

# ***Skyhook 1600***

## **Installation manual for WOV, Valved & Power pack models**

US Patents & patents pending

### Owner's Manual

For Assistance call 252-291-2141

Attention Distributor/ Installer: **DO NOT DISCARD**, Please forward manual to customer along with warranty registration when unit is delivered.

**Warning: If incorrectly used, this equipment WILL cause injury!**

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## COVER OPERATION

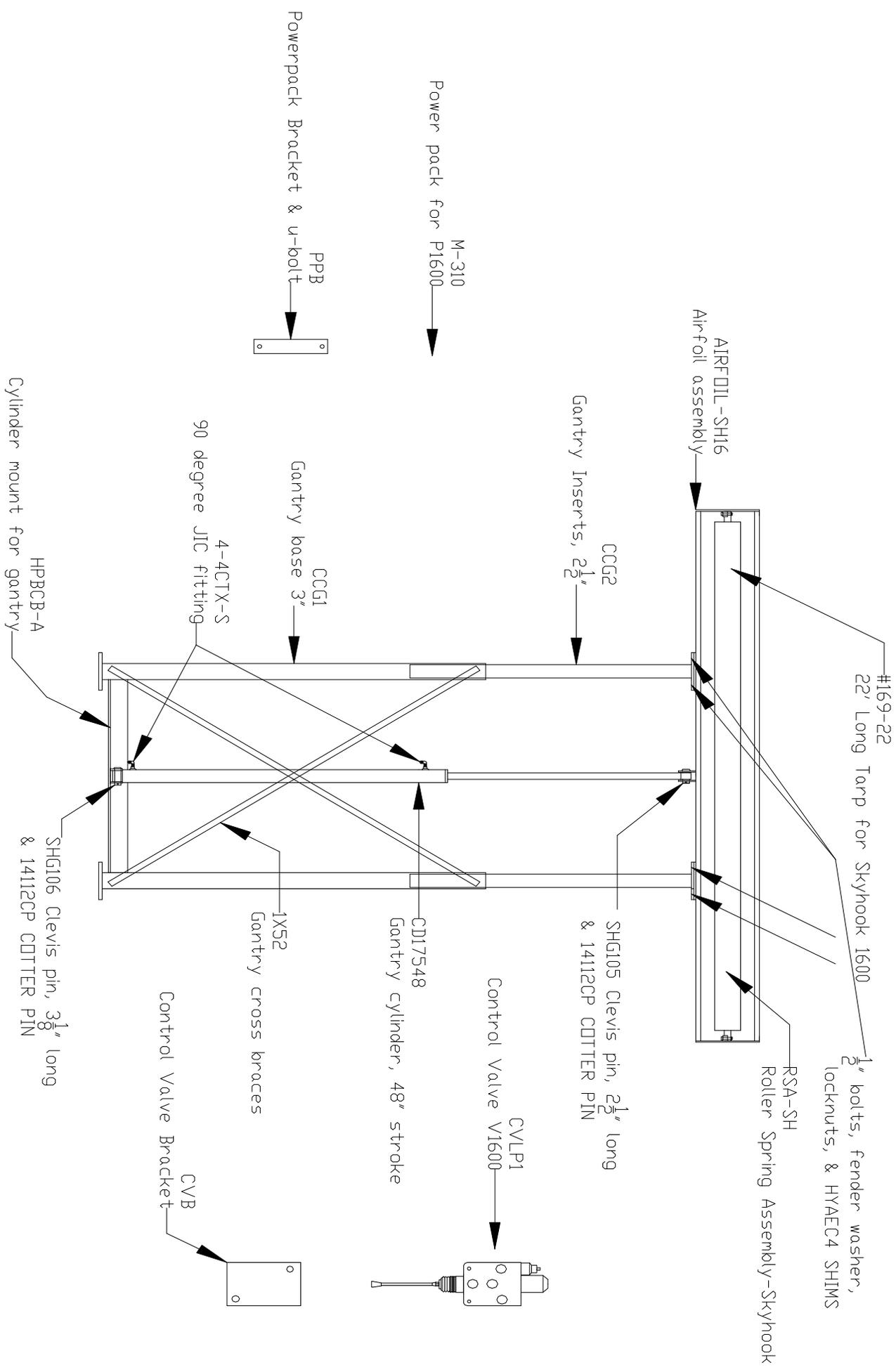
### TO COVER:

