

USER GUIDE

UGC047-0815

EZLoad

Models EZL-2 and EZL-5



Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Manual Number: UGC047-0815

Serial Number(s):

Model Number(s):

DISCLAIMER: Conair shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Table of Contents

1-1 Introduction

- Purpose of the user guide 1-2
- How the guide is organized 1-2
- Your responsibilities as a user. 1-3
- ATTENTION: Read this so no one gets hurt 1-4

2-1 Description

- What is the EZLoad? 2-2
- Typical applications 2-2
- How it works 2-3
 - Loading cycle 2-3
 - Unloading cycle 2-3
 - Filter cleaning cycle. 2-4
- Specifications: EZLoad 2-5

3-1 Installation

- Unpacking the boxes 3-2
- Preparing for installation 3-3
- Mounting the EZ Loader 3-6
 - Hopper loader 3-6
 - Direct feed 3-7
- Changing the material inlet orientation of the loader. 3-8
- Changing the lid hinge location of the loader 3-10
- Completing the loader installation 3-14

4-1 Operation

- EZLoad Control: Control Panel Layout 4-2

5-1 Maintenance

Preventative maintenance checklist	5-2
Conveying disc filter cleaning	5-3
Cleaning the loader body	5-5
Brushless motor filter cleaning/replacement	5-6
EZL-2 loaders (5/8 hp motor with 2 brushes)	5-8
EZL-5 loaders (7/8 hp motor with 4 brushes)	5-10
Reinstalling the loader lid	5-12
Brushless motor filter cleaning/replacement	5-14
Thermal overload	5-15
Compressed air filter cleaning	5-16

6-1 Troubleshooting

Before beginning	6-2
Before you begin troubleshooting	6-2
A few words of caution	6-2
Troubleshooting	6-3
Conveying problems	6-3

A Appendix

We're here to help	A-2
How to contact customer service	A-2
Before you call... ..	A-2
Equipment guarantee	A-2
Performance warranty	A-2

B Appendix

EZLoad Schematics	B-1
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Introduction

Purpose of the user guide. 1-2

How the guide is organized. 1-2

Your responsibilities as a user. 1-3

ATTENTION:

 Read this so no one gets hurt 1-4

Purpose of the User Guide

This User Guide describes the Conair EZLoad and explains step-by-step how to install, operate, maintain and repair this equipment.

Before installing this product, please take a few moments to read the User Guide and review the diagrams and safety information in the instruction packet. You also should review manuals covering associated equipment in your system. This review won't take long, and it could save you valuable installation and operating time later.

How the Guide is Organized

Symbols have been used to help organize the User Guide and call your attention to important information regarding safe installation and operation.



Symbols within triangles warn of conditions that could be hazardous to users or could damage equipment. Read and take precautions before proceeding.



Numbers indicate tasks or steps to be performed by the user.



A diamond indicates the equipment's response to an action performed by the user.



An open box marks items in a checklist.



A circle marks items in a list.



Indicates a tip. A tip is used to provide you with a suggestion that will help you with the maintenance and the operation of this equipment.



Indicates a note. A note is used to provide additional information about the steps you are following throughout the manual.

Your Responsibility as a User

You must be familiar with all safety procedures concerning installation, operation and maintenance of this equipment. Responsible safety procedures include:

- Thorough review of this User Guide, paying particular attention to hazard warnings, appendices and related diagrams.
- Thorough review of the equipment itself, with careful attention to voltage sources, intended use and warning labels.
- Thorough review of instruction manuals for associated equipment.
- Step-by-step adherence to instructions outlined in this User Guide.

ATTENTION:

Read this so no one gets hurt

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.



WARNING: Improper installation, operation, or servicing may result in equipment damage or personal injury.

This equipment should be installed, adjusted and serviced by a qualified technical personnel who is familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by a qualified electrical technician in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.



WARNING: Voltage hazard

This equipment and its control is powered by single-phase alternating current, as specified on the machine serial tag and data plate.

A properly sized conductive ground wire must be supplied at the incoming power source. Improper grounding can result in severe personal injury and erratic machine operation.

Always disconnect and lock out the incoming main power source before performing non-standard operating procedures, such as routine maintenance. Only qualified personnel should perform troubleshooting procedures that require access to the loader and its control while power is on.

Description

What is the EZLoad? 2-2

Typical applications. 2-2

How it works 2-3

 Loading cycle 2-3

 Unloading cycle. 2-3

 Filter cleaning cycle. 2-4

Specifications: EZLoad 2-5

What is the EZLoad?

The EZLoad Self-contained Vacuum Loader is a plastic material transfer device designed to vacuum convey raw plastic material pellets and/or regrind over short distances. It incorporates a vacuum motor to create the energy necessary for the material transfer process.

A filter to separate conveyed material from the conveying air stream is included to protect the vacuum motor and keep air around the loader clean. A filter cleaning solenoid (blowback) valve is also included to lengthen the operational life of the filter between servicing. *See Operation section entitled, Using Blowback.* Compressed air is required for the filter cleaning action.

Typical Applications

EZLoads are typically used in two ways:

- **Hopper Loading:** The loader is mounted directly above a material vessel that needs to be filled and kept full. The EZLoad's vacuum chamber is filled by its vacuum motor. A discharge flapper at the bottom opens, by gravity, at the end of a loading cycle to release the loaded material into the receiving material vessel. A demand level switch, triggered by the position of the discharge flapper indicates the need to start another loading cycle.
- **Direct Feeding:** The loader is mounted to a glass or metal hopper that is mounted to the throat of a plastic processing machine (IE: injection molder or extruder). A demand sensor on the hopper indicates the need to start another loading cycle. Material flows out of the hopper, by gravity, and into the processing machine via the drain hole in the bottom of the hopper.

The EZLoad may also be used to unload vessels, such as granulators, gaylords or barrels.

How it works

Loading Cycle:

A demand for material below the loader is created by either a reed-type switch that is magnetically triggered by the position of the discharge flapper on the bottom of the hopper loader. This demand switch, when closed, (Fig. 1) starts the loading cycle.

The demand signal starts the vacuum motor and allows the loader's vacuum chamber to create a negative draw on the material inlet line. This vacuum creates a flow of air that starts in the material inlet tube and allows plastic material to travel in the tube, with the air, into the loader. Once inside the loader, the air is drawn into the vacuum motor's fan housing after it passes through a round cloth filter located directly below the motor's air inlet. This filter keeps the plastic material in the loader's vacuum chamber but allows the air to pass through. This filtration system keeps the material in the loader, protects the vacuum motor from the material and keeps material dust from becoming air-borne after it passes through the motor. The vacuum motor remains on for the length of time required for the material bulk density.

Unloading Cycle:

Once the loading cycle ends, the vacuum motor turns off and the loader enters the unloading portion of the cycle. While there is no vacuum pull on the loader from the motor, the material in the loader is allowed to drop by gravity from the bottom of the loader into the receiving material vessel.

(continued)

How It Works (continued)

Filter Cleaning Cycle:

During the unloading cycle, the blowback cycle occurs. Compressed air pulses through the filter from above, and removes collected plastic dust and material that may have become stuck to the filter during the loading cycle. The pulses take advantage of the 'shock wave' effect for filter shaking and cleaning. At the end of the blowback cycle, a counterweight causes the loader's discharge flapper to return to the closed position (Fig. 1).

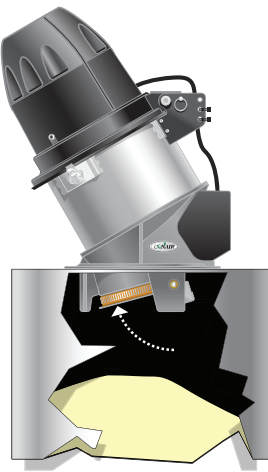


Fig. 1

Once blowback and the unloading portion of the loader's operation are complete, the loader may begin another loading cycle, if the discharge flapper closes and causes a demand for material. When the discharge flapper is lodged open by material (Fig. 2), the loader's control will wait until the material level drops allowing the discharge flapper to close to start another loading cycle.

