www.conairgroup.com

USER GUIDE

UGC023-1208

Access Loader with Easy Loading Control (ELC)

Models AL2 and AL5

Corporate Office: 724.584.5500 | Instant Access 24/7 (Parts and Service): 800.458.1960 | Parts and Service: 814.437.6861

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: UGC023-1208

Serial Number(s):

Model Number(s):

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SECTION

1

Introduction

Purpose of the User Guide

This User Guide describes the Conair Access Loader with Easy Loading Control (ELC) 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.

1 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.

SECTION
2

Description

What is the Access Loader?

The Access 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, plus an Easy Loading Control (ELC) that includes a programmable timer to coordinate loading times. With the addition of the optional ControlMate pendant, the user can adjust more loading parameters. *See Operation section entitled, ControlMate Pendant Operation.*

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 and some optional functions, such as Ratio Loading, Positive Discharge, etc.

Typical Applications

Access Loaders 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 Access Loader'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 Access Loader may also be used to unload vessels, such as granulators, gaylords or barrels.

How it works

Loading Cycle:

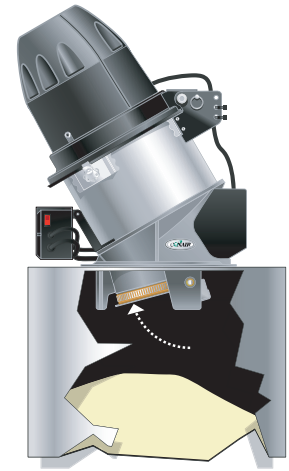


Fig. 1

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 or by a demand sensor located remotely. This demand switch, when closed, (Fig. 1) starts the loading cycle. The demand signal is display on the ELC-M control via a demand LED.

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 plastics 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 set at the ELC-M control or the optional ControlMate pendant. *See Operation section entitled, ELC-M Loading Control Operation, Load Time Adjustment and ControlMate Pendant Operation, Adjusting Load Time.*

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:

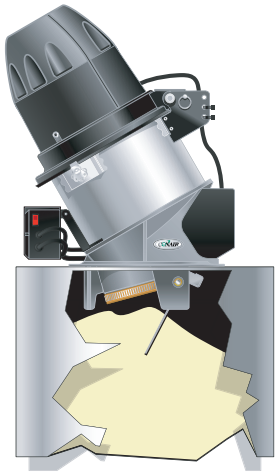


Fig. 2

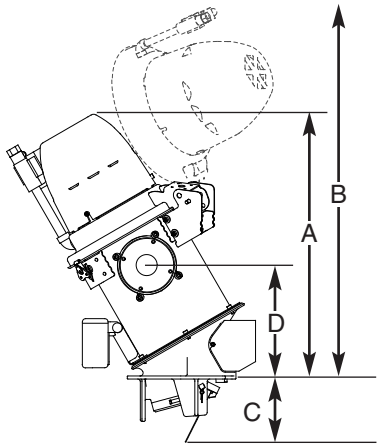
During the unloading cycle, the blowback cycle occurs. Compressed air pulses through the filter from above, remove collected plastic dust and material that may have become stuck to the filter during the loading cycle. *See Operation sections entitled, ELC-M Loading Control Operation, Using Blowback or ControlMate Pendant Operation, Using Blowback.* 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 (see Fig. 1 on previous page).

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.

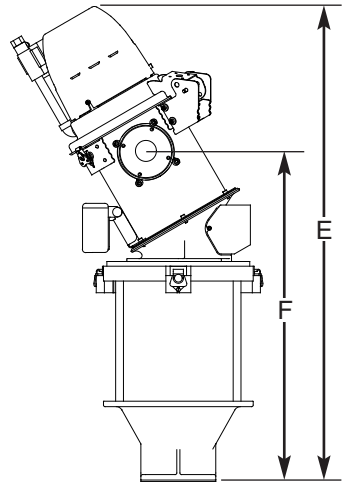
Ratio Loading Cycle (optional):

The Access Loader is available with an optional ratio valve to allow the user to convey both virgin and regrind materials. This option is typically used to reload granulated material from a granulator or material vessel into a processing machine while virgin material is loaded. This simple valve works during the loading cycle and is controlled only with the addition of the optional ControlMate pendant. *See Operation sections entitled, ControlMate Pendant Operation, Adjusting Ratio Percentage and Adjusting Ratio Layers.* As the vacuum loading cycle operates, each inlet of the ratio valve alternately opens and closes in response to the ControlMate pendant settings. As each inlet opens, vacuum flows through the line and allows virgin or regrind to flow to the loader. Then the other inlet opens, allowing that line to draw material through it. This sequence occurs until the ControlMate pendant's load time, ratio percentage and ratio layers settings have expired.

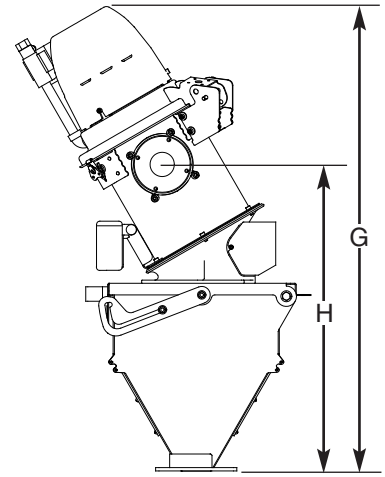
Specifications: Access Loader



Standard Model



Direct Feed Model (Glass Hopper)



Direct Feed Model (Stainless Steel Hopper JIT)