1. Attach long section of pull rope to the short section of rope
2. Raise gantry to its highest point.
3. Walk to the rear of the container and flip rope over the top of the container.
4. Pull rope to the rear of the container deploying tarp over the load.
5. Secure short section of rope to rear rope hook at rear of the truck
6. Coil up the long rope and stow in cab.
7. Lower gantry to its lowest point

### TO UNCOVER:

1. Raise gantry to its highest point.
2. Walk to the rear of the container & re-attach the long section of rope to the short section.
3. Slowly reel the tarp back into the air shield with the rope.
4. Flip rope back over the container
5. Lower gantry to its lowest point
6. Secure short section of rope to cleat of gantry.
7. Disconnect & coil up the long rope and stow in cab.

# SKYHOOK 1600 SALES SCHEMATIC FOR V,P & WOV MODELS



## Skyhook 1600 crate contents

Quantity	Part #	Name or Description
2	CCG1	Gantry base 3"x3"x60" tubing with 7"x7" mounting plates
2	CCG2	Gantry insert 2 1/2"x 2 1/2" tubing with 6 1/2"x3" mounting plates
1	HPBCB-A	Cylinder mounting bracket, 3"x4" angle w/ female cylinder mount
2	1X52	1"x52" Gantry cross braces
1	CD17548	1 3/4" x 48" gantry cylinder
1	AIRFOIL-SH16	Airfoil assembly for Skyhook 1600 series
1	SPK-16	Small parts kit for Skyhook 1600 WOV

## Skyhook V1600 crate contents

Quantity	Part #	Name or Description
2	CCG1	Gantry base 3"x3"x60" tubing with 7"x7" mounting plates
2	CCG2	Gantry insert 2 1/2"x 2 1/2" tubing with 6 1/2"x3" mounting plates
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## Skyhook P1600 crate contents

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2	CCG1	Gantry base 3"x3"x60" tubing with 7"x7" mounting plates
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2	1X52	1"x52" Gantry cross braces
1	CD17548	1 3/4" x 48" gantry cylinder
1	AIRFOIL-SH16	Airfoil assembly for Skyhook 1600 series
1	SPK-P16	Small parts kit for Skyhook P1600
1	M-310	Power pack for Gantry

