



OPERATION MANUAL



ORBITAL X Photopolymer Platemakers

ORBITAL X PHOTOPOLYMER PLATEMAKERS

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NOTICE:

**This manual has instructions for
All sections available for the
Orbital X.**

**Use the information for the
sections applicable to your
particular machine.**

Disclaimer

Nova Polymers has made a diligent effort to provide accurate information, including that of parts and products, and to illustrate the use and location of those parts and products in this literature. Such information and illustrations are for the sole purpose of identification and do not express or imply that the products are an exact fit for a particular purpose, or that the products will necessarily conform to the illustrations, pictures, or descriptions.

Manufacturer's part numbers and styles may change and substitutions may be needed for replacement of parts.

ORBITAL X SERIES PHOTOPOLYMER PROCESSOR

The “X” series Orbital photopolymer platemakers are capable of processing water washable materials with either polyester or metal backed plates. The operator friendly designed units are stack style processors. The orbital “X” system is comprised of an orbital washout, exposure section, a three drawer dryer and an optional post or detack section. The “X”-Posure system may be used for either water or solvent plates. This unit includes a top mounted exposure unit, post exposure drawer, detack drawer and a (3) drawer standard dryer (for water only), or an optional “purge” dryer that is compatible with water or solvent plates.

Combinations of the above mentioned sections can be assembled to customize the platemaking system to fit the needs of the platemaker.

Versatility and simplicity describe the operation of these systems for the operator. The processor’s components are easily accessible (including the light drawers) from the front of the unit. This platemaker has been engineered to provide efficient and quality assured plate processing.

The safety features of this system include component fuses and a UV safety switch for UV lamps.

The wetted areas of the **washout** section are constructed of stainless steel to prevent corrosion. The dual orbital action of the washout platen against the horizontal brush provides an efficient and smooth washout. A digital timer is provided for accurate washout times.

The **exposure** section is located in a drawer below the washout section. It is equipped with a digital timer, vacuum pump, and electronic solid-state ballasts.

An optional **post exposure or detack drawer** is available to accommodate the finishing needs of the printing plate. This section is equipped with a digital timer.

The thermostatically controlled **3 drawer dryer** uses forced air to efficiently dry the plates. On ovens with purge, a (3”dia.) exhaust flange is supplied on the back of the oven for exhausting heat and fumes when drying solvent plates. Auxiliary exhaust is required when drying plates that have been washed out in solvent. Each drying drawer is mounted on its own drawer slides.

24x30 Orbital X Specifications

Unit Size – 40” F-B x 42” L-R x 48” High

Voltage – 230 volt/single phase/60 Hz.

8 ft. # 10/4 power cord

Durable powder coat painted surface

Approximate weight – 720 lbs.

Washout

- maximum plate size = 24” X 30”
 - stainless steel wetted parts area
- temp controlled washout tank solution
- tank capacity = 22 gallons, 3/8” inlet, 3/4” drain
 - magnetic and pvc plate mount
 - easily adjustable brush mount
 - reversing orbital platen
- amp draw – PT/ADA= 7.9 - COS = 15.5

Exposure

Optional - high or medium output

- 16 exposure lamps
 - solid state ballast
 - digital timer
- easily accessible lamp drawers
 - vacuum pump
 - amp draw = 6.5

Optional Light Drawer

Post Expose or Detack

- 14 exposure lamps
 - solid state ballast
 - digital timer
- detack lamp safety shut-off
 - amp draw = 4.4

Dryer

- (3) individual drying drawers
 - 2250 watt heater
- thermostatically controlled temperature
 - amp draw = 9.3

24x30 “X”-POSURE

(This exposure unit may be used for processing solvent plates)

Unit Size – 46”F-B x 48” L-R x 53” High

Voltage – 230-volt/single-phase/60 htz.

Durable powder coat painted surface

Approx. weight – 750 lbs.

Maximum plate size = 24”x30”

Exposure Section

(16) high output lamps

- (2) 20 watt inspection lamps
 - solid state ballast
 - kreen roll dispenser
 - digital timer
 - vacuum pump
 - hour meter
 - amp draw = 10

Post Exposure Section

(16) medium output lamps

- solid state ballast
- digital timer
- amp draw = 4.4

Detack Section

(14) short wave detack lamps

- solid state ballast
- digital timer
- amp draw = 4.4
 - **Dryer**

(3) individual drying drawers

- 2250 watt heater
- thermostatically controlled temperature
- oven “purge” for solvent plates w/100 CFM fan
 - amp draw = 9.3

12x18 Orbital X Specifications

Unit Size – 30” F-B x 30” L-R x 46” High

Voltage – 230 volt/single phase/60 hz.

8 ft. # 10/4 power cord

Durable powder coat painted surface

Approximate weight – 365 lbs.

Max. Total Amps - 20

Washout

- maximum plate size = 12”x18”
- stainless steel wetted parts area
- temp controlled washout tank solution
- tank capacity = 9.5 gallons, 3/8” inlet, 3/4” drain
 - magnetic and pvc plate mount
 - easily adjustable brush mount
 - reversing orbital platen
 - amps-PT/ADA=7.9 ~ COS=15.5

Exposure

Optional - high or medium output

- 8 exposure lamps
- solid state ballast
 - digital timer
- easily accessible lamp drawers
 - vacuum pump
 - amps = 4

Optional Light Drawer

Post Expose or Detack

- 8 exposure lamps
- solid state ballast
 - digital timer
- detack lamp safety shut-off
 - amps= 3.2

Dryer

- (3) individual drying drawers
 - 2250 watt heater
- thermostatically controlled temperature
 - amps = 9.3

PREPARING THE ROOM FOR EQUIPMENT

- Provisions should be made for adequate table work space. In addition, there should be a clean storage area for the unexposed plate material and the finished plates.
- For safe handling of photopolymer plates, it is recommended to use yellow safety lights or place UV shields on regular fluorescent lighting.
- Installing a sink into the room to rinse plates with clean water is beneficial.
- The Washout Unit requires a fresh water source. This water may be cold, however, warm water is preferred, as it will shorten the time needed to heat the solution. A 1/2" water supply line is adequate. Washout tank capacity is 22 gallons for the 24x30 and 9.5 gallons for the 12x18.

SET-UP INSTRUCTIONS

Installation consists of uncrating, inspection, location to installation site, connection, and operational checks.

This unit has been thoroughly inspected and tested prior to shipment. As the unit is uncrated, carefully inspect for any apparent shipment damage. If damage is noted, document it by photographing the unit and filing a claim with the delivering carrier within 15-days of date of delivery.

- Uncrate and advise carrier of any damage that may have occurred during shipment.
- Place the unit as close to the final location as possible before removing from skid.
- Power to this system is to be wired direct to a fused disconnect box by a qualified electrician. It should not be shared with other electrical motors or heaters. Please check the power tag on the unit and the electrical schematic prior to wiring.

Note: Electrical power should be disconnected during set-up.

ULTRAVIOLET LIGHT

Under normal platemaking conditions, no special precautions are required for the ultraviolet lights recommended to expose photopolymers. However, direct exposure of the skin or eyes to UV light can cause burns. Wear ultraviolet limiting glasses if prolonged exposure to UV light, such as during equipment repair is required.

Note: Light finishing tubes used to detack photopolymers emit short wavelength UV, which are especially damaging to the skin and eyes. Safety interlocks provided on equipment by the manufacturer should never be defeated. Direct exposure to short wavelength UV can cause serious, permanent burns to the skin and eyes.

VENTILATION

Adequate and proper ventilation is important. Qualified heating / ventilation contractors should be consulted to ensure OSHA standards for worker exposure to processing chemicals are met. Refer to current Material Safety Data Sheets for specific OSHA regulations.

In general, installation of equipment for processing photopolymer plate material should meet the following requirements:

- Proper ventilation of the work area must be provided so that the processing vapors are held to acceptable levels. The processing unit must be vented to the outside and fresh make up air supplied to the work area through sufficient room ventilation. It is the responsibility of the user to provide acceptable working conditions.
- Room air should be replenished; not recirculated.
- More frequent air changes may be needed depending upon the number of plates processed, room layout, other chemicals used in the room.
- Air intake for the platemaking area should not introduce chemical fumes from other areas of the building; likewise, exhaust from the room and equipment should be to the outside and not to other areas of the building.
- Use “Y” connections instead of “T” connections in duct work.
- Keep exhaust runs as short as practical with a minimum number of bends to reduce pressure loss.
- Avoid exhausting against the prevailing winds.
- Do not locate exhaust discharge near windows, ventilation intakes, or pedestrian areas.

ELECTRICAL SUPPLY

- Normal voltage is 230 volts, single phase, 60 cycle. All hot legs to neutral must read 110 volts +/- 10%.
- Unit must be equipped with Ground Fault Protection. Unit must be grounded through the supply cable.
- Customer should supply a fused safety disconnect switch within easy reach of the system operator.
- If your voltage is in any way questionable, contact a service representative at Nova Polymers.

- Wire designated hookups are as follows:

~ Green.....	Ground
~ White.....	Neutral
~ Red.....	Hot
~ Black.....	Hot

- Check voltage readings before plugging in the system. Voltages should read as follows +/- 10%:

~ Green to White.....	0 Volts
~ Green to Black.....	110 Volts
~ Green to Red.....	110 Volts
~ White to Black.....	110 Volts
~ White to Red.....	110 Volts
~ Black to Red.....	230 Volts.

- If the power is connected incorrectly, serious damage may result!
- Disconnect the main power electrical source before removing the front control panel.

Note:

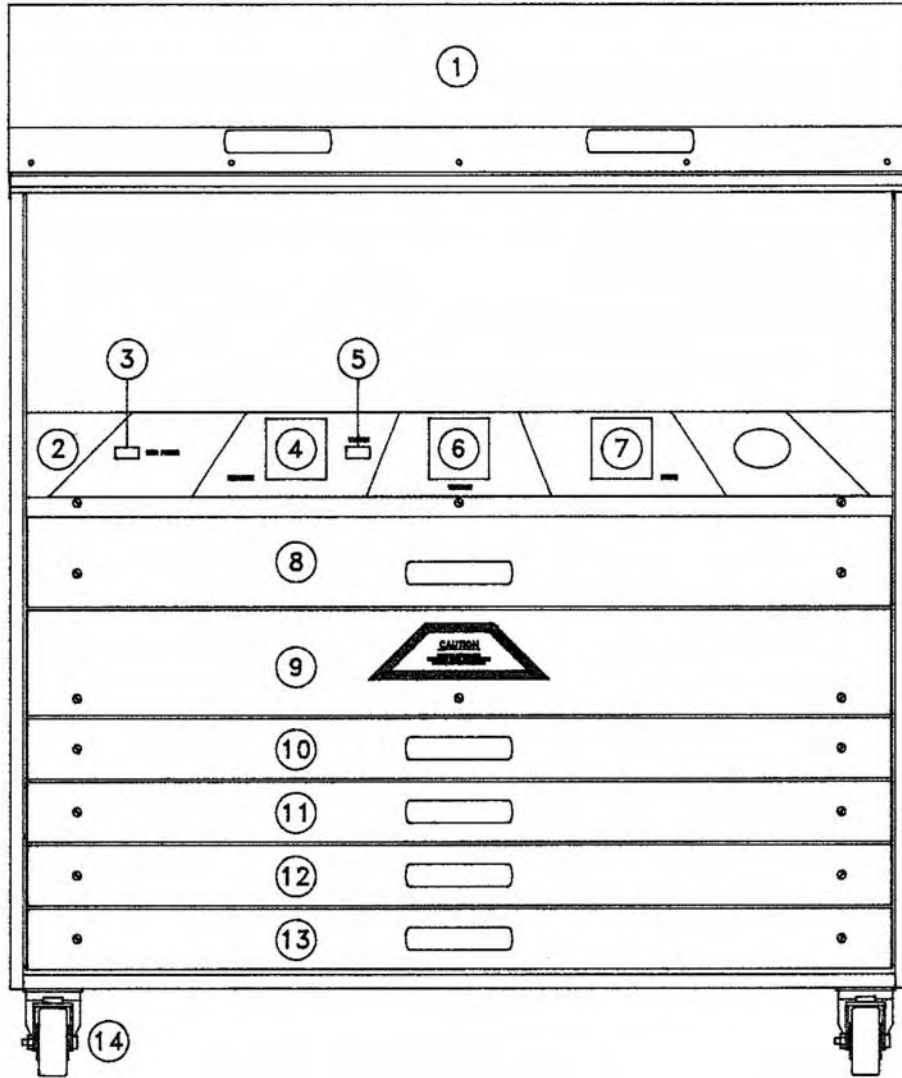
It is the customers responsibility to supply “ground fault” safety components for the the “X” series units. These safety components are available through Nova Polymers as an optional customer purchase.

INSTRUMENT PANEL CONTROL DESCRIPTION

Front of Unit Component Description

1. Washout Section ~ Area for washing out plates.
2. Control Panel/Electrical Components Drawer ~ System Operation Controls. Electrical Components are located behind the Control Panel.
3. Main Power Switch ~ Turns Power Off/On to the system.
4. Exposure Timer ~ Timer used for Face and Back Exposures. See Timer Instruction Sheet
5. Vacuum Switch ~ Turns Power Off/On to the Vacuum Pump.
6. Washout Timer ~ Timer used for Plate Washout.
7. Finish Timer ~ Timer used for Post or Detack Exposures.
8. Exposure Drawer ~ For making Face and Back Exposures.
9. Light Drawer Components ~ Electrical Components for the Finishing Section.
10. Finish Drawer ~ For Post Exposing or Detack Plates (Optional Feature).
11. Dryer Drawer
12. Dryer Drawer
13. Dryer Drawer
14. Casters (4)

ORBITAL X
FRONT VIEW



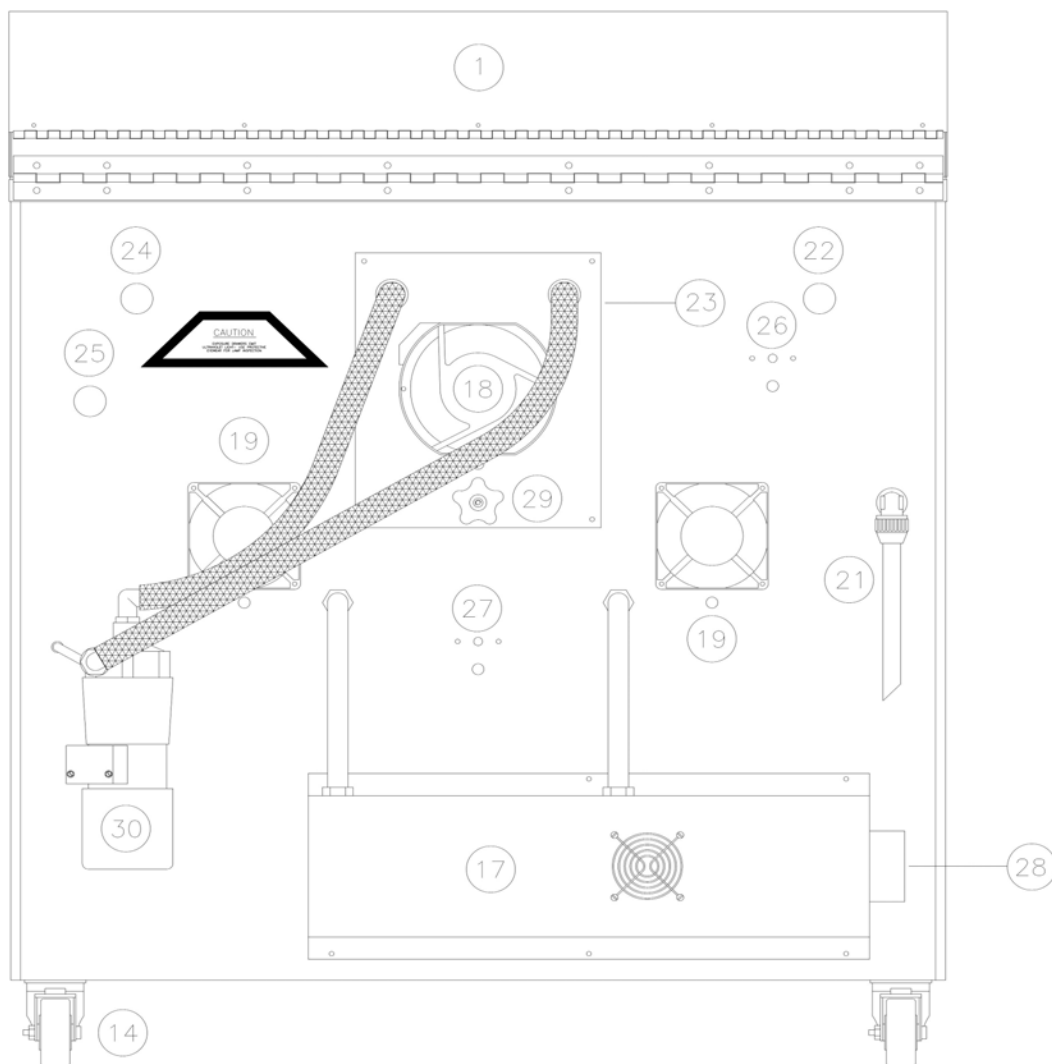
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|--------------------|----------------------------|
| 1. WASHOUT SECTION | 8. EXPOSURE DRAWER |
| 2. CONTROL PANEL | 9. LIGHT DRAWER COMPONENTS |
| 3. POWER SWITCH | 10. FINISH DRAWER |
| 4. EXPOSURE TIMER | 11. OVEN DRAWER |
| 5. VACUUM SWITCH | 12. OVEN DRAWER |
| 6. WASHOUT TIMER | 13. OVEN DRAWER |
| 7. FINISH TIMER | 14. CASTERS (4) |

