amergraph CORPORATION

OWNER'S MANUAL

FOR

V28 1200SE & V28 VMS

(MERCURY VAPOR) (METAL HALIDE)

TABLE TOP EXPOSURE UNITS

8/01 **SERIAL NUMBER:_____-_____-_____**

520 Lafayette Road•Sparta•NJ 973-383-8700 • fax-973-383-9225

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INTRODUCTION

Congratulations on the purchase of your new Amergraph table top exposure unit. It 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.

This manual contains installation, maintenance, and operating information for the V28-1200SE and V28-VMS exposure units. Please call your dealer, or Amergraph Corporation at 1-800-526-2852, with any questions or problems that you may have concerning your new exposure unit.

MODEL	P/N	ELECTRICAL SPECS.
V28-1200SE	50350	120 Volt, 60 Hz, 20 Amp
V28-1200SE	50352	240 Volt, 50 Hz, 10 Amp
V28-VMS	50360	120 Volt, 60 Hz, 20 Amp
V28-VMS	50362	240 Volt, 50 Hz, 10 Amp

A product number appears on the ***Serial Number Label*** attached to the inside of the left lamp head support (facing the front of the unit). Kindly refer to this serial number when contacting your dealer or ordering parts.

POWER REQUIREMENTS

120 V UNITS ARE SUPPLIED WITH A NEMA 5-20 R RECEPTACLE.
240 V UNITS ARE SUPPLIED WITH 3 PIGTAILS AND MUST BE HARD WIRED.

For exposure units supplied with a grounded power cord and plug (120 volt units), **never substitute or replace the plug with one of lesser amperage rating.** In addition, the ground prong must never be defeated from use.

Installation of a dedicated power line must be made to provide sufficient power to your unit for efficient operation. Failure to have sufficient power will result in damage to the power supply and will void the warranty on 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.

THE 120 VOLT MODELS are rated at 20 amps, and are designed to operate on 120 volts, 60 Hertz power only.

THE 240 VOLT MODELS are rated at 10 amps, and are designed to operate on 205-245 volts, 50 Hertz power only.

FUSES

The protective fuses are located on the rear of the cabinet.
THE 120 VOLT MODELS have 2 fuses.
THE 240 VOLT MODELS have 4 fuses.
The high rated fuses protect the power supply. The lower rated fuses protect the control circuits, integrator, and vacuum pump.
Do not substitute fuses of values other than indicated, as serious damage will result.

120 VOLT MODELS

TOP	BOTTOM	
V28-1200SE & V28-VMS	V28-1200SE	V28-VMS
10 Amp Type MDA 10	20 Amp Type MDA 20	25 Amp Type MDA 25

240 VOLT MODELS

5 Amp Type MDA 5	15 Amp Type MDA 15	15 Amp Type MDA 15

INSTALLATION

CAUTION – EXTREMELY HIGH VOLTAGE!

All AMERGRAPH 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.

The AMERGRAPH V28-1200SE and V28-VMS EXPOSURE SYSTEMS are completely assembled except for the following.

- Lamp: shipped inside Hardware Package taped to left support arm
- Leveling Feet: shipped inside Hardware Package taped to left support arm
- Safety Glass: shipped on top of blanket, underneath vacuum frame glass
- Various Options: shipped on top of packed unit

SET UP

1. Remove the straps that secure the unit to the pallet.

2. 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 **MUST BE INSTALLED ON THE UNIT TO ENSURE PROPER VACUUM DRAWDOWN.**

3. 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 LAMP HEAD.**

4. Attach the unit to the optional work stand (see the assembly instructions under the Options section of this manual) or place the unit on a sturdy work table.

5. Unwrap the safety glass. Working from behind the unit, slide the glass forward into the top slot until it touches the safety glass interlock switch. Press the safety switch upward while pushing the safety glass forward until it stops. This actuates the interlock switch.

6. Position the unit so that the blower exhaust opening on top of the unit has at least 6" (15cm) of clearance. Blocking of this opening will seriously affect the operation of the unit.