# Gantry Installation

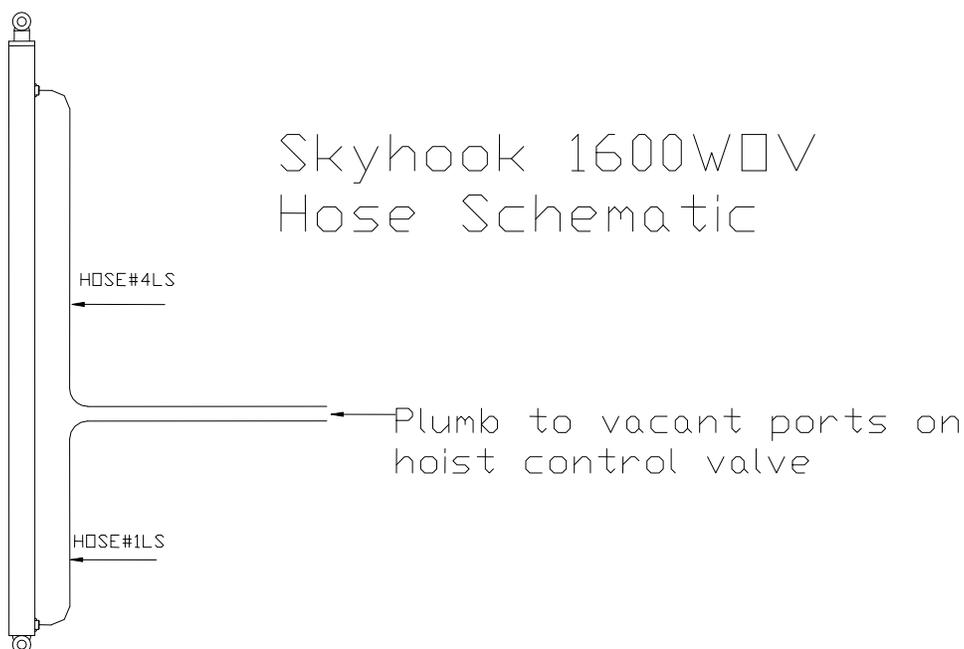
1. Check for clearance between cab, exhaust, and hoist.
2. You will need a minimum of 8" clearance between hoist and cab to mount gantry base.
3. Sit gantry base on top of chassis, Get the 4-5/8" U-bolts & 8-5/8" lockwashers and nuts out of the small parts kit. **YOU WILL NEED TO FLEX THE U-bolts APART** in order to slide into the gantry mounting plates. Slide U-bolts in from bottom of chassis into mounting plate holes, and attach with the 5/8" nuts and lock washers. If this option will not work then a chassis bridge will need to be fabricated for gantry attachment.
4. **Note-leave at least one inch (1") of clearance between cab and gantry.**
5. Measure the distance from hoist to gantry base. Make sure both gantry base's are the same distance from the hoist and plumb.
6. Tighten down the 5/8" U-bolts after verifying square and plumb.
7. Slide the gantry inserts into the gantry bases.
8. Mount Airfoil-SH16 on top of gantry inserts using the 4) 1/2" x 1 3/4" bolts. Be sure to mount the airfoil with the 1/2" bolts and washers through the top and the nuts with lock washers on the bottom. Center the Airfoil-SH16 midway between the gantries and tighten down.
9. Attach the rod end of the CD17548 cylinder to the Airfoil-SH16 clevis with the SHG105 clevis pin and 1/4" x 2" Cotter pin. With the cylinder hanging from Airfoil-SH16, measure the distance between the gantry bases at the cylinder base mounting point.
10. Cut the HPBCB-A angle to fit this dimension. Be sure that the cylinder mounting bracket is centered on the angle. If the dimension between the gantry bases is 34 1/2" and the angle is 35 1/2", cut 1/2" from each end.
11. Attach the base of the cylinder to the HPBCB-A using the SHG106 clevis pin and 1/4" x 2" cotter pin. Weld the HPBCP-A angle to the gantry legs, making sure that the HPBCP-A angle is level and plumb with the truck.
12. Making sure that the gantry legs are level and plumb, weld the 2-1X52 cross braces to the gantry bases in a criss-cross pattern. This will give the gantry additional lateral support for raising and lowering the Airfoil-SH16.
13. With the short rope that is attached to the tarp, loop the free end around the loose rope hook. Using the rope as a pendulum, swing the rope & rope hook around the edge of the driver's side gantry. Pull out the tarp rope and hook approximately 2"-4" and mark where the hook needs to be on the gantry. Remove the hook from the rope and weld to the gantry where marked.
14. Take the remaining hook and go to the rear of the truck. Ideally mount the hook in the middle of the truck bumper, to the hoist, somewhere it is out of the way but easily accessible.

# Hydraulic Installation

## Skyhook1600 WOV

This option only applies if you have an available 3<sup>rd</sup> spool on your hoist control valve.

1. 2 hoses and 2 fittings will need to be procured for this option.
2. Install the 2-90 degree 1/4" male pipe to 1/4" male JIC fittings into the work ports of the cylinder.
3. Install Hose#1LS and Hose#4LS to the gantry cylinder. Hose#4LS (longest hose) goes to the rod end port of the gantry cylinder, Hose#1LS goes to the base end port.
4. These hoses are also used on the SkyhookV1600 and are only long enough to go where the control valve would normally be installed. Route the hoses out of harms way toward the hoist control valve.
5. Measure how long to make the two additional hoses and determine what fittings are necessary to tap into the hoist control valve.
6. Once the 2 additional hoses are fabricated, attach to the #1 and #4 hoses and install on the available 3<sup>rd</sup> spool of the hoist control valve.
7. Engage the trucks PTO and remove the hoses from the gantry cylinder.
8. Move the control valve handle to bleed both hoses. Once clean & continuous fluid comes out of each hose, disengage the handle and reattach the #1 hose to the base port of the cylinder.
9. Re-engage the handle and raise the gantry all the way up.
10. Re-attach the #4 hose to the rod end port of the gantry cylinder.
11. Before lowering the gantry, liberally apply grease to the gantry inserts.
12. Lower gantry all the way down, wiping away any excess grease that accrues on the gantry base.
13. Apply zip-ties securing the hoses to the gantry cylinder and any other provisions that will keep the hoses out of the way.
14. Hydraulic installation is now complete.



