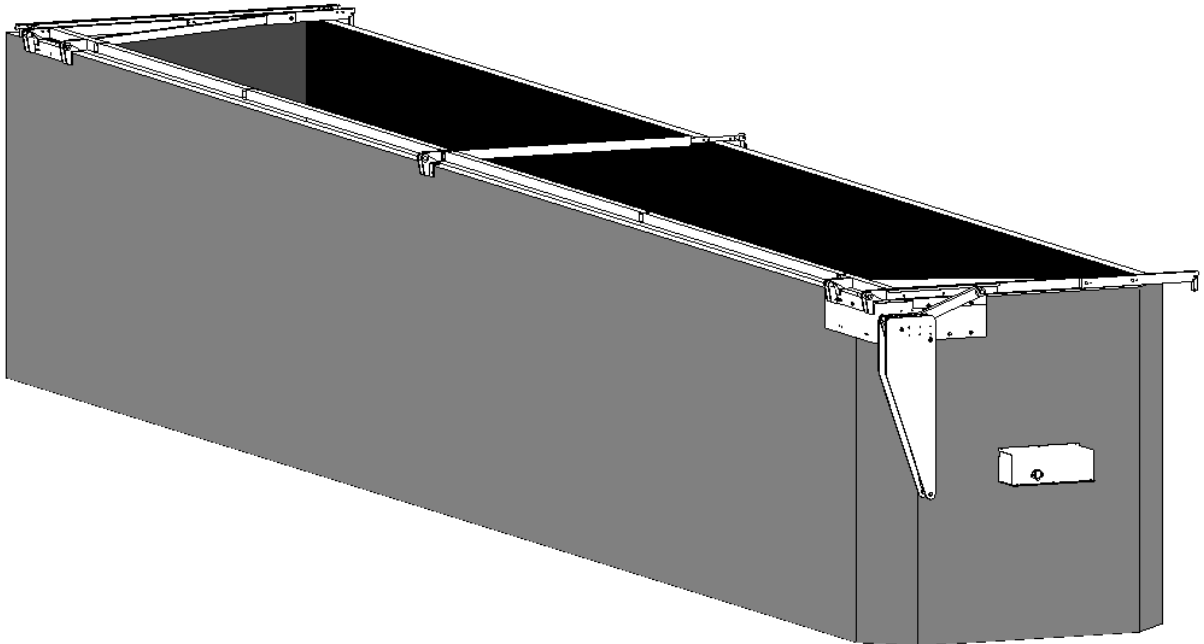


Installation Instructions



This manual explains how to install the LID 2 flip tarp. Read this entire manual before installing this product. Failure to do so could result in serious injury or death.



Attention Dealers:

Please give this owners manual to the customer when the product is delivered.

• Indianapolis, IN • Omaha, NE • Streetsboro, OH



Directory

Item	Section	Page
Assemble Actuator and Front Swing Arm	1	3
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Explanation of messages that may appear in this manual.

⚠ DANGER: Risk of death or serious injury to operator or bystander will result.

⚠ WARNING: Risk of death or serious injury to operator or bystander could result.

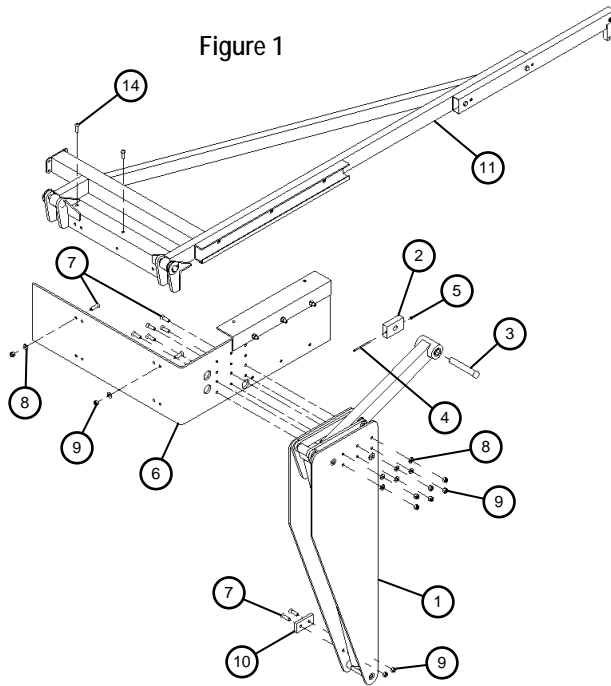
⚠ CAUTION: Risk of injury to operator or bystander could result.

NOTICE: Risk of product or vehicle being damaged.

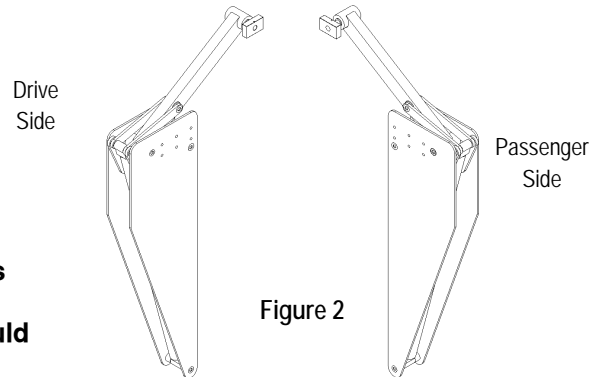
NOTE: Contains information critical to the installation or operation of this product.

SECTION 1 - Assemble & Install Actuator and Front Swing Arm

NOTE: Lid 2 can be mounted to operate on either the driver side or passenger side. This manual shows mounted on passenger side.



Index	Description	Qty
1	Actuator Assembly	1
2	Slide Block	1
3	Clevis Pin 1" x 6"	1
4	10-24 x 4" Socket Cap Screw	1
5	10-24 Nylock Hex Nut	1
6	Front Mounting Bracket w/ Angle	1
7	1/2-13 x 1 3/4" Flat Head	13
8	1/2 Flat Washer	11
9	1/2-13 Nylock Hex Nut	17
10	Bump Block	2
11	Front Swing Arm	1
12	1/2-13 x 2" Hex Tap Bolt	2
13	1/2-13 x 8" Hex Tap Bolt	4
14	3/8-16 x 1 1/2 Torx Type F	2

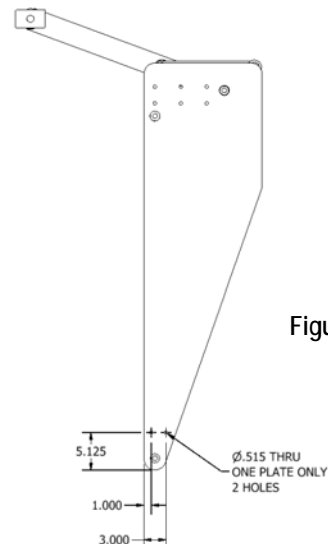


Warning: Parts are heavy, take precautions securing and lifting them. Risk of death or serious injury to operator or bystander could result if parts fall or are dropped.

1. See *Figures 1 & 2*. Place Actuator Assembly (1) flat on the floor the arm should be to the left with the angle of the plates to the right. From underneath side of arm insert Clevis Pin (3) through bushings in arm and Slide Block (2) and secure with 10-24 x 4" socket cap screw (4) and 10-24 Nylock hex nut (5).

