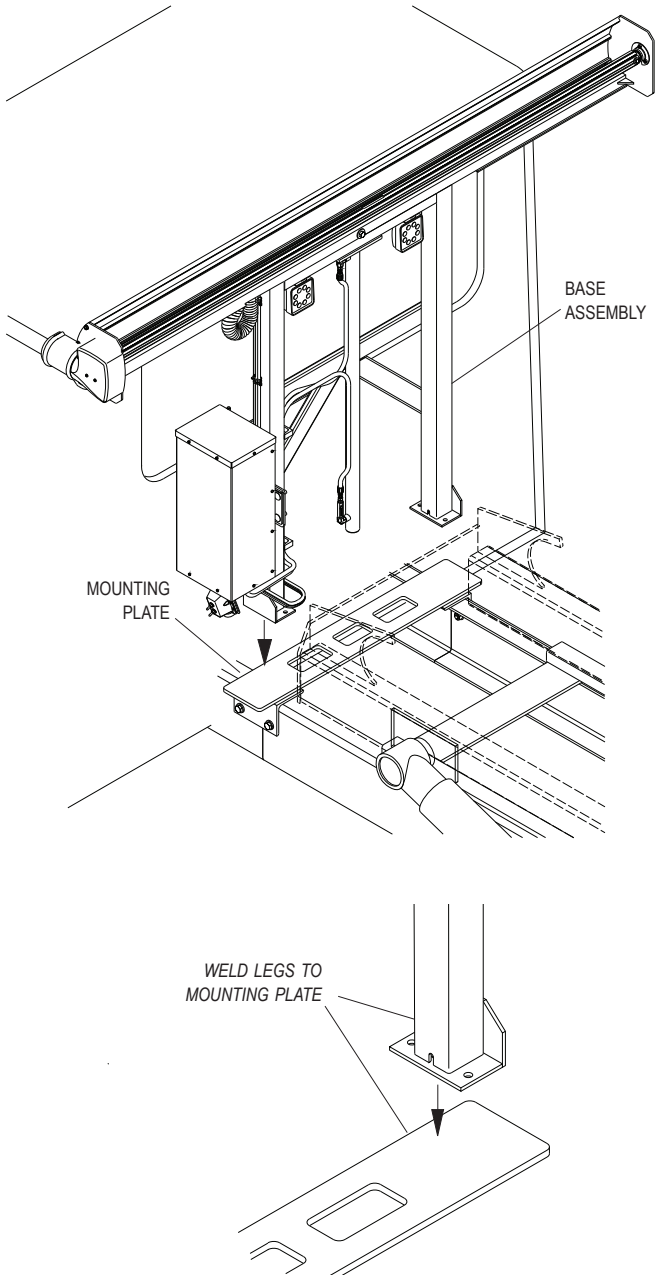
Welding components to truck frame may weaken frame and will void warranty on truck. Weld angle brackets to existing brackets on frame when possible. When not possible, drill holes in frame and bolt brackets in place.

STEP 2: Align and center mounting plate on mounting angles and weld in place.



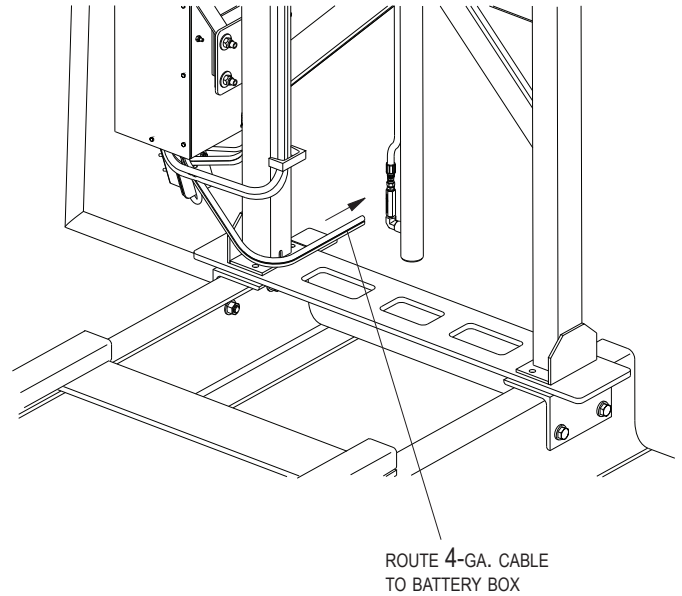
STEP 3: Square and center base assembly on mounting plate and weld legs to mounting plate.

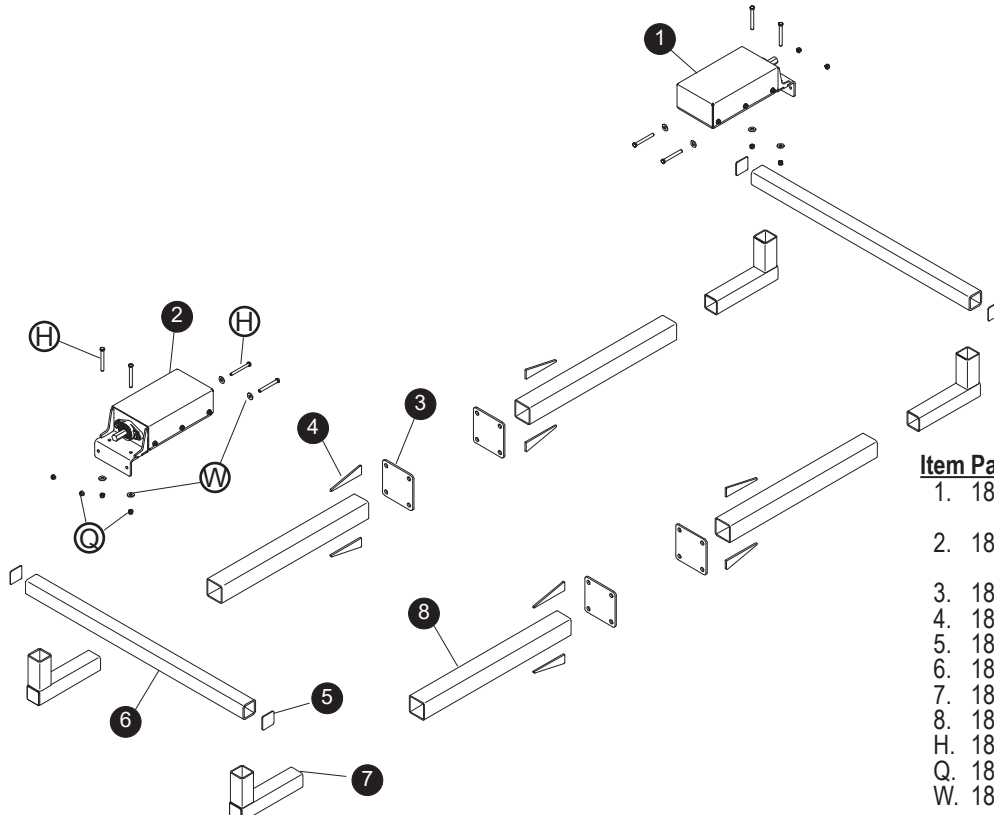
NOTE: If needed, fabricate additional bracing to stabilize base assembly and mounting plate.



STEP 4: Route 4-Ga. power cable to battery box. Instructions for making electrical connections can be found in Electric/Hydraulic Installation section on page 15.

NOTE: Do not make electrical connections at battery until hydraulic power unit has been filled with hydraulic oil.

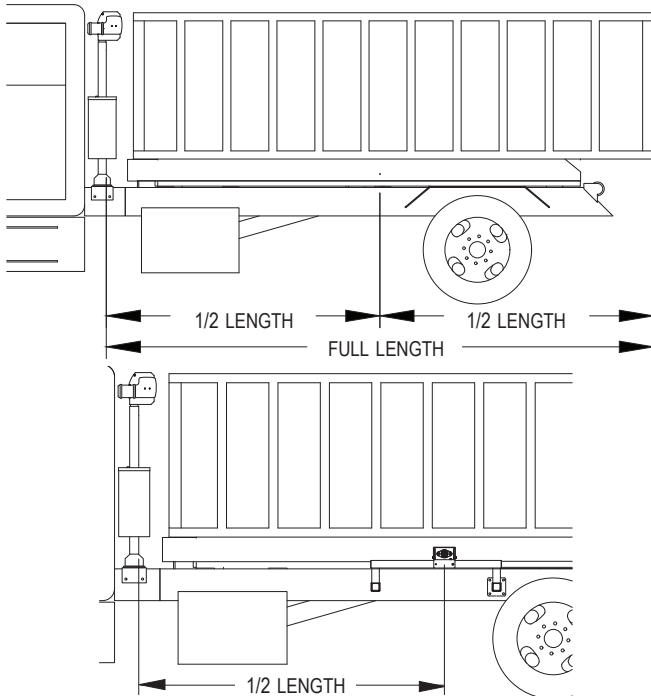




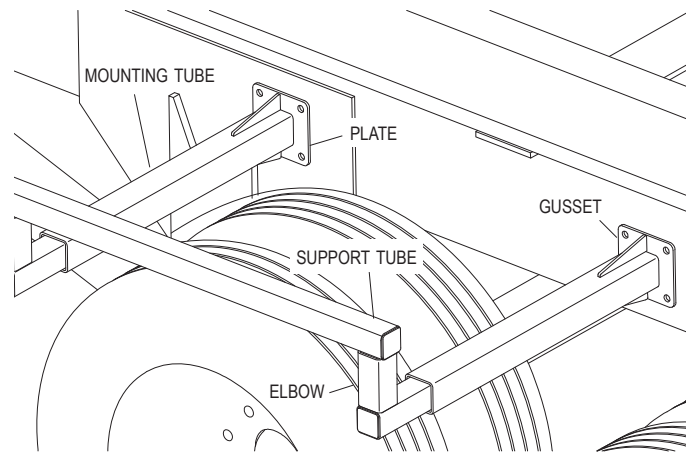
Item	Part #	Description
1.	1808664	Bridge Mount Spring Assembly - Passenger Side
2.	1808665	Bridge Mount Spring Assembly - Driver Side
3.	1808673	Frame Mount Plate - 3" Sq. Tube
4.	1808646	Frame Mount Gusset
5.	1808678	End Cap - 2-1/2" Square Tube
6.	1808679	Spring Pivot Mount Tube
7.	1808793	Spring Pivot Support Elbow
8.	1808672	Spring Pivot Support Tube
H.	1804139	Cap Screw - 3/8" x 3-1/4"
Q.	1800993	Nylon Lock Nut - 3/8"
W.	1800994	Flat Washer - 3/8"

STEP 1: Determine spring pivot mount locations on truck frame rail. On driver side of truck, measure distance from back of base assembly to back of longest container. Divide measurement in half and mark location on truck frame. Repeat on passenger side.

NOTE: To obtain accurate measurements, load longest container before measuring.

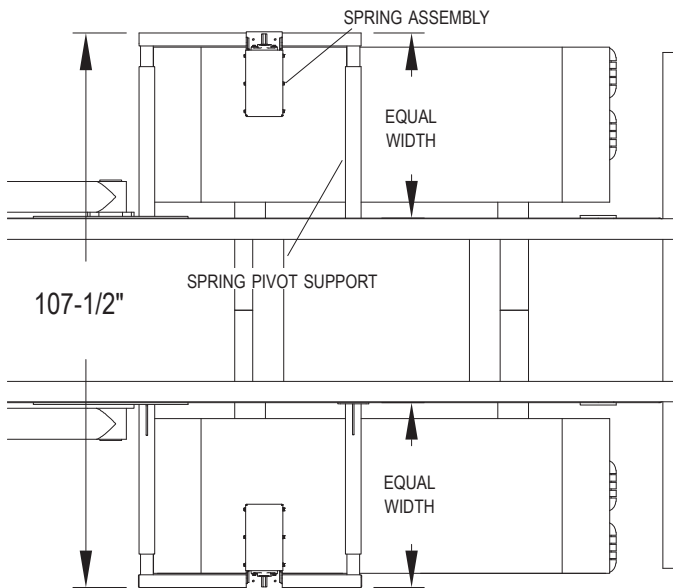


STEP 2A: Use mounting plates, elbows and tubes to fabricate spring pivot supports for spring assemblies, modifying components as needed (see next page for necessary dimensions).



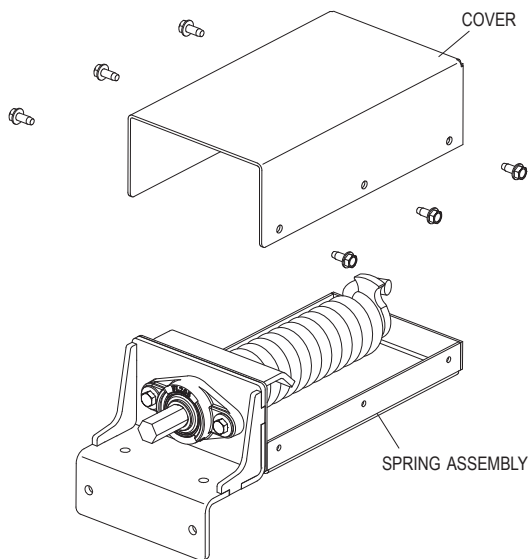
NOTE: Do not weld directly to truck frame as this can weaken frame and potentially void warranty. Use mounting plates and drill 5/8" holes and fasten with grade 5 or better 5/8" bolts, washers and nuts (not included) or weld components to structure existing on truck frame.

STEP 2B: Fabricate supports to be equal in width, with an overall width of 107-1/2". Secure supports to truck frame.

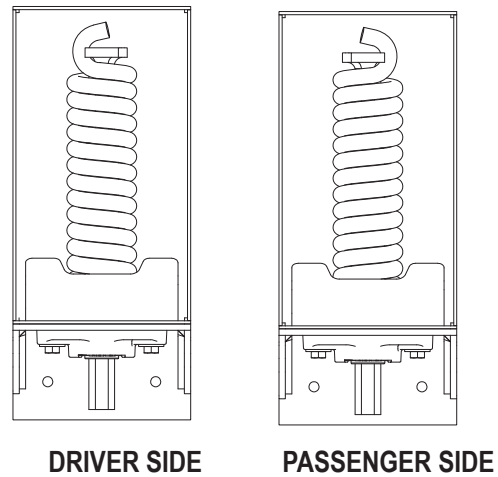


NOTE: Spring pivot supports must be equal in length so system will be centered on truck

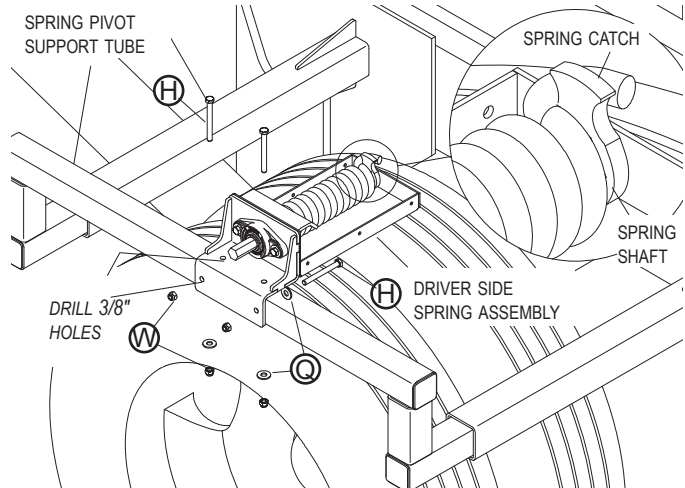
STEP 3: Remove covers from spring assemblies.