MODEL	AL 2	AL 5	AL 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}	
Vacuum Motor Hp {kW}	5/8 Hp {0.46} - 2 Brush	7/8 Hp {0.65}- 4 Brush	1.3 Hp {0.97} - 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 or Positive discharge		
Demand sensor	Integrated reed switch / Remote capacitance sensor (optional)		
Compressed air requirements	50 - 80 psi {3.4 - 5.5 bar}, 2 ft³/min {0.057 m3/min}, NPT fitting: 3/8 inch		
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}	
with positive discharge	10 {254.0}	16.0 {406.0}	
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}	
Voltages full load amps			
120V/1 phase/50Hz	8	14	17
220V/1 phase/60Hz	4	7	NA
Noise level			
	85 dbA		
Air consumption ft³/m {liters/min}			
	99 {2303.4}	112 {3171.5}	106 {3001.6}

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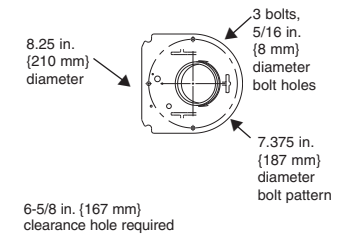
Specifications: Access Loader (continued)

Direct Feed Model (Glass Hopper)

MODEL	AL 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}			
E - Height above mounting plate	32.4 {822.5}	38.1 {966.7}	49.6 {1260.6}
F - Height to center of material inlet	20.8 {527.1}	26.5 {672.6}	38.0 {965.2}
Mounting details	**See FIG. 3**		
Approximate weight lb {kg}			
Installed	43 {19}	49 {22}	59 {27}
Shipping	65 {30}	71 {32}	82 {37}

FIG. 1 – AL 2



Direct Feed Model (Stainless Steel Hopper) JIT

MODEL	AL 2	AL 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}			
G - Height above mounting plate	34.3 {871.2}	42.1 {1069.3}	45.2 {1148.1}
H - 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}

FIG. 2 – AL 5

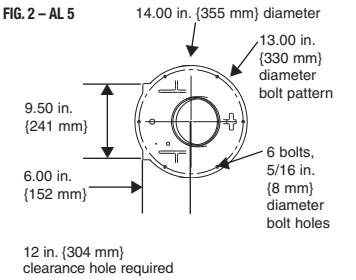
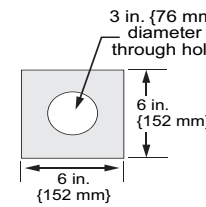


FIG. 3 – DIRECT FEED



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.

All Access 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.

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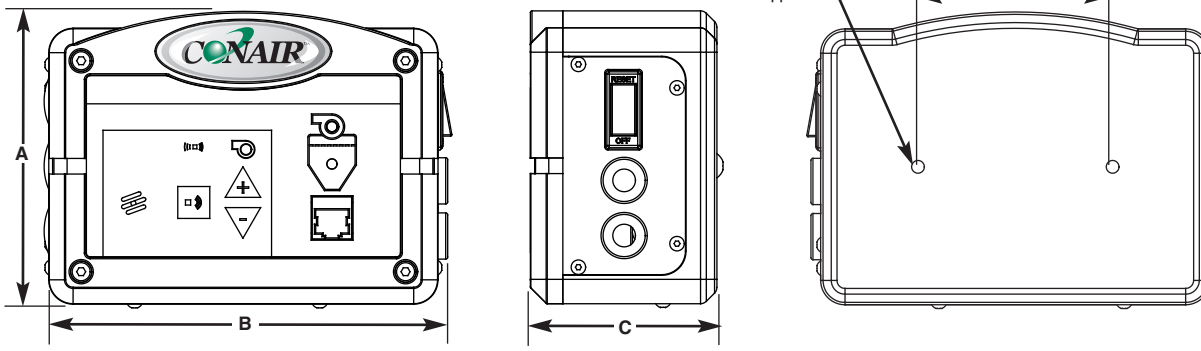
Specifications: Easy Loading Control (ELC)



MODELS	ELC-M	ELC-16
Supply voltage		
	115VAC 60Hz, 230VAC 50/60Hz	24VDC (from pump control)
Pump control voltage full load amps		
230VAC/60Hz	NA	0.64
400VAC/50Hz	NA	0.37
460VAC/60Hz	NA	0.32
Control dimensions inches {mm}		
A - Height	4.5 {114.4}	4.5 {114.4}
B - Width	6.0 {152.4}	6.0 {152.4}
C - Depth	2.9 {73.0}	2.9 {73.0}
Control weight lb {kg}		
Installed	7.6 {3.4}	7.6 {3.4}
Shipping	9.1 {4.1}	9.1 {3.4}

CALCULATING ELC-16 SYSTEM CABLE LENGTH:

Total the distance from the vacuum pump power supply to the last loading station. Account for reasonable slack at each loading station for connections, cable routing, etc.

Junction boxes must be provided to connect between the system trunk cable and each ELC-16 control.

SPECIFICATION NOTES:

The ELC-16 system trunk cable is a 4-conductor shielded cable with two twisted pairs.
Specifications can change without notice. Check with a Conair representative for the most current information.

