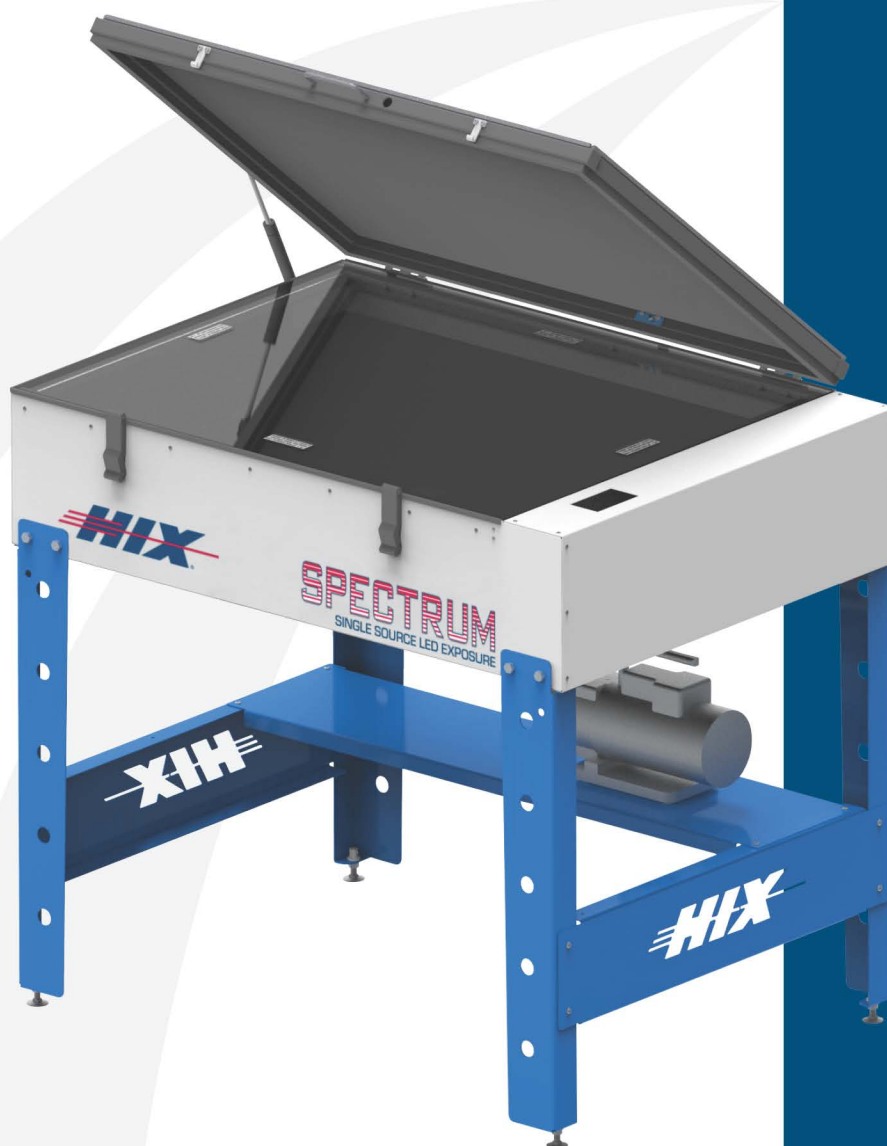


# OPERATOR'S MANUAL

## **Spectrum** Single Source LED Exposure



For Customer Service:  
Call 1-800-835-0606 or Visit [hixcorp.com](http://hixcorp.com)



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BEFORE warranty repair you MUST get Prior Authorization



# RECEIVING & SETUP

**CAUTION:** Before installing or operating the unit be sure to read these instructions thoroughly. Disconnect all electric power before performing maintenance on the unit. **Never** operate this equipment with the power supply cover removed. If you find that this should be necessary, contact a licensed electrician. Make sure the circuit for this unit is well grounded.

**WARNING:** ULTRA VIOLET LIGHT CAN CAUSE SKIN AND EYE IRRITATION OR BLINDNESS. TO PREVENT DAMAGE TO YOUR EYES AND SKIN, AVOID DIRECT EXPOSURE TO THE LAMP WHILE IT IS ON.

## INSTALLATION

1. Carefully unbox (requires two people) and set on work table (or on sawhorses if a leg kit is being installed).



2. Push the vacuum line onto the tube on the back side of the vacuum frame.



**WARNING:** When using an extension cord, use 14 ga. -3 conductor. Maximum length, 25' (7.62m).

# RECEIVING & SETUP

3. Remove the vacuum pump from the box, remove the Black filler cap and **ADD OIL** so that it shows half way up the sight glass!

