



STATIONARY UNIT


GENERAL INFORMATION



Thank you very much for adding the FireVent Stationary Unit to your training program. This binder contains some basic information for the safe operation of the FireVent Stationary Unit along with some technical information. Please read and become familiar with the content.

Please feel free to contact us with any questions or concerns you may have as you use and become familiar the FireVent Stationary Unit. We would really like to hear any comments that you may have. We would also like to receive any pictures that you would like to email to us using the unit. Any pictures that you are able to email to us could be used in the future for marketing purposes.


Thank you,
FireVent, LLC
775-230-9953
rod@Firevent.us

 **WARNING**

Stationary Unit
Maximum Load
Rating

Flat Position:
20 people or
5,000 lbs.
Evenly
Distributed

**Inclined
Position:**
10 people or
3,000 lbs. Evenly
Distributed.

 **WARNING**

Safety bars
must be
pinned in
place prior
to personnel
accessing
elevated
platform.

 **WARNING**

**FALLING
DEBRIS**

Do not walk
under
elevated
platform
during
use.

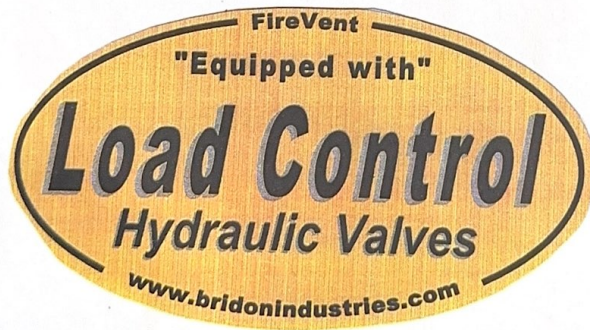
 **WARNING**

FALL HAZARD

Fall from elevated platform could
result in serious injury or death



**UNITED STATES
PATENT NO.
8,360,782
9,646,515
10,242,594
11,844,974**





SAFETY & CAUTION GUIDELINES:

1. Maximum load on Stationary Unit: **Flat Position** 20 people 5,000lbs evenly distributed. **Inclined Position** 10 people 3,000lbs evenly distributed.
2. Do not set prop up in excessive wind conditions (rated for 60 mph winds).
5. Always use a safety officer during roof operations training.
7. Use extreme caution when walking around prop during use and do not walk under the prop during use.
8. Always wear appropriate safety gear when using the prop i.e. helmet, gloves, eye protection and turnout gear.
9. No personnel are to be on the prop while the prop is in motion, when adjusting the pitch.
10. No personnel are to be on the roofing platform unless the pitch / safety bars are pinned in place, except when the platform is in the flat position.
11. Follow all of your agencies safety and operational SOP'S when using prop.



Using the Remote

The unit has a double acting hydraulic pump, which means that the pump should always be running when the up or down button is pushed. Hydraulic fluid is always moving in and out of the hydraulic reservoir at the same time. There have been instances when the unit can be lowered by gravity without the hydraulic pump running. It is important to completely depress the control buttons to avoid this circumstance. If this happens lift up on the button and depress again and be sure that you hear the pump running. If this happens and the platform is completely lowered, no damage will occur but it may cause the hydraulic reservoir to overflow.



Material Requirements

Standard Model (24ft x 12ft platform)

Roofing Platform:

