



INSTALLATION
OPERATION
MAINTENANCE
MANUAL
FOR
MODEL HR 2000 PTO
AUTOMATIC COVERING SYSTEM

ATTENTION DISTRIBUTOR: DO NOT DISCARD.
PLEASE GIVE THIS MANUAL TO THE CUSTOMER
WHEN THE UNIT IS DELIVERED.

REVISED 02/01/2018

HR2000PTO SYSTEM INSTALLATION

The Pioneer HR2000 armless tarping system is ideal for use in tight alleyways or other areas where side-to-side clearance is limited. To operate, the driver raises the gantry, flips the rope over the container, walks to the rear and pulls the cover over the load. The tarp operates via a spring loaded roller that acts similar to a window shade. The HR2000 uses a 5" spring loaded telescopic roller and a hydraulic gantry powered by either a 12 volt DC self-contained power unit or integrated with the truck's hydraulic system.

Applications: Tandem and tri-axle hook lifts/cable hoist
Container style/size: 20 to 50 yard containers up to 24' long
Standard tarp: 8' wide heavy duty mesh

MAINTENANCE TIPS

1. Periodically apply a spray lubricant such as WD-40 to the bearings.
2. Replace any worn or broken parts immediately.
3. Check all fittings and connections weekly. Correct as required.
4. Apply a dry film lubricant (Dry Moly) to the telescopic Gantry legs weekly.

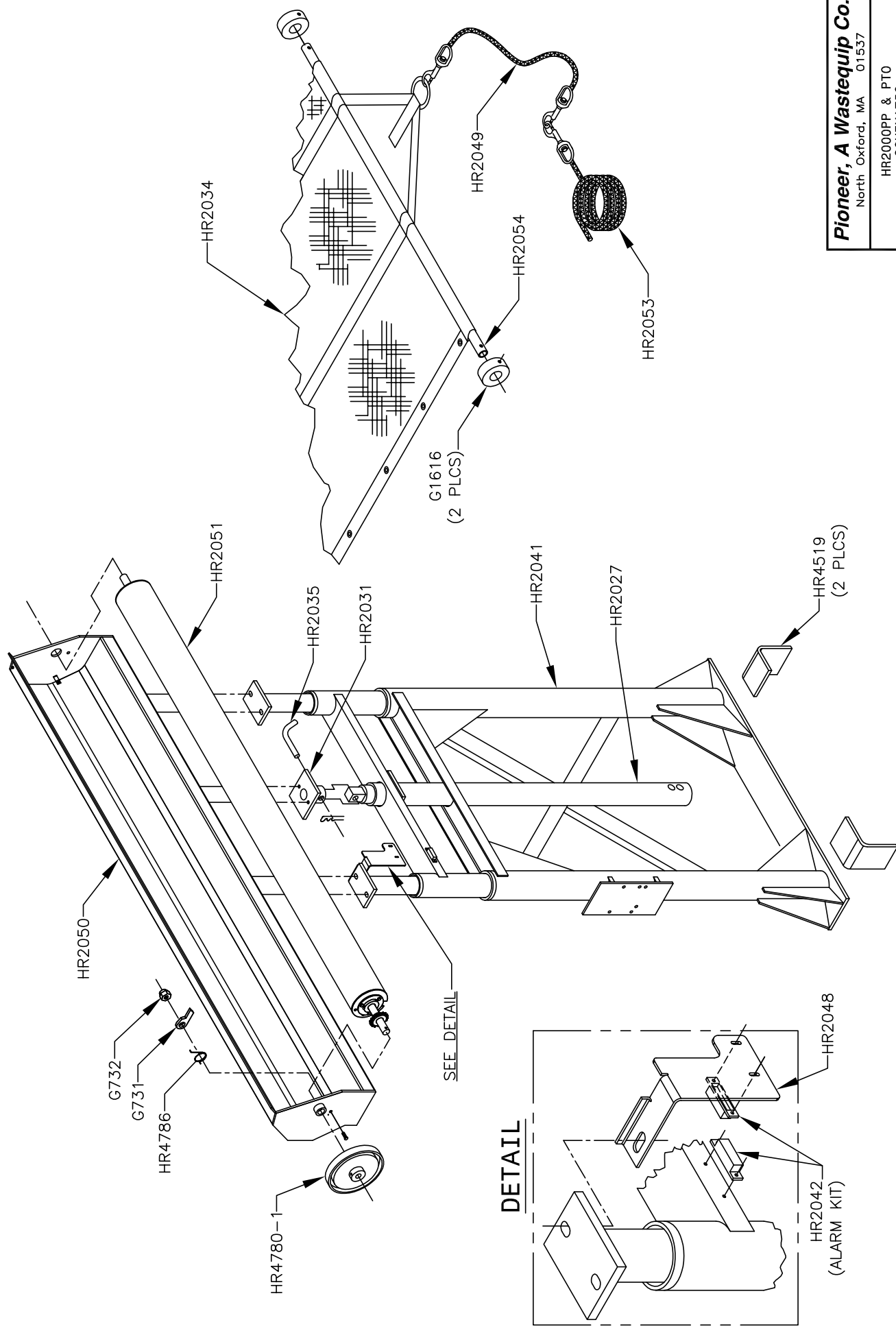
TIPS FOR THE OPERATOR

1. Keep Hands clear of any moving parts.
2. Pay attention to safety decals.
3. Release the valve when the Gantry has been fully extended or retracted.

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	04/17/2007	P. DOAN



Pioneer, A Wastequip Co.	
North Oxford, MA 01537	
HR2000PP & PTO SCHEMATIC	
PART NO.	HR2000 SCHEMATIC
SCALE:	NONE
DATE	4/17/07
DRW. BY:	P. DOAN

HR2000PTO SYSTEM INSTALLATION

HR 2000 PTO

TARPING SYSTEM

INSTALLATION INSTRUCTIONS

Read and understand these instructions completely before beginning the installation. Use these instructions with the drawings included. Unpack, identify and familiarize yourself with the various components of the unit.

