



# INSTRUCTIONS

## FOR

# HL-1 HOPPER LOADER



PPE Hopper Loaders are manufactured and sold direct by Plastic Process Equipment, Inc. We are not associated with any other manufacturer. Always specify genuine PPE Hopper Loaders! Do not accept substitutes.

MODEL NO.
<b>HL-1</b>
SERIAL NO.

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**PLASTIC PROCESS EQUIPMENT, INC.**

www.ppe.com • e-mail: sales@ppe.com

**PPE WEST**

6385 Montessouri Street, Las Vegas, Nevada 89113  
702-433-6385 • 800-258-8877 • Fax: 702-433-6388

**PPE SOUTH**

11218 Challenger Avenue, Odessa, Florida 33556  
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8303 CORPORATE PARK DRIVE, MACEDONIA (Cleveland), OHIO 44056, USA

216-367-7000 • Toll Free: 800-321-0562 • Fax: 216-367-7022 • Order Fax: 800-223-8305

Toll Free: USA, Canada & Mexico  
**800-362-0706**

## RECEIVING

Please thoroughly inspect your HL-1 Hopper Loader and report any damage to the motor freight carrier before uncrating for setup. They are responsible for any damage incurred during transit. Make note of model and serial numbers. These numbers must be used when ordering parts or accessories from PPE.

## INTRODUCTION

The PPE model HL-1 Hopper Loader is a self-contained vacuum conveying system. It is designed to keep your material feed hopper full during operation. The unit will cycle loading and dumping material into the hopper until the hopper is full. It will then wait until the material level drops below the dump valve, at which point it will cycle again until the hopper is full. The load time can be varied to provide optimum performance in virtually all conditions. The HL-1 contains a diaphragm filter which may require cleaning or changing if the material contains a large amount of very fine particles. This filter should be checked every 8 hours of use. Do not use with powders.

## ELECTRICAL

The HL-1 Hopper Loader comes wired for 120/60/1 power. Always use a **grounded** 120 volt outlet. If you must use an extension cord, ensure that the extension cord's rating is of the proper size. Failure to do so could cause a low voltage condition and premature failure of the motor. The HL-1 Hopper Loader is equipped with a circuit breaker instead of a replaceable fuse. The reset button is located on the side of the electrical enclosure. **NO FUSE TO LOSE!**

## INSTALLATION

The HL-1 Hopper Loader must be mounted on a flat horizontal surface. It is usually fastened to the cover of the material feed hopper. **Precautions must be taken to prohibit the fasteners from loosening and falling into the feed throat (i.e.: nylok nuts, lok-tite, etc.).** It requires a 9" dia. hole in your hopper lid. The unit must be mounted so that the discharge counterweight valve swings without hitting anything. The counterweight has been adjusted at the factory and should not require any re-adjustment. The feed probe is secured to the feed hose with the supplied hose clamps. The other end of the hose is connected to the inlet tube located on the loader unit. A ground wire must be installed inside the feed hose to make a good connection between the feed probe and the loader unit. We suggest you strip 1 1/2" at each end and pinch the stripped ends between the feed hose and the mounting tubes it slides over. **Failure to connect the ground wire can cause excessive static buildup and can result in possible static shock and damage the unit.** When the HL-1 Hopper Loader is in operation the feed hose should not have any sags or goose-necks, like the trap under a sink. If the hose sags, when the unit shuts off the material in the hose will fall to the bottom of the sag and can plug the feed hose and restrict suction. When inserting the feed probe into your material gylord, do not jam the probe in! Insert the probe gently until it is about 1/4 to 1/3 submersed. When the unit is turned on, the probe will pull itself toward the bottom of the gylord.

## SETTING THE UNIT

After the unit has been installed and grounded, plug in the power cord and move the "LOAD TIME" potentiometer to the full "MIN" position. Next move the power switch to the "ON" position. The red "POWER" and amber "MOTOR ON" lights should illuminate and the unit should begin to cycle. For optimum performance the unit should run just long enough to fill itself. A full unit is indicated by material blockage in the feed hose and a higher pitched motor sound. If the unit is allowed to run after it is full, performance will decrease. The load time can be adjusted from 15 seconds to 90 seconds (Note: these are approximate times and may vary by a few seconds). In general, longer load times will be needed for: longer distances, heavier materials, and increased amounts of grind.