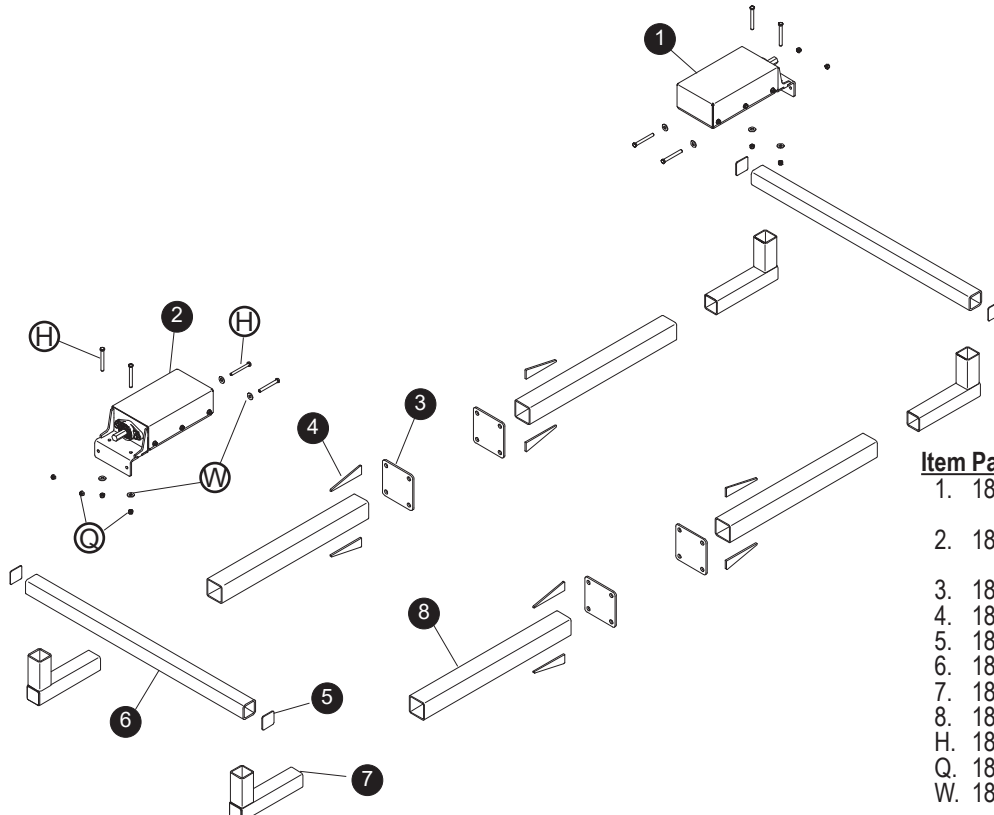


STEP 4: Compare springs to those illustrated below to find driver side assembly.



STEP 5: Clamp driver side spring assembly to spring pivot support tube at location determined previously. Weld directly to tube, or drill 3/8" holes and fasten to tube with screws (H), washers (Q) and nuts (W). Repeat for passenger side. Rotate spring shafts so spring catch engages spring hook as shown, then reinstall covers.



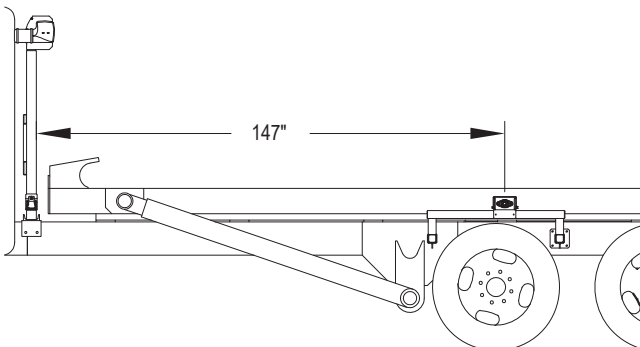


Item	Part #	Description
1.	1808664	Bridge Mount Spring Assembly - Passenger Side
2.	1808665	Bridge Mount Spring Assembly - Driver Side
3.	1808673	Frame Mount Plate - 3" Sq. Tube
4.	1808646	Frame Mount Gusset
5.	1808678	End Cap - 2-1/2" Square Tube
6.	1808679	Spring Pivot Mount Tube
7.	1808793	Spring Pivot Support Elbow
8.	1808672	Spring Pivot Support Tube
H.	1804139	Cap Screw - 3/8" x 3-1/4"
Q.	1800993	Nylon Lock Nut - 3/8"
W.	1800994	Flat Washer - 3/8"

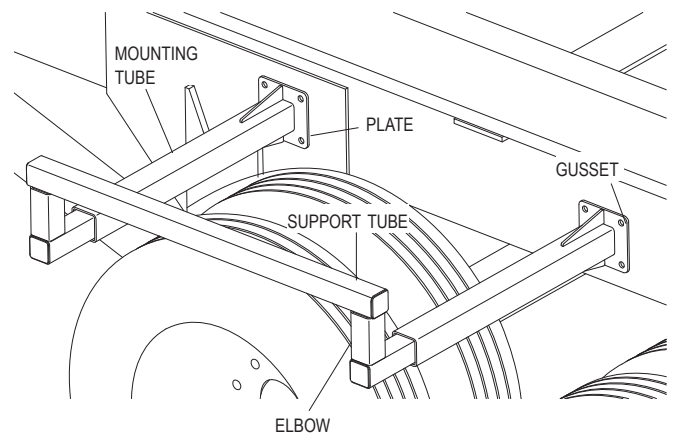
NOTE: Fenders on most trucks are not strong enough to support spring assemblies. Fabricate spring pivot supports to support weight and torsion of spring assemblies. Supports must be square and level for system to operate correctly.

IMPORTANT: Locate spring assemblies as low on truck frame as possible to allow clearance between roll-off container and spring assemblies. Top of spring assemblies must be less than 5" above rollers used to support container. If needed, pull container onto truck and check for clearance.

STEP 1: Determine location for spring assemblies. To locate center of spring assemblies to support arms to cover up to a 40-yard container, measure 147" from back of base assembly. To ensure tarp does not extend past rear of container, load truck's largest container onto truck and center spring assemblies between base assembly and rear of container.

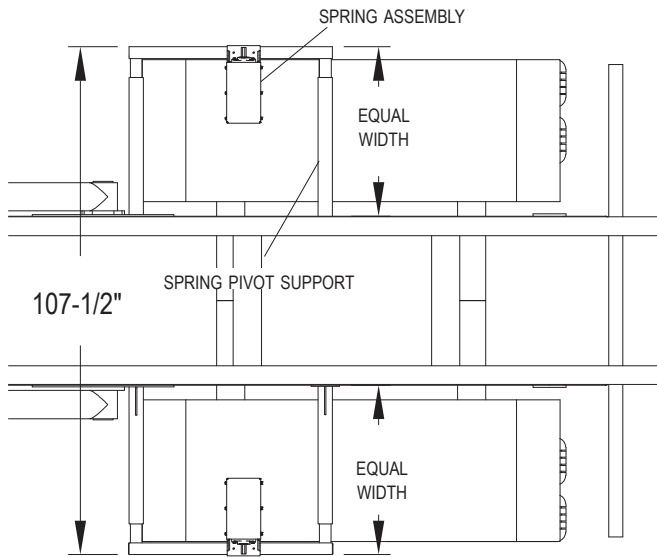


STEP 2A: Use mounting plates, elbows and tubes to fabricate spring pivot supports for spring assemblies, modifying components as needed (see next page for necessary dimensions).



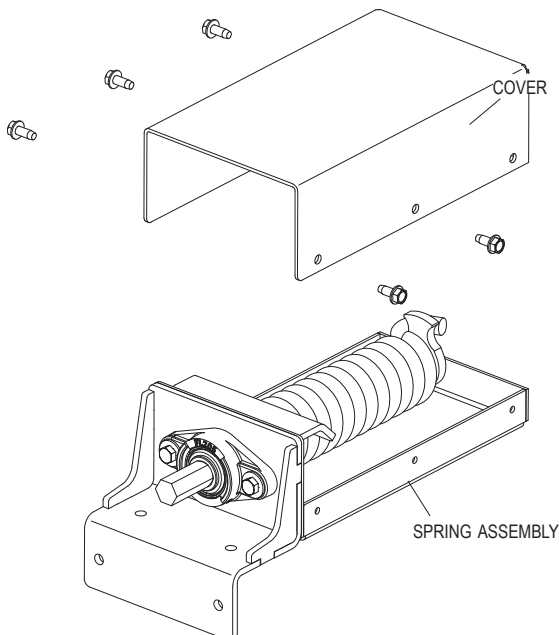
NOTE: Do not weld directly to truck frame as this can weaken frame and potentially void warranty. Use mounting plates and drill 5/8" holes and fasten with grade 5 or better 5/8" bolts, washers and nuts (not included) or weld components to structure existing on truck frame.

STEP 2B: Fabricate supports to be equal in width, with an overall width of 107-1/2". Secure supports to truck frame.

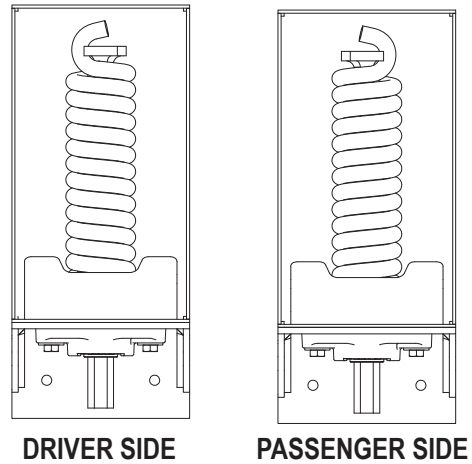


NOTE: Spring pivot supports must be equal in length so system will be centered on truck

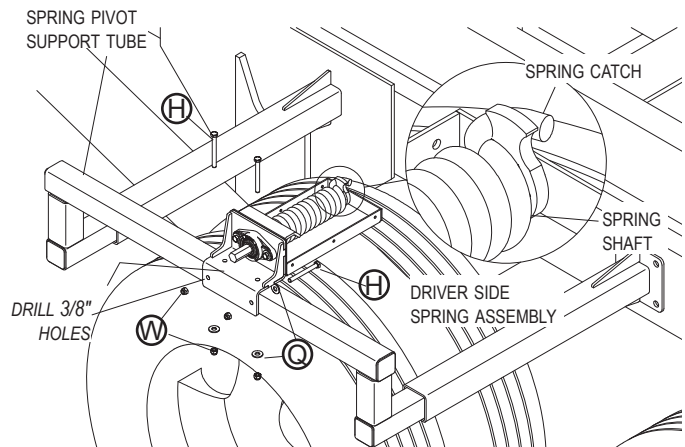
STEP 3: Remove covers from spring assemblies.

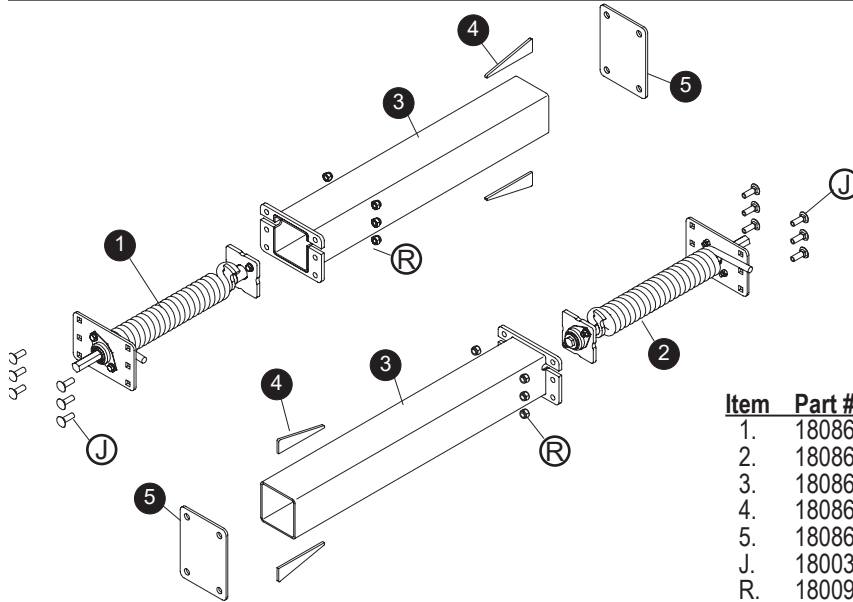


STEP 4: Compare springs to those illustrated below to find driver side assembly.



STEP 5: Clamp driver side spring assembly to spring pivot support tube at location determined previously. Weld directly to tube, or drill 3/8" holes and fasten to tube with screws (H), washers (Q) and nuts (W). Repeat for passenger side. Rotate spring shafts so spring catch engages spring hook as shown, then reinstall covers.

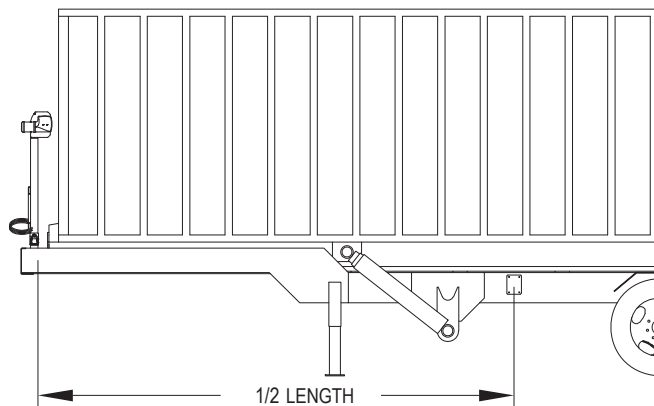
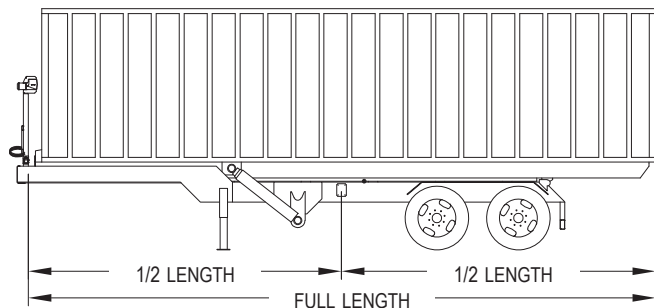




Item	Part #	Description
1.	1808635	Internal Mount Spring Assembly - Driver Side
2.	1808634	Internal Mount Spring Assembly - Passenger Side
3.	1808641	Spring Pivot Tube
4.	1808646	Frame Mount Gusset
5.	1808645	Frame Mount Plate
J.	1800356	Carriage Bolt - 1/2" x 1-1/2"
R.	1800995	Lock Nut - 1/2"

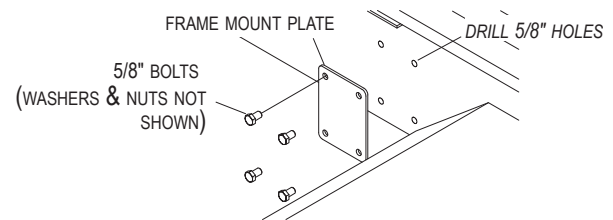
STEP 1: Determine spring pivot mount locations on trailer frame. On driver side of trailer, measure distance from back of base assembly to back of longest container. Divide measurement in half and mark location on trailer frame. Repeat on passenger side.

NOTE: To obtain accurate measurements, load longest container before measuring.

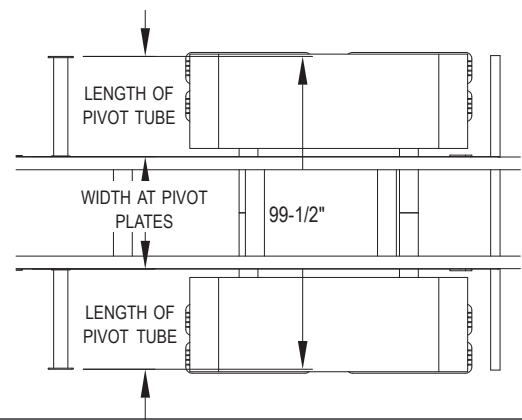


STEP 2: Position pivot mount plate at marked location. Using holes in plate as guide, mark hole locations on frame rail and drill 5/8" holes. Fasten with grade 5 or better 5/8" bolts, washers and nuts (not included). Repeat to install pivot mount plate in same location on passenger side frame rail.

