



OWNER'S MANUAL
FOR
AMERGRAPH
AdVantage® 150CTS
SCREEN EXPOSURE SYSTEM

1/01

SERIAL NUMBER: _____ - _____ - _____

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INTRODUCTION

Congratulations on the purchase of your new Amergraph **AdVantage® 150CTS** SCREEN EXPOSURE SYSTEM, one of the most technologically advanced exposure systems available. To make installation of your new machine easier and safer, we recommend the following:

- It is advisable to have the assistance of several individuals while unpacking and setting up your unit.
- Do not discard any packaging materials until installation has been completed.
- Extremely high voltage present! **Use extreme caution!**

Please call your dealer, or Amergraph Corporation at 1-973-383-8700, with any questions or problems that you may have concerning installation, setup, or operation.

Your new machine is designed to give you many years of reliable, trouble free service with "built to last" quality, for which Amergraph is known.

Before installing and operating your machine, carefully read the installation and operating procedures so that you are thoroughly familiar with its operation. Certain procedures under the troubleshooting section of this manual should be performed only by competent service technicians experienced in handling high voltage, high power electrical circuits.

Every effort has been made to make the installation as simple as possible so that you can place your new unit into operation easily. Your Amergraph dealer is a specialist in Amergraph products and will provide you with assistance in installation and operation.

A product number appears on the ***Serial Number Label***, which is attached to the right side of the panel near the lamp reflector of your unit (facing the front of the unit). Kindly refer to this serial number when contacting your dealer or ordering parts.

ELECTRICAL REQUIREMENTS

The AMERGRAPH **AdVantage[®] 150CTS** SCREEN EXPOSURE SYSTEM is rated at 120 volts, 60 Hz, single phase power and requires a dedicated electrical service line of *at least 15 amps* (50 HZ units are available by special order). Failure to have sufficient power will result in damage to the power supply and **WILL VOID THE WARRANTY OF THE UNIT**. The unit must be connected to an approved electrical ground to protect the user from electrical shock hazard. See your local electrician for advice and service.

INSTANT START ULTRA VIOLET LAMP

Your AMERGRAPH **AdVantage[®]** SCREEN EXPOSURE SYSTEM is equipped with an instant start U.V. lamp that only operates during an exposure. Therefore, considerable savings in power costs result in comparison to other types of screen exposure units using lamps which operate continuously with the aid of a shutter. In addition, via the patented Megalume[®] lighting system, Amergraph's exclusive "true instant start" technology allows the lamp to restart at all times – even while the lamp remains hot. This *hot restrike* feature **eliminates** the cool down time required to restart the lamp for the next exposure. Since you can reload and expose screens in rapid succession, Amergraph's Megalume[®] instant start technology largely increases your production.

INSTALLATION

CAUTION – EXTREMELY HIGH VOLTAGE!

All AMERGRAPH **AdVantage**[®] SCREEN EXPOSURE SYSTEMS should be installed by competent service technicians experienced in servicing and operating *high voltage, high power electrical circuits*. Amergraph Corporation assumes no liability for injury resulting from operation or servicing of this equipment.

Your AMERGRAPH **AdVantage**[®] SCREEN EXPOSURE SYSTEM is completely assembled except for the following:

1. Lamp
2. Leveling Feet
3. Hood Assembly

SELECTING THE LOCATION

Your AMERGRAPH **AdVantage**[®] SCREEN EXPOSURE SYSTEM is a compact design, which requires a minimum of floor space. The location you select is important and should be coordinated with the workflow through your screen-making department. Proper placement of the unit will assure you of maximum production efficiency.

REMOVAL FROM THE SHIPPING PALLET

NOTE: REMOVE ALL EXPOSED EXTERNAL NAILS AND STAPLES FIRST!