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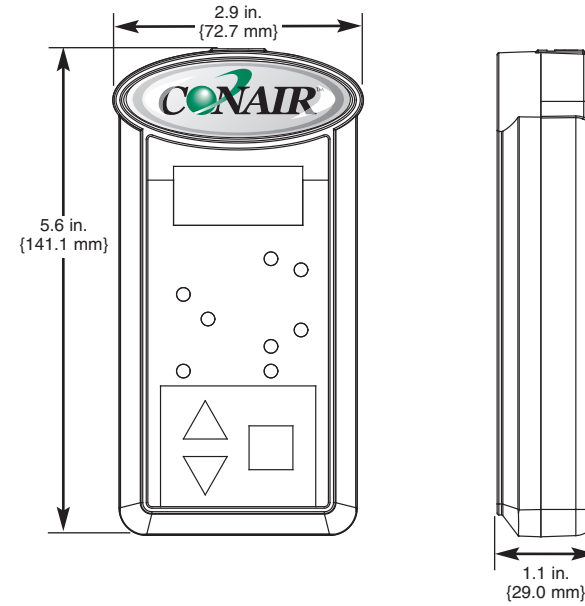
Specifications: Easy Loading Control (ELC) (continued)

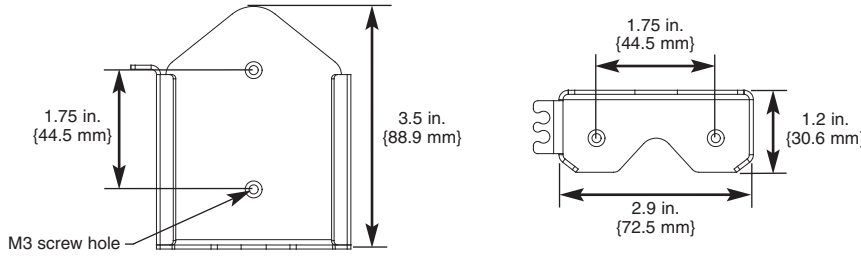
Optional ControlMate™ Pendant

Optional docking cradles and pendants are available from Conair.

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

The optional ControlMate pendant is used with either the ELC-M or ELC-16 control modules for increased control functionality. (ratio layering, ratio percentage, unload time, load attempts, blowback pulses, purge and load time, along with enabling/disabling of the ControlMate and its associated loader)





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ControlMate™ Pendant Cradle

An optional surface mountable docking cradle is available for the ControlMate pendant. The cradle can be mounted to any vertical or horizontal surface by using M3 flat-head mounting screws.

A cable clip on the control cradle keeps the ControlMate's communication cable up and out of the way for neat installation. It can also be used for a permanent communication cable location when the ControlMate is being used elsewhere.

SECTION
3

Installation

Unpacking the Boxes

The Access Loader 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 Access Loader with ELC-M control 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. The optional ControlMate pendant should also be mounted within easy reach and visibility using its optional mounting cradle.

Make sure the installation location provides:

- ❒ **A grounded power source suppling the correct voltage and amperage** for your Access Loader. Check the Access Loader's serial tag for the correct amps, voltage, phase and cycles. *See Description section entitled, Specifications: Access Loader and Easy Loading Control (ELC).*

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.

- ❒ **Clear access to the Easy Loading Control (ELC-M)** and optional ControlMate pendant. Loading time is adjusted from the ELC-M control, if the optional ControlMate pendant has not been purchased. If the optional ControlMate pendant has been included, use its optional mounting cradle to place the ControlMate pendant in an easy-to-reach location.

- ❒ **Minimum clearance for safe operation.** You should maintain adequate space around the Access Loader to run conveying lines and power cables to the loader, accessing the loader's internal filter and have clear visibility of the ELC-M control that is mounted to the loader.

ControlMate pendants and docking cradles are available from Conair.

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

Preparing for Installation (continued)

The adjustable Easy Loading Control (ELC) mounting bracket allows the control to pivot up for use at the loader or down for viewing the control from floor level.

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 Access Loader 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: Access Loader*. 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 Access Loader (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 Access Loader (Direct Feed).*

(continued)

Preparing for Installation (continued)

2 **Determine the orientation of the loader.** The Access Loader 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 Access Loader's Material Inlet Orientation and Changing the Access Loader'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 Access Loader'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 Access Loader's Material Inlet Orientation and Changing the Access Loader's Lid Hinge Location.*

4 **Determine orientation of ratio valve (optional).** If a ratio valve is included with the loader, note that the incoming material lines (virgin and regrind) will be at right angles to the material inlet of the loader. Note also, that the inlets of the ratio valve may be oriented on opposite sides or the same side of the valve assembly, depending upon your needs. *See Appendix C entitled, Adjusting Ratio Valve inlets and See Installation section entitled, Completing the Loader Installations and Adjusting Ratio Valve Inlets.*

5 **Prepare the compressed air supply.** An air supply line suppling 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.*

6 **Prepare the electrical supply.** Access Loaders 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: Access Loader and Easy Loading Control.* 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.

✎ **NOTE:** The ELC-M is connected to its power source via a convenience receptical on the brushless Access Loaders.

Mounting the Access Loader
Hopper Loader

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

⚠ **CAUTION:** Components mounted to the Access Loader 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 Access Loader to the lid of the material vessel.** First assure that the Access Loader'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. The ELC-M control should also be facing the same direction.

3 **Secure the Access Loader 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 lockwashers 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 Access Loader (continued)

Direct Feed

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

⚠ **CAUTION:** Components mounted to the Access Loader 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 Access Loader'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.

Adapter plates and gaskets are available from Conair.

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

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 reassembly 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 Access Loader is equipped with its own discharge flapper to isolate vacuum conveying air to the loading chamber of the loader.

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

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.