Your PPE HL-1 Hopper Loader was designed to operate on the **ON DEMAND** principal. The MOTOR ON light indicates that the unit is in its loading cycle and should be conveying material up to the loader. When your machine material hopper is full the unit will sense this because the loader dump valve will remain held open by the presence of your material. As long as the dump valve remains open the unit will not cycle. As the machine hopper material level lowers, the dump valve will freely swing closed and the loader will begin to cycle again.

## MAINTENANCE

The HL-1 Hopper Loader is a filtered unit. There is a diaphragm type filter located between the top and bottom halves of the loader housing. This filter should be checked often and cleaned as necessary. The filter can be cleaned by blasting it with an air gun, or vacuuming it. Extra filters are available from PPE. A dirty filter greatly reduces material flow and may cause the vacuum motor to strain and/or fail.

The motor brushes should be inspected and/or replaced 300 hours of use, for example, if your unit is set to cycle on for 15 seconds out of every minute and it run for 8 hours a day, you should inspect the brushes every 5-6 months. The replacement brushes should be checked and/or replaced every 160 hours of use. **WARNING:** the brushes should be changed BEFORE the brush stunt touches the commutator. On reassembly and handling, the lead wires must be kept away from rotating parts and motor frame.

To achieve best performance, the new brushes should be seated on the commutator before full rated voltage is applied. After brush change, apply 50% to 75% of rated voltage for thirty minutes to accomplish this seating. The motor will return to full performance after thirty to forty-five minutes of running at full rated voltage. The motor must not be run with the vacuum air inlet sealed off. **DIRECT APPLICATION OF FULL RATED VOLTAGE AFTER CHANGING BRUSHES WILL CAUSE ARCING, COMMUTATOR PITTING, AND REDUCED OVERALL LIFE.** If reduced voltage is unavailable, connecting two motors of similar rating in series for thirty minutes will accomplish the brush seating.

## WARRANTY

All PPE machinery is warranted to be free of defective material and workmanship for a minimum period of 1 YEAR from date of sale. Some machinery components may carry longer warranties per our suppliers policies which are passed on to our customers (i.e. our drier compressors, conveyor motors, etc.).



**WARNING**  
**STATIC SHOCK HAZARD**



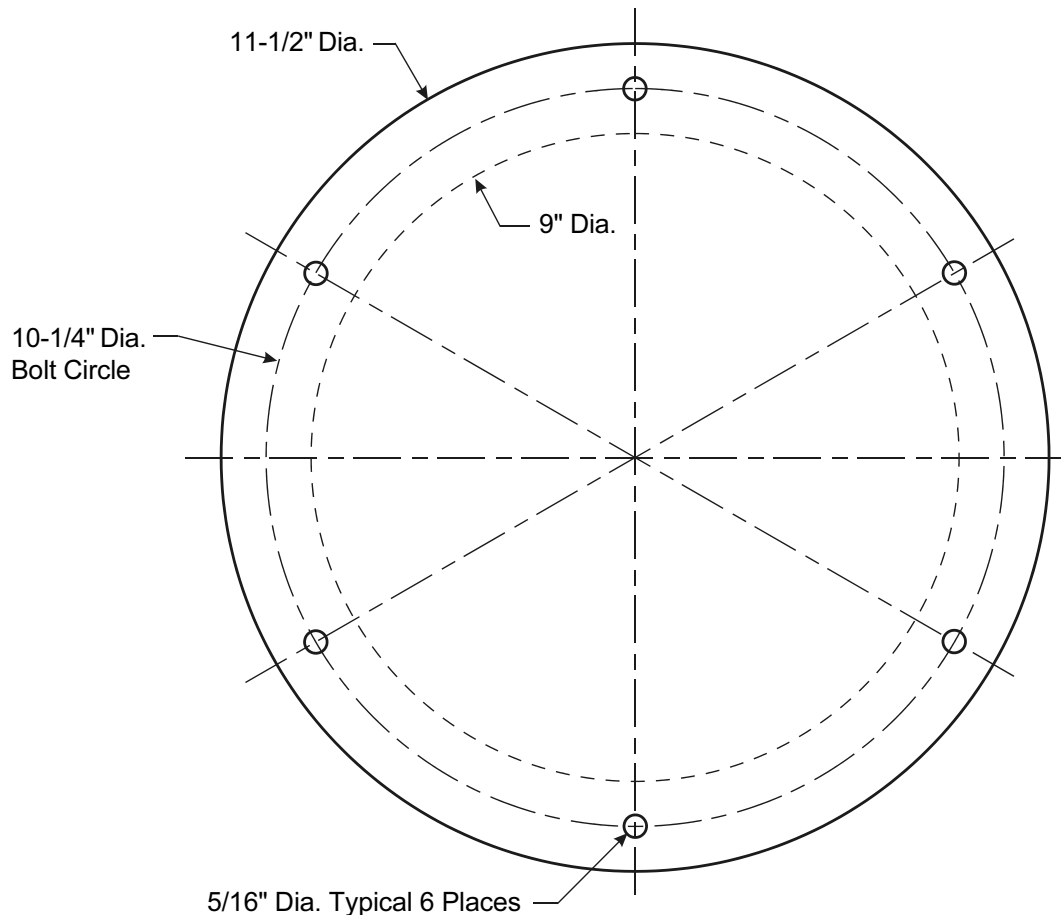
All PPE Vacuum Hopper Loaders are supplied with a vacuum hose that contains a ground wire to help control static electricity for user safety. We also recommend you install an extra static ground wire on your HL Series Vacuum Hopper Loader unit. The ground wire should be run **INSIDE** your feed tube and connect the metal probe to the hopper loader frame. This will help to dissipate the static charge generated by some plastics as they are conveyed up the tube. You can use a standard 18 gauge electrical wire, strip the ends about 1-1/2" and pinch them between the plastic feed hose and the metal tubes that it mounts over, then clamp it securely with the supplied hose clamps. Do not use plastic suction probes!