1. Remove the shipping carton from the pallet by removing the nail and staple fasteners along the bottom edge of the carton and lifting off.
2. Remove all packing materials such as tape, etc. **DO NOT DISCARD ANY PACKAGING MATERIALS UNTIL INSTALLATION HAS BEEN COMPLETED.**
3. Remove the 4 bolts securing the unit to the pallet with a 9/16" wrench.
4. Shift the unit on the pallet so that the four corners are exposed, and install the 4 leveling feet, one in each corner. The leveling feet are packed in a bag taped inside the unit, and **MUST BE INSTALLED ON THE UNIT TO ENSURE PROPER VACUUM DRAWDOWN.**
5. You can now remove the unit from the pallet. It is advisable that **enough** individuals assist in the removal by firmly supporting each corner. **DO NOT LIFT THE UNIT BY THE VACUUM BLANKET FRAME.**

SET UP

1. Place the unit in the set-up location. This model requires 6 inches (15cm) minimum clearance at the rear and sides to allow for blower exhaust. Blocking of this opening can affect the operation of the lamp and power supply, and **WILL VOID THE WARRANTY.**

Note: The **AdVantage® 150CTS** can be disassembled for passage through openings as small as 24". Refer to the procedure following the installation section.

2. Open the blanket frame, and place a large size level on the top surface of the cabinet frame. Level the machine by adjusting the leveling feet at each of the four corners, according to readings taken at the front and sides of the top of the cabinet frame.
3. Check the opening and closing of the blanket frame to full extension, making certain that it closes so that its front side remains even with the front side of the cabinet frame. Should the front side of the vacuum blanket frame extend beyond the front side of the cabinet frame, the machine has not been properly squared.
4. Place the unit on a **dedicated service line** of at least 15 amps, as required.

INSTALLING THE LAMP

CAUTION!

DO NOT INSTALL LAMP UNLESS THE POWER HAS BEEN TURNED OFF AT THE POWER SOURCE.

IMPROPER LAMP INSTALLATION WILL DAMAGE THE LAMP ENDS AND SOCKET.

DO NOT HANDLE THE GLASS QUARTZ SURFACE OF THE LAMP.

Handle the lamp only with cotton gloves or a clean cloth. If the lamp surface is accidentally touched, wash the lamp with isopropyl alcohol to remove all traces of fingerprints, grease or oil. (Be sure the lamp is dry before installation.) Failure to clean the lamp will result in premature failure.

IMPORTANT:

For AdVantage® 150CTS MODEL USE ONLY AMERGRAPH LAMP P/N 10888.

THE USE OF SUBSTITUTE LAMPS will result in premature failure and possible damage to the electrical circuitry and WILL VOID ALL WARRANTIES!

The lamp is accessible by removing the hood and safety glass.

1. *Carefully* insert one end of the lamp into one of the lamp sockets.
2. *Do not “snap” or force* the other lamp end into the other socket. Rather, compress both sockets to gently insert the other lamp end.
3. Without handling the glass quartz surface, position the lamp *with the tip of the lamp pointing up*.

INSTALLING THE HOOD

1. Assemble the front, rear, and sides of the hood using the 40127 screws. (6X ¼" Type B screw – twelve enclosed)
2. Place the safety glass inside the assembled hood so that it lays flat on the flanges.
3. Set the hood on the retainer so that the glass will actuate the safety switch (located on the right rear corner of the reflector).

HOW TO DISASSEMBLE THE AdVantage® 150CTS

IMPORTANT

BE SURE THAT THERE IS NO POWER TO THE UNIT AT ALL TIMES WHILE PERFORMING THE FOLLOWING STEPS.

