

Owner's Manual

PhotoSharp



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Congratulations on your purchase of the PhotoSharp.

Check the crate for damages. DO NOT accept the crate if there are any damages caused by improper handling during shipping. Immediately report any damages to the carrier and contact Workhorse Products at, 800-778-8779.

Be sure to inspect the crate contents IMMEDIATELY, while the carrier is still present. Even though our packaging has been designed to handle normal shipping conditions, we cannot foresee damages done by the carrier. We will not be responsible for damages that occur during transportation.

If there are damages immediately notify the driver, file a claim with the carrier and call Workhorse Products.

The Importance of the Owner's Manual:

The purpose of the Owner's Manual is to familiarize you with the parts and operations of the PhotoSharp. There are step-by-step instructions to assemble the press, accompanied with links to videos for further assistance. Also included are explanations of the product's key features, and additional information that will help with the maintenance of your press.

Safety Procedures



WARNING!

RISK OF ELECTRICAL SHOCK! Turn ALL power to unit OFF before service.
All service should be done by or under the supervision of a trained technician.



To ensure safe and reliable operation of your exposure unit, all personal should be thoroughly trained on the following procedures:

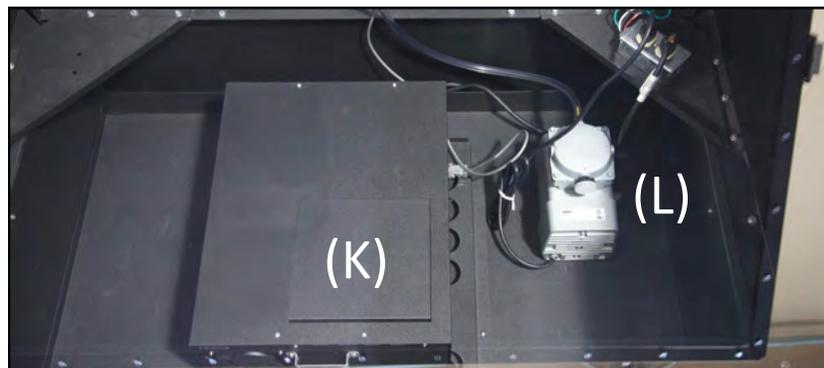
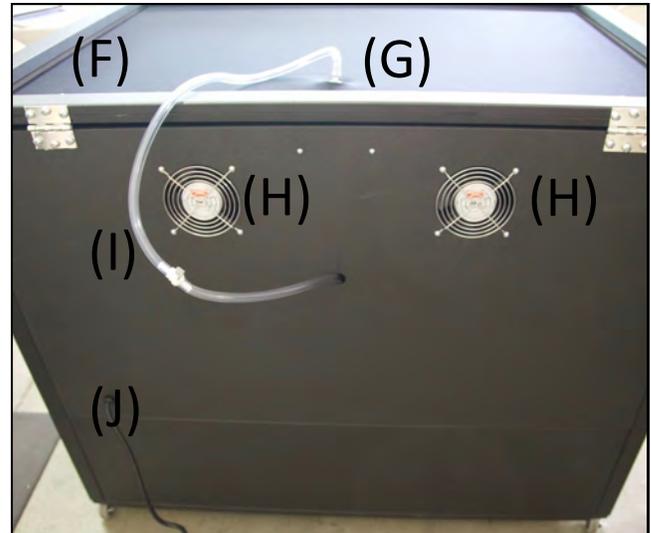
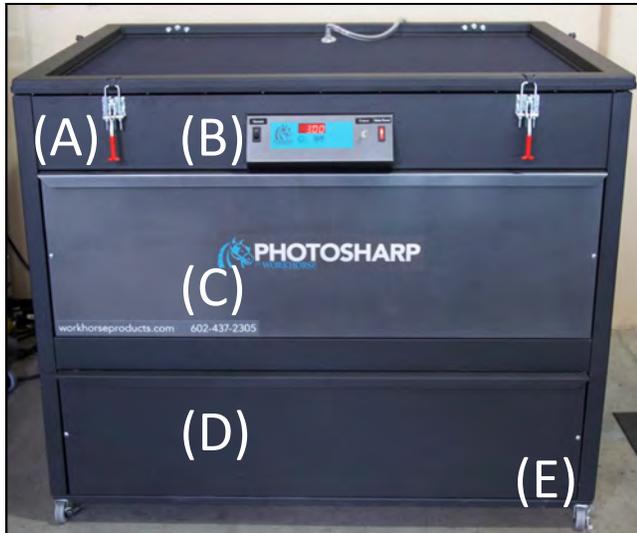
1. For your safety, do not store or use gasoline or other inflammable vapors and liquids in the vicinity of machine or within 3 feet (1 meter) of this or any other appliance.
2. **NEVER** alter the internal wiring of this machine.
3. Keep all loose articles (including clothing, hair, jewelry, etc.) away from the vacuum motor.
4. Ensure all outlets used are sufficiently grounded and never plug in a frayed or damaged cord.
5. Do not use this unit if it has become wet or while standing in water.
6. Do not store objects on top of exposure unit.
7. Disconnect power prior to removing the glass or opening the control box.



