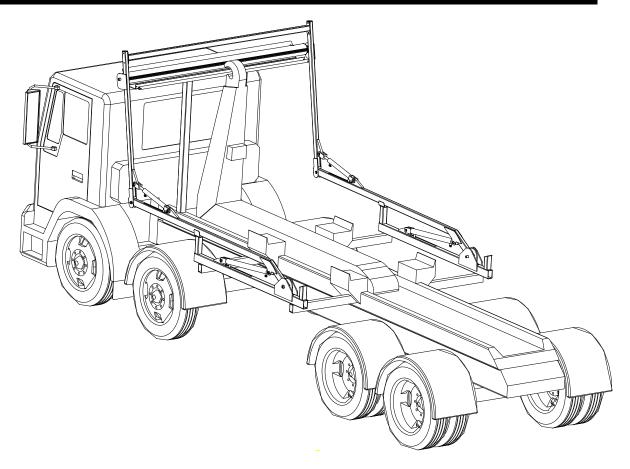


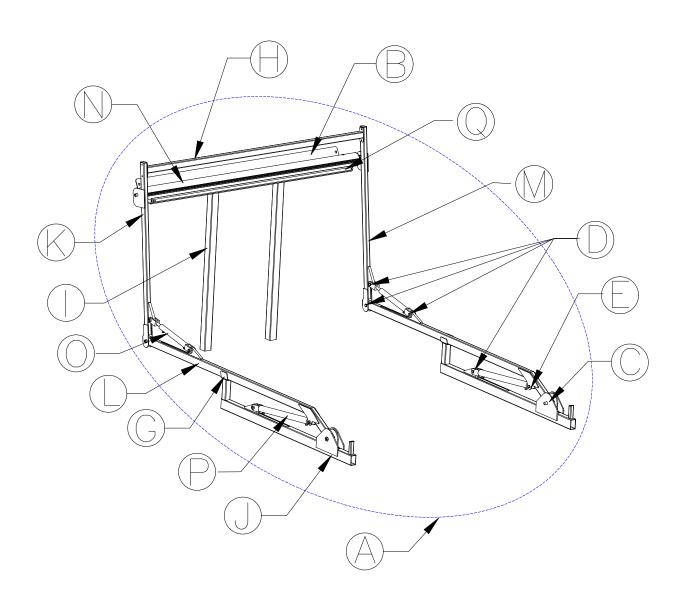
INSTALLATION INSTRUCTIONS



OWNER'S MANUAL

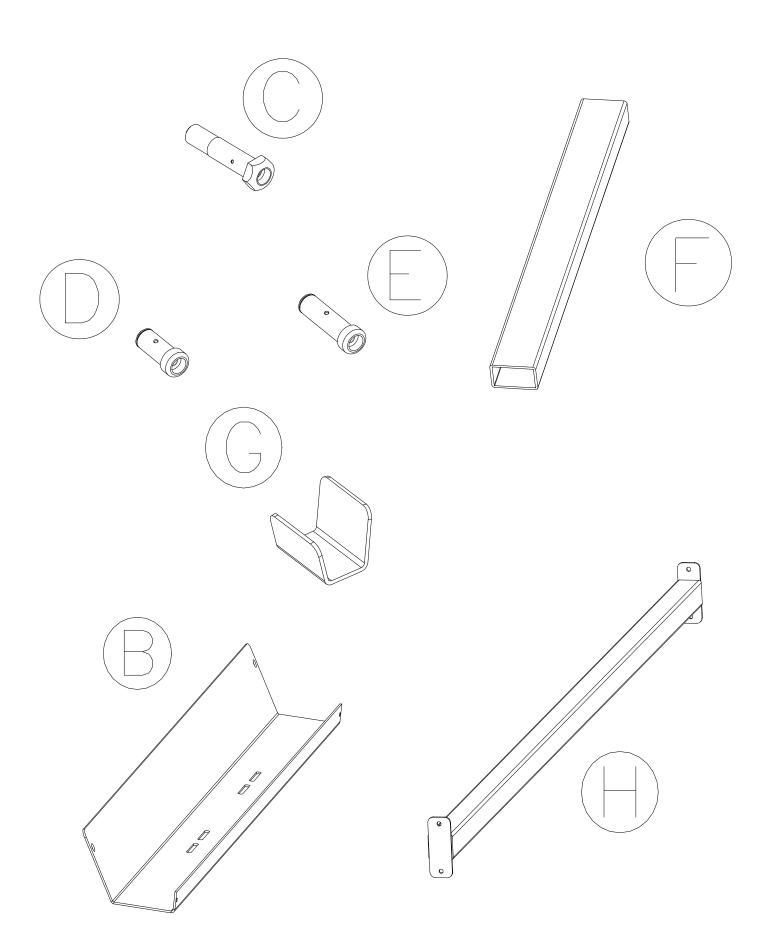


PAGE 1 OF 19 3/3/09

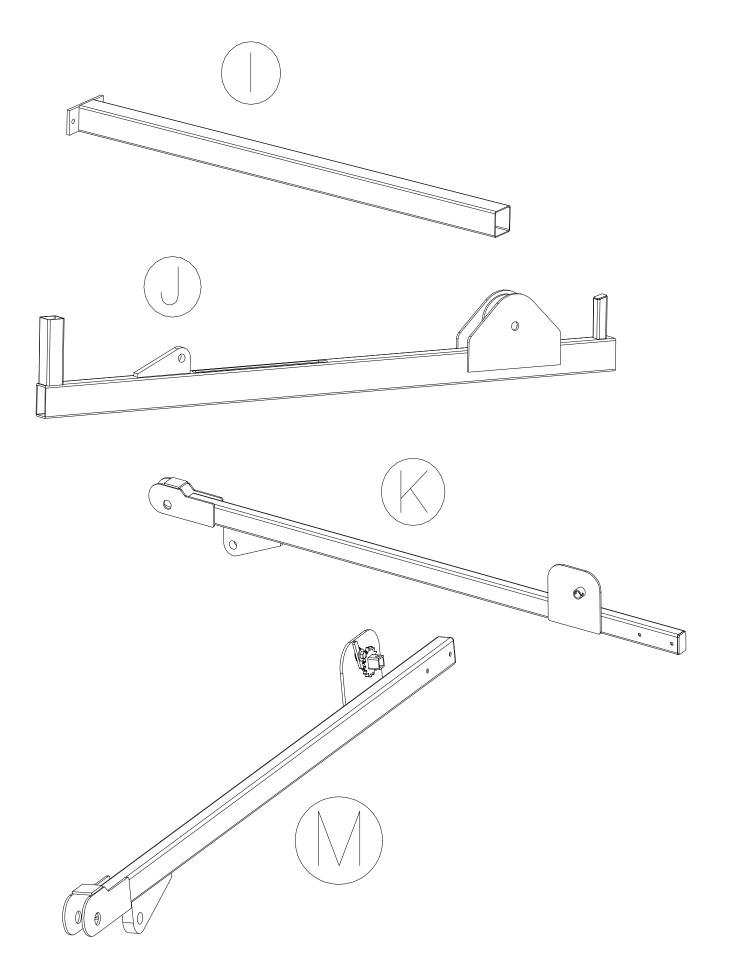


DONOVAN PART #	PARTS PER SYSTEM	BALLOON LETTER	DESCRIPTION
2730-crate	1	Α	HOOK SHEETING SYSTEM (W/O HYDRAULIC KIT)
2731	1	В	ROLLER CRADLE
2732	2	С	PIN - PIVOT
2733	8	D	PIN - ARM JOINT AND CYLINDERS SHORT
2744	2	E	PIN - ARM JOINT AND CYLINDERS LONG
2750	4	F	MOUNTING SUPPORT TUBE (shown on pages 3 and 7)
2746	2	G	ARM REST BENT PLATE
2755	1	Н	CROSS TUBE WELDMENT
2756	2	I	TOWER LEG WELDMENT
2757	2	J	PIVOT BASE WELDMENT
2758	1	K	UPPER ARM WELDMENT - LEFT
2759	2	L	LOWER ARM WELDMENT
2760	1	M	UPPER ARM WELDMENT - RIGHT
2762	1	N	ROLLER BAR ASSY.
2763	2	0	1 1/2" BORE, UPPER HYDRAULIC CYLINDER
2768	2	Р	2" BORE, LOWER HYDRAULIC CYLINDER
2769	1	Q	TARP ATTACHMENT BAR