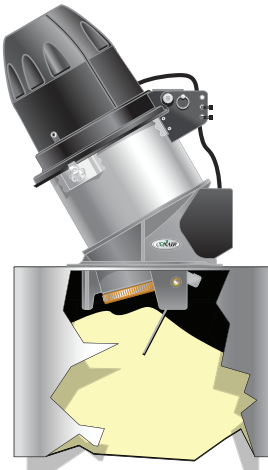
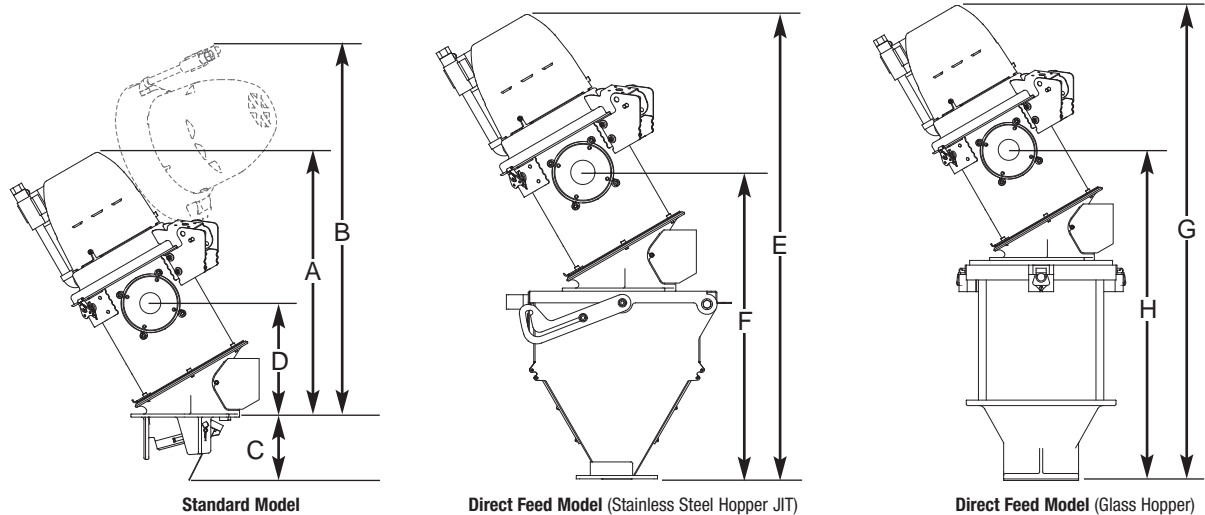


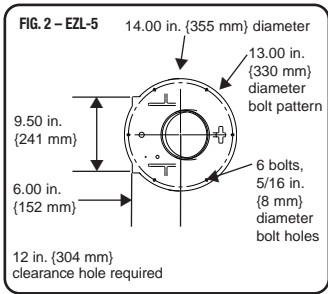
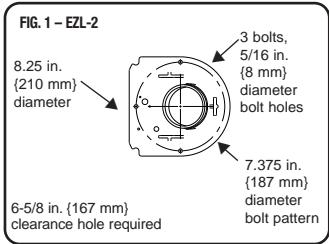
Fig. 2

Specifications: EZLoad



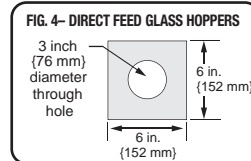
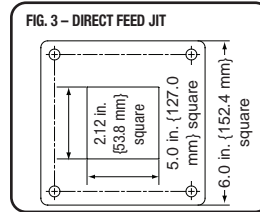
2
Description

MODEL	EZL-2	EZL-5	EZL-5*
Performance characteristics			
Loader volume ft³ {liters}	0.2 {6.0}	0.5 {14.0}	
Loader body diameter inches {mm}	8.0 {203.0}	12.0 {304.0}	
Material/vacuum line inches {mm}	1.5 - 2.0 {38 - 51}	1.5 - 2.0 {38 - 51}	
Loader maximum temperature rating °F {°C}	180 {82}	180 {82}	150 {66}
Vacuum motor	5/8 Hp - 2 Brush	7/8 Hp - 4 Brush	1.3 Hp - Brushless
Nominal throughput† lbs/hr {kg/hr}	200.0 {90.0}	500.0 {227.0}	1000.0 {454.0}
Maximum conveying distance ft {m}	50.0 {15.2}	75.0 {22.9}	120.0 {36.6}
Loader diameter inches {mm}	8.0 {203.0}	12.0 {304.0}	
Discharge type	Gravity flapper		
Demand sensor	Integrated reed switch / Remote capacitance sensor (optional)		
Dimensions inches {mm}			
A - Height above mounting plate	20.4 {518.2}	23.2 {588.52}	
B - Height above mounting plate with open lid	29.7 {754.4}	34.0 {863.6}	
C - Depth below mounting plate	4.9 {124.5}	8.1 {206.3}	
D - Height to center of material inlet	8.8 {223.5}	8.6 {219.5}	
Mounting details	See FIG. 1	See FIG. 2	
Approximate weight lb {kg}			
Installed	28 {13}	49 {22}	
Shipping	50 {23}	65 {30}	
Compressed air requirements psi recommended	80	80	
Voltage†† Full load amps @ VAC			
	8 @ 110, 4 @ 220	14 @ 110, 7 @ 220	17 @ 110, NA @ 220



Specifications: EZLoad (continued)

DIRECT FEED MODEL (Stainless Steel Hopper JIT)	EZL-2	EZL-5	
Performance characteristics			
Viewing bin model	10 lb	20 lb	40 lb
Viewing bin capacity lb {kg}	11.1 {5.1}	24.3 {11.0}	41.5 {18.8}
Isolator valve	standard	standard	standard
Dimensions inches {mm}			
E - Height above mounting plate	34.3 {871.2}	42.1 {1069.3}	45.2 {148.1}
F - Height to center of material inlet	22.6 {574.0}	27.7 {703.6}	30.8 {782.3}
Mounting details	See FIG. 3		
Approximate weight lb {kg}			
Installed	45 {20}	80 {36}	85 {39}
Shipping	67 {30}	96 {44}	101 {46}



DIRECT FEED MODEL (Glass Hopper)		EZL-2		
Performance characteristics				
Viewing chamber model	3 lb	11 lb	21 lb	
Viewing chamber capacity lb {kg}	3.0 {1.4}	11.0 {4.9}	21.0 {9.5}	
Isolator valve	standard	standard	standard	
Dimensions inches {mm}				
G - Height above mounting plate	32.4 {822.5}	38.1 {966.7}	49.6 {1260.6}	
H - Height to center of material inlet	20.8 {527.1}	26.5 {672.6}	38.0 {965.2}	
Mounting details		See FIG. 4		
Approximate weight lb {kg}				
Installed	43 {19}	49 {22}	59 {27}	
Shipping	65 {30}	71 {32}	82 {37}	

SPECIFICATION NOTES:

* Available with brushless motor as standard.

† Throughputs beyond the recommended ratings should not be attempted unless you are conveying virgin material from close distances. Higher throughputs could result in shortened brush and/or filter life. For higher throughputs, consult Conair for a quote on central vacuum loaders.

†† Brushless motors are available in 220/1/60Hz, but not in 220/1/50Hz.

All EZLoad Loaders are shipped with 10 ft {3.048 m} of flex hose and a vertical feed tube.

Specifications can change without notice. Contact your Conair representative for the most current information.

Installation

SECTION
3

Unpacking the boxes 3-2

Preparing for installation 3-3

Mounting the EZLoad

 Hopper loader 3-6

 Direct feed 3-7

Changing the material inlet orientation

 of the loader 3-8

Changing the lid hinge location

 of the loader 3-10

Completing the loader installations. 3-14

Unpacking the Boxes

The EZLoad comes in one to three boxes, depending upon the model and options selected.



NOTE: Your particular loader may be packaged in with other equipment crates or boxes or may also have equipment packaged in with it, to conserve shipping space.

1 Carefully remove the loader and other components from their boxes. Do not use wires or hoses as handles to lift heavy components. Once removed from the box, the loader may be set on a firm, flat surface with the motor towards the top. Note that the loader's upper portion is angled for easy access once in operation, but its three-legged, cast base may be safely set on a flat surface, as long as the discharge flapper valve is not open.

2 Remove all tape and other packing materials from the loader and accessories.

IMPORTANT: Take special note of tape that typically holds the discharge flapper closed. The loader will not work with this tape in place and it should be removed.

3 Carefully inspect all components to ensure damage occurred during shipping, and that you have all the necessary hardware.

4 Take a moment to record serial numbers and electrical power specifications in the blanks provided on the back of the the User Guide's title page. This information will be helpful if you ever need service or parts.

5 You are now ready to begin installation.

See Installation section entitled, [Preparing for Installation](#).

Preparing for Installation

The EZLoad is easy to install if you plan the location and prepare the mounting area properly to ensure adequate space for access, wiring and conveying lines.

Make sure the installation location provides:

- ❑ **A grounded power source supplying the correct voltage and amperage** for your EZLoad. Check the EZLoad's serial tag for the correct amps, voltage, phase and cycles. *See Description section entitled, Specifications: EZLoad.*



WARNING: Voltage hazard

Wires should be routed neatly away from any hot surfaces or areas of mechanical abrasion. Wires must be located away from normal machine maintenance or traffic areas.



WARNING: Voltage hazard

A properly sized conductive ground wire must be supplied at the incoming power source. Improper grounding can result in severe personal injury and erratic machine operation.

- ❑ **Minimum clearance for safe operation.** You should maintain adequate space around the EZLoad to run conveying lines and power cables to the loader, and for accessing the loader's internal filter.

Preparing for Installation (continued)

The EZLoad control was specifically designed for everyday loading applications where advanced loading functions are not necessary. The operator simply turns the unit on, and the loader does the rest.