7. Check the position of the vacuum frame glass. Although set correctly at the factory, it may need adjustment following shipping.

    a. If the glass is not centered on the vacuum blanket, loosen the 4 Phillips-head screws securing the hinge to the base, reposition the glass and re-tighten the screws.

    b. If the glass does not seal correctly with the blanket's bead, adjust the glass pressure as follows. Using a 5/16" nut driver or wrench, loosen the hinge nuts, allowing the glass to "float". While applying a steady, even downward pressure to the center of the glass, re-tighten the 4 hinge nuts. This will allow the glass to rest evenly on the blanket bead and will ensure proper drawdown.

8. Place the unit on a **dedicated service line** of the required amperage.

CHECKING PROPER OPERATING VOLTAGE ON 120 VOLT MODELS

*****CAUTION*****

This procedure should only be performed by qualified service personnel experienced in servicing high voltage, high power, electrical circuits.

A line voltage check should be made at the time of installation to make certain the unit has adequate power and that the house circuit is of sufficient size.

1. Check the wall outlet for proper voltage and ground. Record the voltage.

2. Plug the unit into the wall receptacle. Turn on the *main power switch* and *vacuum pump switch*. Then press the *LAMP ON* button on the keypad of the Scroll Set Integrator.

3. Measure line voltage at the wall plug while under load. If the line voltage load is **less than 114 volts**, there is insufficient service. Corrective action should be taken to remedy the problem. Turn off the light by pressing *CANCEL* on the keypad of the Scroll Set Integrator. Then turn the *vacuum pump switch* and *main power switch* off.

SELECTING PROPER OPERATING VOLTAGE ON 240 VOLT MODELS

*****CAUTION*****

This procedure should only be performed by qualified service personnel experienced in servicing high voltage, high power, electrical circuits.

THE 240 VOLT MODELS operate within a voltage range of 205-245 volts. To obtain maximum operating efficiency, an adjustment must be made at the power supply to match the normal line voltage to the input of the power supply.

Before making any adjustment, disconnect the power to the machine by removing the wall plug or shutting off the disconnect switch. Then remove the top cover plate of the unit. The power supply is in the rear.

Locate the YELLOW wire #14 connected to the terminal board on the power supply bearing the tap values, 208, 220, 240 volts. After measuring the line voltage, connect the YELLOW wire #14 to the terminal closest to the normal line voltage. **Should the line voltage be below 205 volts or above 245 volts, there is improper voltage and the unit should not be operated until the deficiency in power is corrected.** Your local electrician and power utility can assist you in this matter.

LINE VOLTAGE	TRANSFORMER TAP
205-214	208V
215-224	220V
225-245	240V

It is suggested to measure the voltage at the power outlet while the unit is operating. If the line voltage falls into a different range than when originally measured, move the YELLOW wire #14 to the next recommended tap.

*****IMPORTANT*****

Replace the cover on the power supply. Otherwise, damage to the power supply and lamp will result from inadequate cooling.

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 SOCKETS.

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 V28-1200 MODELS, USE ONLY **AMERGRAPH** LAMP P/N 10431.
FOR V28-VMS MODELS, USE ONLY **AMERGRAPH** LAMP P/N 10725.

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

1. Slide the safety glass towards the rear of the machine and remove it.

2. ***Carefully*** insert one end of the lamp into one of the lamp sockets.

3. ***Do not "snap" or force*** the other lamp end into the other socket. Rather, compress both sockets to gently insert the other lamp end.

4. Without handling the glass quartz surface, position the lamp ***with the tip of the lamp pointing up.***

5. Rotate the lamp front to rear several times to check proper seating of the lamp. The lamp should rotate smoothly. If the rotation feels gritty, remove and reinstall the lamp.

6. Reinstall the safety glass as described in Step 5 of the **Set Up** instructions.

OPTIONS

FLOOR STAND ASSEMBLY

The floor stand consists of 4 legs, a bottom shelf, and hardware. The legs bolt to the base of the unit. The shelf acts as a support structure.

1. Remove the safety cover glass from the exposure unit.
2. Remove the 16 hole plugs (4 in each corner) and discard them.
3. Carefully lay the unit on its back on a clean, padded surface to prevent it from damage. Support the cover glass to prevent it from damage.
4. Install one leg in each corner by sliding the leg inside the unit's base.
5. Attach the shelf to the legs with the hardware provided.
6. Install the leveling feet. Then carefully raise the unit to the upright position and adjust the leveling feet until the unit is level and stable.
7. Reinstall the safety glass as described in step 5 of the **Set Up** instructions.