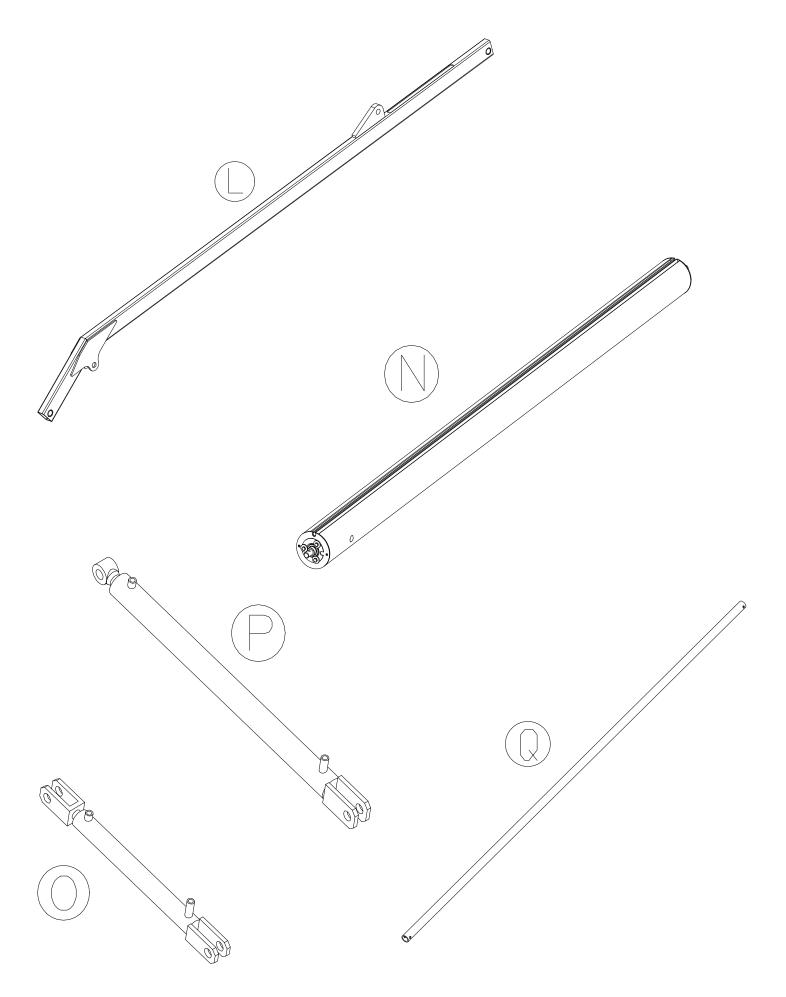
PAGE 2 OF 19 3/3/09



PAGE 3 OF 19 3/3/09



PAGE 4 OF 19 3/3/09



PAGE 5 OF 19 3/3/09

<u>IMPORTANT</u>: <u>PLEASE READ AND UNDERSTAND ALL</u> <u>INSTALLATION INSTRUCTIONS BEFORE STARTING INSTALL</u>

- A minimum clearance of 11" (27.9 cm) between the cab and the frame or bulkhead is required to fit the roller cradle (see drawing below).
- Hydraulic hoses, hydraulic tanks, exhaust system, and other components may interfere with the standard mounting of system. Occasionally, special brackets may need to be fabricated by the installer to account for this interference.

<u>CAUTION:</u> When activating the control lever make sure that moving parts are in view.

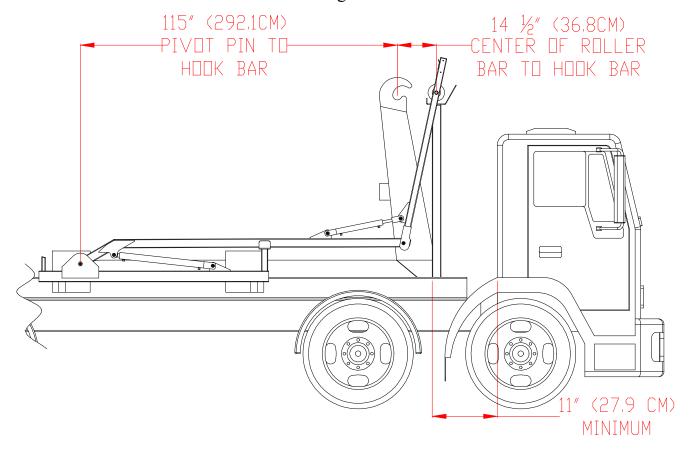
<u>CAUTION:</u> When operating system make sure that no one is present on the side that is not in your direct view.

CAUTION: Make sure the truck is not under power lines when raising the tower, or operating the arms.

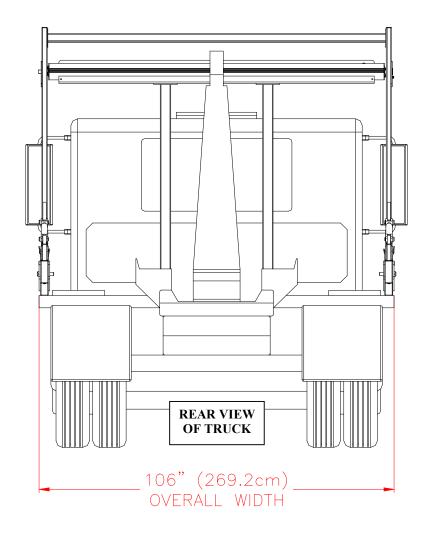
<u>CAUTION:</u> Before servicing or repairing the Gladiator system, disconnect power to the components from the vehicles battery.

