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HR1500E
Tarping System

Installation, Operations & Maintenance Manual

 **WARNING**: In order to prevent damage, the tarp must always be left in the uncovered position when the truck is not in use for a period of more than 2 consecutive hours.

 **WARNING:** All repairs and parts replacement should be undertaken by qualified technicians. The buyer assumes all risks and liabilities arising out of his or her repairs, modifications, or parts replacement on the original product.

 **WARNING:** Inspect the tarp system before each use for fit, wear and damage. Check tarp system at regular intervals during use. Replace parts at first sign of damage or material wear. If you find anything upon inspection that cannot be corrected, do not use as severe injury could result.

 **WARNING:** Do not operate vehicle until you are certain that the tarp system is properly installed and can be safely operated.

 **WARNING:** Do not operate the tarping system while the vehicle is in motion and make sure the vehicle is clear of any obstructions (such as overhead wires).

 **CAUTION:** Any piece of equipment can be dangerous, even deadly, if not used properly. You are responsible for the proper use of this product and the safe operation of any accessories or related equipment and vehicles. Common sense and caution cannot be built into the equipment and must be supplied by the operator.

 **CAUTION:** If for any reason you do not understand all portions of these instructions and warnings, contact the company at the number listed herein for assistance. Do not use, or allow others to use, the tarp system until you (and others) fully understand its operation, these instructions and warnings. Manufacturer assumes no liability or responsibility for injury or damage caused by improper use or failure to read and follow all instructions and warnings.

ATTENTION DISTRIBUTOR: DO NOT DISCARD.

Please give this manual to the customer when the unit is delivered

HR 1500 E 22’ Container

PACKING LIST

PART No.	DESCRIPTION	QTY	PACKED
	ROLL ASSY. w/ ELEC. MOTOR	1	_____
HR 4610	FIXED LEGS	2	_____
HR 4613	“U” BOLTS	4	_____
G 1531	ARM MTG. BRACKETS	2	_____
G 1544 A	BASE ARM L.S.(5/8)	1	_____
G 1545 A	BASE ARM R.S.(5/8)	1	_____
G 1557	UPPER ARM – 11’, STEEL	2	_____
G 2099	BOW CORNERS	2	_____
H 7037	REAR SECTION – 9’	1	_____
	TARP	1	_____
	WIRING HARNESS	1	_____
	HARDWARE	!	_____

PACKED BY:_____

HR 1500 E up to 19’ Container

PACKING LIST

PART No.	DESCRIPTION	QTY	PACKED
	ROLL ASSY. w/ ELEC.MOTOR	1	_____
HR 4610	FIXED LEGS	2	_____
HR 4613	“U” BOLTS	4	_____
G 1530	ARM MTG. BRACKETS	2	_____
G 1542 A	BASE ARM L.S.(9/16)	1	_____
G 1543 A	BASE ARM R.S.(9/16)	1	_____
G 1556	UPPER ARM – 9 1/2’, STEEL	2	_____
G 2099	BOW CORNERS	2	_____
H 7037	REAR SECTION – 9’	1	_____
	TARP	1	_____
	WIRING HARNESS	1	_____
	HARDWARE	!	_____

PACKED BY:_____

HR 1500 E up to 19’

HARDWARE LIST

PART No.	DESCRIPTION	QTY
	¾-16 STOVERLOCK NUTS	8
	¾ FLAT WASHERS, Grade 8	8
G 1532	RETAINING RINGS	2
G 1513	ROLL PINS	6
G 2014	COVER SPRINGS	2
	¼ x 2 ½ COTTER PINS	2
	¼-20 x 2” HHCS Gr. 5	4
	¼-20 STOVERLOCK NUTS	4
ETC 5014	ROTARY SWITCH KIT	1
EDD 1509	40 AMP BREAKER	1
	6 ga. WELDING CABLE – DUAL	24’
RTE57-56	LARGE TERMINALS (6 ga.)	2
RTE60-10	SMALL TERMINALS (6 ga.)	8
	#12 x 1” HH SHEET METAL SCREWS	5
	¼ x 1 ¼ FENDER WASHERS	5
	½-13 HEX NUTS	4
	½-13 LOCK WASHERS	4

