



TARP SYSTEMS, PARTS & TARPS

P/N 1127787 Rev. A

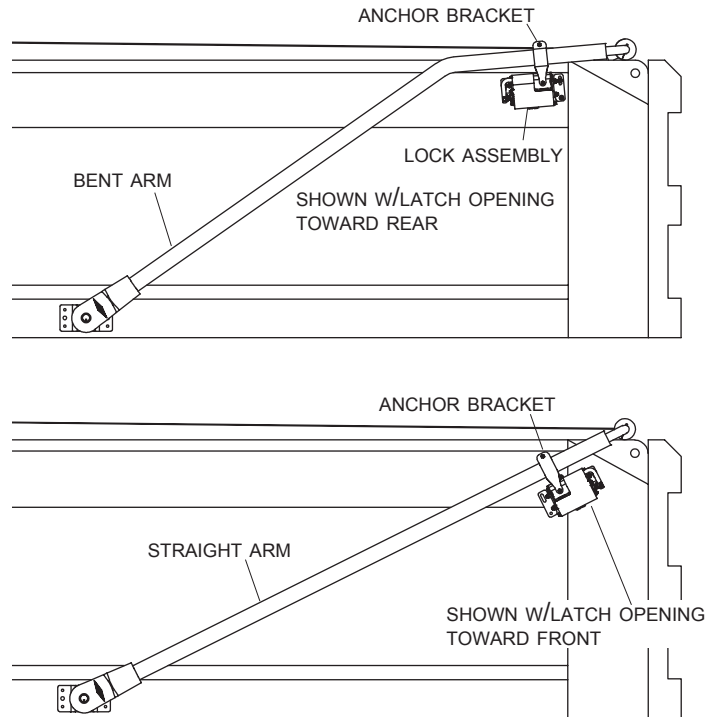
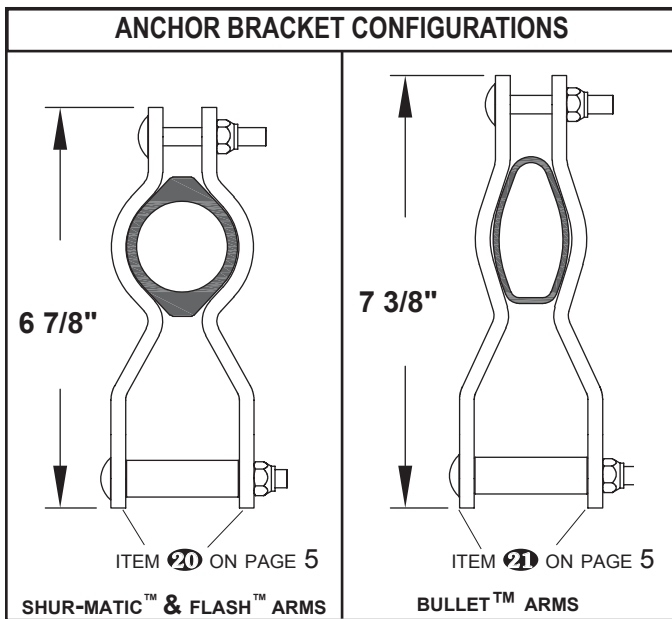
# OWNER'S MANUAL



## Trailer Kit

*READ BEFORE INSTALLING*

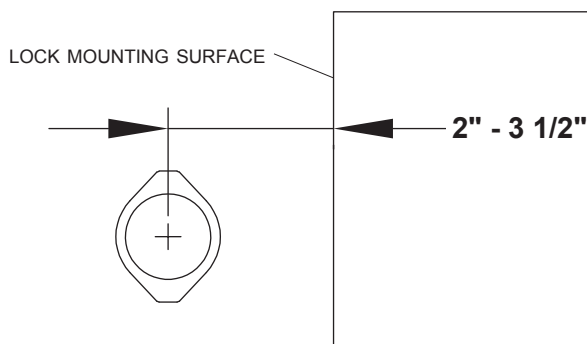
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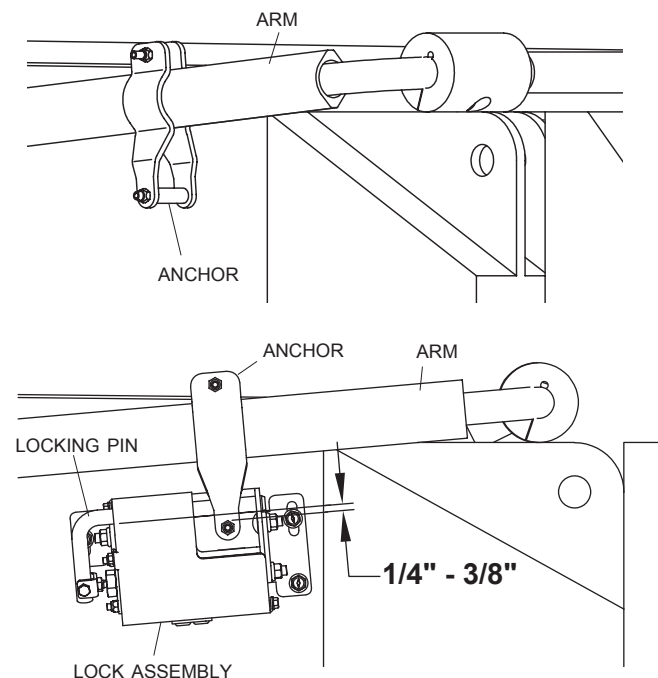
**MOUNTING LOCATIONS FOR LOCK ASSEMBLIES**

**NOTE:** Lock assemblies are not driver/passenger side specific; can be mounted on either side of box. Latch openings can be positioned towards rear or front of box.