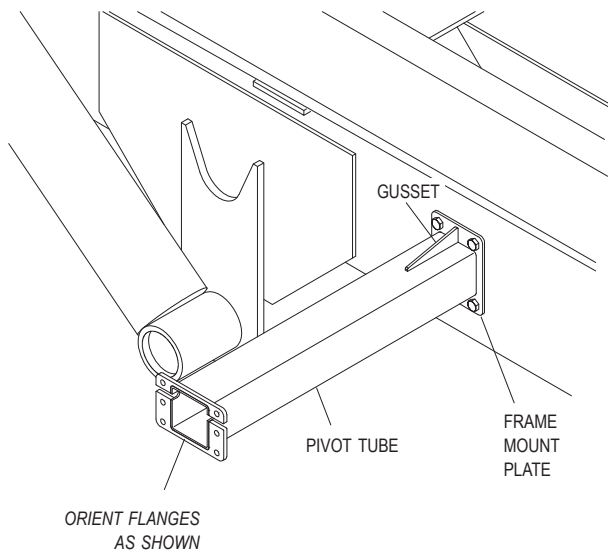
NOTE: Do not weld directly to trailer frame as this can weaken frame and potentially void warranty. Components may be welded to plates/structure already existing on trailer frame.



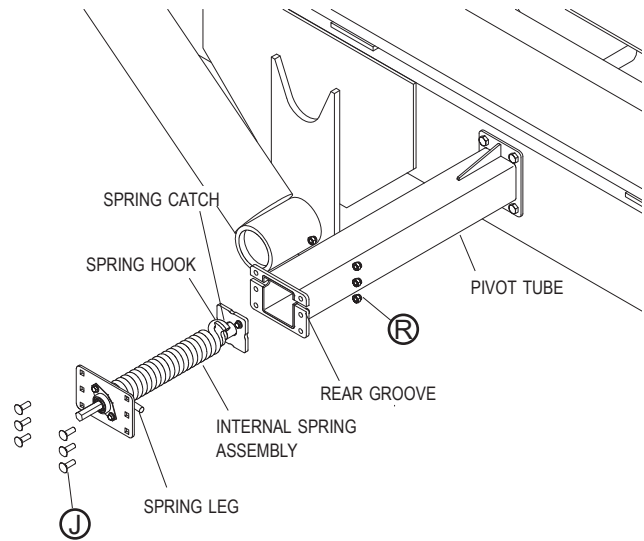
STEP 3: To determine spring pivot tube lengths, first measure distance between outside faces of pivot mount plates (frame width plus thickness of two plates). Subtract measurement from overall width of 99-1/2" and divide remainder in half. Cut spring pivot tubes to this length.

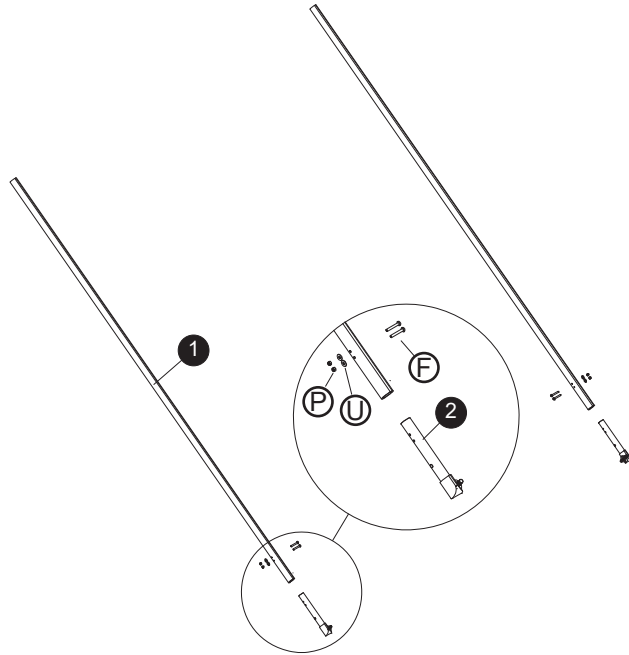


STEP 4: Center pivot tubes on pivot mount plates and tack weld in place. Make sure outer flanges are oriented as shown and pivot tubes are square and level to frame, then fully weld in place. Weld gussets to top and bottom of pivot tube and mounting plates for added strength.



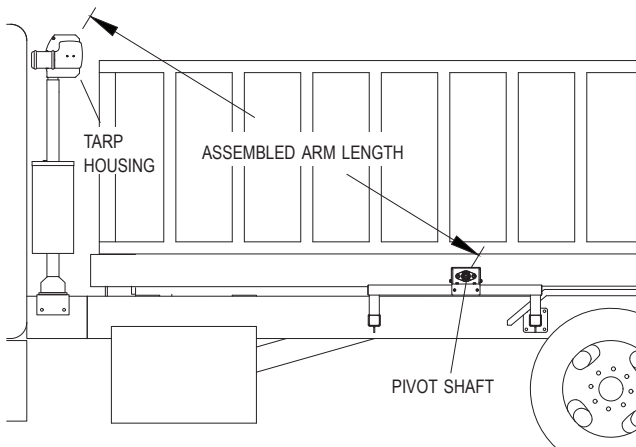
STEP 5: Internal spring assembly. With spring catch aligned with spring hook as shown, insert driver side internal spring assembly into pivot tube. Adjust spring leg into rear groove on pivot tube with spring leg pointing toward rear of trailer. Fasten assembly to pivot tube with carriage bolts **J** and nylon lock nuts **R**. Repeat on passenger side.



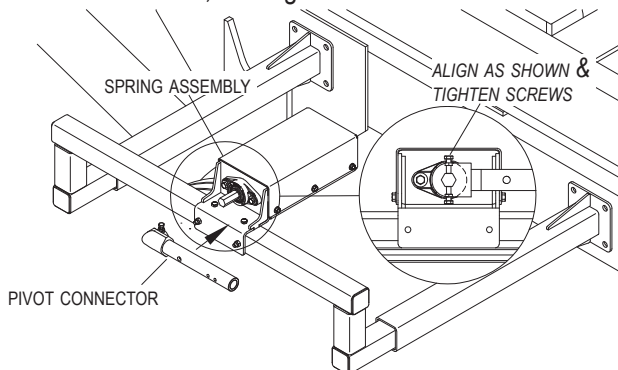


Item	Part #	Description
1.	1800421	Aluminum Return Arm - Straight
2.	1801636	Spring Pivot Connector
F.	1800270	Pan Hd. Screw - 5/16" x 2-1/4"
P.	1800990	Lock Nut - 5/16"
U.	1800989	Flat Washer - 5/16"

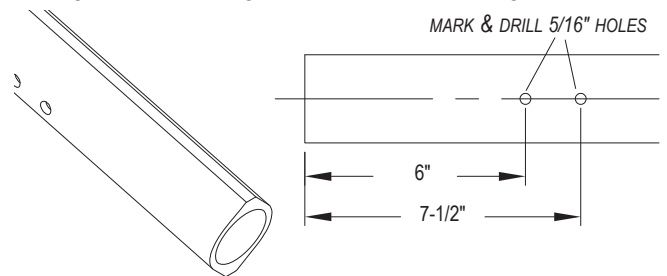
STEP 1: To determine assembled return arm length, measure from pivot shaft to top rear corner of tarp housing side plate. Subtract 4" from that measurement and cut return arms to this length.



STEP 2: Turn spring shaft (counter-clockwise on driver side and clockwise on passenger side) until you feel shaft contact hook on spring. Slide spring pivot connector onto shaft so connector is close to horizontal, then tighten screws.



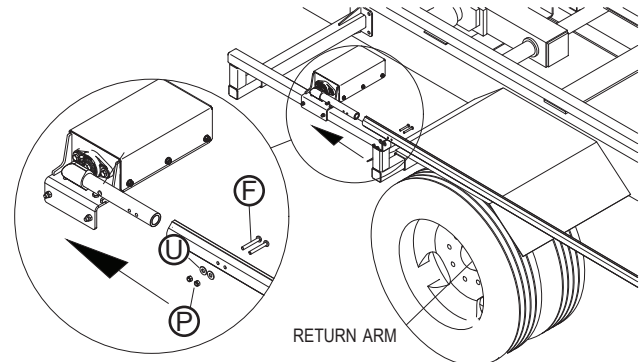
STEP 3: Mark and drill 5/16" holes in lower end of arm. Cut arm to length before drilling holes if shorter arm length is desired.



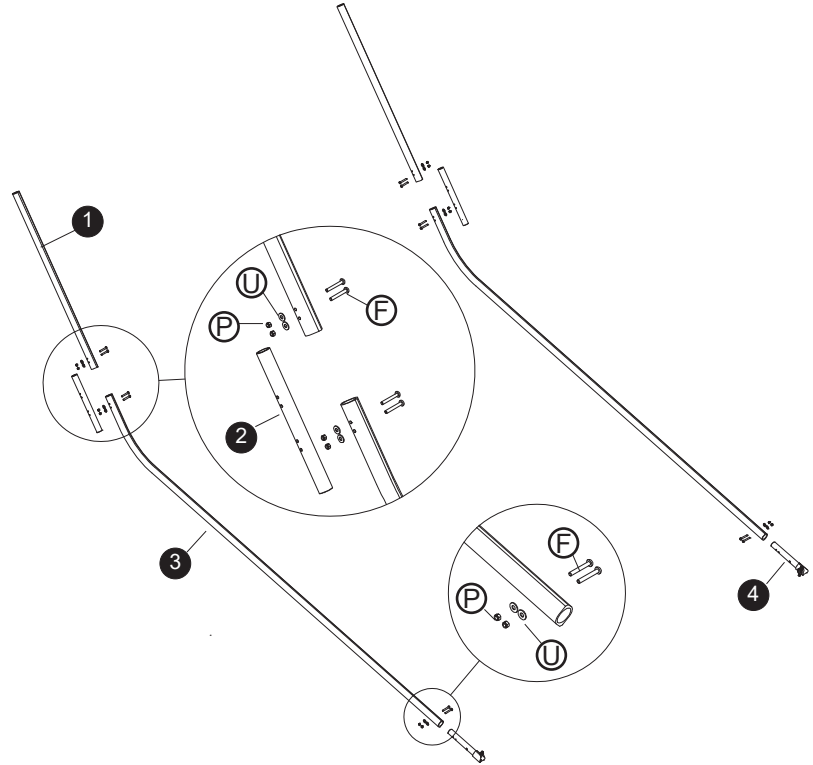
NOTES: If holes will not align well enough to insert bolts, run 5/16" drill bit through holes. Place bolt heads on inside of arms to prevent bolts from catching on container.

STEP 4: Slide return arm onto spring pivot connector. Align outer profiles to match and let end of arm rest on ground. Fasten return arms to spring pivot connectors with screws (F), washer (U) and nuts (P) as shown.

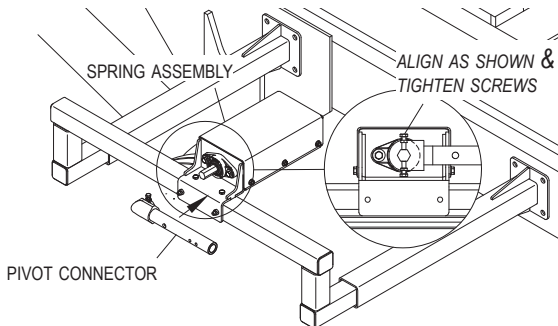
NOTE: To continue installation, turn to Tarp Tube Assembly & Tarp Installation on page 13.



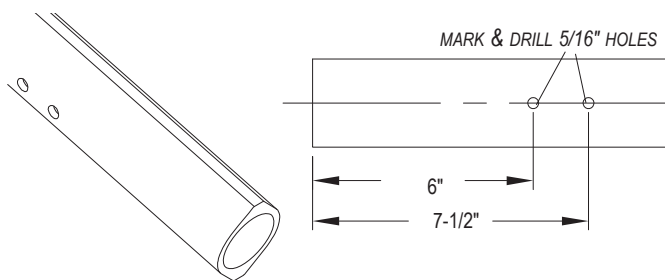
Item	Part #	Description
1.	1800548	Upper Aluminum Arm
2.	1800547	Arm Coupler
3.	1800545	Lower Aluminum Arm
4.	1801636	Spring Pivot Connector
F.	1800270	Pan Hd. Screw - 5/16" x 2 1/4"
P.	1800990	Lock Nut - 5/16"
U.	1800989	Flat Washer - 5/16"



STEP 1: Turn spring shaft (counter-clockwise on driver side and clockwise on passenger side) until you feel shaft contact hook on spring. Slide spring pivot connector onto shaft so connector is close to horizontal, then tighten screws.

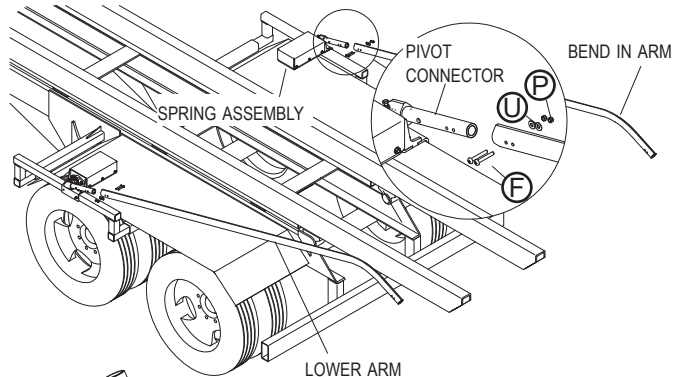


STEP 2: Mark and drill 5/16" holes in lower end of arm. Cut arm to length before drilling holes if shorter arm length is desired.

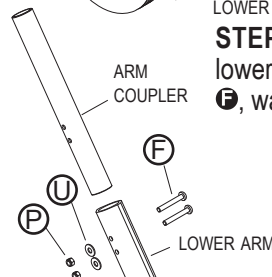


NOTES: If holes will not align well enough to insert bolts, run 5/16" drill bit through holes. Place bolt heads on inside of arms to prevent bolts from catching on container.

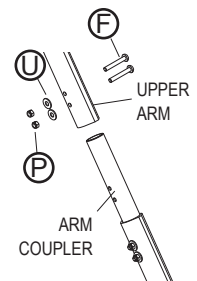
STEP 3: Slide lower arm onto pivot connector on spring assembly, positioning bend in arm as shown. Fasten lower arm to pivot connector with screws **F**, washers **U** and nuts **P**.