Access Loader on JIT hopper

Access Loader on glass hopper

Changing the Material Inlet Orientation of the Loader

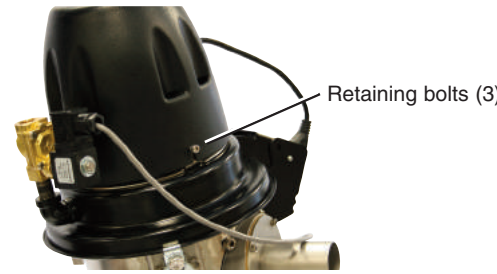
Access Loaders are shipped with the material inlet located in the most logical orientation for common conveying applications. The inlet may be relocated in a variety of other positions if it is more convenient for your installation. The stainless steel vacuum cylinder may be unbolted and rotated as desired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

To reorient the loader's material inlet:

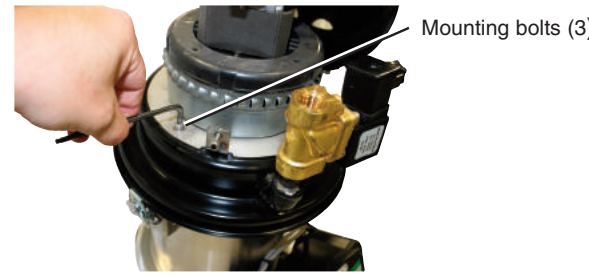
1 **Unplug the loader's power supply and remove its compressed air source.**

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.



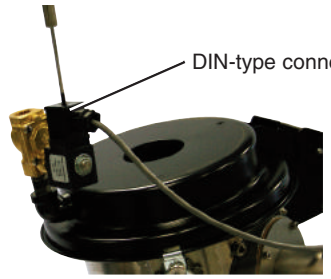
3 **Remove the loader's motor by loosening its three (3) mounting bolts** using an appropriately sized Allen wrench or similar.



(continued)

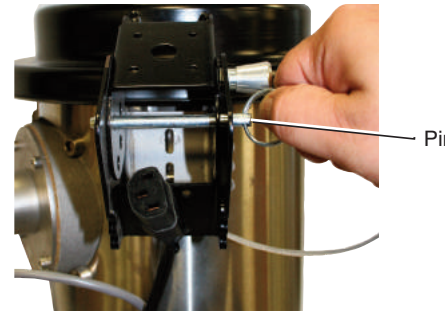
Changing the Material Inlet Orientation of the Loader (continued)

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.

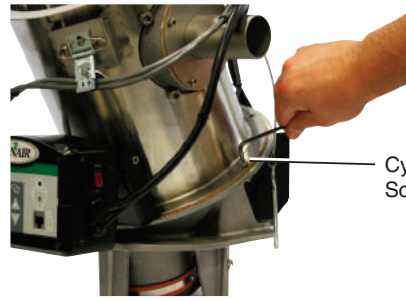


NOTE: When removing the loader's lid, also remove its internal filter.

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 and the ELC-M control mounting flange and allows both 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, be sure to replace the ELC-M and its attached mounting flange to their respected position on the loader body.

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

Access Loaders 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.

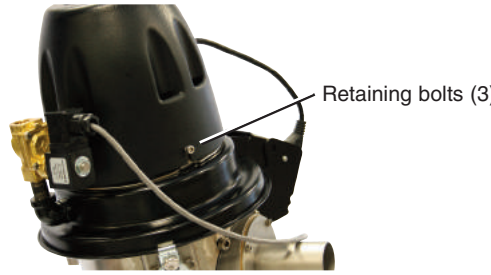
To relocate the loader's lid:

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

(continued)

Changing the Lid Hinge Location of the Loader (continued)

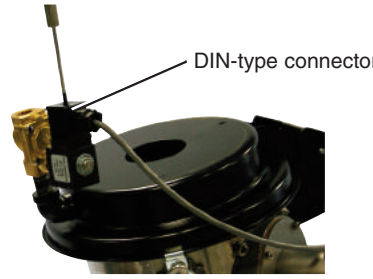
2 **Remove the loader's motor cover by loosening the three (3) retaining bolts** using an appropriately sized Allen wrench or similar.



✎ **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.



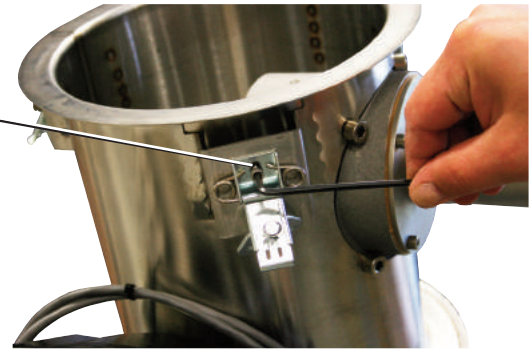
(continued)

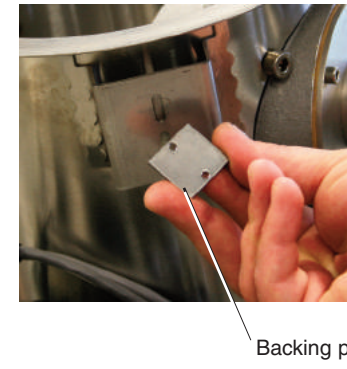
Changing the Lid Hinge Location of the Loader (continued)

✎ **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.



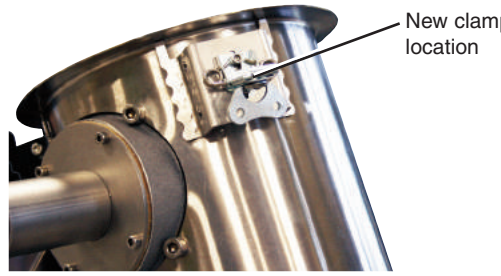


(continued)

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)

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.