NOTE: The noise level is less than 72dB(A)

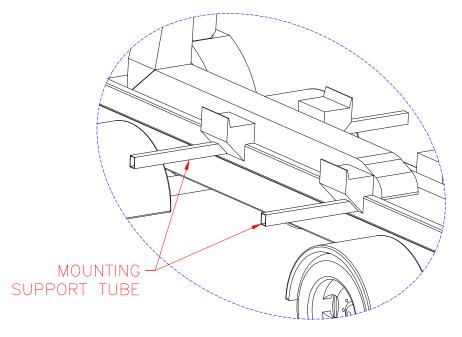
The following views (below and next page) show the hook sheeting system installed. The dimensions shown are to be referenced throughout the installation.



PAGE 6 OF 19 3/3/09



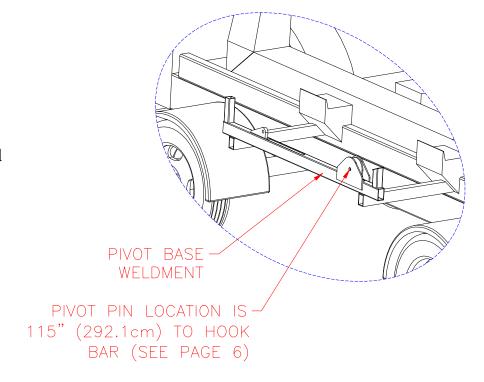
• Cut (2) mounting support tubes per side to obtain the overall width shown above. Weld tubes to the hook sub frame as shown with the front support tube as far forward as possible, and the rear tube as far back as possible. Tubes must be square and perpendicular to the sub frame, and all must be the same height. Fit additional bracing and support as necessary (not supplied).



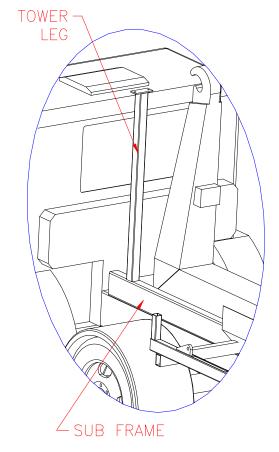
PAGE 7 OF 19 3/3/09

<u>CAUTION:</u> The pivot base weighs approximately 79 Lbs (29.5 Kg). Use a lifting strap and crane to lift mechanism in place on the truck.

• Weld the pivot base weldment into place using the dimension given on the pages 6 (length) and 7 (width). Repeat for opposite side.

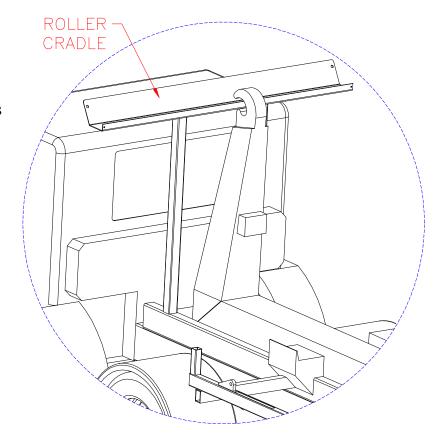


Weld tower leg to sub frame as shown to the right, using the dimension as shown on page 6 (14 1/2" or 36.8cm) from hook to center of tower leg. Making sure leg is square and perpendicular to the truck. Repeat for second tower leg on other sub frame.

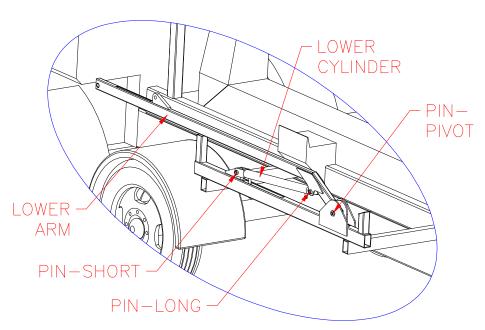


PAGE 8 OF 19 3/3/09

 Attach the roller cradle to the tower legs using four (4) M 12 x 40 bolts, nuts, and washers provided. Make sure the cradle is centered side to side with hook.

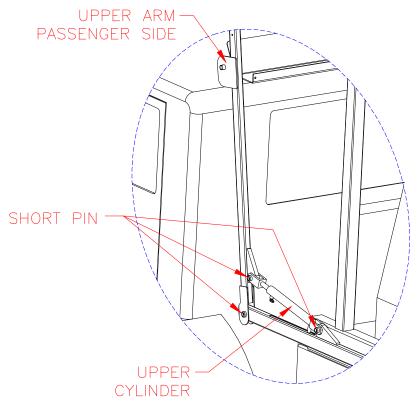


• Assemble lower arm and lower cylinder using one long pin, one short pin, and one pivot pin. Insert all pins so that the grease fittings are facing out. Secure the long and short pin with a shim and retaining ring, and the pivot pin with a M24 lock nut.