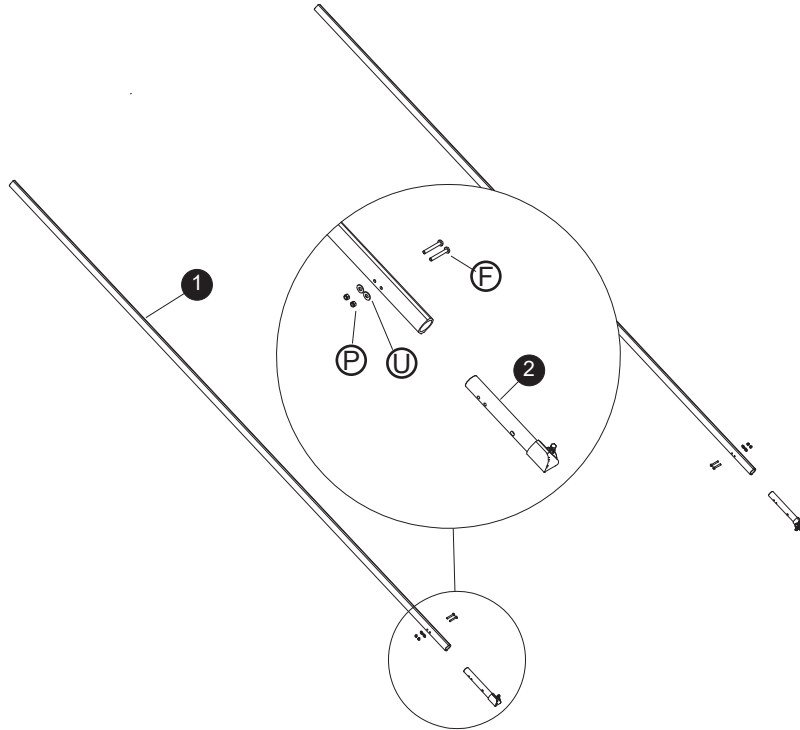
STEP 4: Slide arm coupler into lower arm and fasten with screws **F**, washers **U** and nuts **P**.



STEP 5: Slide upper arm onto arm coupler and fasten with screws **F**, washers **U** and nuts **P**.

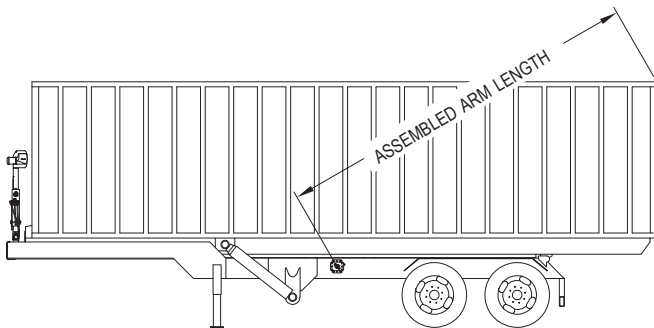


NOTE: To continue installation, turn to *Tarp Tube Assembly & Tarp Installation* on page 13.

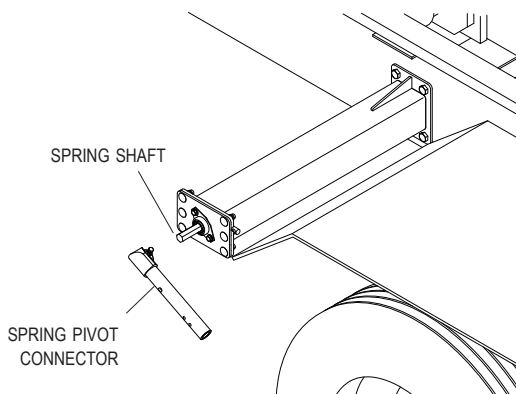


Item	Part #	Description
1.	1801241	Aluminum Return Arm
2.	1801636	Spring Pivot Connector
F.	1800270	Pan Hd. Screw - 5/16" x 2 1/4"
P.	1800990	Lock Nut - 5/16"
U.	1800989	Flat Washer - 5/16"

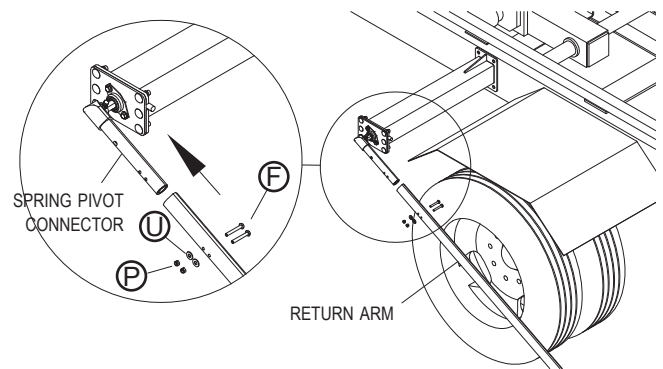
STEP 1: To determine assembled return arm length, measure from pivot shaft to top rear corner of largest container. Subtract 4" from that measurement and cut return arms to this length.



STEP 2: Turn spring shaft (counter-clockwise on driver side and clockwise on passenger side) until you feel shaft contact hook on spring. Slide spring pivot connector onto shaft so connector is close to horizontal.

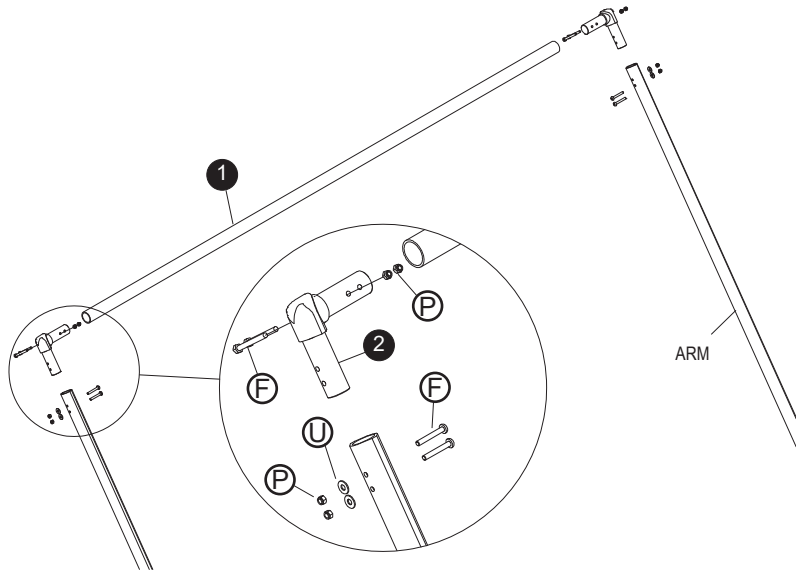


STEP 3: Slide return arm onto spring pivot connector. Align outer profiles so they match and let end of arm rest on ground. Fasten return arms to spring pivot connectors with screws (F), washer (U) and nuts (P) as shown.

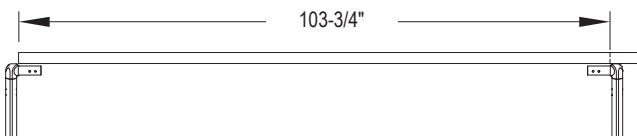


NOTE: To continue installation, turn to Tarp Tube Assembly & Tarp Installation on page 13.

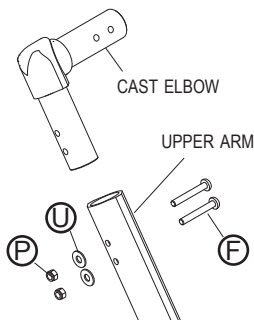
Item	Part #	Description
1.	1800300	Rear Cross Piece - 109"
2.	1800597	90° Cast Elbow
F.	1800270	Pan Hd. Screw - 5/16" x 2 1/4"
P.	1800990	Nylon Lock Nut - 3/8"
U.	1800989	Flat Washer - 3/8"



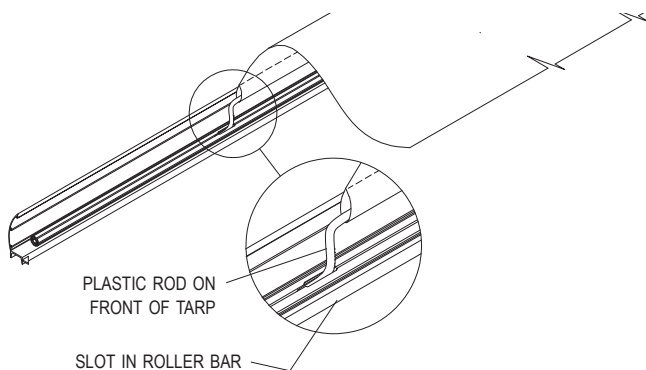
STEP 1: Mark and cut rear cross piece to 103-3/4".



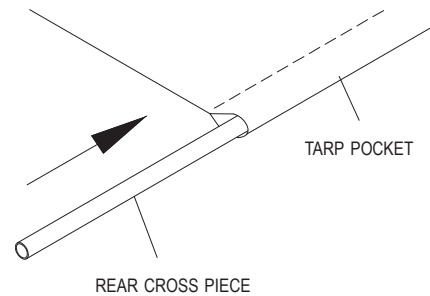
STEP 2: Insert cast elbow into upper arm and fasten with screws (F), washers (U) and nuts (P).



STEP 3: Thread front of tarp with plastic rod into slot in center of roller bar. Trim ends of rod to fit tarp.

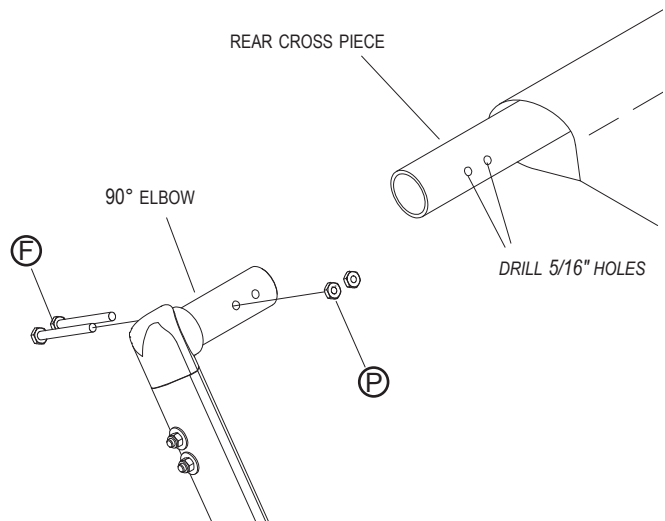


STEP 4: Slide rear cross piece into tarp pocket at rear of tarp.



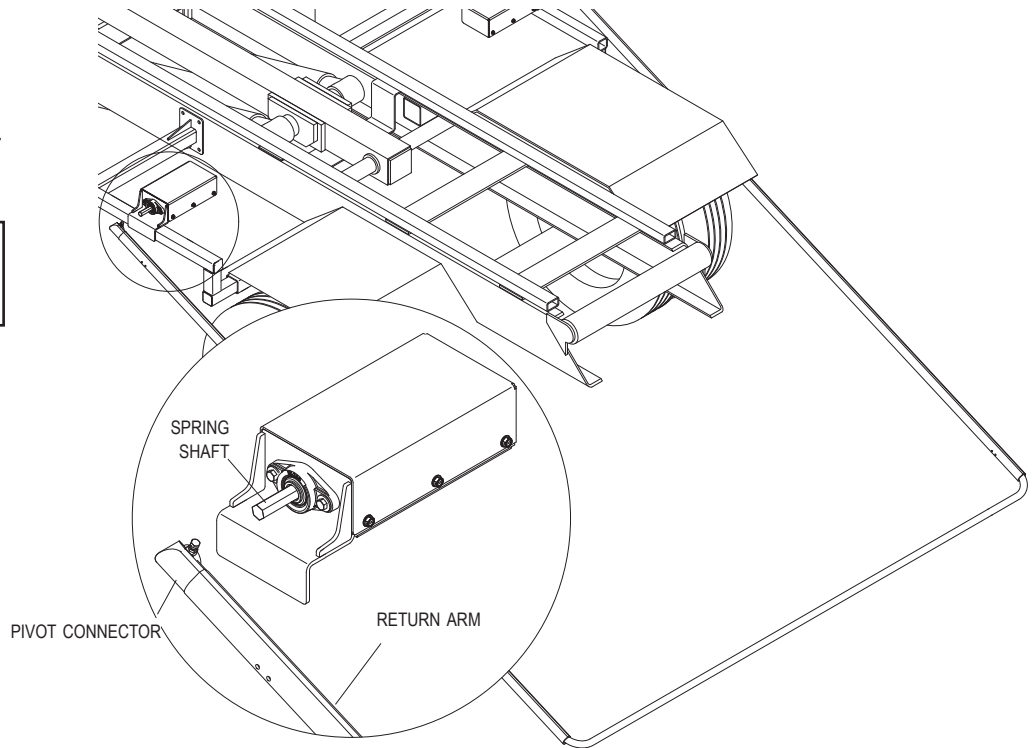
STEP 5: Center tarp on roller bar and rear cross piece.

STEP 6: Insert rear cross piece into 90° elbows. Using holes in 90° elbow as guide, mark and drill 5/16" holes. Fasten with screws (F) and nuts (P).

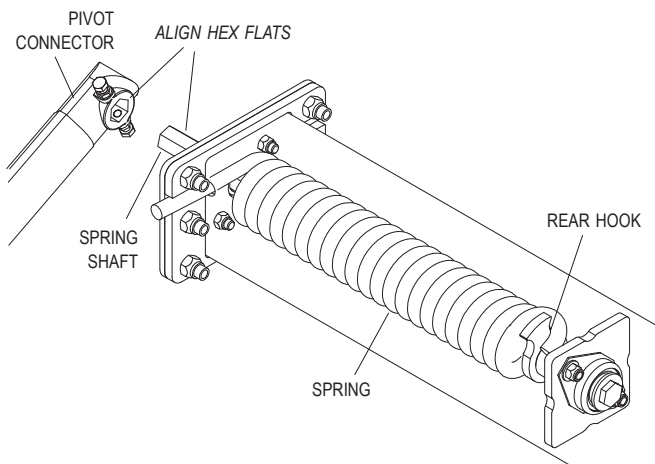


STEP 1: With return arms resting on ground, slide pivot connector off spring shaft.

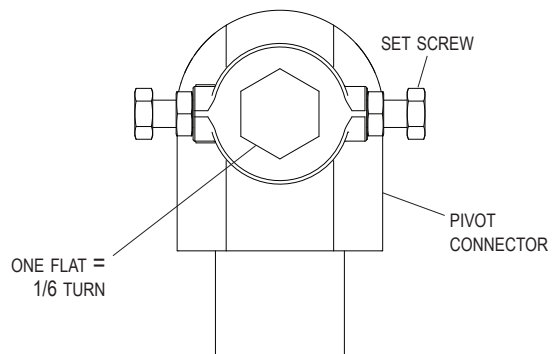
NOTE: See recommended pre-loads in step 3 before proceeding.



STEP 2: To pre-load spring, turn spring shaft (counter-clockwise for driver side and clockwise for passenger side) until you feel shaft engage rear hook on spring. Use 7/8" wrench or pipe wrench to continue turning shaft in same direction until next flat on hex shaft lines up with hex flats in pivot connector, then slide pivot connector onto spring shaft.



STEP 3: Pre-load spring one flat (1/6 turn) at a time on hex shaft until desired pre-load is reached. Remove pivot connector after each 1/6 turn, rotate connector to next flat and replace. When desired pre-load is reached, secure pivot connectors to spring shafts with set screws.



Recommended pre-loads:

Single axle kits - No pre-load needed in most applications.

Tandem/multi-axle kits - One flat (1/6 turn) of pre-load can be added but do not exceed that amount or spring may be damaged. Tandem/multi-axle kits require less pre-load because spring loads up more quickly.

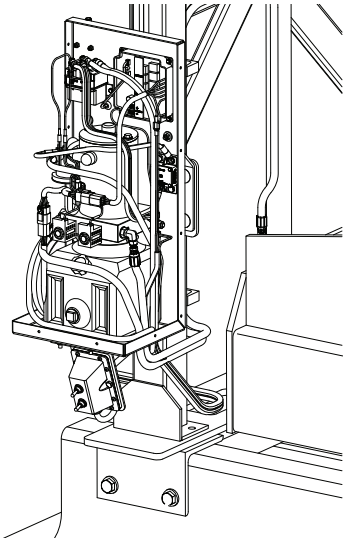
Trailers - Start by turning three flats (1/2 turn) of pre-load and increase as needed.