1. MOUNTING THE GANTRY AND ROLLER ASSEMBLY

Pick a suitable place on the chassis of the truck directly behind the cab to mount the *Gantry and Roller Assembly*. Clear away or re-route any hoses, cable, etc. that may interfere with mounting the *Gantry* to the chassis. Chassis mounting angles are to be bolted to the chassis, be sure that the right and left mounting angles are square and level to each other. Weld the chassis mounting angles to the *Gantry* base, be sure that the chassis mounting angles are centered on the *Gantry* base. Alternatively, utilize brackets, etc. that are already bolted to the chassis and then weld a piece of channel or tube to these brackets across the width of the chassis. Mount the gantry on top of this piece. In either case, allow a minimum of 4-5" between the forward portion of the *Gantry* legs and the rear of the cab. This will provide clearance for the *Roller Housing* as it moves up and down. Square the *Gantry* to the hoist and level from side to side as well as being plumb vertically. A good way to make certain the *Gantry* is square to the hoist is to clamp a straightedge across the front of the hoist and then measure from this to the *Gantry* legs.

NOTE: Do not drill into the chassis top and bottom flanges or any closer to the flanges than the truck manufacturer did.

Once the *Gantry* is located and welded securely at the bottom, add front to rear gussets to stabilize the *Gantry* and strengthen the mounting.

Place the *Roller Assembly* on top of the *Gantry* and install using four 1/2-13 hex nuts and lock washers provided. Install the switch mounting plate **HR2048** on the drivers' side (inside) utilizing the windscreen bolt, nut and lock washer, refer to installation drawing for location. Install the cylinder into the cylinder cup on the *Roller Assembly*, and secure with the hitch pin and hairpin cotter.

NOTE: The ports on the cylinder should face to the left or drivers side when viewed from the rear.

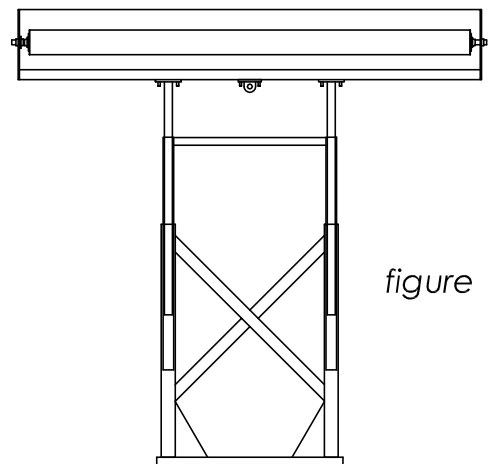


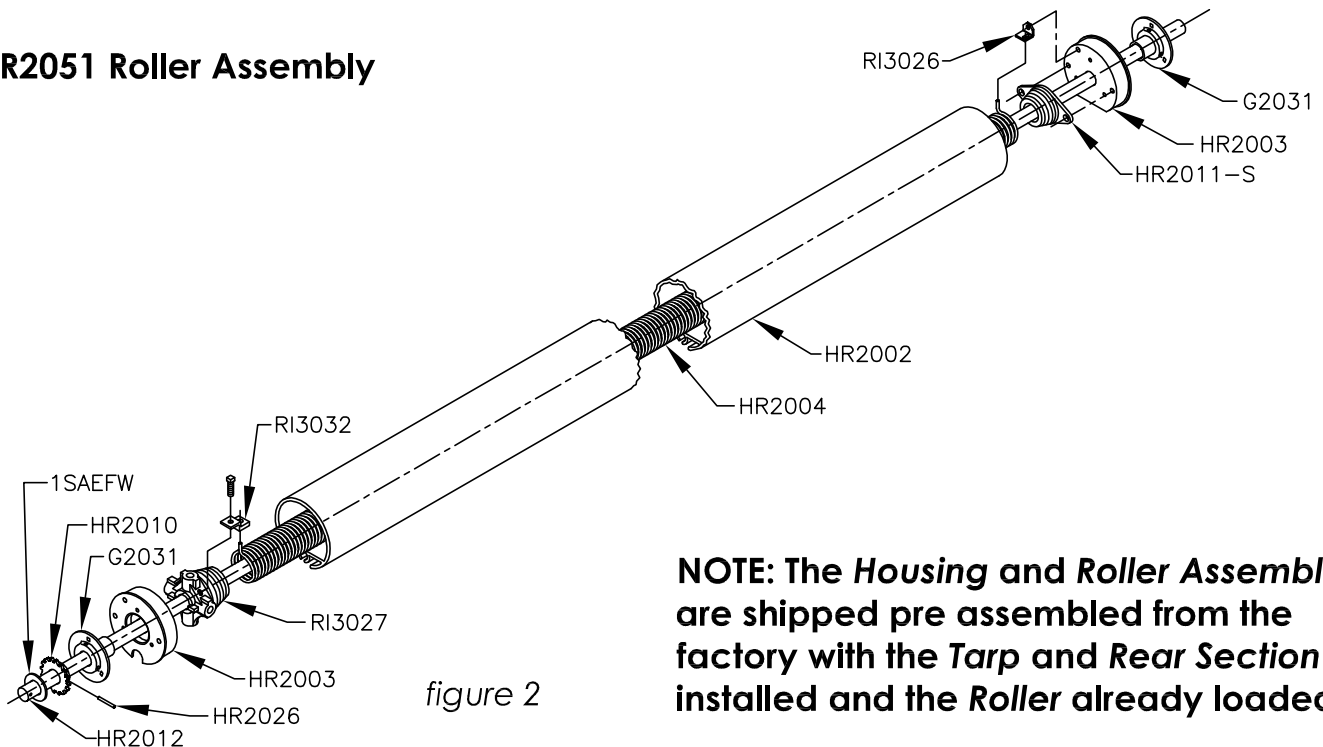
figure 1

The exhaust stack may interfere with the Roll Base as it travels upward, correct as necessary by installing elbows etc. into the stack.