2. See *Figures 3*. Locate and drill two .515" diameter holes as shown to match holes in Bump Block (10).

3. See *Figures 1*. Attach Bump Block (10) with 1/2-13 x 1 3/4 flat head bolts and 1/2-13 Nylock hex nuts (9).



LID 2

4. See Figures 4 & 5. Place angle side of the Front Mounting Bracket (6) on Actuator Assembly (1). Line up bottom set of holes and secure with 1/2-13 x 1 3/4" hex bolts (7), 1/2 flat washer (8) and 1/2-13 Nylock hex nut (9).

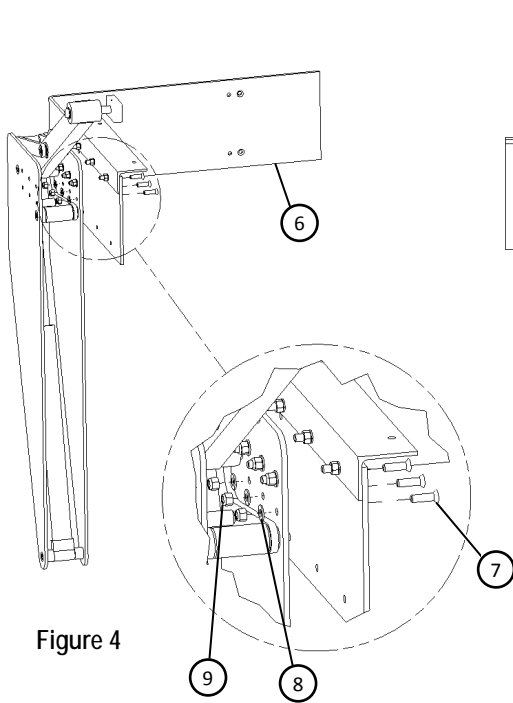


Figure 4

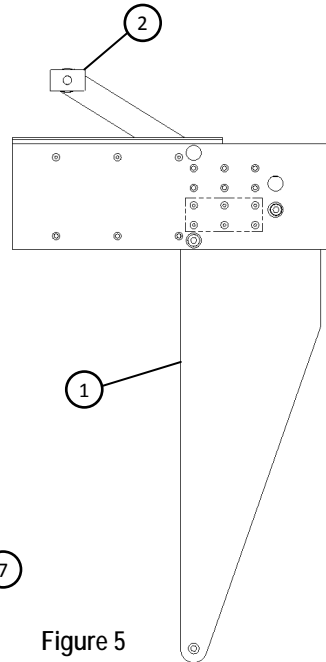


Figure 5



5. See Figure 6. Stand Front Swing Arm (11) upright with the channel on the floor and hinges on right side. Position at the top of the Actuator Assembly (1) and slide onto Slide Block (2) into channel.

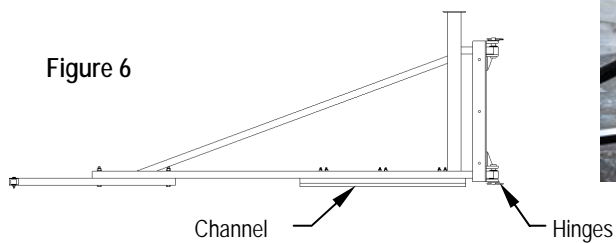


Figure 6



Slide block into channel

6. See Figure 7. Mount Front Swing Arm (11) to Front Mounting Bracket (6) with 1/2-13 x 1 3/4" flat head (7), 1/2 flat washer (8), and 1/2-13 Nylock hex nut (9).

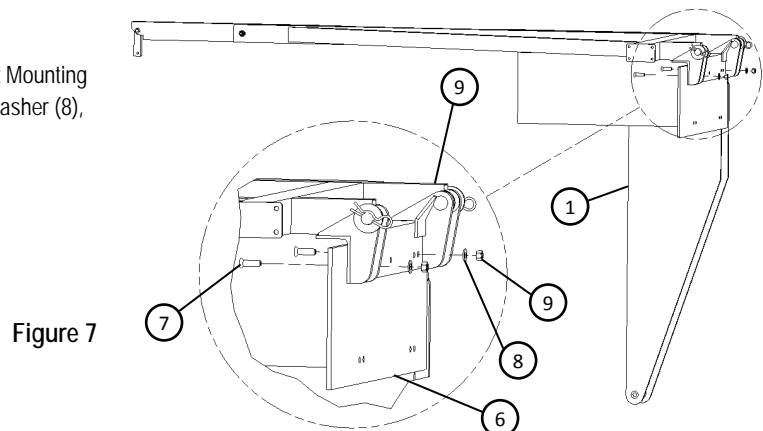


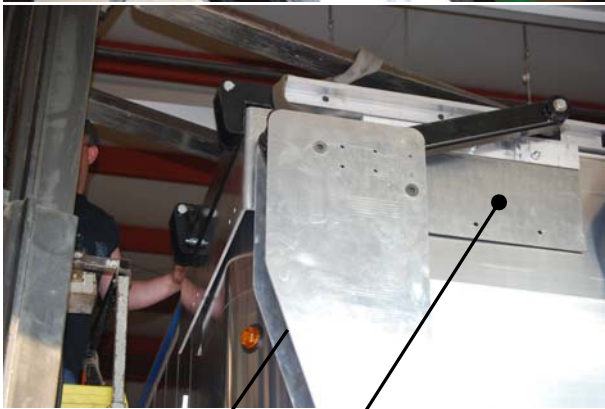
Figure 7

⚠ WARNING: Determine the best method of hoisting or lifting onto trailer. Make sure method is strong enough to hold the weight and attached securely to unit. Risk of death or serious injury to operator or bystander if dropped.

NOTICE: Clamp Front Swing Arm (9) to Front Assembly so that arm will not pivot. Risk of damage could happen if unit pivots unexpectedly while lifting



7. Lift entire Front Assembly onto front of trailer. Position Arm parallel with trailer.



Actuator Assembly

Front Mounting Bracket

Clamps

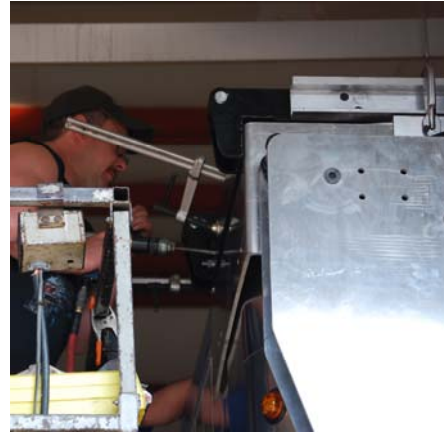
8. Use clamps to position and hold mounting bracket.

NOTE: Pull mounting bracket against trailer and square with front and sides.



NOTE: Before drilling and bolting Front Assembly to trailer, make sure it is sitting square to the front and sides of the trailer.

9. Once Front Assembly is positioned correctly, drill .515" diameter holes using holes in Mounting Bracket as a guide. Drill 2 holes through the front and 2 holes through the side.



NOTICE: Insert bolts from inside of trailer to prevent them from being sheared off during loading and unloading of trailer.

10. See *Figure 8*. Bolt Front Assembly to trailer with 1/2-13 x 2" hex bolt (12) or 1/2-13 x 8" hex bolt (13) (depending on wall thickness of trailer), 1/2 flat washer (8), and 1/2-13 Nylock hex nut (9). Front Assembly will be bolted 2 places in the front and 2 places on the side.