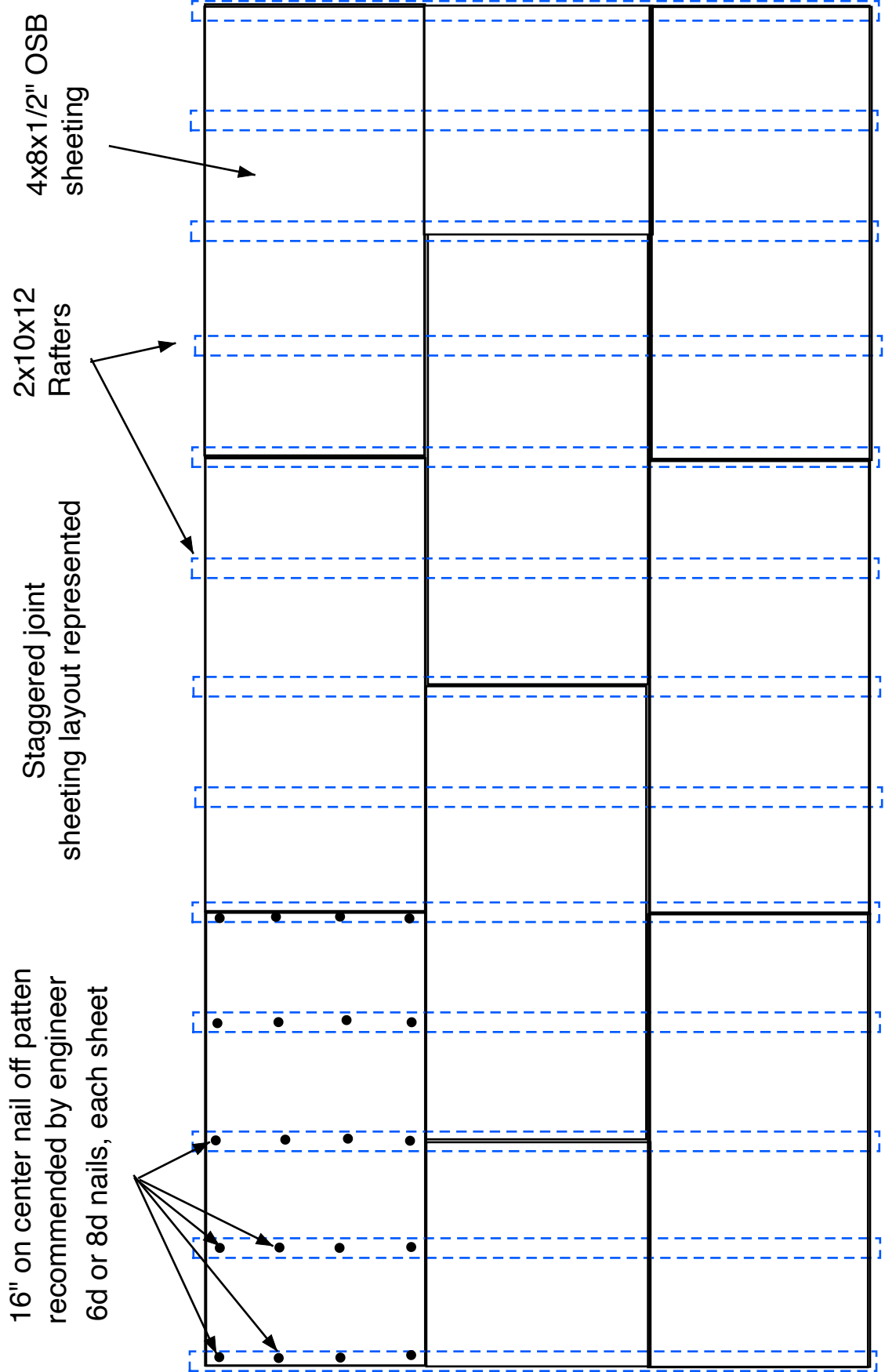
- Rafters - 2 x 10 x 12ft **13 pieces**
- Sheeting - 4 x 8 x ½" OSB **9 pieces**

Ceiling:

- Ceiling Joists - 2 x6 x12ft **13 pieces**
- Sheeting - 4x8x1/2" (OSB or Sheetrock) **9 Pieces**

Stationary Unit

Recommended Nailing Pattern - 24ft x 12ft platform





Hydraulic System Information

The hydraulic system is comprised of a 12volt “power up and power down” hydraulic pump (pressure set at 2500psi) with corded remote control, 3/8 heavy duty 3000 psi hydraulic hose, two 3000 psi hydraulic cylinders, quality AW 32 hydraulic fluid and two deep cycle marine / RV batteries.