- While you are facing the front of the **AdVantage® 150CTS**, locate the wiring harness and the vacuum line located on the inside front right support (leg).
- Disconnect the electrical connector on the wiring harness by pressing together the release latch. Once this is done, simply pull the male part of the connector away from the female part of the connector. You have now disconnected the electrical connection of the top and bottom halves of the **AdVantage® 150CTS**.
- Next, separate the vacuum line. This is done by pulling apart the top and bottom portions of the vacuum hose meeting at the plastic vacuum connector. ***Hold onto that vacuum connector. You will need it later.***
- Using a 3/8" Nutdriver and a 7/16" Wrench, or a Flathead Screwdriver and a 7/16" Wrench, carefully loosen the six- (6) hex screws on both legs.
- This unit will support itself temporarily without the screws intact for separation purposes.
- Make sure the vacuum blanket is locked (closed) to the frame.
- With a second person on the opposite side of the machine, carefully lift together the top half of the exposure unit off of the bottom half. You are now able to maneuver the machine through a 24" opening.
- Keep in mind the power supply is housed in the front part of the bottom half of the exposure unit. Thus, the weight may not be distributed evenly.
- Next, re-attach the bottom and top halves of the exposure unit by securing them with the six (6) hex screws, 3 on each side.
- Re-attach the wiring harness by inserting the male electric connector into the female electric connector. Re-attach the vacuum line by connecting the two halves of the vacuum hose into each end of the plastic vacuum connector.

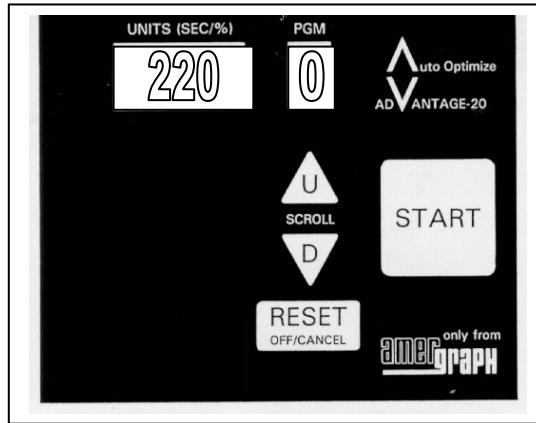
Note: The vacuum switch must be in the "VACUUM" position for conventional screens and in the up position for CTS mode.

OPERATING INSTRUCTIONS FOR USING THE AdVantage® 20 INTEGRATOR

MAIN KEYS

Note: No Period after 0

This page will show you how to operate your exposure unit and how to find the best program to provide proper exposure for your materials. **The keys that are used are shown on the right.**



1. **TURN MAIN POWER ON.**
2. **LOAD THE VACUUM FRAME** with the Auto-Optimize® Test Target on your material, and close the frame.
3. **SCROLL TO PROGRAM 0 (no period) FOR A TEST EXPOSURE** by using the **U** or **D** buttons for up and down, respectively. The display will read 220 units.
4. **PRESS THE START KEY TO RUN THE TEST EXPOSURE.**
5. **PRESS RESET WHEN THE TEST EXPOSURE IS COMPLETE**, indicated by a display reading of **EC**.
6. **EVALUATE THE TEST IMAGE** after processing your materials. One line on the Auto-Optimize® test image will show the “best image” for the emulsion and film combination. The number next to that line corresponds to a pre-set Program.
7. **SCROLL TO THE PRE-SET PROGRAM DETERMINED TO PROVIDE THE BEST IMAGE** by using the **U** or **D** buttons. *The pre-set Programs are marked by the absence of a period.*
8. **LOAD THE VACUUM FRAME WITH PRODUCTION MATERIALS**, and close it.
9. **PRESS THE START KEY TO RUN THE PRODUCTION.**
10. **PRESS RESET WHEN THE EXPOSURE IS COMPLETE**, indicated by **EC**.

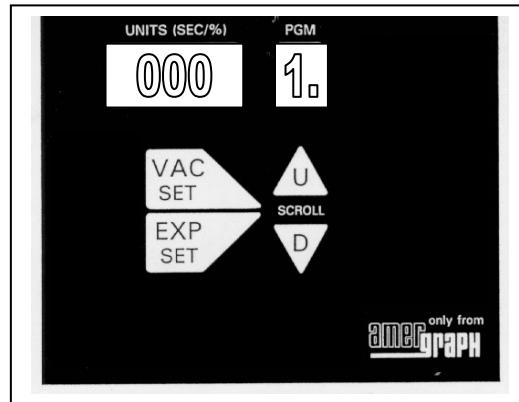
Use the Auto-Optimize® Test Whenever You Introduce a New Set-Up.