NOTE: Bolt length is based on trailer front wall thickness.

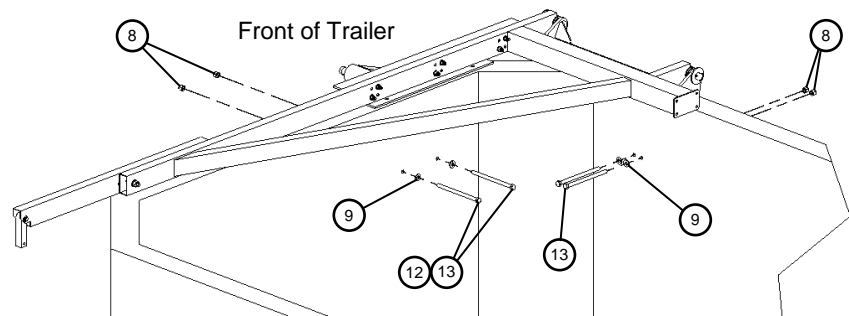


Figure 8

11. See *Figure 9*. Cut off excess length of bolts from previous step.

12. See *Figure 9*. Drill two .339" (R drill) diameter holes using the holes in the swing arm as a guide.

13. See *Figure 9*. Insert two 3/8-16 x 1 1/2 Torx type F into drilled holes and tighten.

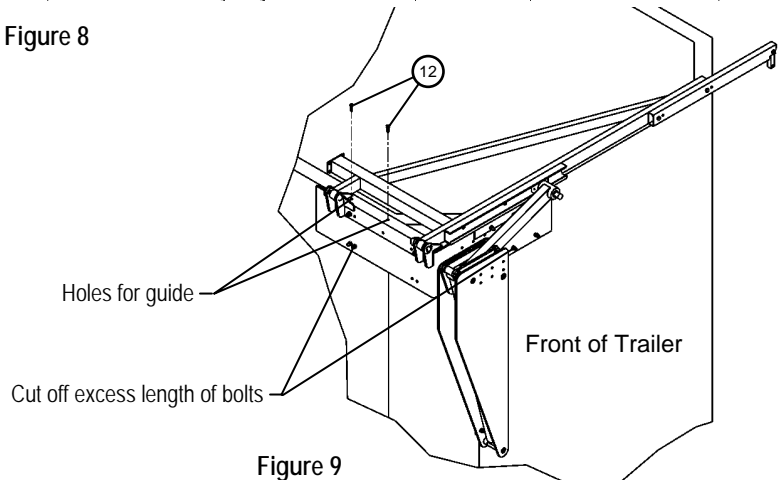


Figure 9

SECTION 2 - Install Torque Tubes, Center & Rear Swing Arm

Index	Description	Qty
1	Torque Tube 144 3/8" long	3
2	Torque Tube Short	1
3	Center Swing Arm	1
4	Rear Swing Arm	1
5	3/8-16 x 1" Hex Bolt	16
6	3/8-16 x 3" Hex Bolt	4
7	3/8-16 Nylock Hex Nut	20
8	1/2-13 x 8" Hex Bolt	4
9	1/2 Flat Washer	4
10	1/2-13 Hex Nut	4
11	3/8-16 x 1 1/2 Torx Type F	4

NOTE: Use clamps to position Torque Tubes (1).

Support the end of the Torque Tubes while attaching.

Keep Torque Tubes parallel with sides of trailer. It may be necessary to place flat washers as shims between flange plates.

Do not completely tighten bolts holding Torque Tubes (1) (2) until Center Swing Arm (3) and Rear Swing Arm (4) are bolt in place.

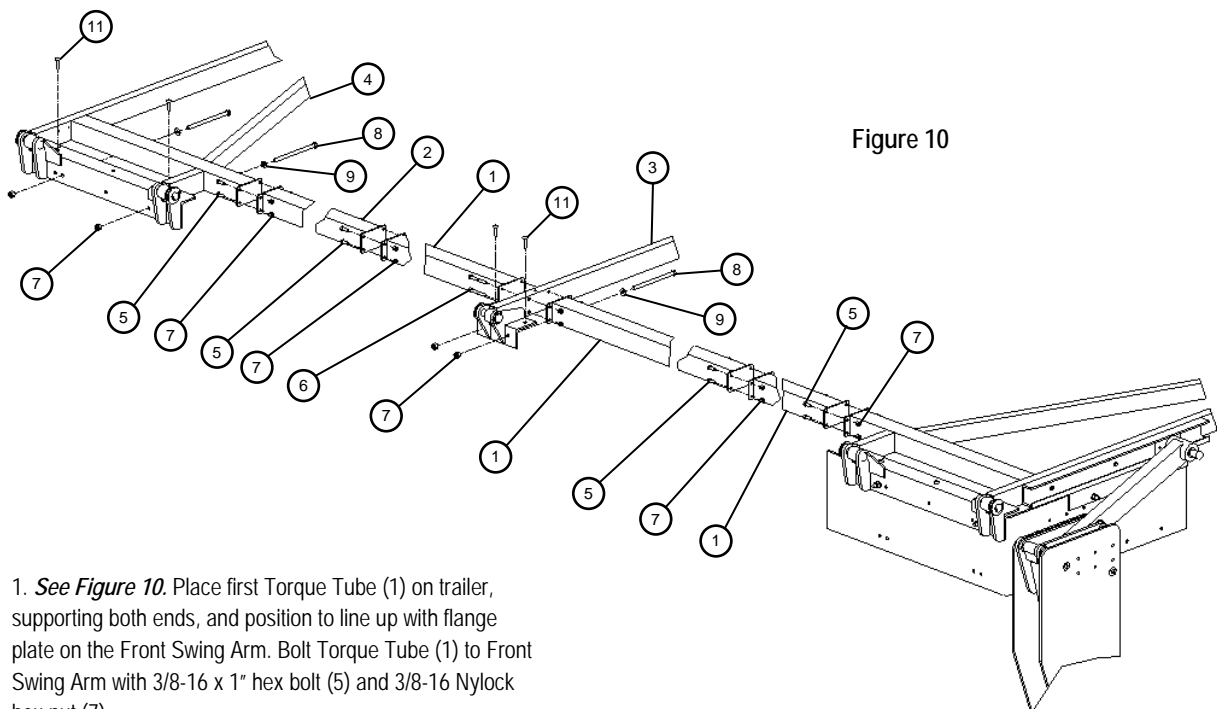
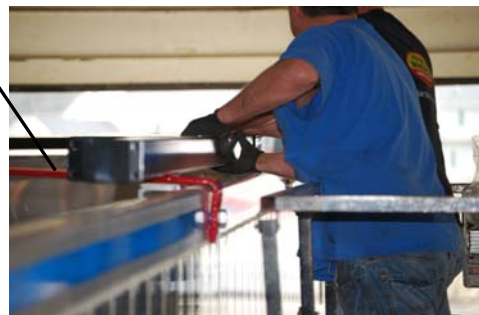


Figure 10

1. See Figure 10. Place first Torque Tube (1) on trailer, supporting both ends, and position to line up with flange plate on the Front Swing Arm. Bolt Torque Tube (1) to Front Swing Arm with 3/8-16 x 1" hex bolt (5) and 3/8-16 Nylock hex nut (7).