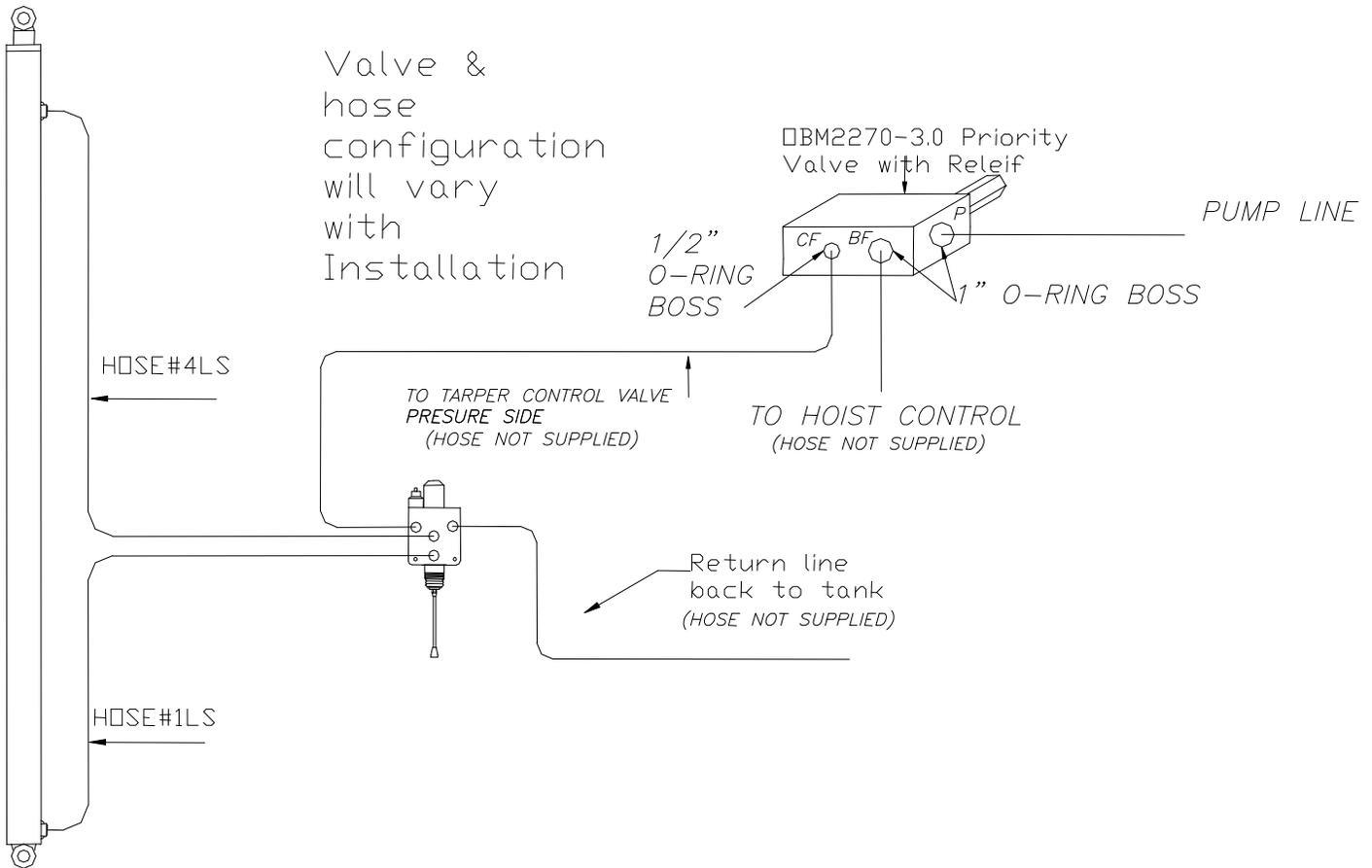
# Hydraulic Installation

## Skyhook V1600

This option applies if you are tapping into the trucks hydraulic system.