HR2000PTO SYSTEM INSTALLATION

Place the entire *Roller/Housing Assembly* on top of the *Roll Base* and center. Attach the two mounting angles to the outside of the housing using the 3/8 hardware provided, putting the bolt heads on the inside of the housing. Center the housing on top of the roll base and weld the mounting angles to the roll base.

HR2051 Roller Assembly



NOTE: The *Housing and Roller Assembly* are shipped pre assembled from the factory with the *Tarp and Rear Section* installed and the *Roller* already loaded.

2. INSTALLING THE FLOW DIVERTER AND COVER CONTROL VALVE

NOTE: See Hydraulic Schematics on Page 6.

NOTE: Filtration of 30 micron or better must be used with these components.

Select a suitable place for the Cover Control Valve that will allow for ease in operation while not interfering with the hoist, container or hoist controls. It is suggested that this valve be mounted on the driver's side of the truck directly behind the cab. This position will allow for safe and easy operation. In addition, if the hoist controls are located there, the operator can run both systems from the same location.

Fabricate a mounting plate for the Cover Control Valve that will bolt to the chassis or weld to an existing bracket. Bolt the valve to the bracket using 5/16 grade 5 hardware (not provided).

HR2000PTO SYSTEM INSTALLATION

The HR2062 Flow Diverter should be installed between the pump and the hoist main control valve. The Pioneer covering system requires 2 GPM of hydraulic flow which may adversely affect the hoist speed of operation. Pick a suitable location to mount the Flow Diverter. The flow diverter valve may be bolted to a bracket (not supplied) by the mounting holes in the bottom of the flow diverter manifold block.

NOTE: For hoist operating pressures greater than 3,800 psig, you must install the flow diverter valve downstream of the hoist valve using power beyond, or use the optional HR2069 Flow Diverter with a ductile iron valve body that is rated to 5,000 psig.

Hoses and fittings for connecting the diverter to the pump, the diverter to the hoist controls, the diverter relief valve port to the tank return line and the cover control valve to tank, are not supplied because of the many places these parts can be mounted.

**NOTE: Use only pipe thread sealant such as RectorSeal on pipe threads.
DO NOT USE TEFLON TAPE!!!**

Follow the HR1000PTO hydraulic schematic on page 6 and make the proper connections between:

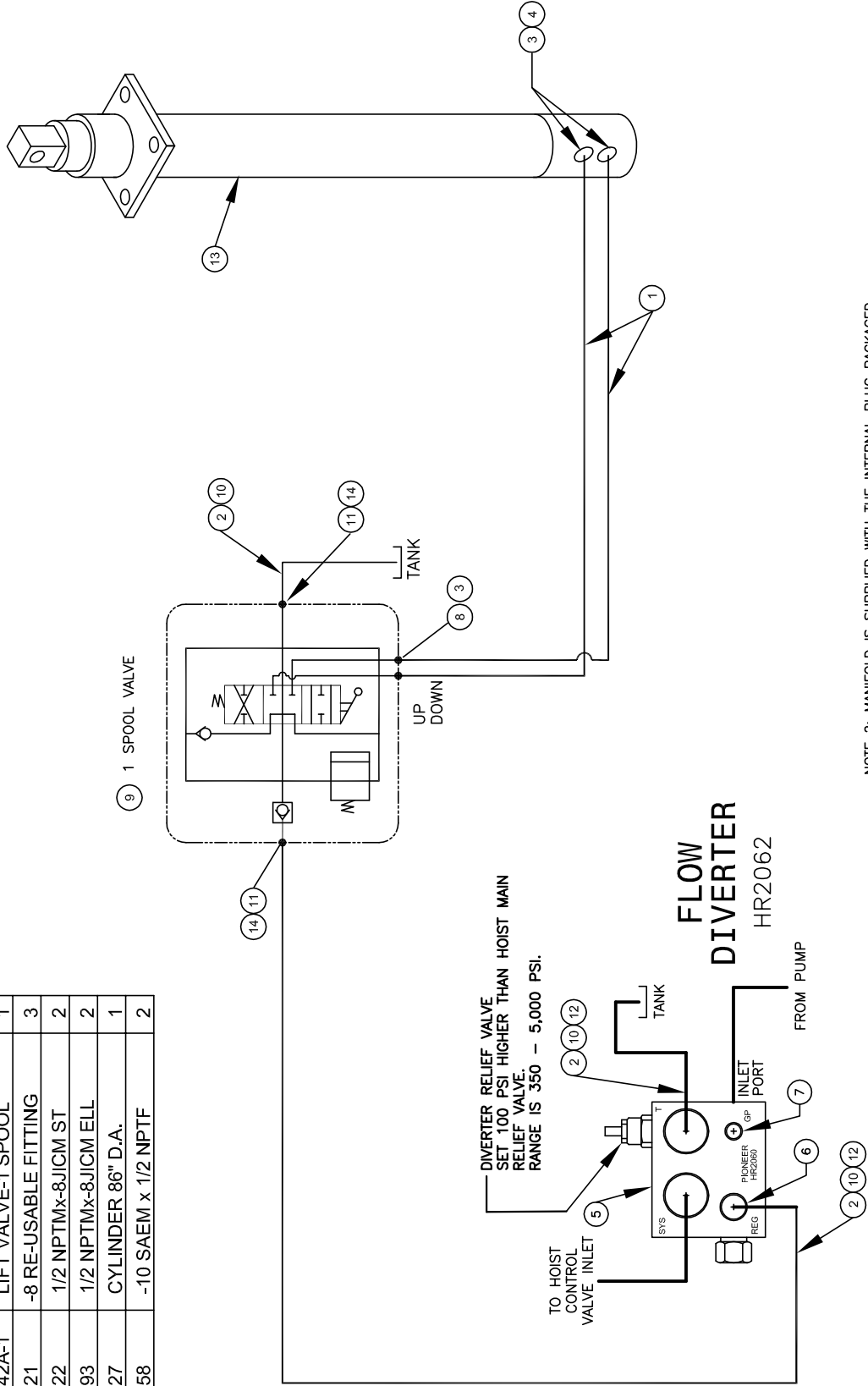
- 1) The pump to the flow diverter (IN port)
- 2) From the diverter SYS port to the **hoist** control valve inlet
- 3) From the diverter (REG- regulated flow port) to the **cover control valve** inlet
- 4) From the diverter valve (T-port) to the tank return line
- 5) From the **cover control valve** outlet to tank return line