CUSTOM PROGRAMMING

MAIN KEYS

Note: Period after 1

This page will show you how to custom set programs. Vacuum delay seconds and exposure units can be customized on the 10 program numbers followed by a period. **The keys used are shown on right.**



TO MAKE YOUR CUSTOM PROGRAM:

1. Scroll **U** or **D** to any program numbered 1. through 0. (with a period following the number). These programs are left blank by the factory.
2. SET EXPOSURE UNITS IN THAT PROGRAM:
 - Pressing and holding **EXP SET**.
 - While holding, press **U** or **D** to scroll to the exposure units desired.
3. SET THE VACUUM DELAY:
 - Press and hold **VAC SET**.
 - While holding, press **U** or **D** to scroll to the desired seconds.
 - When the desired time appears, release **VAC SET**.

To display the drawdown time in the current program, press and hold **VAC SET**.

TO RUN YOUR CUSTOM PROGRAM:

1. Scroll using the **U** (up) or **D** (down) arrows to the program (with a period following the number) you want to run.
2. Load the vacuum frame with production materials, and close it.
3. Press the start key to run the production.
4. Press reset when the exposure is complete, indicated by **EC**.

Be Sure To Note The Program Number For Each Material.

ADVANCED FEATURES

MAIN KEYS

This page will show you how to use three advanced features: pausing drawdown for visual control, testing the lamp and how to set vacuum time in all programs at once.

INSPECT: Allows you to manually control the vacuum drawdown and start the exposure when you are satisfied the drawdown is proper.

After 'START' has been pressed to begin a program:

- Press 'INS' to stop the vacuum delay countdown. The UNITS display will read "INS". Inspect the vacuum as it continues to draw down.
- When you are satisfied with the vacuum drawdown, press 'START' to begin the Exposure.

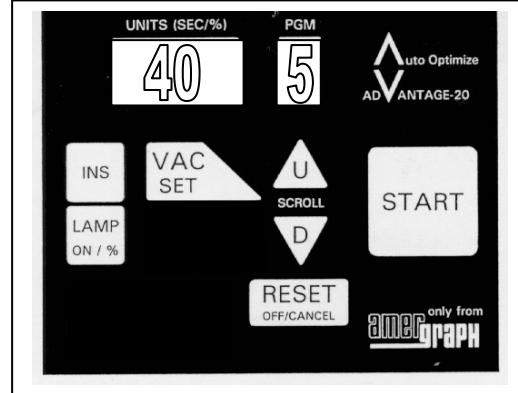
LAMP TEST: Allows you to manually turn on the lamp to approximate the amount of life left in the lamp.

- Press 'LAMP ON'. Allow the lamp to remain lit for 2 to 3 minutes.
- Press 'LAMP ON' again. The display will rapidly count to a number and hold. This number approximates the percentage of life left in the lamp, *provided the unit was correctly calibrated with that particular lamp when that lamp was new*.
NOTE: Optimum performance is obtained when the lamp life remains above 70%.
- Press 'RESET' to turn the lamp OFF.

VACUUM SET: Allows you to change the vacuum delay time in all programs at once.
(The factory pre-set vacuum time is 35 seconds.)

- Scroll to Program **U** using **U** (up) or **D** (down) arrow.
- Press and hold '**VAC SET**'.
- While holding, scroll with **U** or **D** to desired seconds.
- Release '**VAC SET**'.

*If you press and hold 'VAC SET' after this procedure, you will see the drawdown time for all programs.



ADVANCED FEATURES

CONTINUED

MAIN KEYS

This page will show you how to manually control the lamp and how to define and use the function keys, F1 and F2.

MANUAL OPERATION: You may want to conduct a one time exposure and not save your settings. This function allows you to manually control the lamp as the integrator counts exposure units for you.

- Press 'LAMP ON' to turn the lamp **on**. The display counts up exposure units.
- Press 'RESET' to turn the lamp **off**.

FUNCTION KEYS: F1 and F2. From the options shown below, you can choose which Function the keys will perform. Once selected, the key will act as a toggle switch (on or off) in the selected program.