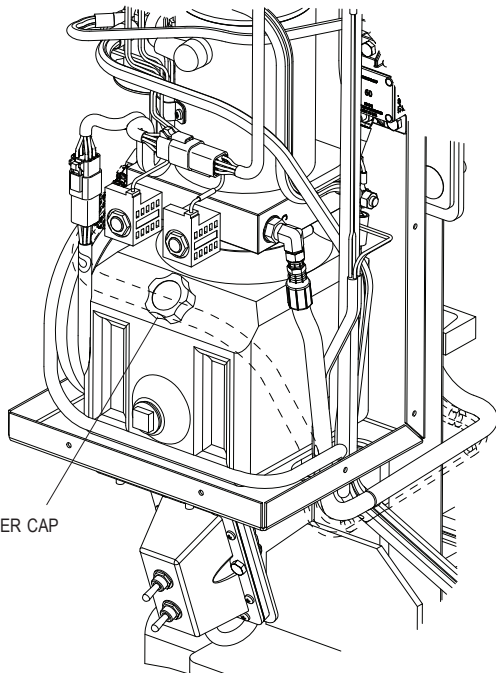
WARNING

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

STEP 1: Remove pump enclosure cover and front panel to access pump assembly.



STEP 2: Remove reservoir shipping plug (red with square top) from top of plastic reservoir. Fill reservoir with Dexron automatic transmission fluid until it is just under the fill hole. Install black breather cap into fill hole to replace shipping plug. Red shipping plug can be thrown away or threaded into retainer at bottom of reservoir.



BREATHER CAP

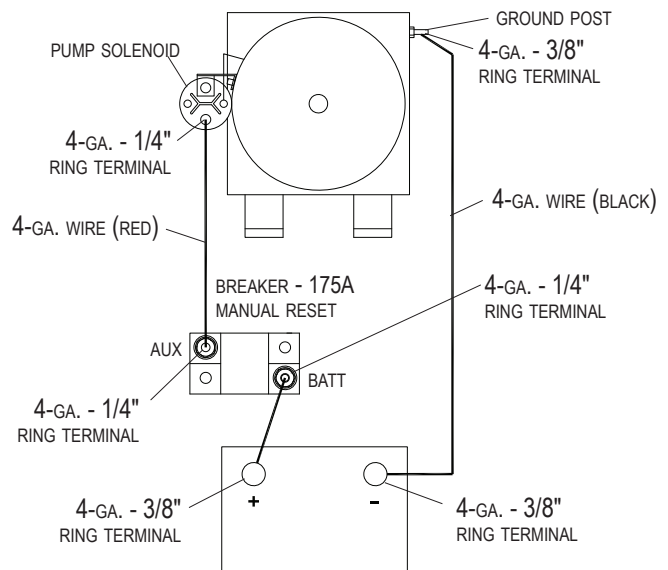
NOTE: It is recommended to disconnect pump positive cable from battery until pump has been filled with fluid.

CAUTION

Running the pump unit dry will damage the pump.

STEP 3: Make connections at battery as shown. Ensure 4-ga. cable/wire with red stripe is connected to pump solenoid and is routed to manual reset breaker and positive post of battery. Connect 4-ga. negative wire from stud on side of hydraulic pump to negative battery post.

HYDRAULIC PUMP ASSEMBLY - TOP VIEW



CAUTION

Do not pull dual-strand wires apart. To separate, carefully cut through insulation between wires with knife. Pulling wires apart could damage wire insulation and expose wire. This could result in equipment damage and/or personal injury.

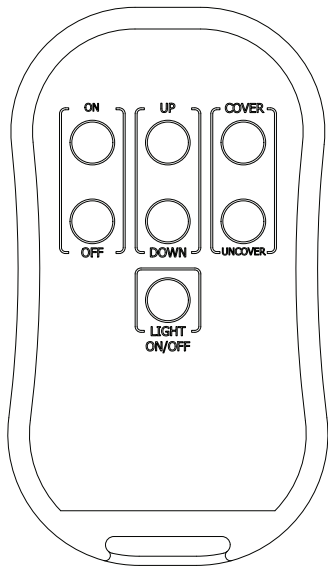
STEP 4: Operate pump with toggle switches to raise tower. Watch fluid level in reservoir while operating to make sure it does not empty and introduce air into the system. If fluid level gets within 1-1/2" of the reservoir bottom, add a few more ounces of fluid. After raising tower to maximum height, lower it back down again. Raise and lower 2 to 3 more times to help remove air from the system, then check fluid level with tower lowered all the way down. Fill reservoir until fluid is about 1/2" under fill hole and reinstall breather cap. Before reinstalling the enclosure front panel and cover, test operation of tower, tarp motor and work lights with both the toggle switches and with the wireless remote. See pg 16. for operating instructions.

CAUTION

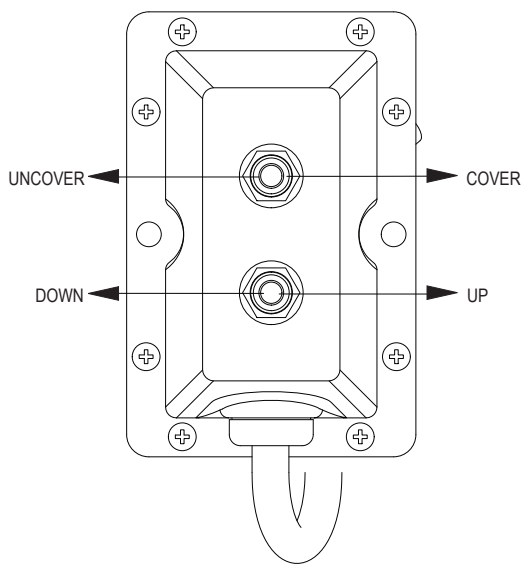
Replace shipping plug with breather cap on hydraulic pump or pump will be damaged.

WIRELESS REMOTE & TOGGLE SWITCH OPERATION

When using wireless remote to operate QF4® system, first press ON button on remote to turn wireless unit on. After unit is turned on by pressing ON button, buttons utilized for tarp functions will be operational. When finished operating system, press OFF button to shut down wireless unit.

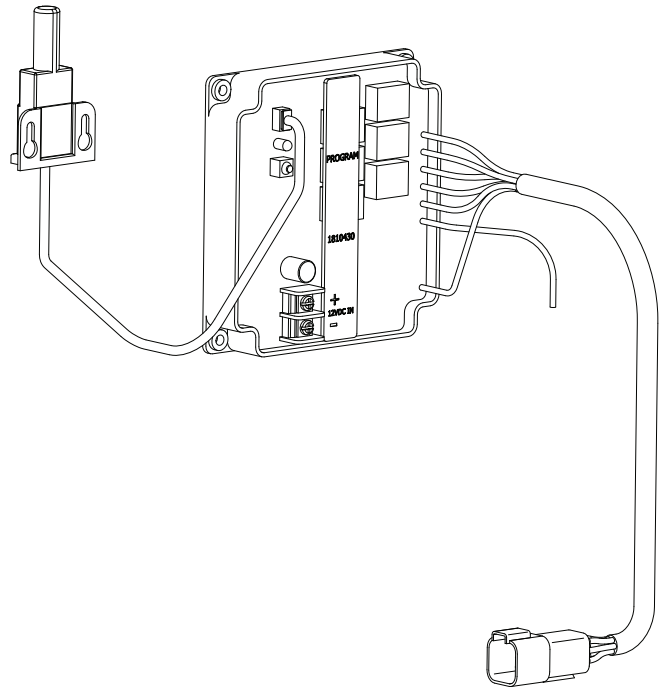


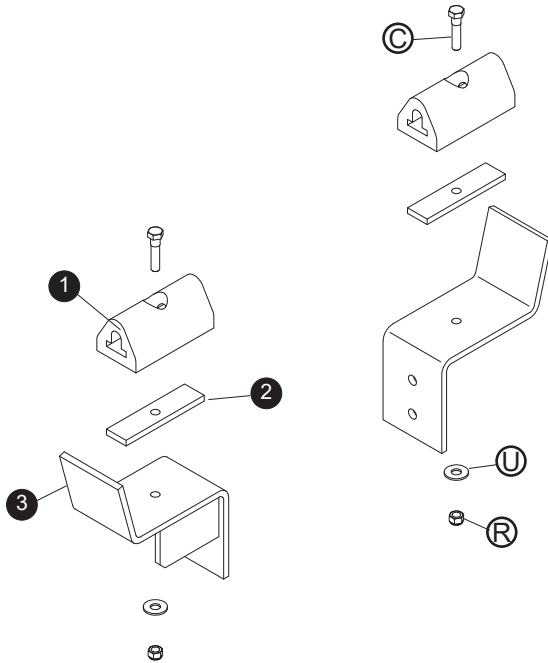
To operate system utilizing toggle switches on control box, push toggles in direction shown for each function.



PAIRING REMOTE

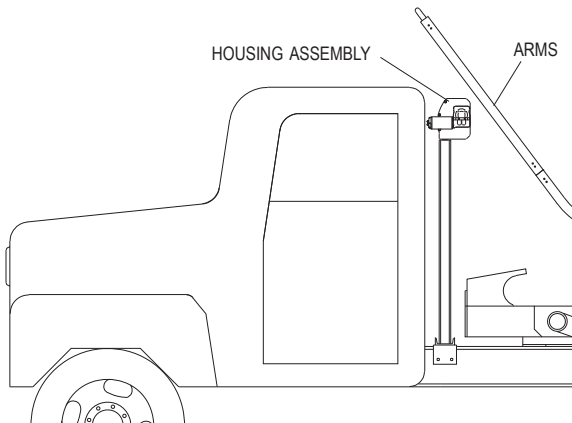
To pair remote to control module, press button directly below light on control module. Red light will turn on. Press any button on remote to make connection. Wait for light to flash and turn off, and transmitter will be programmed.



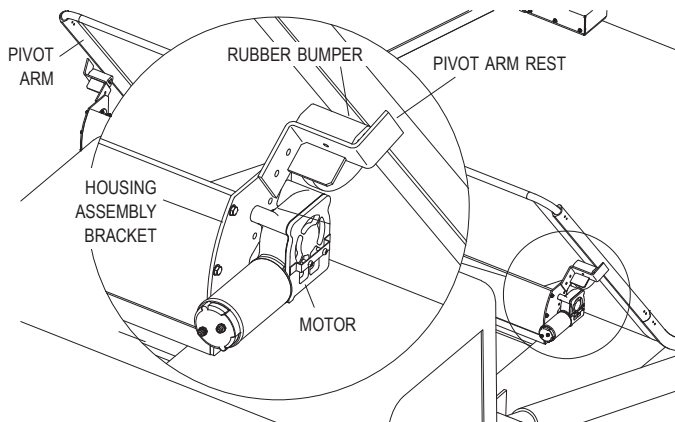


Item	Part #	Description
1.	1801012	Rubber Bumper
2.	1800140	Bumper Hold-Down Bar
3.	1801324	Pivot Arm Rest
C.	1800998	Cap Screw - 5/16" x 1"
R.	1800995	Lock Nut - 5/16"
U.	1800989	Flat Washer - 5/16"

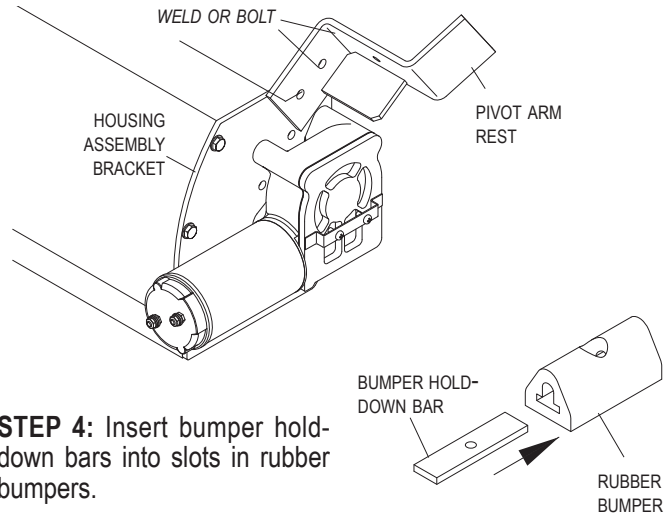
STEP 1: Wind tarp open until arms are completely forward, stopping just before arms reach housing assembly.



STEP 2: Position rubber bumpers on pivot arm rests. Align components on housing assembly brackets, adjusting so pivot arms rest evenly on rests and do not interfere with motor. Clamp pivot arm rests in place.

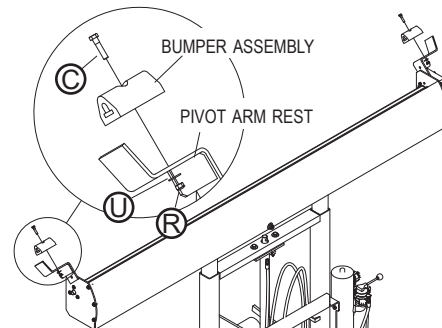


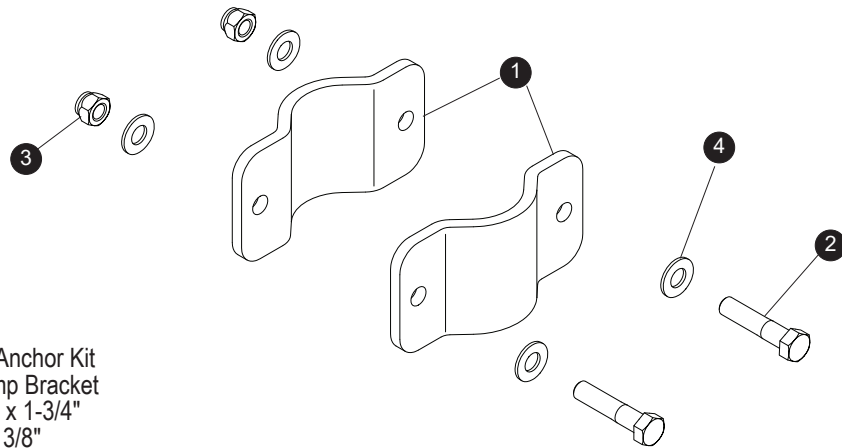
STEP 3: Remove rubber bumpers and weld or bolt pivot arm rests onto housing brackets (hardware not provided).



STEP 4: Insert bumper hold-down bars into slots in rubber bumpers.

STEP 5: Fasten bumper assemblies to pivot arm rests with screws Ⓢ, washers Ⓤ and nuts Ⓡ.