Support end of Torque Tube

2. Figure 10. Place second Torque Tube (1) on trailer, supporting both ends, and position adjacent to first Torque Tube (1). Bolt second Torque Tube (1) to first Torque Tube (1) with 3/8-16 x 1" hex bolt (5) and 3/8-16 Nylock hex nut (7).



NOTE: Keep Torque Tubes parallel with sides of trailer. It may be necessary to place flat washers as shims between flange plates.

3. See Figure 11. Place Center Swing Arm (3) on trailer. Position Center Swing Arm (3) adjacent to second Torque Tube (1).

4. See Figure 11. Place third Torque Tube (1) on trailer, supporting both ends, and position adjacent to Center Swing Arm (3). Bolt second Torque Tube (1), Center Swing Arm, and third Torque Tube (1) with 3/8-16 x 3" hex bolt (6) and 3/8-16 Nylock hex nut (7).



Center Hinge

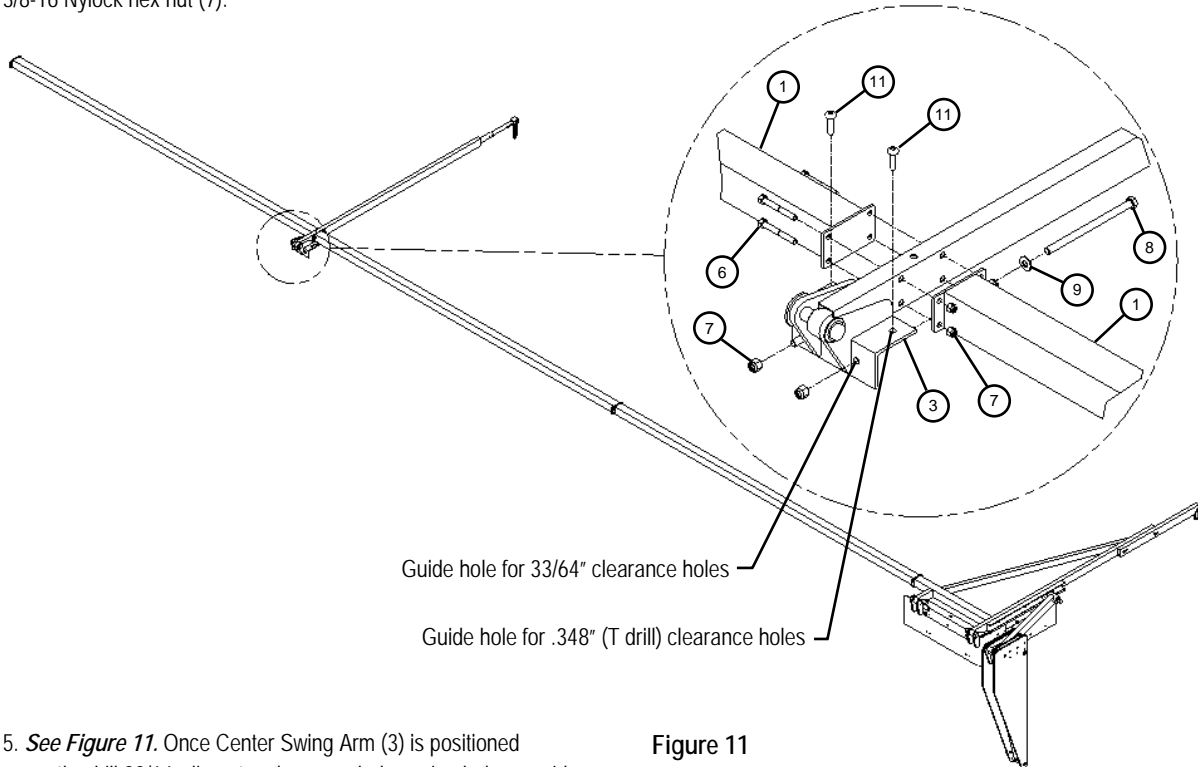


Figure 11

5. See Figure 11. Once Center Swing Arm (3) is positioned correctly, drill 33/64" diameter clearance holes using holes on side of center hinge as a guide.

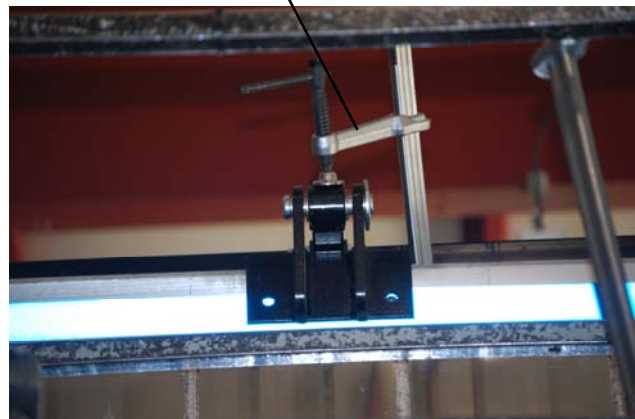
NOTICE: Make sure bolts are inserted from inside of trailer to prevent them from being sheared off during loading and unloading of trailer.

6. Figure 11. Bolt Center Swing Arm (3) to trailer with 1/2-13 x 8" hex bolt (8), 1/2 flat washer (9), and 1/2-13 hex nut (10). Center Swing Arm (3) will be bolted 2 places.

7. See Figure 11. Drill two .348" (T drill) pilot holes for 3/8" type F bolts using holes on top of center hinge as a guide.

8. Figure 11. Bolt center hinge to trailer with 3/8-16 x 1 1/2" Torx type F bolt (11). Center hinge will be bolted 2 places.

Clamp Center Hinge



NOTE: Keep Torque Tubes parallel with sides of trailer. It may be necessary to place flat washers as shims between flange plates.

9. See *Figure 12*. Place Torque Tube Short (2) on trailer, supporting both ends, and position adjacent to third Torque Tube (1). Bolt Torque Tube Short (2) to third Torque Tube (1) with 3/8-16 x 1" hex bolt (5) and 3/8-16 Nylock hex nut (7).

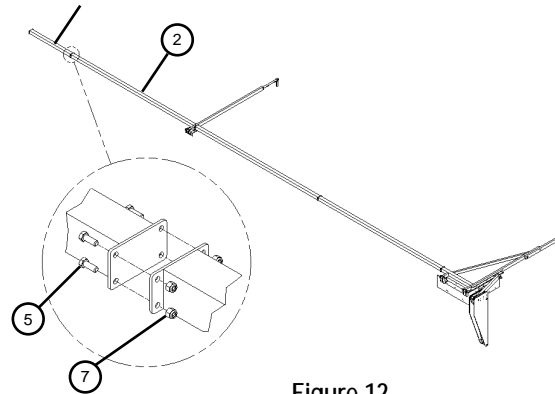


Figure 12

10. See *Figure 13*. Place the Rear Swing Arm (4) on the trailer and position the flange plate on the Rear Swing Arm (4) adjacent to the flange plate on the Torque Tube Short (2). Bolt Torque Tube Short (2) to Rear Swing Arm (4) with 3/8-16 x 1" hex bolt (5) and 3/8-16 Nylock hex nut (7).

11. See *Figure 13*. Once Rear Swing Arm (4) is positioned correctly, drill clearance holes in trailer for 1/2" dia bolts. Rear Swing Arm (4) will be bolted 2 places.