✎ **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.*

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.*

(continued)

Completing the Loader Installations (continued)

1b **Install the conveying lines. (Ratio loading)** The top section of the ratio valve may be easily removed and reoriented to allow for the incoming materials to come from the same direction or two different directions, *see Appendix C entitled, Adjusting Ratio Valve Inlet Orientation.* Once the orientation of the incoming conveying lines have been established, conveying lines can now be connected to the valve and secured with hose clamps. The other ends of the tubing may be connected to their appropriate feed tubes and secured with hose clamps, ensure that the tubing is routed and cut to length to take the most direct and shortest path. Be sure to connect the proper conveying line to the appropriate material source as marked on the ratio valve's inlets: **V=Virgin, R=Regrind**.

✎ **NOTE:** If the ratio valve has not been installed from Conair *see Appendix B entitled, Installing Ratio Valves.*

2 **Connect compressed air to the loader.** The Access Loader 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.

3 **Mount the the optional ControlMate pendant.** If the optional ControlMate pendant has been purchased it is to be located away from the loader, in a easy-to-reach location. It can be mounted to a horizontal or vertical surface using the optional ControlMate pendant mounting cradle. Be sure the pendant is within the length of the cable provided and that the cable is routed away from hot or moving parts. *See Installation section entitled, Mounting the ControlMate Pendant (optional) .*

4 **Connect the ELC-M control to the electrical supply.** Connect the ELC-M control into an appropriate and isolated 120 or 220 volt power source (depending upon loader voltage) following all applicable national and local electrical codes for your area and your facility. *See Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.*

✎ **NOTE:** The ELC-M is connected to its power source via a convenience receptical on the brushless Access Loaders.

Connecting Main Power to the Access Loader and ELC-M Control

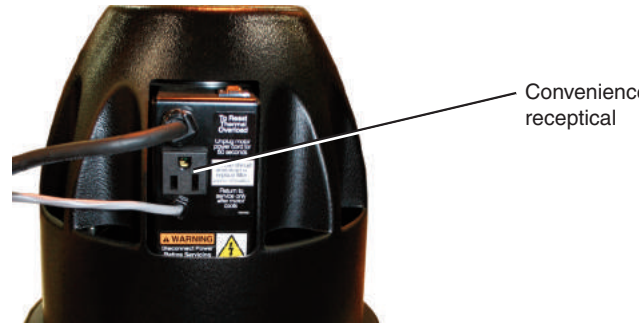
The ELC-M loading controls are self-contained and operate a single loader.

To connect main power (non-brushless motor):

1 **Prepare the electrical supply.** Access Loaders 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. *See Description section entitled, Specifications: Access Loader and Easy Loading Control.* Typically, an isolated circuit should be provided so that the operation of the loader does not affect, nor is effected by other equipment on the same circuit.

To connect main power (brushless motor):

1 **Plug the ELC-M control into the convenience receptical on the Access Loader.**



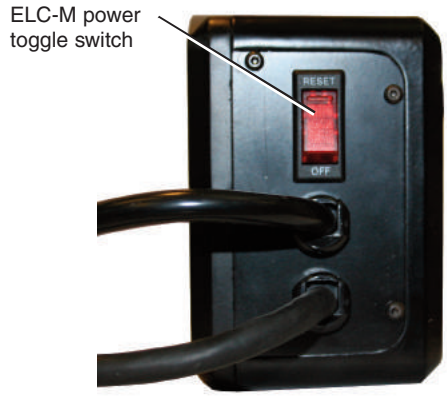
2 **Prepare the electrical supply.** Access Loaders require a single phase, twenty (20) amp electrical supply (120 Volts AC) as listed on the name plate and in the specifications page of this manual. *See Description section entitled, Specifications: Access Loader and Easy Loading Control.* Typically, an isolated circuit should be provided so that the operation of the loader does not affect, nor is effected by other equipment on the same circuit.

Powering the ELC-M Control

The ELC-M control has a built-in power toggle switch located on the right-side of its enclosure. Each control will need to be turned on to start a loading cycle. The ELC-M's power switch also acts as a circuit breaker.

To turn on and activate the ELC-M control:

1 **Push the toggle switch to the "On" or "Reset" position.** The switch will illuminate amber.



NOTE: The Access Loader will not function unless the ELC-M's toggle switch is in the "On" or "Reset" position.

Connecting a Remote Demand Sensor (optional)

A remote demand sensor option allows the user to relocate the “demand” signal position of the loader to an alternate location versus using the integrated demand sensor (reed switch) that is triggered by the loader’s discharge flapper valve. This is useful on drying hoppers working to less than full capacity or blender bins that do not need to be filled completely. If this option is added by the user, the kit that accompanies the sensor will include detailed installation instructions that should be followed.

This kit’s instructions consist of:

1. Rewiring the existing demand reed switch to work with the optional remote demand sensor circuit.

2. Installation of a toggle switch on the terminal box to allow easy selection of either the integrated demand switch or the newly installed remote demand sensor.

3. Mounting and plugging in the remote demand sensor.

(See Appendix E entitled, Wiring the Remote Demand Sensor Kit with Demand Selector Switch, for installation procedures.)

Installing a Fill Sensor (optional)

A fill sensor can add valuable functions to a loader's operation by immediately terminating a load cycle once the loader is full, saving energy and preventing overfilling. In addition, the ELC-M control will provide an alarm signal if the loader hopper is NOT filled to the sensor, providing a useful early warning to material loading issues. *See Operation section entitled, ControlMate Pendant Operation, Adjusting Load Time.* If this option is added by the user, the kit will include detailed installation instructions that should be followed.