1. Mount the Priority valve (OBM227-1.8) in an easily accessible place
2. Mount the control valve mounting plate (CVP) to the driver's side gantry base near the U-bolts. Weld into place
3. Mount the control valve (CVLP-1) to the control valve mounting plate.
4. Screw in the 2- ½" o-ring to ¼" JIC adapters into the 2 work ports of the control valve.
5. Screw in the 2 remaining ½" o-ring to ¼" JIC adapters into the 2 remaining ports (pump & return ports).
6. Install the 2-90 degree ¼" male pipe to ¼" male JIC fittings into the work ports of the cylinder.
7. Install Hose#1LS and Hose#4LS to the gantry cylinder. Hose#4LS (longest hose) goes to the rod end port of the gantry cylinder, Hose#1LS goes to the base end port.
8. Route the 2 hoses from the cylinder ports to the work ports of the control valve per the diagram.
9. At this point, you will need to figure out what fittings are required to tap into the trucks hydraulic system. Since every truck is different, these hoses and fittings are not included in the system.
10. Disconnect the pump supply line from the hoist control valve. Route this hose to the "P" port of the priority valve (OBM2270-1.8). This will probably require an adapter.
11. Fabricate a hose that goes from the "BF" port of the priority valve back to the pump inlet port of the hoist control valve. This is the port that the pump line was disconnected from at the hoist control valve.
12. Fabricate a hose that goes from the "CF" port of the priority valve to the pump supply side of the tarper control valve. This port will be closest to the relief valve.
13. Fabricate a hose that goes from the return port of the control valve back to the tank.
14. Be sure that all hoses and fittings are good and tight. Be sure to leave the hose fittings at the cylinder loose. We will address this in a few steps.
15. Engage the trucks PTO and remove the hoses from the gantry cylinder.
16. Move the control valve handle to bleed both hoses. Once clean & continuous fluid comes out of each hose, disengage the handle and reattach the #1 hose to the base port of the cylinder.
17. Re-engage the handle and raise the gantry all the way up.
18. Re-attach the #4 hose to the rod end port of the gantry cylinder.
19. Before lowering the gantry, liberally apply grease to the gantry inserts.
20. Lower gantry all the way down, wiping away any excess grease that accrues on the gantry base.
21. Apply zip-ties securing the hoses to the gantry cylinder and any other provisions that will keep the hoses out of the way.
22. Hydraulic installation is now complete.

# Skyhook V1600 Hose Schematic



Hydraulic systems over 3000 psi require a higher pressure priority valve \*OPTIONAL\* Or require mounting priority valve downstream using power beyond

Hydraulic systems that flow over 50 gpm require a higher flow priority valve \*OPTIONAL\*