THIS ELECTRIC EXPOSURE UNIT IS INTENDED SOLELY FOR THE PURPOSE OF CURING INK ON TO TEXTILE AND CUT GOODS. THIS FLASH IS NOT INTENDED FOR USE IN HEATING, CURING OR BAKING OF ANY OTHER MATERIALS WHATSOEVER. THIS FLASH IS INTENDED FOR IN-DOOR USE ONLY.

THE EXCLAMATION WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER OF IMPORTANT SAFETY PRECAUTIONS SHOP PERSONNEL SHOULD BE AWARE OF DURING OPERATION.

Operations



(A) Latch and Seal

(B) Controls

(C) Top Panel

(D) Light Source Drawer

(E) Casters

(F) Hold Down Blanket

(G) Vacuum Nipple

(H) Dual Cooling Fans

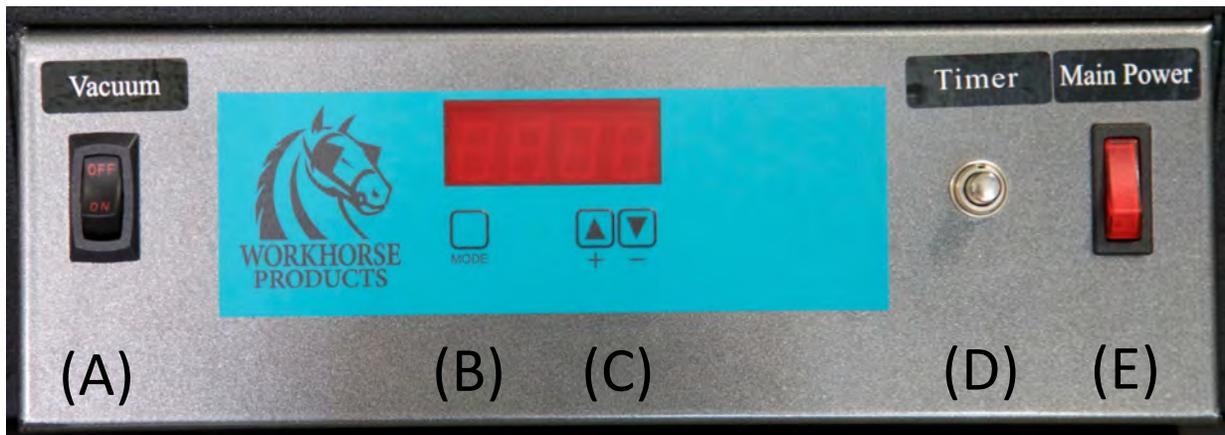
(I) Vacuum Line

(J) Power Cord

(K) Light Source/Shutter

(L) Vacuum

Exposure Timer



(A) Vacuum: Turn on/off the vacuum.

(B) Mode: Set the timer to be in seconds, minutes or hours. Hold the button until it beeps and the light switches to indicate what mode is selected.

(C) Increase/Decrease: Increase/decrease numbers.

(D) Timer Switch: Opens the shutter and begins exposure process for allotted time.

(E) Main Power: Turn the PhotoSharp on/off.

1. To set the timer, the power switch needs to be in the off position. Press and hold the mode button while turning the power switch on. Release the mode button and the display will read "t on" to indicate the timer is now operating in timer mode.



2. Press and release the mode button once and the display will read "s of" to indicate the timer is set to display seconds only.



Exposure Timer



3. Press and release the up button once and the display will read “s of” to indicate the timer is set to display time in minutes and seconds.



4. Press and release the mode button again and the display will show the factory default set time of 15 seconds.



5. To set the desired exposure time, hold down the mode button and the down arrow at the same time for approximately three to five seconds. The timer will beep and the colon between the minutes and seconds will begin to blink indicating the timer is ready to be programmed. Use the up and down buttons to adjust the timer to display the desired exposure time.



Press and hold the timer switch for one second to start the timer.

6. When the exposure cycle is complete the timer will automatically return to the time that was previously set. The exposure cycle may be halted at anytime by pressing the releasing the timer switch.