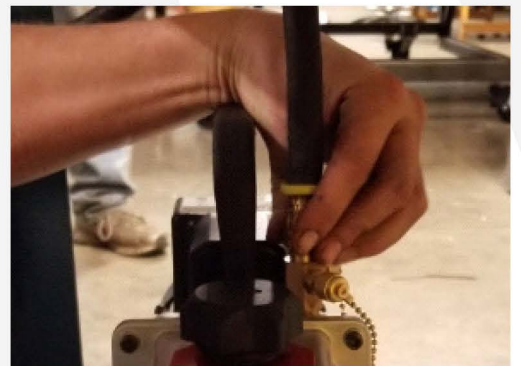
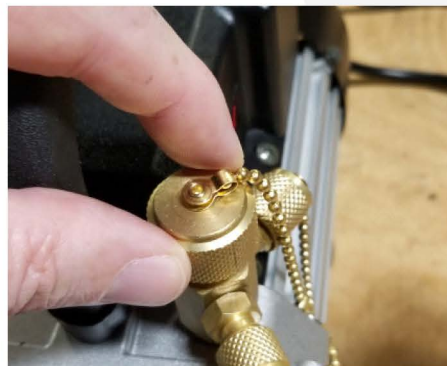


Check unit over for any transportation damage and make sure all foreign objects, such as packing material, have been removed. Clean top side of glass to remove any dust.

4. Remove the protection tape over the vacuum pump electrical receptacle, plug in the electrical cord, make sure the voltage selector switch is set to the proper voltage (115V or 230V) and turn switch "ON".



5. Plug the vacuum pump electrical cord into the back of the Spectrum Exposure unit, remove the top cap on the vacuum pump and screw on the vacuum hose fitting as shown below. Tighten the vacuum fitting securely.





# RECEIVING & SETUP

## SPECTRUM LEG KIT ASSEMBLY

### TOOLS NEEDED:

3/8" Wrench or Socket W/ratchet  
9/16" Wrench or Socket W/ratchet  
#2 Tip Phillips Screwdriver  
Two people required for assembly (lifting).

### INCLUDED HARDWARE:

Twelve 10-24 Screws  
Twelve 10-24 Nylon Lock Nuts  
Eight 3/8-16 bolts (Included with the Spectrum)

### ASSEMBLE LEGS AS FOLLOWS:

1. Attach Leg 1 and Leg 2 with leg cross support using four 10-24 screws and 4 nuts supplied. Leave all fasteners loose for now. Repeat with Leg 3 and Leg 4 to create two leg assemblies as shown below.

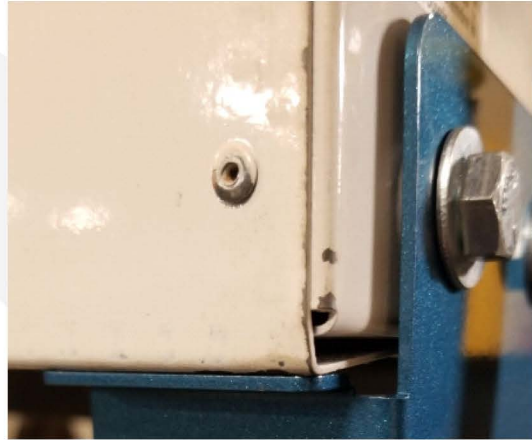
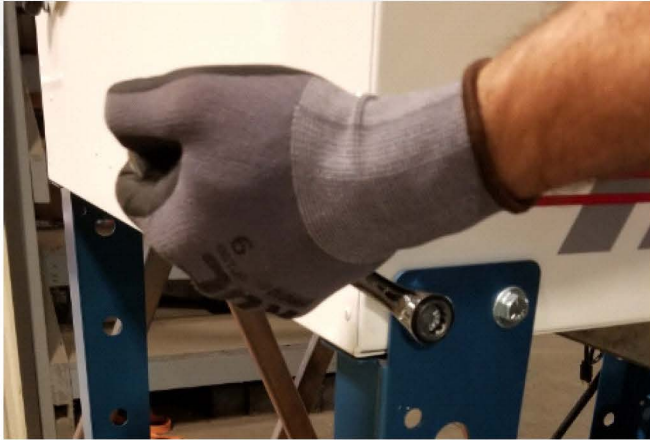


2. Remove the Spectrum unit from shipping box and place on two sawhorses as shown below. Sawhorses will need to be at least 30" tall. Remove the eight 3/8" bolts from the four corners as shown.



# RECEIVING & SETUP

3. Install the two leg assemblies to the Spectrum using the 3/8" bolts and washers removed in the previous step. Note the "HIX" log should face outward as shown. Push the leg upward so that the tab on the leg is flush with the bottom of the Spectrum. Tighten all of the 3/8" bolts.