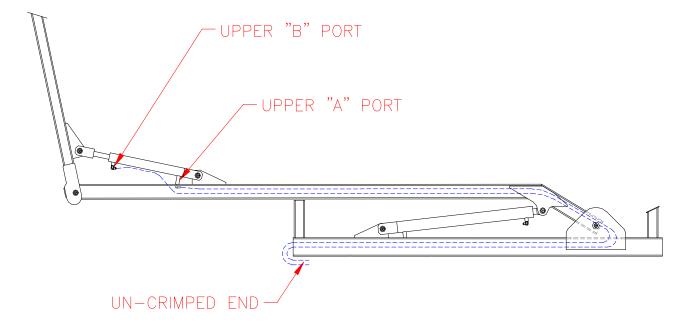


PAGE 9 OF 19 3/3/09

• Attach the passenger side upper arm and upper cylinder to the lower arm using three of the short pins as shown to the right. Secure pins using a shim and retaining ring on each pin. Repeat step on driver side using the driver side upper arm.

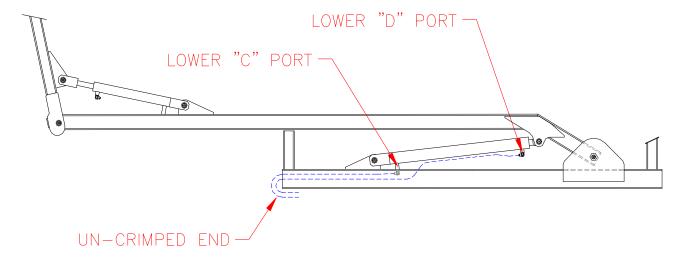


• Next route the 985cm (32.3') hydraulic hose from the upper cylinder through the upper arm and pivot base as shown below. Label each hose as shown below for later connection. Repeat step for other arm.



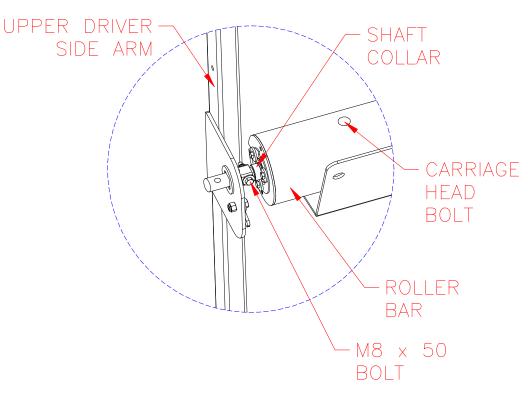
PAGE 10 OF 19 3/3/09

• Next, route the 551cm (18') hydraulic hose from the lower cylinder through the pivot base as shown below. Label each hose as shown below for later connection. Repeat step for other side.



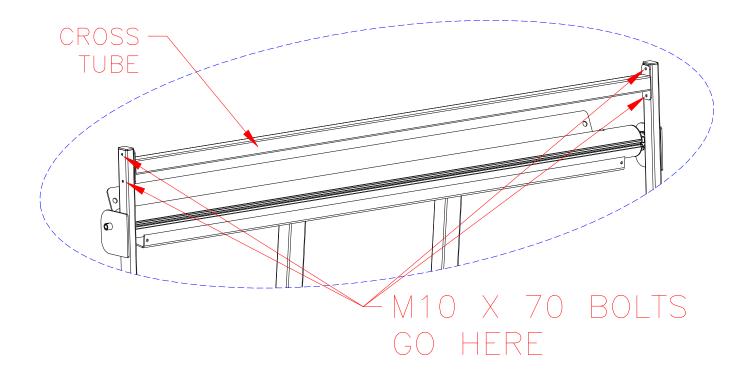
Place roller bar in the roller cradle. <u>NOTE</u>: The end of the roller bar with the sticker and carriage head bolt will be attached to the ratchet on the upper driver side arm as shown below.
 Use a M8 x 50 bolt, nut and washers to secure the roller shaft into the square ratchet tube.
 <u>NOTE</u>: The roller bar may need to be repositioned on the roller shaft to fit properly between the upper arms. This is accomplished by loosening the set screws on the shaft collars, and adjusting the roller on the shaft. Tighten all shaft collar set screws after roller bar is repositioned.

• Insert M8 x 50 bolt, nut and washer into the upper passenger side arm through the roller shaft. NOTE: Do not tighten this bolt. This bolt will be removed later when tension is added to the roller bar.