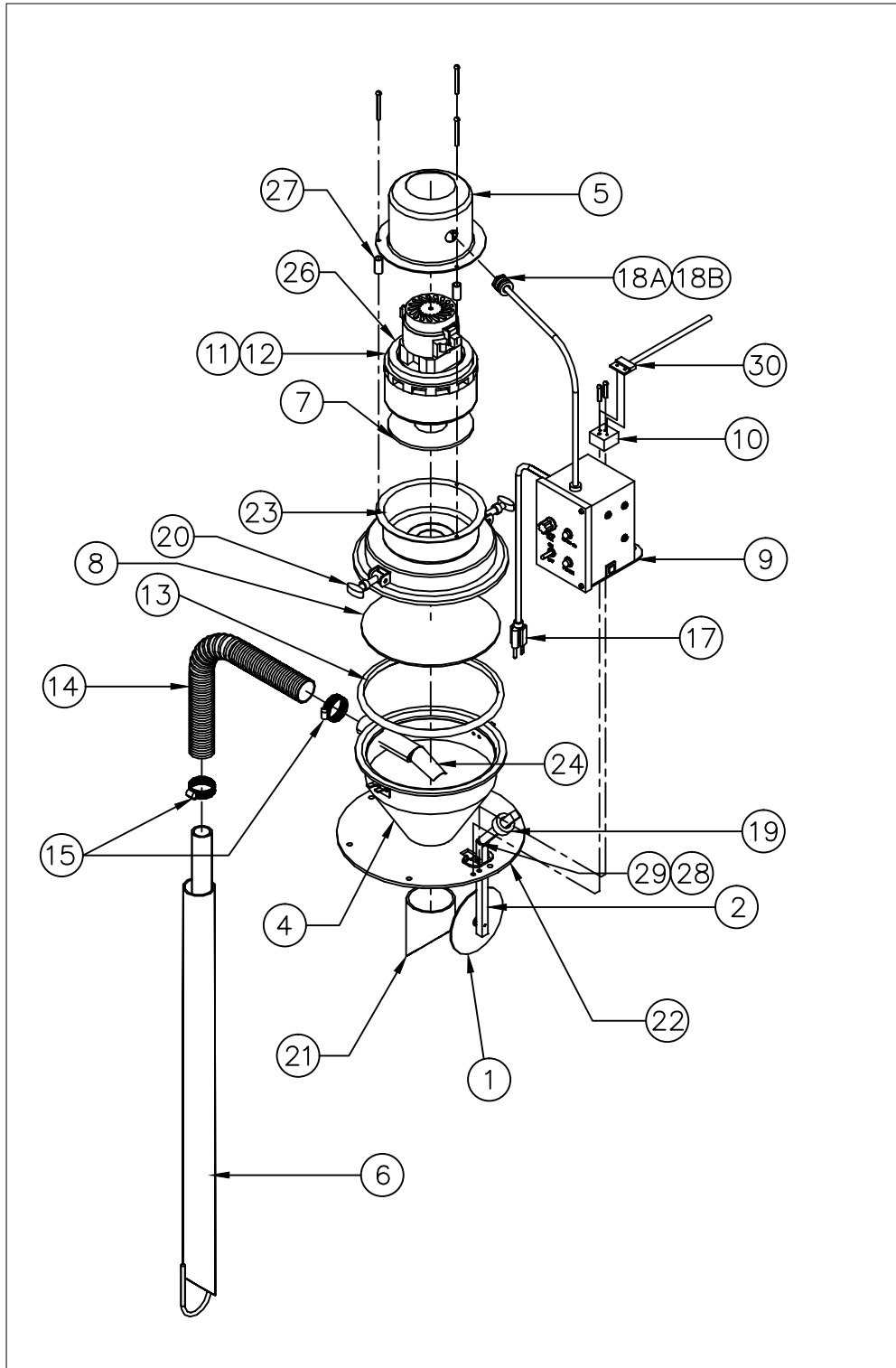
**STATIC SHOCK HAZARD**  
**WARNING**



## BASE MOUNTING DIMENSIONS



# HL-1 HOPPER LOADER PARTS



## PLASTIC PROCESS EQUIPMENT, INC.

8303 Corporate Park Drive, Macedonia (CLEVELAND), OHIO 44056  
 (216) 367-7000 TOLL FREE: 800-321-0562 FAX (216) 367-7022 ORDER FAX: 800-223-8305 EMAIL: SALES@PPE.COM

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 FAX: (727) 834-8873

**HL-1 HOPPER LOADER**

11/07/24

**PARTS LIST**

11/07/24

ID	QTY	P/N	DESCRIPTION	UOM
-----		B-2800	HOPPER LOADER B1L - HL1	EA
	1	A-7453	HL-1 MOTOR COVER	EA
	1	A-7455	HL-1 HOPPER LID WELDMENT	EA
	1	A-7463	HL-1 HOPPER SPINNING WELDMENT	EA
1	1	B-2617	FOOT VALVE	EA
2	1	B-7446	FOOT VALVE ARM	EA
3	1	101151-100	6/32 5/16 SOCKET SET SCREW	EA
4	1	A-7463	HOPPER BOTTOM	EA
5	1	A-7453	HL-1 MOTOR COVER	EA
6	1	TALP382P	36"S.S.PROBE 1-1/4"OD INLET 2 PIECE FOR TAL	EA
7	1	ZX2056	ROUND MOTOR GASKET FOR HOPPER LOADER	EA
8	1	FR1	FILTER	EA