**STEP 1:** Close tarp so return arms and tarp crossover tube are resting on rear of truck box. Position lock assembly as close as possible to end of arm. Mount lock assembly parallel to section of arm that lock assembly will lock onto. Measure distances between desired mounting locations for lock assemblies and center of each arm. Distances may differ, as arms usually do not track perfectly straight. If measurements are between 2" and 3 1/2", built-in adjustment in brackets should be adequate. If not, fabricate spacers or mounting brackets to center arms with lock pin (keep this in mind while determining mounting location).

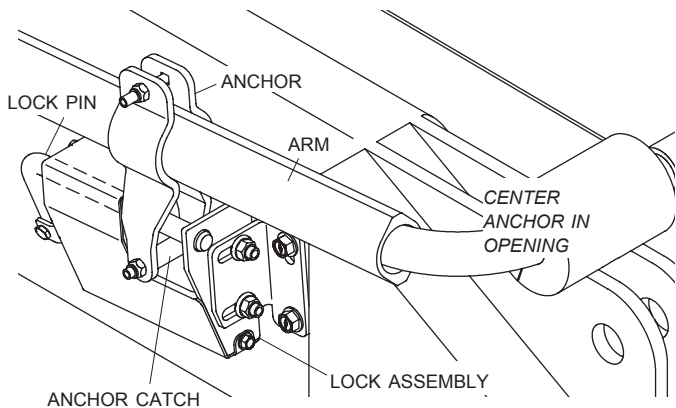


**STEP 2:** Loosely install arm anchors on arms so anchors are still moveable. Hold lock assembly up to box and adjust arm anchor with lock assembly to find suitable mounting location. Lock assembly must be close enough to arm so sliding lock pin has about 1/4" to 3/8" clearance above anchor catch. Determine if mounting brackets or spacers need to be fabricated to mount lock assembly as desired.



**NOTE:** To ease installation, hang lock assembly from arm anchor by latching assembly to arm anchor (lock pin can be pulled open by hand).

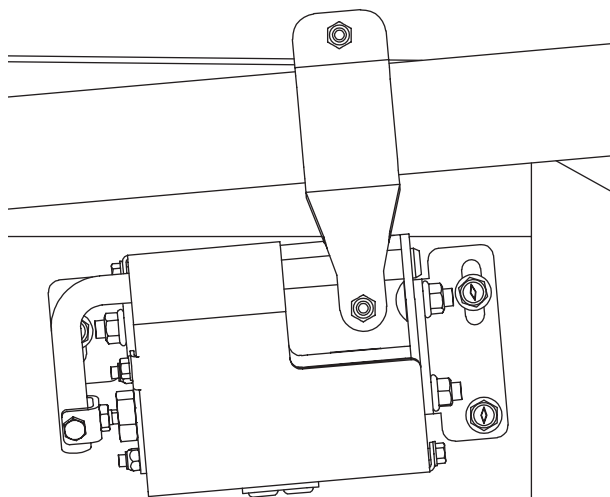
**STEP 3: Install lock assemblies.** Position anchor on arm in desired location and tighten anchor bolts to secure. Locate anchor catch 1/4" to 3/8" below lock pin on lock assembly. Hold lock assembly in place and center anchor as shown. If mounting lock assembly to minimum of 1/8" thick steel or minimum of 3/16" thick aluminum, mark center of slots on mounting bracket, drill 5/16" holes and secure with 3/8" x 1" self-tapping screws.



**NOTE:** If needed, bolt through structure to ensure assembly is mounted securely.

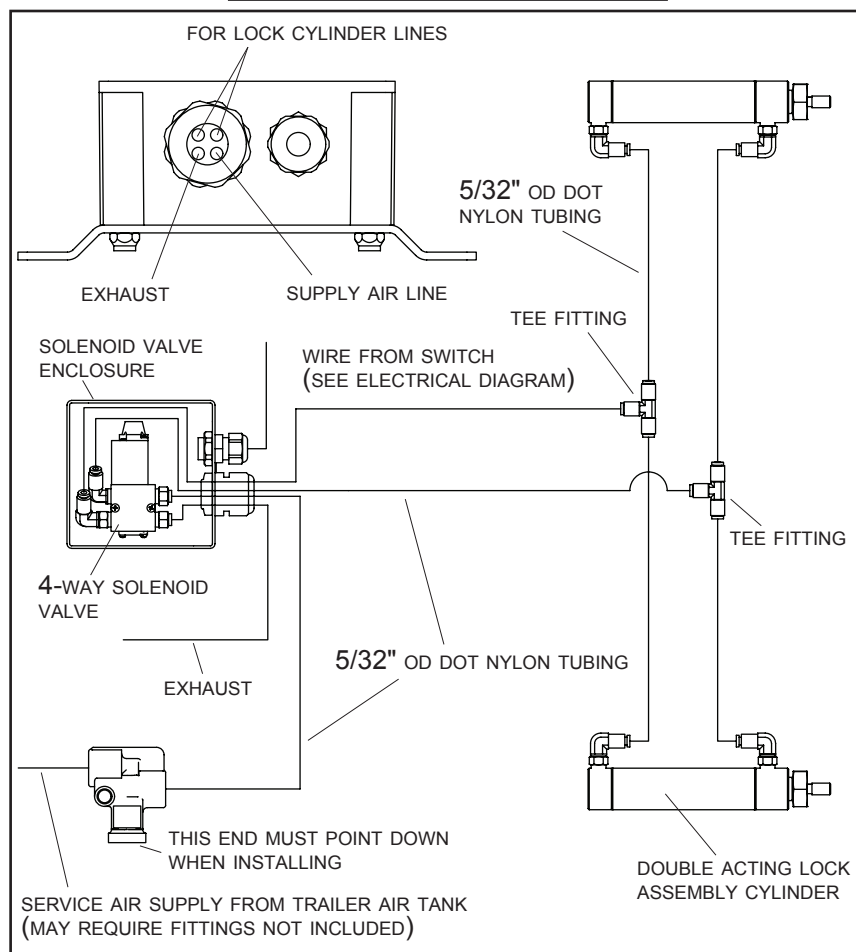
**STEP 4:** Slots in mounting brackets can be used to adjust for pin clearance and move lock housing toward or away from side of box to help center arm anchor. Center anchors with lock pin and adjust lock assembly to obtain at least 1/4" of clearance between lock pin and anchor catch. Tighten adjustment nuts on mounting bracket, then fully tighten self-tapping screws. Use remaining mounting hole as guide to drill 5/16" hole and fasten self-tapping screw through hole. Install lock assembly on other side of box in same manner.

