

# INSTRUCTIONS

## FOR

# HL-7 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.

HL-7

SERIAL NO.

Made in the U.S.A. by Plastic Process Equipment, Inc. © copyright 2019



**PLASTIC PROCESS EQUIPMENT, INC.**

**PPE  
WEST**

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

www.ppe.com • e-mail: sales@ppe.com

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

## RECEIVING

Please thoroughly inspect your HL-7 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-7 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-7 contains a diaphragm filter and blow-off system. This filter remains clean from the blowoff system, but should be checked every 8 hours of use. Do not use with powders.

## ELECTRICAL

The HL-7 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-7 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-7 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 11-1/4" 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 readjustments. 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.

When the HL-7 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 gaylord, 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 gaylord.

## SETTING THE UNIT

After the unit has been installed and grounded, plug in the power cord and move the "CONVEY" potentiometer clockwise to the max time position. Next move the power switch to the "ON" position. The lights should flash 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 a higher pitched motor sound. Run several cycles and decrease the "CONVEY" time slightly each cycle until the motor shuts off at approximately the same time it is full. If the unit is allowed to run after it is full, performance will decrease. The load time can be adjusted from 10 to 70 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 regrind.

Your PPE HL-7 Hopper Loader was designed to operate on the **ON DEMAND** principal. The "MOTOR" 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-7 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. The automatic air blow-off system should keep the filter clean, but checking is required to make sure there are no tears or holes. Extra filters are available from PPE. A dirty filter greatly reduces material flow and may cause the vacuum motor to strain and/or fail.

When the "CHANGE BRUSHES" light comes on the motor brushes should be inspected and/or replaced. This light comes on every 300 hours of use and can be reset by pushing the brushes reset button. **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**



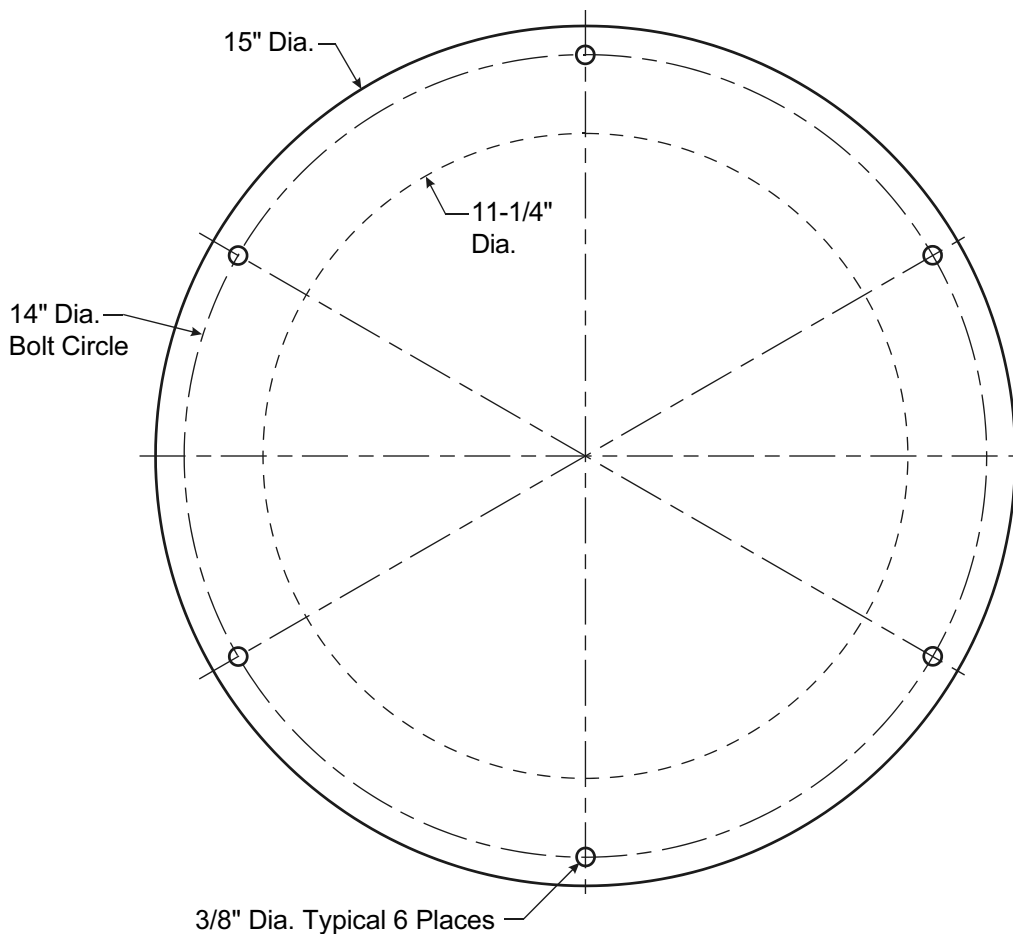
All PPE Vacuum Hopper Loaders are supplied with a vacuum hose that contains a ground wire to help control static electricity for user safety. We also recommend you install an extra static ground wire on your HL Series Vacuum Hopper Loader unit. The ground wire should be run **INSIDE** your feed tube 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