HR 1500 E 22’ CONTAINER

HARDWARE LIST

PART No.	DESCRIPTION	QTY
	¾-16 STOVERLOCK NUTS	8
	¾ FLAT WASHERS, Grade 8	8
G 1532	RETAINING RINGS	2
G 1513	ROLL PINS	6
G 2014	COVER SPRINGS	2
	¼ x 2 ½ COTTER PINS	2
	¼-20 x 2” HHCS Gr. 5	4
	¼-20 STOVERLOCK NUTS	4
ETC 5014	ROTARY SWITCH KIT	1
EDD 1510	50 AMP BREAKER	1
	6 ga. WELDING CABLE – DUAL	24’
RTE57-56	LARGE TERMINALS (6 ga.)	2
RTE60-10	SMALL TERMINALS (6 ga.)	8
	#12 x 1” HH SHEET METAL SCREWS	5
	¼ x 1 ¼ FENDER WASHERS	5
	½-13 HEX NUTS	4
	½-13 LOCK WASHERS	4

UNIT SPECIFICATIONS

MODEL HR 1500 E TUFF TARPER - ELECTRIC

FRAMEWORK

STATIONARY LEGS - To support Roll Base
2 1/2" Square x 1/4" wall Steel Tube
3/4" Mounting Plates on Bottom of Legs
3/4" Grade 8 "U" Bolts & Nuts

ROLL BASE - 1/8" C.R.S. fabricated weldment with internal bracing, 1/2" C.R.S. End Plates and integral mounting studs

WINDSCREEN - 11 Ga. C.R.S. fabrication to prevent "whipping" of the tarp which results in longer tarp life.

BEARING PLATES – ¼" H.R.S.

LEFT ROLLER TUBE -2.140 O.D. x 2.000 I.D. 6105-T6 Aluminum Extrusion with UHMW Bushing. 1" O.D. Steel Shaft and Stainless Steel Roll Pin.

RIGHT ROLLER TUBE -2.140 O.D. x 2.000 I.D. 6105-T6 Aluminum Extrusion with UHMW Bushing. 1" O.D. 6061-T6 Aluminum Shaft and Stainless Steel Roll Pin.

CENTER SECTION -1.960" O.D. x 1.820 I.D. 6105-T6 Aluminum Extrusion.

BEARING - Flush Mounted Sealed Ball Bearing on Right Side Roller.

ELECTRIC MOTOR/GEARBOX – 90:1 ratio Right Angle Gearbox, directly connected to the tarp roller. 12 volt D.C.

PIVOT ARM FRAMEWORK

PIVOT ARMS - 1 5/8" O.D. x 11 Ga. Steel Tubing, 2 Piece construction.

REAR SECTION- 1 5/8" O.D. x 11 Ga. Steel Tubing.

BOWS - 1 5/16 O.D. x 11 Ga. Steel Tubing.

ARM MOUNTING BRACKETS - Steel Weldment
Base Plate - 1/4" H.R.S.
Mounting Hub - 4" O.D. Steel Tube.

SPRING - Reverse Wound Torsion Spring – 9/16" Diameter Wire.
Spring Wire per ASTM A229 Class I.

ELECTRICAL

SWITCH – Self centering high amperage switch to control covering and uncovering.

CIRCUIT BREAKER – 40 amp. Automatic reset breaker for motor protection

WIRING HARNESS – 6 gauge dual welding cable.

COVER (TARP)

FABRIC
Heavy Duty Mesh

CONSTRUCTION
Reinforced rear pocket.
Shock cords allow the EXTRA WIDE (9') Tarp to be rolled up onto the roller assembly.

MISCELLANEOUS

All Brackets etc. are Fabricated Steel Weldments

HR1500E

AUTOMATIC COVERING SYSTEM

INSTALLATION INSTRUCTIONS

READ AND UNDERSTAND THESE INSTRUCTION COMPLETELY BEFORE BEGINNING THE INSTALLATION. USE THESE INSTRUCTIONS WITH THE DRAWINGS INCLUDED. UNPACK, IDENTIFY AND FAMILIARIZE YOURSELF WITH THE VARIOUS COMPONENTS OF THE SYSTEM.