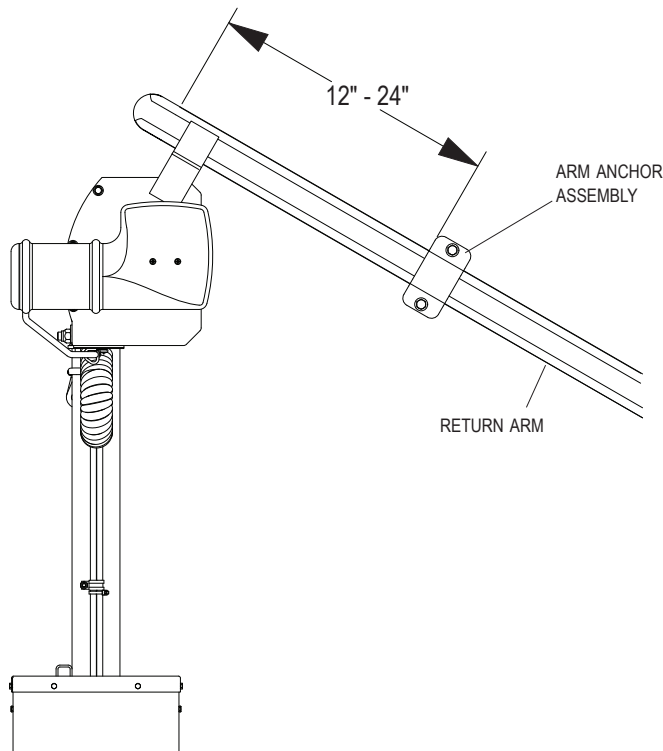




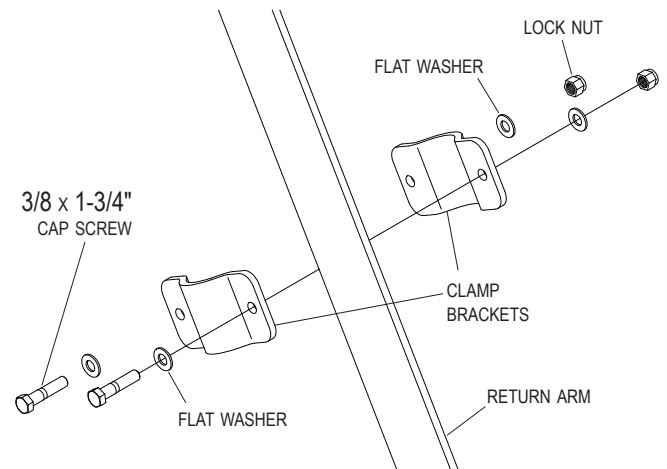
Item	Part #	Description
	1811743	Arm Hold-Down Anchor Kit
1.	1120388	Arm Anchor Clamp Bracket
2.	1700369	Cap Screw - 3/8" x 1-3/4"
3.	1701580	Nylon Lock Nut - 3/8"
4.	1701176	Flat Washer - 3/8"

For customers that wish to tie-down the return arms, these optional anchor brackets can be easily installed and used as an attachment point for tie-down straps (provided by customer).

STEP 1: Ideally, return arm hold-down anchors should be located 12" to 24" from ends of return arms. If location is too high to reach from the ground, adjust hold down anchor location to be as close to the end of the arm as possible and still be reachable from the ground. Hold-down anchor assemblies should be installed at the same location on both return arms.

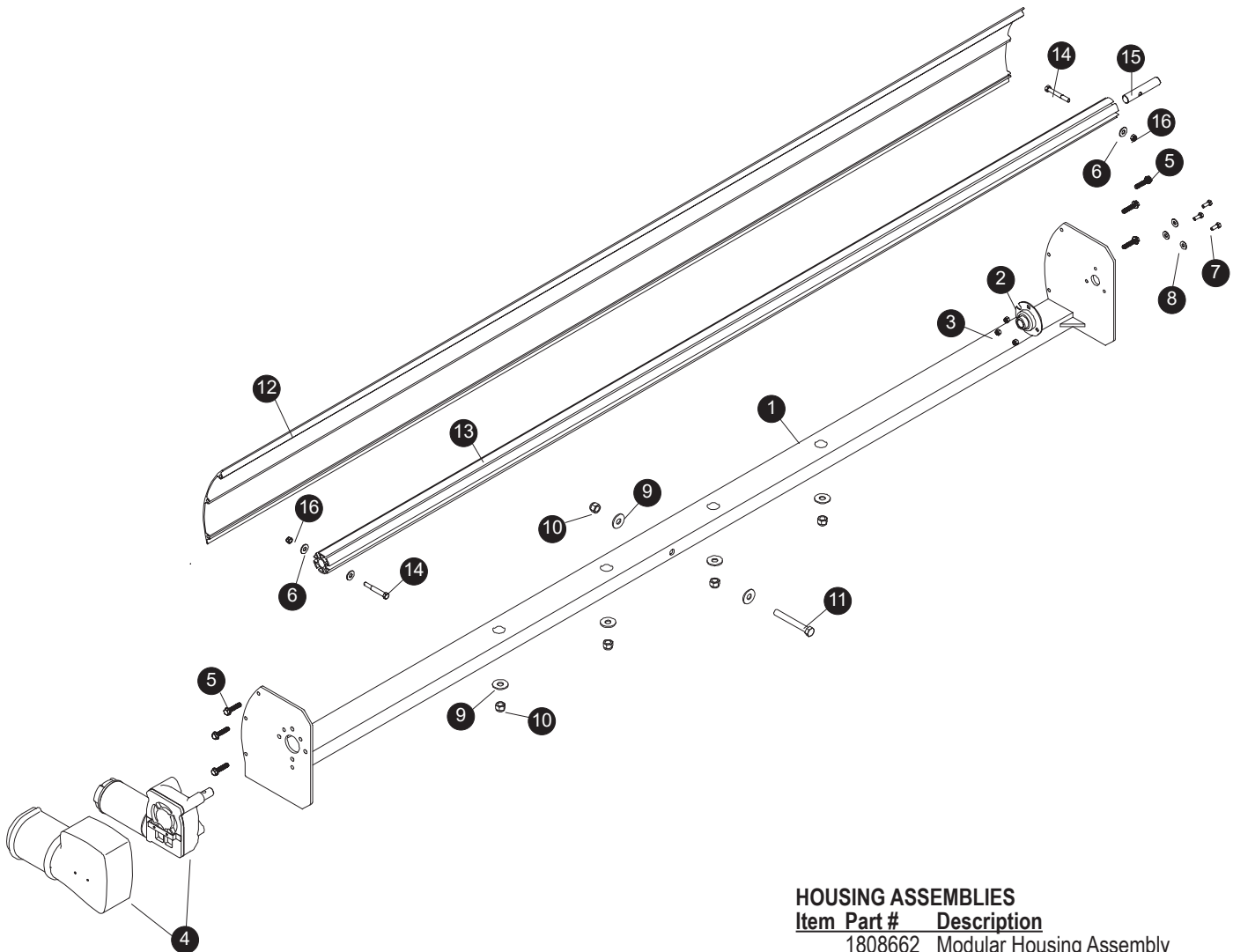


STEP 2: Align clamp brackets around return arm. Fasten with 3/8" x 1-3/4" cap screws, flat washers and lock nuts. Tighten fasteners until clamp brackets are secured to arm. There will be an approximately 3/8" to 1/2" gap between the brackets.



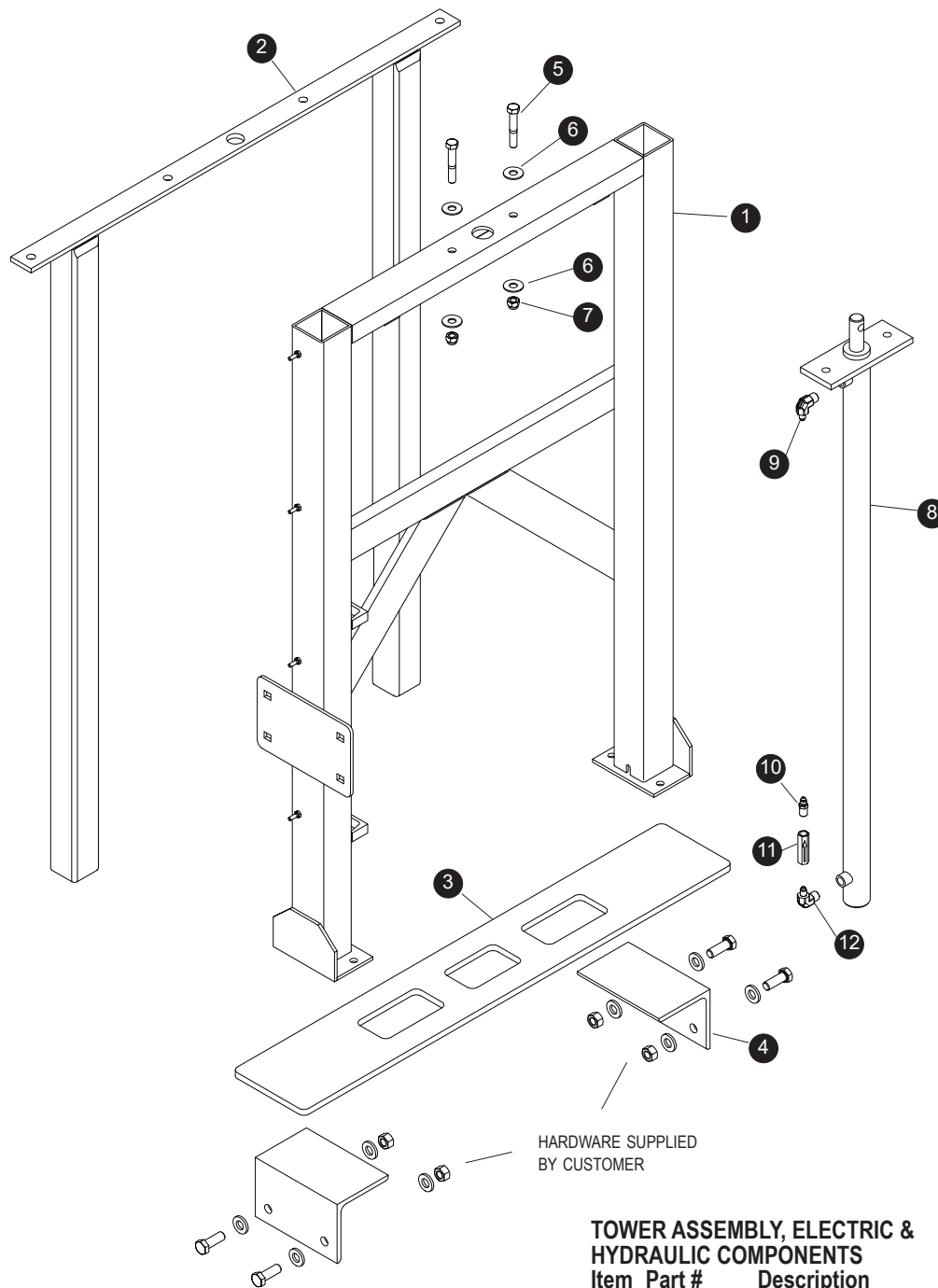
NOTE: Tie-down straps are not provided. Use caution when using tie-downs. Always wear eye protection, and keep face clear of straps/tie-downs.

⚠ CAUTION
Always wear eye protection and keep face clear of tie-downs/straps.



HOUSING ASSEMBLIES

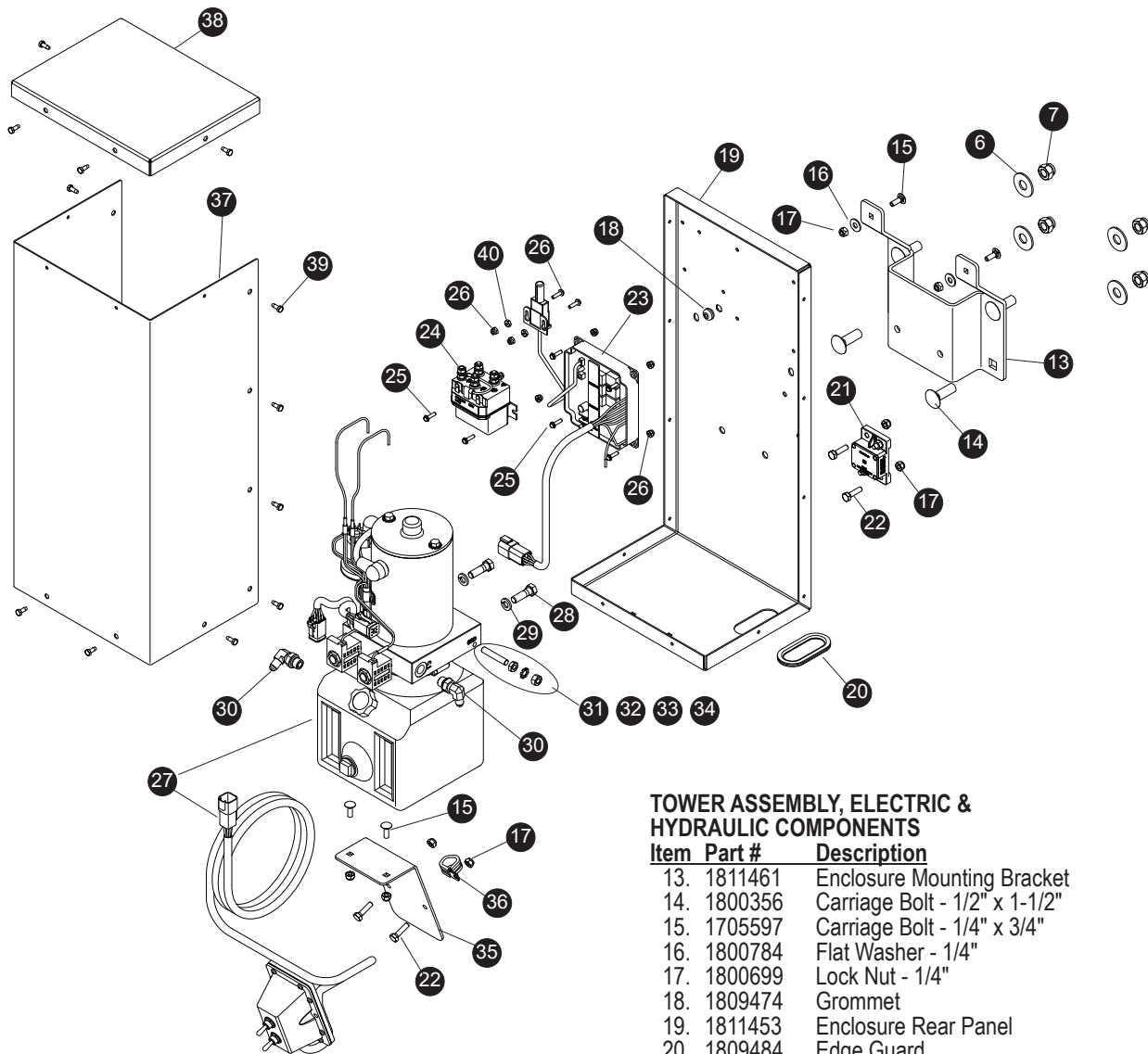
Item	Part #	Description
	1808662	Modular Housing Assembly
1.	1800491	Modular Housing Weldment
2.	1801950	Bearing Flange - Reversed
3.	1800699	Lock Nut - 1/4"
4.	1704878	Durabuilt™ Motor w/Cover
5.	1800460	Self-Tapping Screw - 5/16" x 1 1/4"
6.	1800989	Flat Washer - 5/16"
7.	1800767	Cap Screw - 1/4" x 3/4"
8.	1800784	Flat Washer - 1/4"
9.	1800996	Flat Washer - 1/2"
10.	1800995	Lock Nut - 1/2"
11.	1801024	Cap Screw - 1/2" x 4"
12.	1800477	Modular Housing Deflector
13.	1802015	Roller Bar
14.	1800942	Bolt - 5/16" x 2 1/2"
15.	1800980	Shaft Extension - 3/4" x 4"
16.	1800990	Lock Nut - 5/16"



HARDWARE SUPPLIED
BY CUSTOMER

**TOWER ASSEMBLY, ELECTRIC &
HYDRAULIC COMPONENTS**

Item	Part #	Description
1.	1811455	Tower Outer Stage Weldment
2.	1801621	Tower Inner Stage Weldment
3.	1811474	Mounting Plate
4.	1811473	Mounting Angle
5.	1800901	Cap Screw - 1/2" x 3"
6.	1800996	Flat Washer - 1/2"
7.	1800995	Lock Nut - 1/2"
8.	1800082	Cylinder - 1-1/2" x 3"
9.	1800306	Hydraulic Fitting - #4 JICM x 3/8" NPTM - 90 EL
10.	1801017	Hydraulic Fitting - #4 JICM x 1/4" NPTM - Str
11.	1801018	Pres Flow Comp Hyd - 1-3/4"
12.	1801016	Hydraulic Fitting - 3/8" NPTM - 90 EL