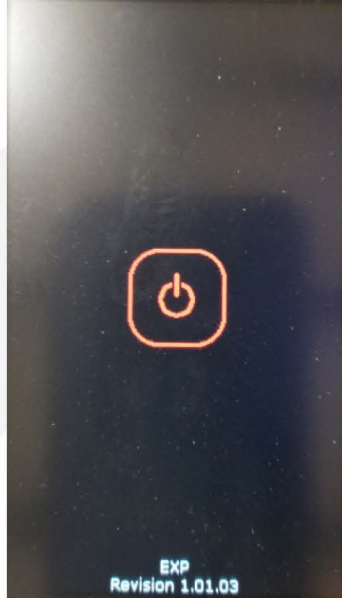


4. Install the cross shelf using four 10-24 screws and nuts. Tighten these screws, then also tighten the 10-24 screws securing the cross braces.



# QUICK START GUIDE

1. Plug unit into 120V power.
2. Screen will come on as shown below:



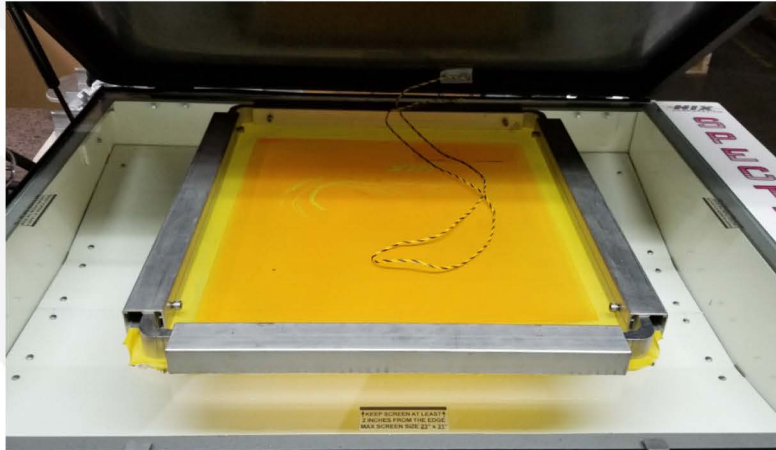
3. Press the Red Icon in the center of the screen to turn the unit "ON". Once you do, you will see the screen below:





# QUICK START GUIDE

4. Open the lid of the exposure unit and place a screen centered onto the glass. Note, maximum screen size is 23" x 31" O.D.



Drape the vacuum/anti static cord across the screen frame as shown.

5. Close the lid and secure both latches as shown:



6. The display will show "LID CLOSED" as shown below:





# QUICK START GUIDE

7. Enter the amount of exposure time desired on the “Exposure Timer” by pressing the “-” or “+” buttons. Typical exposure times are shown below for a starting point. Brand of emulsion, screen mesh count, and thickness of emulsion applied will all affect exposure times, so some trial and error testing will be required. Start with exposure times in the middle of those shown below and adjust from there as required.

- |  |               |
|--|---------------|
| • Pure Photopolymer Emulsion (e.g. ChromaBlue) | 6-8 seconds   |
| • Dual Core Emulsion (e.g. Magna/Cure)         | 9-10 seconds  |
| • Pure Diazo Emulsion (e.g. CP Tex)            | 11-14 seconds |

8. With lid closed and desired exposure time set, press the “START” button. The vacuum will come on for 10 seconds to pull the vacuum blanket down against the screen mesh. You will hear the vacuum pump running and the screen will show “VACUUM ON”. At the end of 10 seconds, the exposure will start, the screen will say “EXPOSING”, and the timer will start counting down.



**NOTE: The START button, timer, vacuum, and UV LED, WILL NOT FUNCTION until the lid is “closed and latched” to ensure safety of the operator from the UV light source.**

9. At the end of set exposure time, the timer will “BEEP”, the UV LED will extinguish, the vacuum will turn off and begin exhausting the vacuum blanket. Unlatch the two lid latches and raise the lid. Note: It will take 3-4 seconds for the vacuum to release sufficiently to be able to open the lid.

At any point in time during the exposure, you can press the “STOP” button to interrupt the exposure and release the vacuum so that the lid can be opened.

To turn the unit off, simply press the Green Icon



and the unit will turn off and revert to the start screen.

# SCREEN EXPOSURE

## DETERMINING YOUR OPTIMUM EXPOSURE TIME

**NOTE:** This procedure should be followed for each new emulsion type, new mesh count or mesh type (i.e. yellow, orange, white).

### Exposure Calculator (Preferred Method)

See your emulsion supplier for an exposure calculator and follow their instructions.

### By Step Trial Method

Expose dried coated screen in 1 minute intervals as follows:

1. Place cardboard sheet between positive and glass leaving approximately 2" of positive exposed. After 1 minute, move cardboard approximately 2" more and now expose for 1 minute. Then move cardboard a 3rd time approximately 2" and expose once again. Repeat at least to 4 minutes. Now you have 4 exposure areas of 1, 2, 3, and 4 minutes.
2. Inspect your newly exposed screen for proper exposure.  
**Underexposed:** results in weak stencil with poor emulsion adhesion and reduced resistance to printing inks and wash up solvents. **Overexposed:** results in loss of fine detail.
3. Once you have determined the proper exposure for your emulsion type, fill in the chart provided below as a ready reference. This will save you time in the future.