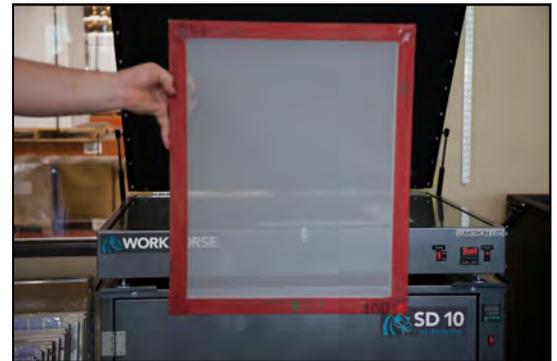
Exposing a Screen



There are many variables that influence how a screen is to be exposed. Some of these variables are: emulsion brand, emulsion type, coating technique, mesh count, humidity, atmospheric temperature, and even the light source itself. Therefore, there is no definitive procedure to properly expose a screen.

Step 1:

Properly prepare the screen to be exposed. The screen needs to be clean, dry and properly tensioned.



Step 2:

Direct emulsion should be applied with a scoop coater, which is available in a variety of sizes. The scoop coater should be able to fit just inside the screen and be slightly larger than the image. It's best to use a sharp edge scoop coater, because the sharp edge pushes a thin deposit of emulsion making it possible for fine details to be printed.

Working under subdued light, fill the coater's reservoir with room temperature direct emulsion. Put the screen in the vertical position with the print side facing out. Place the coater at the bottom edge and tilt it slightly forward until the emulsion touches the mesh. With even speed slowly pull the coater towards the top of the screen. Stop pulling the coater about two inches from the top and tilt the coater slightly backwards to let the emulsion settle into the reservoir. Repeat this process for the inside squeegee side.



It's important to coat the outside print side first because it will leave a heavier deposit emulsion on the outside of the screen, which is needed.

Most likely, a small amount of emulsion will escape from the reservoir during the coating process and leave thick deposits along the edge of emulsion. Just simply remove the thick deposits with a scraper.

Exposing a Screen



Step 3:

The screen needs to be dried in a dark location. Dry the screen in a horizontal position with the outside print side facing down. This positioning is essential to aid the drawing emulsion to create a flat and smooth surface. A fan can be used to circulate the air around the screen to decrease the drying time. The normal drying time for a properly coated screen can be anywhere from 30 –60 minutes. However, areas that have moisture in the air will take exceedingly longer.



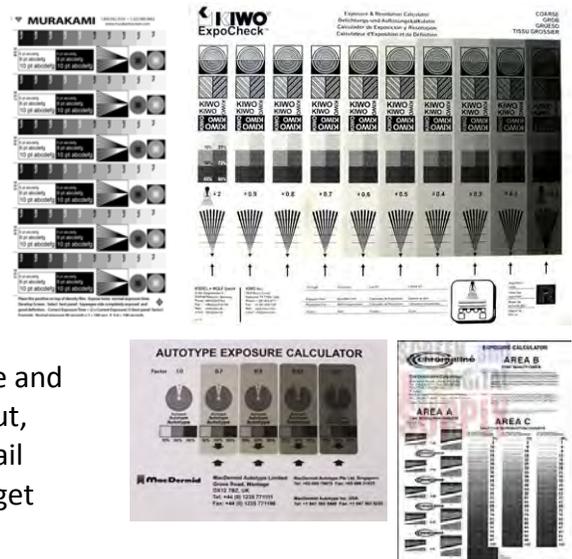
A Workhorse SD-10 drying cabinet will immensely speed up the drying process and eliminate the danger of dust, which will guarantee high quality screens and increase production speed.

Step 4:

There is no standard exposure time because of all of the variables involved. Use an exposure calculator to properly determine the correct exposure time. Most emulsion manufacturers have their own exposure calculator, but they all relatively function in the same manner.

Exposure calculators are film positives that have various degrees of detailed lines that are covered with different factors. The purpose is to expose the calculator onto a screen as a starting time and each filter will have a factor number. After the screen is washed out, observe which image is the hardest while containing the most detail and multiply the factory number by the starting exposure time to get the correct exposure time.

For example, a screen is exposed for one minute with the calculator and the best image washed out has a filter factor of .5 , so $1:00 \times .5 = 30$ seconds. To guarantee the best screens test every screen that has a different variable like: different mesh count, different emulsion brand, and different coating technique. It's best to test for each season change. The seasons influence temperature, humidity and moisture that will affect the exposing of a screen.



Exposing a Screen



Step 5:

Inspect the glass to make sure that it's clean. Clean glass makes a better quality screen.