A. PROGRAM SYMBOL **ACTION**

G GO TO – Alternates with each push between the last program used, and Program 5.

E Increase Exposure by 10% or compensate for an additional film base with density of 0.04. The exposure units on a current Program will be temporarily increased by 10% for each push of the Function Key.

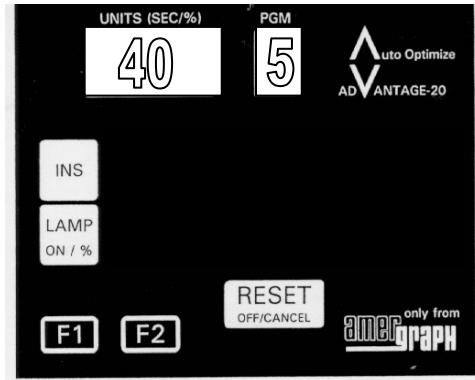
. (Period) Program Exposure to tenths of a unit, or go back to normal units on the programs with a period following the number.

— De-activate the function key. (Do Nothing)

B. TO MAKE A FUNCTION KEY DO THE ACTION OF YOUR CHOICE, (G, E, ., or, —):

- Scroll to the Program Symbol (G, E, ., or, —) you wish to have the function key do.
- Press the function key you wish to perform the action.

C. To perform the programmed function, scroll to the desired program and press the function key you have selected. Then press 'START'.



CALIBRATION for the AdVantage® 150CTS

This page will show you how to calibrate your equipment if necessary. A new lamp should be used as this procedure will reset the “LAMP TEST” feature. You will want to measure your lamp’s UV as compared to a new lamp.

**THIS PROCEDURE IS
NOT USUALLY
NECESSARY.**

The Integrator was calibrated at the factory and will not need calibration unless the Lamp Test with a new lamp does not show a number between 80 and 120.

TO RECALIBRATE THE AdVantage® 20 INTEGRATOR:

- Remove the small cover located toward the front of the right side of the top frame of the unit to gain access to the photosensor adjustment screw. (You will need a Phillips head screw driver to remove the cover and rotate the adjustment screw.)

- Press ‘**LAMP ON**’. Wait about 2 minutes for temperature to stabilize.

- Press ‘**RESET**’ to turn lamp off.

- Press ‘**LAMP ON**’ 2 times. The read out will scroll to a number.

The range you want is 80 to 120. If the number is low, rotate the photosensor *via the adjustment screw* toward the light source to see more light. If it is high, rotate the photosensor *via the adjustment screw* away from the light source to see less light.

- Press ‘**RESET**’ to turn the lamp off.

- Repeat pressing ‘**LAMP ON**’ 2 times to see where the read out stops. If the number is not within range, rotate the photosensor as necessary and repeat the procedure.

- While the lamp is maintaining the same temperature, scroll to Program C, then press and hold ‘**EXP SET**’.

- While holding ‘**EXP SET**’, press ‘**START**’.

- Release ‘**EXP SET**’ and ‘**START**’. The counter will increase to a number and hold. The number should be between 80 and 120, just as it was in the step above. Press ‘**START**’. The display will read “CAL”. Calibration is now complete.

BLANKET FRAME ADJUSTMENT PROCEDURE FOR THE AdVantage® SCREEN LINE

*****THIS PROCEDURE MUST BE DONE WITHOUT A SCREEN IN THE FRAME*****

The minor adjustment of the blanket frame can be helpful if you notice any loss in vacuum pressure. The rubber on the vacuum blanket is very soft and supple so it is common for it to take a set.