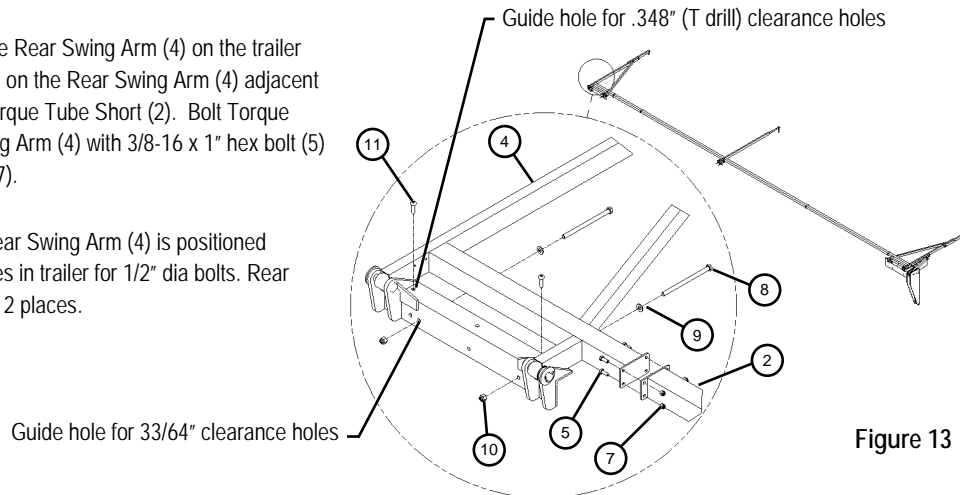


Figure 13

NOTICE: Make sure bolts are inserted from inside of trailer to prevent them from being sheared off during loading and unloading of trailer.

12. Bolt Rear Swing Arm (4) to trailer with 1/2-13 x 8" hex bolt (8), 1/2 flat washer (9), and 1/2-13 hex nut (10). Rear Swing Arm (4) will be bolted 2 places.

13. See *Figure 13*. Drill two .348" (T drill) pilot holes for 3/8" type F bolts using holes on top of rear hinge as a guide.

14. *Figure 13*. Bolt center hinge to trailer with 3/8-16 x 1 1/2" Torx type F bolt (11). Rear hinge will be bolted 2 places.

15. Tighten all bolts on all Torque Tubes.



SECTION 3 - Install Rear Brush

Index	Description	Qty
1	Tube Mount	3
2	Extension Tube - Rear Arm	3
3	Brush Holder Mounting Bar	1
4	Brush Holder	1
5	4" Nylon Brush 96" long	1
6	1/4-20 x 2 1/2" Hex Bolt	9
7	1/4 Flat Washer	18
8	1/4-20 Nylock Hex Nut	9
9	1/4-20 x 1/2" Hex Bolt	6
10	1/4-20 Hex Jam Nut	6
11	5/16-18 x 1 1/2" Hex Bolt	3
12	5/16 Flat Washer	3
13	5/16-18 Nylock Hex Nut	3
14	#12 x 1 TEK Screw	6

NOTE: Write down measurements in space provided.

- See *Figure 15*. Measure inside trailer width at tailgate. Measurement A
- See *Figure 15*. Measure distance from Rear Swing Arm to inside of tailgate. Measurement B.
- See *Figure 16 & Measurement 1*. Cut Brush Holder Mounting Bar (3), Brush Holder (4), and 4" Nylon Brush (5) length to measurement of inside trailer width at tailgate.
- See *Figures 15 & 17, Chart 1, & Measurement B*. Using measured distance from Rear Swing Arm to tailgate. Cut the Extension Tube - Rear Arm (2) from the end opposite of through hole to tube length "C" per chart.

Chart 1	
Measured Dimension	Tube Length "C"
11" - 15"	8 3/4"
15" - 20"	13 3/4"
19 3/8" - 24 3/8"	18"

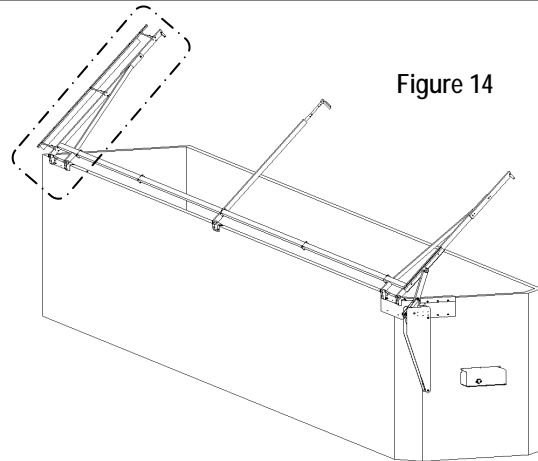


Figure 14

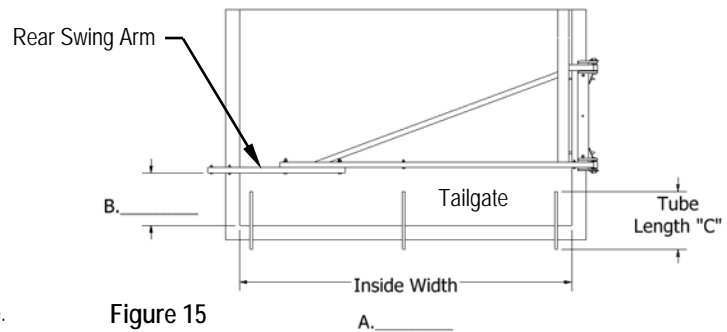


Figure 15

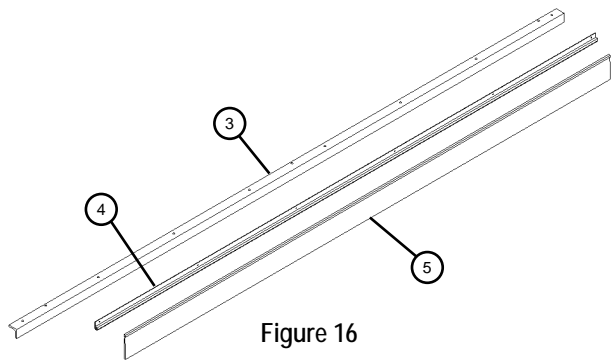


Figure 16

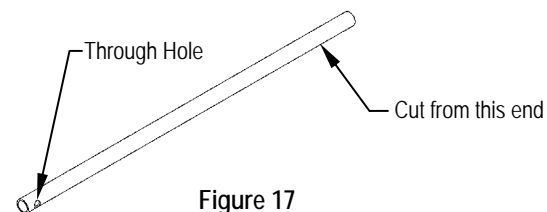


Figure 17

LID 2

NOTE: When inserting TEK screws the threads may fill with aluminum chips. Drilling an 1/8" pilot hole make it easier to insert screws.

5. See Figures 18 & 19. Flush the bottom edge of the Brush Holder (4) with the side without holes of the Brush Holder Mounting Bar (3) and attach with (6) #12 x 1" TEK screws (14) screws.