**STEP 5:** Make final adjustments to anchor assemblies. Pull lock pin entirely open and push arm up and out of latch opening. Make sure there is enough clearance for anchor to come out without catching on lock pin or either side of opening. Adjust anchor location as necessary, then tighten anchor nuts securely.



**NOTE:** In most cases, best anchor position for optimal clearance is slightly off center and toward rear of box.

## PNEUMATIC DIAGRAM/SCHEMATIC



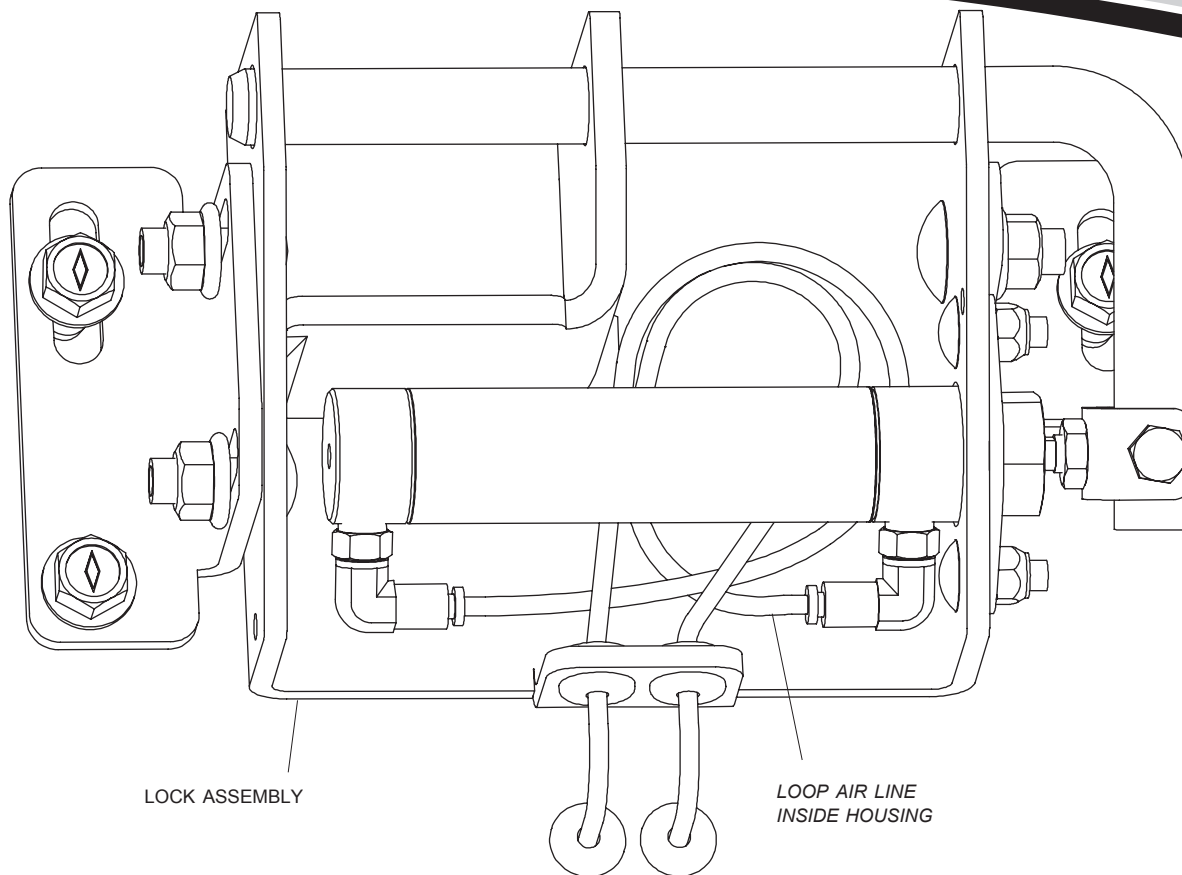
**STEP 6:** Fasten solenoid valve enclosure, rear of trailer closest to service air tank or service air line, in safe place to prevent damage from road debris. Allow space for installing electrical wires and 5/32" air lines.

**STEP 7:** Install air system components as show in pneumatic diagram/schematic above. Locate two PTC tee fittings at rear of trailer and route two lines of tubing from each cylinder to tee fittings. Connect lines from rod end of each cylinder to one tee fitting and lines from base end of each cylinder to other tee fitting. Run air line from each tee fitting along frame to solenoid valve enclosure.