Model EZL-2
(Rear of unit shown to display the control.)

Adapter plates and gaskets are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

- 1 Prepare the mounting surface. (Hopper Loaders)** For hopper loaders, the EZLoad discharge will fit down through an opening in the receiving hopper's lid and be held in place with either bolts that pass through match-drilled holes or hold-down clamps that are typically supplied on the top of Conair material vessels, such as drying hoppers or blender material bins. *See Description section entitled, Specifications: EZLoad.* An adapter ring, available from Conair, may be required to reduce the size of an oversized hole to match the specific size of the loader that is to be installed. *See Installation section entitled, Mounting the EZLoad (Hopper Loader).*

- 1b Prepare the mounting surface. (Direct Feed Loaders)** For direct feed loaders, assure that the processing machine throat is large enough to provide a suitable mounting surface for the loader and its glass or metal hopper. Measure the mounting bolt locations on the machine throat and assure that a suitable location in the base of the hopper may be drilled. Be sure the material passage hole in the bottom lines up with the processing machine throat and that no ledges will be created between the hopper assembly and the machine throat. If ledges will be present, an adapter plate with a tapered material opening may be required. An adapter plate may also facilitate the location of mounting holes if there is a mis-match between the base of the hopper and the machine throat. *See Installation section entitled, Mounting the EZLoad (Direct Feed).*

Preparing for Installation (continued)

- 2 Determine the orientation of the loader.** The EZLoad provides superior accessibility for service and should be oriented for easy service and access to the control. The material inlet and even the loader hinge may be relocated as required, once orientation is determined. Assure that enough room above and to the side of the loader is available for the hinged lid to be fully opened. *See Installation section entitled, Changing the EZLoad's Material Inlet Orientation and Changing the EZ Load's Lid Hinge Location.*
- 3 Determine the location of conveying line(s).** Material conveying lines should be as straight and as short as possible. Multiple bends or loops in the hose or material conveying lines should be avoided. *See Installation section entitled, Completing the Loader Installations.* If the EZLoad's material inlet does not accommodate the best path for the material line(s), the inlet may be moved. *See Installation section entitled, Changing the EZLoad's Material Inlet Orientation and Changing the EZLoad's Lid Hinge Location.*
- 4 Prepare the compressed air supply.** An air supply line supplying regulated 50 - 80 PSI compressed air will need to be plumbed to the solenoid located on the lid of the loader and a quick disconnect fitting is recommended for easy service. A 3/8 inch NPT female inlet is provided. If the air supply is not clean and dry, a customer-supplied filtering device must also be installed since the loader's filter cleaning function relies on clean, dry compressed air. Moisture traps and other air cleaning devices are best mounted away from the loader, but within easy service reach. *See Maintenance section entitled, Compressed Air Filter Cleaning.*
- 5 Prepare the electrical supply.** EZLoads require a single phase fifteen (15) amp electrical supply (120 Volts AC or 220 Volts AC) as listed on the name plate and in the specifications page of this manual. If a brushless motor is used, because of its higher horsepower rating and greater conveying power, it will require a single phase, twenty (20) amp power supply directly to the motor via its own power cable. *See Description section entitled, Specifications: EZLoad.* Typically, it is best to provide an isolated circuit so that the operation of the loader does not affect, nor is effected by other equipment on the same circuit. The receptacle providing this supply must be within the reach of the loader's power cord.

Mounting the EZLoad Hopper Loader



WARNING: You are responsible for the structural integrity of this installation.



CAUTION: Components mounted to the EZLoad should NOT be used as a handle to lift the loader or to provide balance assistance to users during maintenance, etc. Doing so could result in serious personal injury or damage to the equipment.



NOTE: Conair recommends lifting the loader from its base to avoid any damage to loader components.

- 1 Safely lift the EZLoad to the lid of the material vessel.** First assure that the EZLoad's lid is closed and clamped securely.
- 2 Lift the loader into place and carefully place the three legged base down into the clearance hole of the material vessel's lid.** Rotate and orient as desired. The loader body's "lean" should be in the direction of future servicing, such as filter cleaning and material change clean-outs.
- 3 Secure the EZLoad to the lid of the hopper.** If clamps are provided, rotate them into position over the edge of the loader's flange and tighten them. If nuts and bolts are used, pass them through the material vessel lid and through the mating holes in the mounting flange of the loader. Secure the bolts with lock-washers and nuts after applying thread-locking compound to prevent loss due to vibration. If possible, nuts welded to the underside of the vessel lid are preferred, to prevent any possibility of fastening hardware loosening and being lost into the material vessel.

Mounting the EZLoad (continued)

Direct Feed

WARNING: You are responsible for the structural integrity of this installation.

CAUTION: Components mounted to the EZLoad should NOT be used as a handle to lift the loader or to provide balance assistance to users during maintenance, etc. Doing so could result in serious personal injury or damage to the equipment.

1 Match drill the base of the glass or metal hopper chamber. Carefully measure the throat of the processing machine and match drill the base of the EZLoad's hopper, assuring the large center hole of the base lines up with the feed throat opening of the processing machine. If the aluminum base will not allow passage of mounting bolts that line up with the processing machine throat bolts, an adapter plate may be required. If the material flow hole in the base of the hopper is larger than the processing machine throat, creating a ledge, an adapter plate with a tapered material flow hole is required. To facilitate use of a drill press or machining center, the aluminum base or glass hoppers can be unbolted from the sight glass.

2 Mount the glass or metal hoppers to the processing machine throat. Once the base is drilled, it may be mounted to the machine throat, for complete re-assembly once mounted. Mating surfaces between the hopper base, the adapter plate (if included) and the machine throat may be gasketed to minimize vacuum air leaks that can occur during vacuum conveying to the loader. The EZLoad is equipped with its own discharge flapper to isolate vacuum conveying air to the loading chamber of the loader.

3 Orient the loader on the hopper. The loader portion of the direct feed assembly may be rotated to orient the loader in the best position for service and conveying line routing.

Adapter plates and gaskets are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

NOTE: Conair recommends lifting the loader from the bottom of the glass or metal hopper to avoid damage to loader components.



EZLoad on JIT hopper




EZLoad on glass hopper

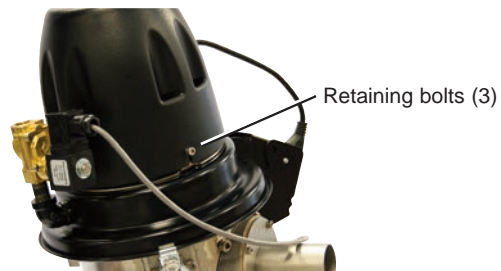
Changing the Material Inlet Orientation of the Loader

EZLoads are shipped with the material inlet located in the most logical orientation for common conveying applications. The inlet may be relocated in a variety of other positions if it is more convenient for your installation. The stainless steel vacuum cylinder may be unbolted and rotated as desired to orient the inlet to the desired location.

To reorient the loader's material inlet:

- 1 Unplug the loader's power supply and remove its compressed air source.**
- 2 Remove the loader's motor cover by loosening the three (3) retaining bolts using an appropriately sized Allen wrench or similar.**

 **NOTE:** The loader's motor cover will still be connected to the vacuum motor by internal wiring connections.

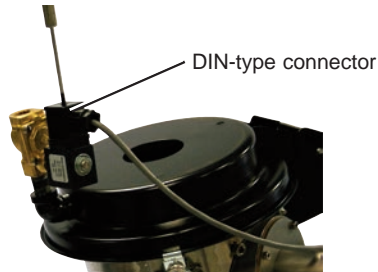


- 3 Remove the loader's motor by loosening its three (3) mounting bolts using an appropriately sized Allen wrench or similar.**



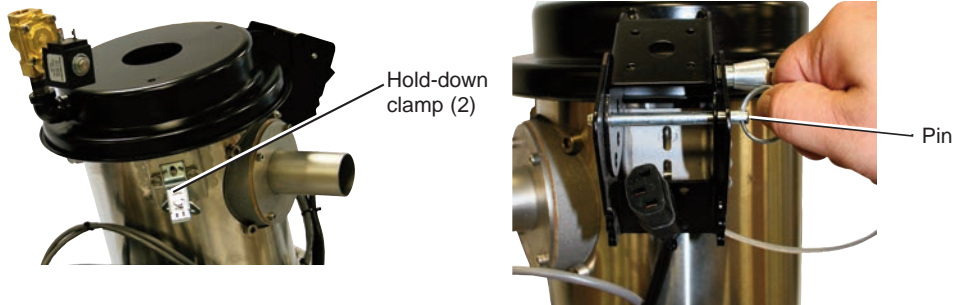
Changing the Material Inlet Orientation of the Loader (continued)

- 4 Remove the DIN-type electrical connector** from the blowback solenoid by unscrewing the center bolt with an appropriately sized screwdriver and pulling the connector off the solenoid.