Hoses that are used to make these connections must be equivalent to the original equipment provided by the hoist manufacturer. Set the flow diverter valve relief valve 100 PSI higher than the hoist main relief valve setting. There is a (GP) gauge port in the diverter valve body that is plugged with an SAE number 4 o-ring plug that must be used to set the relief valve pressure.

HR2000PTO SYSTEM INSTALLATION

REV	DESCRIPTION	DATE	APPROVED
A	ADDED ITEM 14	11/19/2014	NLA
B	HR2062 DIVERTER	11/19/2014	NLA

1	H 7043	-6 HOSE 4'	2
2	HR4720	-8 HOSE x -8 JIC F	3
3	HR4683	-6JICMx-6JICF- ELL	4
4	HR4682	-6SAEMx-6JICM -STR	2
5	HR2062	DIVERTER 2GPM.	1
6	HR2021	-8SAEMx-8JICM ELL	1
7	HR2057	-4 SAE M PLUG	1
8	HR1505	-8 SAE M x -6 JIC M	2
9	HR4542A-1	LIFT VALVE-1 SPOOL	1
10	HR4721	-8 RE-USABLE FITTING	3
11	HR4722	1/2 NPTMx-8JICM ST	2
12	HR4693	1/2 NPTMx-8JICM ELL	2
13	HR2027	CYLINDER 86" D.A.	1
14	HR2058	-10 SAE M x 1/2 NPTF	2



NOTE:
ON HOIST LIFT INSTALLATIONS, THE FLOW DIVERTER MUST BE INSTALLED AFTER (DOWNSTREAM OF) THE CONTROL VALVE FOR THE HOIST IN ORDER TO WORK AT LOW PRESSURE AND NOT INTERFERE WITH THE PERFORMANCE OF THE HOIST. THIS LOCATION MAY ALSO PROVE BENEFICIAL IN HOIST APPLICATIONS WHERE FLOW RATES MAY INTERFERE WITH THE HOIST PERFORMANCE.

DIVERTER RELIEF VALVE
SET 100 PSI HIGHER THAN HOIST MAIN
RELIEF VALVE.
RANGE IS 350 - 5,000 PSI.