PROCESSOR ~ FRONT VIEW

Back of Unit Component Description

1. Washout Section ~ Area for washing out plates.
14. Casters (4)
17. Oven Heater/Blower Box ~ Contains Oven Heaters and Vacuum Pump.
18. Exposure Exhaust Fan ~ Removes Heat/Fumes from Exposure Section.
19. Inlet Fan (2)
20. Not Used
21. Power Cord
22. Water Temp Probe Access Hole
23. Washout Heater Access Hole
24. Washout Water Inlet 3/8" Diameter
25. Washout Water Drain 3/4" Diameter
26. Washout Water Temperature Control ~ This is used to regulate the temperature of the water in the washout section. Turn the knob clockwise to increase the water temperature. Turn counter clockwise to decrease the water temperature. Water temperature not to exceed 115° F or damage to brush may occur.
27. Oven Temperature Control ~ This is used to regulate the temperature inside the oven section. Turn the knob clockwise to increase the temperature and counter clockwise to decrease the temperature.
28. Cooling Fan for Vacuum Pump
29. Drawer Lock
30. Circulation Pump (Optional)

ORBITAL X
BACK VIEW



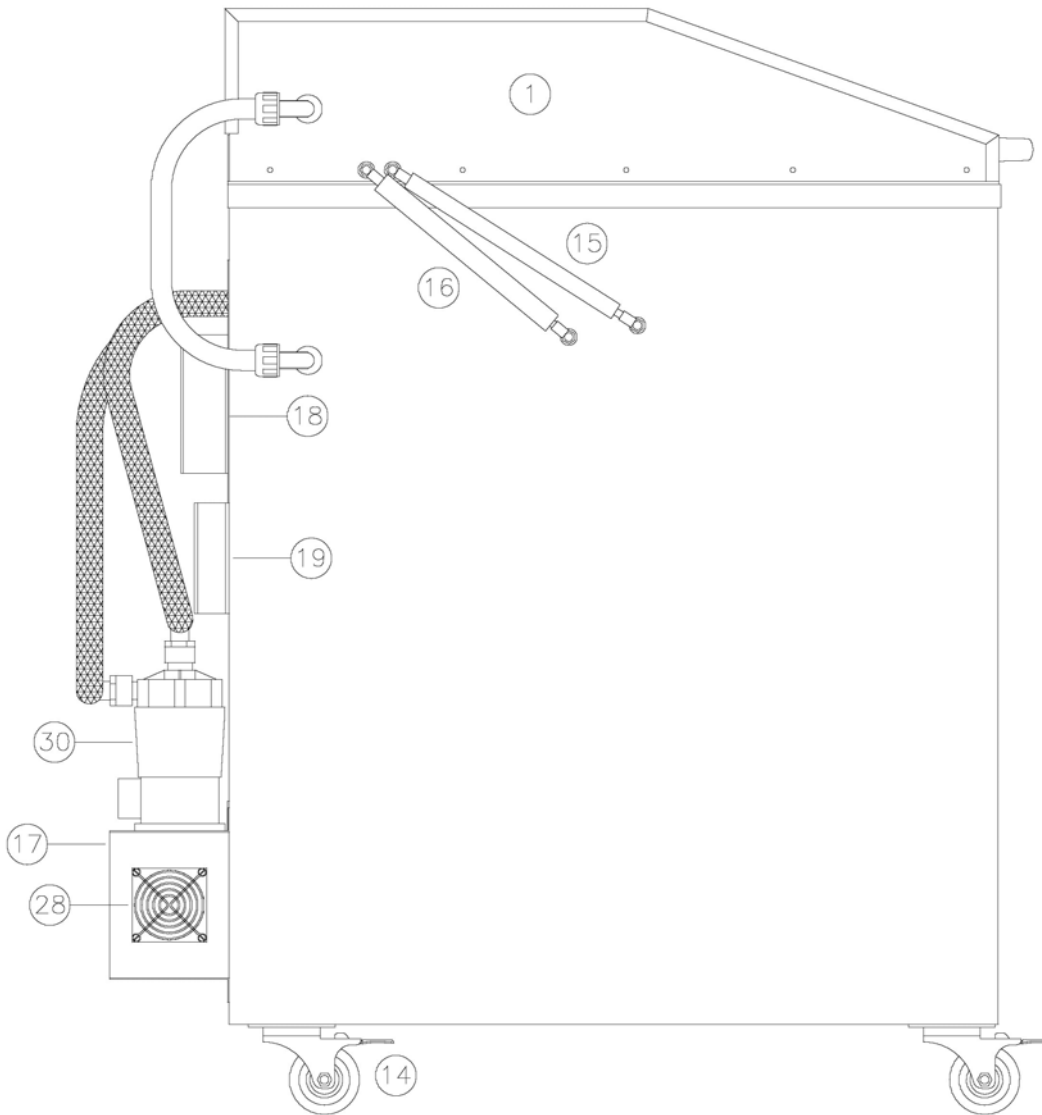
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|-----------------------------------|---------------------------------|
| 1. WASHOUT SECTION | 23. ACCESS PANEL |
| 14. CASTERS (4) | 24. WASHOUT WATER INLET |
| 17. OVEN HEATER/BLOWER BOX | 25. WASHOUT WATER DRAIN |
| 18. EXPOSURE EXHAUST FAN | 26. WASHOUT WATER TEMP. CONTROL |
| 19. INLET FAN (2) | 27. OVEN TEMP. CONTROL |
| 21. POWER CORD | 28. COOLING FAN |
| 22. WATER TEMP. PROBE ACCESS HOLE | 29. DRAWER LOCK |
| | 30. CIRCULATION PUMP (OPTIONAL) |

PROCESSOR ~ REAR VIEW

Side View of Unit Component Description

1. Washout Section ~ Area for washing out plates.
14. Casters (4)
15. Lid Lift Assist
16. Lid Damper
17. Oven Heater/Blower Box
18. Exposure Exhaust Fan
19. Inlet Fan
28. Cooling Fan
30. Circulation Pump (Optional)

ORBITAL X
SIDE VIEW



- 1. WASHOUT SECTION
- 14. CASTERS (4)
- 15. LID LIFT ASSIST
- 16. LID DAMPER
- 17. OVEN HEATER/BLOWER BOX
- 18. EXPOSURE EXHAUST FAN
- 19. INLET FAN
- 28. COOLING FAN
- 30. CIRCULATION PUMP (OPTIONAL)

PROCESSOR ~ RIGHT SIDE VIEW

WASHOUT SECTION

24 x 30 Maximum Plate Size = 24 x 30 @ 22 Gallons
12 x 18 Maximum Plate size = 12 x 18 @ 9.5 Gallons

The ideal solution height in the tank should be ¼" above the height of the brush bristles. The 24x30 system will hold approx. 22 gallons and the 12x18 will hold 9.5 gallons.

The washout tank is equipped with a temperature controlled heater. The heater is preset at the factory. Turn the switch clockwise to raise the water temperature. Cold water may be used in the washout tank, but warm water is recommended to speed up the initial start up time. Inlet plumbing is 3/8" and outlet is ¾". Plate relief is achieved through an orbital action motion with automatic reversing rotation. The brush washout pressure is easily adjustable. See the information sections on brush level adjustment and brush leveling procedure. Spacer adjustment blocks are also available for different thicknesses of materials. The washout platen is designed so that the Green PVC or Mag can be changed by removing the magnetic platen and replacing it with the desired material. Water temperature should never exceed 115° F (very warm to the touch).

EXPOSURE SECTION

This exposure section may be equipped with high output exposure lamps to expose water flexo plates or medium output lamps for Printight or ADA materials. The UV lamps are fired by solid state electronic ballast. The lamps and electrical components have easy access pull out drawers to the front of the unit. Precise exposure times are set by the operator with a digital push bottom timer. See Timer Instructions for operation procedures. The vacuum pump for the exposure plate is located behind the unit inside the oven heater/blower, vacuum pump cover. Two inlets and one exhaust provide air circulation for the exposure chamber.

DRYER SECTION

The 3 drawer dryer section is equipped with a thermostatically controlled 2250 watt heater/blower assembly. The dryer temperature is preset at the factory. To change the temperature, find the oven temperature control located on the back of the processor. Turn the switch clockwise to increase the temperature in the oven.

OPTIONAL LIGHT FINISHING SECTION

This lamp finishing drawer can be equipped with blacklight post lamps or germicidal detack lamps. The lamps are driven with solid state ballast. A digital timer is used for accurate exposure times. A safety "Shut Off" is incorporated to prevent operator exposure when the drawer is opened during exposures.

BRUSH LEVELING PROCEDURE

1. Lower the water level so that the entire brush is exposed. If the unit is empty, spray the brush with water until thoroughly wet.
2. Lower the lid of the Washout Unit until it *almost* closed. Start the washout unit for a brief moment. Open the lid and look for water marks left on the platen.

- A.) If the **platen is completely wet**, remove the brush and lower (turn clockwise) the four (4) adjusting blocks one-half turn and repeat #2.

After drying the platen, repeat this procedure until the entire platen area remains dry.

If one or more corner remains wet, continue lowering where the brush is touching. Bring all four corners up one-half turn. The platen should be wet. You may have several areas that show no water, and this is normal.

- B.) If the **platen is completely dry**, remove the brush and raise (turn counter-clockwise) the four (4) adjusting blocks one-half turn and repeat #2.

If one corner remains dry, continue raising that side. Once the platen is completely wet, lower all four corners one-half turn

Dry platen and repeat.

If the platen remains wet, lower the corner(s) one-half turn until that area no longer gets wet. Then, raise that area back up one-half turn. You may have several areas that do not show any water, and this is normal.

Note: The goal of this procedure is to obtain the *most amount of wetted area with the least amount of pressure.*

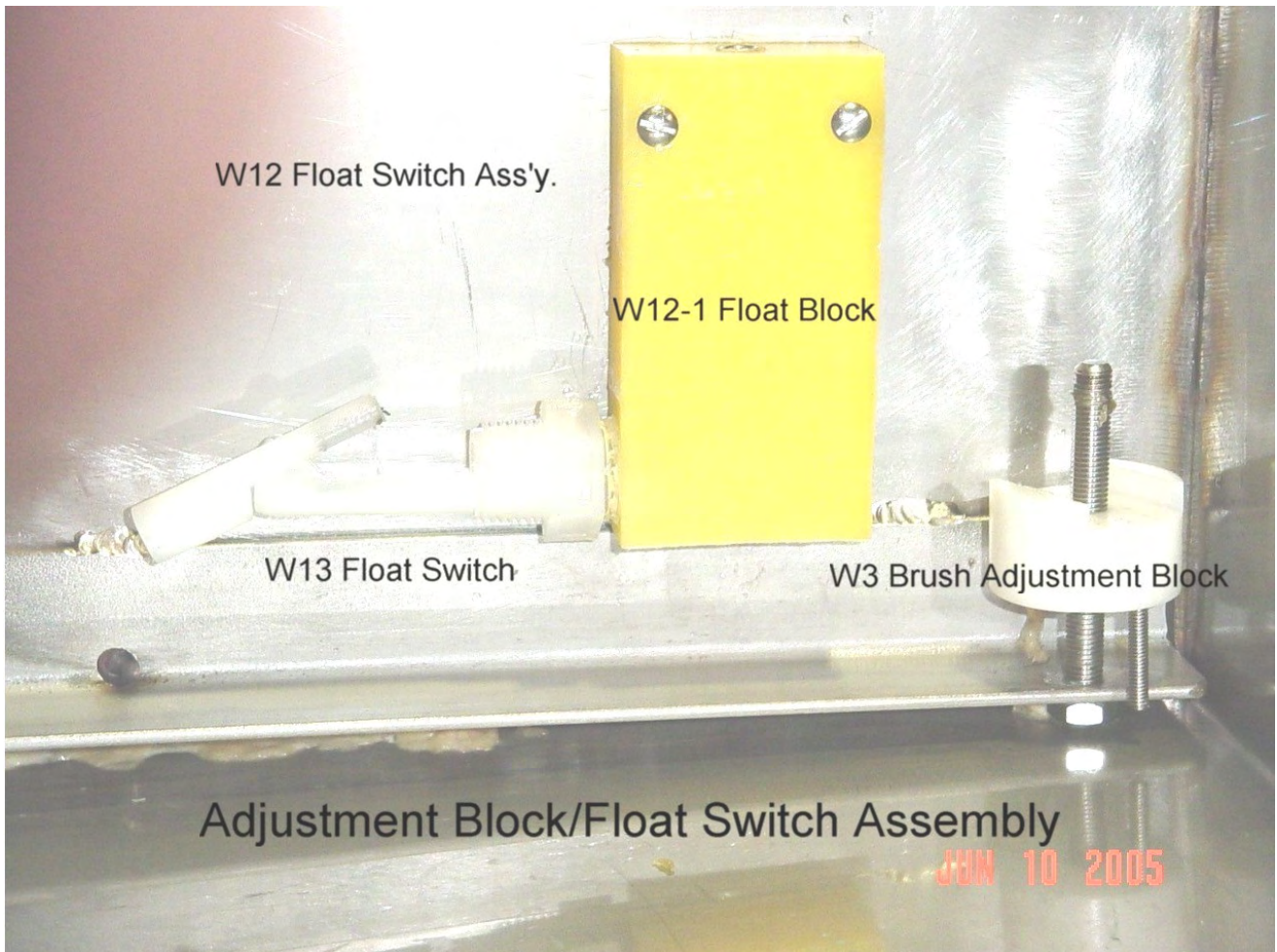
This procedure readies the unit for .067" material or for Printtight. If processing .090" material, follow the above directions and then lower (turn clockwise) the adjusting blocks one-half turn. If processing .112" material, follow the above procedure and lower the adjusting blocks one full turn.

When washing out different thicknesses of materials, spacer disks may be used to raise/lower the brush height.

Once the leveling procedures are complete, small adjustments may be required to process level plates. Adjustment should be no more than one turn per corner. Work at one-half turn increments. The least amount of pressure is the best for brush life.

BRUSH LEVEL ADJUSTMENT (With Brush Removed)

There are four brush leveling blocks used to raise and lower the brush. You must lower the solution level in the tank so the brush support rails and mounting blocks are visible. Welded to the inside of the washout tank are two support angles. Each angle has a pair of bolts with an adjustment block. To increase the brush pressure, turn the adjustment block counter clockwise. To decrease the pressure, turn clockwise. Each complete turn of the block equals .030" in adjustment.



MAINTENANCE

- Daily
 - ~ The Orbital X System should be cleaned each day with a damp cloth.
 - ~ Empty dirty solution from the tank, rinse the brush and the inside of the Washout Unit.
 - ~ Clean any build-up on or around the float switch.
- Weekly
 - ~ Clean the system with a mild cleaner.
 - ~ Grease the orbiting bushing slides with high pressure Teflon grease. It is best to remove the old grease to eliminate build-up.
 - ~ Clean any build-up of polymer on the bottom of the washout tank.
- Hints
 - ~ Using a clean cloth, the Green PVC should be wiped with vinegar or Film Kleen after each plate has been washed. This will clean the Green PVC adhesive.