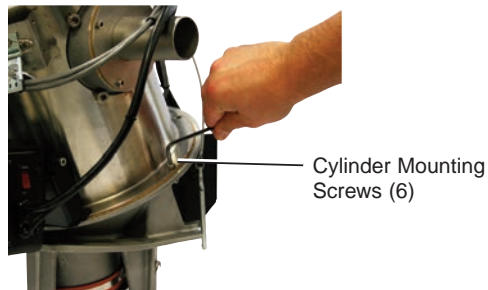


NOTE: When removing the loader's lid, also remove its internal filter.

- 5 Release the lid hold-down clamps** and pull the pin from the lid hinge to allow the entire lid to be lifted from the loader body.



- 6 Remove the cylinder mounting screws using an appropriately sized Allen wrench.** Located around the base of the loader's cylindrical body are six (6) bolts that secure the cylinder to the cast base. Removing these screws frees the cylinder, allowing it to be rotated to a new position.



(continued)

Changing the Material Inlet Orientation of the Loader (continued)

- 7 Relocate the inlet tube to the new location.** Reorient the loader body to a new position and line up the mounting bolt holes.



- 8 Refasten the loader body and re-assemble the loader.** Firmly reinstall the six (6) bolts using an appropriately sized Allen wrench or similar, tight enough to prevent vacuum leaks. Reinstall the loader's lid, reconnect solenoid and motor wires and power supply cables or to reorient the loader's lid, [see Operation Section entitled, Changing the Lid Hinge Location of the Loader.](#)

Changing the Lid Hinge Location of the Loader

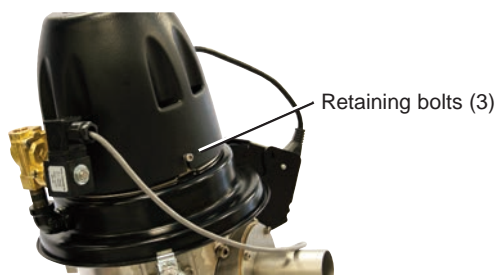
EZLoads are shipped with the lid hinged in the most logical direction for common conveying applications. This orientation may be changed if it is more convenient for your installation. The hinge and the lid clamps both use the same mounting hardware.


To relocate the loader's lid:

- 1 Unplug the loader's power supply and remove its compressed air source.**

Changing the Lid Hinge Location of the Loader *(continued)*

- 2** Remove the loader's motor cover by loosening the three (3) retaining bolts using an appropriately sized Allen wrench or similar.

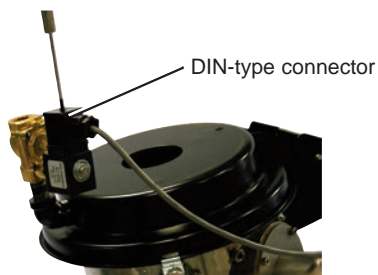


 **NOTE:** The loader's motor cover will still be connected to the vacuum motor by internal wiring connections.

- 3** Remove the loader's motor by loosening its three (3) mounting bolts using an appropriately sized Allen wrench or similar.




- 4** Remove the DIN-type electrical connector from the blowback solenoid by unscrewing the center bolt with an appropriately sized screwdriver and pulling the connector off the solenoid.

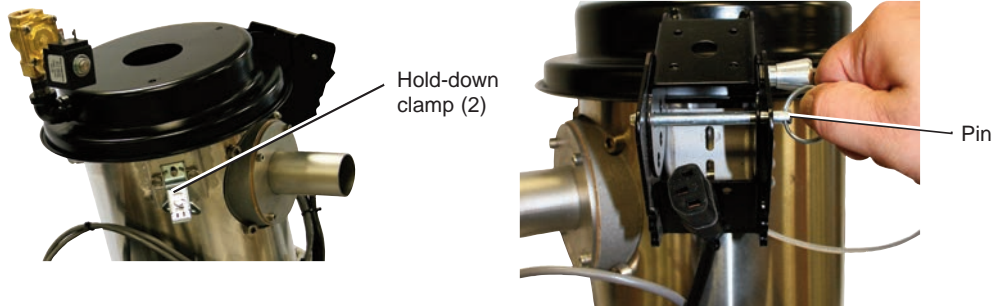


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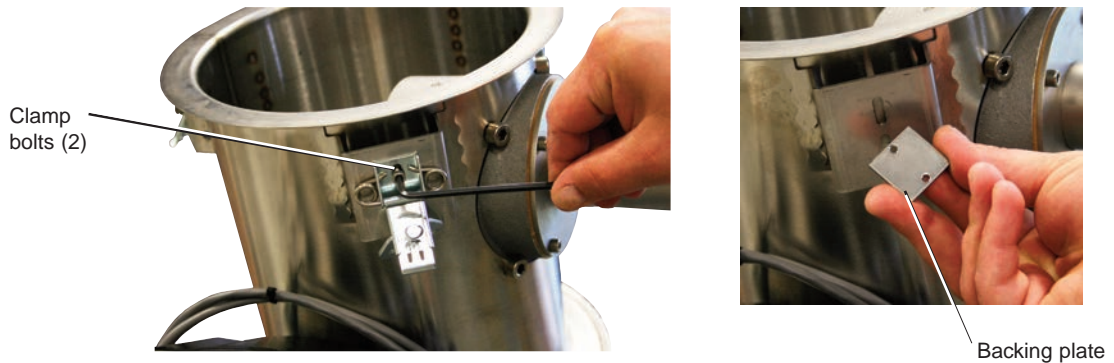
Changing the Lid Hinge Location of the Loader (continued)

 **NOTE:** When removing the loader's lid, also remove its internal filter.

5 Release the lid hold-down clamps and pull the pin from the lid hinge to allow the entire lid to be lifted from the loader body.



6 Remove the lid clamp from the new hinge location. Ensure that the new location of the lid hinge, when opened, will not be blocked by adjacent equipment, building structures, etc. The clamp is held in place by screws that are threaded into a backing plate inside the clamp mounting brackets. The backing plate will fall out when the screws are removed.

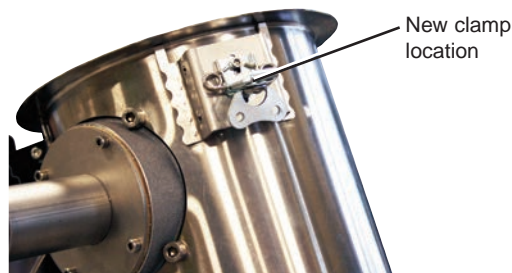


Changing the Lid Hinge Location of the Loader (continued)

- 7 Relocate the hinge.** Two long screws hold the lid hinge in place on the clamp mounting bracket. Remove the screws to free the hinge. Reinstall the hinge in the location determined in Step 6. Adjustment of the bolts may be required once the lid is installed in the new location on the loader.




- 8 Install the lid clamp on the loader.** Install the lid clamp in the location previously used by the lid hinge. Note that the loose backing plate must be inserted and held in position behind the clamp mounting bracket to provide threads to receive the clamp bolts. Do not overtighten bolts; they may be secured once the lid is in place and the clamp position is tested for proper pull on the lid.



(continued)

Changing the Lid Hinge Location of the Loader (continued)

 **NOTE:** When reinstalling the lid, check to ensure that the internal filter is not pinched by the loader's lid. *See Maintenance section entitled, Conveying Disc Filter Cleaning.*

9 Reinstall lid onto loader. Line up the hinge and clamp mounting bracket.

Reinstall the hinge pin and the reconnect motor, solenoid wires, incoming power cables and compressed air source. Ensure that the lid hinges up effectively and closes securely while making adjustments to the hinge's mounting onto the clamp mounting bracket. Assure the locking pin engages properly when opened. Check and adjust the stroke of the each lid clamp. Adjustment is possible by loosening the mounting screws and moving the clamp up or down accordingly. Once adjusted, tighten all fasteners securely.



Completing the Loader Installations

- 1 Install the conveying line. (Single material)** Connect the material conveying hose to the loader by clamping one end of the flex hose around the inlet port of the loader. Route the hose carefully avoiding bends, loops, or droops. Cut the hose to length and connect the included feed tube into the other end. Secure both connections with the included hose clamps. If orientation of the inlet is required, *see Installation section entitled, Changing the Material Inlet Orientation*
- 2 Connect compressed air to the loader.** The EZLoad requires a 50-80 PSI compressed air source for filter cleaning and other optional functions. The compressed air supply line should be connected into the 3/8 inch NPT female fitting provided in or adjacent to the blowback solenoid on the lid of the loader. A quick disconnect fitting (that does not restrict air flow) is recommended.

Operation

SECTION

4

EZLoad Control: Control Panel Operation 4-2

EZLoad Control Operation

- 1 Press the power button to turn on the loader.** Make sure there is no surging. The loaders should start loading if necessary.

- 2 If surging is detected, adjust the feed tube for a smooth flow.**

If the load cycle terminates the load cycle too quickly without a full hopper of material either the filter is plugged or the feed tube is set incorrectly (too much material being fed). Horn will sound.