1. MOUNTING THE LEGS AND ROLLER ASSEMBLY

Pick a suitable place on the chassis directly behind the cab to mount the FIXED LEGS. Clear away or re-route any hoses, cable, etc. that may interfere with mounting the FIXED LEGS to the chassis. In determining the front to rear location of the FIXED LEGS, you must keep a minimum of 5" of clearance between the front portion of the legs and the rearmost portion of the cab (including the exhaust stack) to allow room for the ROLLER ASSEMBLY. The FIXED LEGS can be attached to the truck chassis with 3/4" "U" Bolts, Flat Washers and Locknuts or if space is a problem, they can be welded to existing plates that are already bolted to the chassis. Another method that utilizes brackets, etc. that are already bolted to the chassis, is to weld a piece of channel or tube to existing brackets across the width of the chassis and then welding the FIXED LEGS on top of the channel. Attach the FIXED LEGS to the chassis using whichever method is best for your installation. Square the FIXED LEGS to the hoist and plumb from side to side as well as front to rear. ONE SIDE OF EACH LEG HAS A SMALL HOLE IN THE BOTTOM TO ALLOW FOR WATER/CONDENSATE DRAINAGE. IT IS BEST TO FACE THIS HOLE TOWARD THE REAR OF THE TRUCK TO AID IN DRAINING THE INSIDE OF THE TUBES.
If there is a hydraulic tank between the cab and hoist, you can mount the legs on the side of the tank as long as you reinforce the top and side areas.

Once the FIXED LEGS are located and attached to the truck, add front to rear gussets to stabilize them and strengthen the mounting.

A GOOD WAY TO MAKE CERTAIN THE FIXED LEGS ARE SQUARE TO THE HOIST IS TO CLAMP A STRAIGHTEDGE ACROSS THE INSIDE OF THE "J" HOOKS AND MEASURE FROM THIS TO THE FIXED LEGS.

Place the ROLLER ASSEMBLY on top of the FIXED LEGS and center. Cut or Grind off the studs and then weld the ROLLER ASSEMBLY to the FIXED LEGS.

2. ACTIVATING THE ELECTRIC MOTOR

Follow the schematic and wire the 12-volt motor and switch in accordance with the schematic. Locate the switch in the cab of the truck in a suitable place where the driver can operate the system from either inside the cab or when standing outside (preferred).
When looking at the roller from the driver's side of the truck the roller should turn clockwise when the switch is moved to the "COVER" position. If the roller turns the opposite way, then reverse the leads on the motor.

3. DETERMINING THE PIVOT POINT and MOUNTING THE ARMS

NOTE: THE ARMS AND BRACKETS MUST BE MOUNTED TO A FABRICATED STRUCTURE THAT IS BOLTED TO THE CHASSIS. THIS STRUCTURE MUST EXTEND OUTWARD FROM THE CHASSIS SO AS TO ALLOW FOR THE WIDEST WIDTH CONTAINER THAT WILL BE CARRIED ON THE TRUCK, WHETHER OR NOT THE CONTAINER IS TO BE COVERED. (Ex: self-contained compactor containers) THIS OUTSIDE WIDTH FROM ARM MOUNTING BRACKET TO ARM MOUNTING BRACKET CANNOT BE MORE THAN 108" TO BE IN COMPLIANCE FEDERAL DOT REGULATIONS. CHECK WITH YOUR STATE OR LOCAL DOT TO FIND OUT IF THIS STANDARD APPLIES IN YOUR AREA. IF IT DOES NOT APPLY, THEN YOU MUST MOUNT THE UNIT IN COMPLIANCE WITH YOUR LOCAL DOT REGULATIONS.

NOTE: IF THE FENDERS ON THE TRUCK ARE WELL CONSTRUCTED, THAT IS, HEAVILY GUSSETED AND BRACED, IT MAY BE POSSIBLE TO UTILIZE THE FENDERS AS PART OF THE SUPPORT STRUCTURE FOR THE ARM MOUNTING BRACKETS.