NOTE: Activation and use of this option must be done with the optional ControlMate pendant. To activate this setting *see Operation section entitled, User Level 2 Settings for the ControlMate Pendant.*

This kit's instructions consist of:

1. Wiring the fill sensor to work with the ELC-M control.
2. Mounting of the fill sensor to the loader's body.
3. Installation of the fill sensor to the loader's terminal box and ELC-M control.

Installing a Purge Valve (optional)

A purge valve can be added to your loading cycle to stop the flow of material into the material line. The material line will then be purged with air for the amount of time set by the user for purge time before resuming material flow. *See Operation section entitled, ControlMate Pendant Operation, Using Purge Operation and Appendix G entitled, Purge Valve Wiring Connections.*

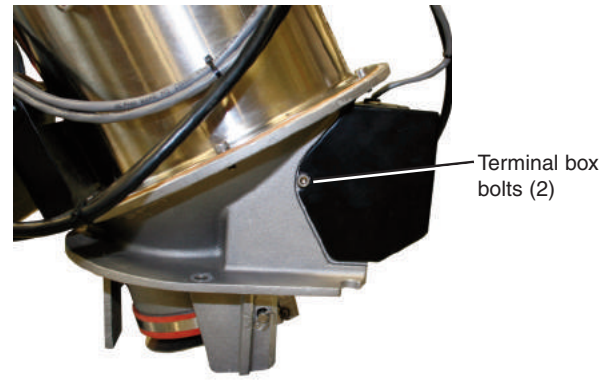
Adding a Pneumatic Solenoid to the Terminal Box

Gang-style pneumatic solenoids are housed in a protective terminal box on the back of the Access Loader and are supplied, plumbed and wired as originally ordered.

To add an additional solenoid:

1 **Unplug the loader's power supply and remove its compressed air source.** Conair recommends that the loader be removed from the hopper or vessel to a well lit work area for this conversion.

2 **Remove the screws from each side of the terminal box** and open the box by tilting the top edge down and exposing the inside of the terminal box.



3 **Assure that the new solenoid matches the voltage of the loader.** Voltages are marked on the coil section of the solenoid and must match the voltage and type (DC) of the loader exactly.

Additional solenoids are available from Conair.

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

4 **For loaders that have no existing solenoids in the terminal box (single material loaders),** the solenoid must be supplied with end blocks that provide mounting fixtures for the solenoid, a connecting length of tubing to link the solenoid with the incoming air line at the blowback solenoid (located on the loader lid) and a "T" that will allow the air to be split off from the incoming air supply line. All associated air fittings must also be provided.

(continued)

Adding a Pneumatic Solenoid to the Terminal Box (continued)

5 **If equipped with an existing solenoid in the terminal box,** it must first be released by removing its mounting screws from outside the terminal box and then unscrewing the blank plate on the side opposite the compressed air supply inlet.

6 **Fasten the new solenoid directly to the existing solenoid with the supplied hardware,** ensure that all fasteners are tightened to eliminate potential leaks. The new solenoid will be installed in the same orientation as the existing solenoid. Reconnect the blank end plate to the new solenoid.

7 **The ganged solenoids may now be reinstalled in the terminal box** using the same mounting screws. Hole plugs will need to be removed from the next set of screw holes to allow the screws to be inserted. The original solenoid should be in the same location, with the new solenoid added to the terminal block side of it. Remove the larger hole plug from the top of the terminal box to expose the red manual operator button on top of the solenoid coil.

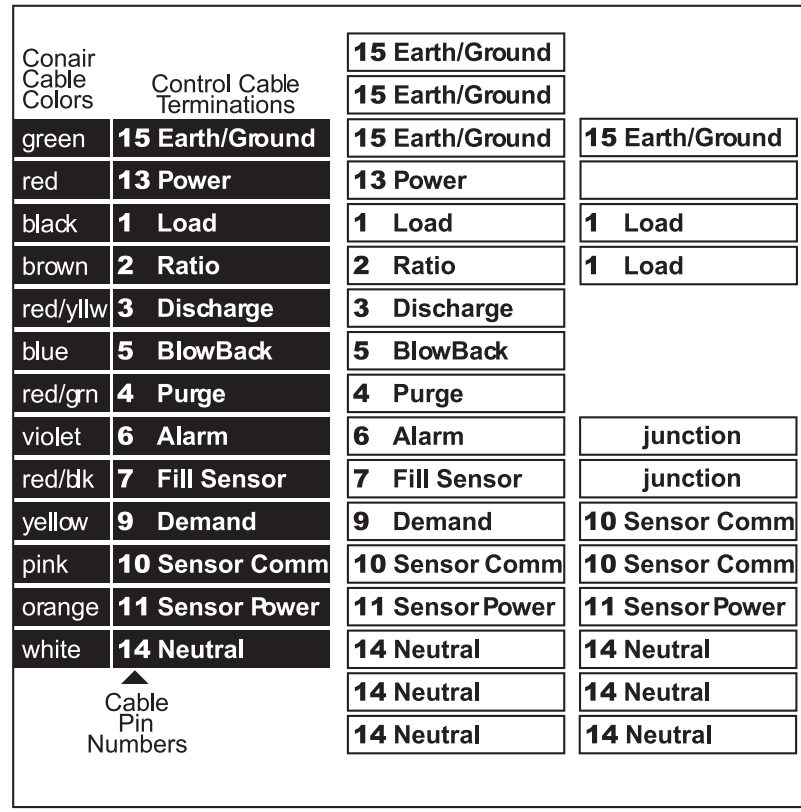
8 **Wiring of the solenoid will include an understanding of the function of the new solenoid.** The wires can be stripped and inserted into the terminal strip according to the included terminal strip list. One wire will be terminated into a "neutral" terminal and the other into the appropriate function terminal, For example, "ratio". *See Installation section entitled, Terminal Box Wiring Connections.*

9 **The hosing of the solenoid will be dependent upon its function** and includes two hoses, connected to the appropriate pneumatic cylinder, routed through the square hole in the top of the terminal box. The hose stemming from the fitting marked "2" will supply air when the solenoid is energized. Fitting "1" supplies air when the solenoid is de-energized.