If the loader runs for two minutes and does not fill the hopper then there is either no material at the source or the feed tube is adjusted incorrectly (too dilute, not enough material being fed). Horn will sound.

- 3 The Loader should fill a complete loader full of material for each load cycle.**



NOTE: An alarm will sound if it does not completely fill a hopper with material. There is no alarm silence button. The alarm will silence the next time it gets a full hopper of material.

Maintenance

Preventative maintenance checklist	5-2
Conveying disc filter cleaning	5-3
Cleaning the loader body	5-5
Brushless motor filter cleaning/replacement .	5-6
Motor brush checking/replacement.	5-8
EZL-2 loaders (5/8 hp motor with 2 brushes)	5-8
EZL-5 loaders (7/8 hp motor with 4 brushes)	5-10
Reinstalling the loader lid.	5-12
Brushless motor filter cleaning/replacement	5-14
Thermal overload	5-15
Compressed air filter cleaning	5-16

Preventative Maintenance Checklist

Routine maintenance will ensure optimum operation and performance of the EZLoad. We recommend the following maintenance schedule and tasks.

- **Daily, or as needed.**

- ☐ **Clean the filter**

If you are running a dusty material or regrind you may need to check and clean the filter more often. If the loader seems to be straining to run, or material flow is erratic or sluggish, check the filter. The disc filter also should be cleaned whenever you change materials. *See Maintenance section entitled, Conveying Disc Filter Cleaning.*

- **Weekly, or as needed.**

- ☐ **Drain the compressed air filter trap (if equipped).**

Depending on your compressed air system, you may see moisture or oil in the compressed air filter trap. Open the petcock on the bottom of the trap to drain. If you see oil, Conair recommends installing a coalescing type filter ahead of the standard moisture removing filter.

- **Monthly, or as needed.**

- ☐ **Check the motor brushes.**

See Maintenance section entitled, Motor Brush Checking and Replacement.

- **Every six months**

- ☐ **Inspect all wiring connections**

Power and cable connections may become loose or wires may become worn. Tighten any loose connections and replace any wire or cable that has become worn or damaged.

- ☐ **Inspect the installation**

Check installed mounting hardware to make sure that the installation is secure.

Replacement communication cables are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

Conveying Disc Filter Cleaning

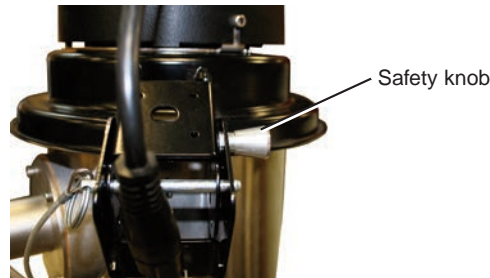
The filter on your EZLoad is designed to protect the motor from damage by plastic pellets, regrinds, and fines that are drawn to the loader by the vacuum action of the motor. The filter, situated between the vacuum hopper and the lid of the loader, separates vacuum conveying air from the loaded material and can become caked with material dust as material is loaded. The optional blowback function, which takes place at the conclusion of each loading cycle and cleans the disc filter. Occasionally, the filter will need manual cleaning, or eventual replacement, to stay effective. The schedule of cleaning will depend upon how much material and how clean the material being conveyed is (dusty regrind causes rapid filter blinding).

To remove the filter for cleaning:

- 1 Unplug the loader's power supply and remove its compressed air source.**
- 2 Open the lid by releasing the two (2) clamps and tilting the lid position away from you on its hinge.** When it is near a vertical position, it will lock into position, for safety. Once the lid is locked into position, the filter may be removed.

Replacement filters are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861



- 3 Clean the filter with a vacuum cleaner** sucking against the bottom, fabric side of the filter.



CAUTION: Wear eye protection. If you use compressed air to clean the equipment, **you must wear eye protection** and observe all OSHA and other safety regulations pertaining to the use of compressed air.

Be sure to discard and replace any filter that has developed a hole, or has become clogged with material dust. Do not attempt to repair a damaged filter.

Conveying Disc Filter Cleaning

(continued)

The filter in a Conair EZLoad performs double duty as an effective seal between the hopper body and the lid of the loader. Examine the integrity of the rubber perimeter seal to be sure that the lid will seal effectively when the filter is reinstalled into the loader.

To replace the filter after cleaning:

- 1 Place the filter carefully on top of the loader body's top flange** and prepare to close the lid down around it. The filter is labeled "This Side Up," indicating the side to be installed towards the motor. The opposite side will come in contact with material as it is loaded.



- 2 While gripping the lid firmly, pull the silver safety knob to release the lid's safety lock** (do NOT pull the hinge release pin, supplied with a ring). This will allow the lid to be lowered back into operating position on the body of the loader, with the filter contained between the lid and the body.



Conveying Disc Filter Cleaning

(continued)

- 3** Secure the perimeter of the loader's lid with the two (2) twist lock clamps.
Ensure the loader's filter is centered when reinstalling.



- 4** Reconnect power supply and compressed air source.

Cleaning the Loader Body

The loader body is hinged for easy access to the loader. The inside of the loader body can be wiped clean or vacuumed.



CAUTION: Wear eye protection. If you use compressed air to clean the equipment, **you must wear eye protection** and observe all OSHA and other safety regulations pertaining to the use of compressed air.

Motor Brush Checking/Replacement

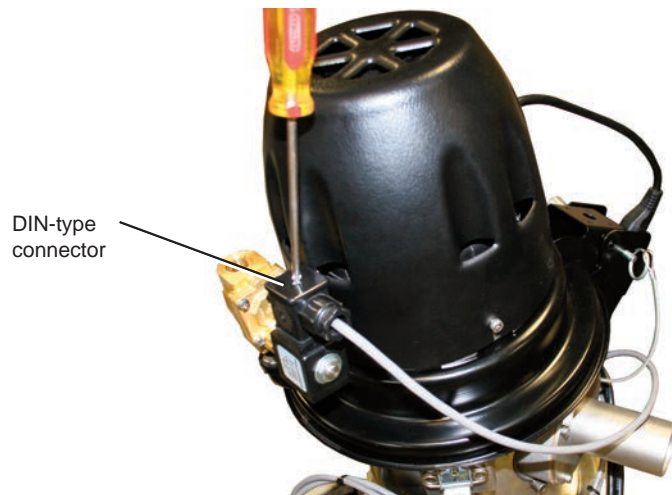
The vacuum motors used on the EZLoad are brush type, high RPM motors that require maintenance to the brushes on a regular basis. The brushes should be checked to prevent complete brush wear down, which could damage the motor armature. The brushes should also be replaced if they are extensively worn.

Disconnect power to the loader before attempting brush maintenance.

Motor brush service can be performed on the loader or the lid of the loader may be removed to make service easier.

To remove the loader lid for service:

- 1 Unplug the loader's power supply and remove its compressed air source.**
- 2 Disconnect the air supply from the blowback solenoid and disconnect the electrical connector from the solenoid coil** by completely loosening the small screw in the center of the coil's connector. The screw can remain in place while the connector is pulled off the coil.



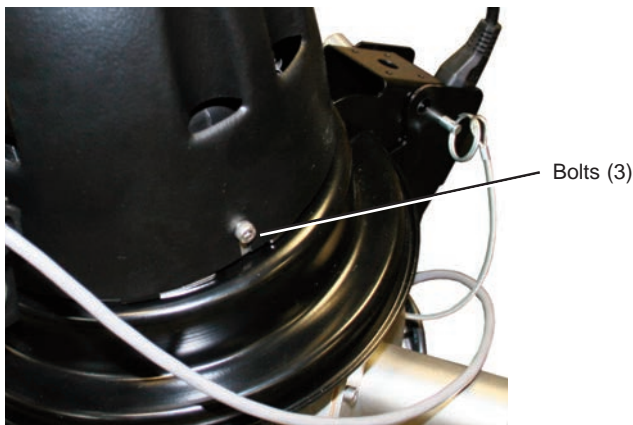
Motor Brush Checking/Replacement


(continued)


- 3 Loosen the two twist clamps on the perimeter of the lid that lock the lid closed.** Keep the lid closed and pull the hinge pin ring from the hinge area of the lid. The hinge pin connects the loader lid to the loader body and provides the pivot point for the hinge action. Once released, the lid may then be carefully lifted off of the loader body. Use caution as the motor's weight may be deceiving once the lid is released from the hinge.



- 4 To remove the shroud, loosen (do not remove) the three (3) bolts located around its perimeter.** The holes in the shroud are slotted and once the screws are loose, the shroud may then be carefully lifted off the screws to expose the motor below it. Use caution to avoid putting strain on the motor wires that pass through the shroud as the shroud is being removed.



 **NOTE:** Access to the loader's brush area differs on the two models of EZ Loaders (EZL-2 and EZL-5) covered in this manual.