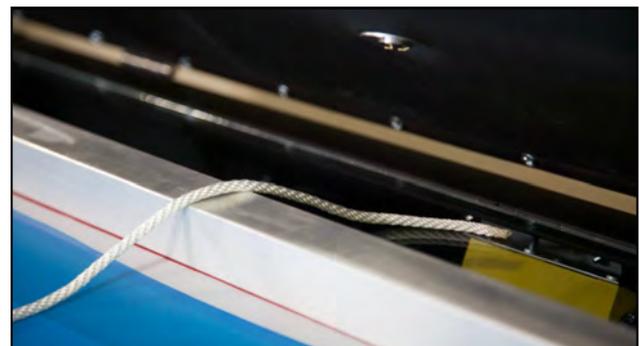
Step 6:

Attach the film positive to the print side. The positive should be positioned so that from the squeegee side, the positive is read left to right. It's very helpful to use a preregistration system to make sure each piece of film is attached to the screen in proper relation to the other images.



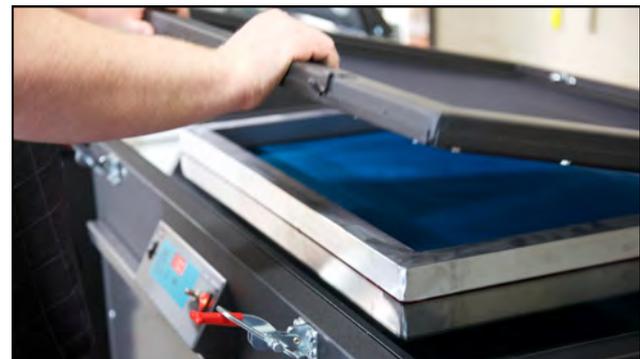
Step 7:

Lay the frame on the glass with the film side down and the squeegee side up. Next, lay the rope from inside the screen across the screen edges and in front of the vacuum hole. The rope creates an escape route for the air inside the frame, it also keeps the vacuum port from sealing against the glass.



Step 8:

Close the vacuum lid and latch it into place with the red latch/seal mechanism. First, turn the power button on. Second, hit the vacuum switch and allow the vacuum blanket to complete and draw down around the frame. Third, set the desired exposure time and then press the timer switch, which will trigger the light and start the timer countdown for the amount of time that was previously set.



Exposing a Screen



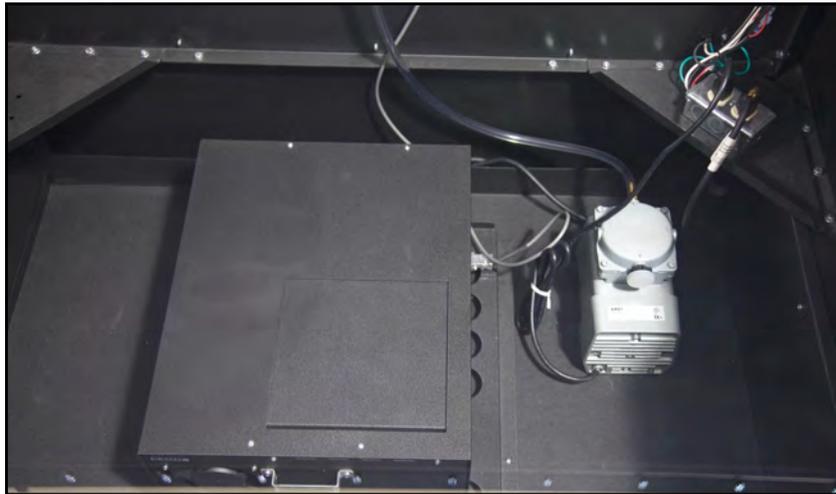
Step 9:

When the exposure time ends turn the vacuum switch to the off position. Release the latch handle and very slowly lift the lid to release the air. **Opening the lid slowly is very critical**, because the screen could potentially be pressurized to the top of the lid and if lifted too quickly it could fall and break the glass.

Next, take the screen to be washed out in a sink to be developed.



To increase the life lamp, Workhorse Products recommends leaving the PhotoSharp on to expose multiple screens. Turning the PhotoSharp on and off for each exposure may shorten the lamp's life.



Look through the glass top to see the light source, which contains the 1000 watt metal halide lamp. The shutter on the light source opens during the exposure cycle and closes to prevent harmful UV exposure.

The vacuum pump is a true vacuum pump designed to evacuate the air between the vacuum blanket and the screen frame quickly and efficiently.

The dual receptacle in the corner powers the vacuum pump and the light source. These components are controlled by the switches on the main control panel.