24x30 ORBITAL X PROCESSOR PARTS LIST			
Ref.#	Part Description	Quantity	Code
WASHOUT SECTION			
W0	Ball Valve 3/8"bronze	1	
W1	Brush 27x33 (Cosmolight)	1	Wh
W2	Brush 27x33 (Printight, ADA)	1	Bk
W3	Brush Adjustment Block	4	
W3-1	Brush Adjustment Support	2	
W3-2	Brush Adjustment Rods	4	
W4	Brush Adjustment Shims	4	
W5	Buzzer	1	
W6	Capacitor	1	
W7	Capacitor Clamp	1	
W8	Digital Timer	1	
W9	Drip Shield	1	
W10*	Drive Cam	1	
W11	End Clamp SQ D	2	
W12	Float Switch Ass'y.	1	
W12-1	Float Block	1	
W13	Float Switch	1	
W14	Gas Shock	2	
W15*	Gearmotor 32.7 RPM	1	
W16/W16-1	Ground Fault/Box(optional customer purchase)	1	
W17	Handle	1	
W18	Hinge (washout) 40"	1	
W19	Hinge (lid cover) 40"	1	
W20	Hydraulic Damper	2	
W21	Jumper	3	
W22	Jumper 2 pole	1	
W23	Knockout (liquid tight)	2	
W24*	Leveling Feet	4	
W25	Lid Gasket	1	
W26	Lid Switch (mercury)	1	
W26-1	Switch (rocker)	1	
W27	Magback 24x30	1	
W28	Platen w/ Green PVC 24x30	1	
W29*	Nylon Bushing	8	
W30A*	*Washout Platen Ass'y Components*	1	
W30*	Platen Leveling Pad/ Post	6	
W31*	Platen / Lid Slider Ass'y.	2	
W31-1*	Platen Slide (on lid)	2	
W31-2*	Platen Slide (on platen)	2	
W32	Relay	2	
W33	Relay 8 pin	1	
W34	Relay 10 amp	1	
W35	Relay	1	
W36	not used		
W37	Reversing Timer	1	
W38	Terminal Block	13	
W39	Varistor	4	
W40	Washout Tank S.S.	1	
W41	Washout Tank Stand pipe	1	

W41	Water Heater Element 1000 watt (PT, ADA)		1	Bk
W42	Water Heater Element 1000 watt (Cos)		2	Wh
W43	Water Thermostat		1	
W44*	Washer (Delrin)		16	
W45*	Washout Platen		1	
W46*	Washout Drive Block Support		1	
W47*	Washout Drive Block		1	
W48	Indicator Light		1	
W49	Circulation Pump		1	Wh
8/17/2005				
Ref. #	Parts Description		Quantity	Code
	EXPOSURE SECTION (Drawer)			
E1	Ballast 120 V		8	
E2	Ballast Panel		1	
E3	Blacklight Lamps (PT, ADA)		16	Mo
E4	Blacklight Lamps (Cosmolight)		16	Ho
E5	1/4 X 1/8 Brass Instant tube		2	
E6	Cable, multi/id		4	
E7	Connector, Shunt		2	
E8	Connector, Snap In		2	
E9	Connector, 90		4	
E10	Control Panel		1	
E11	Control Panel Decal		1	
E12	Cord Set		3	
E13	Digital Timer		1	
E14	Drawer Slide		4	
E15	Fan (exhaust) 238cfm		1	
E16	Fan Guard (circulation)		2	
E17	Fan (circulation) 105 cfm		2	
E18	Fan Guard (exhaust)		1	
E19	Fan Guard (air inlet, vac. pump)		1	
E20	Fuses FNM 3, 5, 8		(1)3,(3)5, (1)8	
E21	Fuses FNM 12, 15 *w/(2) heaters		(1)12,(2)15,*(3)15	
E22	Fuse Holder		8	
E23	Handle		1	
E24	Jumper		1	
E25	Lamp Socket		32	
E26	Light Panel		1	
E27	Relay (A-B)		1	
E28	Relay Furnas		1	
E29	Switch (red rocker)		2	
E30	Sensor SPST (magnetic)		2	
E31	Sensor Actuator (read)		2	
E32	Temp.Control Mount		1	
E33	Terminal Block		19	
E34	Terminal Lug		1	
E35	Tubing 11nylon, .180 x 1/4 black		6	
E36	Tubing Flex II		8	
E37	Vacuum Drawer Front		1	
E38	Vacuum Pump		1	
E39	Vacuum Switch		1	
E40	Vacuum Platen		1	
E41	Varistor		2	
E42	Fan (cooling)		1	
E43	Krene Bar		1	
E44	Vacuum Gauge		1	

	EXPOSURE LID SECTION		1
E50	Exposure Lid		1
E51	Exposure Base		1
E52	Vacuum Valve		1
E53	Vacuum Gauge		1
E54	Power, Vacuum Switch		2
E55	Hour Meter		1
E56	Back Exp. Timer		1
E57	Face Exp. Timer		1
E58	Exposure Power Switch		1
E59	Safety Lights F20T12/CW		2
E60	Kreen Roll		1
E61	Lid Dampener		1
E62	Access Panel		1
E63	Drawer Lock		1
E64	Fan		2
E64-1	Fan Guard		2
E65	Cooling Fan		5
E65-1	Fan Guard		5
E65-2	Cord Set		7
E66	Exposure Ballast		16
E68	Exposure Lamps		16
E69	Lamp Sockets (stationery)		16
E70	" " (spring)		16
E71	DP Contactor 40 amp		1
E72	Main Power Relay		1
E73	Vacuum Bed		1
E74	Vacuum Adapter		1
E75	Vacuum Pump		1
E76	Time Delay		1
E77	Capacitor		1
E78	Nylon Tubing (vacuum hose)		8'
E78-1	1/4" ID clear hose		2'
E79	Omron Switch		1
E80	Lamp Socket (safety lamps)		4
E81	Handle, Lid		1
E82	Door sweep mat'l.		8'-6"
E83	Terminal Strip		1
E84	Limit Switch Guard		1
E85	Dampener (gas spring)		1
E86	Ball Adapter		2
E87	Clips		2

Ref. #	Parts Description	Quantity	Code
FINISHING SECTION, LIGHT DRAWER			
F1	Ballast	7	
F2	Ballast Panel	1	
F3	Digital Timer	1	
F4	Drawer Front	1	
F5	Drawer Slide	4	
F6	Handle	1	
F7	Lamp Socket	28	
F8	Lamps (post expose) Blacklight	14	Pe
F9	Lamps (detack) Germicidal	14	Dt
F10	Post/Detack Drawer	1	
F11	Sensor SPST (magnetic)	1	
F12	Sensor Actuator (read)	1	
F13	Varistor	2	
FINISHING SECTION, LIGHT DRAWER			
Ref.#	Parts Description	Quantity	Code
DRYER SECTION			
D1			Dr
D2	Blower/Heater 240V/2250 W	1	
D3	Drawer Front	3	
D4	Fiberglass Paper	misc.	
D5	Handle	1	
D6	Thermostat	1	
D7	Oven/Heat Deflector	1	
D8	Light	1	
D9	Switch	1	
D10	Heat/vacuum Box	1	
D11	Fan	2	
D12	Fan Guard	1	
D13	Indicator Light	1	
D14	Exhaust Blast Gate	1	
D15	Purge Timer	1	
D16	Drawer Slide	6	
MISC. PARTS/COMPONENTS			
M1	Caster	4	
M2	Decals	misc.	

12x18 ORBITAL X PROCESSOR PARTS LIST

Ref.#	Part Description	Quantity	Code
WASHOUT SECTION			
W0	Ball Valve 3/8"bronze	1	
W1	Brush 15x21 (Cosmolight)	1	Wh
W2	Brush 15x21 (Printight, ADA)	1	Bk
W3	Brush Adjustment Block	4	
		1 pair (2 pieces)	
W3-1	Brush Adjustment Ass'y.		
W4	Brush Adjustment Shims	4	
W4-1	Brush Frame	1	
W5	Buzzer	1	
W6	Capacitor	1	
W7	Capacitor Clamp	1	
W8	Digital Timer	1	
W9	Drip Shield	1	
W10	Drive Cam	1	
W10-1	Drive Block	1	
W11	End Clamp SQ D	2	
W12	Float Switch Ass'y.	1	
W13	Float Switch	1	
W14	Gas Shock	2	
W15	Gearmotor 32.7 RPM	1	
W16	not used (ground fault)	1	
W17	Handle	1	
W18	Hinge (washout)	1	
W19	Hinge (lid cover)	1	
W20	Hydraulic Damper	2	
W20-1	Socket "	4	
W20-2	Stud "	4	
W20-3	Clip "	4	
W21	Jumper	3	
W22	Jumper 2 pole	2	
W23	Knockout (liquid tight)	2	
W24	Leveling Feet	4	
W25	Lid Gasket	1	
W26	Lid Switch (mercury)	1	
W27	Magback 12x18	1	
W28	Platen w/ Green PVC 12x18	1	
W29	Nylon Bushing	8	
W30	Platen Leveling Pad Post	4	
W31	Orbital Plate (top)	1	
W31-1	Orbital Plate (bottom)	1	
W32	Relay 30 amp power	2	
W33	Relay 8 pin	1	
W34	Relay 10 amp	1	
W35	Relay	1	
W36	Relay Base	1	
W37	Reversing Timer	1	
W38	Terminal Block	13	
W39	Varistor	2	
W40	Washout Tank S.S.	1	

W41	Water Heater Element 750 watt (PT, ADA)	1	Bk
W42	Water Heater Element 750 watt (Cos)	1	Wh
W43	Water Thermostat	1	
W44	Stand Pipe	1	
W45	Switch	1	
W46	Circulation Pump	1	Wh

Ref. #	Parts Description	Quantity	Code
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EXPOSURE SECTION

E1	Ballast 120 V	4	
E2	Ballast Panel	1	
E3	Blacklight Lamps (PT, ADA)	8	Mo
E4	Blacklight Lamps (Cosmolight)	8	Ho
E5	1/4 X 1/8 Brass Instant tube	2	
E6	Cable, multi/id	4	
E7	Connector, Shunt	2	
E8	Connector, Snap In	2	
E9	Connector, 90	4	
E10	Control Panel	1	
E11	Control Panel Decal	1	
E12	Cord Set	3	
E13	Digital Timer	1	
E14	Drawer Slide	4	
E15	Fan (exhaust) 238cfm	1	
E16	Fan Guard (circulation)	2	
E17	Fan (circulation) 105 cfm	2	
E18	Fan Guard (exhaust)	1	
E19	Fan (air inlet, vac. pump)	1	
E20	Fuses FNM 1.5, 8	(1)1.5, (1) 8	
E21	Fuses FNM 12, 15	(1) 12, (2) 15	
E22	Fuse Holder	7	
E23	Handle	1	
E24	Jumper	4	
E25	Lamp Socket	16	
E26	Light Panel	1	
E27	Relay	1	
E27-1	Relay	1	
E27-2	Relay Socket	1	
E28	Relay Furnas	1	
E29	Switch (red rocker)	1	
E30	Sensor SPST (magnet)	2	
E31	Sensor Actuator (read)	2	
E32	Temp.Control Mount	1	
E33	Terminal Block	18	
E34	Terminal Lug	1	
E35	Tubing 11nylon, .180 x 1/4 black	6	
E36	Tubing Flex II	8	
E37	Vacuum Drawer Front	1	
E37-1	Vacuum Krene Bar	1	
E38	Vacuum Pump	1	
E39	Vacuum Switch	1	
E40	Vacuum Platen	1	
E40-1	Vacuum Block	1	
E41	Varistor	2	

E42	Fan (cooling)	1
E42-1	Fan Guard	1

EXPOSURE LID SECTION 1

E50	Exposure Lid	1
E51	Exposure Base	1
E52	Vacuum Valve	1
E53	Vacuum Gauge	1
E54	Vacuum Switch	1
E55	Hour Meter	1
E56	Exp. Timer	1
E57	Fuse Holder	2
E58	Exposure Switch	1
E59	Safety Light	1
E60	Krene Roll	1
E60-1	Krene (sheet size 20"x 26")	

3/16/2006

Ref #	Part Description	Qty.	Code
E61	Lid Damper	1	
E62	Fuses 15 amp	2	
E63	not used		
E64	Fan	2	
E64-1	Fan Guard	2	
E65	Fan	1	
E65-1	Fan Guard	2	
E65-2	Cord Set	3	
E66	Exposure Ballast	8	
E67	Safety Lamp Ballast	1	
E68	Exposure Lamps	8	HO
E68	Exposure Lamps	8	MO
E69	Lamp Sockets	18	
E70	Lid Switch	1	
E71	not used		
E72	Power Relay	2	
E73	Vacuum Bed	1	
E74	Vacuum Adapter "T"	3	
E75	Vacuum Pump	1	
E76	not used		
E77	Capacitor	1	
E78	Nylon Tubing (vacuum hose)		
E78-1	1/4" clear hose		
E79	Omron Switch	1	
E80	Lamp Socket (safety lamps)	2	
E81	Lid Handle	1	
E82	Door Sweep Mat'l.		
E83	Terminals	15	
E84	Limit Sw. Guard	1	
E85	Lid Bumper Stop	2	
E86	Ball Adapter End	1	
E87	Clips	2	

E88	Lid Handle	1	
D9071013	Electrical Print Number		
Ref. #	Parts Description	Quantity	Code

FINISHING SECTION, LIGHT DRAWER

F1	Ballast	4	
F2	Ballast Panel	1	
F3	Digital Timer	1	
F4	Drawer Front	1	
F5	Drawer Slide	4	
F6	Handle	1	
F7	Lamp Socket	16	
F8	Lamps (post expose) Blacklight	8	Pe
F9	Lamps (detack) Germicidal	8	Dt
F10	Post/Detack Drawer	1	
F11	Sensor (read)	1	
F12	Sensor (magnetic)	1	
F13	Varistor	1	

Ref.#	Parts Description	Quantity	Code
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D1	DRYER SECTION		Dr
D2	Blower/Heater 240V/2250 W	1	
D3	Drawer Front	3	
D3-1	Drawer Slide	6	
D4	Fiberglass Paper	misc.	
D5	Handle	1	
D6	Thermostat	1	
D7	Oven Heat Deflector	1	
D8	Light	1	
D9	Switch	1	
D10	Heat/Vacuum Box	1	

3/16/2006

Ref.#	Parts Description	Quantity	Code
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MISC. PARTS/COMPONENTS

M1	Caster	4	
M2	Decals	misc.	

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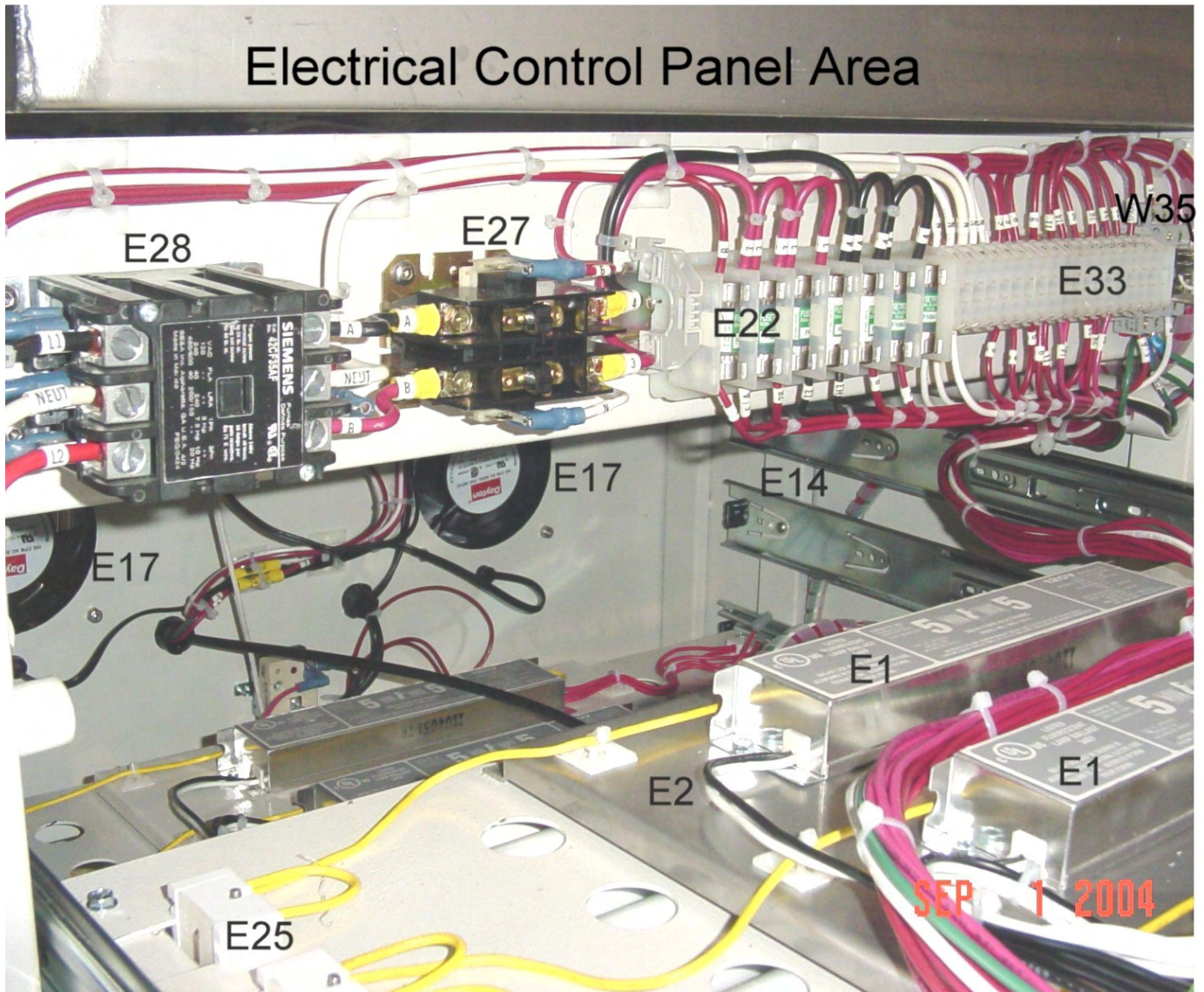
24x30 Orbital X Rear View