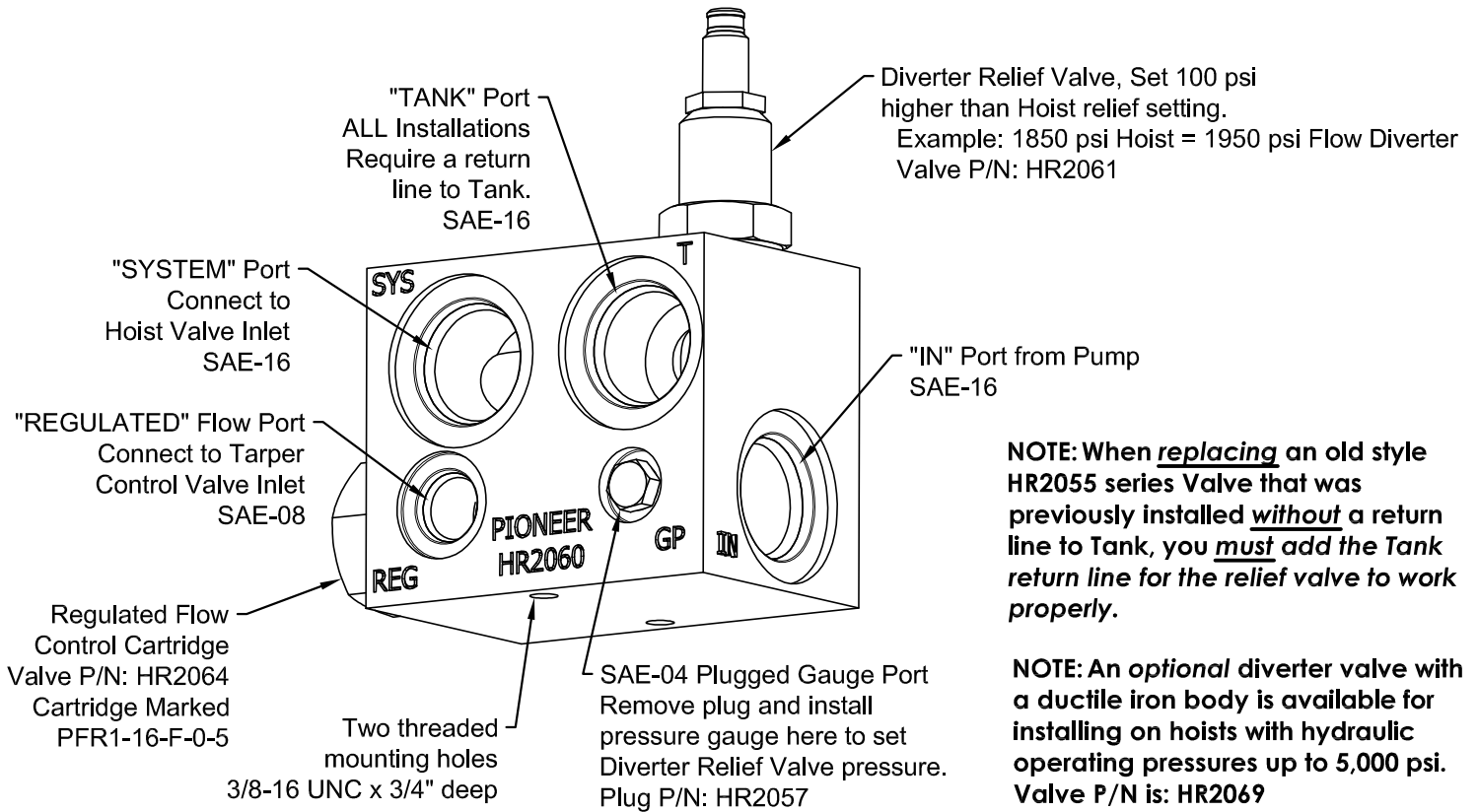
**FLOW
DIVERTER**
HR2062

SCHEMATIC SHOWN WITH RECOMMENDED, PRV RETURN LINE BACK TO TANK. PRV MUST BE USED FOR APPLICATIONS WHERE FLOW RATES GREATER THAN 30 G.P.M. EXIST, OPTIONAL FOR LESSER FLOW RATES. REFER TO DRAWING HR2051 FOR CONVERSION INSTRUCTIONS.

NOTE 2: MANIFOLD IS SUPPLIED WITH THE INTERNAL PLUG PACKAGED SEPARATELY, AND THE "T" PORT PLUGGED (NO RETURN LINE BACK TO TANK). FOR MAXIMUM SYSTEM PROTECTION, PIONEER RECOMMENDS THAT THE RETURN LINE BACK TO TANK BE UTILIZED. APPLICATIONS WHERE FLOW RATES GREATER THAN 30 G.P.M. EXIST, THE RETURN LINE BACK TO TANK MUST BE EMPLOYED. TO INSTALL THE LINE BACK TO TANK:
1) REMOVE THE DIVERTER VALVE.
2) INSTALL THE INTERNAL PLUG THROUGH THE "B" PORT.
3) REPLACE THE "T" PLUG WITH #16 SAE ADAPTER.
4) REPLACE THE DIVERTER VALVE.

Pioneer, A Wastequip Co.	
North Oxford, MA 01537	
HR2000 PTO HYD. SCHEMATIC	
PART NO. HR2056	DATE
SCALE: NONE	DRW. BY: RAT/PD 4/20/07

HR2000PTO SYSTEM INSTALLATION



PIONEER TARP SYSTEMS WORKING PRESSURES

(Does not include High Pressure Hoist. For High Pressure Hoists, see **page 8**)

RP4500SAR = 1850psi to 1950psi

RP4500SARG = 1850psi to 1950psi

RP4500SATR = 1850psi to 1950psi

HR1500PTO = 900 psi to 1000 psi (MAX)

HR1500H = 900 psi to 1000 psi (MAX)

HR2000PTO = 900 psi to 1000 psi (MAX)

HR1000PTO = 900 psi to 1000 psi (MAX)

Systems that use a Hydraulic Motor must be **under 1000psi** or seal damage may happen.

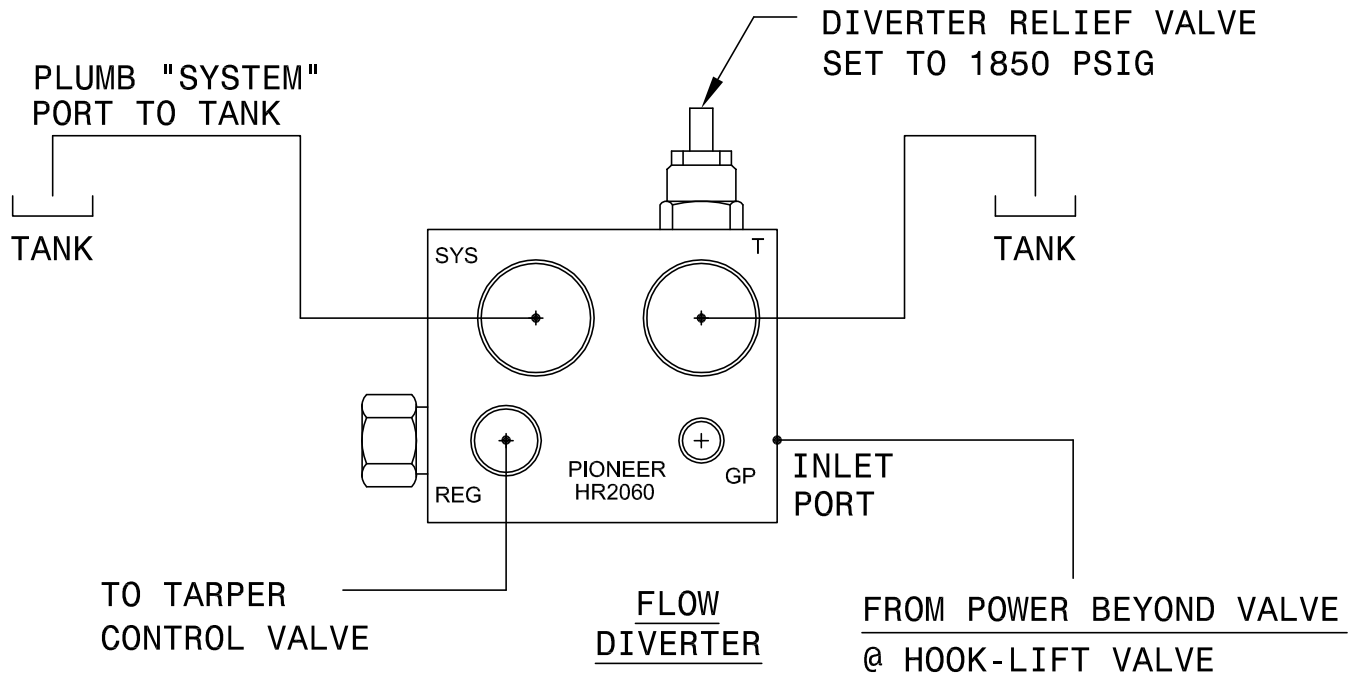
HR1500PTO, HR1500H, HR1000PTO, and HR2000PTO must be set to **less than 1000psi**.