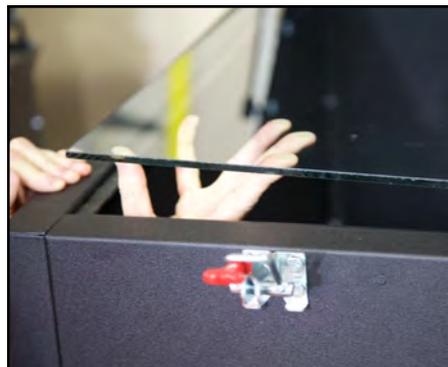
Disassembly of the Unit



The Photosharp Exposure Unit is specifically engineered to facilitate easy disassembly without the use of special tools or equipment. Disassembly may be required to allow the Photosharp to pass through narrow doorways.



1. Unscrew the two screws in the top panel and remove it.



2. With the top panel detached the glass can be removed. Push the glass up from below. Pivot the glass upward while making sure the glass does not slide off the track.



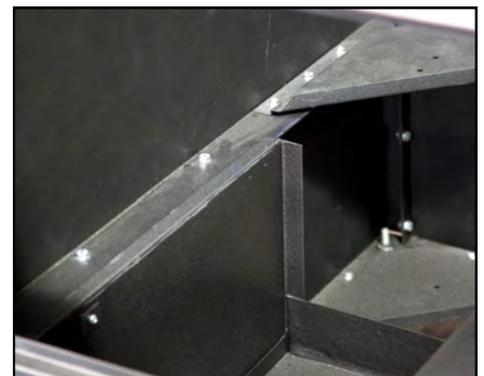
3. Unscrew the two screws in the bottom drawer and pull it out.



4. Once the drawer is removed, disconnect the photo cell and the electrical cord as shown. Rest the wires on the corner brace where the receptacle is located until needed.



5. Disconnect the vacuum line from the tube that exits the rear of the PhotoSharp and from the fitting on the vacuum blanket. With the bottom drawer removed, disconnect the vacuum line and the power cords for the light source and vacuum pump.



6. Notice the row of bolts along the lip inside the cabinet. Some bolts are positioned with bolt heads facing up and others are positioned with the nuts facing up. Working from within, remove only the bolt heads facing up. The upper cabinet may now be separated from the drawer cabinet.

Cleaning the Glass

Disconnect the power before servicing the PhotoSharp.

To clean the under side of the glass, remove the two screws located on either side of the front panel. Remove the front panel and set it aside.

Using lint free rags or paper towel, spray the glass cleaner directly on the towel and while reaching through the front panel access hole clean the bottom surface on the glass.



Replacing the Bulbs

The 1000 watt metal halide lamp is a high energy lamp that will create a very even exposure across the print area. This is a pin point light source that will result in sharp defined edges of the exposed design.

Extreme caution must be taken when replacing the 1000 watt metal halide lamp. Always unplug the power cord from the wall before attempting any maintenance or replacing the lamp.

The 1000 watt metal halide lamp outputs a high level of UV radiation, **which can cause eye and skin damage.** Never attempt to operate the PhotoSharp with the drawer or top open. The PhotoSharp exposure unit is equipped with safety features that will prevent the lamp from illuminating when the drawer or top is open.

1. Always unplug the power cord from the wall before attempting any maintenance or before replacing the lamp.

Open the bottom drawer by removing the two screws to access the light source.

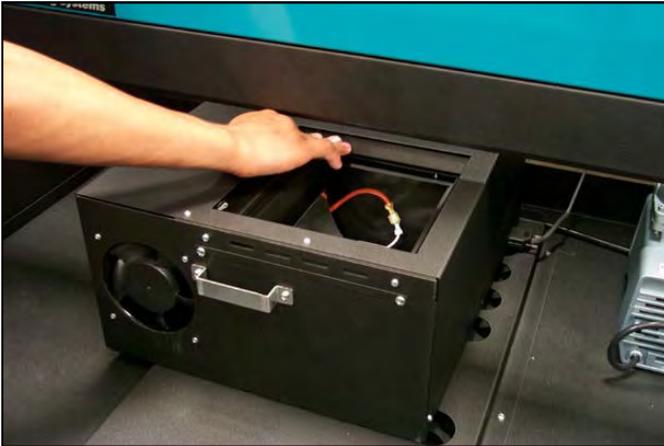
The light source will stay closed when the lamp is not illuminated. The shutter will open when the exposure cycle begins and will close to end the exposure cycle.

Never attempt to operate the PhotoSharp when the drawer is open.