12x18 Orbital X Rear View

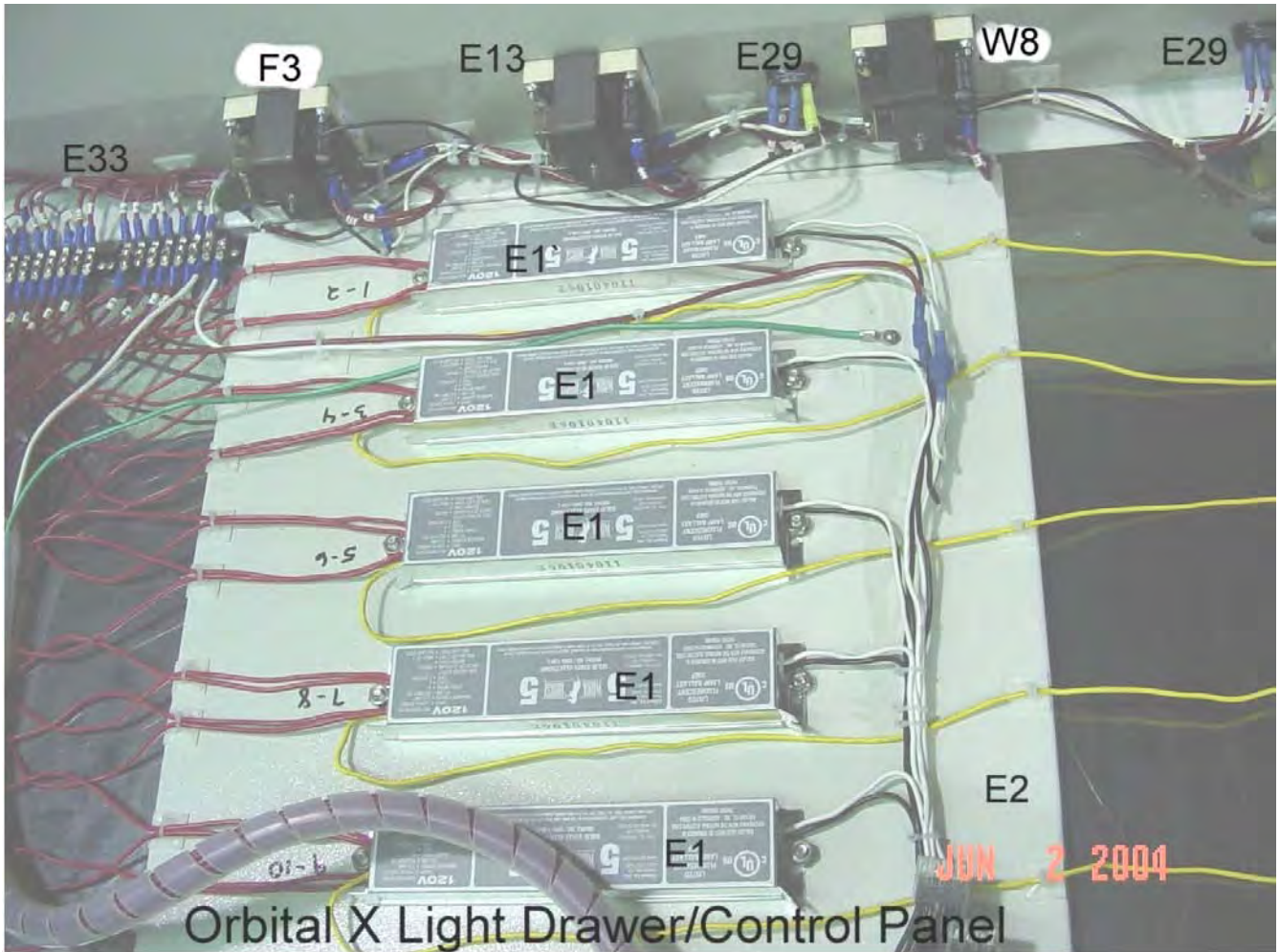


12x18 Orbital X Rear View

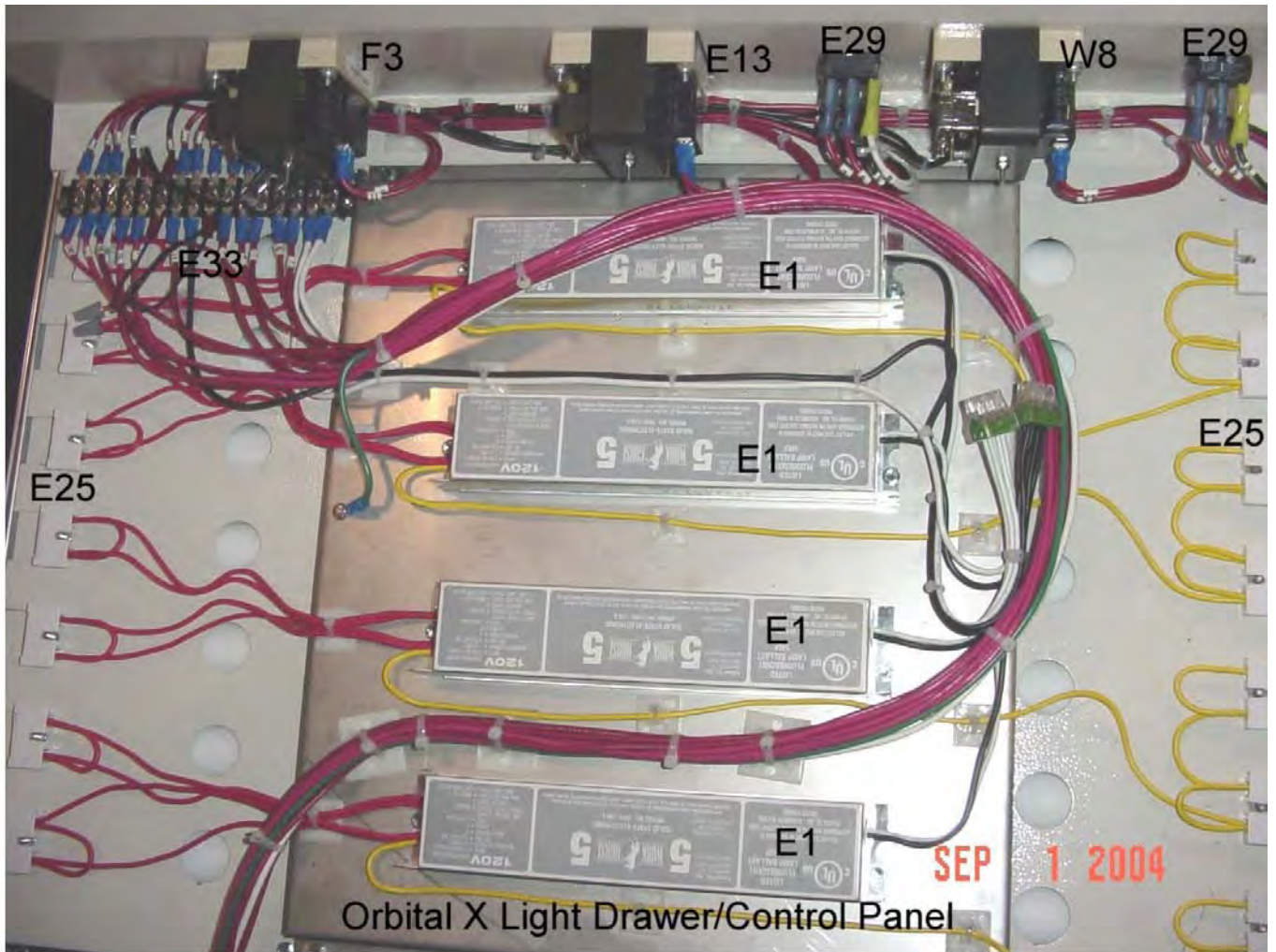
Electrical Control Panel Area



24x30 Orbital X

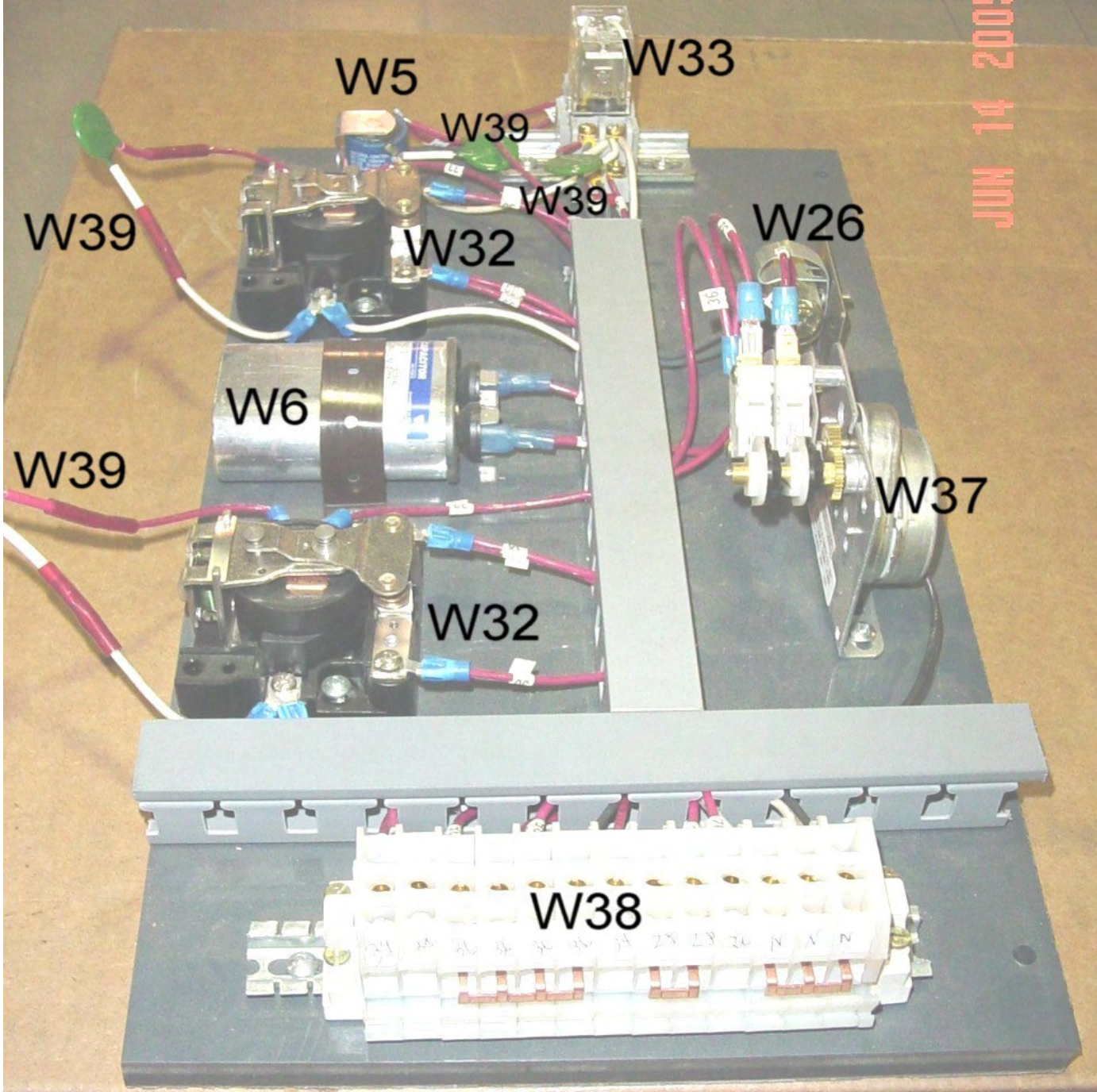


24x30 Orbital X



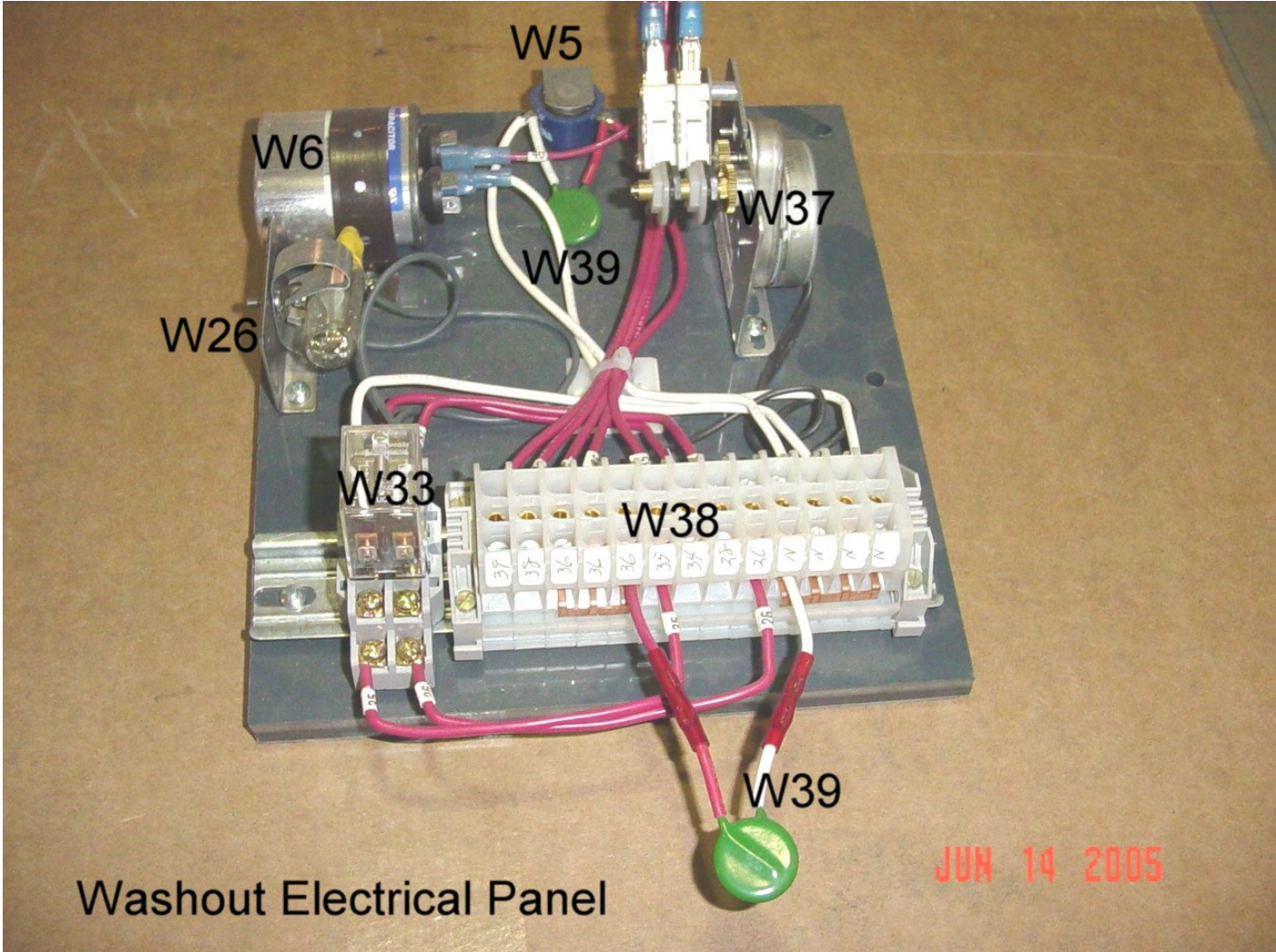
12x18 Orbital X

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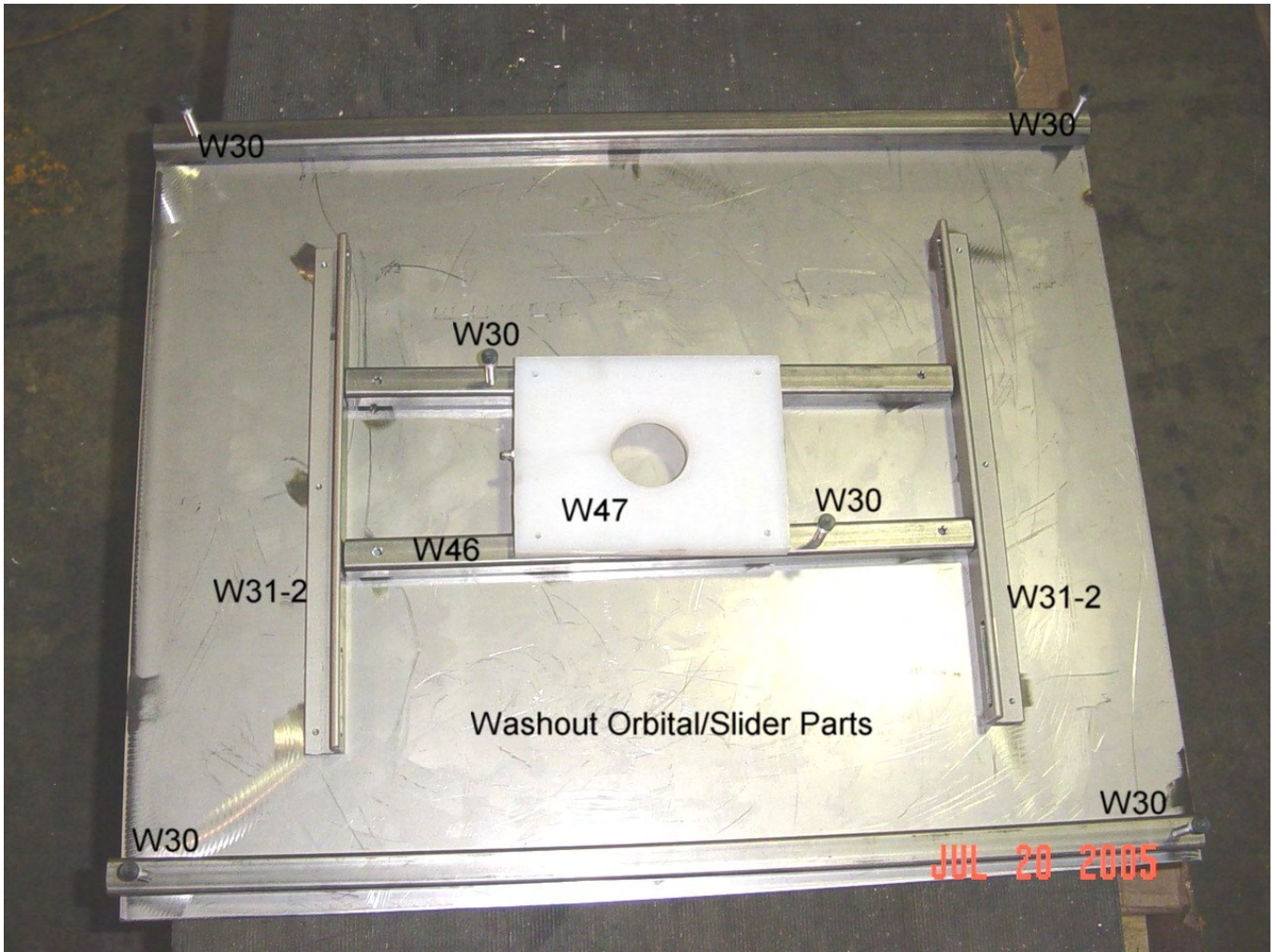