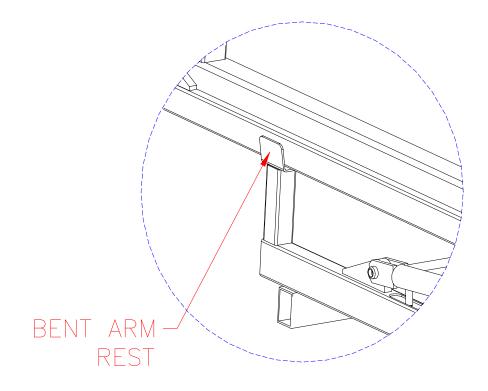


PAGE 11 OF 19 3/3/09

• Attach the cross tube between the two upper arms as shown using two (2) M10 x 70 bolts, nuts and, washers on both sides (four total).

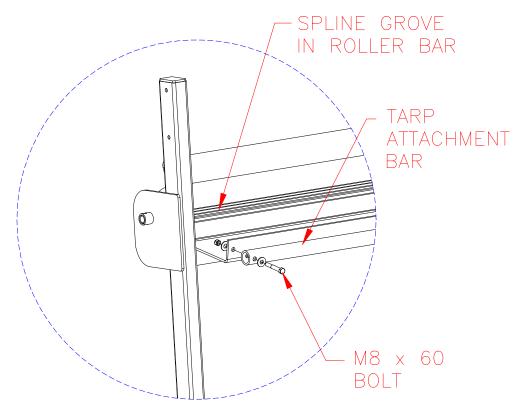


• Weld the bent arm rest into place as shown with the longer leg to the out side. Repeat for other side.



PAGE 12 OF 19 3/3/09

• Unfold tarp over the back of the truck with the flaps on top of tarp. Slide the tarp attachment bar through the pocket in the tarp and attach using (2) M8 x 60 bolts, nuts and washers. Next, slide the opposite end of the tarp with a spline into the spline grove in the roller bar.

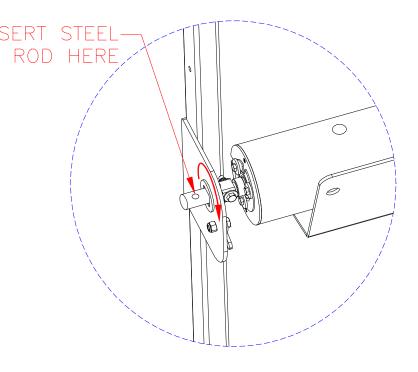


• Remove the M8 x 50 bolt from the passenger side roller shaft, and insert a 3/8" (9.5 mm) steel bar into the hole in INSERT roller bar shaft as shown to the right, and turn in the direction of the arrow. Slowly feed in the tarp as you put on (30) complete turns.

<u>NOTE</u>: Never exceed (35) turns on the ratchet mechanism. Damage to spring could occur.

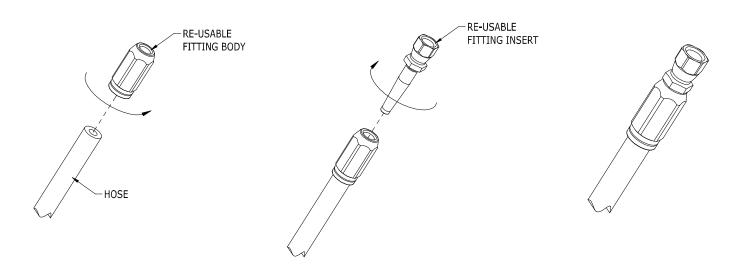
• Now is the time to insert and tighten the M8 x 50 bolt through the roller shaft on the passenger side.

<u>HINT:</u> Have a second person rotate roller bar to help align holes and insert bolt.