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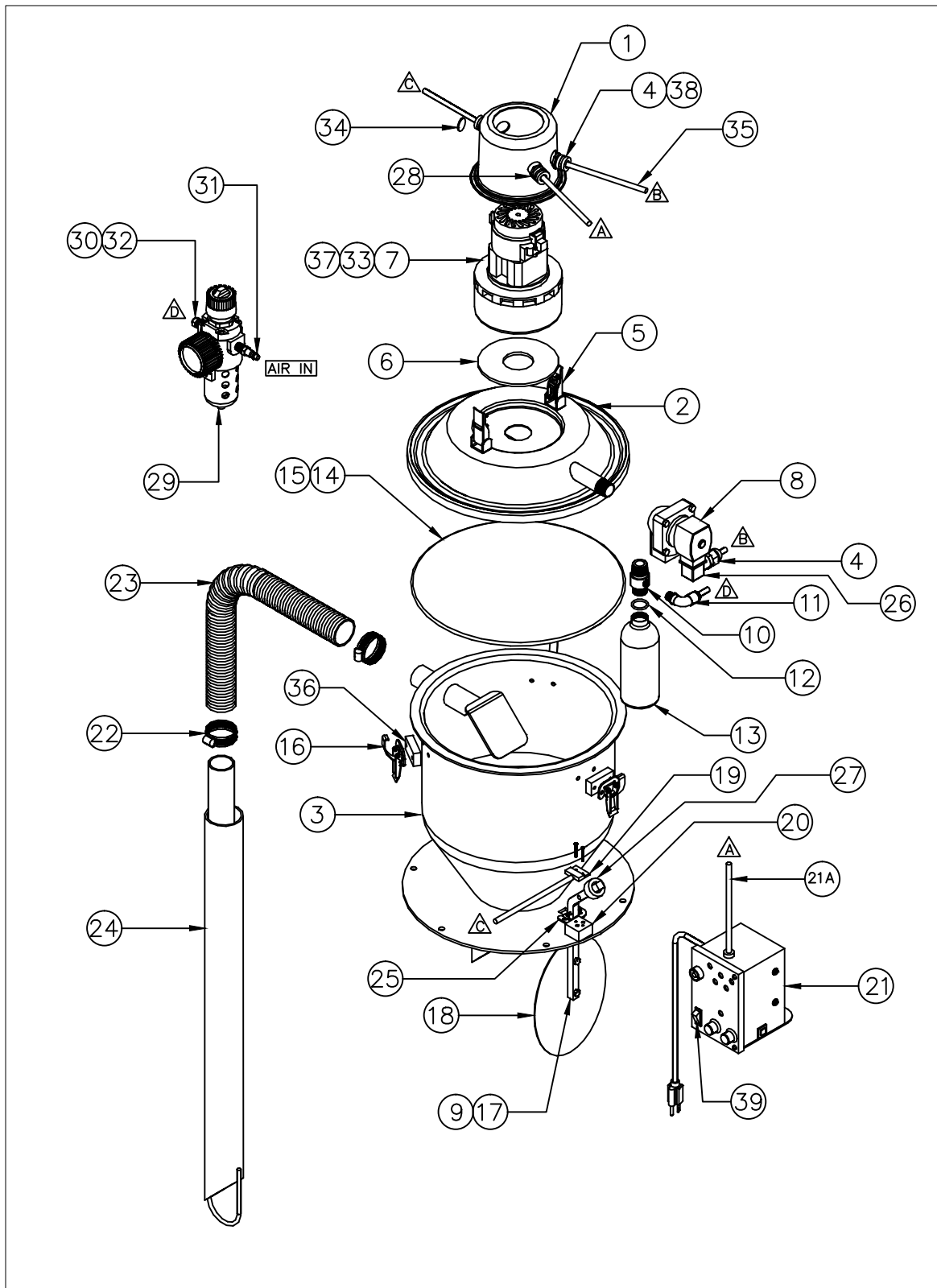
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# HL-7 HOPPER LOADER PARTS