8	1	FR1SS	STAINLESS STEEL FILTER	EA
9	1	CBHL1	HOPPER LOADER CONTROL BOX	EA
10	1	A-7418	SWITCH MOUNTING BLOCK FOR HOPPER LOADER	EA
11	1	2M266	MOTOR	EA
12	2	1R236	MOTOR BRUSH KIT	EA
13	1	ZX2054	GASKET 8.5"DIA	EA
14	1	VHG11410	GROUNDED VACUUM HOSE 1-1/4" DIA 10FT	EA
15	2	HSS-20	HOSE CLAMPS	EA
17	1	K5152	K5152 12' POWER CORD	EA
18A	1	S2112	STRAIN RELIEF FOR ELECTRIC CORD	EA
18B	1	BL-50	1/2" TIGER GRIPS	EA
19	1	2X570	3/4" COLLAR	EA
20	2	1685A12	LOCKING RUBBER CLAMP FOR HL-1 B1L	EA
21	1	B-2622	DISCHARGE TUBE	EA
22	1	B-2621	HOPPER PLATE	EA
23	1	B-7455	LID ASSEMBLY FOR HOPPER LOADER	EA
24	1	B-2620	INLET TUBE	EA
26	1	8694K14	FOAM MOTOR GASKET MATERIAL PER FT (was 8694K	EA
27	3	1229-12-A-0	ALUMINUM SPACER FOR HL1	EA
28	1	ZF10172N	FOOT VALVE MOUNTING BRACKET HOPPER LOADERS	EA
29	1	MASL02501000	MAGNET FOR HL-1 SWITCH	EA
30	1	PRX8300P	MAG SWITCH WITH 6" LEADS AND PLUG	EA
not shown	1	BZ-2RW863-A2	LIMIT SWITCH	EA
not shown	1	W28-XQ1A-10	CIRCUIT BREAKER FOR B1L/HL1 CONTROL PANEL	EA