PAGE 13 OF 19 3/3/09

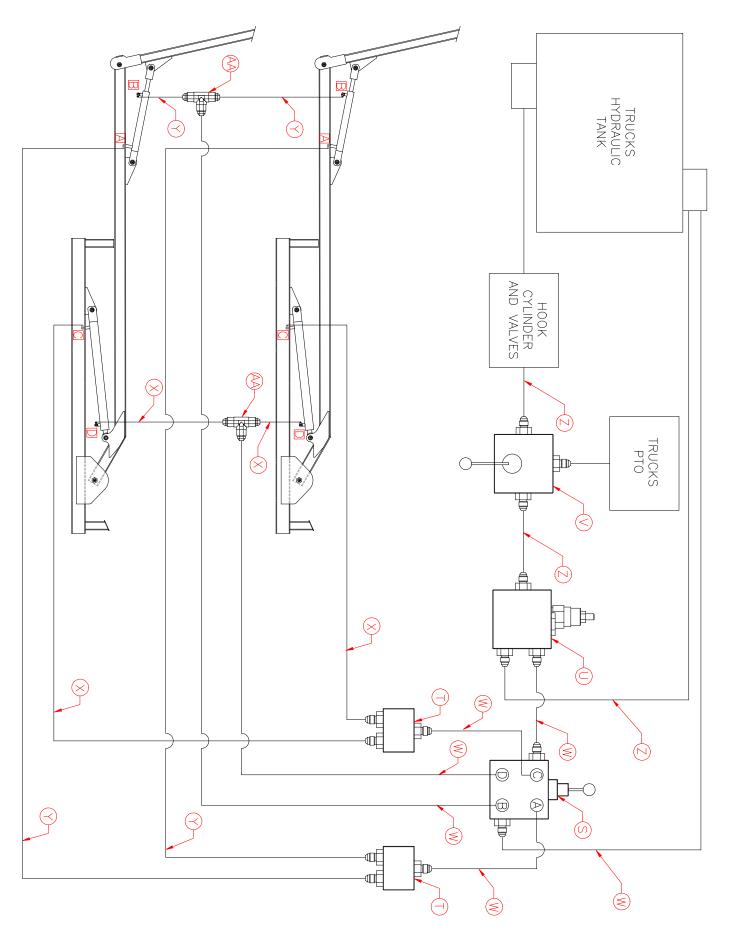
- Mount the diverter valve, flow control valve, and joystick valve in a suitable location for the driver to operate system.
- Follow the chart below and diagram on page 15 to connect hoses to various components (see step below for cutting hoses). The hydraulic hoses in arms should already be attached to the cylinders, routed thru the arms, and marked to match the markings on the hydraulic schematic.
- All hoses are supplied with one end crimped so they can be cut to length. The other end will use a re-usable fitting. Follow the instructions below to install the re-usable fittings: Thread the re-usable fitting body (counter clockwise) on the cut end of each hose as shown below. Body will thread on approx. 1" NOTE: body must be threaded completely into hose to prevent leaking. Next thread the fitting insert into the body (clockwise) until it is snug against the fitting body as shown. HINT: A small amount of liquid soap will help the fitting insert into the body.



DONOVAN	PARTS PER	BALLOON	
PART#	SYSTEM	LETTER	DESCRIPTION
7020K	1	NOTE 1	GLADIATOR VALVE KIT (SEE NOTE ONE)
7021	1	S	JOYSTICK CONTROL VALVE
7022	2	Т	FLOW DIVIDER/COMBINER VALVE
7023	1	U	FLOW CONTROL VALVE
7024	1	V	DIVERTER VALVE
7002	6	W	1/4" HYD HOSE 1.98M LONG, 90° AND STRAIGHT FITTING
7003	4	X	1/4" HYD HOSE 5.5M LONG, 90° AND REUSABLE FITTING
7004	4	Υ	1/4" HYD HOSE 9.85M LONG, 90° AND REUSABLE FITTING
7005	3	Z	3/4" HYD HOSE 2.30M LONG, 90° AND STRAIGHT FITTING
7013	2	AA	1/4" TEE CONNECTOR

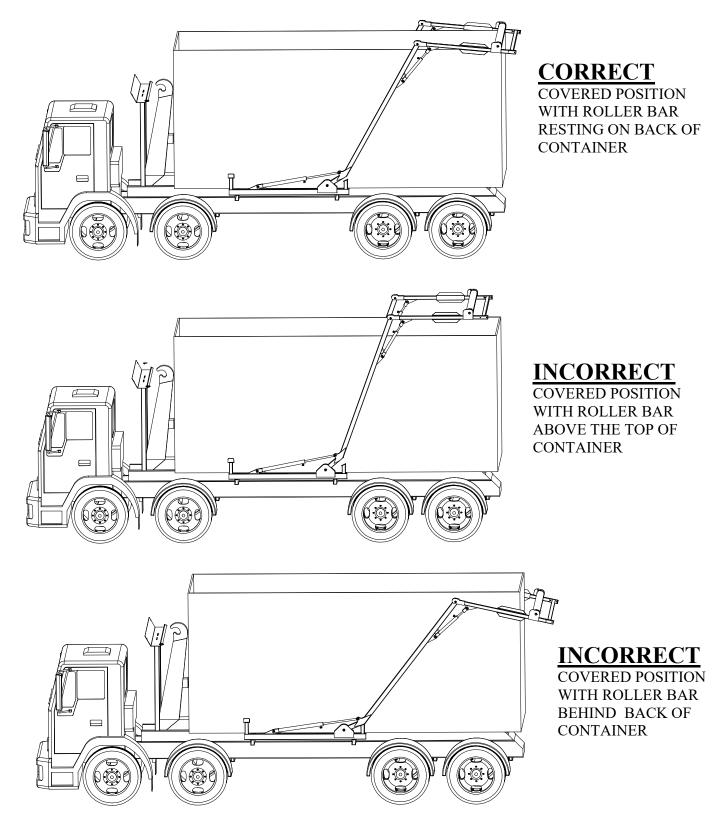
NOTE 1: THIS KIT INCLUDES PARTS 7021 (QTY 1), 7022 (QTY 2), 7023 (QTY 1), AND 7024 (QTY 1)

PAGE 14 OF 19 3/3/09



• Test the operation of the system following the operating instructions on the next page.