- Disconnect the power to the machine.
- Open the blanket frame.
- Use a screwdriver to remove the cap on the knuckle of the gas cylinder. (Do not attempt to pry the knuckle off the pivot point without first removing the cap.) This knuckle is on the pivot point attached to the blanket frame.
- Remove the knuckle from the pivot point.
- If there is more than one gas cylinder, repeat the previous two steps.
- Close and latch the blanket frame.
- On the back of the blanket frame, there are hinges that attach the blanket frame to the glass frame assembly. There are two screws in the vertical slots on each hinge.
- Slightly loosen the screws in the vertical slots on one hinge. Apply pressure to the blanket frame directly above the hinge. (This increases the pressure between the glass and the blanket frame.) Tighten the screws.
- Repeat this procedure for the other hinge, applying the same equal pressure as on the previous one.
- Finish the procedure by adjusting the two front latches that attach the single bar latching system to the frame of the unit.
- Latch the blanket frame closed.
- Using a 5/32 allen wrench, slightly loosen the two screws on the one front latch. Adjust the latch position while applying pressure to the front corner of the blanket frame. (This increases the pressure between the glass and the blanket frame.) Tighten the screws.
- Repeat this procedure for the other front latch, applying the same equal pressure as on the previous one.
- Replace gas cylinders and reconnect power to the machine.

MAINTENANCE

Your AMERGRAPH **AdVantage®** SCREEN EXPOSURE SCREEN SYSTEM has been designed to require a minimum of maintenance. Like all mechanical equipment, periodic maintenance will prolong the life of the unit. The glass and the vacuum blanket are of particular importance.

The GLASS should be kept clean using any commercial non-abrasive glass cleaner. Dust particles, emulsions, or threads from screens will cause spots of unexposed areas on your screen.

The BLANKET should be kept clean of dust by periodic vacuuming. The rubber seal should be cleaned with blanket wash. An occasional application of rubber roller rejuvenator will keep the seal pliable.

The VACUUM PUMP is oil-less and requires no service.

The REFLECTOR is made of a special material that reflects ultra violet light. It is therefore important that it be kept clean. A dirty reflector will cause longer exposures and uneven distribution of light across the vacuum frame.

CAUTION: *Be certain to disconnect power to the unit before cleaning the reflector to prevent an electrical shock from the terminals on the ends of the lamp.*

Use a non-abrasive glass cleaner to clean the reflector. **CAUTION:** *DO NOT SPRAY THE CLEANER ON THE LAMP.* Spray the cleaner on a cloth first and then apply it to the reflector.

The EXPOSURE LAMP in your machine is designed to give you several thousand ignitions. However, lamps are unpredictable in life expectancy, and as a result, may cease when least expected. It is, therefore, recommended that a spare lamp be kept on hand at all times to prevent any inconvenience should a lamp cease. You can purchase an **authentic Amergraph spare lamp** from your authorized Amergraph dealer.

The IN-LINE AIR FILTER protects the vacuum system from damage due to dust and dirt.

CAUTION: *Be certain to disconnect power to the unit before performing any maintenance function to prevent electrical shock.*

The air filter is located next to the vacuum pump motor contained within the base of the unit. To gain access to the filter, loosen, but do not remove, the two Allen caps located on the front cover of the base using a 3/16" Allen wrench. Lift away the front cover of the base by pulling it outward. The filter can then be easily spotted. Replace the filter if it appears to be dirty. The air filter part # is 20678.

When finished, be sure to put the base's front cover back and to tighten the two Allen caps.

CONTROL PANEL

The control panel of the **AdVantage® 150CTS** has been designed for easy access to the electrical components behind the panel. In the event that repair or replacement must be performed on the electrical components behind the panel, make sure that the power to the unit has been disconnected and follow the subsequent steps to expose the components.

Note: Be prepared to support the control panel when the control panel has been removed from its holders. It will only be attached to the unit by electrical wires.

Remove the 3 screws underneath the control panel.

Pull out the bottom of the panel until it completely clears the frame of the unit.

Then pull the panel strait upwards so that the top of the panel detaches from its holder.

With the control panel supported, the electrical components can now be removed or repaired as necessary. ***It is recommended that only a trained electrician perform repairs to the electrical components.***

To replace the control panel, follow the above steps in reverse order.

REPLACEMENT GLASS

Replacement glass for under the blanket frame cannot be shipped from the factory. In the event that the glass becomes either scratched or broken, contact your nearest glass manufacturer and order the following.