There is a needle valve or dial valve located on one of the hoses coming off the pump. This valve will control the speed of the fluid in the system thus controlling the rate at which the hydraulic rams extend and retract. This valve should be left completely open or turned all the way out for the maximum flow all the time. There may be times, however, when the roofing platform is being lowered, that it may begin to “chatter” or vibrate if this begins to happen the valve may be closed a little bit to slow down the decent of the platform which will stop the vibrating. If the valve is turned in it restricts the hydraulic flow and increases the work of the pump which can cause overheating, so once the platform is completely lowered, fully open the valve again. If the valve is completely closed it will stop the flow of hydraulic fluid and the rams will not move.

The hydraulic system should not be operated with batteries that are noticeably low on their charge. Operating the system with low output from the batteries can cause damage to the hydraulic pump.

If the need arises to add fluid to the hydraulic reservoir use caution not to over fill. The hydraulic fluid cycles through the reservoir and stays close to the same level, however the reservoir will be the fullest when the cylinders are retracted than when they are extended. Check fluid level when cylinders are retracted.



FLUID OVERFLOWING FROM RESERVOIR

Possible Reason:

When the battery is fully charged (with a power up/power down pump) the unit is pumping an average of 2 gallons per minute out. So, the reservoir is seeing approximately 2 gallons out and receiving approximately 2 gallons back from the hydraulic cylinder, at the same time. But when the battery is low the pump is pumping out less than 2 gallons but 2 gallons is still coming into the reservoir. When this happens, the reservoir can overflow and the filler/breather cap (which has a filter/felt) can get saturated (filled with hydraulic oil). Then the reservoir can no longer breathe and becomes a pressure vessel. Then problems can occur like the reservoir o-ring pushing out the side causing a leak point or the reservoir will crack, also causing a leak point. If you have a reservoir overflow once you can temporarily remove the filler/breather cap felt so the reservoir can continue to breathe. This may help prevent the reservoir from becoming a pressure vessel. But once the battery is fully charged or replaced the felt or filler breather cap needs to be replaced. This helps keep airborne contamination from getting into the reservoir and into the hydraulic fluid.

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Installation: 12 vdc, Double Acting (Power UP / Power DOWN) Unit