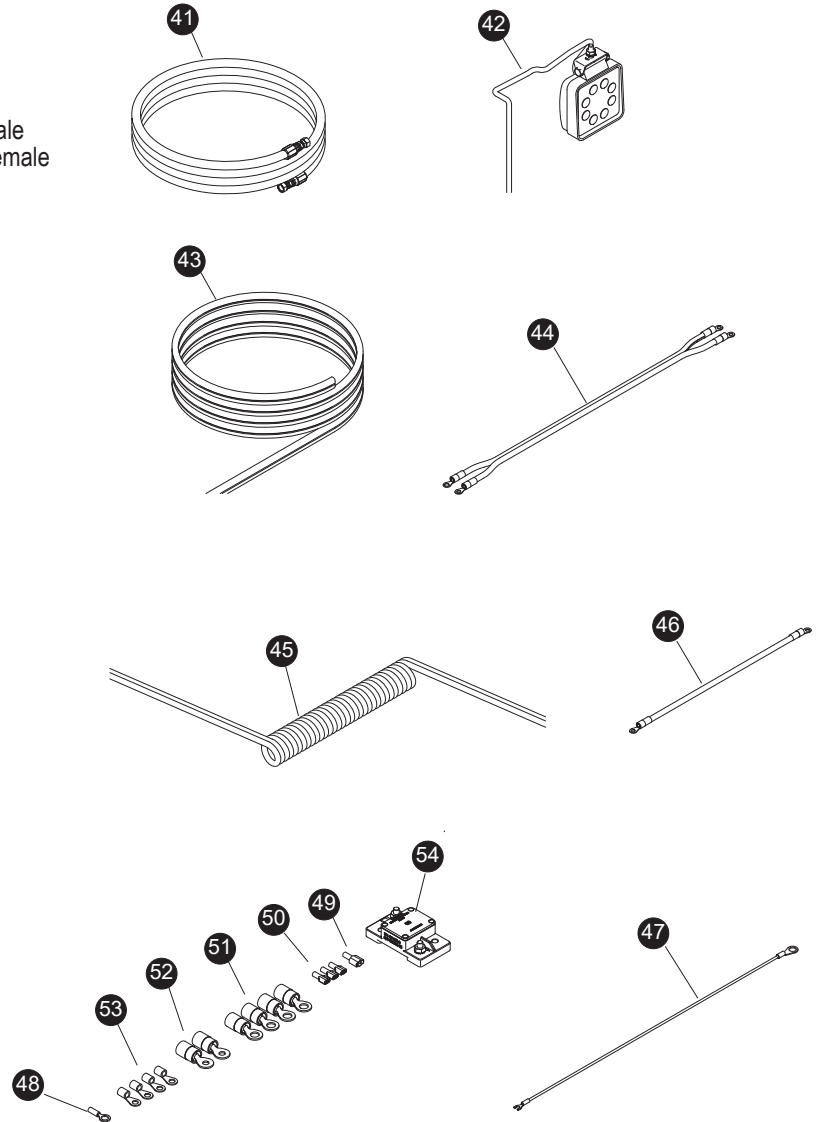


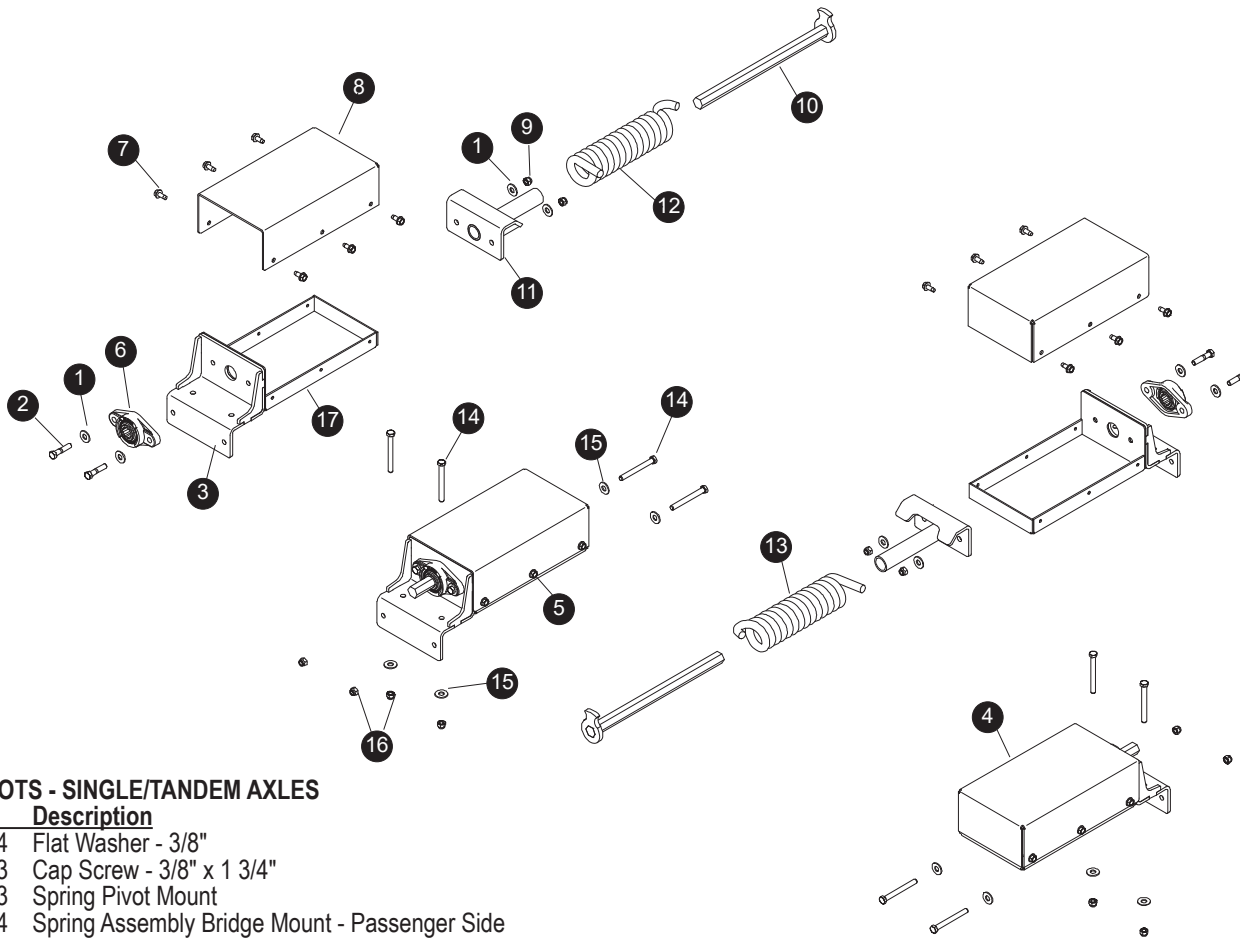
TOWER ASSEMBLY, ELECTRIC & HYDRAULIC COMPONENTS

Item	Part #	Description
13.	1811461	Enclosure Mounting Bracket
14.	1800356	Carriage Bolt - 1/2" x 1-1/2"
15.	1705597	Carriage Bolt - 1/4" x 3/4"
16.	1800784	Flat Washer - 1/4"
17.	1800699	Lock Nut - 1/4"
18.	1809474	Grommet
19.	1811453	Enclosure Rear Panel
20.	1809484	Edge Guard
21.	1800417	60-Amp Circuit Breaker
22.	1700381	Cap Screw - 1/4" x 1"
23.	1810430	Wireless Receiver w/Antenna
24.	1703845	Solenoid
25.	1809475	Flange Hd. Screw - 8-32 x 5/8"
26.	1804461	Lock Nut - 8-32
27.	1811448	Hydraulic Pump w/Switch Box
28.	1811464	Cap Screw - 3/8" x 1-1/4" Grade 8
29.	1800991	Lock Washer - 3/8"
30.	1800925	Hydraulic Fitting - #4 JICM x #6ORBM - 90 EL
31.	1809470	Stud - 5/16" x 1-3/4"
32.	1809471	Jam Nut - 5/16"
33.	1704912	Lock Washer - Ext - 5/16"
34.	1800765	Hex Nut - 5/16"
35.	1811460	Switch Bracket
36.	1702108	Cable Clamp
37.	1811452	Enclosure Front Panel
38.	1811451	Enclosure Top Panel
39.	1809472	Self-Tapping Screw - 10-24 x 1-1/2"
40.	1704869	Hex Nut - 8-32

TOWER ASSEMBLY, ELECTRIC & HYDRAULIC COMPONENTS

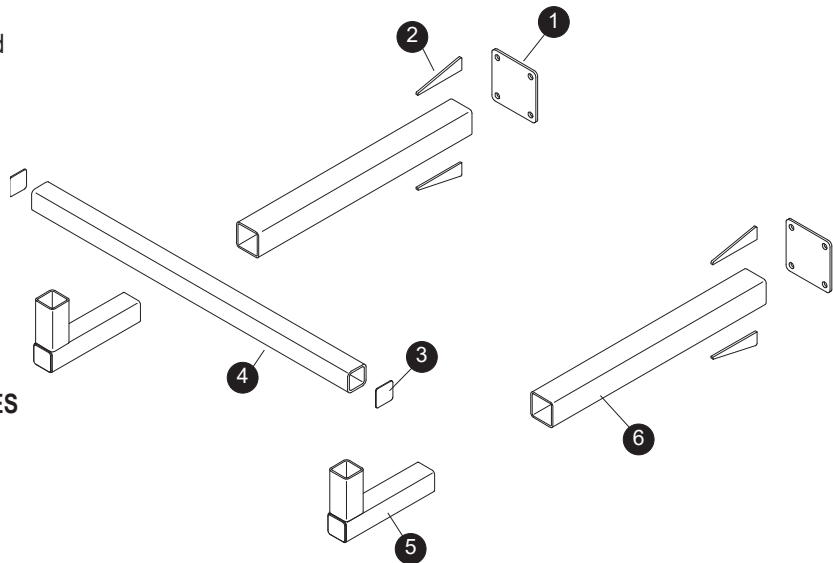
Item	Part #	Description
41.	1801627	Hydraulic Hose - 84" OAL
42.	1704719	LED Work Light
43.	1800220	4-Ga. Dual-Conductor Wire - 16'
44.	1811465	Motor Power Wire Assembly
45.	1810425	Coiled Wire
46.	1811466	Power Jumper Wire
47.	1811467	14-Ga. Ground Wire
48.	1705800	Ring Terminal - 18-Ga. x 5/16"
49.	1705072	Q-Disc Terminal - 18-Ga. x 1/4" - Male
50.	1705073	Q-Disc Terminal - 18-Ga. x 1/4" - Female
51.	1800158	Ring Terminal - 4-Ga. x 3/8"
52.	1800302	Ring Terminal - 4-Ga. x 1/4"
53.	1800658	Ring Terminal - 6-Ga. x 1/4"
54.	1811476	Circuit Breaker - 175 Amp





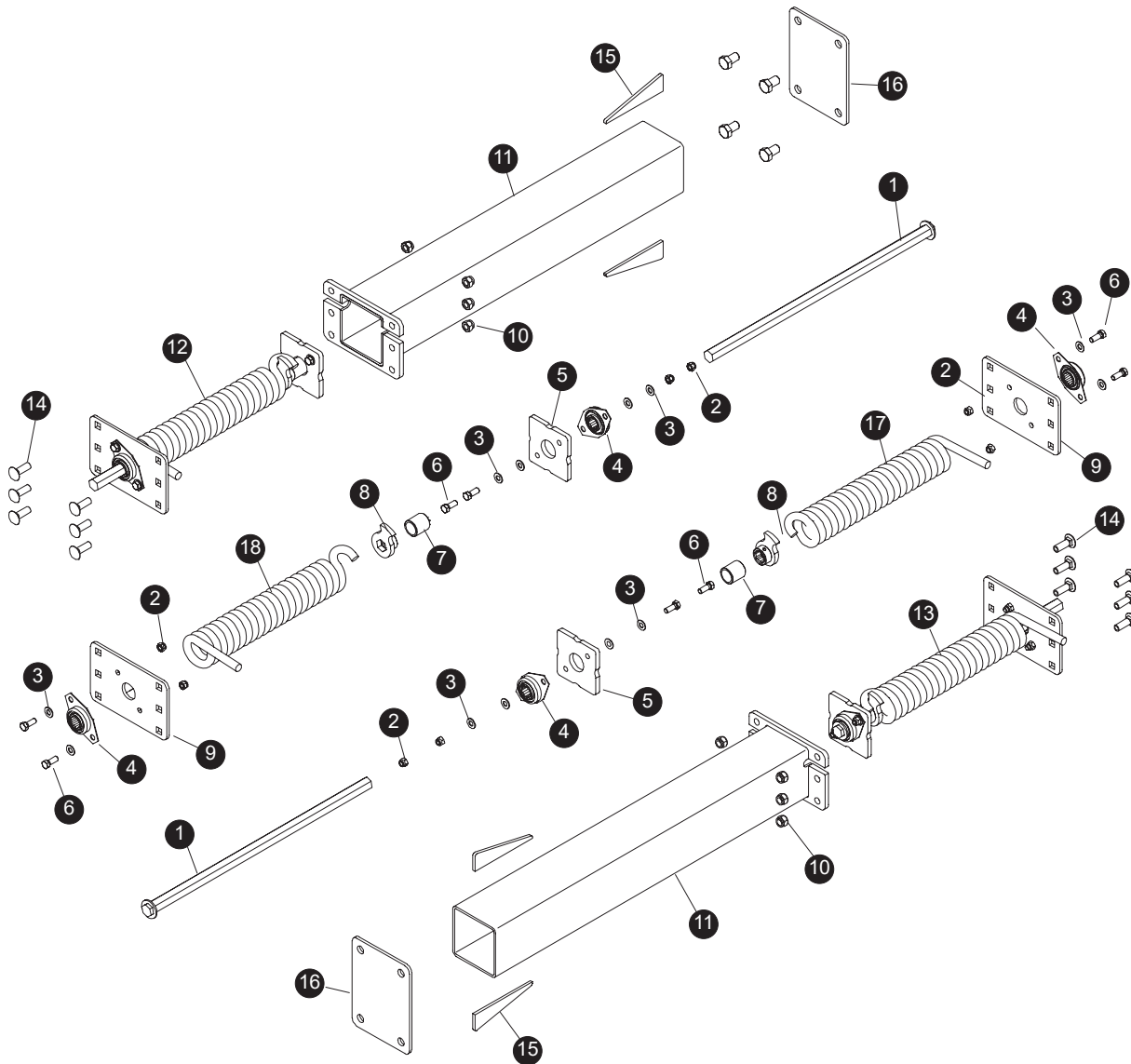
SPRING PIVOTS - SINGLE/TANDEM AXLES

Item	Part #	Description
1.	1800944	Flat Washer - 3/8"
2.	1804883	Cap Screw - 3/8" x 1 3/4"
3.	1808663	Spring Pivot Mount
4.	1808664	Spring Assembly Bridge Mount - Passenger Side
5.	1808665	Spring Assembly Bridge Mount - Driver Side
6.	1801082	Hex Bore Flange Unit - 7/8"
7.	1808668	Self-Tapping Screw - 5/16" x 3/4"
8.	1808683	Spring Housing Cover
9.	1800993	Lock Nut - 3/8"
10.	1808671	Spring Shaft - 7/8" Hex x 14 1/4"
11.	1118955	Spring Retainer
12.	1704476	Torsion Spring - 2 3/4" OD - Left Hand
13.	1804477	Torsion Spring - 2 3/4" OD - Right Hand
14.	1804139	Cap Screw - 3/8" x 3 1/4"
15.	1800994	Flat Washer - 3/8"
16.	1800993	Nylon Lock Nut - 3/8"
17.	1808669	Spring Housing Base