Use and copy this chart for recording your shop's popular emulsions and exposure times.

### OPTIMUM EXPOSING TIME CHART

DATE	MESH COUNT	EMULSION COLOR	EMULSION BRAND	COATING METHOD	EXPOSURE TIME

# TROUBLESHOOTING

Problem	Possible Cause	Remedy
Touch screen does not come on	No Line Power Breaker Tripped Outlet is defective	Check power source Reset circuit breaker Replace outlet
Vacuum won't come on or timer won't count down when "START" button is pressed.	With lid closed, look at display to see if "LID CLOSED" is displayed, if not then see remedy below.	Magnetic lid closed providing switch not working properly - contact HIX Technical Service.
Vacuum comes on but exposure LED is not coming on	Bad solid state relay or LED driver	Contact HIX Technical Service
Blanket won't "pull" a vacuum	Vacuum leak in hose, blanket or lid seal	Inspect hose connections from lid to vacuum pump. Inspect and repair or replace lid to glass seal. Inspect and repair or replace vacuum blanket. Realign lid. Check Vacuum Pump.



# MAINTENANCE

## GLASS CLEANING

In order to maintain short exposure times, keep the unit's exposure glass clean. Dusting is usually sufficient. If more cleaning is required use a soft cloth moistened with alcohol. A dusty environment will require more cleaning.

When you notice your exposure times getting longer or if the lamp fails to operate, check the Troubleshooting Chart.

## VACUUM PUMP MAINTENANCE

It is recommended to change the vacuum pump oil after 50 hours of usage. The purity of the oil will determine the final vacuum level achieved. Always use the CPS recommended vacuum pump oil (VPOQ/VPOP/VPOG). The oil provided with the pump has been specially blended to maintain maximum viscosity at normal running temperatures as well as cold weather starts.

### OIL CHANGE PROCEDURES:

1. Be sure the pump oil is warmed up. If not warm, turn vacuum pump "ON" for 10 minutes.
2. Make sure vacuum pump is not plugged in.
3. Remove the oil drain cap and drain the contaminated oil into a suitable container. Tilt the vacuum pump toward the oil drain port.
4. Once all the oil has been drained, re-secure the oil drain cap back onto the oil drain port.
5. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure exhaust/oil fill cap.

## LID REALIGNMENT

**NOTE:** The vacuum is sealed under the lid by means of rubber gasket under the lid frame. This rubber gasket may compress over time. If the vacuum does not occur, the rubber gasket may be compressed. These problems can be alleviated by lowering the hinges.

**CAUTION:** It is important to do this operation with the lid up, failing to do so could cause injury due to the sudden release of pressure on the gas spring!

1. Fully open the lid.
2. Using a pencil, tape, or other suitable indicator, place a mark on the frame of the unit corresponding with a mark on the lower leaf of the hinges.
3. Using a 9/16" wrench, loosen the four bolts fastening the lower leaf of the hinges.
4. Let each hinge drop approximately 1/16" using the indicator placed on the hinge in step 2.
5. Tighten all four bolts securely and test unit. If this does not work repeat this process and drop the hinges another 1/16"

**Warning:** Lowering the hinges too much can place excess pressure on the glass and frame of the unit and should be avoided. If the lid is difficult to close or does not stay closed under its own weight, the hinges should be raised.

**NOTE:** If the blanket fails to pull a vacuum, check the Troubleshooting Chart for possible causes. If you determine that your blanket has begun to leak, it needs to be replaced. New blanket material can be ordered from HIX Corporation.