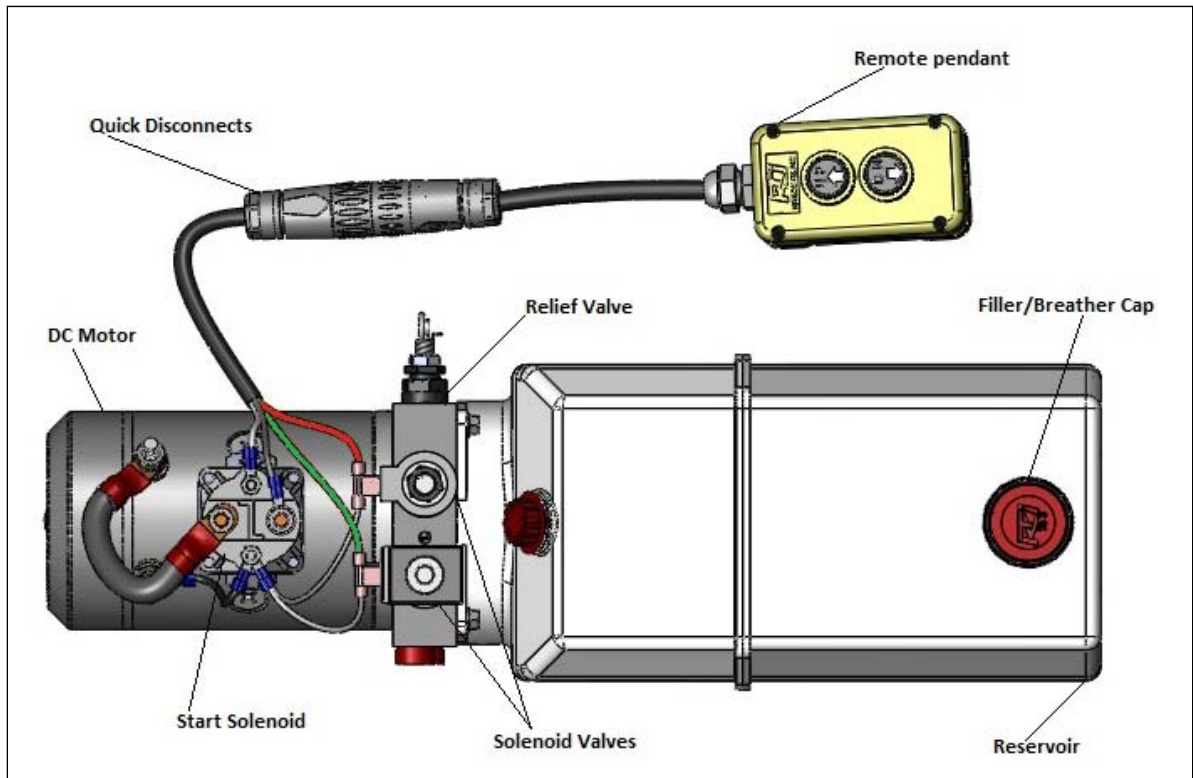


Diagram A-1

1. Install 9/16-18 SAE ORB, SAE #6, hydraulic fittings into ports "A" and "B". Torque fittings to 18 lb-ft.
2. Remove the two-button pendant from the power unit at the quick disconnect.
3. Mount the Power Unit using two, 3/8-16 UNC mounting bolts (*diagram A-3*)
4. Remove the Filler/Breather Cap and fill the reservoir with hydraulic oil (*see fluid recommendations*). Replace the filler/breather cap.
5. Connect Hydraulic Lines to ports "A" (TOP) & "B" (BOTTOM).
 - a. Check the torque specifications for the hose fittings.
 - b. Connect the Base of the Cylinder to the port "A" (TOP).
 - c. Connect the Rod End of the Cylinder to port "B" (BOTTOM).
6. Connect the battery **Ground** cable to the **Ground** terminal of the DC Motor (*diagram A-3*)
7. Connect the **Positive** cable from the battery to the start solenoid (*diagram A-4*).
(See Battery Cable Gauge table for proper gauge for your length of cables.)
8. Holding the bottom nut with a wrench, torque the battery connections to 3 lb-ft.
9. Reconnect the two-button remote pendant at the quick disconnect.
10. Operate the power unit while also keeping an eye on the fluid level in the reservoir.
 - a. Insure that the fluid level doesn't go lower than ½ full during the initial start up.
 - b. When the cylinder is fully extended, the reservoir should be about ½ full.
(The Reason for Not Filling the Reservoir all the way is that during retraction of the cylinder the Butt End of the Cylinder Will Displace Fluid, Causing the Reservoir to Overflow)
11. Run the cylinder Up and Down until all the air is removed from the hydraulic oil.
12. Fill the reservoir to the Full line on Reservoir Label. [Approx. one (1) inch from the top].