**NOTE:** Kit uses 5/32" DOT-approved nylon tubing and DOT-approved PTC fittings. Use sharp utility knife to cut tubing. Cut square and burr free for good seal. Use assorted straight PTC fittings and elbows as needed. Fittings for cylinders in lock assemblies come pre-installed.

**STEP 8:** Install pressure protection valve as close to tank as possible, making sure valve is properly oriented per diagram. Pressure protection valve is used to keep tank pressure above 70 PSI in case of system leakage. Adapter fitting for common air tank port size included in kit for adapting protection valve to tank. Depending on how you tap into trailer's air system, additional or different fitting may be needed. Route 5/32" nylon tubing from pressure relief valve to valve enclosure.

**STEP 9:** Remove valve enclosure cover to access solenoid valve. Enclosure has 4-hole fitting for routing air lines. PTC fitting on solenoid valve for air supply tube is directly in line with lower right hole. Route exhaust line through lower left hole in housing and attach to valve solenoid.



**STEP 10:** Route air lines from base tee to upper right hole in enclosure and attach to 90° swivel fitting. Route air line from rod end tee into upper left hole in enclosure and attach 90° non-swivel fitting. Make loop in cylinder air lines inside enclosure to allow for easier connections and prevent stress on connectors. After all four lines have been routed and connected, tighten nut on multi-hole fitting to secure and seal each line. (Do not over-tighten nut and do not let multi-hole insert spin while tightening.) Nut should only need to be tightened a little more than a finger tight. Leave cover off enclosure for access to electrical connections.

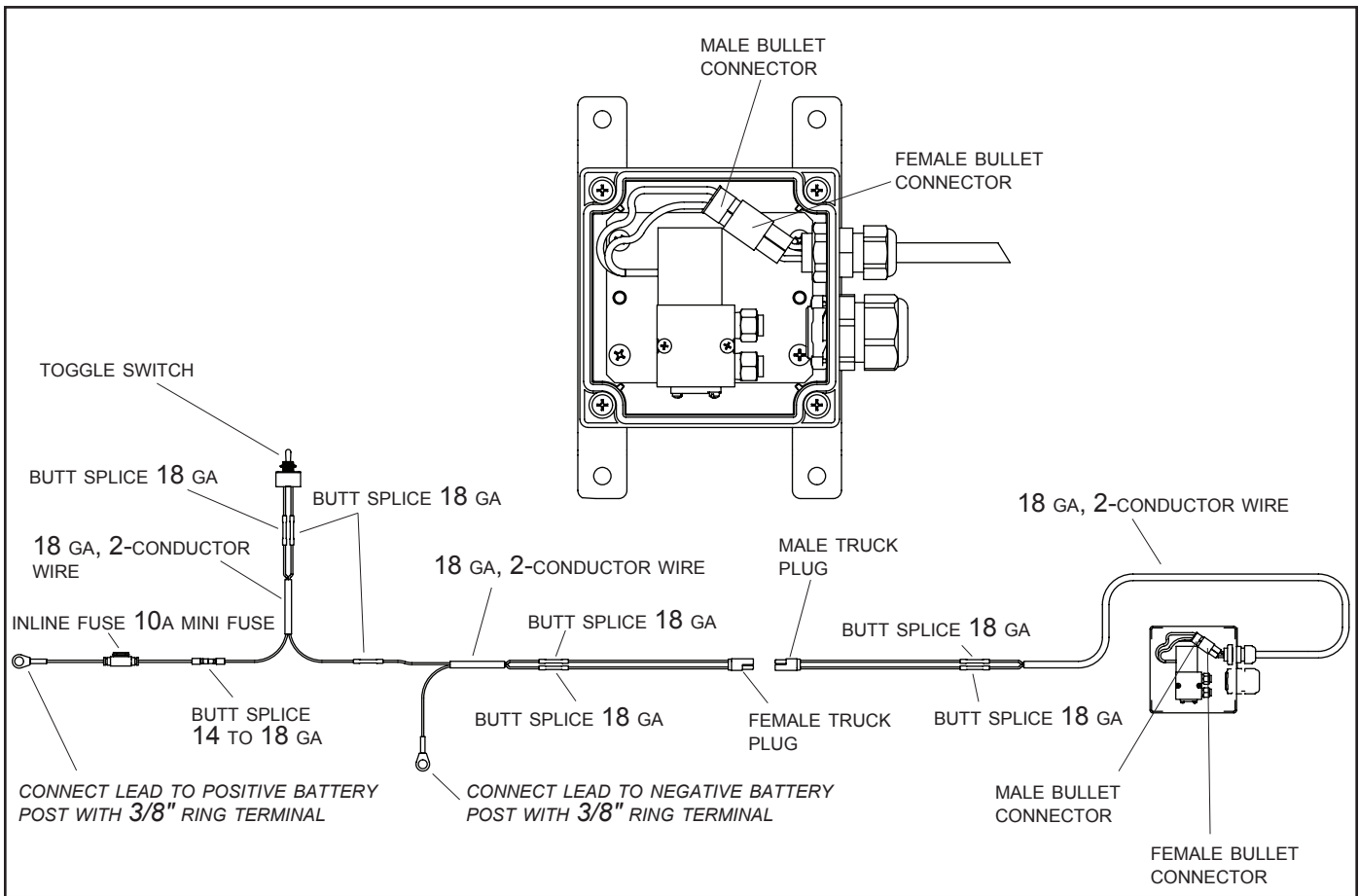
#### ROUTE AIR LINES

**STEP 11:** Locate protected path at rear of truck to route air lines from tees to lock assemblies.

**TIP:** *Rear corner post on most dump bodies is good place to route air line. Material thickness must be 3/16" or less to fit included grommets.*

- To run air line through corner post or tube, drill 3/8" holes and install grommets (included) into holes to protect air lines.
- To run airline into lock assembly from backside, instead of using existing holes in housing, drill hole through backside of housing. Be sure airline will not interfere with lock pin.
- Remove cover to route air line into lock assembly. Run both air lines through grommets at bottom or backside of housing for new drilled holes, then loop air line inside housing. Connect to fittings on cylinder and reinstall cover.