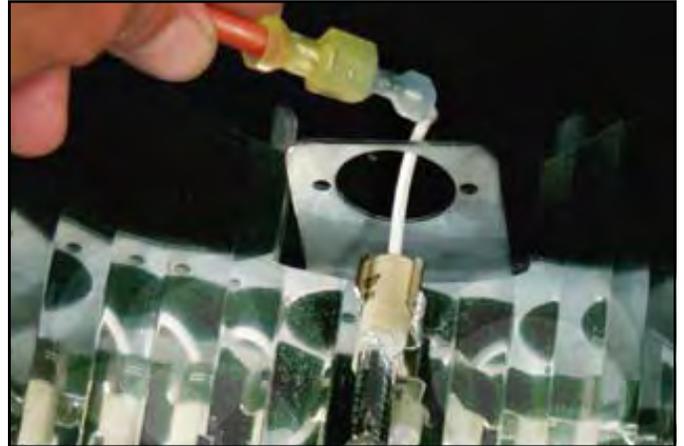


Replacing the Bulbs (Continued)

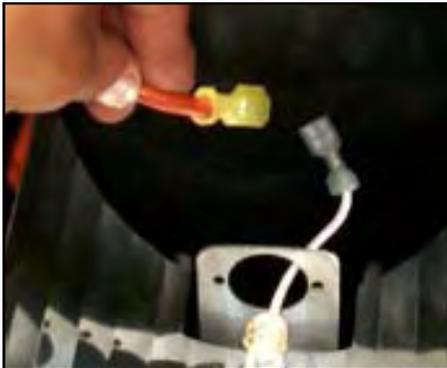
Do not touch the lamp during installation. Any contamination transferred to the lamp may cause premature failure.



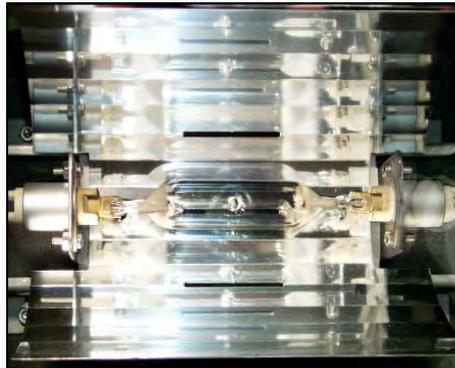
2. Open the shutter. Fully opening the shutter will allow the shutter to operate properly after the lamp has been replaced and power is reconnected to the light source.



3. Locate the two wire leads supplying power to the lamp.



4. Disconnect each lead from the front and rear of the lamp as shown.



5. Before reattaching the wire leads use alcohol pad to clean the lamp and reflector panel. While holding the lamp with a paper towel or cloth to maintain cleanliness, press the ends of the lamp into the clips. Reconnect the two wire leads.



6. Do not reposition the shutter manually. The shutter will actuate automatically when power is restored to the PhotoSharp. Once the lamp has been cleaned and properly installed close the bottom drawer and fasten the two screws

Replacing the Vacuum Blanket

1. Close and latch the lid before replacing the vacuum blanket. Remove the vacuum hose from the vacuum hose nipple. Using a small screw driver pry off the spring loaded cap to remove the gas shock. Unbolt the hinges from the rear.

Unlatch the top to remove the top frame and vacuum blanket assembly.



2. Remove all of the screws from the blanket retaining bracket. Then remove the frame to replace the damaged blanket.

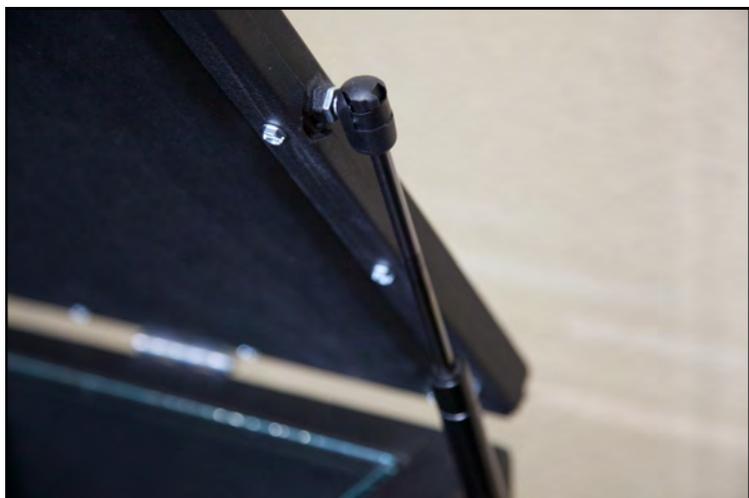
Position the replacement vacuum blanket over the frame, so that it droops naturally. The vacuum blanket should not be stretched tight. Reattach the blanket retaining bracket.

Replace the frame and blanket assembly onto the PhotoSharp base. Align and reattach the hinges.