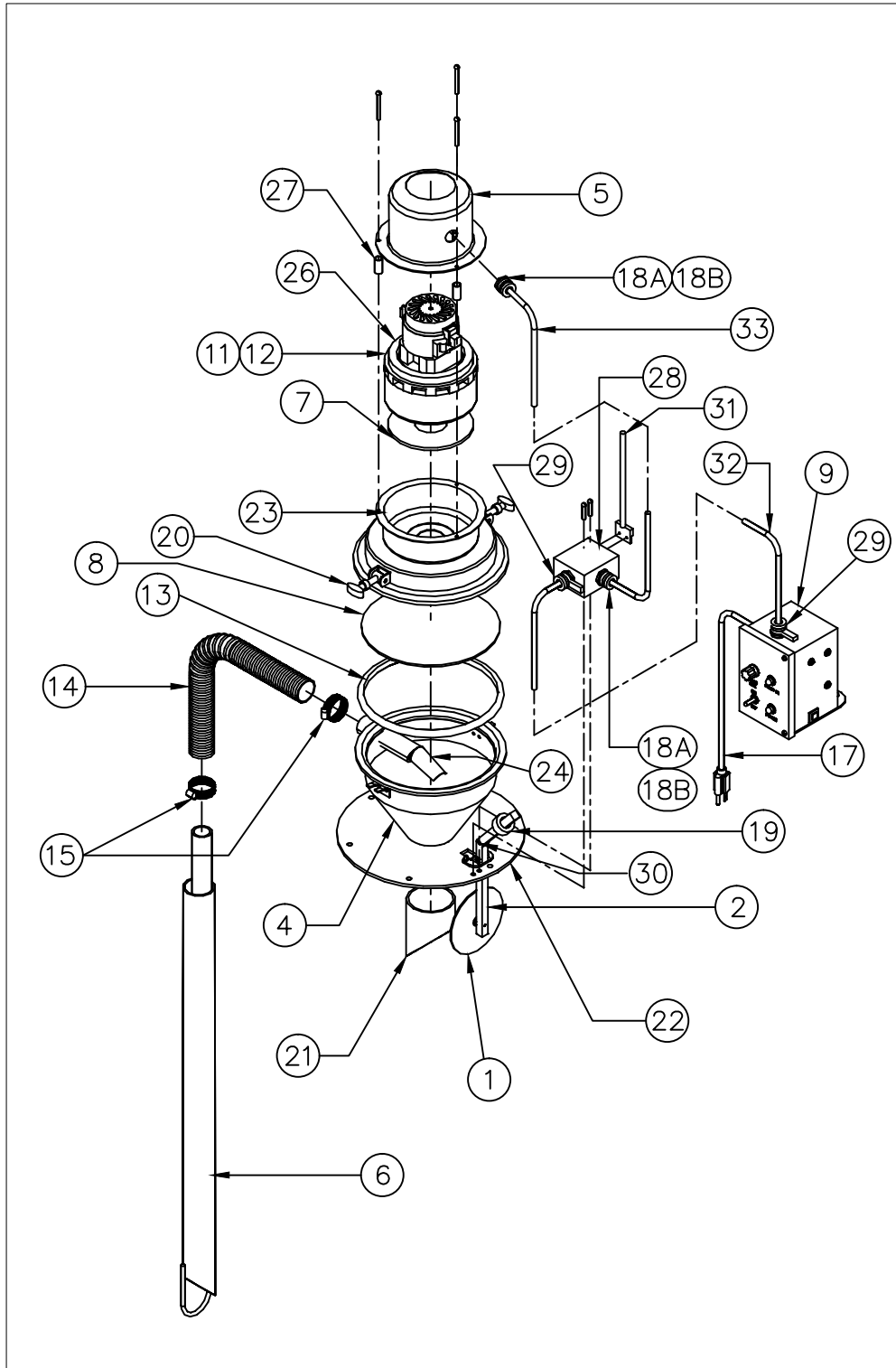
**ASSEMBLIES**

11/07/24

11/07/24

P/N	P/N	DESCRIPTION	UOM
CBHL1	D2425	CRYDON RELAY	EA
	HL-1PCB	PC BOARD	EA

# HL-1RCB HOPPER LOADER PARTS



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# HL-1 HOPPER LOADER REMOTE UNIT

11/07/24

## PARTS LIST

11/07/24

ID	QTY	P/N	DESCRIPTION	UOM
-----		B-2800	HOPPER LOADER B1L - HL1	EA
1	1	B-2617	FOOT VALVE	EA
2	1	B-7446	FOOT VALVE ARM	EA
3		101151-100	6/32 5/16 SOCKET SET SCREW	EA
4	1	A-7463	HOPPER BOTTOM	EA
5	1	A-7453	HL-1 MOTOR COVER	EA
6	1	TALP382P	36"S.S.PROBE 1-1/4"OD INLET 2 PIECE FOR TA	EA
7	1	ZX2056	ROUND MOTOR GASKET FOR HOPPER LOADER	EA
8	1	FR1	FILTER	EA
8	1	FR1SS	STAINLESS STEEL FILTER	EA
9	1	RCB12	HOPPER LOADER CONTROL BOX FOR RCB MODEL	EA
11	1	2M266	MOTOR	EA
12	2	1R236	MOTOR BRUSH KIT	EA
13	1	ZX2054	GASKET 8.5"DIA	EA