# REPAIRS

## BLANKET REPLACEMENT:

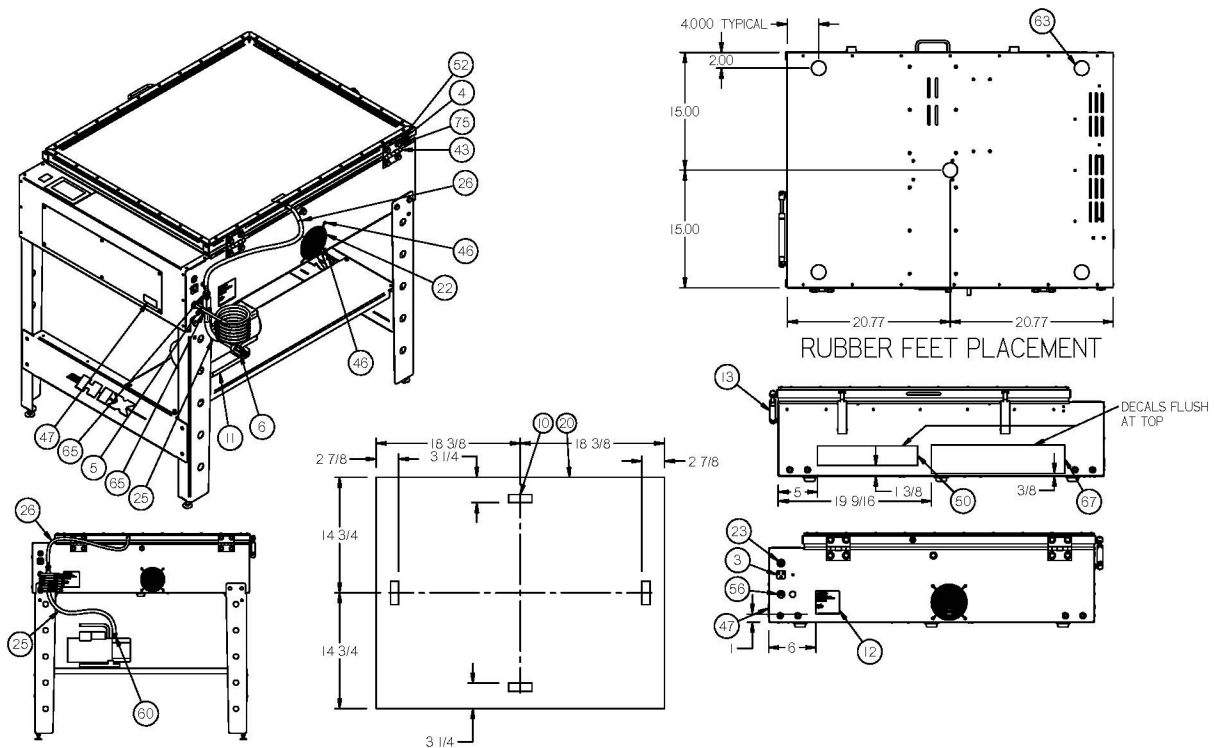
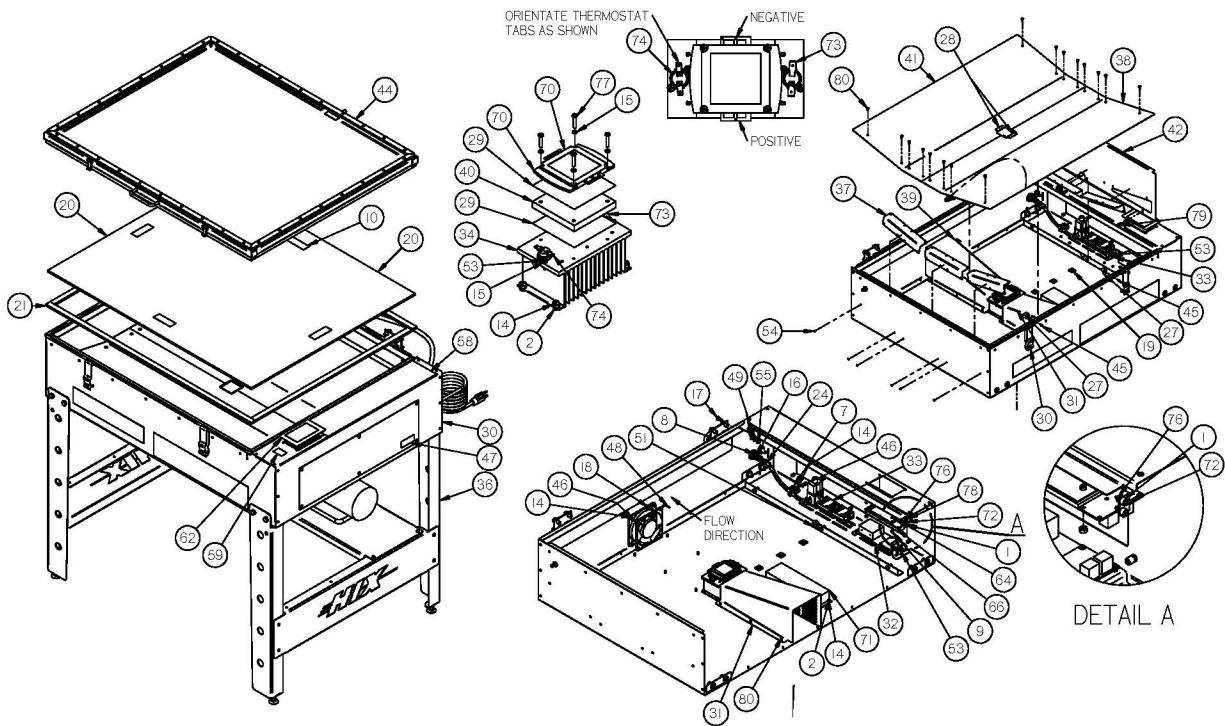
**NOTE:** Mark from which side the aluminum strips were located so that they can be replaced in the same location.

1. Begin with the lid in the open position. Remove the plastic cap from the lid end of one of the gas springs. While holding the lid, pull the end of the gas spring straight out and off of the ball connector as you continue to manually hold the lid up.