 **NOTE:** The loader's motor cover will still be connected to the vacuum motor by internal wiring connections.

Motor Brush Checking/Replacement

(continued)

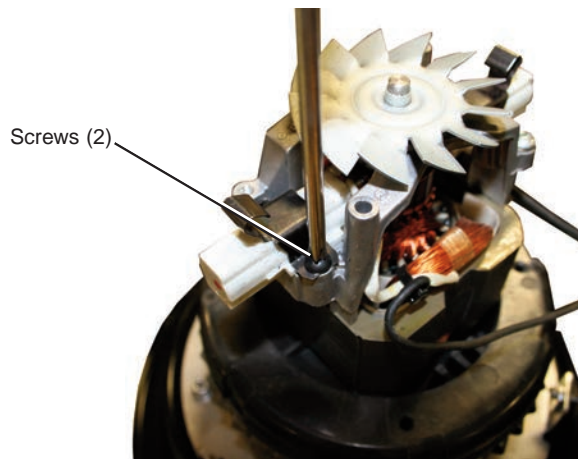
EZL-2 Loaders (5/8 Hp Motor with 2 brushes)

To access the EZL-2 Loader's motor brushes:

- 1 Remove the plastic motor cover,** by prying it off with an appropriately sized screwdriver.



- 2 Remove the two (2) screws that secure the brushes and their holders to the motor frame.** The brushes on the EZL-2 will be visible on each side of the motor.

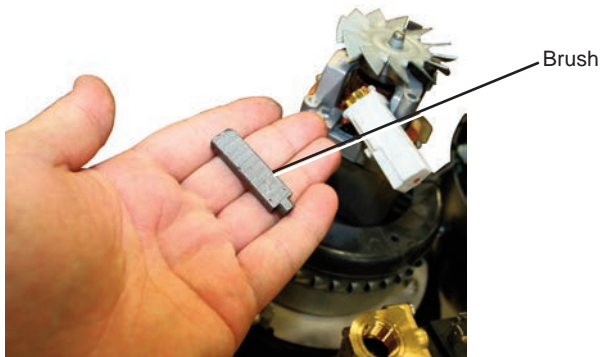



Motor Brush Checking/Replacement

(continued)

EZL-2 Loaders (5/8 Hp Motor with 2 brushes)

- 3** Examine the brushes to ensure that it is still intact and not disintegrated from use. The brush should be at least 1/4 inch long (as measured from the motor end of the brush holder) to be returned to service. If either brush is not of this size, discard the brushes and holders and replace both immediately.



 **NOTE:** The retaining spring is under tension from the motor brush. Carefully remove the spring and motor brush.

Replacement brushes are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

- 4** Replace the motor cover and shroud once brush service is complete, by carefully reinstalling it over the lid bolts that fit into the slots of the shroud, while assuring that internal wires have not become tangled or strained. Tighten the bolts to secure the shroud and replace the loader's lid. *See Maintenance section entitled, Reinstalling the Loader Lid.*

- 5** Reconnect power supply and compressed air source.



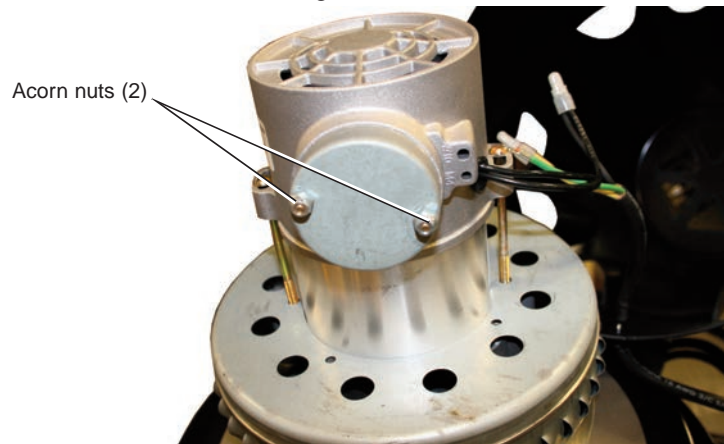
Motor Brush Checking/Replacement

(continued)

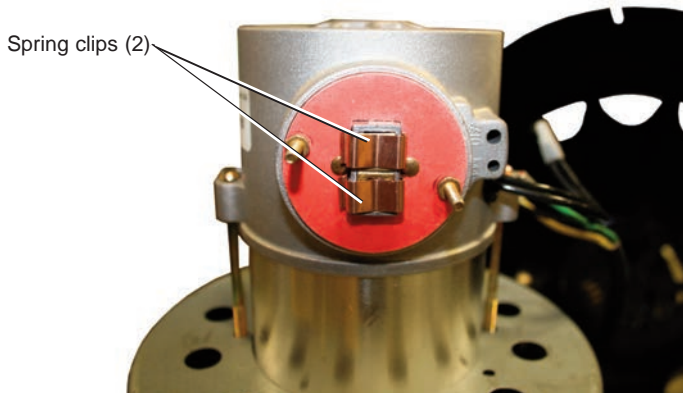
EZL-5 Loaders (7/8 Hp Motor with 4 brushes)

To access the motor brushes:

- 1 Remove the two (2) acorn nuts that secure the circular caps that contain the EZL-5's motor brushes.** These circular caps are located on each side of the top portion of the motor. Inside each cap are two spring clips that secure the brushes, under tension, against the motor armature.



- 2 Pry off the spring clips to remove the brushes.**

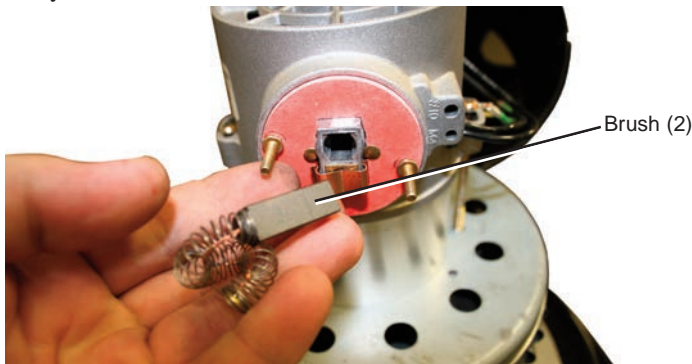



Motor Brush Checking/Replacement

(continued)

EZL-5 Loaders (7/8 Hp Motor with 4 brushes)

- 3** Examine the brushes carefully to be sure that the brush is still intact and not disintegrated from use. The brush should be at least 1/2 inch long to be returned to service. If any brush is not of this size, replace all four brushes immediately.



 **NOTE:** The retaining spring is under tension from the motor brush. Carefully remove the spring and its attached brush.

Replacement brushes are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

- 4** Replace the motor shroud, once brush service is complete, by carefully reinstalling it over the lid bolts that fit into the slots of the shroud, while assuring that internal wires have not become tangled or strained. Tighten the bolts to secure the shroud and replace the loader's lid. *See Maintenance section entitled, Reinstalling the Loader Lid.*
- 5** Reconnect power supply and compressed air source.

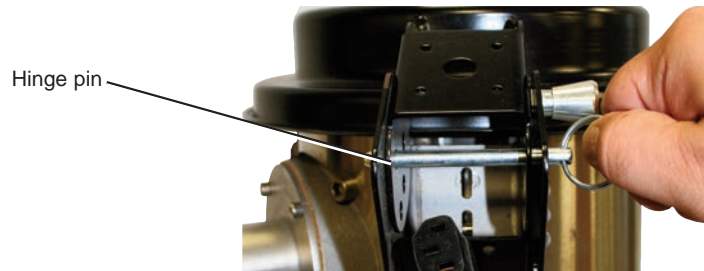


Reinstalling the Loader Lid

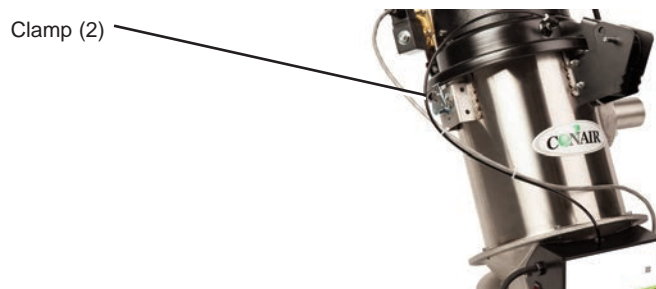
If the lid was removed from the loader for service, it must be reinstalled before normal operation can resume.

To replace the loader's lid after servicing:

- 1 Replace the loader's lid.** Evenly place the lid back onto the loader, ensuring that the hinge is properly aligned and that the filter is not off-center.
- 2 Replace the hinge pin that connects the loader lid to the loader body.** Ensure that the pin is fully inserting into the hinge bracket.



- 3 Tighten the two (2) twist clamps on the perimeter of the lid that lock the lid closed.** Check to ensure the loader's filter is aligned properly and is not pinched by the lid.