A. Put the longest and highest container that is to be covered on the truck. This container is used to determine the pivot point for the arms and to determine the arm length. If your containers are not the same length, you may have to modify this guideline to comply with the majority of containers you have.
B. Measure the distance from the backside of the roller to the front side of the rear door on the container. Dividing this measurement in half will give you a starting point for locating the Arm Mounting Brackets (G 1531).
   If the centerline measurement obtained above falls over a fender, it is possible to utilize the fender in determining the exact pivot point. If the centerline measurement does not fall near a fender then you will have to construct some type of TEMPORARY support for the Arm Mounting Bracket, while the exact pivot point is found. Temporary support can take the form of tack welding the Arm Mounting Bracket (G 1531) to the container itself or tack welding a plate to the container, to lower the bracket down to its proper position and the tacking the bracket to the plate.
   In either case, proceed as follows: Tack weld -1- Arm Mounting Bracket to the fender or to the temporary support, so that the front of the bracket (the front has the bend on it) lines up with the measurement determined above.

Mount the Arm Mounting Bracket as low as possible without interfering with the tires or the hoist cylinder(s). It is advisable to have the greatest included angle that you can derive between the arm and an imaginary horizontal line thru the center of the Arm Mounting Bracket in a front to rear plane.

C. Insert -1- Bow Corner (G 2099) into an Arm and place the Arm onto the Arm Mounting Bracket. Swing the Arm towards the gantry and adjust the bow in or out so that it is approximately 2" to the rear of the bearing plate. Secure the bow to the arm with clamps, and swing the arm thru its arc to the rear of the truck. The bow, which will hold the rear section, should line up with the front edge of the door on the container. If the bow goes past the rear of the container, the Arm Mounting Bracket will have to be moved forward. If the bow falls short of the rear of the container, move the Arm Mounting Bracket toward the rear of the truck. Re-position the bracket if necessary and re-check as outlined above.
Once you are satisfied that the position of the Arm Mounting Bracket is correct, carefully mark the exact location of the bracket on either the fender of the temporary support. You are now ready to construct a support structure for the Arm Mounting Bracket.

Some points to remember are:
-DO NOT WELD TO THE TRUCK CHASSIS, DRILL AND BOLT ONLY.
Follow the chassis manufacturers recommendations.
- Utilize existing bolts if you can.

Make sure that the structure is well supported and gusseted. There is apt to be considerable vibration at this point along the chassis, which can lead to failed welds.
The structure must be:
-Plumb (vertical) and level (horizontal).
-Low enough so that it will not interfere with any container or its accessories.
-High enough to allow access to the tires and wheels.
-Wide enough apart so ANY container you may be hauling will clear the arms of the covering system, even if the container is not to be covered. KEEP IN MIND LOCAL AND STATE WIDTH REGULATIONS AS WELL AS FEDERAL DOT.
-Must be the same distance out from the chassis on both sides.

D. Install both arms, with the bows clamped in place, onto the Arm Mounting Brackets using -2- Retaining Rings (G 1532) (one on each side) and -6- Roll Pins (G 1513) (three on each side). Place the Arm onto the Arm Mounting Bracket so that the short leg of the spring is on the inside of the Arm Mounting Bracket facing the front of the truck. Tap -1- retaining ring over the round part of the Arm Mounting Bracket. Insert -1- roll pin into each of the three holes in the bracket and tap down until they are flush with the outside of the retaining ring.
E. With both Arms sitting on the top rear of the container, measure the distance between the arms just above the Arm Mounting Brackets. You will have to raise the hoist to make this measurement so be careful that the arms don't slide off the container and fall to the ground, which may cause physical injury or damage to the unit. Lower the hoist

and measure the distance between the tops of the arms (where the bows go into the arms) and adjust the arms in or out so that the distance between the arms at the top is the same as the bottom.

Measure the distance between the ends of the bows. Taking this measurement and adding 12" to it will give you the proper length of the Rear Section (H 7037). Cut the rear section to length, if necessary, and install onto the bows, allowing it to overlap the bows by 6" on both sides. Attach the bows to the arms by drilling a ¼" hole thru the arm and bow approximately 8" down from the top of the arm. This measurement may vary depending on how much bow is left inside the arm (the long leg of the bow is 24" long). Insert -1- cotter pin (provided) thru the hole and open fully.
You are now ready to attach the rear section to the bows and attach the cover to the unit.