CAUTION!: Use extra caution when first operating the system. Operate the system at a slow speed through it's full range of motion and inspect all hydraulic hoses to assure proper operation. Reroute and secure hoses as necessary.



PAGE 16 OF 19 3/3/09

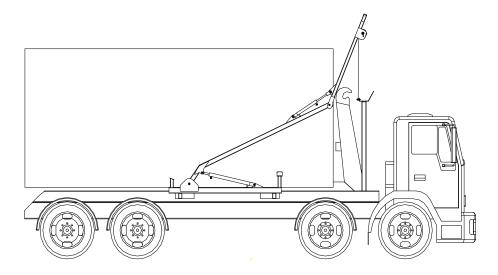
HOOK AUTO SHEET SYSTEM OPERATING INSTRUCTIONS

<u>CAUTION</u>: BEFORE OPERATION OF ANY SHEET SYSTEM, CHECK OVER HEAD FOR POWER LINES, TREE LIMBS, OR OTHER OBSTACLES. MAKE SURE ALL PERSONNEL ARE CLEAR OF ALL MOVING PARTS.

IMPORTANT SAFETY INFORMATION

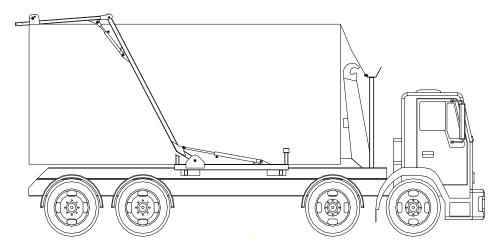
ENSURE THE SHEETING SYSTEM IS FULLY CLOSED IN THE STOWED POSITION BEFORE OPERATING THE HOOKLIFT OR MOVING TRUCK WITHOUT CONTAINER.

STEP 1. Using the joystick control valve, raise the roller bar above the front edge of the container as shown below. Visually check the rollers position continually to keep from making contact with the container or the truck.



STEP 2. Next, rotate the arms back to cover the container, and rest the roller bar on the back edge of the container as shown below.

NOTE: The roller bar must always rest on the back edge of the container or in the cradle when the vehicle is in motion. Failure to do so will result in damage to the system, and void the warranty.

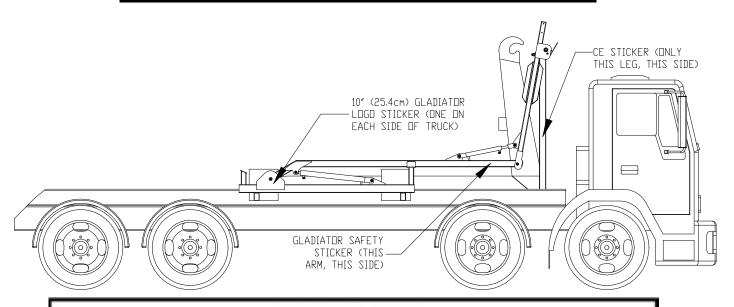


-To <u>UNCOVER</u> the container, reverse the previous two steps, and rest the roller in the cradle.

PAGE 17 OF 19 3/3/09



INSTALLING STICKERS



 Λ

IMPORTANT



Operational safety and CE stickers have been supplied with the kit. The installer is responsible for ensuring these stickers are attached to the equipment where they will be most visible to the operator.

- Once the system has been painted, install the following stickers in the recommended locations shown in the diagram above:
 - 1. One (1) Gladiator safety sticker.
 - 2. Two (2) Gladiator logo stickers.
 - 3. One (1) CE sticker.

PAGE 18 OF 19 3/3/09



MAINTENANCE GUIDLINES

DAILY:

- Visually inspect the hydraulic and mechanical components.
- Check the hydraulic hose for wear, nicks, and kinks and ensure they are all out of the way from moving parts.
- Check the welds and mechanical components for any cracks or bent parts that could interfere with tarping operation.
- Check the tarp and bungee ropes for signs of damage or excessive wear and replace as needed.

<u>CAUTION:</u> Dirty oil will cause serious damage to the hydraulic tarping components as well as your truck's hydraulic parts. The cleaner the oil, the longer your hydraulic parts will last.

MONTHLY:

- Lubricate each joint using a grease gun to insert grease into the end of the joint pins.
- Check oil to verify that it is clean

ANNUAL:

• Change the oil in the trucks hydraulic system at least annually at a minimum.



PAGE 19 OF 19 3/3/09