Washout Electrical Panel

24x30 Orbital X



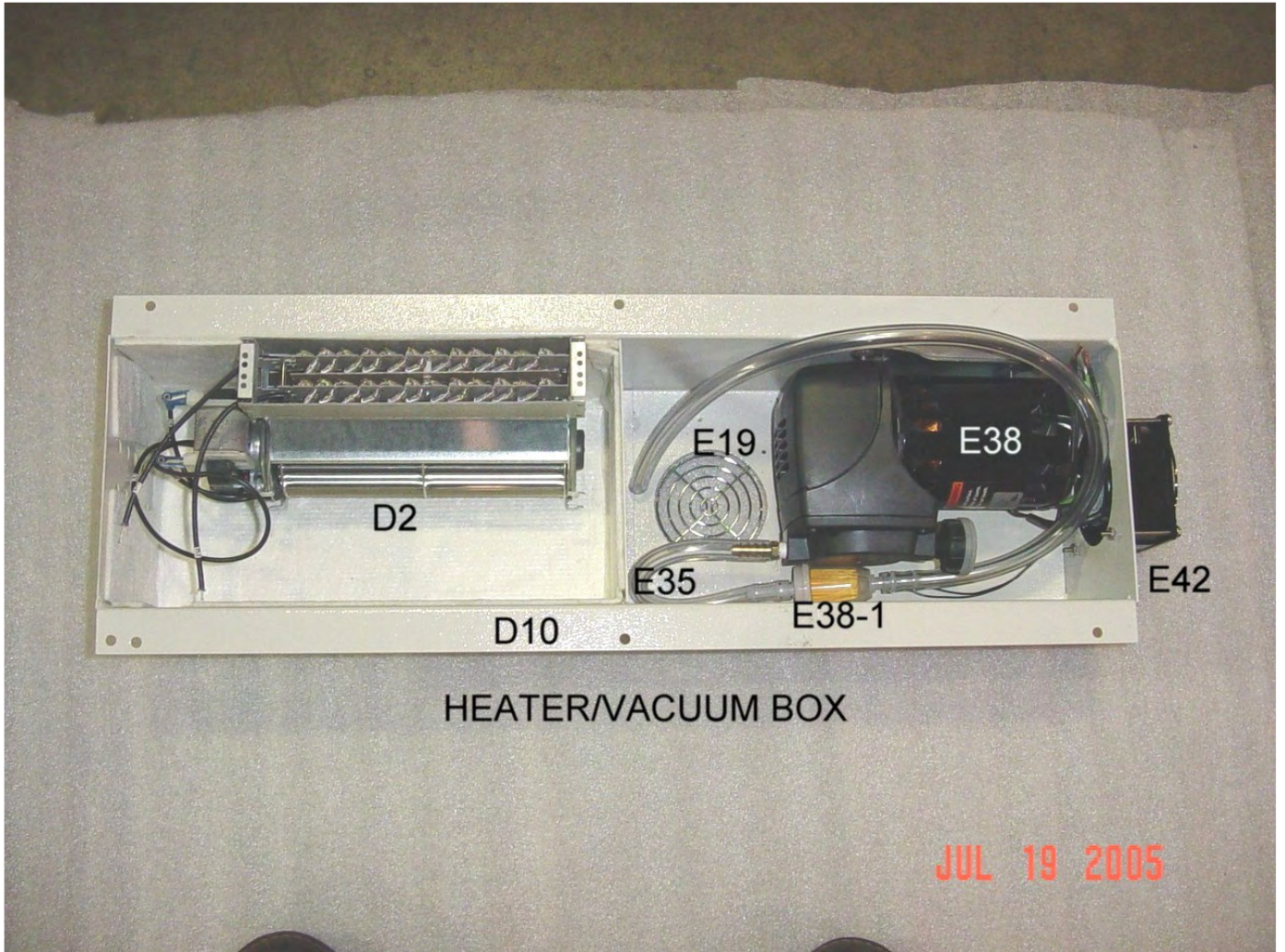
12x18 Orbital X



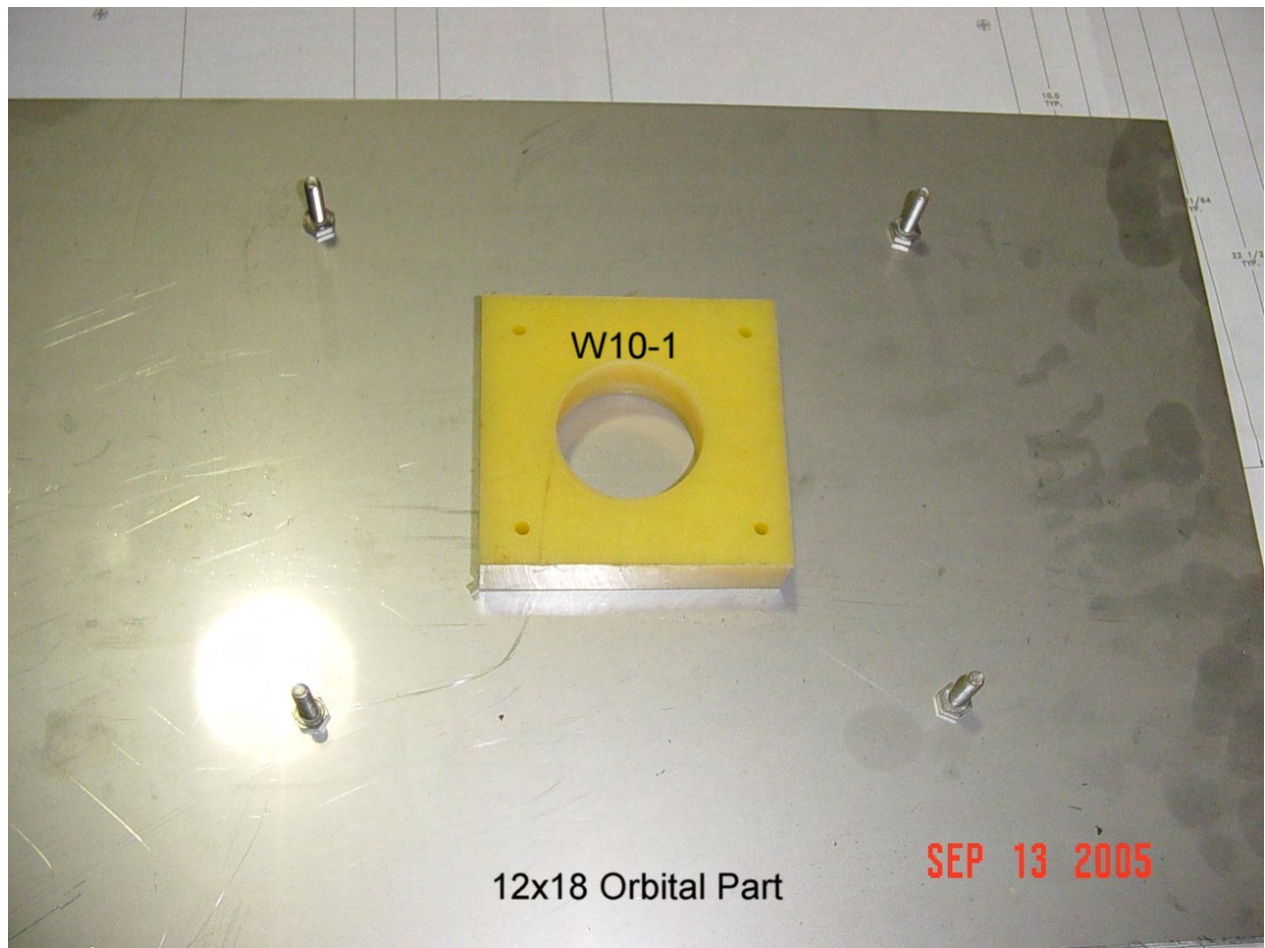
24x30 Orbital X



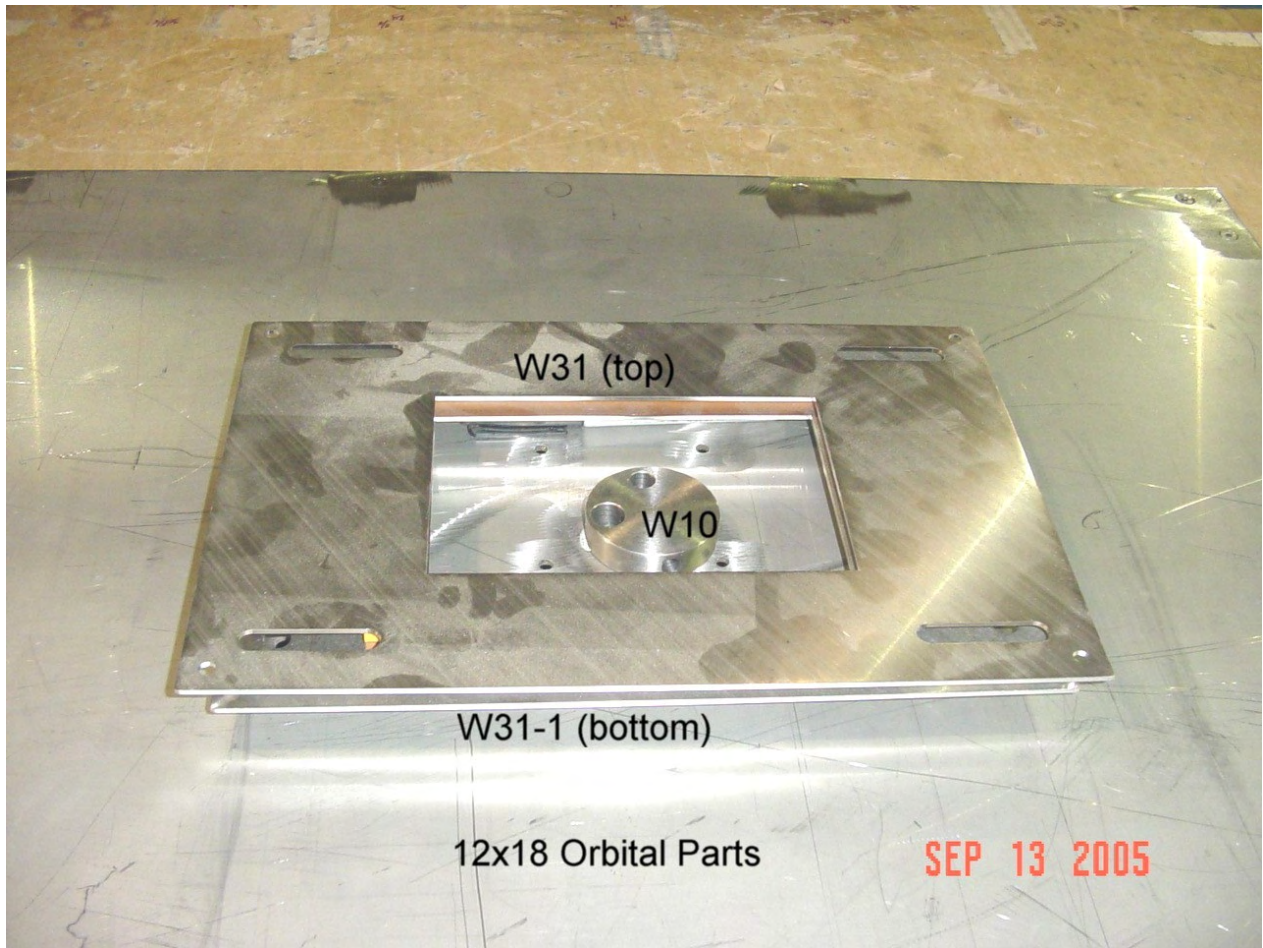
24x30 Orbital X Platen Slider



Orbital X



12x18 Orbital X



12x18 Orbital X



Solid State Timers and Controllers

EPC-13225 Interval Countdown Timer With Programmable Time Base



The EPC-13225, a modification of the standard Artisan Controls Corporation's model 4970, is a microcontroller based countdown interval timer with digital display of timing controlling a high current set of output contacts. During a timing cycle the output relay is energized and the display will countdown to zero, at which time the output relay de-energizes. The time base can be programmed to countdown the time in the following ranges: 000.1 - 999.9 seconds, 0001 - 9999 seconds, 00:01 - 59:59 minutes : seconds, and 00:01 - 23:59 hours : minutes. Prior to the start of a cycle an LED on the front panel will be OFF. When running a timing cycle the LED will flash, and at the end of the cycle the timer will beep for five seconds, the LED will turn ON steady and the display will reset to the preset starting time. Two arrow buttons on the front panel

are used to set the time. Press the LEFT ARROW button to select the digit on the display to change. The selected digit will flash on the display. Use the UP ARROW button to change the value of the digit. The START/STOP button performs three functions. Pressing the START/STOP button while the timer is not active, will cause the timer to begin counting down the time on the display and activate the output power relay contacts. Pressing the START/STOP button while the timer is active, will stop the timer and de-energize the output power relay, turning OFF the LED. The timer will display the time remaining in the cycle when it is interrupted by the START/STOP button. If the START/STOP button is pressed again the output power relay will energize and the timer will continue timing from the point it was stopped. Should the START/STOP switch be held down for longer than two seconds while it is in the STOP mode the timer will reset and the display will return to the original starting time and the LED will turn OFF. Should power fail during a timing cycle the internal memory will backup the time to the last five second tick and upon restoration of power the timer will complete the preset timing cycle. The EPC-13225 always remembers the last interval time selected and when first powered up resets to that time.

Specifications

Timing Mode: Interval - Countdown.

Operating Voltage: 12V DC $\pm 15\%$ @ .4A maximum (-1), 115V AC $\pm 15\%$ 50/60 Hz. (-2) @ 7 watts maximum, 230V AC $\pm 10\%$ 50/60 Hz. (-3) @ 7 Watts maximum.

Programmable Time Base: 000.1 - 999.9 seconds (Code 0), 00:01 - 59:59 minutes : seconds (Code 1)
0001 - 9999 seconds (Code 2), 00:01 - 23:59 hours : minutes (Code 3).

Timing Accuracy: $\pm 5\%$ of setting.

Digital Display: Four (4) digit red LED, 0.5 inch high characters displays remaining timing interval.

Timing Cycle Memory: Preset time kept in non-volatile memory, Timing backed up to the 5 second tick.

Front Panel Indicator: An LED indicates the timer state.

Front Panel Switches: Three (3) momentary push-buttons behind front panel overlay. Two (2) for setting the time. One (1) for starting and stopping the timer.

Audible Alarm: A solid state alarm will sound for five (5) seconds at the end of a timing cycle.

Output Contact Rating: SPDT Power relay contacts. Normally Open Contacts: Rated for 20A inductive or resistive at 125 or 240 VAC and 30V DC, 6A inductive or resistive at 277 VAC. 2 HP motor load at 240 VAC, 1 HP motor load at 125 VAC, 6A ballast load at 125 or 277 VAC, 60A LRA at 240 VAC, 20A FLA at 240 VAC. Normally Closed Contacts: rated for 10A inductive or resistive at 125 or 240 VAC, 3A inductive or resistive at 277 VAC, 10A inductive or resistive at 30 VDC, 1/2 HP motor load at 240 VAC, 1/4 HP motor load at 125 VAC, 3A ballast load at 125 or 277 VAC, 33 LRA at 240 VAC, 10A FLA at 240 VAC. per UL file #E44211

Operating Temperature: 0 to 70° C.

Mounting: 2.62 sq. cutout accepts timer which is secured with rear attached bracket & nut.

Wiring: Three (3) .25" Quick Connect terminals for power relay connections, two (2) #18 AWG wires, 12 inches long for operating voltage connections.