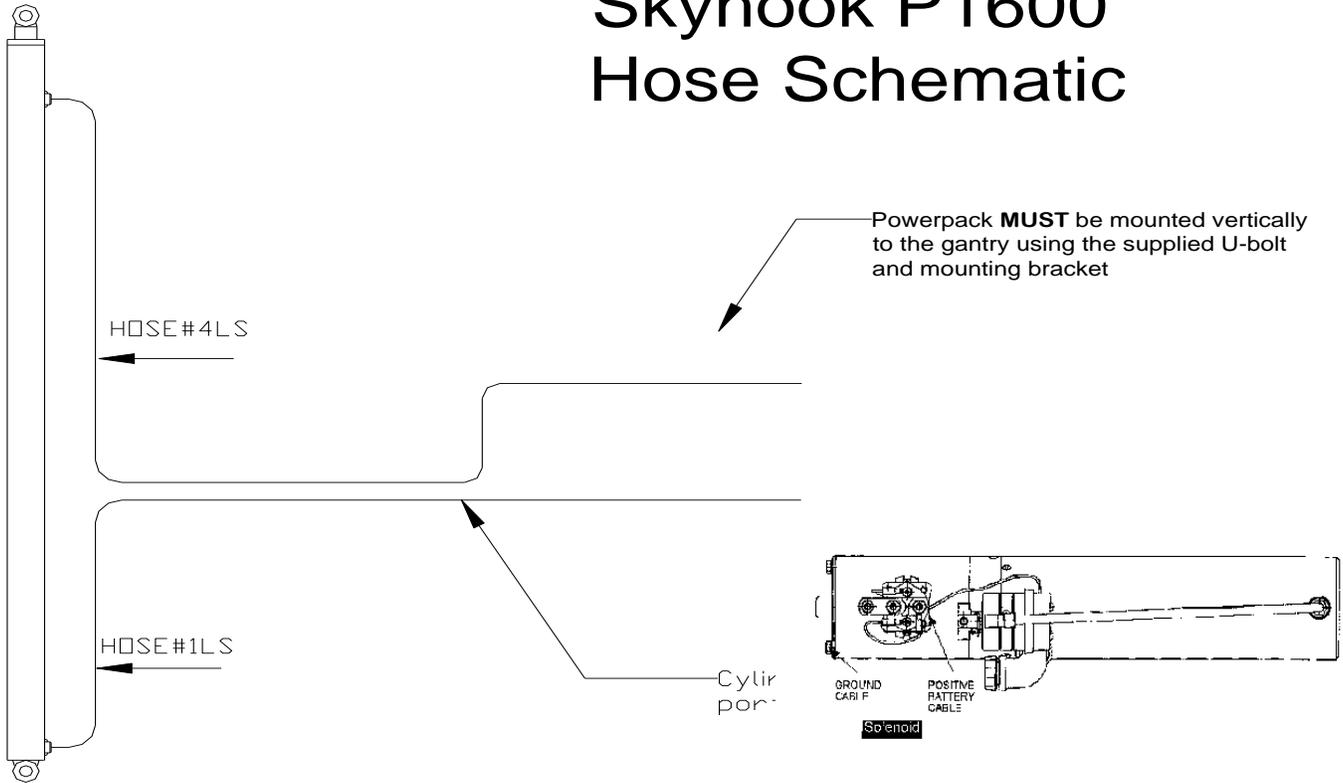
# Hydraulic Installation

## Skyhook P1600

This option applies if you are using the power pack option

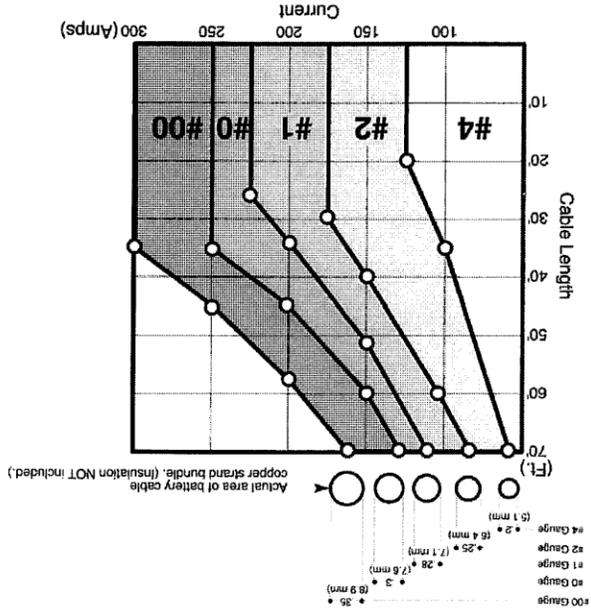
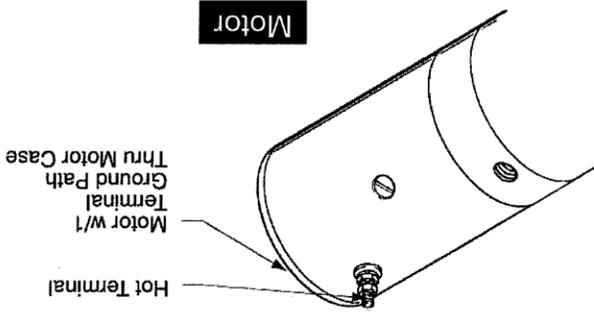
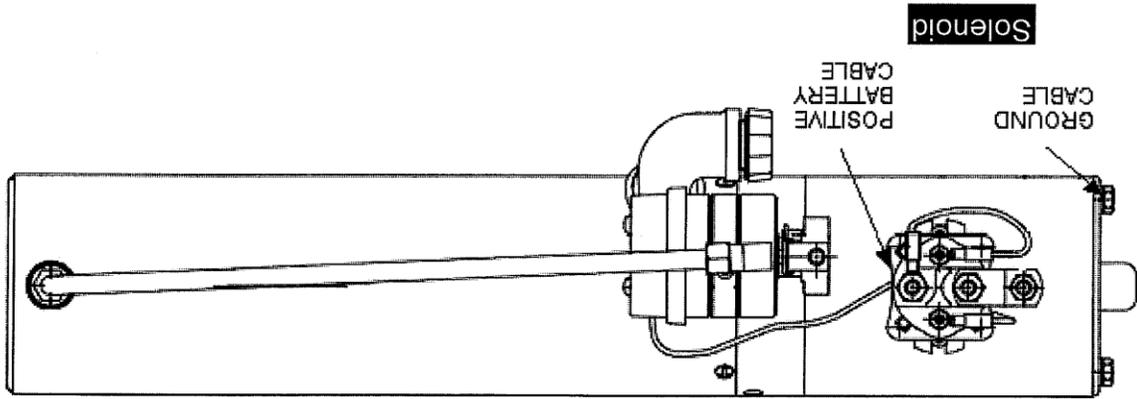
1. Loosely mount the large U-bolt and power pack mounting bracket (PPB) to the power pack (M310). Snug the U-bolt down.
2. Vertically mount the power pack to the driver's side gantry base. Be sure that the solenoid is up and the tank is down. Once the power pack is situated where it is easily accessible for the driver, but out of the way, tack weld the PPB to the gantry. Remove the U-bolt and power pack and firmly weld the PPB to the gantry base.
3. Re-attach the power pack to the PPB using the large U-bolt.
4. Install the 2-90 degree ¼" male pipe to ¼" male JIC fittings into the work ports of the cylinder.
5. Install the 2-90 degree ¼" male pipe to ¼" male JIC fittings into the work ports of the power pack valve near the solenoid.
6. Install Hose#1LS and Hose#4LS to the gantry cylinder. Hose#4LS (longest hose) goes to the rod end port of the gantry cylinder, Hose#1LS goes to the base end port.
7. Route the 2 hoses from the cylinder ports to the work ports of the power pack control valve per the diagram.
8. At this point you will need to decide what electrical fittings are required to tap into your trucks electrical system. A diagram is included that tells you what gauge wire is required based on how far you have to go to attach to the battery.
9. Attach the electrical lines per diagrams recommendations.
10. Fill the power pack reservoir with good quality hydraulic fluid or ATF fluid.
11. Move the power pack control valve handle to bleed both hoses. Once clean & continuous fluid comes out of each hose, disengage the handle and reattach the #1 hose to the base port of the cylinder.
12. Re-engage the handle to raise the gantry all the way up.