**ELECTRICAL DIAGRAM/SCHEMATIC**



- STEP 1:** Find suitable location inside truck cab to mount toggle switch, preferably close to tarp switch for ease of operation. Mounting bracket is provided, but switch can be mounted in existing panel.
- STEP 2:** Power for toggle switch and solenoid must be routed directly from battery for best performance. Route wire from battery to toggle switch in cab, use butt splices to make connection with toggle switch. Leave enough wire to make connection in battery box.
- STEP 3:** Route 2-conductor wire from battery box back to rear of truck, provide enough wire for proper connection to trailer during tight turns. Splice 2-wire female flat connector to 2-conductor wire with butt splices. Heat shrink splices for watertight connection. Inside battery box, crimp 3/8" ring terminal to negative wire and connect wire to negative post on battery.

- STEP 4:** Starting at solenoid enclosure, route 2-conductor wire inside enclosure through cable fitting. Crimp female bullet connectors to ends. Crimp male connectors to wire leads coming out of air solenoid. Make note that color of wire for + power will remain same through whole wiring system.
- STEP 5:** Route wire from solenoid enclosure to front of trailer, install male flat 2-wire trailer plug using butt splices. Heat shrink splices and wrap with electrical tape.
- STEP 6:** Inside battery box, connect one end of inline fuse with butt splice to power wire going to switch in cab. Connect 3/8" ring terminal to other end of inline fuse, connect ring terminal to positive battery post. Make sure 10 amp fuse is inserted into fuse holder.
- STEP 7:** Ensure all connections have been heat shrunk and wrapped with electrical tape for protection.

**TEST OPERATION**

- Start truck engine to bring air system to operating pressure. If all air lines and electrical wires have been routed correctly, cylinders should be pressurized so locks are closed with switch in OFF position.
- Toggling switch to ON will trigger solenoid and pressurize piston end of cylinders, which will open locks while exhausting air out rod side of cylinder.
- Flipping toggle OFF will pressurize rod end of cylinder, pushing lock closed, and air will exhaust from piston end of cylinder.

**NOTE:** Make sure locks are operating correctly. While system is pressurized, check for leaks.

- Run tarp system open and closed several times to make sure arm anchors are correctly aligned with lock assemblies. Adjust as needed.

**NOTE:** Lock pins will allow tarp to be back wound (tightened) to take slack out of tarp and reduce wind whip.

- After lock pins have closed, push button to open tarp. Anchors will pull up against lock pins, allowing tarp to be tightened. Tighten lock pins just enough to take slack out of tarp.

**NOTE:** Do not press button long enough to stall motor, which would apply heavy torque to system. Locks will not be damaged, but tarp system components could eventually be harmed.

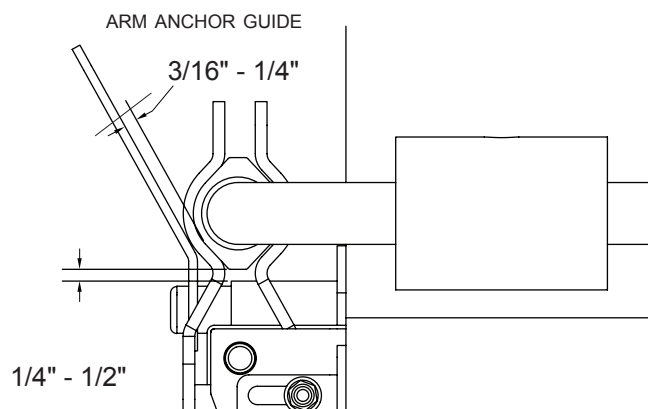
- Before flipping toggle to open locks, run tarp motor in closed direction, just enough to remove tension from tarp.

**ARM ANCHOR GUIDE INSTALLATION**

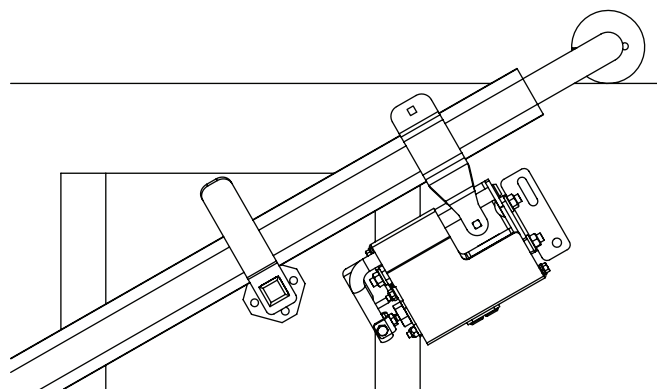
**NOTE:** If arms will not consistently land so that anchors can be locked, install arm guides to help align arm properly.