Agency Recognition: UL File #E47858 (Component Appliance Controls #ATN22)

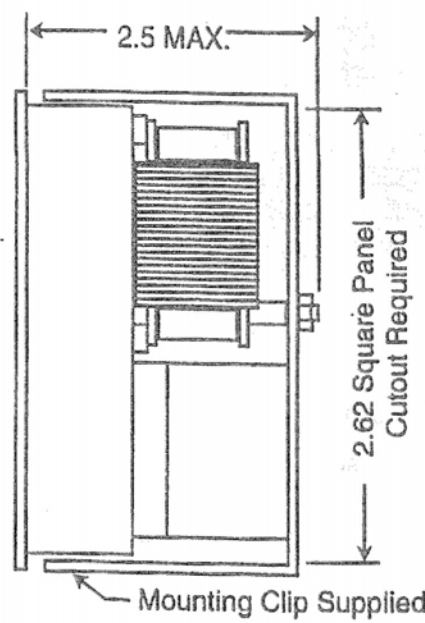
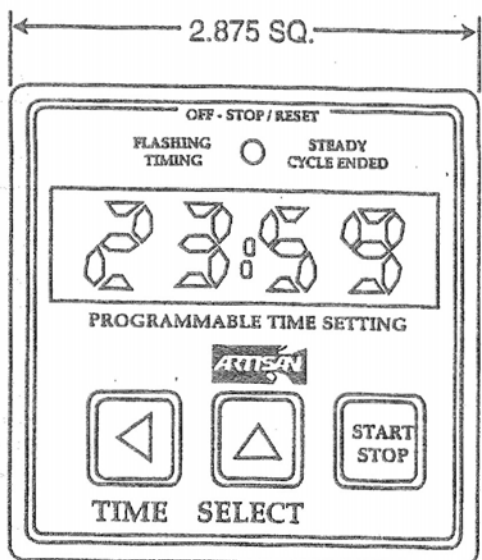
UL File #E47858 (Component Auxiliary Devices #NKCR2)

Data Sheet Revision Date: June 21, 1995

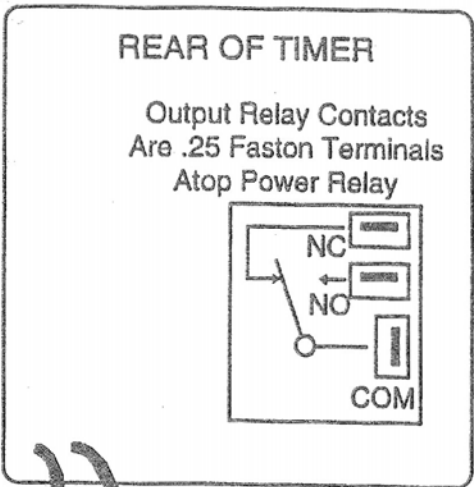


Solid State Timers and Controllers

Mechanical



Wiring



No Need To Observe polarity Of Operating Voltage On DC Model

Connect To Operating Voltage

Programming The Initial Timebase

The model EPC-13225 is shipped from the factory preset to the Code 3 time base of 23:59 Hours : Minutes. To program another time base perform the following steps:

1. Turn OFF the power.
2. Press the button while turning the power ON.
3. Release the button after the display turns ON.
4. A number from 0 to 3 will appear. This number corresponds to:
 - 0 = 00:01 - 999.9 seconds
 - 1 = 00:01 - 59:59 minutes : seconds
 - 2 = 0001 - 9999 seconds
 - 3 = 00:01 - 23:59 hours : minutes
5. Use the button to select the desired time base.
6. Turn OFF the power.
7. Wait 2 seconds.
8. Turn ON the power and the model EPC-13225 will remain in the new time range until reprogrammed as above.

Ordering Information

Part Number	Operating Voltage
4970-1 (EPC-13225 - 1)	12V DC
4970-2 (EPC-13225 - 2)	115V AC
4970-3 (EPC-13225 - 3)	230V AC

COSMOLIGHT WASHOUT SOLUTION EASY REFERENCE FOR MIXING

(Amount of Cascade to make 1% Solution)

Amount of Water		Amount of Cascade		
Gallons	Liters	Kilograms	Pounds	Cups
2.2 Gallons	8.33 ltr	0.082 kg	0.18 lbs	0.33 C
3.1 Gallons	11.73 ltr	0.118 kg	0.26 lbs	0.47 C
5 Gallons	18.93 ltr	0.186 kg	0.41 lbs	0.75 C
10 Gallons	37.8 ltr	0.378 kg	0.83 lbs	1.50 C
17 Gallons	64.4 ltr	0.646 kg	1.36 lbs	2.55 C
20 Gallons	75.6 ltr	0.756 kg	1.66 lbs	3.00 C
22 Gallons	83.16 ltr	0.836 kg	1.76 lbs	3.33 C
30 Gallons	113.6 ltr	1.136 kg	2.50 lbs	4.50 C
35 Gallons	132.3 ltr	1.323 kg	2.80 lbs	5.25 C
40 Gallons	151.4 ltr	1.514 kg	3.34 lbs	6.00 C
50 Gallons	189.3 ltr	1.893 kg	4.17 lbs	7.50 C
60 Gallons	227.1 ltr	2.271 kg	5.01 lbs	9.00 C
70 Gallons	265.0 ltr	2.646 kg	5.84 lbs	10.50 C
80 Gallons	302.8 ltr	3.028 kg	6.68 lbs	12.00 C
90 Gallons	340.7 ltr	3.402 kg	7.50 lbs	13.50 C
100 Gallons	378.5 ltr	3.785 kg	8.34 lbs	15.00 C

(Proper temperature of washout solution is 108° F)

NOTICE:

All fluorescent and most high intensity discharge lamps contain a small amount of *mercury*. Due to environmental concerns, states can restrict or prohibit the disposal of some or all *mercury* containing lamps in the municipal waste stream.

Please, visit www.lamprecycle.org for more information on specific state disposal requirements and recycling facilities.

Please, do not return used or spent lamps
to Nova Polymers for disposal.

24"x30" EXPOSURE OVEN UNIT WITH POST AND DETACK

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INTRODUCTION

This unit is designed to expose, dry, post and detack photopolymer printing plates.

For the exposure cycle, this unit has a vacuum bed to secure the negative to the raw material to be exposed. A bank of lights are incorporated to back and face expose the same photopolymer material.

Also in this unit is a separate heating compartment for drying the plates after they have been washed out. This compartment is controlled by a thermostat to maintain proper drying temperatures.

Both the post and detack section has a separate drawer designed to post and/or anti-tack photopolymer plates.

SET-UP INSTRUCTIONS

Installation consists of uncrating, inspection, location to installation site, connection, and operational checks.

This unit has been thoroughly inspected and tested prior to shipment. As the unit is uncrated, carefully inspect for any apparent shipment damage. If damage is noted, document it by photographing the unit and filing a claim with the delivering carrier within 15-days of date of delivery.

Power to the unit should be wired direct to a fused disconnect box by a qualified electrician.

- Uncrate and advise carrier of any damage that may have occurred during shipment.
- Set unit a *minimum* of 6" away from the wall on the back side.
- Make sure all bulbs are seated correctly and securely in their sockets.

Caution: Do not attempt to work on the machine while it is plugged into a power source.

VENTILATION

If this unit is equipped with its own air blower(s), it is to be exhausted directly to the outside. A separately powered exhaust system must be utilized with the equipment to provide adequate exhaust of vapors.

Exhaust must be vented to the outside air

An additional exhaust fan at the outside exit point is needed to pull the fumes out. Connect with metal or flexible duct.

If the Oven is to be vented into the same duct work as a Washout Unit, use a "Y" connection to help the air flow. This will not restrict the fumes from the Washout Unit.

Proper ventilation of the work area must be provided so that the processing vapors are held to acceptable levels. This unit must be vented to the outside and fresh make-up air supplied to the work area through sufficient room ventilation. *It is the responsibility of the user to provide acceptable working conditions.* Qualified heating and ventilation contractors should be employed to design and install the ventilation system.

Air should be supplied to the room so as to change every 6-minutes. The air in the work space surrounding the processing equipment should be changed every 3-minutes to properly control processing fumes.

Other factors that should be considered when providing sufficient room ventilation are:

- Room air should be replenished, not re-circulated.
- Locate exhaust ducts at floor level for solvent processing solution fumes.
- More frequent air changes may be needed depending upon the number of plates processed, room layout, other chemicals used in the room, and solvent handling procedures.
- Air intake for the platemaking area should not introduce chemical fumes from other areas of the building; likewise, exhaust from the room and equipment should be to the outside and not to other areas of the building.
- Utilize slide dampers to provide systems balance when the auxiliary blower system is used.
- Use "Y" connections instead of "T" connections in duct work.
- Keep exhaust runs as short as practical with a minimum number of bends to reduce pressure losses.
- Avoid exhausting against the prevailing winds.
- Do not locate exhaust discharge nears windows, ventilation intakes, or pedestrian areas.

The flooring surrounding the platemaking equipment should be resistant to chlorinated hydrocarbons (dry cleaning fluid) and wherever there is a possibility of a solvent spill.

DETACK SECTION

Note: If, at any time, the drawer is opened, the detack lights will go out and the Timer will stop at that time. When the drawer is closed, the Timer and bulbs will continue to operate. The indicating light will also come back on.

INSTRUMENT PANEL DESCRIPTION

Exposure Power Switch ~ 2-position switch that turns the power on/off to the exposure section of the unit.

Exposure Hour Meter ~ indicates the amount of time on the exposure bulbs.

Back Exposure Timer ~ controls the length of time for back exposures. (Refer to Timer Instructions)

Face Exposure Timer ~ controls the length of time for face exposures. Can also be used to time post exposure.

Vacuum Gauge ~ measures the amount of vacuum on the exposure grid.

Vacuum Valve ~ controls the amount of vacuum on the exposure grid.

Vacuum Switch ~ 2-position switch that turns the vacuum pumps on/off to the exposure grid plate.

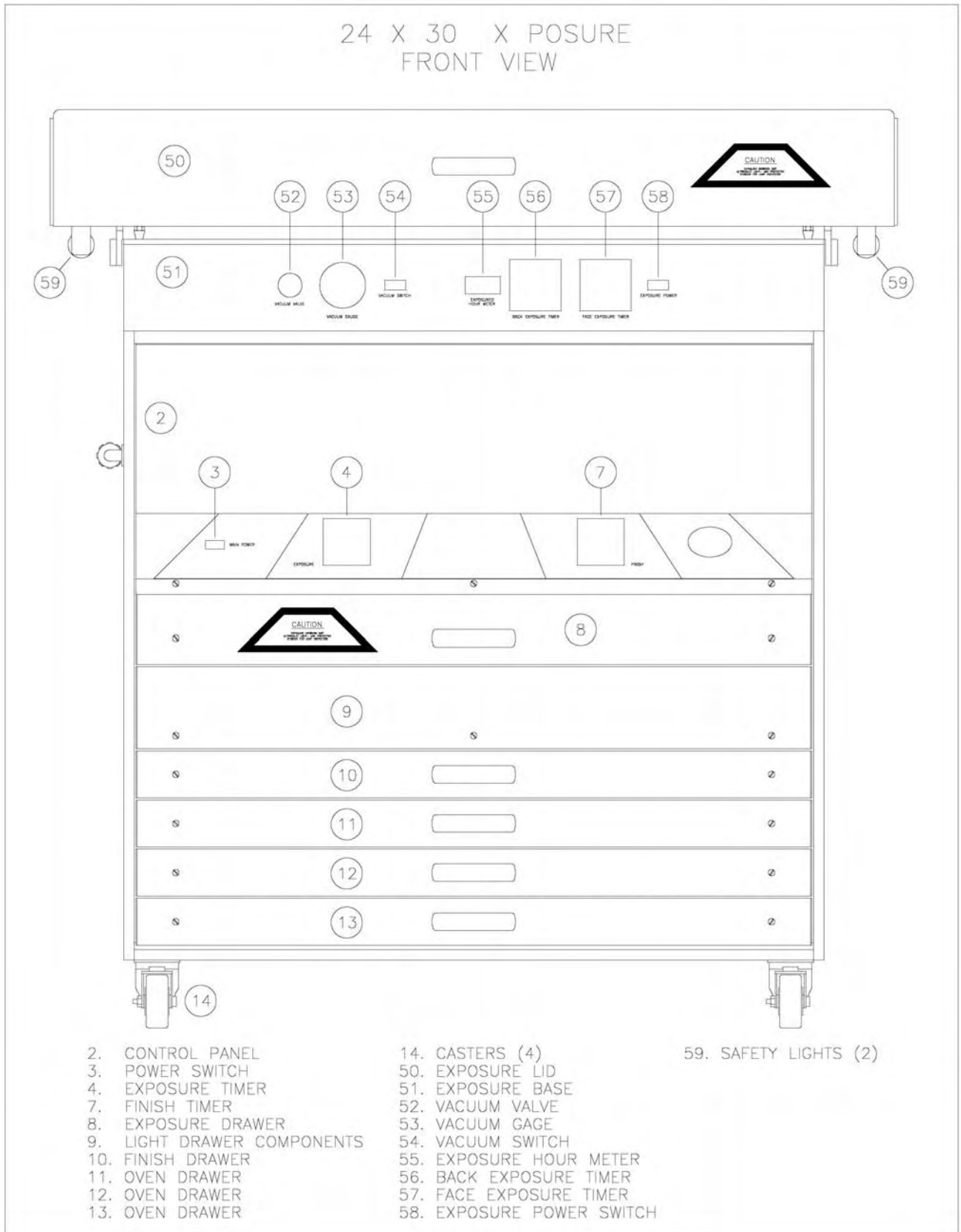
Oven Thermostat Controller ~ Controls the oven temperature and is preset at the factory. It is located on the back of the unit.

Post//Detck Power Switch ~ 2-position switch that turns the power on/off to the detack section of the unit.

Post Timer ~ Controls the length of time the plate is posted.

Anti-Tack Timer ~ Controls the length of time the plate is detacked.

OVEN & DETACK DRAWER CONTROL PANEL DIAGRAM



EXPOSURE CONTROL PANEL DIAGRAM

OPERATING PROCEDURE

The controls for the Exposure Unit are located on the front panel. When the Power Switch is on, the indicating Light will illuminate and the fan(s) in the top will start. Back and Face Exposure Timers are provided. Please refer to the timer instruction sheet provided in the appendix for proper operation.

To turn on the lights, first lower the lid. Then, set the desired exposure time on the Exposure Timer. Depressing the button on the right of the Timer will start the lights.

The lights are prevented from operating when the lid is up due to a Micro-Switch which is located behind one of the front bumpers. This interlock switch prevents operators from receiving direct incident irradiance from the bulbs. For more information, please refer to the U.S. Department of Health, Education & Welfare proposed standard on "Occupational Exposure To Ultra-Violet Radiation".

To Back Expose

1. Turn on the Power Switch.
2. Place plate to be back exposed into the center of the vacuum plate with the mylar sheet down.
3. Close lid.
4. Set the Back Exposure Timer to the desired time.
5. Depress the Timer Start Button.

To Face Expose

1. Turn on the Power Switch.
2. Place plate to be face exposed into the center of the vacuum plate face up and remove the mylar sheet. Use the standard operating procedure for exposing plates.
3. Put negative and bleeder strips into place.
4. Cover with krene.
5. Turn the Vacuum Switch on.
6. Close lid.
7. Set the Face Exposure Timer to the desired time.
7. Depress the Timer Start button.

To Post Expose

1. Turn on the Power Switch.
2. Place plate to be post exposed into the center of the Post drawer face up.
3. Close drawer.
4. Set the Exposure Timer to the desired time.
5. Depress the Timer Start button.

To Detack

1. Turn on the Power Switch.
2. Place plate to be detacked into the center of the Detack drawer face up.
3. Close drawer.
4. Set the Detack Timer to the desired time.
5. Depress the Timer Start button.

OVEN OPERATION

Purge Oven ~ Standard

Purge ovens are utilized when plates to be dried are washed out in a solution containing flammable liquids.

To start-up a purge oven:

NOTE: THE OVEN TEMPERATURE IS PRESET @ 150° F

Open the top oven drawer a minimum of 4". The top drawer must remain open at least 5-minutes. After the oven has "purged" itself for 5-minutes, the oven should shut automatically and the drawer can be closed.

Ovens Without Purge

NOTE: THE OVEN TEMPERATURE IS PRESET @ 150° F

The exhaust fan(s) and heater will turn on, when the post/detack power switch is turned on. The temperature will raise to the preset temperature and automatically maintain this temperature with a few degrees.

Note: Ovens are designed to operate at 150 degrees F. maximum. **Operation at temperatures in excess of 150 degrees F. is not recommended and can be cause for voiding the warranty.**

DETACK DRAWER OPERATION

The Anti-Tack Drawer is equipped with a bank of short wave ultra-violet lamps. This section has been designed for your protection against ultra-violet radiation under normal conditions, and is equipped with a light interlock system which will turn off the lamps when the drawer or panel is opened.

Some precaution needs to be taken while using ultra-violet lamps. A protective eye shield must be used at all times to protect the eyes of the operator when in direct contact with a lighted bulb. To prevent exposure from short wave lamps, skin should be protected. Clothing and gloves will generally provide adequate protection. By using a face shield the ears will also be protected. Safe exposure limits for short wave ultra-violet irradiation have been set by the American Conference of Governmental & Industrial Hygienists. Exposure is roughly the product of irradiation (microwatts per square centimeter) and time.