3. Reattach the gas shocks by pushing the top of the gas shock connector onto the pivot ball and also by connecting the spring loaded cap.

Check for leaks before returning to normal operation.



Safety Features



Magnetic Safety Switch

The PhotoSharp is equipped with a magnetic safety switch that is located on the right hand side of the exposure unit cabinet and lid. If the magnetic safety switch is open (lid up) the light will not operate.

When the lid is closed the magnetic safety switch will complete the circuit connection and the light will operate.



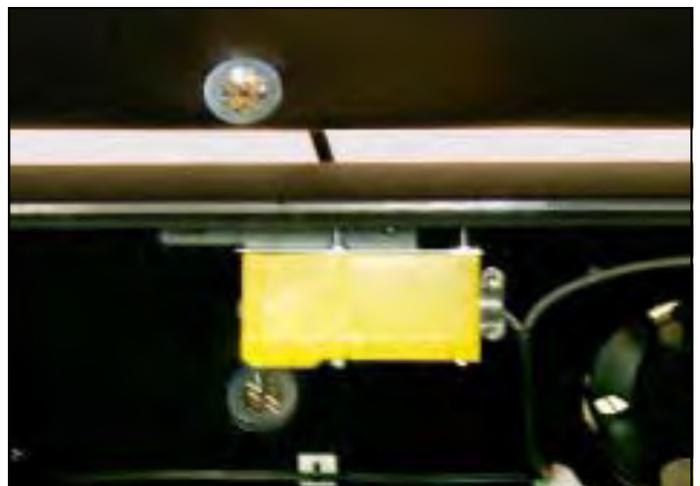
Shutter

If the lid is opened during the exposure cycle, the shutter on the light source will automatically close to protect the user from harmful UV rays.



Photo Cell

A yellow photo cell is located at the rear of the PhotoSharp and monitors the light source. The photo cell sense the light emitted from the light source when the shutter opens during the exposure cycle. If the photo cell does not sense the lamp has illuminated, it will countdown one second on the main timer and turn the timer off.



Spare Parts List



Electrical Specifications

Part no. 11600B 115v 60hz 1100 watts

Part no. 11601B 220v 50hz 1100 watts (Euro only)

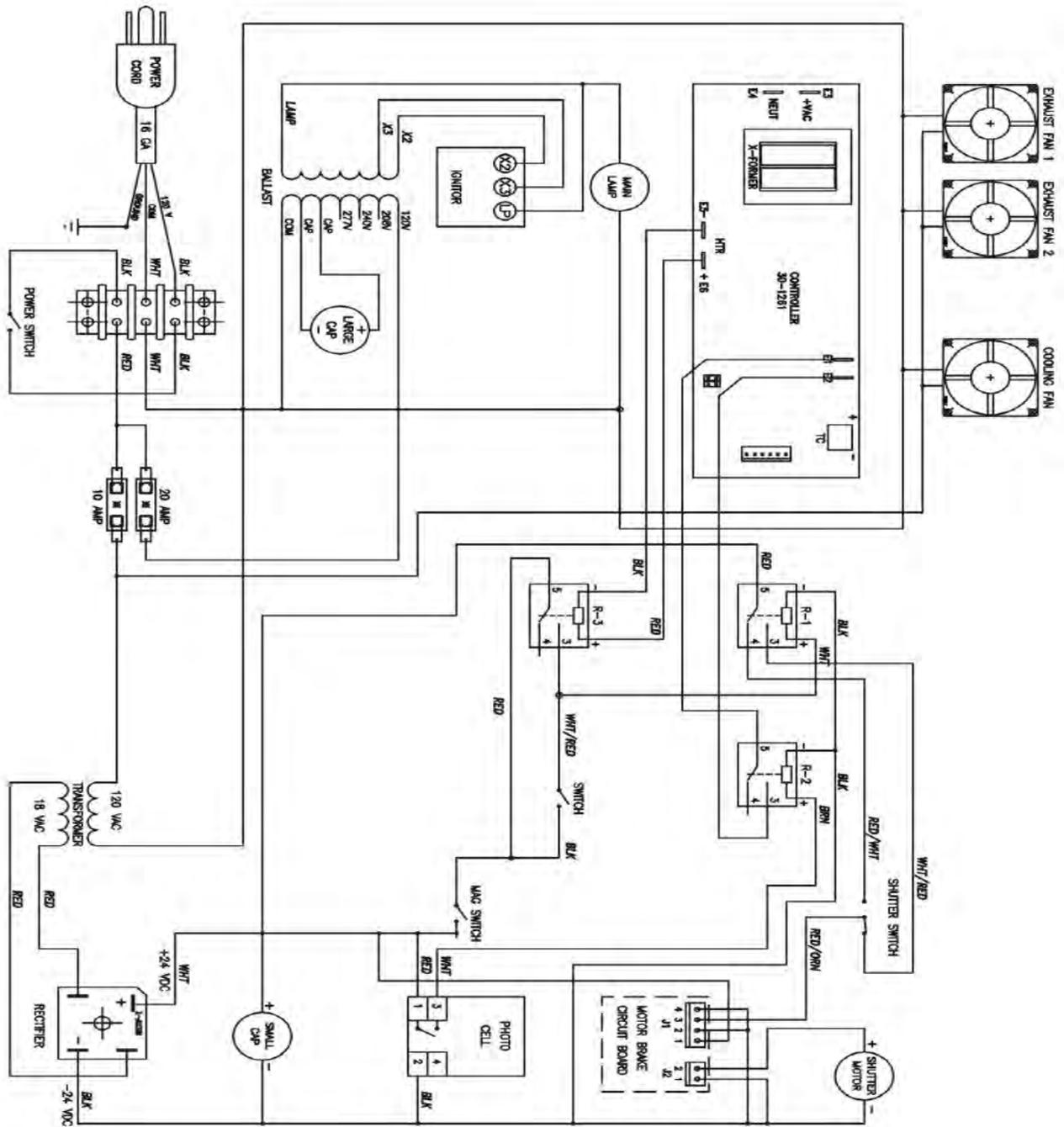
Description	115VAC	230VAC
	Part Number	Part Number
Vacuum blanket 41 x 51	20501R	
Exhaust Fan	31-76004	76005
Vacuum line	52-74014	
Power cord	390752	390783
Casters	71000	
Vacuum pump 115v	31-76051	31-76056
Photocell assembly	42036R	
Timer assembly	30-1261	
Vacuum on off switch	30-6227	
Main power switch	30-3100-2	
1000w metal halide bulb	390749	
Gas shock	40-75021	
Switch push button	5543	
Relay	30-1287	
Vacuum body female	40-74015	
Vacuum body male	40-74025	