LIGHT SHIELD CURTAIN

The light shield curtain prevents UV radiation from reflecting off the glass and striking the operator or those near the unit during operation. It also prevents materials on other surfaces in the work area from unintentionally being exposed by the light. The light curtain is recommended, especially if the unit is to be used often.

The light curtain can be installed at any time. Detailed installation instructions accompany the assembly kit.

PROOFING FILTER AND ATTENUATOR

Your exposure unit can be equipped with an optional attenuator (60% light reduction) or proofing (Kokomo) filter. To install either, first attach the included brackets along the sides of the lamp head using the existing holes. Then slide the proofing filter or attenuator into position on the brackets. Make test exposures and record the data. To resume normal operation, slide the proofing filter or attenuator out of the unit.

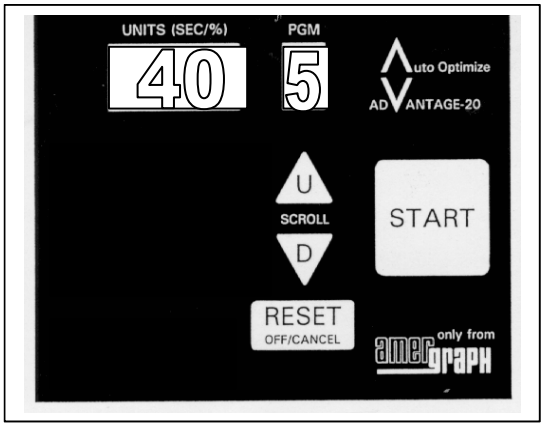
VACUUM DELAY

The vacuum delay feature allows the vacuum to be controlled by the Scroll Set Integrator. It can be installed during factory production or added to your unit in the field. If added after purchase, installation instructions and additional operational instructions are provided with the parts.

OPERATING INSTRUCTIONS
SCROLL SET INTEGRATOR FOR THE V28 SERIES

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.**

MAIN KEYS
Note: No Period After 5



1. **TURN MAIN POWER ON.**

2. **LOAD THE VACUUM FRAME** with a Gray Scale on your material, and close the frame.

3. **FOR A 40 UNIT TEST EXPOSURE, SCROLL TO PROGRAM 5** (without a period following the number) using **U** or **D** for up or down, respectively.

4. **RUN THE DRAWDOWN/EXPOSURE SEQUENCE.**

- Turn the vacuum ON using the narrow black switch to the left of the integrator.
- After the full vacuum is pulled, press **START**.
- When the display reads **EC**, indicating that the exposure is complete, press **RESET**.
- Turn the vacuum OFF. Open the Vacuum Regulator Valve to bleed the vacuum system.
- Close the Vacuum Regulator Valve.

5. **EVALUATE THE TEST IMAGE** after processing your materials to determine if you need more or less exposure than 40 units.

- Count up from 5 *one program number for each step on the Gray Scale* you wish to increase your exposure
- Count down from 5 *one program number for each step on the Gray Scale* you wish to decrease your exposure.
- Note the program number determined to give the best exposure.

6. **LOAD THE VACUUM FRAME WITH PRODUCTION MATERIALS**, and close it.

7. **SCROLL TO THE PROGRAM DETERMINED TO PROVIDE THE BEST EXPOSURE** (without a period) using **U** or **D.**

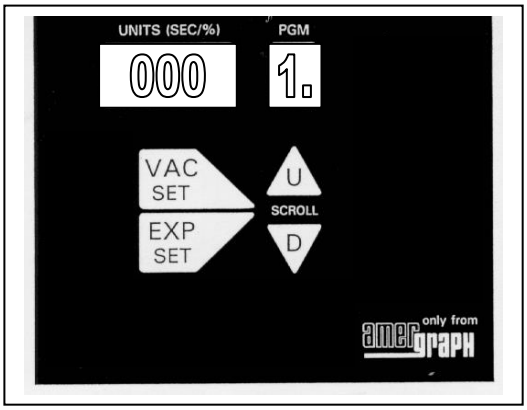
8. **RUN THE DRAWDOWN/EXPOSURE SEQUENCE** as done in step 4 above.