4. INSTALLING THE COVER

A. Slide the cover onto the Rear Section making sure that the bows go inside the Rear Section as previously described.
Fasten the Rear Section to the Bows by drilling a ¼" hole thru the Rear Section and Bow approximately 3" in from the end of the Rear Section on each side.
Insert -1- ¼" Cotter Pin (provided) thru each hole and open fully. Attach one end of -1- Cover Spring (G 2014) to the eye portion of the cotter pin and attach the other end of the cover spring to the grommet on the rear corner of the cover on each side. Fasten the rear section to the bows and the bows to the arms using the ¼" hardware provided.

B. Attach the cover to the roll using -5- sheet metal screws and fender washers (provided) as follows:
Wrap the cover ¾ of the way around the roller in a clockwise manner as viewed from the driver's side. Center the cover on the roller and the attach the cover to the roller, starting in the middle and working out to the left and right. Make sure that the cover is straight on the roller and that the fender washers are firmly in place over the grommets.

TYING THE COVER SHOCK CORDS

The shock cords on the top of the cover are designed to fold the cover upward and inward so that the 9' wide cover will roll up between the bearing plates on the roll assembly. This is accomplished by firmly tying one end of the shock cord to the a loop on one side of the cover and then passing the other end of the shock cord thru the loop in the center of the cover towards the other side and stretching the shock cord so that pulls the cover up and in. It is only necessary to put enough tension on the shock cords so that the sides of the cover do not rub on the bearing plates when the cover is being wound onto the roller. Pass the shock cord thru the loop on the other side of the cover and tie a knot securely when adequate tension has been achieved. The best test for the proper amount of tension is to check the cover while it is being wound on the roller. The cover should not "bunch up" and/or rub on the bearing plates nor should it pull in too far away from the edges of the container. Shock cords that are tight are as bad as those that are too loose. Be patient, they may have to be adjusted a couple times

in order to get them right. Make sure that the first couple of winds that go onto the roller are smooth and square. If not, the cover will wind up faster on one side than the other, causing the arms to go out of synchronization because of the extra material, which makes a larger circumference to that side of the roller.

OPERATING THE UNIT

TO COVER THE CONTAINER:

1. Make sure the truck is clear of overhead wires.
2. Make sure that there is nobody in the container or in the path of the arms.
3. Load the container onto the truck.
4. Move the arms to the rear of the container to cover the load. Release the switch when the rear section is firmly seated on the rear of the container.

TO UNCOVER THE CONTAINER

1. Make sure that the truck is clear of overhead wires.
2. Make sure that nobody is in the container or in the path of the arms.
3. Using the switch to move the arms to the front of the container to uncover the load.
4. Unload the container from the truck.

MAINTENANCE TIPS

1. Keep the torsion spring at the base of the arms free from debris.
2. Periodically apply a spray lubricant such as WD-40 to the bearings.
3. Replace any worn or broken parts immediately.
4. Check all fittings and connections weekly. Correct as required.
5. Grease telescopic Gantry legs weekly.

TIPS FOR THE OPERATOR

1. Make sure the truck is clear of overhead obstructions before operating the unit.
2. Do not operate under any overhead wires.
3. Keep Hands clear of any moving parts.
4. Make sure nobody is inside the container, or in the path of the arms before operating the unit.
5. Pay attention to safety decals.
6. Release the valve as soon as the Rear Section contacts the rear of the container, or when the Arms are seated on the Bow Rests.
7. Release the valve when the Gantry has been fully extended or retracted.

SPECIAL NOTE

NOT MANUFACTURED OR INTENDED FOR USE WITH HAZARDOUS WASTE

Pioneer Consolidated Corporation will not be held responsible for damages to, or caused by their container covering systems when they have not been installed or used in the manner prescribed in this manual.
Any modifications to the unit or deviations from the procedures outlined in this manual must be authorized in writing by Pioneer Consolidated Corp.

WARRANTY

Pioneer Consolidated Corp oration warrants this automatic container covering system for a period of (90) days, against proven defective parts and workmanship. Our liability is limited to the replacement parts and does not include freight, labor or lost time due to or in connection with the failure of the parts. Any part will be replaced under the conditions of this warranty when Pioneer Consolidated Corp. has authorized a return and has received satisfactory evidence that the part(s) is (are) defective.

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