**CAUTION:** It is important to do this operation with the lid up, failing to do so could cause injury due to the sudden release of pressure on the gas spring!

2. Remove the vacuum hose from the lid.
3. Gently lay lid back down onto glass. Using two 9/16" wrenches, remove the 4 nuts and bolts holding the lid to the hinges.
4. Remove the entire lid assembly from the frame and lay upside down on a flat surface.
5. Mark from which side of the aluminum strips were located so that they can be replaced in the same location.
6. Remove all screws from the aluminum strips.
7. Remove the blanket material and any adhesive still attached to the lid frame.
8. Lay new blanket material across the lid in the proper orientation allowing the material to sag down to your working surface.
9. Seal the rubber to the blanket frame with the included adhesive.
10. Replace the aluminum strips on the same side that they were removed. Tighten all screws securely. Caution: over tightening screws may strip the threads in the lid frame.
11. Trim any excess blanket material by running a sharp utility knife along the outside of the aluminum frame.

# REPLACEMENT PARTS LIST (SPECTRUM EXPOSURE UNIT)



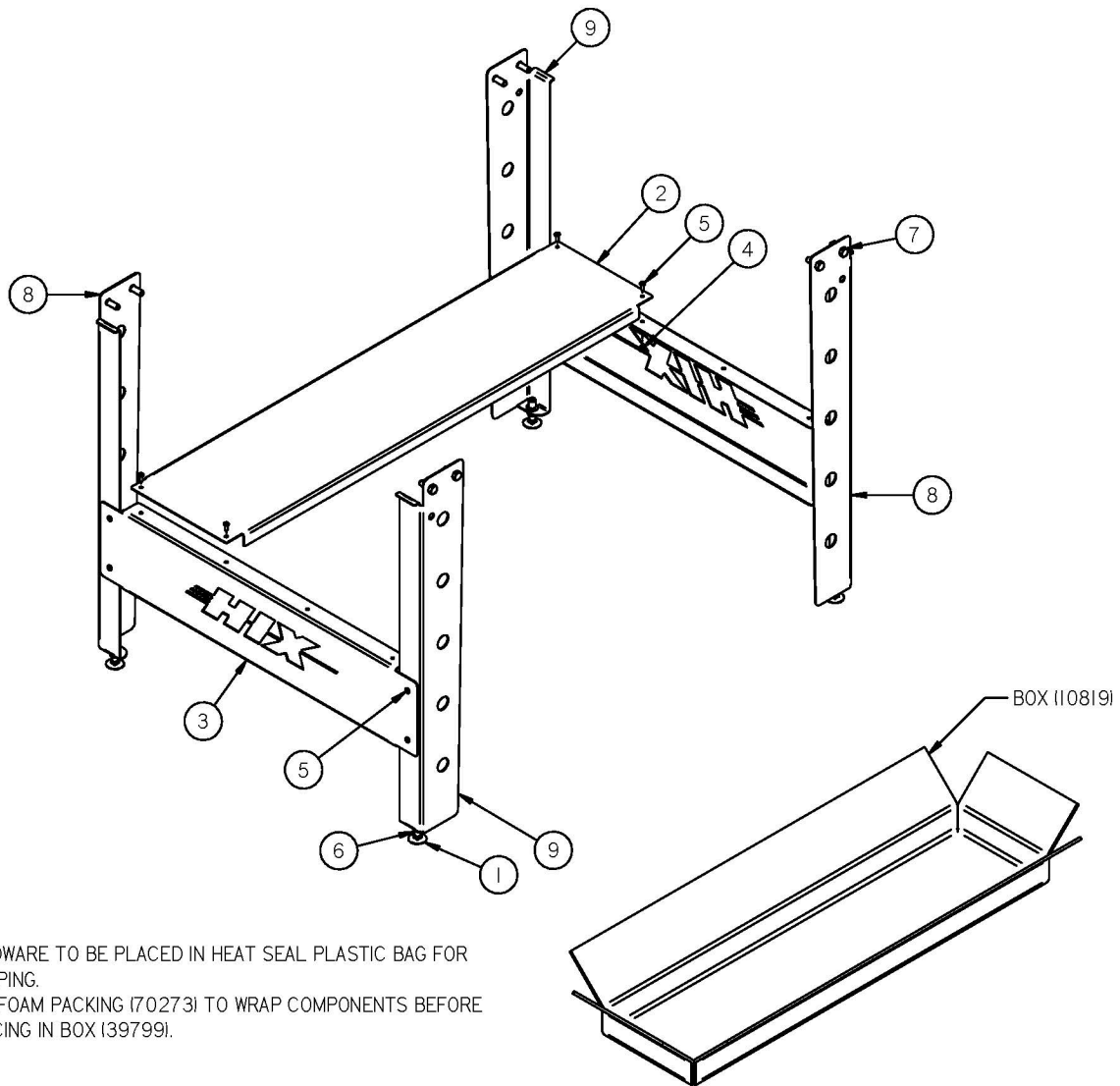


# REPLACEMENT PARTS LIST

## (SPECTRUM EXPOSURE UNIT)

ITEM#	PART#	TITLE	ITEM#	PART#	TITLE
1	9044419	NYLON STANDOFF FOR EMERSON	55	14548	NUT 1/4-20 ZPS
2	89540	SCREW MCH 8-32x0.375 PHPH	56	13250	CORD GRIP HEYCO 1557 RDD201
3	89250	RECPTCLE #49-2 EAGLE	57*	11544	CABLE TIE CT4S-M 3-3/4
4	79418	WASHER LOCK HEL SPR 3/8 ZP	58	10970	DECAL, CONTROL PANEL VERTICAL
5	76465	FTG TEE 1/4MPT BRS BRCH	59	10968	DECAL, PATENT PENDING
6	74609	CORDSET 120v 16/3 SJOW 5-15P	60	10920	FTG 3/8" PUSH ON, 3/8 FEMALE, BRASS
7	72223	TERM BD 601-2-KT37, 38,39	61*	10917	CABLE, CAT5E ETHERNET FLAT, 1 FT
8	71161	FTG BULKHD 1/4NPT BRS	62	10916	DECAL, 4.3" COLOR LCD DISPLAY
9	70861	NUT 6-32 NYLON INSERT ZPS	63	10915	BUMPER 1.810 X .60 RD BLACK RUBBER
10	70805	DECAL MAX EXPOSURE AREA TT-180	64	10914	SPACER .140 X .250 X .125 NYLON
11	70528	PUMP VACUUM 120/220V CPSVP2S	65	10912	FTG 3/8" PUSH ON, 1/4 NPTF MALE