Warranty will be void on Hydraulic motors with systems set higher than 1000psi.

HR2000PTO SYSTEM INSTALLATION

HIGH PRESSURE POWER BEYOND DIVERTER INSTALLATION

FOR USE WITH HOISTS WITH OPERATING PRESSURES GREATER THAN 3,800 PSI



NOTE: SCHEMATIC SHOWN FOR ALL HIGH PRESSURE POWER BEYOND INSTALLATIONS FOR THE HR2062 OR HR2065 FLOW DIVERTER VALVES.

THIS INSTALLATION REQUIRES ***BOTH*** THE "SYSTEM" PORT AND THE "TANK" PORTS TO BE PLUMBED TO THE TANK RETURN LINE.

THE "INLET " PORT IS SUPPLIED BY YOUR POWER BEYOND VALVE AT YOUR HOIST CONTROL VALVE.

THE "REG" REGULATED FLOW PORT IS CONNECTED TO YOUR TARP CONTROL VALVE INLET.

HR2000PTO SYSTEM INSTALLATION

3. ACTIVATING THE GANTRY LIFT CYLINDER

Follow the hydraulic schematic and install the proper fittings into the gantry lift cylinder. Attach one 9' hose to the rod end fitting on the cylinder and attach one 6' hose to the base end fitting on the cylinder.

The valve section labeled “UP - DOWN” is used to control the vertical motion of the gantry. Install two HR4683 elbows onto the top of this section. Route the hoses from the gantry cylinder toward the cover control valve using nylon zip ties or clamps to secure the hoses along the way. Connect the hoses to the elbows on top of the valve. At this point it doesn't matter which hose goes to which side of the valve. They can be swapped later on.

To bleed the lines, start the truck and engage the PTO. Operate the “UP-DOWN” valve in the down (cylinder retract) position first to fill the top side of the cylinder with oil. Hold the control valve in the down position until you hear the hydraulic relief valve open for 5 seconds. Operate the valve so the cylinder moves upward to the end of its stroke and hold in the raise position until the valve has gone over relief for 5 seconds. Run the gantry up and down a few times and holding the lever open for a few seconds at the end of each stroke to force any air in the cylinder or lines back to tank. If the hoses are reversed, that is, if the gantry goes up when the handle is moved to the down position, exchange the hoses. Re-bleed if necessary.

Apply a dry film lubricant (Dry Moly) to the telescopic gantry legs to cut down on friction when moving up and down.

The relief valve on the left front of the cover control valve has been factory pre-set. If the gantry does not move smoothly or if the hydraulic motor does not wind the cover onto the roller smoothly or all the way to the end of the operation when the cover control valve has been engaged, the relief valve may need to be adjusted. This is done as follows:

- Remove the acorn cap that covers the adjusting screw.
- Loosen the Jam Nut.
- Turn the screw $\frac{1}{4}$ turn clockwise and try the system.
- Repeat until the motor winds the cover smoothly and fluid is not dumping over the relief valve.
- Tighten the Jam Nut and replace the acorn nut.

NOTE: The relief valve should only be turned to 900 psi-to-1000 psi (MAX) so motor roll the cover smoothly. Increasing the operating pressure beyond this point will not make the motor go faster. If the relief valve is set too high, damage to the unit or personal injury could result.

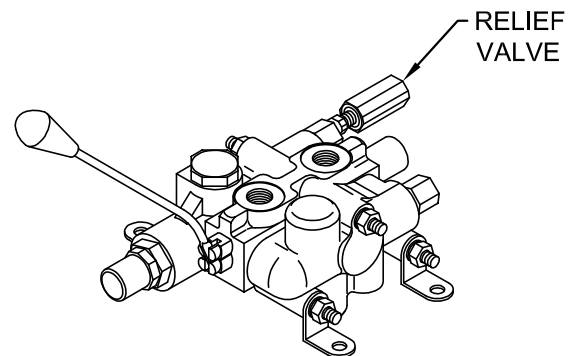
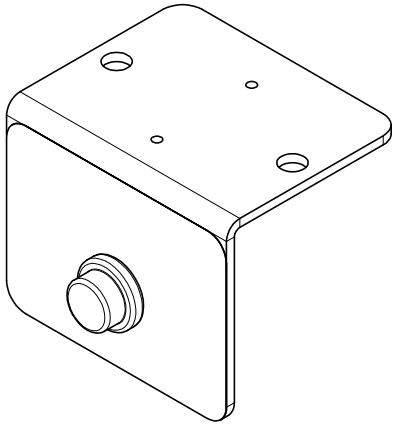