Clear (i.e. free of imperfections like knots, etc.), **Not tempered** **46 7/8" x 37 7/8" x 1/4" Polished Plate glass, with Flat Ground edges and Dubbed corners.**

AVAILABLE OPTIONS:

- **LIGHT SHIELD CURTAIN** – To Prevent UV Exposure Of Photosensitive Material In The Working Area.
- **AUTOMATIC DRAWDOWN** – *STRONGLY RECOMMENDED* Electronic Add-On Module To Automatically Switch The Vacuum Pump On And Off. For convenience, the operating instructions for the AdVantage® 20 integrator have been written with this option included. Without the option, the integrator cannot control the vacuum delay time.

PARTS LIST:

<u>NUMBER</u>	<u>DESCRIPTION</u>
10101	VACUUM PUMP
10142	LAMP SOCKET with Leads
10146-1	CIRCUIT BREAKER
10147	MDA 10 FUSE
10204	CONTACTOR
10323	PHOTO PROBE
10723	VACUUM SWITCH
10724	START SWITCH
10745	FUSE HOLDER
10754	POWER SUPPLY
10820	AdVantage® 20 KEYPAD
10845A	DIGITAL BOARD
10888	LAMP
10904	FAN
10914	SAFETY SWITCH
20219	LEVELING FEET
20623	VACUUM REG. VALVE
20627	PNEUMATIC SHOCK
20678	AIR FILTER
21402	VACUUM GUAGE
21684	VACUUM REG. KNOB
22000	AUTO-OPTIMIZE® TEST KIT
22281	BLANKET
22285	LIGHT HOOD

TROUBLESHOOTING

This section contains troubleshooting information to determine the causes of common occurrences during operation, along with corrective action to be taken when the fault has been isolated.

CAUTION

Troubleshooting should be accomplished by qualified service personnel who are experienced with high voltage, high power electrical circuits. Care should be exercised at all times to prevent accidental electrical shocks and exposure to ultraviolet radiation. The Amergraph Corporation assumes no liability for injury resulting in the servicing or operation of this unit.

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
During exposure sequence, lamp does not light, and cooling fan, in rear of bottom cabinet, does <u>not</u> run.	1) Tripped breaker 2) Safety interlock switch not closed. 3) Defective contactor 4) Integrator not working	1) Reset 20 Amp breaker, located in front upper corner of base of unit. 2) Check actuation of switch. It should "click" when hood is raised and lowered. 3) Replace contactor. 4) Have PC boards checked.
During exposure sequence, lamp does not light, but cooling fan <u>runs</u> .	1) Lamp sockets corroded 2) Defective lamp 3) Defective power supply	1) Replace sockets. 2) Replace lamp with <u>correct</u> lamp. 3) Check input voltage at power supply when contactor is energized. If no voltage is present, have supply repaired.
Light comes on when cold, but will not restrike.	1) Not on dedicated power line 2) Defective lamp 3) Low line voltage 4) Defective power supply.	1) Place on dedicated line. 2) Replace lamp with <u>correct</u> lamp. 3) Measure voltage at wall or relay. If voltage is not correct, perform voltage adjustment. 4) Have power supply repaired.
Blower does not run when lamp is operating.	1) Blower defective 2) Defective wiring	1) Replace blower. 2) Repair wiring.
During exposure sequence, lamp comes on and does not shut off.	1) Photocell not properly calibrated. 2) Defective photocell 3) Defective integrator	1) Recalibrate photocell. 2) Replace photocell. 3) Have PC boards checked.