12	70268	DECAL HIX I.D. 3" X 3" SILVER	66	10911	CONTROL DISPLAY BD 4.3" COLOR
13	70185	SPRING GAS 100# 12"x3.5"	67	10887	DECAL, SPECTRUM
14	70129	NUT 8-32 NYLON INSERT ZPS	68*	10885	WIRE CUT LIST TT-180 LED 120V
15	68330	WASHER LOCK #6 SPLIT ZPS	69*	10880	MANUAL OWNERS TT-180 LED
16	67598	FTG 1T CON MALE 3/8Tx1/4NPT	70	10879	LED ARRAY 200W 370/410 nM
17	65986	BOLT 1/4-20 X 0.625	71	10878	LED DRIVER 200W 5550mA 36V
18	65978	FAN AXIAL 4-11/16SQ 115V BB	72	10877	SCREW, MCH 4-40X0.625 PHPH SS
19	62448	WIRE CABLE CLIP ADHESIVE BACK	73	10865	THERMOSTAT SNP 140F OA-140-QC
20	61751	GLASS TEMPD 29-1/2x36-3/4x1/4	74	10864	THERMOSTAT SNP 110F CA-110-QC45
21	61743	WEATHERSTRIP 1/4x3/4 GREY	75	10843	BOLT 3/8-16X0.750
22	50253	FAN GUARD METAL 4-11/16	76	10799	NUT 4-40 NYLON INSERT SS
23	47488	CIRCUIT BKR 1-POLE PTR 5 AMP	77	10772	SCREW MCH 6-32X 0.75 PHPH
24	3901206	VACUUM HOSE 2	78	10699	SWITCH REED SPST NO
25	3901203	VACUUM HOSE 3	79	10660	BOLT 1/4-20X0.500
26	3901202	VACUUM HOSE 1	80	10480	SCREW TAP 10x0.375 PHPH
27	3901040	BRACKET, GLASS CAPTURE			
28	3901039	TAPE TEFLON COAT 1" X 1.5"			
29	3901038	THERMAL PAD 3.00 X 3.00			
30	3901037	ASSEMBLY, SPECTRUM HOUSING			
31	3901036	SPECTRUM PLENUM 1			
32	3901035	ASSEMBLY, I/O / PWR SUPPLY			
33	3901033	ASSEMBLY, RELAY / VALVE SPECTRUM			
34	3901030	HEAT SINK PANEL MNT TT-180D LED			
35*	3901029	PACKAGING TT180 LED			
36	3901022	ASSY. TT-180 LEG - SHELF			
37	3901021	FLOOR COVER SUPPORT 1			
38	3901020	FLOOR COVER FRONT			
39	3901019	SPECTRUM PLENUM 2			
40	3901015	SPACER, LED ARRAY			
41	3901014	FLOOR COVER BACK			
42	3901013	COVER, CONTROL PANEL			
43	3900051	SPECTRUM HINGE LID WHITE			
44	3900003	ASSY., SPECTRUM LID			
45	36587	SCREW MCH 6-32X0.250 PHPH			
46	34592	SCREW MCH 8-32x0.625 PHPH			
47	33605	DECAL, UNPLUG MACHINE			
48	23124	CORDSET AXIAL FAN 4C552/4YD79			
49	21989	WASHER LOCK INT TH #14			
50	19356	DECAL HIX LOGO 2-1/2X12-3/4			
51	17301	GROMMET .563IDx.750 GRVx.063			
52	16683	WASHER FLT .375x0.875x.078 ZPS			
53	15297	SCREW MCH 6-32x0.500 PHPH			
54	15081	RIVET POP 1/8 .063-.125 STL			