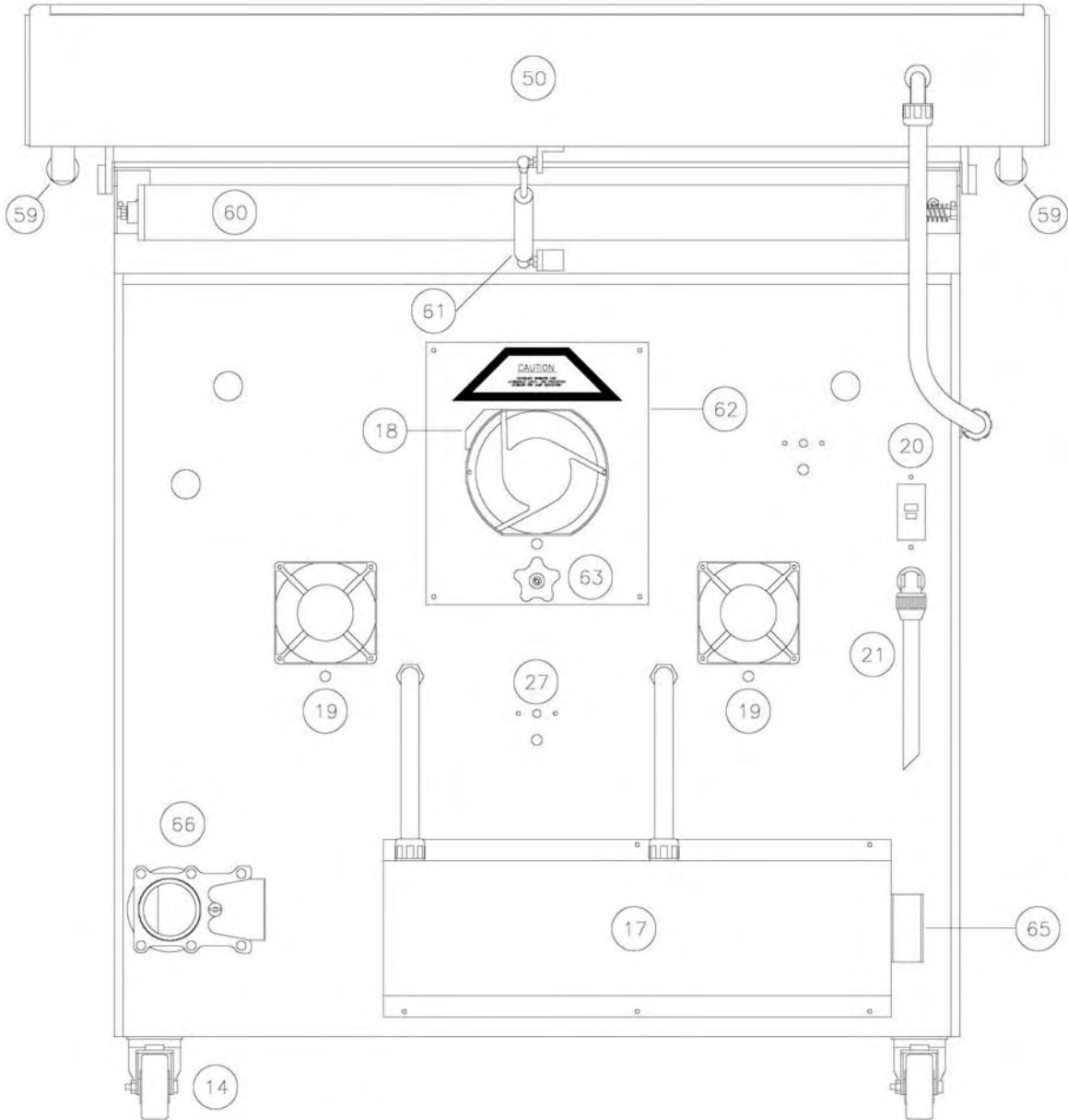
To access the lamps, remove the screws in the front of the unit and slide the lamp tray out. Lamps can then be removed and/or inserted.

MAINTENANCE

- 1. Disconnect electrical power *prior* to performing any maintenance on the unit.**
2. Clean the vacuum plate as needed. Make sure vacuum parts and grooves are free of any type of obstruction.
3. Inspect and replace burned out or dim lamps as needed.
4. Clean external parts of the unit as needed. Keep dirt from building up, as this is a factor in making good printing plates.
5. When ordering parts, please include: part number, description, serial number of unit, and date of installation.

Back View

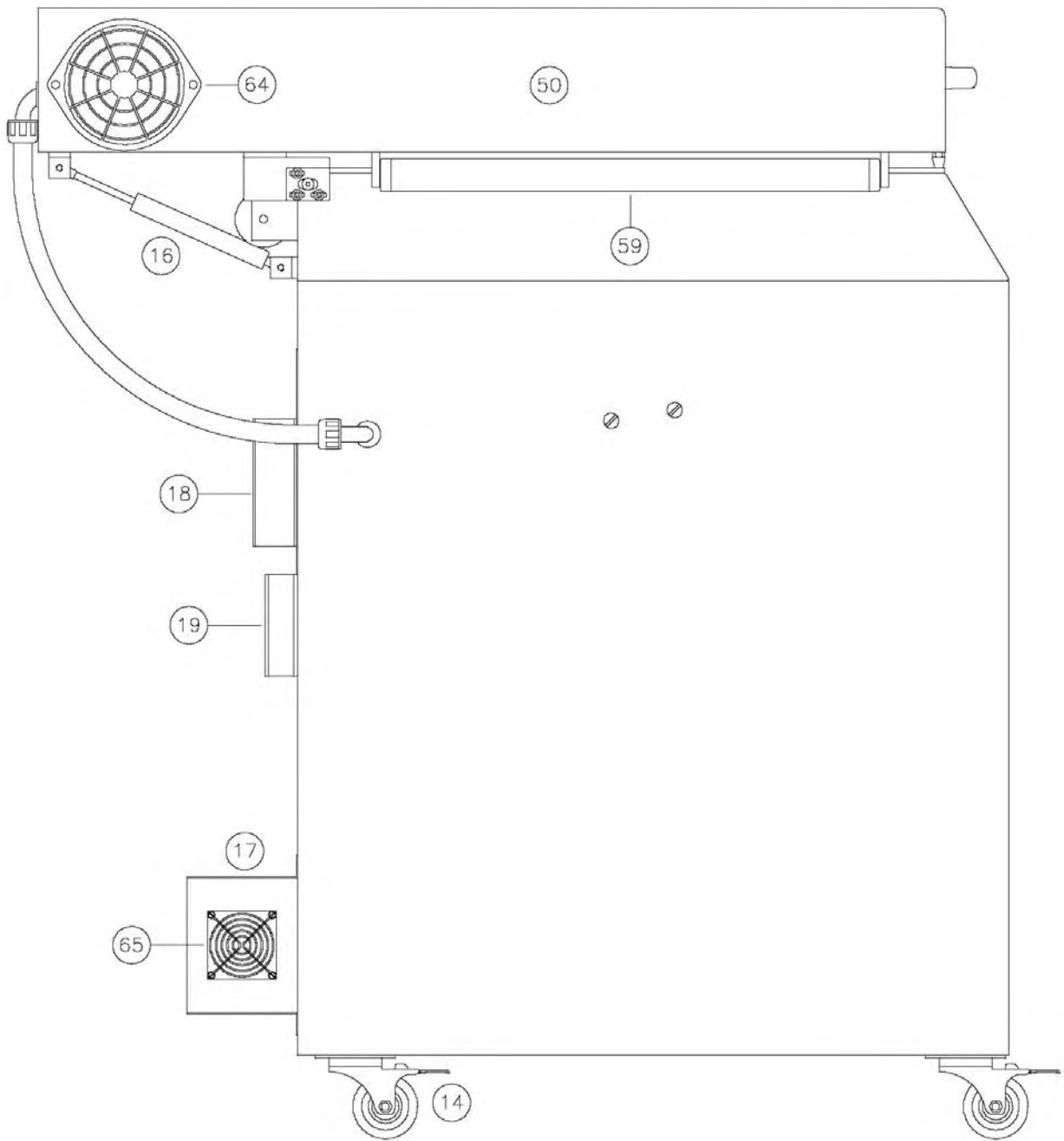
24 X 30 X POSURE
BACK VIEW



- | | |
|----------------------------|------------------------|
| 14. CASTERS (4) | 59. SAFETY LIGHTS (2) |
| 17. OVEN HEATER/BLOWER BOX | 60. KREEN ROLL |
| 18. EXPOSURE EXHAUST FAN | 61. LID DAMPER |
| 19. INLET FAN (2) | 62. ACCESS PANEL |
| 20. GROUND FAULT | 63. DRAWER LOCK |
| 21. POWER CORD | 65. COOLING FAN |
| 27. OVEN TEMP. CONTROL | 66. EXHAUST BLAST GATE |
| 50. EXPOSURE LID | |

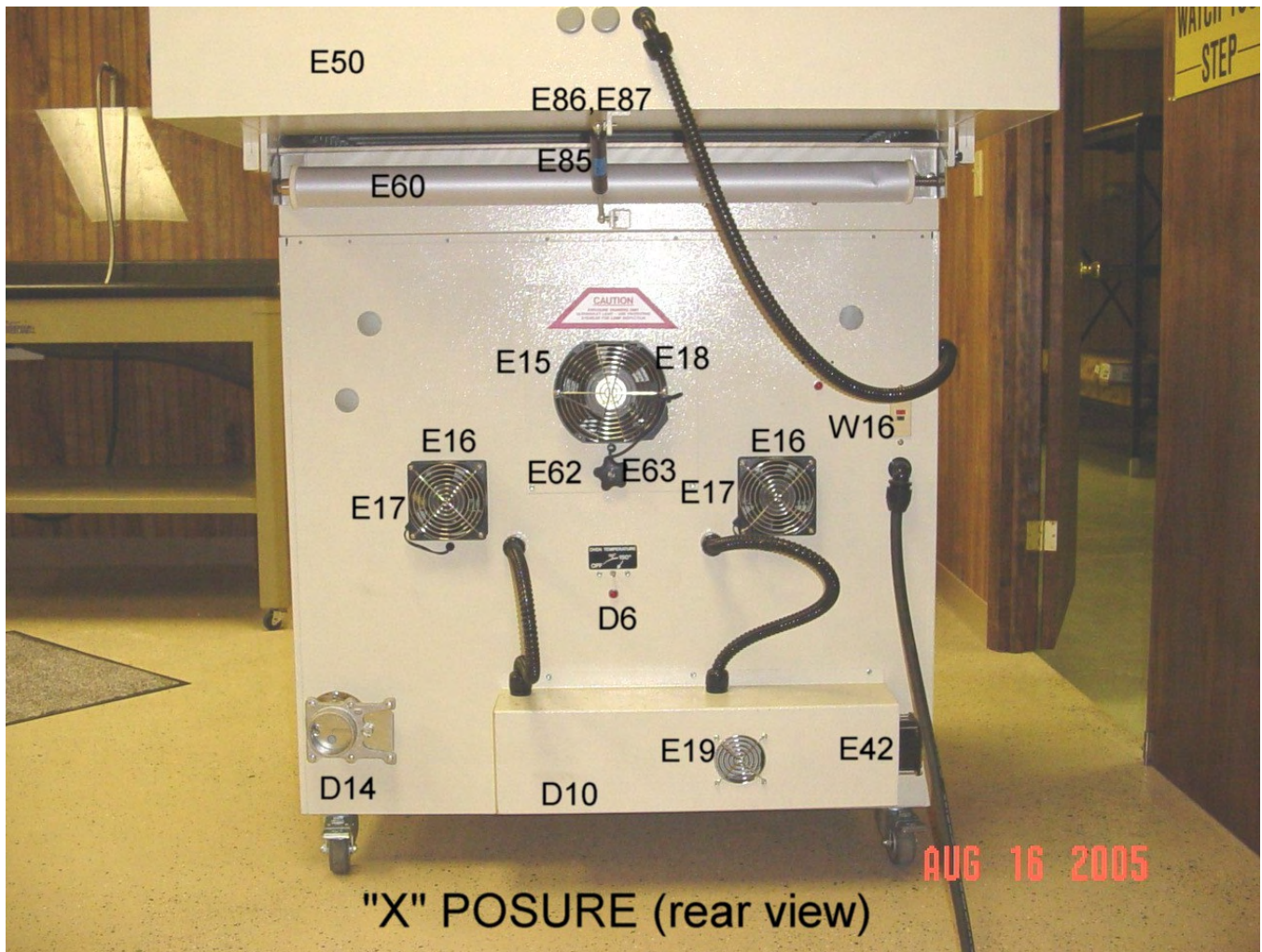
Side View

24 X 30 X POSURE
SIDE VIEW

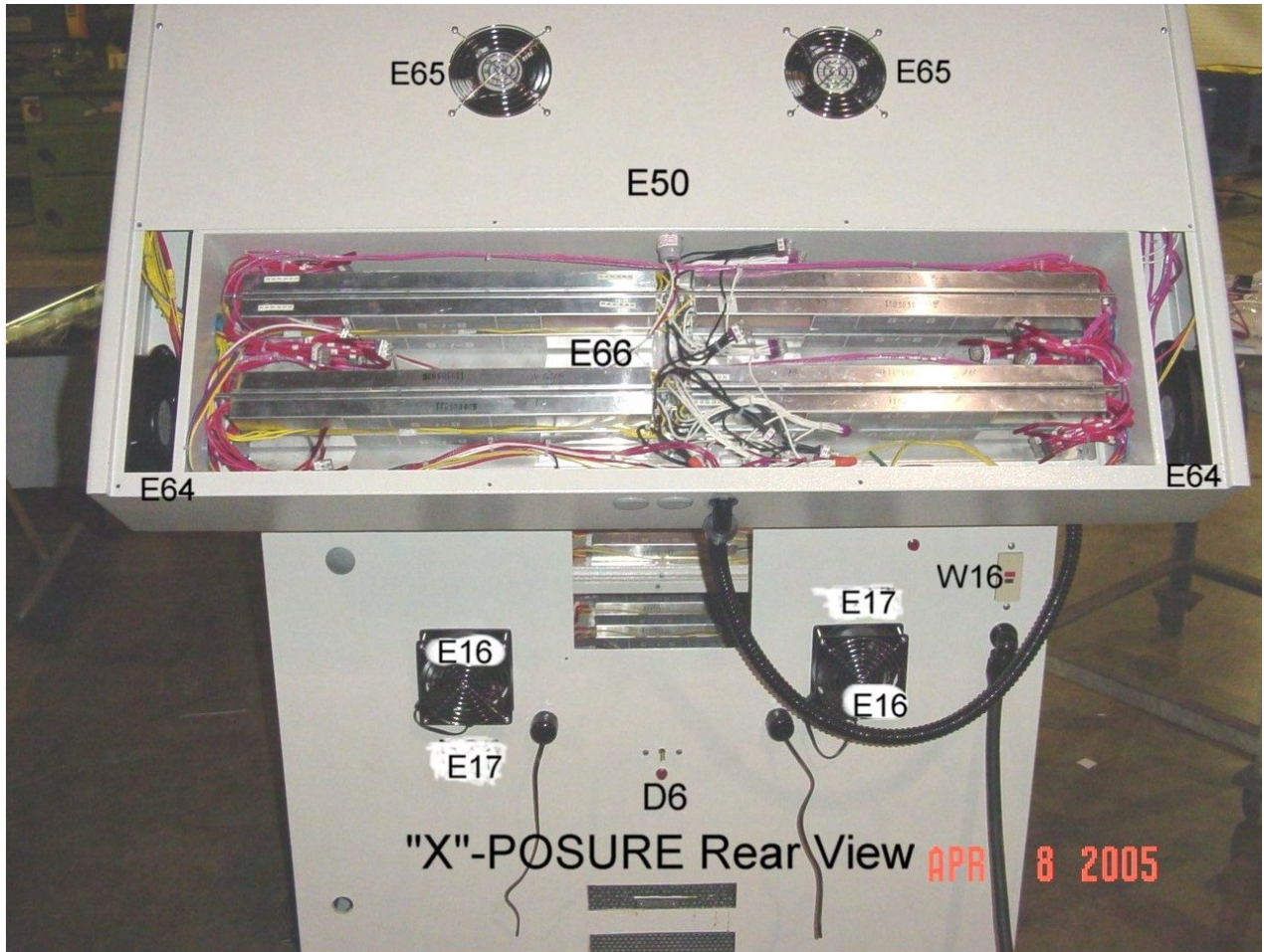


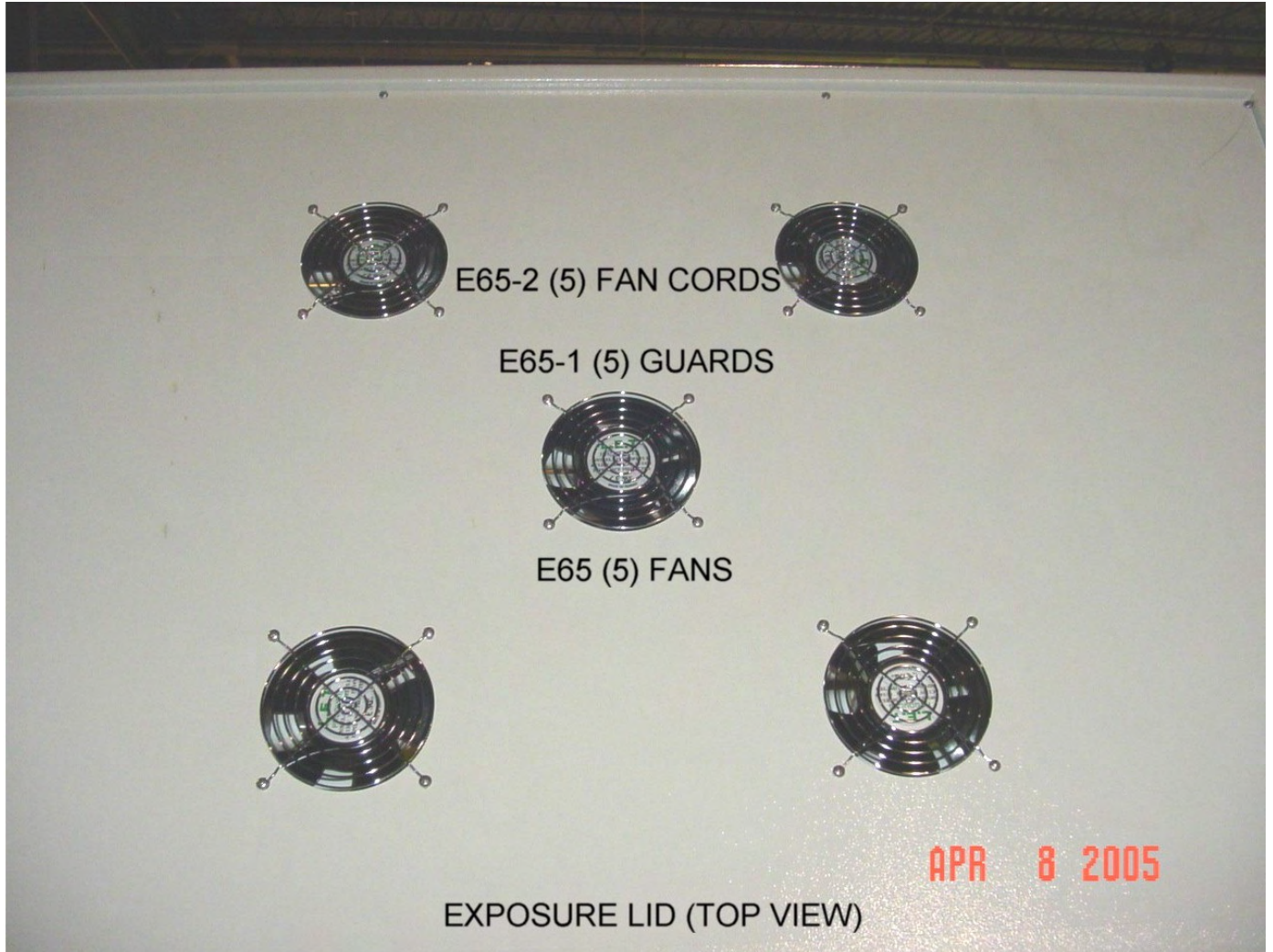
- 14. CASTERS (4)
- 16. LID DAMPER
- 17. OVEN HEATER/BLOWER BOX
- 18. EXPOSURE EXHAUST FAN
- 19. INLET FAN