**STEP 1:** With arms resting at back of box, adjust arms spaced evenly on both sides of trailer.

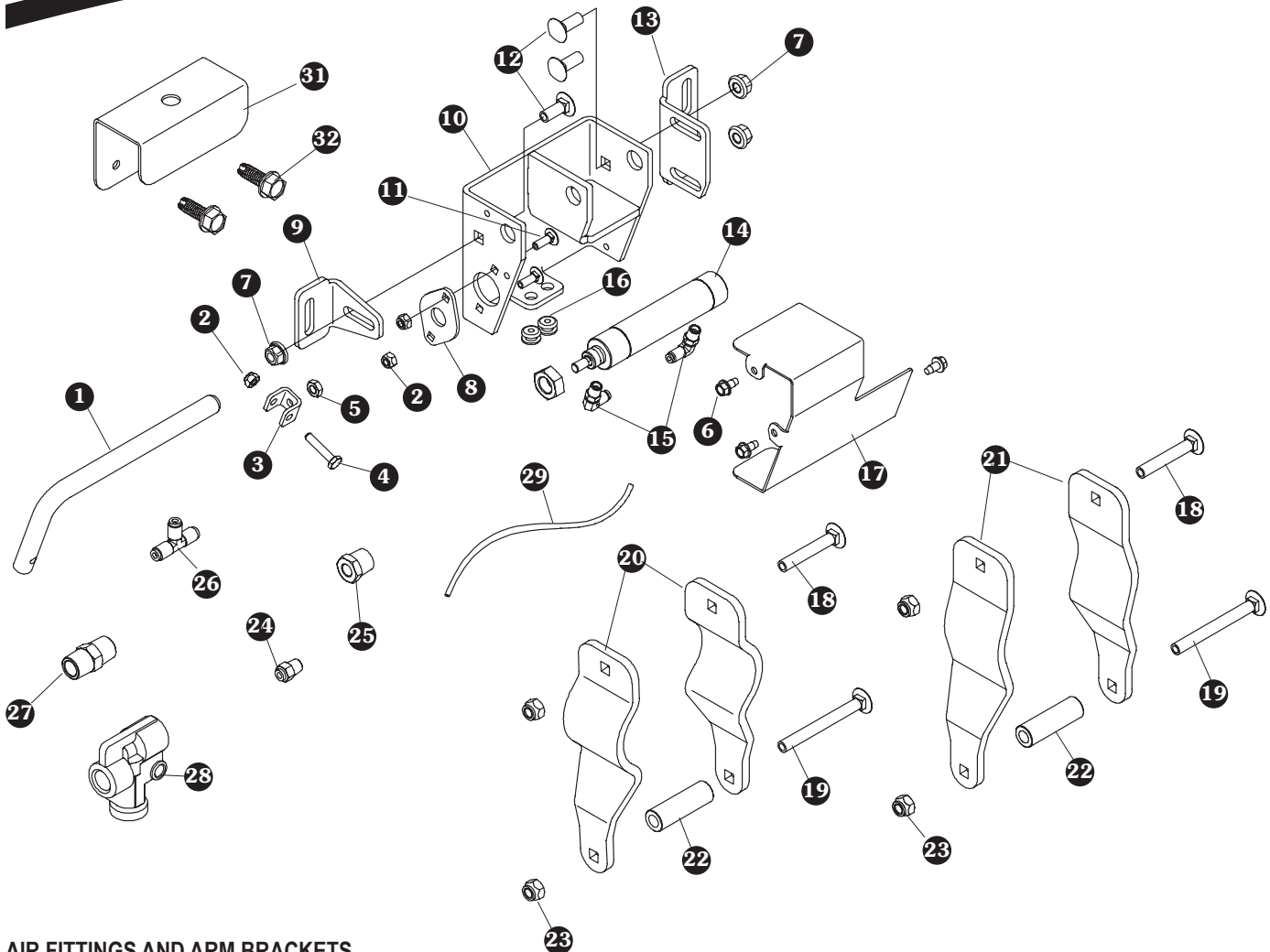
**STEP 2:** Slide arm guide into arm guide base and determine mounting position by illustration below. Mark, drill 1/4" hole and fasten with 5/16" self-tapping screws. Check alignment and weld arm guide to base.