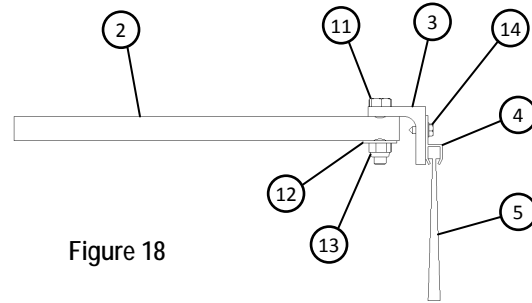
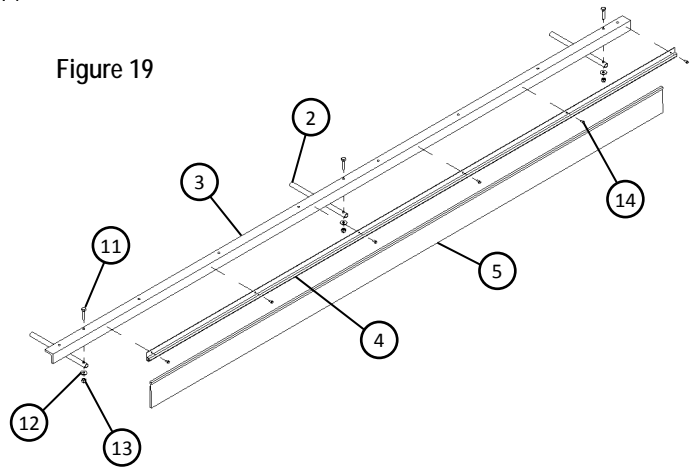


Figure 18

6. See Figures 18 & 19. Attach Extension Tube - Rear Arm (2) to Brush Holder Mounting Bar (3) at one end using 5/16-18 x 1 1/2" hex bolt (11), 5/16 flat washer (12), and 5/16-18 Nylock hex nut. Do not completely tighten.

Figure 19



7. See Figures 18 & 19. Repeat Step 6 on opposite end. Do not completely tighten.

8. See Figures 18 & 19. Repeat Step 6 at the center of the Brush Holder Mounting Bar (3). Do not completely tighten.

9. See Figures 18 & 19. Slide 4" Nylon Brush (5) into Brush Holder (4) and crimp ends to secure.



10. See Figure 20. Thread 1/4-20 x 1/2" hex bolt (9) and 1/4-20 hex jam nut into Tube Mount (1).

11. See Figures 20. Repeat for all Tube Mounts (1).

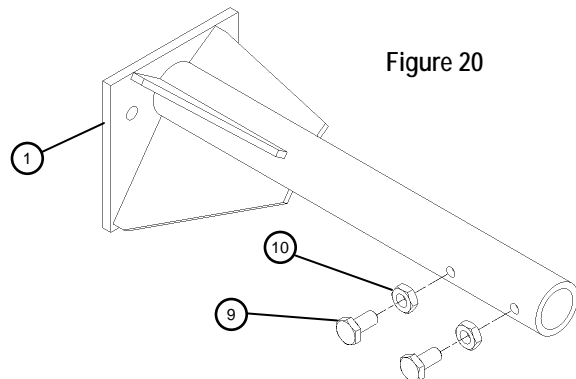


Figure 20

LID 2

12. See *Figure 21*. Place Tube Mounts (1) from with screws Steps 10 & 11 onto Extension Tube - Rear Arm (2) and Brush (5) assembly from Step 9 and hand tighten screws.

13. See *Figure 21*. Place assembly from Step 12 onto tailgate and center with inside of trailer.

NOTE: Make sure Extension Tube - Rear Arms (2) are 90 degrees to both the Rear Swing Arm and the assembly from Step 12.

NOTE: You may need to reposition Extension Tube - Rear Arms (2) on Brush Holder Mounting Bar (3) so bolts do not interfere with support structure of Rear Swing Arm.

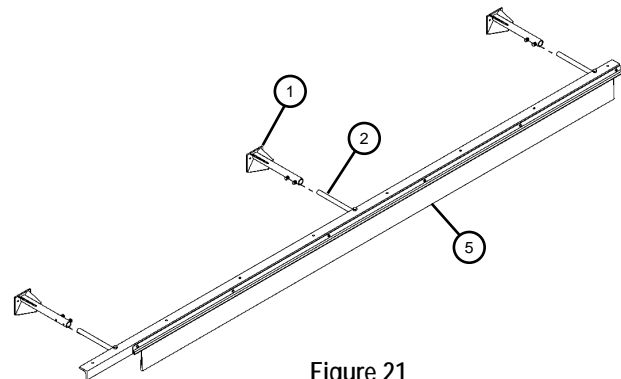


Figure 21

14. See *Figure 22*. Locate one Tube Mount (1) onto Rear Swing Arm with mounting plate on Tube Mount (1) flush with the top of the tube and mark location of holes.

15. Drill clearance holes in Rear Swing Arm for 1/4" dia bolts.

16. See *Figure 22*. Secure Tube Mount with 1/4-20 x 2 1/2" hex bolt (6), 1/4 flat washer (7) Qty of (2), and 1/4-20 Nylock hex nut (8) and tighten bolts.



17. Repeat Steps 14, 15, and 16 for all Tube Mounts (1).

18. Adjust Nylon Brush (5) up to tailgate tighten bolts and jam nuts.

19. Tighten all bolts and nuts.

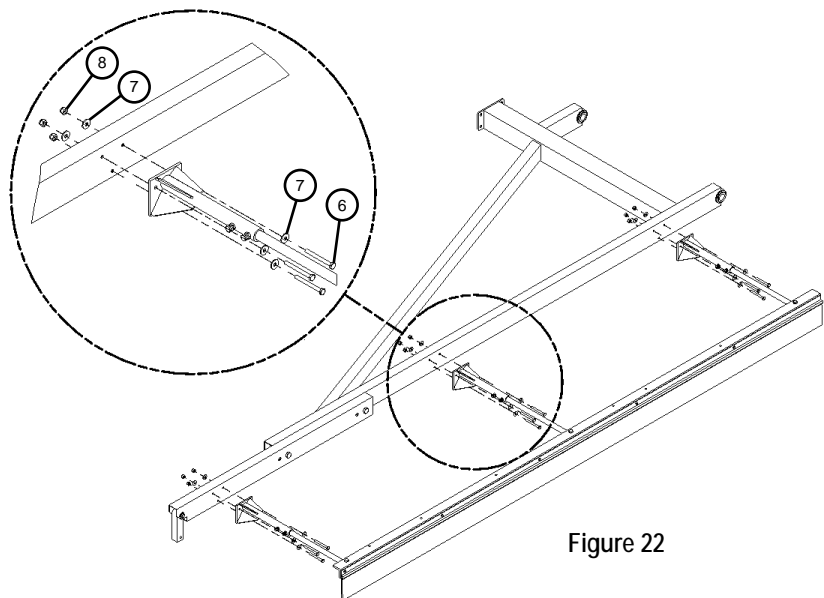


Figure 22

SECTION 4 - Install Tarp

Index	Description	Qty
1	Cable for Lid 2	1
2	Tarp	1
3	Guard - Hinge Side 6" x 108"	6
4	Zip Tie	90
5	#12 x 1 TEK Screw	70
6	1/4 Flat Washer	70