Form SVC006 June 2012

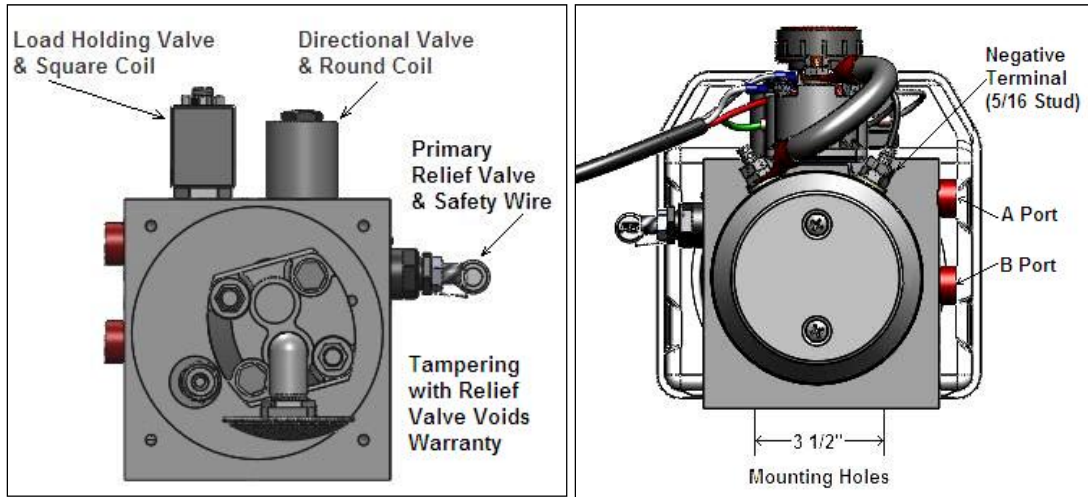


Diagram A-2

Diagram A-3

Fluid Recommendations

KTI recommends using a premium hydraulic oil to ensure optimum performance and system life. Select oil that has anti-wear properties, rust and oxidation inhibitors, foam inhibitors and good stability. Examples of premium grade hydraulic oils: Chevron Rando HDZ, Mobil DTE 10, DTE 20 series, AMSOIL, and Shell Tellus.

Automotive Transmission Oils are acceptable under normal conditions.

Aviation Oils such as Valvoline ROYCO series or Mobil Aero HF or HFA may be used in **prolonged, extreme cold** environments.

Do Not Use Biodegradable Hydraulic Fluid. Do Not Mix Oils.

Ambient Temperature Range

ISO Viscosity Grade

- 20°F to + 32°F
 (- 29°C to + 0°C)

15

+ 14°F to + 120°F
 (- 10°C to + 49°C)

22, 32, ATF

Battery Cables

To minimize voltage drop, increase the gauge size of the battery cables as the length of the positive and ground cables increase. Low voltage will cause the motor to run at higher amps and may cause damage to other electrical components.

Cable Length	Wire Gauge	Nominal OD (in.)
1 to 2 feet	4 gauge	0.43
3 to 4 feet	2 gauge	0.49
5 to 7 feet	1 gauge	0.56
8 to 9 feet	1/0 gauge	0.61
10 to 12 feet	2/0 gauge	0.66
13 to 15 feet	3/0 gauge	0.72
16 to 19 feet	4/0 gauge	0.78