**STEP 3:** Operate system multiple times to verify proper operation. Make adjustments where needed.





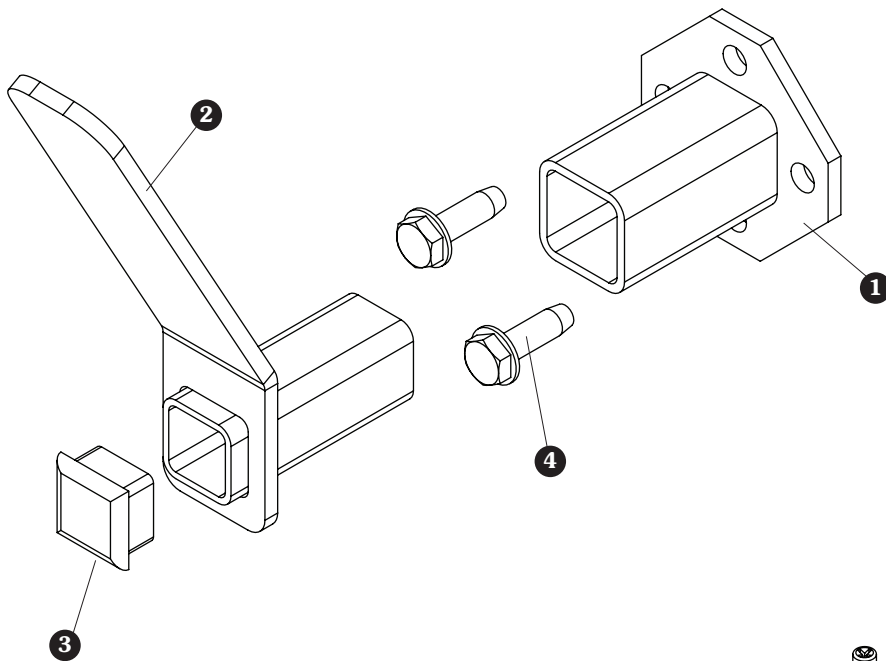


**AIR FITTINGS AND ARM BRACKETS**

Item	Part #	Description
	1125251	Arm-Lok™ Assembly - Driver Side
	1125261	Arm-Lok™ Assembly - Passenger Side
1.	1125256	Arm-Lok™ Pin
2.	1701543	Nylon Lock Nut - 1/4"
3.	1125260	Cylinder Rod Clevis
4.	1705599	Cap Screw - 1/4" x 1 1/4" GR5
5.	1705598	Jam Nut - 5/16"
6.	1700402	Self-Tapping Screw - 1/4" x 1/2"
7.	1704945	Flanged Nylon Lock Nut - 3/8"
8.	1125257	Lock Cylinder Mount Plate
9.	1125259	Lock Housing Mount Bracket
10.	1125252	Arm-Lok™ Housing - Driver Side
	1125262	Arm-Lok™ Housing - Passenger Side
11.	1705597	Carriage Bolt - 1/4" x 3/4" - ZP - GR5
12.	1705051	Carriage Bolt - 3/8" x 1" - ZP - GR5
13.	1125258	Lock Housing Mount Bracket - Driver Side
	1125266	Lock Housing Mount Bracket - Passenger Side
14.	1705600	Air Cylinder - Double Acting
15.	1705590	Air Fitting - 90° SW - 5/32" PTC x 1/8" NPTM - DOT
16.	1705594	Rubber Grommet - 3/16" x 5/8"
17.	1125255	Arm-Lok™ Housing Cover - Driver Side
	1125265	Arm-Lok™ Housing Cover - Passenger Side

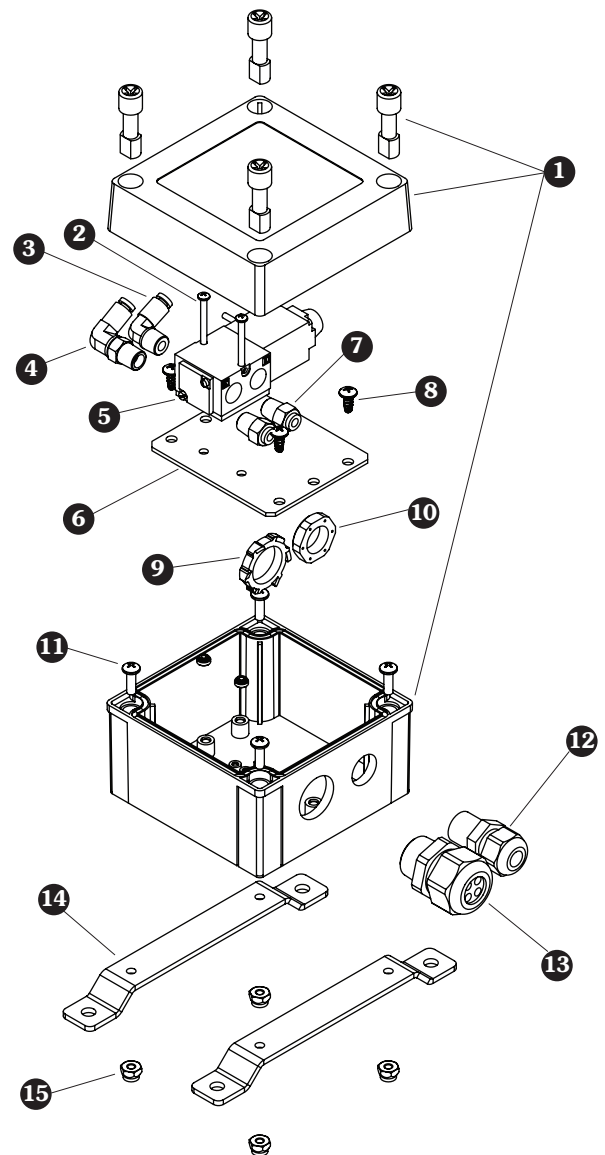
Item	Part #	Description
18.	1705595	Carriage Bolt - 5/16" x 2" ZP - GR5
19.	1705596	Carriage Bolt - 5/16" x 3" ZP - GR5
20.	1125270	Anchor Bracket (Arm-Matic™ & Flash™ Arms)
21.	1125989	Anchor Bracket (Bullet™)
22.	1125274	Anchor Catch Sleeve
23.	1700419	Nylon Lock Nut - 5/16"
24.	1705589	Air Fitting - 5/32" PTC x 1/8" NPTM - DOT
25.	1705591	Hex Bushing Adapter - 3/8" NPTM x 1/8" NPTF
26.	1705588	Air Fitting - Union Tee - 5/32" PTC - DOT
27.	1705593	Hex Nipple Adapter - 3/8" NPTM x 3/8" NPTM
28.	1705587	Pressure Protection Valve - 70 PSI
29.	1705585	Air Brake Tubing - Nylon DOT - 5/32" - Black
30.	1125267	Valve Mount Bracket
31.	1700400	Self-Tapping Screw - 3/8" x 1"