14	1	VHG11410	GROUNDED VACUUM HOSE 1-1/4" DIA 10FT	EA
15	2	HSS-20	HOSE CLAMPS	EA
17	1	K5152	K5152 12' POWER CORD	EA
18A	2	S2112	STRAIN RELIEF FOR ELECTRIC CORD	EA
18B	4	BL-50	1/2" TIGER GRIPS	EA
19	1	2X570	3/4" COLLAR	EA
20	2	1685A12	LOCKING RUBBER CLAMP FOR HL-1 B1L	EA
21	1	B-2622	DISCHARGE TUBE	EA
22	1	B-2621	HOPPER PLATE	EA
23	1	B-7455	LID ASSEMBLY FOR HOPPER LOADER	EA
24	1	B-2620	INLET TUBE	EA
26	1	8694K14	FOAM MOTOR GASKET MATERIAL PER FT (was 869	EA
27	1	1229-12-A-0	ALUMINUM SPACER FOR HL1	EA
28	1	885-3606	REMOTE SWITCH BOX	EA
29	2	XC290	3/8 CONNECTOR	EA
30	1	MASL02501000	MAGNET FOR HL-1 SWITCH	EA
31	1	PRX8300	MAGNETIC SWITCH	EA
32	12	YH16/6SLBLK	POWER CORD FOR HL-1RCB (PER FOOT)	EA
33	2.5	16/3	50 FT CORD BLACK (PER FOOT)	EA
not shown	1	BZ-2RW863-A2	LIMIT SWITCH	EA
not shown	1	W28-XQ1A-10	CIRCUIT BREAKER FOR B1L/HL1 CONTROL PANEL	EA