Terminal Box Wiring Connections

Use the illustration below as reference for terminal box wiring connections for additional loader functions.

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.



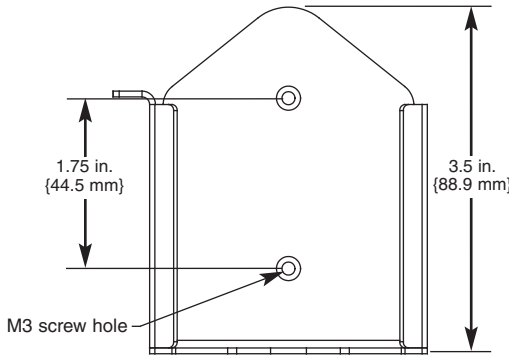
Mounting the ControlMate™ Pendant (optional)

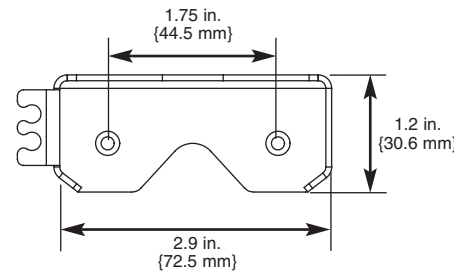
The optional ControlMate pendant can be remotely mounted with a surface mountable docking cradle (optional) for quick and easy retrieval. Be sure to locate the control within the length of the supplied remote control cabling and route the cable away from hot surfaces or moving parts.

A cable clip on the control cradle keeps the ControlMate's communication cable up and out of the way for neat installation. It can also be used for a permanent communication cable location when the ControlMate is being used elsewhere.

Optional docking cradles and pendants are available from Conair.

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

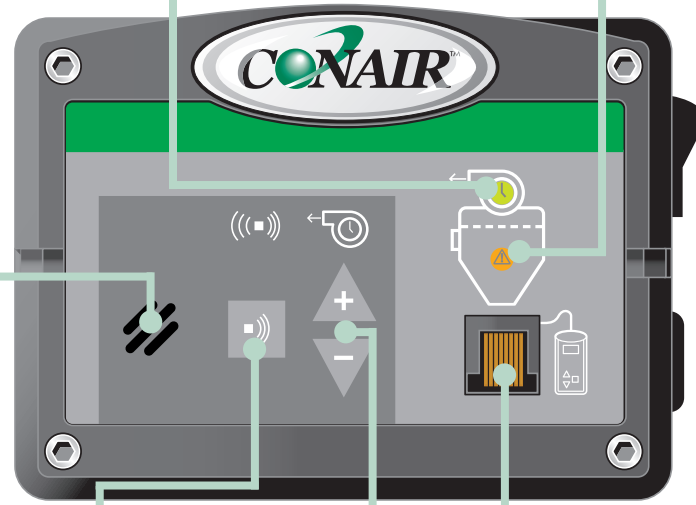




Operation

SECTION 4

Easy Loading Control: Control Panel Layout



Loading Indicator LED

Illuminates when the loader is conveying material.

Demand/No Material Indicator LED

Illuminates when material is needed.

Alarm Horn

The Alarm Horn will only sound if the loader fails to satisfy the demand switch or when a conveying issue results in lack of material. *See the Troubleshooting section of this manual to diagnose alarm conditions.*

Alarm Acknowledgement Button

Silences and acknowledges an alarm conditions when it is present. Pressing the **"Alarm Acknowledgement"** button for 3 seconds will change the tone of the alarm.

Load Time Increment/ Decrement Buttons

Used to increase or decrease the duration of load time of the loader in increments of one second. Holding down the increment/decrement buttons will cause the load time to ramp up or down at a faster rate.

Communication Terminal

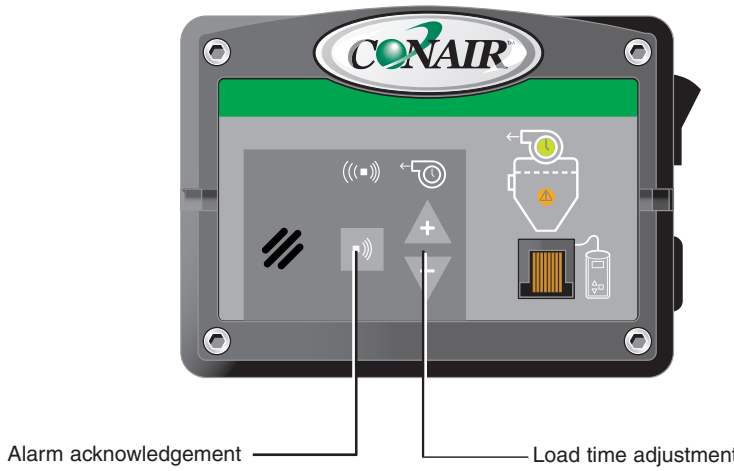
Connection for optional ControlMate pendant. This terminal will allow the ControlMate pendant to change the setting of the ELC-M control remotely. *See Operation section entitled, Connecting the ControlMate pendant.*

ELC-M Loading Control Operation

Load Time Adjustment

When using a single material hopper loader only the load time can be changed. Load time settings can be changed by using the (+) or (-) buttons located on the ELC-M. The load time should be adequate enough to just fill the loader. Using too long of a load time will cause unnecessary material to clog the conveying inlet tubes to the loader.