Be Sure To Note The Program Number For Each Material.

CUSTOM PROGRAMMING

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

MAIN KEYS
Note: Period after 1



TO SET YOUR CUSTOM PROGRAM:

1. Scroll using the **U** (up) or **D** (down) arrows 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:
   - Press and hold **EXP SET**.
   - While holding, press **U** or **D** to scroll to the exposure units desired.
   - When the desired units appear, release **EXP 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. Turn the vacuum ON.

4. After the full vacuum is pulled, press **START**.

5. Press **RESET** when the exposure is complete, indicated by **EC**.

6. Turn the vacuum OFF. Open the Vacuum Regulator Valve to bleed the vacuum system.

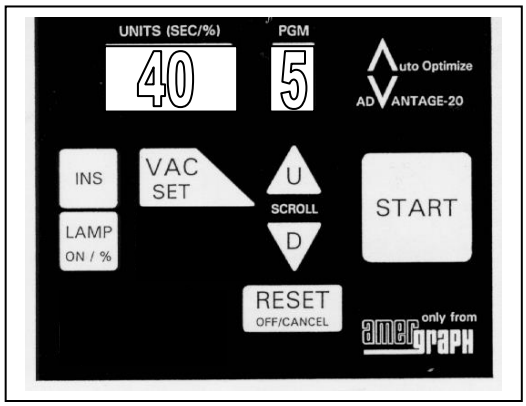
7. Close the Vacuum Regulator Valve.

Be Sure To Note The Program Number For Each Material.

ADVANCED FEATURES

This page will show you how to use two advanced features: pausing drawdown for visual control, and testing the lamp.

MAIN KEYS



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.

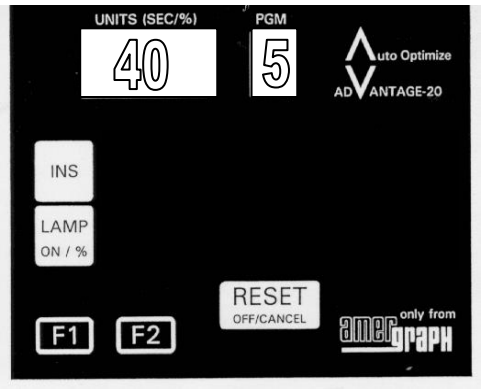
LAMP TEST: Allows you to manually turn on the lamp to approximate the amount of life left in the lamp.

- Press '**LAMP ON**'. Allow the lamp to remain lit for <u>2 to 3 minutes</u>.
- 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.

ADVANCED FEATURES
CONTINUED

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

MAIN KEYS



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.

PROGRAM SYMBOL	ACTION
G	GO TO – Alternates with each push between the last program used, and Program 5.
E	Increases Exposure by 10% or compensates 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)	Programs Exposure to tenths of a unit, or goes back to normal units on the programs with a period following the number.
▬	De-activates the function key. (Do Nothing)

TO PROGRAM A FUNCTION KEY TO DO THE ACTION OF YOUR CHOICE:
- 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.

TO PERFORM THE PROGRAMMED FUNCTION:
- Scroll to the desired program and press the function key you have selected.
- Then press **'START'**.

CALIBRATION for the V28 SERIES

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.

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 access the *adjustment screw* for this procedure, remove the small housing cover on the right side of the lamp head, held by 1 Phillips-head screw.

- Press '**LAMP ON**'. Wait about 2 minutes for the lamp temperature to stabilize. *Make every effort to maintain the lamp's temperature throughout the entire procedure.*
- Press '**RESET**' to turn the lamp off.
- Press '**LAMP ON**' 2 times. Take note of the number to which the read out scrolls.
- Press '**RESET**' to turn the lamp off.
- Adjust the photosensor according to the number noted above. Aim for the range 90-110.

  If the number is low, rotate the photosensor *via the adjustment screw* clockwise* to see more light. If it is high, rotate the photosensor *via the adjustment screw* counter clockwise* to see less light. (A slight rotation of the photosensor greatly affects calibration.)
- 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.
- Once the read out stops at a number in range, allow the lamp temperature to stabilize, and perform the following steps in rapid succession.
  - 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 90 and 110, just as it was in the step above.
- Press '**START**'. The display will read "CAL".
- Calibration is now complete. Press '**RESET**' to resume normal operation.