13. Re-attach the #4 hose to the rod end port of the gantry cylinder.
14. Before lowering the gantry, liberally apply grease to the gantry inserts.
15. Lower gantry all the way down, wiping away any excess grease that accrues on the gantry base.
16. Apply zip-ties securing the hoses to the gantry cylinder and any other provisions that will keep the hoses out of the way.
17. Hydraulic installation is now complete.

# Skyhook P1600 Hose Schematic



# Wiring Guide for D.C. Power Units

M-310-0262 12 Volt



# Final Adjustments

1. Bleed all hoses and check all fittings and lines for leaks
2. Zip tie all hoses so that they are out of harm's way and not rubbing against any sharp edges.
3. Pull the tarp all the way out and make sure that it rolls all the way up. Additional tension or less tension may be required.
4. Fill out warranty application and put with installation manual in cab for customer.

# Maintenance

1. Grease the gantry monthly or as needed.
2. Check the hoses monthly for wear or abrasion. Replace as needed.
3. Additional spring tension may be required if tarp will not roll back in after some usage. Be sure that the tarp is not rubbing against the edge of the airshield. If rubbing is occurring, tarp may not roll up completely.

# Operator tips

1. Do not operate under or near electrical or phone lines.
2. Keep clear of moving parts.
3. Do not allow anyone on or in container when operating tarp system.
4. On windy days, you may have to pull your truck INTO the wind to operate tarp system OR along a building or wind block to avoid injury. Side winds will cause the tarp to roll up crooked, winds from behind will cause the tarp to pull against the driver possibly causing injury.

**INJURY CAUSED BY WIND IS THE RESPONSIBILITY OF DRIVER! PURCHASE OF SKYHOOK SERIES RELEASES O'BRIAN TARPING SYSTEM FROM ANY DAMAGES OR INJURIES CAUSED FROM OPERATING TARDER!**