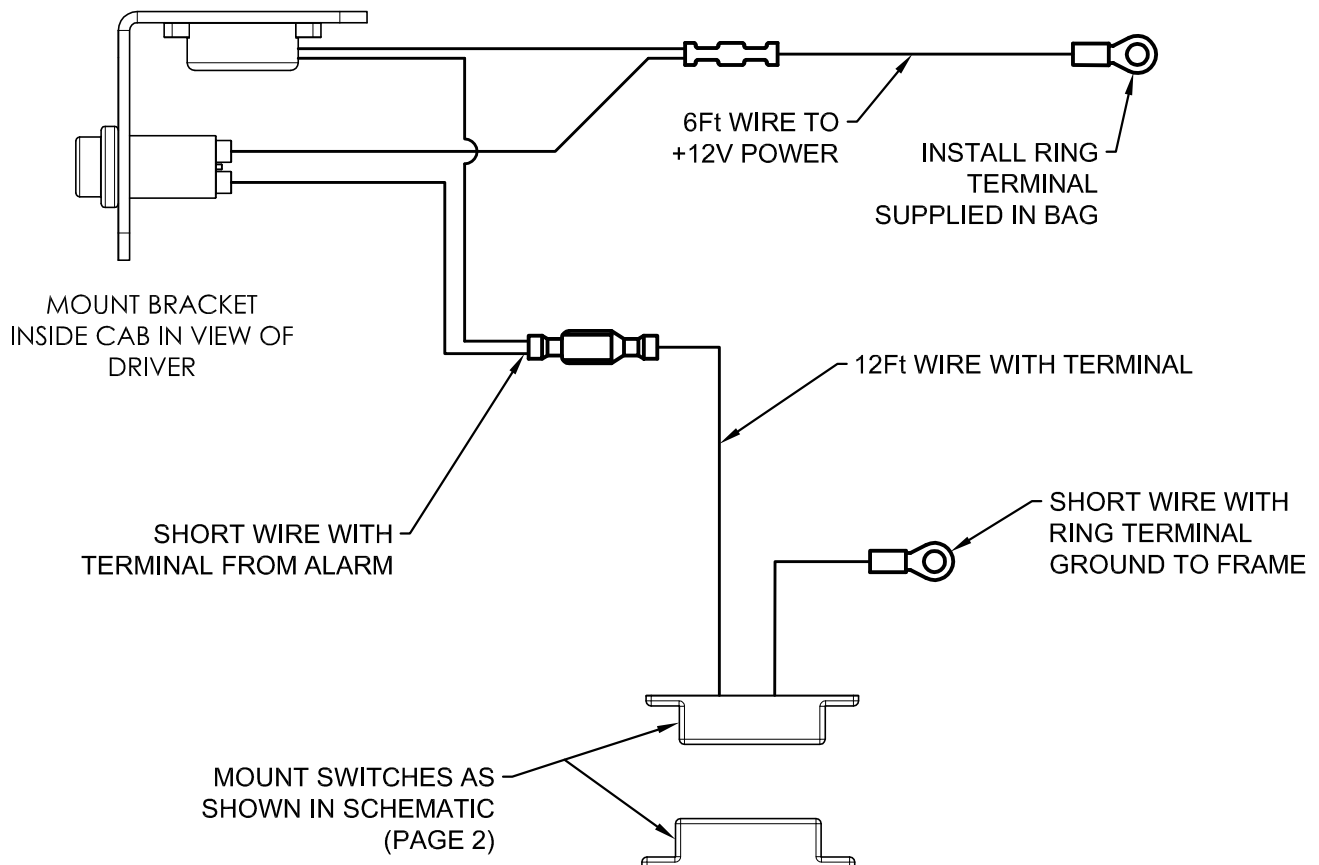
figure 3

HR2000PTO SYSTEM INSTALLATION

WIRING DIAGRAM FOR GANTRY ALARM KIT



- MOUNT **GANTRY ALARM BRACKET** INSIDE CAB, IN VIEW OF DRIVER
- GROUND **SHORT WIRE RING TERMINAL** TO FRAME
- CONNECT **6Ft WIRE RING TERMINAL** TO +12V POWER



HR2000PTO SYSTEM INSTALLATION

3. INSTALLING THE REAR SECTION & PULL ROPE

Attach the *rope pigtail* with the *snap hook* to the steel ring on the tarp, attach the deployment pull rope to the other end of the rope pigtail. Raise the gantry fully, and then pull the tarp out over the container. Either secure the rope pigtail, or tie off the deployment rope to the rear of the container.

The roller as shipped from the factory, already has 33 winds on the roller, which should be adequate to roll the tarp up properly.

If the tarp does not wind up fully, you can add more winds to the roller as follows: Install the HR4780-1 *winding disk*, on the drivers' side of the roller shaft. Loosen the set screws on both the right and left side collars.

Turn the *winding disk* COUNTER-CLOCKWISE as viewed from the drivers' side 2-3 revolutions, tighten the shaft collar set screws, and remove the disk. **DO NOT EXCEED 38 WINDS.**

NOTE: ADDING MORE WINDS WILL MAKE IT HARDER TO PULL THE TARP OVER THE LOAD. YOU ONLY WANT ENOUGH TENSION ON THE ROLLER TO SMOOTHLY WIND THE TARP ONTO THE ROLLER.