Reinstalling the Loader Lid (continued)

- 4** Reapply the air supply to the blowback solenoid and reconnect the electrical connector to the solenoid coil by tightening the small screw in the center of the coil's connector.



- 5** Reconnect power supply and compressed air source.

Brushless Motor Filter Cleaning/ Replacement

The brushless motor operates differently than traditional brush motors, by using solid state circuitry within the motor to replace the function of brushes and allow the motor to operate at the high speeds necessary for efficient vacuum operation. This sophisticated circuitry is housed in the top section of the motor housing and is cooled by a fan that draws ambient air into the motor through the top, cools the solid state circuitry and then exhausts out the base of the motor. This air path must be kept clear and clean to allow the brushless motor to operate properly. To prevent the accumulation of dirt, dust and debris in the motor's circuitry that could foul motor operation, a small disc filter is fixed to the top of the motor that must be kept clean to allow free air movement into the top of the motor.

To clean the disc filter:

- 1 Unplug the loader's power supply and remove its compressed air source.**
- 2 Disconnect the air supply from the blowback solenoid and disconnect the electrical connector from the solenoid coil** by completely loosening the small screw in the center of the coil's connector. The screw can remain in place while the connector is pulled off the coil.
- 3 To remove the shroud, loosen (do not remove) the three (3) bolts located around its perimeter.**
- 4 Remove the disc filter** by pulling it out from the small metal tabs that hold it in place on top of the motor.



Brushless Motor Filter Cleaning/ Replacement (continued)

- 5 Vacuum the filter clean**, so that light is easily seen through the filter. If the filter is 'caked' with dirt or debris, or the filter is damaged, replace the filter. The brushless motor should NOT be operated without a filter in place



CAUTION: Wear eye protection. If you use compressed air to clean the equipment, **you must wear eye protection** and observe all OSHA and other safety regulations pertaining to the use of compressed air.

Replacement filters are available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

- 6 Vacuum the top of the motor clean.** The motor's top vents should be cleaned to remove dirt and debris before reinstalling the brushless motor filter.
- 7 Replace the disc filter.**
- 8 Replace the motor shroud.**
- 9 Reapply the air supply to the blowback solenoid and reconnect the electrical connector to the solenoid coil** by tightening the small screw in the center of the coil's connector.
- 10 Reconnect power supply and compressed air source.**

Thermal OverLoad

Note that a dirty filter can allow the motor to overheat and trip a thermal overload within the motor, stopping its operation. This thermal overload can only be reset to continue operation (after thoroughly cleaning the filter and motor circuitry) by allowing the motor to cool for 5 minutes, then removing the power supply for 30 seconds. All power to the motor must be interrupted in this manner to reset the thermal overload inside the motor.

Once the motor overload is reset by disconnecting and reconnecting power, the filter and motor are cleaned and the filter is reinstalled on top of the motor, the motor should restart as a part of normal loader operation. If it does not, more severe motor damage or other problems may have occurred. *See Troubleshooting section or call Conair service for more information.*

Compressed Air Filter Cleaning

New filter media is available from Conair.

Contact Conair Parts
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

The compressed air source for the loader may be connected to a customer-supplied moisture trap to prevent moisture, contained in the air supply, from entering the loader. The filter bowl of this moisture trap must be emptied regularly to drain the water from the air system.



CAUTION: Be sure to wear safety glasses to guard against air-borne material particles if compressed air cleaning is used. Be sure that the compressed air being used is completely dry and will not add moisture to the filter media. If moisture is added, the collected fines will probably solidify into clumps that will be very difficult to remove. If moisture is accidentally introduced, set the filter aside and allow it to thoroughly air dry before vacuuming at a later time, or replace it with a new filter.

Troubleshooting

Before beginning 6-2

Before you begin troubleshooting 6-2

A few words of caution 6-2

Troubleshooting: 6-3

 Conveying problems 6-3

Before Beginning

You can avoid most problems by following the recommended installation and maintenance procedures outlined in this User Guide. If you do have a problem, this section will help you determine what caused it and how to fix it.

Before You Begin Troubleshooting:

- ☐ **Find the wiring diagrams that were shipped with your equipment.** These diagrams are the best reference for correcting a problem. The diagrams also will note any custom features, such as special wiring or control options, not covered in this User Guide.
- ☐ **Verify that you have manuals for other equipment in the process line.** Solving problems may require troubleshooting malfunctions or incorrect operating procedures on other pieces of equipment.

A Few Words of Caution



WARNING: This machine should be adjusted and serviced only by a qualified technical personnel who is familiar with construction and operation of this type of equipment.



WARNING: Voltage hazard.

Troubleshooting the electrical system of this equipment requires use of precision electronic measuring equipment, and may require access to the electrical enclosure while power is on. Exposure to potentially harmful voltage levels may be unavoidable. These troubleshooting procedures should be performed only by a qualified electrical technician who know how to use this precision electronic equipment and who understand the hazards involved.



WARNING: Disconnect power and compressed air before servicing.

Always disconnect and lock out power and compressed air supplies to this equipment before performing maintenance or repair. Failure to do so could result in personal injury caused by the unexpected energization of this equipment.

Troubleshooting: Conveying Problems



WARNING: Disconnect power and air sources. Always disconnect the loader from its main power source and compressed air source before servicing. This prevents the loader from starting during servicing, which could cause personal injury.

Problem	Possible cause	Solution
Low or no material flow.	The conveying filter is clogged.	Check the filter and clean if it is clogged with dust or fines. <i>See Maintenance section entitled, Conveying Disc Filter Cleaning.</i>
	The circuit has been tripped.	Reset the circuit breaker if it is tripped. Check for cause.
	Material flex hose is kinked.	Check the material flex hose line for loops and “S” curves. Remove any loops and “S” curves in the flex hose. Keep the material flex hose as straight as possible.
	Material flex hoses are damaged. (holes or cracks)	Check the material flex hoses for holes, cracks or other signs of excessive wear. Replace worn material flex hose.
	Material flex hose connections are loose.	Check vacuum and material line hose connections for leaks. Hose clamps should be secured near the end of the hose connection.
	Material pick-up device is incorrectly adjusted.	Check the air-to-material adjustments at the feed tube or distribution box to make sure they are properly adjusted. <i>See Operation section entitled, Types of Feed Tubes, Vertical Feed Adjustments and Horizontal Feed Adjustments.</i>
	Insufficient material supply.	Replace/refill the material container or reposition the feed tube.

(continued)

Troubleshooting: Conveying Problems



WARNING: Disconnect power and air sources. Always disconnect the loader from its main power source and compressed air course before servicing. This prevents the loader from starting during servicing, which could cause personal injury.

Problem	Possible cause	Solution
Low or no material flow (continued).	Motor brushes are worn.	Check the motor brushes. If any brush is too short, replace all brushes. <i>See Maintenance section entitled, Motor Brush Checking/Replacing.</i>
	Material has blocked tubing or flex hose.	Remove the conveying line from the material and check vacuum. If necessary, uncouple the lines, remove blockages and reassemble the line. Readjust for proper material flow. <i>See Operation section entitled, Types of Feed Tubes, Vertical Feed Adjustments and Horizontal Feed Adjustments.</i>
Brushless motor does not respond in any way.	Thermal overload inside motor has tripped due to overheating.	Clean brushless motor filter, vacuum clean top of motor, reset thermal overload by unplugging motor. <i>See Maintenance section entitled, Brushless Motor Filter Cleaning/Replacement, Thermal Overload.</i>
Motor speed sounds like it varies as it operates (brushless motor only).	Input power is below standard. Motor is attempting to automatically compensate.	Provide a correct power supply or use a different power receptical.
Motor speed sounds like it varies as it operates.	Motor brushes are used up. Increased arcing is creating uneven motor speeds.	Check and/or replace brushes. <i>See Maintenance section entitled, Motor Brush Checking/Replacement.</i>
	Input power is below standard.	Provide a correct power supply or use a different power receptical.

(continued)

Troubleshooting: Conveying Problems



WARNING: Disconnect power and air sources. Always disconnect the loader from its main power source and compressed air course before servicing. This prevents the loader from starting during servicing, which could cause personal injury.

Problem	Possible cause	Solution
<p>Motor speed sounds like it varies as it operates (continued).</p> <p>Isolator valves are available from Conair.</p> <p>Contact Conair Parts (800) 458 1960 From outside of the United States, call: (814) 437 6861</p>	Possible vacuum leak.	<p>Check o-rings and gaskets for damage or leaks.</p> <p>Check the (optional) volume-fill sensor, for a tight seal.</p> <p>If a blowback option is installed, make sure the compressed air line is connected at the lid.</p> <p>(For Direct Feed Models) Check the mounting gasket and plate for a tight seal. If the mounting is not sealed 100%, you may need an isolator valve to maintain vacuum.</p>
	The loader is overfilled.	<p>Check to make sure the fill sensor(s) is working properly. Replace as necessary.</p>
	Material line is blocked.	<p>Check material line, clean as necessary.</p>
<p>Loader will not cycle.</p>	Incorrect electrical connections.	<p>Check to make sure the loader is plugged into a power source. <i>See Installation section entitled, Connecting Main Power to the EZ Loader.</i></p>
		<p>Check all electrical connections.</p> <p>Check to make sure the sensor(s) is connect properly.</p>

We're Here to Help


Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Department for a nominal fee. Most manuals can be downloaded free of charge from the product section of the Conair website.
www.conairgroup.com

How to Contact Customer Service

To contact Customer Service personnel, call:



 **NOTE:** Normal operating hours are 8:00 am - 5:00 pm (EST). After hours emergency service is available at the same phone number.