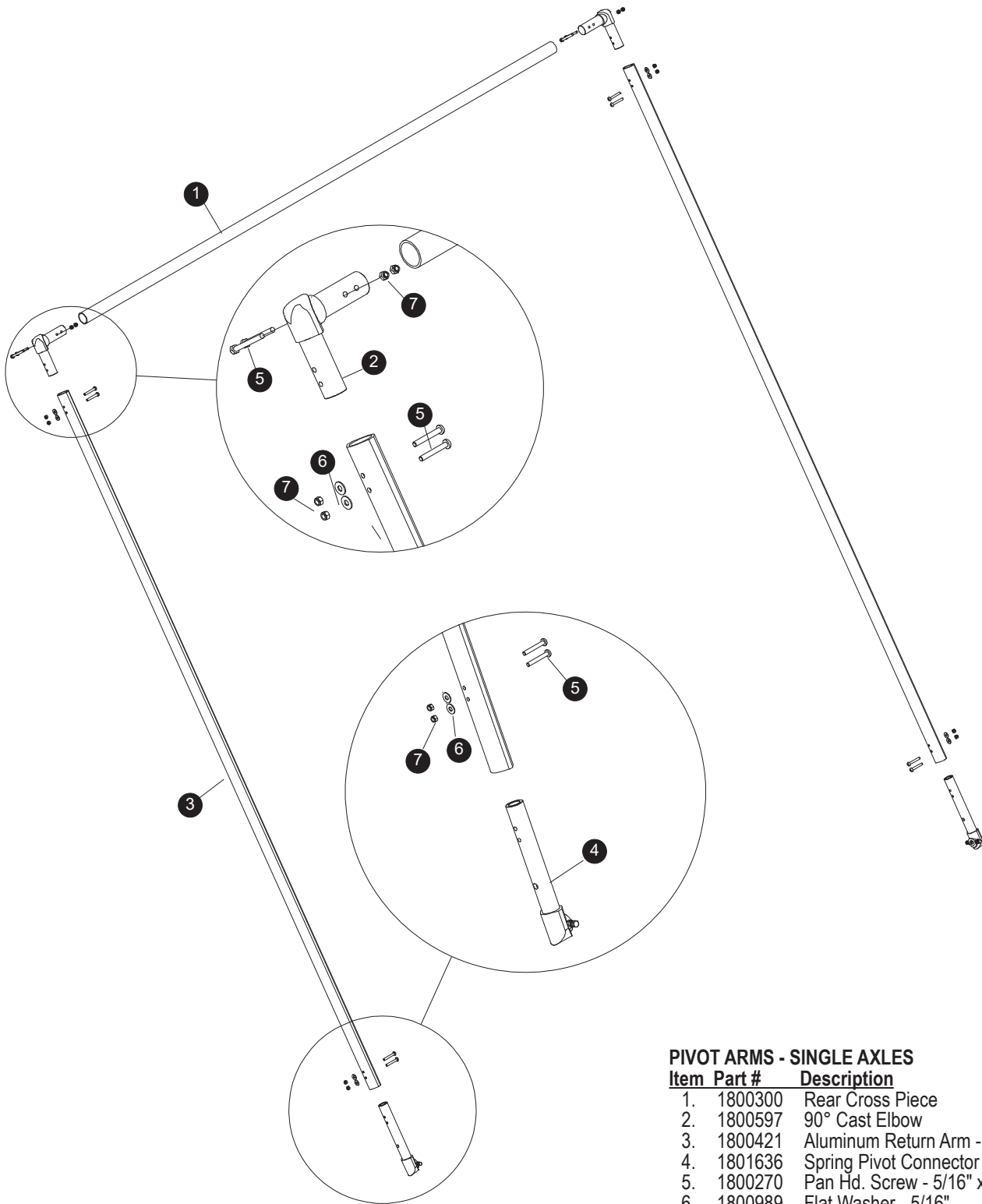
SPRING PIVOT SUPPORTS - SINGLE/TANDEM AXLES

Item	Part #	Description
1.	1808673	Frame Mount Plate - 3" Square Tube
2.	1808646	Frame Mount Gusset
3.	1808678	End Cap - 2 1/2" Square Tube
4.	1808679	Spring Pivot Mount Tube
5.	1808793	Spring Pivot Support Elbow
6.	1808672	Spring Pivot Support Tube



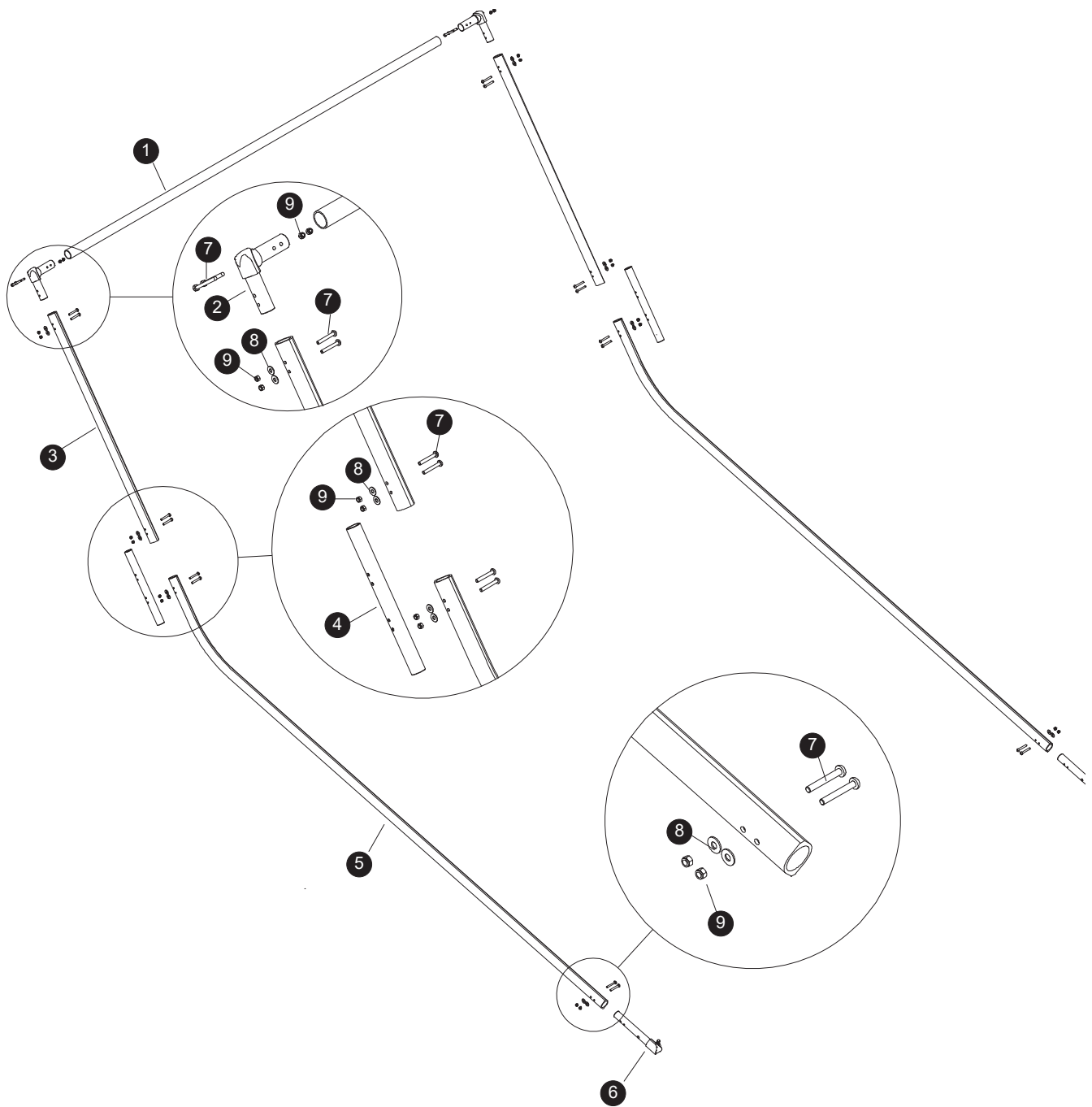
SPRING PIVOTS - TRAILER

Item	Part #	Description
1.	1808636	Spring Shaft - 7/8" x 23 1/4"
2.	1800993	Lock Nut - 3/8"
3.	1803979	Washer - 3/8" SAE
4.	1801243	Hex Bearing - 7/8"
5.	1808639	Inner Bearing Plate
6.	1800795	Hex Bolt - 3/8"
7.	1808638	Bearing Spacer
8.	1808637	Spring Catch - 7/8"
9.	1808640	Outer Bearing Plate
10.	1800995	Lock Nut - 1/2" Grade 5
11.	1808641	Spring Pivot Tube
12.	1808635	Internal Mount Spring Assembly - Driver Side
13.	1808634	Internal Mount Spring Assembly - Passenger Side
14.	1800356	Carriage Bolt - 1/2" x 1 1/2"
15.	1808646	Frame Mount Gusset
16.	1808645	Frame Mount Plate - 4 1/2"
17.	1800280	Spring - 22 Coil Passenger
18.	1800279	Spring - 22 Coil Driver



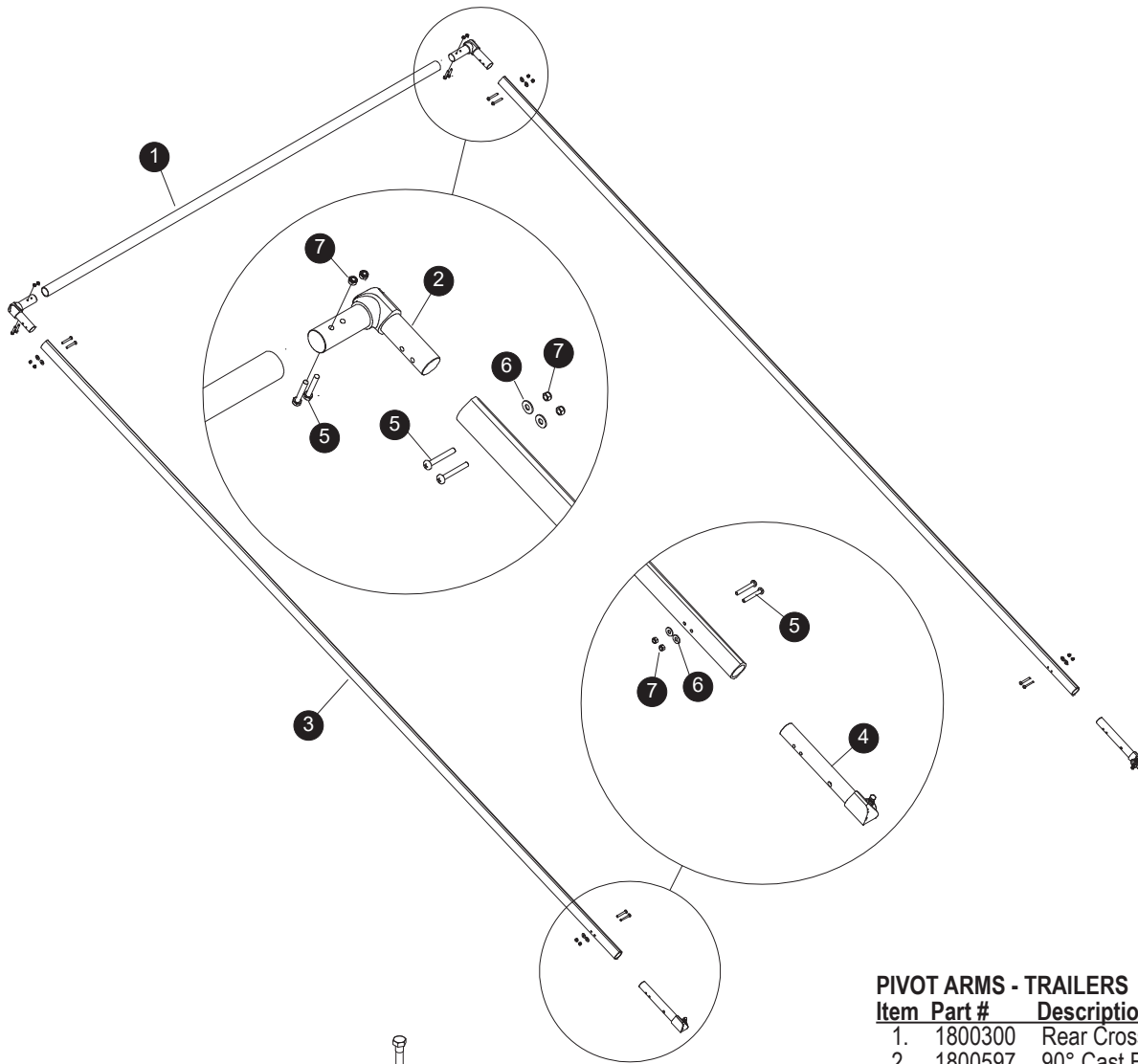
PIVOT ARMS - SINGLE AXLES

Item	Part #	Description
1.	1800300	Rear Cross Piece
2.	1800597	90° Cast Elbow
3.	1800421	Aluminum Return Arm - Straight
4.	1801636	Spring Pivot Connector
5.	1800270	Pan Hd. Screw - 5/16" x 2 1/4"
6.	1800989	Flat Washer - 5/16"
7.	1800990	Lock Nut - 5/16"



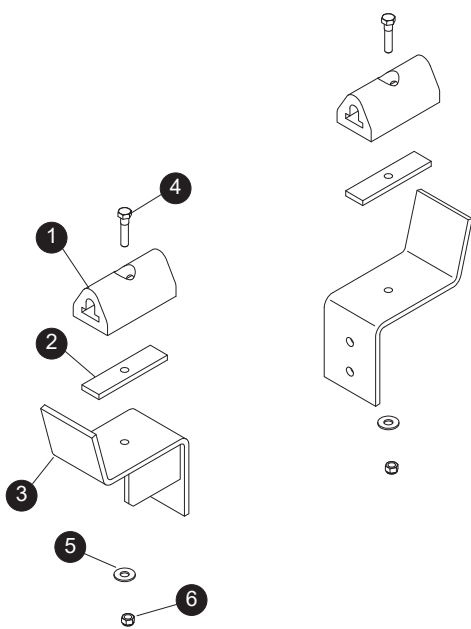
PIVOT ARMS - MULTI/TANDEM AXLES

<u>Item</u>	<u>Part #</u>	<u>Description</u>
1.	1800300	Rear Cross Piece
2.	1800597	90° Cast Elbow
3.	1800548	Upper Arm
4.	1800547	Arm Coupler
5.	1800545	Lower Arm
6.	1801636	Spring Pivot Connector
7.	1800270	Pan Hd. Cap Screw - 5/16" x 2 1/4"
8.	1800989	Flat Washer - 5/16"
9.	1800990	Lock Nut - 5/16"



PIVOT ARMS - TRAILERS

Item	Part #	Description
1.	1800300	Rear Cross Piece
2.	1800597	90° Cast Elbow
3.	1801241	Aluminum Return Arm
4.	1801636	Spring Pivot Connector
5.	1800270	Pan Hd. Screw - 5/16" x 2 1/4"
6.	1800989	Flat Washer - 5/16"
7.	1800990	Lock Nut - 5/16"



PIVOT ARM RESTS

Item	Part #	Description
1.	1801012	Rubber Bumper - 4" - Drilled
2.	1800140	Bumper Hold-Down Bar
3.	1801324	Pivot Arm Rest
4.	1800972	Cap Screw - 5/16" x 1 1/2"
5.	1800989	Flat Washer - 5/16"
6.	1800990	Lock Nut - 5/16"

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