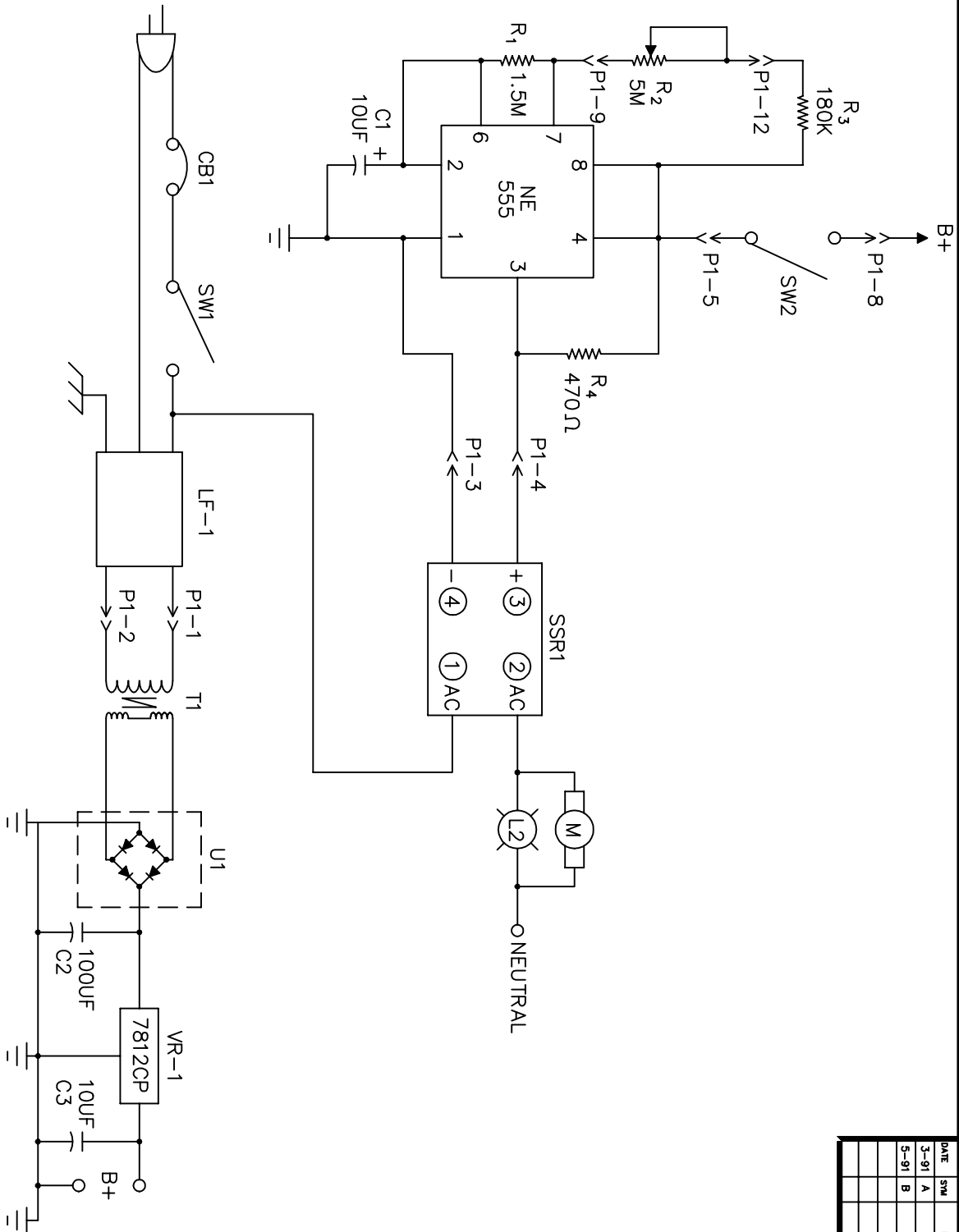
## ASSEMBLIES

11/07/24

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P/N	P/N	DESCRIPTION	UOM
B-7455	A-7452	HOPPER TOP	EA
	A-7454	TOP MOTOR PLATE	EA
B-2800	A-2620	INLET TUBE	EA
	B-2621	HOPPER PLATE	EA
	B-2622	DISCHARGE TUBE	EA
	B-7455	HOPPER LOADER TOP ASSEMBLY	EA
	A-7463	HOPPER BOTTOM	EA
CBHL1	PRX8300	MAGNETIC SWITCH	EA
	D2425	CRYDON RELAY	EA
	HL-1PCB	PC BOARD	EA

DATE	SYM	REVISION RECORD	AUTH	DR	CK
3-91	A	REVISED		BTS	
5-91	B	ADDED SW2		BTS	



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