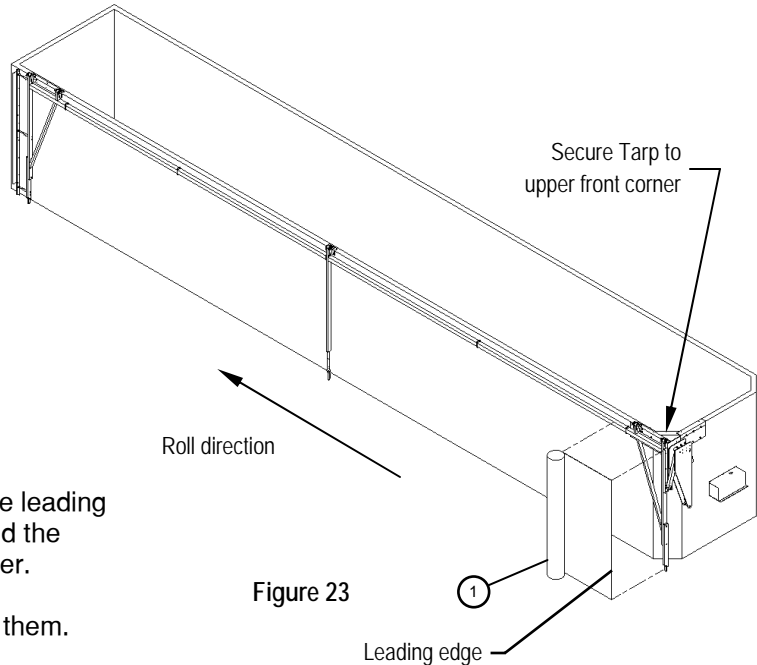
1. Make sure to remove all clamps and manually rotate Swing Arms to the full open position to the side of the trailer.

NOTE: When rolling out Tarp, have the leading edge towards the front of the trailer and the outside face of the roll against the trailer.

Cut excess from zip ties as you install them.

2. Feed cable through Tarp Mount on Rear Swing Arm then through handle of Tarp Mount on Center Swing Arm and Tarp Mount on Front Swing Arm. Thread Nylock hex nut onto end only far enough not to come off.

3. *See Figure 23.* Tie Tarp to upper front corner of arm with zip tie (4), keeping top edge of Tarp flush with Torque Tube and end of Tarp flush.



4. Half way down Front Swing Arm use a zip tie (4) to secure Tarp.

5. Roll out Tarp and secure to Torque Tube with zip tie (4), keeping top edges flush.

6. Continue rolling out Tarp and securing to Torque Tube every 12" with zip ties (4).



NOTE: When the end of the trailer is reached, there will be more Tarp left.

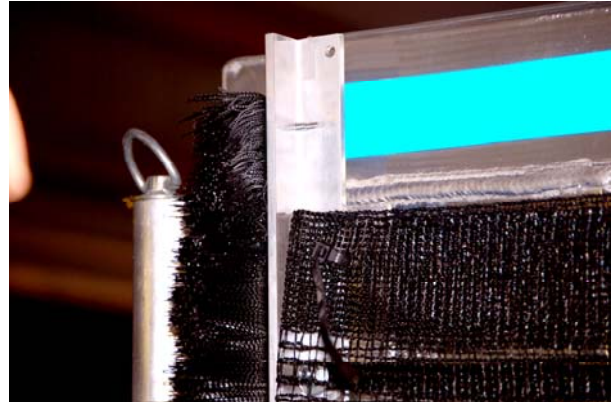
The Tarp should only be pulled tight enough to remove sag.

7. When the end of the trailer is reached, pull Tarp tight to inside corner of Brush Holder Mounting Bar and secure with a zip tie (4) using factory drilled hole.

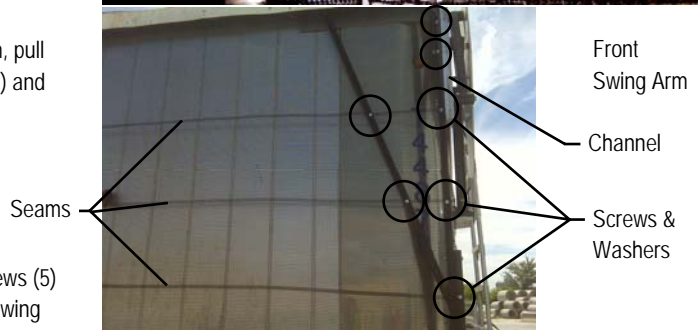
8. Pull Tarp tight to inside of Brush Holder Mounting Bar and secure with a zip ties (4) 8 places using factory drilled holes.

9. Tie Tarp to Rear Swing Arm with zip ties (4) every 12".

10. Wrap excess Tarp towards front of trailer. Secure excess Tarp to Torque Tube, Rear Swing Arm, and the tarp its self using zip ties (4).

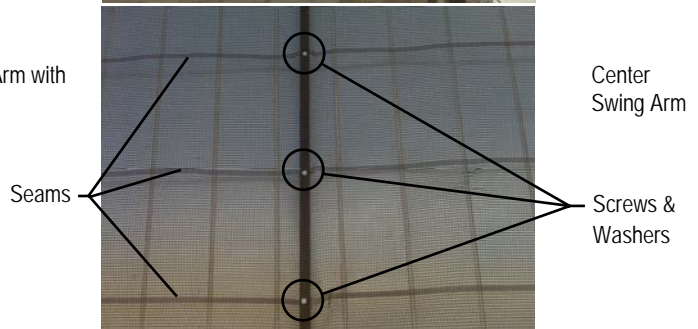


11. At front of trailer and along channel on Front Swing arm, pull Tarp tight and secure every 12" with #12 x 1" TEK screw (5) and 1/4 flat washer (6).



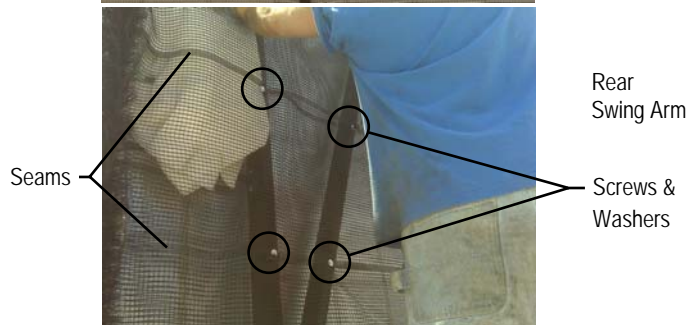
12. Continue pulling Tarp tight and using #12 x 1" TEK screws (5) 1/4 flat washers (6) secure the tarp at the seams to Front Swing Arm.

13. Continue pulling Tarp tight and secure to Front Swing Arm with zip ties (4) between the seams.



14. Repeat steps 12 & 13 for Center Swing Arm.

15. Repeat steps 12 & 13 for Rear Swing Arm.





NOTE: Make certain there is enough tarp to allow the Tarp Mounts at the end of Swing Arms to pivot 90 degrees.

16. Thread Nylock hex nut further onto end of Cable and tighten enough to remove slack in Cable. Use locking pliers to hold Cable while tightening.



17. Wrap Tarp around Cable and secure with zip ties (4) every 12".



18. Fold front and rear corners back about 12" and secure with zip ties (4).



19. See Figure 24. Starting at the front of the trailer, place Guard over Tarp and flush to the bottom of Torque Tube and attach using #12 x 1" TEK screws (5) and 1/4 flat washer (6) ever 12" - 16" along length and staggered 1 1/2" - 2" top to bottom.