For more extensive parts and trouble shooting help with ANY Workhorse Product please visit our on-line Parts store and

Support Center at:

<http://support.workhorseproducts.com/store/>

Wiring Diagram



Limited Warranty



Although every effort has been made to provide accurate specifications, Workhorse Products does not assume any liability for damages, whether consequential or incidental, that may result from the use or misuse of the indicated specifications. Workhorse Products requires the use of a licensed industrial electrician for the installation of electrical service to equipment requiring electrical power.

Workhorse Products reserves the right to alter specifications in the manufacture of its products. It is understood and agreed that Seller's liability for any equipment whether liability in contract, in tort, under any warranty, in negligence, in strict liability or otherwise shall not exceed the return of the amount of the purchase price paid by Buyer. Notwithstanding the foregoing provision, under no circumstances shall Seller be liable for special, indirect or consequential damages. The price stated for the equipment is a consideration in limiting Seller's liability. No action regardless of form, arising out of the transactions under this Agreement may be brought by Buyer more than one (1) year after the cause of action has occurred. Our warranty is specified is exclusive and no other warranty, whether written or oral, is expressed or implied. Workhorse Products specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. Equipment manufactured or sold by Workhorse Products is warranted against defects in workmanship and materials for a period of one year from receipt by customer. All warranties initiate from date of shipment to original customer. Replacement parts are covered for the term of the equipment warranty period. Parts not under warranty are covered for thirty (30) days from receipt by customer. Any part found by Workhorse Products to be defective in material or workmanship within the stated warranty period will be replaced or repaired at Workhorse's option without charge.

AFTER OBTAINING AN RMA# SEND RETURNED FREIGHT PREPAID TO 3730 E. Southern Avenue, PHOENIX, AZ 85040 USA.

Written authorization must be obtained from Workhorse before any part will be accepted. Replacement parts are sent out freight collect.

Parts sent out prior to receiving defective require a credit card hold for cost plus freight. Upon return of defective part, if it is deemed that the part was not damaged by customer but failed, the cost of the replacement part will be refunded.

This warranty does not extend to expendable parts such as filters, fuses, elements and brushes. Workhorse does not warrant failure of parts or components resulting from misuse or lack of proper maintenance. Installation, inspection, and

Registration Form	
Company Name: _____	Contact Name: _____
Address: _____	Phone Number: _____
_____	Fax Number: _____
City: _____	Email : _____
State: _____	Cell Number: _____
Country: _____	Serial Number: _____
Zip Code: _____	Date Recivied: _____
Model Number: _____	
Date Purchased _____	

Please Fax Registration Form for warranty to take place