# REPLACEMENT PARTS LIST (SPECTRUM LEG KIT)



# REPLACEMENT PARTS LIST

## (SPECTRUM LEG KIT)

ITEM#	PART#	TITLE	ITEM#	PART#	TITLE
1	59941	SCREW ELEVATOR 3/8-16x2.000			
2	3901024	SHELF, LEG SUPPORT			
3	3901023	LEG SUPPORT TT-180 LED			
4	19186	NUT 10-24 NYLON INSERT LOCK ZPS			
5	15339	SCREW MACHINE 10-24 X .500 PHPH			
6	14571	NUT 3/8-16 ZPS			
7	10850	BOLT 3/8-16 X 1.000			
8	0121211	ASSY LEG 2 24XX DRYER			
9	0121207	ASSY VL LEG 1 24 X 6 DRYER			
10	10819	BOX 42 x 11 x 6			



# WARRANTY

**BEFORE warranty repair you MUST get Prior Authorization: Call 1-800-835-0606 Warranty will be voided otherwise.**

**(Effective 9/1/2021)**

HIX® Corporation (HIX) will automatically register the equipment on the date it was shipped to you or your distributor. If the equipment was not purchased directly from HIX, but through a distributor, please keep a copy of their sales invoice showing the serial number and date it was sold/shipped to you with this warranty. In this case, we will use the distributor's invoice date as the beginning warranty date. **STAPLE A COPY OF YOUR PROOF OF PURCHASE TO THIS WARRANTY** and keep in a safe place to provide verification of your warranty should a problem occur. Thank you.

Please fill in the following information and attach a copy of your receipt for your records.

**Date Purchased:** \_\_\_\_\_ **From:** \_\_\_\_\_  
**Model #:** \_\_\_\_\_ **Serial #:** \_\_\_\_\_

This warranty applies to Graphics equipment manufactured by the HIX® Corporation (HIX), Pittsburg, Kansas, U.S.A. HIX warrants to the original purchaser, its Heat Transfer Machines, Ovens and Dryers, Printers, Spotheaters and Exposure Units, against defects in workmanship and material, except for wear and tear for a period of "One Year" from the date of purchase. HIX warrants Accessories for a period of 90 days from the date of purchase. doughXpress® products are covered under separate warranty.

In the event of a defect, HIX, at its option, will repair, replace or substitute the defective item at no cost during this warranty period subject to the limitations of insurance and shipping costs stated below (excludes labor).

In the case of heat transfer presses (except the Hobby Lite® and Large Format presses), HIX warrants the heat casting for the "Life" of the machine for the original purchaser. If a part becomes obsolete at the time for repair, and/or cannot be reasonably substituted for, HIX will credit, at half the then current list price or last recorded price, only that part toward a new machine or any product HIX offers. This credit offer shall be the sole responsibility of the HIX in the event of an obsolete part.

This warranty does not cover belts, rail tape, pads, mug wraps, canvas, rubber blankets, bulbs, glass. Warranty does not cover damages due to accident, misuse/abuse, alterations or damage due to neglect, shipping or lack of proper lubrication or maintenance. HIX shall not be responsible for repairs or alterations made by any person without the prior written authorization by HIX. This warranty is the sole and exclusive warranty of HIX and no person, agent, distributor, or dealer of HIX is authorized to change, amend or modify the terms set forth herein, in whole or in part.

In the case of a problem with the equipment identified herein, HIX should be contacted during regular business hours to discuss the problem and verify an existing warranty. HIX personnel will assist the customer to correct any problems which can be corrected through operation or maintenance instructions, simple mechanical adjustments, or replacement of parts. In the event the problem cannot be corrected by phone, and upon the issuance of a return authorization by HIX, the equipment shall be returned to HIX or an authorized service representative. All insurance, packaging and shipment/freight costs are solely the responsibility of the customer, and not that of HIX, and HIX shall not be responsible for improper packaging, handling or damage in transit. Contact HIX customer service for complete return authorization information. Correct shipping boxes are available from HIX.

This expressed warranty is given in lieu of any and all other warranties, whether expressed or implied, including but not limited to those of merchantability and fitness for a particular purpose, and constitutes the only warranty made by HIX.

In no event shall HIX's liability for breach of warranty extend beyond the obligation to repair or replace the nonconforming goods. HIX shall not be liable for any other damages, either incidental or consequential, or the action as brought in contract, negligence or otherwise.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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