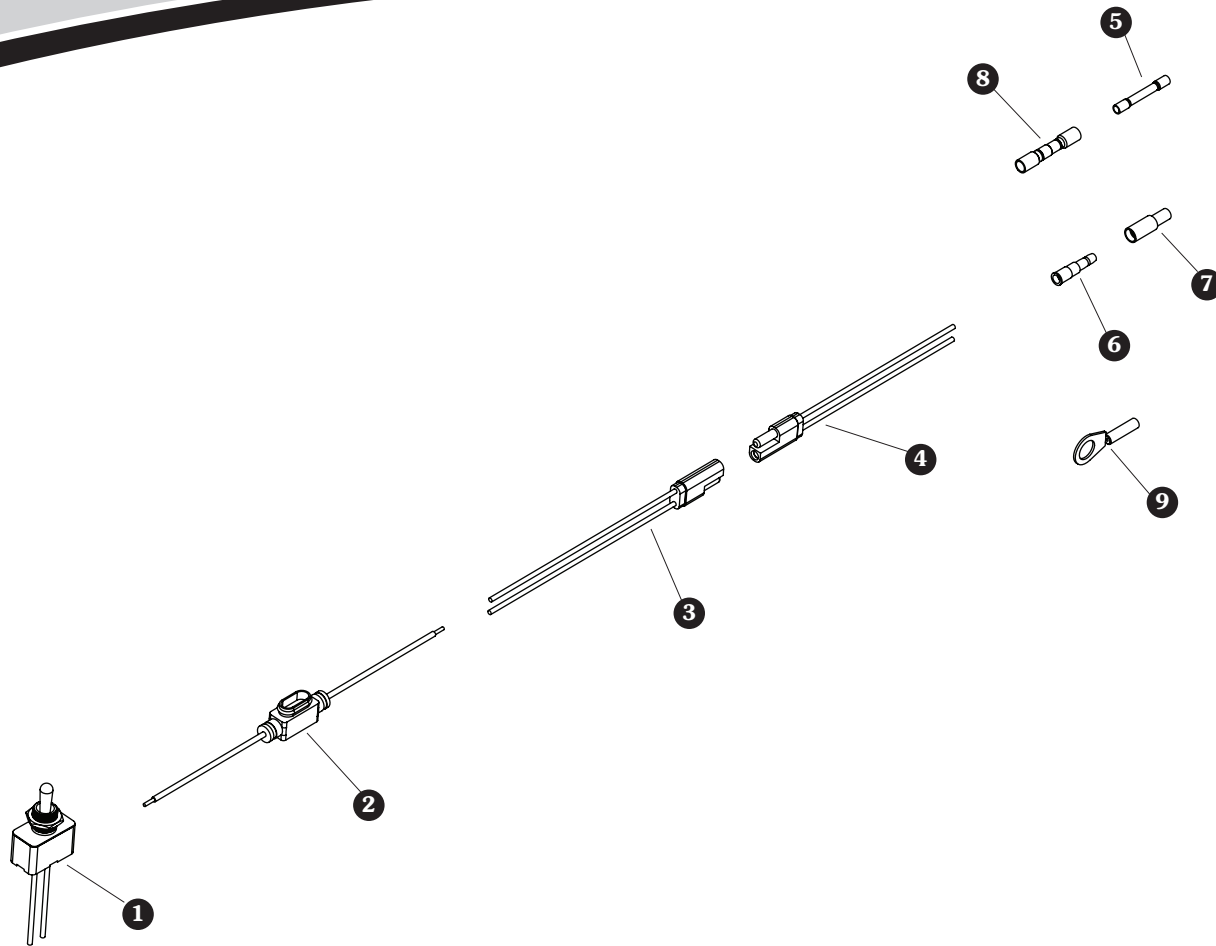
**ARM GUIDES**

Item	Part #	Description
1.	1127781	Arm-Lok Guide Base Weldment
2.	1127784	Guide Arm Weldment
3.	1701412	End Plug - 1" Sq. - 14 Ga.
4.	1701059	Self-Tapping Hex Head - 5/16" x 1"



**SOLENOID BOX ASSEMBLIES**

Item	Part #	Description
1.	1127743	Encloser Box
2.	1706042	Machine Screw - PN HD - 4-40 x 1-1/4"
3.	1706041	Air Fitting - 90° - 5/32" PTC x 1/8" NPTM
4.	1705590	Air Fitting - 90° SW - 5/32" PTC x 1/8" NPTM
5.	1706038	Solenoid Air Valve - 4-Way - 12V
6.	1127778	Mounting Panel
7.	1705589	Air Fitting - 5/32" PTC x 1/8" NPTM
8.	1706052	Thread-Forming Screw - #8 x 3/8"
9.	1704187	Lock Nut - 1/2" NPT
10.	1706053	Lock Nut - G 3/8" - Pipe Thread - Nylon
11.	1706045	Machine Screw - PN HD - 8/32" x 1/2"
12.	1706039	Dome Fitting - .16 to .31 - 1/2" NPT
13.	1706040	Cord Grip - .13 to .16 - 4 HL
14.	1127779	Box Mounting Bracket
15.	1706046	Nylon Hex Lock Nut - #8-32 - Thin



**ELECTRIC WIRING**

Item	Part #	Description
1.	1706032	Toggle Switch - 12V DC
2.	1705175	Inline Mini Fuse Holder - 16 Ga.
3.	1706034	Molded Plug Connector - 2 Connections - Male
4.	1706035	Molded Plug Connector - 2 Connections - Female
5.	1706036	Butt Connector - 18-22 Ga. - HS
6.	1705093	Bullet Connector - Male - 18-22 Ga. x 0.180
7.	1704885	Bullet Connector - Female - 18-22 Ga. x 0.180
8.	1705113	Butt Connector - 14-16 Ga. to 18-20 Ga.
9.	1705421	Ring Terminal - 18-22 Ga. x 3/8" Stud



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