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
Exposure times getting very long.	1) Lamp near end of life 2) Dirty reflecter. 3) Low line voltage	1) Replace lamp with <u>correct</u> lamp. 2) Clean reflector. 3) Check line voltage as before.
During exposure sequence, lamp does not light, and the integrator reads "AOP". The vacuum does not go higher than 15" of mercury.	1) Vacuum blanket not adjusted properly (blanket has taken a set) 2) Leak in vacuum blanket (holes or cuts) 3) Defective vacuum sensor on digital PC boards	1) Readjust blanket following procedure in manual. 2) Replace blanket. 3) Replace digital board.
Only slight vacuum is registered on gauge.	1) Vacuum valve open 2) Blanket not properly adjusted 3) Bad seal on rubber blanket 4) Leak in vacuum hose 5) Defective pump	1) Make sure vacuum regulator knob is fully closed. (clockwise) 2) Readjust blanket following procedure in manual. 3) Wet surface of bead and check for leaks while vacuum draws down. If seal has leaks, replace blanket. 4) Check all hose fitting for leaks. Replace if necessary. 5) Check vacuum at pump. Replace if pump cannot pull vacuum.
Vacuum gauge reads full vacuum, but frame lacks contact pressure.	1) Clogged vacuum hose line 2) Plugged air filter	1) Place finger over hole in blanket while vacuum pump runs. If vacuum pull is weak, clean or replace hoses. 2) Change filter.
Vacuum pump does not run.	1) Defective switch 2) Defective pump	1) Check continuity of vacuum switch. Replace if defective. 3) Replace pump



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3 YEAR LIMITED WARRANTY

The following is made in lieu of all warranties expressed or implied.

Amergraph Corporation warrants its products, with the exception of presses, vacuum blankets, lamps and consumable items, to be free of manufacturing defects for a period of three (3) years from date of manufacture. Lamps and vacuum blankets are consumable items and their warranty is covered below. Amergraph Corporation shall replace or repair at its discretion, any part exclusive of labor to diagnose, remove and install, which upon examination by Amergraph, is determined to be defective in material or workmanship, providing such claimed defective material is, upon written authorization, returned to Amergraph Corporation, freight pre-paid. All warranty items are F.O.B. factory.

All electrical, commercial supply parts and items not manufactured by Amergraph shall carry the warranty of the original manufacturer and no more, but under no circumstances to exceed the "limited warranty."

The warranty shall be void if an original Amergraph lamp is not used, and other parts replaced or substituted, not of Amergraph manufacture or supplied by Amergraph.

This warranty shall be of no force or effect if alterations or modifications of any nature are made by the purchaser without Amergraph's full knowledge and written consent.

Replacement parts shall be warranted for a period of 90 days from the date of purchase.

If there is a defect in glass used in an Amergraph product, it must be reported within twenty-four (24) hours after receipt of the equipment. Amergraph assumes no responsibility for a claimed defect on the glass other than within the time period specified.

Warranty labor shall only apply if the machine, assembly or part is returned to the factory freight pre-paid and insured.

Amergraph assumes no responsibility for losses of material, labor, production time, any injury, loss or damage, direct or consequential resulting from the operation of, or use, or the inability to use the product other than specifically covered in this warranty.

Damage or breakage through misuse or while in-transit is not covered by this warranty.

All claims against the warranty shall be the final determination of the Amergraph Corporation.

LAMPS

Lamps UV output decreases with time of usage and can fail at any time. On the average, lamps should ignite several thousand times or have a service life of months. Because the UV output degrades with time, a lit lamp may not be a good lamp. A blackened lamp housing clearly indicates a post-service life condition, and signals time for replacement. Abnormally long exposure times also indicate a post-service life condition.

Amergraph lamps that fail in the first 90 days from the date of manufacture should be returned to Amergraph, postage prepaid and insured, accompanied by an explanation of the type of failure. Amergraph will inspect the lamp and if the failure was, in Amergraph's opinion, due to faulty material or workmanship, a partial or full replacement will be provided.

VACUUM BLANKETS

Blankets become less flexible and resilient and require replacement over time. Proper precautionary measures should be taken to ensure the life of the vacuum blanket.

Amergraph vacuum blankets that appear to have defects in material or workmanship, within the first 90 days from the date of manufacture, should be returned to Amergraph freight prepaid and insured, accompanied by an explanation of the type of defect. Amergraph will inspect the vacuum blanket and if the defect was, in Amergraph's opinion, due to faulty material or workmanship, it will be repaired or a partial or full replacement will be provided.