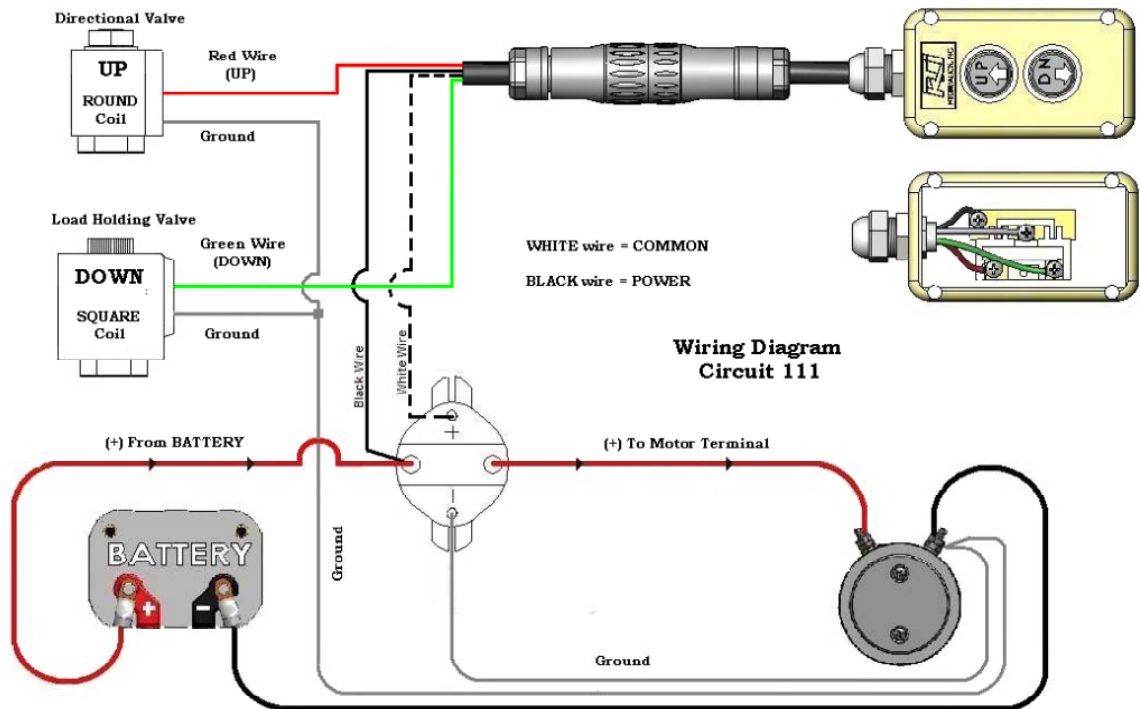
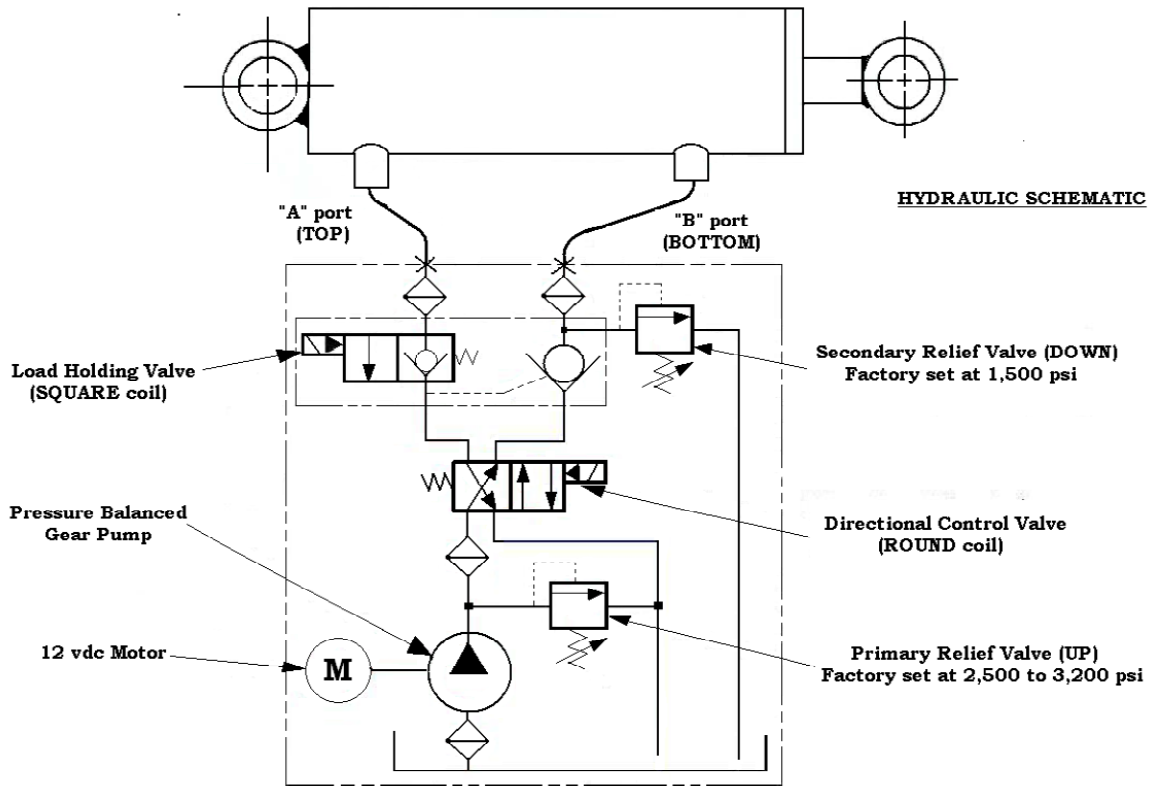
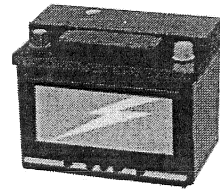