- 50. EXPOSURE LID
- 59. SAFETY LIGHT (2)
- 64. FAN
- 65. COOLING FAN



"X" POSURE (rear view)





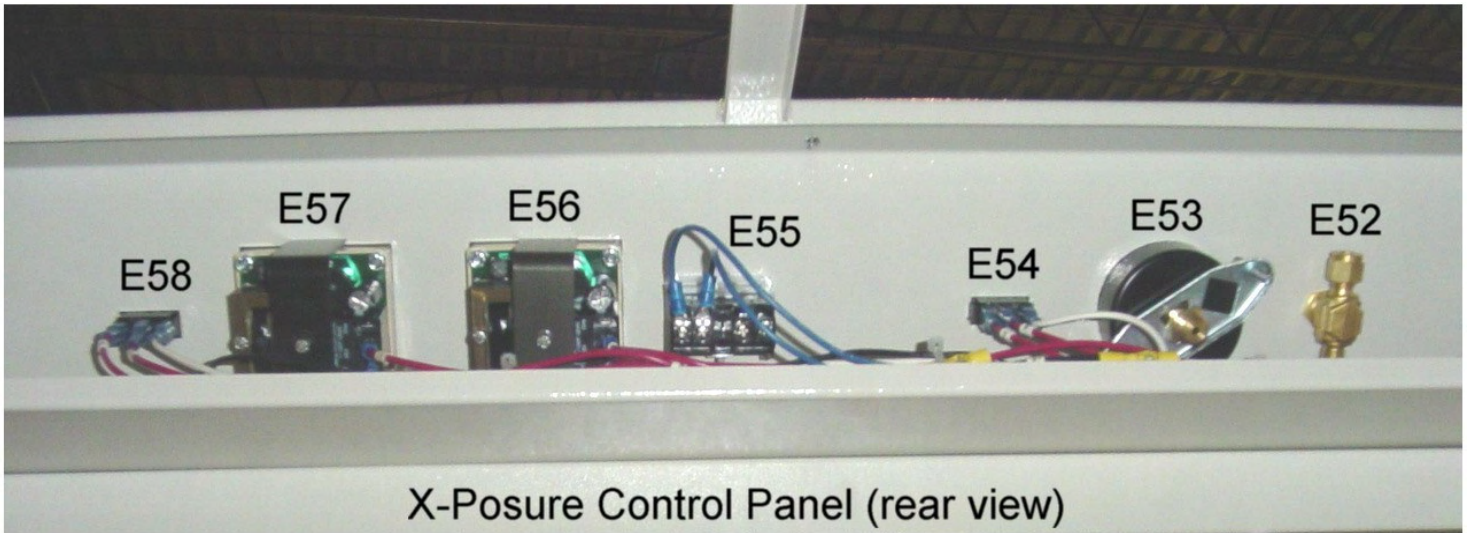
E65-2 (5) FAN CORDS

E65-1 (5) GUARDS

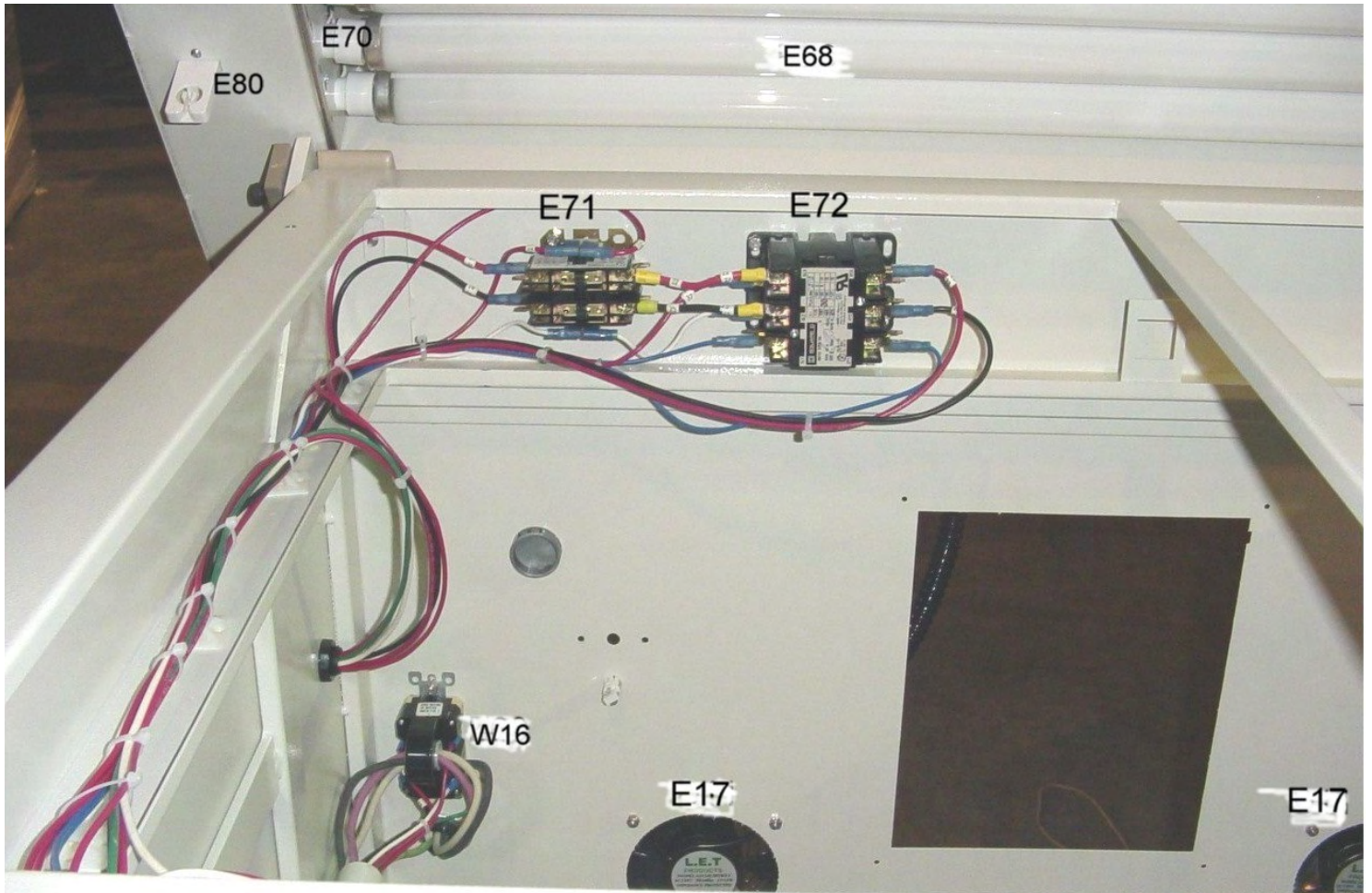
E65 (5) FANS

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EXPOSURE LID (TOP VIEW)

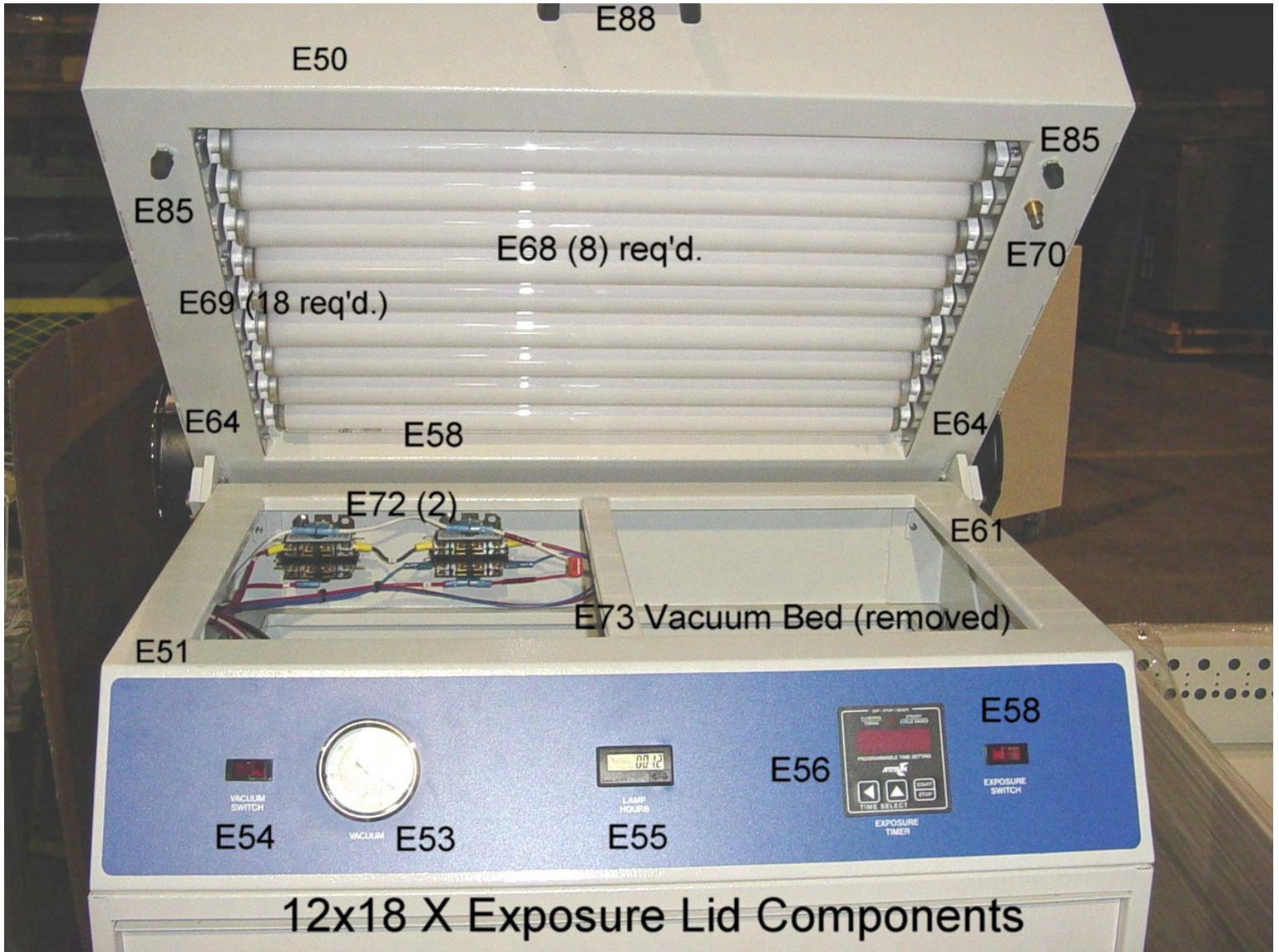


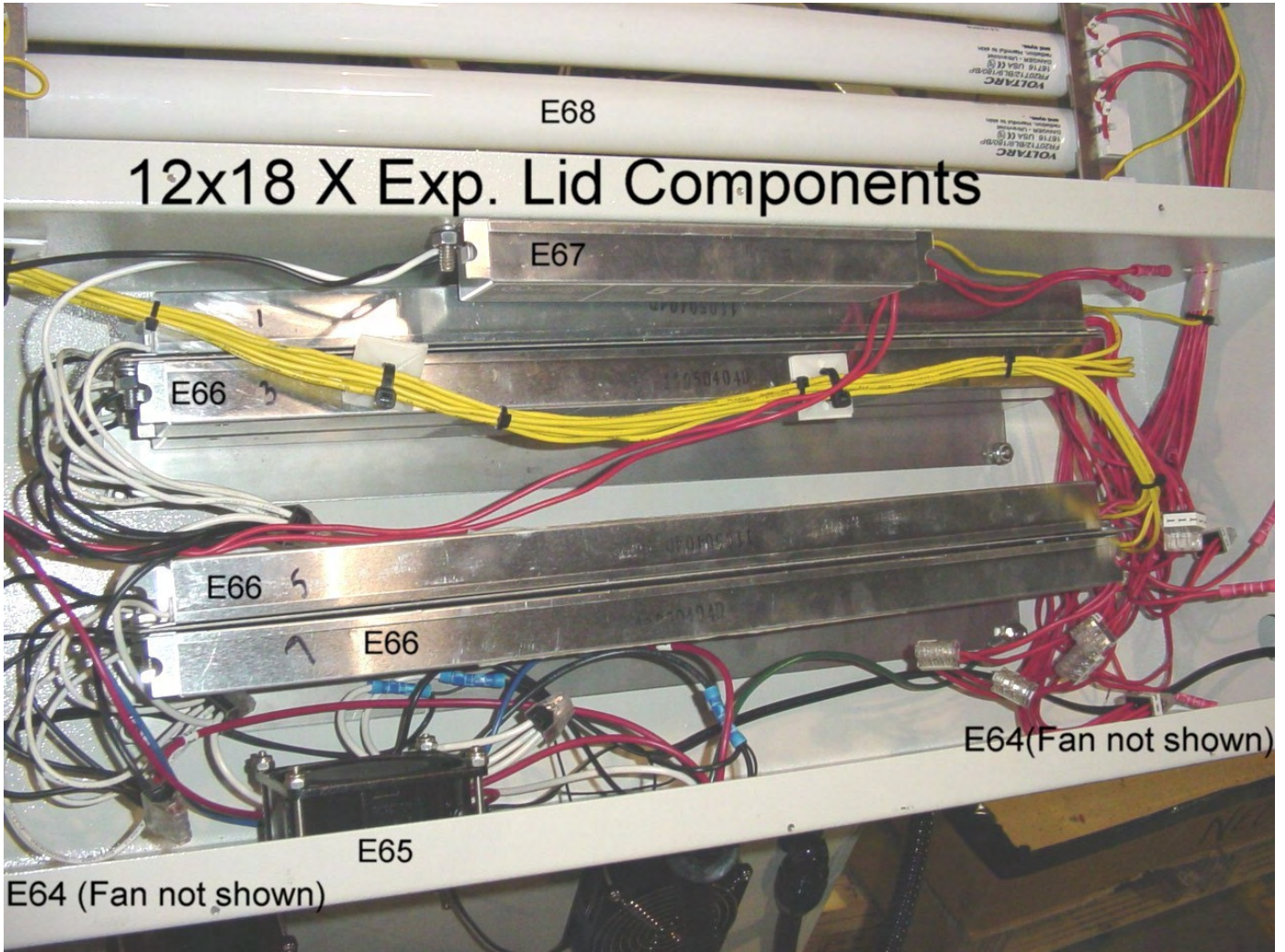
X-Posure Control Panel (rear view)



Relay/Componets View

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CUSTOMER SERVICE INFORMATION

For customer service information, please contact our Customer Service Dept at the following.
Please contact your local Nova Polymers representative for platemaking information.

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West Caldwell, NJ 07007-1305

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Facsimile..... 973.882.5614
Email..... info@NovaPolymers.com
Website..... www.NovaPolymers.com