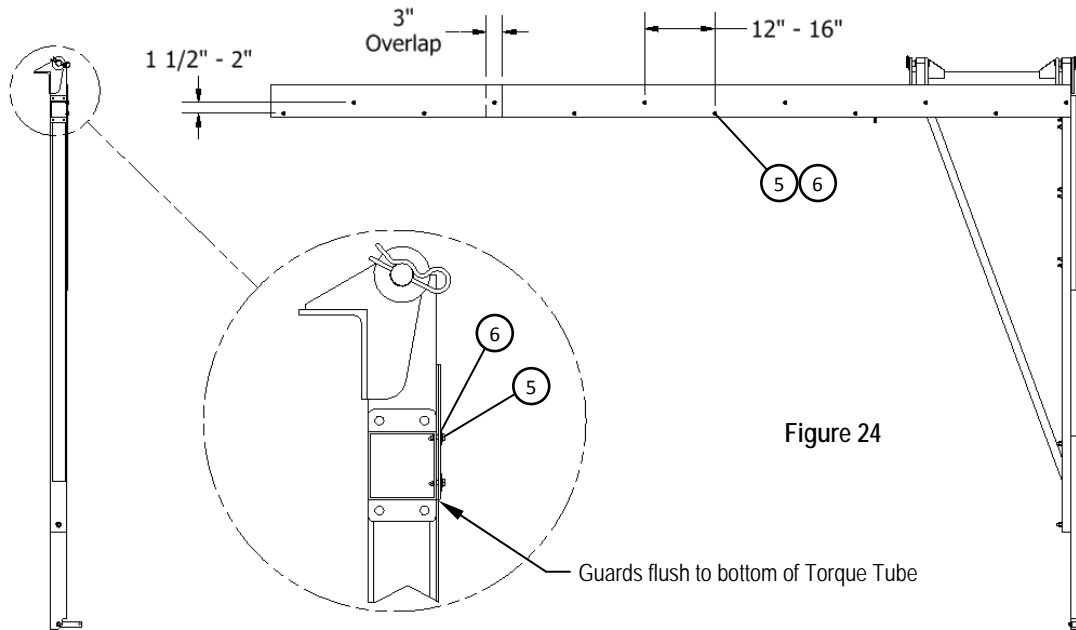


Figure 24

20. See Figure 24. Continue the length of the trailer, over lap Guards 3", keep flush to the bottom of Torque Tube and attach using #12 x 1" TEK screws (5) and 1/4 flat washer (6) ever 12" - 16" along length and staggered 1 1/2" - 2" top to bottom.



21. At the rear of the trailer, over lap Guards 3" and cut length, keep flush to the bottom of Torque Tube and attach using #12 x 1" TEK screws (5) and 1/4 flat washer (6) ever 12" - 16" along length and staggered 1 1/2" - 2" top to bottom.

SECTION 5 - Install Hydraulics / Electrical

Index	Description	Qty
1	Hydraulic Pump Assembly	1
2	Angle Housing Support	2
3	Hydraulic Enclosure	1
4	Connector Cable Assembly	1
5	Hydraulic Oil Dextron	1
6	Zip Tie	
7	5/16-18 x 3/4" Hex Bolt	2
8	5/16 Flat Washer	2
9	5/16-18 Nylock Hex Nut	2
10	#12 x 1" TEK Screw	5
11	1/4-20 x 1" Hex Bolt	3
12	1/4 Flat Washer	5
13	1/4-20 Nylock Hex Nut	3
14	Tarp "J"	1



Mounting plate

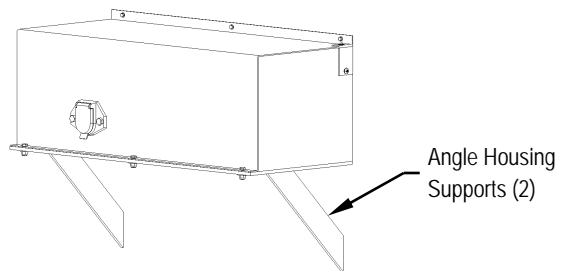


Figure 25

1. Find an appropriate place on front of trailer to mount Hydraulic Pump Assembly (1) and weld the mounting plate to trailer.

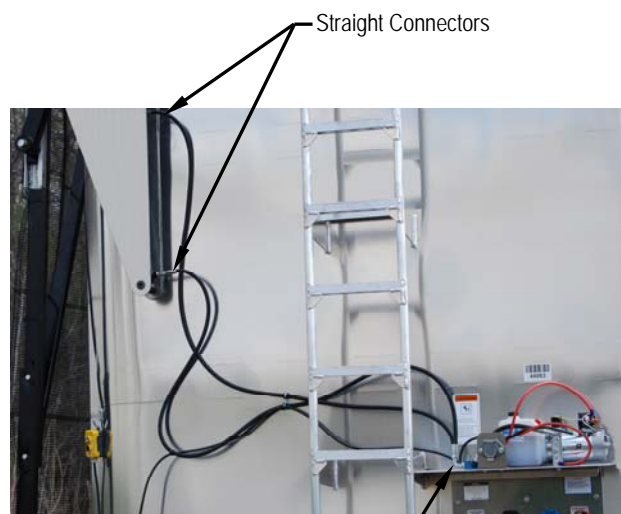
2. Optional support. *See Figure 25.* Weld two Angle Housing Supports (2) a minimum of 1" in from each end of mounting plate.

3. Attach straight fitting of hydraulic hose to bottom of hydraulic cylinder of the Actuator Assembly and the elbow fitting to port C1 of the counterbalance valve.

4. Attach straight fitting of hydraulic hose to top of hydraulic cylinder of the Actuator Assembly and the elbow fitting to port C2 of the counterbalance valve.

5. Fill reservoir with Hydraulic Oil (5).

6. Zip tie (6) hoses and pendant cable together.



Elbow Connectors

7. Feed Cable from Connector Cable Assembly (4) thru spacer (if supplied) and Hydraulic Enclosure (3). Attach Connector Cable Assembly (4) to cover using 5/16-18 hex bolt (7), 5/16 flat washer (8), and 5/16-18 Nylock hex nut (9).

8. Bolt ground terminal of cable to tapped hole in pump frame marked GND connect power to solenoid.



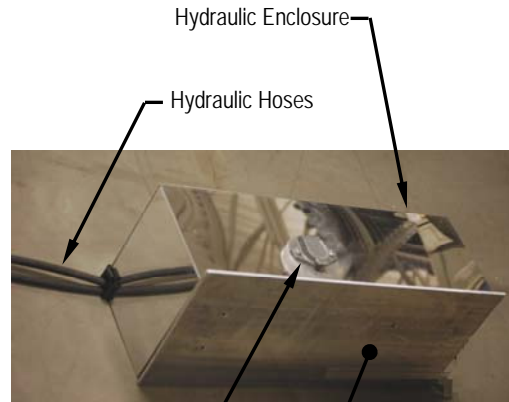
Tapped hole in pump frame marked GND

9. Feed hoses and pendant cable thru notch in Hydraulic Enclosure (3).

10. Place Hydraulic Enclosure (3) on the Hydraulic Pump Assembly (1) mounting plate and secure top of cover to trailer with #12 x 1" TEK screws (10).

11. Drill 3 clearance holes for 1/4" bolt in hydraulic mounting plate using cover as template.

12. Secure cover to hydraulic mounting plate with 1/4-20 x 1" hex bolt (11), 1/4 flat washer (12), and 1/4-20 Nylock hex nut (13).



Connector Cable Assembly

Mounting plate

13. At a convenient location to hang the Pendant for the operator, attach Tarp "J" (14) using #12 x 1" TEK screws(10).

14. Hang Pendant from Tarp "J" (14).

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