Diagram A-4

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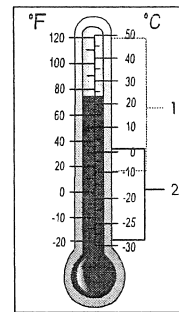
 **ATTENTION: BATTERY**

1. CHECK BATTERY VOLTAGE BEFORE USE
2. **UNIT PERFORMS BEST AT 10V DC OR ABOVE**



 **CAUTION: RECOMMENDED HYDRAULIC OILS**

1. +14°F to +120°F (-10°C TO +49°C) ISO 22, 32, ATF
2. -20°F to +32°F (-29°C TO +0°C) ISO 15
3. AVIATION OILS (MIL-H-5606 Type) MAY BE USED IN PROLONGED EXTREME COLD CLIMATES.



 **WARNING: MIXING HYDRAULIC OILS WILL VOID WARRANTY.**

Trouble Shooting Quick Reference Guide

Possible Cause	Not Building Pressure	Motor Not Running	Cylinder Won't Extend	Cylinder Won't Retract	Won't Hold Load	Excessive Heat From Unit	Aeration of Hydraulic Fluid	Reservoir Overflows	Cylinder Extends With Unit Not Operating	Struggles to Lift Load	Load Bounces When Cylinder Retracts	Start Solenoid Just Clicks-Motor Not Engaging	Won't Lift Load (DC Motor Under Load)	Won't Lift Load (DC Motor Not Under Load)	Won't Lower	Start Solenoid Stays On	Cylinder won't Retract Motor Under Load
Low Battery Voltage		o	o	o		o		o		o		o					
Poor Ground Condition		o	o	o		o		o		o		o					
Check Hand Control												o			o		o
Debris in Load Holding Valve					o												
Thermal Pressure Lock			o														o
Coil Not Energizing			o	o									o		o		o
Bad Seals in Cylinder	o										o						o
Loose Inlet				o			o	o			o						o
Packing on Cylinder Rod Worn Out			o	o					o		o				o		o
Hoses Connected Backwards											o						
Pump Not Priming	o		o														
Clogged Orifice				o											o		o
Rust In Motor		o															
Bad Diode				o													o
Check For Additional Valving On or Connected to Cylinder					o												
Directional Valve Not Shifting Properly			o	o						o					o		o
Bad Start Solenoid												o			o	o	
Dirty Contacts in Hand Control			o	o								o	o				

Quick Reference Guide covers the most common problems.
(if we have missed a step please let us know)



Prop Maintenance

All FireVent models are low maintenance equipment, however there are some items that should be checked periodically.

- Grease all grease fittings according to use.
- Ensure that all warning stickers and labels are intact and readable. Contact FireVent, LLC if labels are damaged and replacements are needed.
- Periodically check to ensure that all quick links are tight and secure on the safety chains that surround the roofing platform.
- Periodically inspect all welds on the prop to ensure that there are no cracks that could compromise the structural integrity of the unit.
- Be sure the 12volt batteries are properly maintained and have adequate charge prior to use.
- Check hydraulic fluid level (when cylinders are retracted, prop is horizontal)



Limited Warranty

All FireVent, LLC products are warranted to be free from defects in materials and workmanship for a period of two years from the date of original purchase. Manufacturer agrees to repair or, at manufacturer's option, replace equipment supplied by manufacturer, which proves to be defective in materials or workmanship. This warranty is limited to defects arising under normal usage and does not cover malfunctions or failures resulting from the misuse, abuse, neglect, alteration, modification, or repairs by other than manufacturer's authorized service facility.

For warranty issues or concerns please contact FireVent, LLC:

info@FireVent.us P: 775-230-9953 F: 775-883-2387



Please Send Pictures

We would really like to hear from you, if you have any comments or concerns, and we would also love to receive any pictures that you would be willing to send our way, using the FireVent Stationary Unit.

Thank you!

FireVent, LLC
Rod Temple
775-230-9953
rod@FireVent.us