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- ☐ Make sure you have all model, control type and serial numbers from the serial tag, and parts list numbers for your particular equipment. Service personnel will need this information to assist you..
- ☐ Make sure power is supplied to the equipment.
- ☐ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ☐ Check the troubleshooting guide of this manual for a solution.
- ☐ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ☐ Check that the equipment has been operated as described in this manual.
- ☐ Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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AL5	115VAC CONTROL ASSEMBLY SEE DRAWING	1076720101
AL2	115VAC CONTROL ASSEMBLY SEE DRAWING	1076730101

A	KEC	INITIAL RELEASE	05-22-15	N/A	104406
REV	RV	DESCRIPTION	DATE	APP	FCN

DATE	22-May-15
REV	A
DWG NO	10767501
SHEET	1 OF 1
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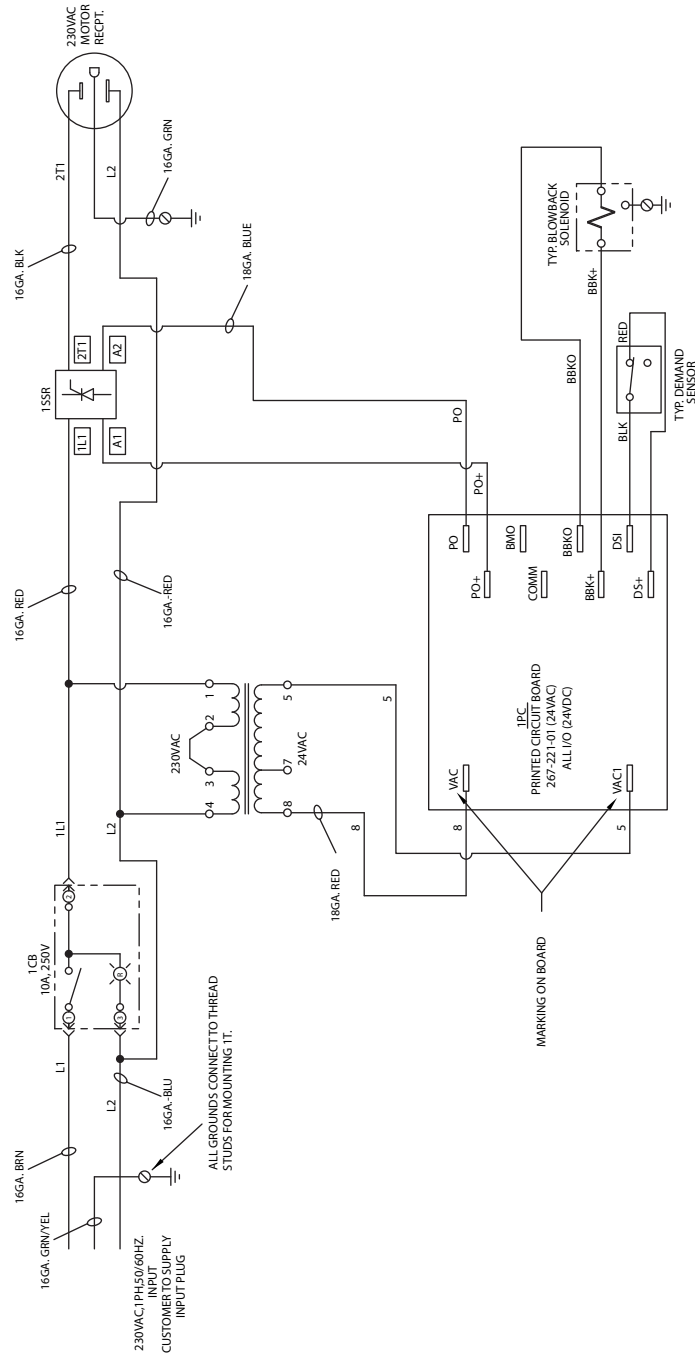
DATE	22-May-15
REV	A
DWG NO	10767501
SHEET	1 OF 1
KEY	



The Conair Group Inc
200 W. Kensington Drive
Cranberry Township, PA 16066

EZ-LOAD CONTROL SCHEMATIC
BRUSHED MOTOR 115Vac

DRAWN BY:	KEC	DATE	22-May-15
SHEET:	1 OF 1	DWG NO:	10767501
			REV:
			A

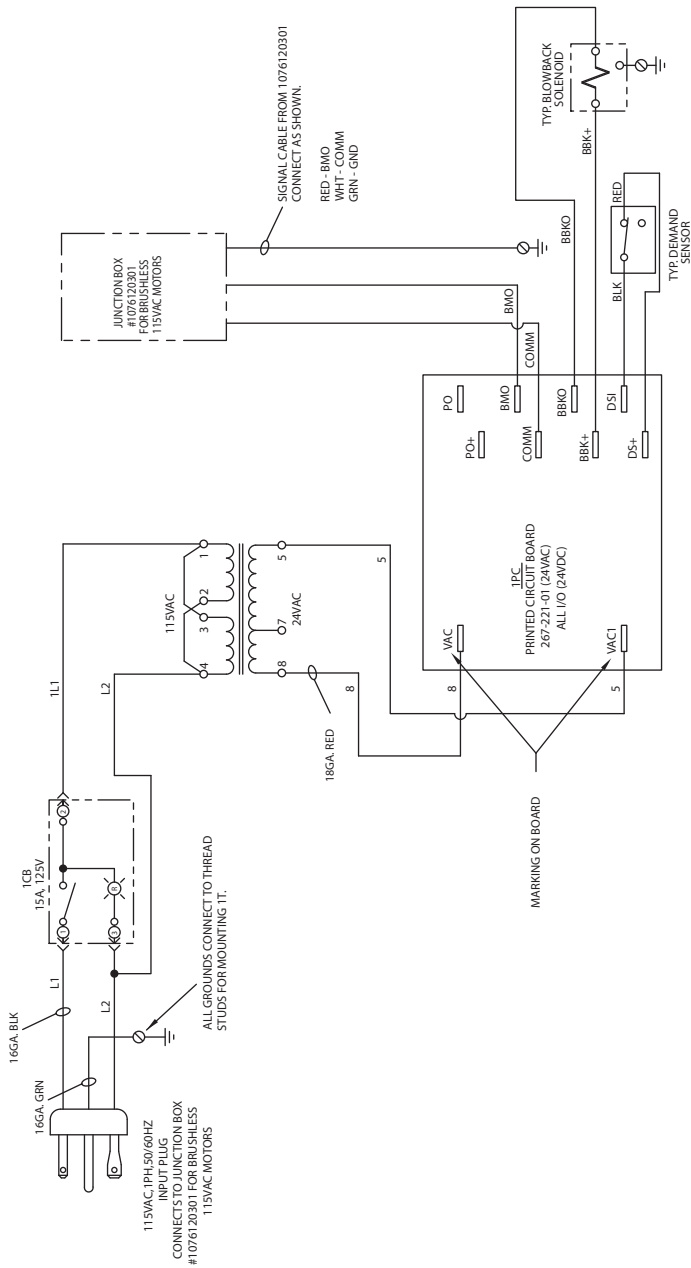


AL5	230VAC CONTROL ASSEMBLY SEE DRAWING	1076720102
AL2	230VAC CONTROL ASSEMBLY SEE DRAWING	1076730102

	The Conair Group Inc 200 W. Kearsburg Drive Cranberry Township, PA 16066	
	A	
EZ-LOAD CONTROL SCHEMATIC BRUSHED MOTOR 230Vac		
DRAWING #	KEC	DATE 22-May-15
SHEET:	1 OF 1	DWG NO. 10767502 REV A

A	KEC	INITIAL RELEASE	05-22-15	N/A	104406
REV	BY	DESCRIPTION	DATE	APP	ECN

EZLoad Schematics



FOR CONTROL ASSEMBLY SEE DRAWING #1076720103



The Conair Group Inc
200 W. Kensingers Drive
Cranberry Township, PA 16066

EZ-LOAD CONTROL SCHEMATIC
AL5 BRUSHLESS MOTOR 115Vac

DRAWN BY:	KEC	DATE:	22-May-15
SHEET:	1 OF 1	DWG NO:	10767503
			REV: A

A	KEC	INITIAL RELEASE	05-22-15	N/A	104406
REV	BY	DESCRIPTION	DATE	APP	ECN