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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HL-7 HOPPER LOADER PARTS LIST				
ID	QTY	PART NO	DESCRIPTION	
1	1	A-10060	HOPPER LOADER MOTOR COVER	
2	1	A-10076	HOPPER LOADER LID	
3	1	A-10065	HOPPER LOADER HOUSING HL-7	
4	3	S2112	STRAIN RELIEF FOR ELECTRIC CORD	
5	2	91-99-218	MOTOR COVER CLAMP FOR HOPPER LOADER	
6	1	ZX2056	ROUND MOTOR GASKET FOR HOPPER LOADER	
7	1	2M433	MOTOR 10.8 AMP	
8	1	FP20	TURBO BLOWOFF SOLENOID W/DIN CONNECTOR	
9	1	MASL02501000	MAGNET FOR HL-1 SWITCH	
10	1	A-10073	TANK ADAPTOR FOR HOPPER LOADER	
11	1	KQ2L07-35AS	MALE ELBOW	
12	1	BNR210	3/4 X 1/8 O-RING	
13	1	F0698AFGR	AIR TANK FOR HOPPER LOADER	
14	1	FR2	FILTER RING 14" A-10063	
15	1	ZX2059	FILTER GASKET 14" DIA	
16	3	V2-0068-07	HOUSING CLAMP FOR HL-7 HL-8 HL-9	
17	1	B-10044	HOPPER LOADER FOOT VALVE ARM	
18	1	A-10046	HOPPER LOADER FOOT VALVE	
19	1	PRX8300P	MAG SWITCH WITH 6" LEADS AND PLUG	
20	1	A-7418	SWITCH MOUNTING BLOCK FOR HOPPER LOADER	
21	1	CBHL7	MICROPROCESSOR CONTROLLER FOR HL w/15FT CORD	
21A	1	207000A01F150	SPARE 15FT CONTROL CABLE FOR HL W/SINGLE FITTING(HL-RC-10	
	1	HL-4PCB	PC BOARD FOR HL-4/7/9	
22	2	HSS-28	HOSE CLAMPS	
23	15 ft	VHG11260	GROUNDING VACUUM HOSE 1-1/2" DIA 60FT (PER FOOT)	
24	1	D7210	ANNODIZED PICK UP WAND 1-1/2" X 36"	
25	1	ZF10172N	FOOT VALVE MOUNTING BRACKET HOPPER LOADERS	
26	1	88122601	DIN CONNECTOR FOR SOLENOID	
27	1	A-10163	WEIGHT FOR HOPPER LOADER DUMP VALVE	
28	1	2R7006A20A120	PANEL MOUNT CONNECTOR FOR CONTROL CABLE	
29	1	AMC403D	AIR REGULATOR	
30	1	TISA07B-20	1/4" NYLON TUBING 22FT	
31	1	H2CH	1/4" NPT MALE THREAD HOSE NIPPLE	
32	1	KQ2H07-35AS	MALE CONNECTOR	
33	2	2UV66	BRUSHES FOR 10.8 AMP MOTOR	
34	1	NERS50	KNOCK OUT SEAL FOR HOPPER LOADER LID	
35	4	85-2231M	3 CONDUCTOR YELLOW WIRE FOR HL PER FT	
36	3	A-11812	HOPPER LOADER SPACER BLOCK	
37	1.5 ft	8694K14	FOAM MOTOR GASKET MATERIAL PER FT	
38	3	BL-50	1/2" TIGER GRIPS	
39	1	1500R11E	ROCKER ON/OFF SWITCH	