Tarp & Pull Bar Assembly

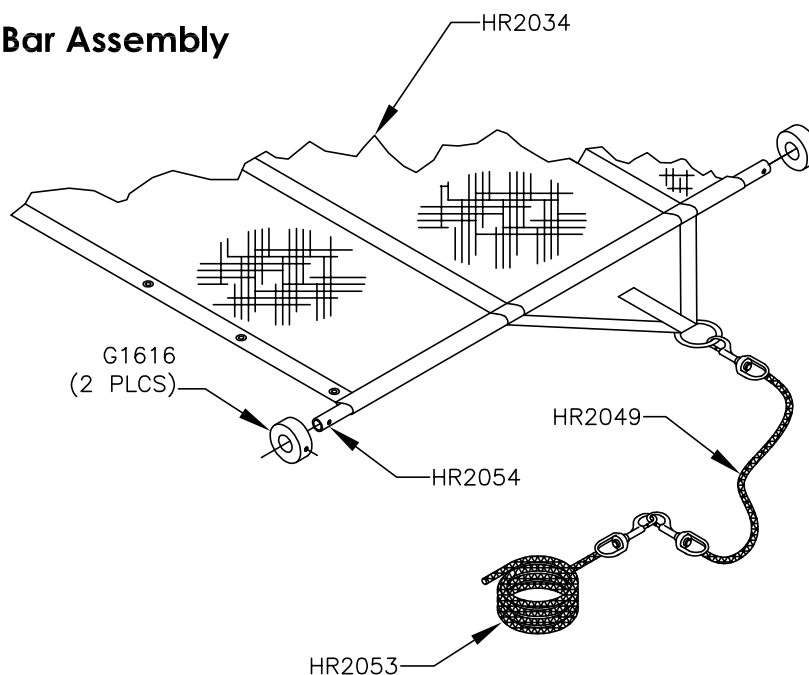


figure 3

HR2000PTO SYSTEM INSTALLATION

4. OPERATING THE UNIT

TO COVER

1. Untie the Pull Rope from the Rope Hooks on the side of the truck.
2. Raise the gantry to clear the load.
3. Walk the Pull Rope to the rear of the truck and flip over the container.
4. Pull the tarp out over the container, keeping a firm grip on the rope at all times.
5. Secure the Pull Rope to the Container and tie securely.
6. Lower the gantry down all the way.

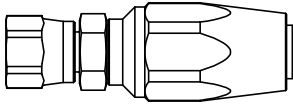
TO UNCOVER

1. Raise the gantry up to clear the load.
2. Untie the Pull Rope from the Container.
3. Slowly allow the Pull Rope to slide through your hands, allowing the tarp to roll onto the roller.
4. Lower the gantry to its rest position.
5. Store the Pull Rope on the Rope Hooks on the side of the truck. Fasten securely.

CAUTION: TO PREVENT DAMAGE TO THE TARPING SYSTEM, BE SURE TO UNCOVER THE LOAD BEFORE DUMPING OR EMPTYING THE BODY.

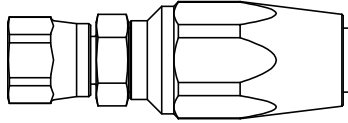
HYDRAULIC FITTING CHART

Note: -4 Hose Fitting and Swivel are Separate Items

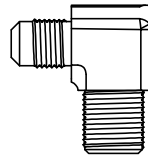


HR4685
Reusable Fitting for -4 Hose
w/ -6 JIC Female Swivel

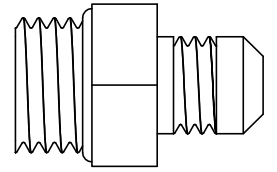
Note: -8 Hose Fitting and Swivel are Separate Items



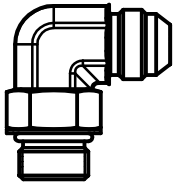
HR4721
Reusable Fitting for -8 Hose
w/ -8 JIC Female Swivel



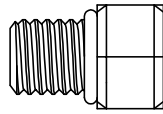
H7048
3/8 NPT M x -6 JIC M 90 DEG. ELL



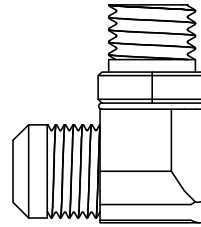
HR1505
-8 SAE M x -6 JIC M Adapter



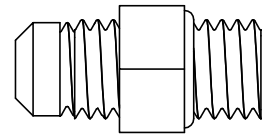
HR2021
-8 SAE M x -8 JIC M ELL



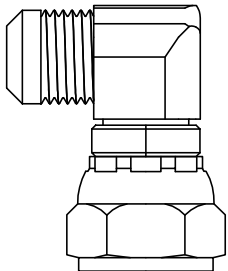
HR2057
-4 SAE Male Plug



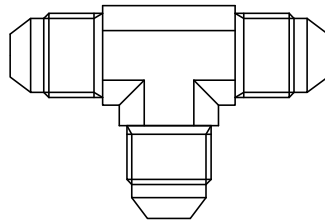
HR4681
-6 SAE M x -6 JIC M 90 Deg. ELL



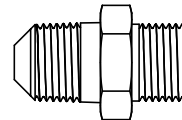
HR4682
-6 SAE M x -6 JIC M Straight
Adapter



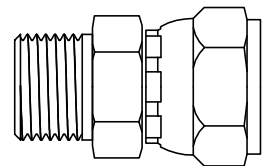
HR4683
-6 JIC M x -6 JIC F 90 Deg. ELL



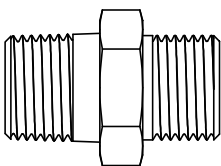
HR4684
-6 JIC M x -6 JIC M x -6 JIC M TEE



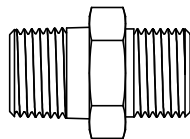
HR4716
1/4 NPT M x 6-JIC M Adapter



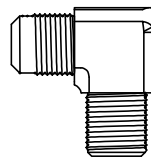
HR4717
1/4 NPT M x -6 JIC F Adapter



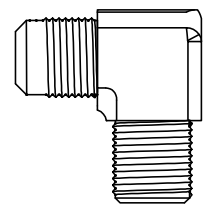
HR4722
1/2in. NPT M x -8 JIC M Adapter



HR4729
-6 SAE M x -8 JIC M ADAPTER



HR4553
1/4 NPT x -6 JIC 90 Deg. ELL



HR4693
1/2 NPT MALE x -8 JIC 90 Deg ELL

NOTES

HR2000PTO SYSTEM INSTALLATION

SPECIAL NOTE

NOT MANUFACTURED OR INTENDED FOR USE WITH HAZARDOUS WASTE

Pioneer, A Wastequip Company 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, A Wastequip Company.

WARRANTY

Pioneer, A Wastequip Company warrants this automatic container covering system for a period of twelve (12) months, against proven defective parts and workmanship. Excluded from this warranty is the fabric tarp. 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, A Wastequip Company has authorized a return and has received satisfactory evidence that the part(s) is(are) defective.