* These directions of rotation for adjustment are based upon the factory setting of the photosensor facing toward the front of the unit. If the event that the photosensor is moved after manufacturing, the directions of rotation may need to be reversed, evidenced by results opposite of expected results during adjustment.

MAINTENANCE

Your AMERGRAPH V28 EXPOSURE 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 require replacement. 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 contained in the base of the unit and located in the rear. To access the filter, first remove the safety glass. Then lift the unit up and support it, or tilt it on its side. Remove the rear panel underneath the unit. 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 replace the rear panel and the safety glass.

All painted finishes can be wiped clean with a damp cloth.

PARTS LIST for the V28 SERIES

Description	Number	Description	Number
Air Filter	20678	Blanket	20629
Digital PC Board	10845A	Fan	10295
Fuse: MDA 5 Amp	10166	Fuse: MDA 10 Amp	10147
Fuse: MDA 15 Amp	10165	Fuse: MDA 20 Amp	10146
Fuse: MDA 25 Amp	10817	Fuse Holder	10745
Glass Support Arm	20829	Keypad	10820
Lamp: 1200 Models	10431	Lamp: VMS Models	10725
Lamp Socket w/ Leads	10142	Photosensor	10323
Power Switch	10724	Relay	10067
Safety Glass	20841	Vacuum Gauge	21402
Vacuum Pump: 50Hz	10464	Vacuum Pump: 60Hz	10463
Vacuum Regulator Knob	21684	Vacuum Regulator Valve	20623
Vacuum Switch	10723		

REPLACEMENT GLASS

Replacement glass for above the vacuum blanket 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 30 3/4'' x 27'' x ¼'' Polished Plate glass, with Flat Ground edges and Dubbed corners.**

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.

TROUBLE	PROBABLE CAUSE	REMEDY
Lamp does not light when start button is pressed.	1) Integrator not programmed for exposure units on current program	1) Press LAMP ON to manually check lamp start. Turn off with CANCEL. Refer to operating instructions to program the exposure units.
	2) Safety glass interlock switch not activated	2) Check proper installation of safety glass. Check switch with continuity tester.
	3) Blown fuse(s)	3) Replace fuses with proper type and replacement value.
	4) Defective lamp	4) Replace lamp with correct lamp.
	5) Defective relay	5) Replace relay.
	6) Defective power supply	6) Check input voltage at power supply when relay 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	1) Place on dedicated line.
	2) Defective lamp	2) Replace lamp with correct lamp.
	3) Low line voltage	3) Measure voltage at wall or relay. If voltage is not correct, perform voltage adjustment.
	4) Defective power supply	4) Have power supply repaired.

TROUBLE	PROBABLE CAUSE	REMEDY
Blower does not run when lamp is operating.	1) Blower defective	1) Replace blower.
	2) Defective wiring	2) Repair wiring.
Lamp comes on, but does not shut off.	1) Photocell not properly calibrated	1) Recalibrate photocell.
	2) Defective photocell	2) Replace photocell.
	3) Defective integrator	3) Have PC boards checked.
Exposure times getting very long.	1) Lamp near end of life	1) Replace lamp with correct lamp.
	2) Dirty reflecter	2) Clean reflector.
	3) Low line voltage	3) Check line voltage as before.
Only slight vacuum is registered on gauge.	1) Vacuum valve open	1) Make sure vacuum regulator knob is fully closed. (clockwise)
	2) Incorrect adjustment of glass hinge pivot	2) Check glass on hinge pivots. Adjust if necessary or replace.
	3) Bad seal on rubber blanket	3) Wet surface of bead and check for leaks while vacuum draws down. If seal has leaks, replace blanket.
	4) Leak in vacuum hose	4) Check all hose fitting for leaks. Replace if necessary.
	5) Defective pump	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	1) Place finger over hole in blanket while vacuum pump runs. If vacuum pull is weak, clean or replace hoses.
	2) Plugged air filter	2) Change filter.
Vacuum pump does not run.	1) Defective switch	1) Check continuity of vacuum switch. Replace if defective.
	2) Defective pump	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 warranties 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 warrantied 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.