Diagram illustrating the wiring for the 2-Way Solenoid (Blowoff) connected to the Magnetic Switch.

The 2-Way Solenoid (Blowoff) has three terminals: RED/WHITE STRIPE, RED/BLACK STRIPE, and GREEN.

The Magnetic Switch has three terminals: RED, WHITE, and GREEN.

Wiring connections:

- RED/WHITE STRIPE terminal of the 2-Way Solenoid (Blowoff) is connected to the RED terminal of the Magnetic Switch.
- RED/BLACK STRIPE terminal of the 2-Way Solenoid (Blowoff) is connected to the WHITE terminal of the Magnetic Switch.
- GREEN terminal of the 2-Way Solenoid (Blowoff) is connected to the GREEN terminal of the Magnetic Switch.

The Magnetic Switch is labeled "UNCONNECTED".

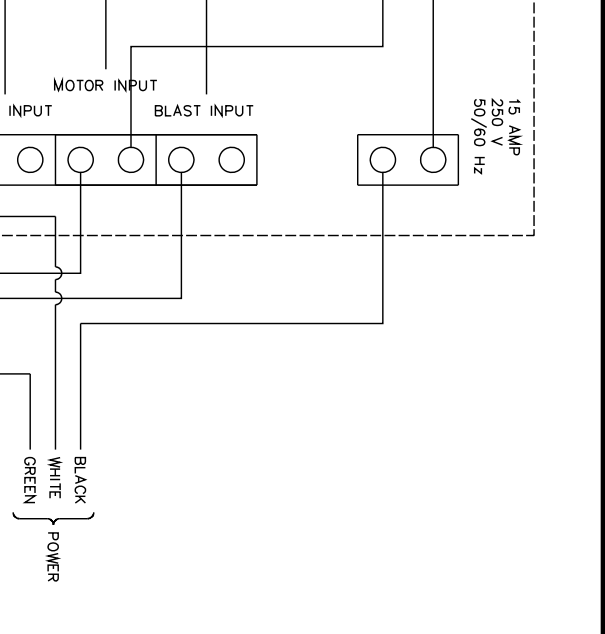


Diagram illustrating the wiring for the 2-Way Solenoid (Blowoff) connected to a Magnetic Switch.

The solenoid has six terminals labeled:

- RED
- WHITE
- GREEN
- RED/WHITE STRIPE
- RED/BLACK STRIPE
- GREEN

The magnetic switch has three terminals labeled:

- UNCONNECTED
- GREEN
- GREEN

The wiring connections are as follows:

- The top terminal of the solenoid (RED) is connected to the top terminal of the magnetic switch (UNCONNECTED).
- The second terminal of the solenoid (WHITE) is connected to the middle terminal of the magnetic switch (GREEN).
- The third terminal of the solenoid (GREEN) is connected to the bottom terminal of the magnetic switch (GREEN).
- The fourth terminal of the solenoid (RED/WHITE STRIPE) is connected to the top terminal of the solenoid (RED).
- The fifth terminal of the solenoid (RED/BLACK STRIPE) is connected to the second terminal of the solenoid (WHITE).
- The sixth terminal of the solenoid (GREEN) is connected to the third terminal of the solenoid (GREEN).