NOTE: The ELC-M loading control's default load time is model dependent and will be set by Conair.



NOTE: The use of the (+) and (-) buttons represents the addition or subtraction of load time in one second increments.

To adjust Load Time:

1. **Use the (+) and (-) buttons to the right of the "Alarm Acknowledgment" button to increase or decrease the amount of load time,** in one second increments. Holding down the (+) or (-) buttons will cause the load time to ramp up or down at a faster rate.

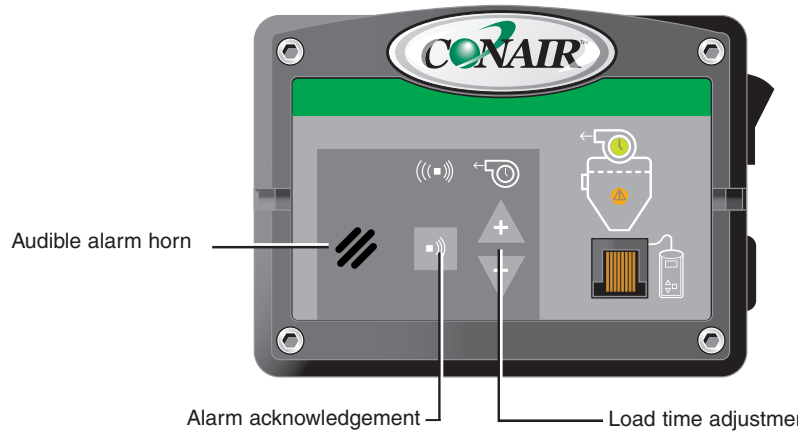
2. **Adjust the load time through trial and error.** Several adjustments may be necessary to optimize your particular conveying needs.

NOTE: Cycling the ELC-M's power will enable the loader, if it was disabled with the optional ControlMate pendant.

ELC-M Loading Control Operation

(continued)

Alarm Acknowledgement



To silence the audible alarm horn:

1 **Press the "Alarm Acknowledge" button located to the left of the Load Time Adjustment (+) or (-) buttons.** Failure to correct the cause of the alarm condition will result in the the alarm reoccurring until the problem is corrected. *See the Troubleshooting section to diagnose the possible cause of an alarm condition.*

✎ **NOTE:** Silencing of any alarm condition can also be done by pressing the "Function" button on the optional ControlMate pendant.

ELC-M Loading Control Operation

(continued)

CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.

Using Blowback

Loaders equipped with blowback functionality use air pulses to clean their internal filter. Internal jumpers on the ELC-M's control board are set to activate three (3) blowback pulses as standard. These jumpers can be configured to activate one to seven (1 to 7) pulses, by removing or relocating the jumpers. However, when blowback is accessed through the optional ControlMate pendant it is possible to override the internal setting of the blowback jumpers in favor of the amount set using the pendant.

To manually adjust the blowback setting of the ELC-M:

1 **Remove the incoming power to the ELC-M control**

2 **Remove the four (4) screws that secure the ELC-M's front cover** with an appropriately sized Allen Wrench.

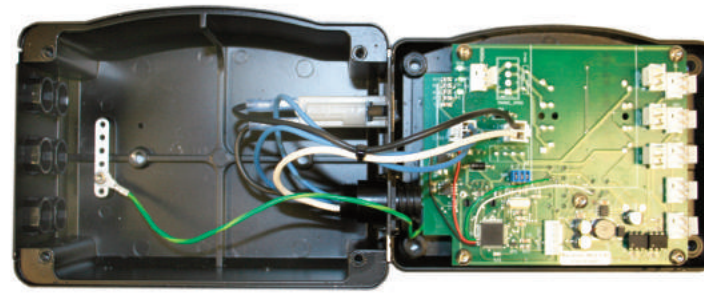
(continued)

ELC-M Loading Control Operation

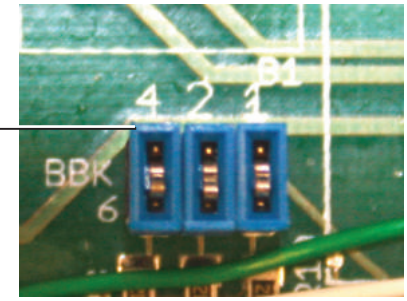
Using Blowback (continued)

3 Remove the ELC-M control cover and place it along side the control box.

CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.



4 Locate the three (3) blue jumpers on the ELC control board.



NOTE: The number of blowback pulses depends on the total unload time.

NOTE: To increase the number of blowback pulse total unload time must be extended.

NOTE: Depending upon loader model, the ELC-M's default settings may not allow the maximum number of blowback pulses.

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

5 Remove corresponding jumpers to equal the amount of blowback pulses to be used. Each jumper adds or removes a number of blowback pulses. The range of blowback is one to seven (1 to 7) pulses, depending on the configuration and amount of jumpers used. For example, the jumper switches in the picture above are labeled with the number of blowback pulses they represent (4, 2, 1).

6 Reassemble the ELC-M control by following steps 1-3 in reverse order.

7 Cycle the ELC-M's power for the blowback quantity change to take affect.

ControlMate™ Pendant: LED Descriptions

Communications Interface

Connection terminal for communications between the ELC-M and ControlMate pendant.

Ratio Layers LED

Illuminates when the Ratio Layers adjustment is selected. Settings will be displayed in the digital readout.

Ratio Percentage LED

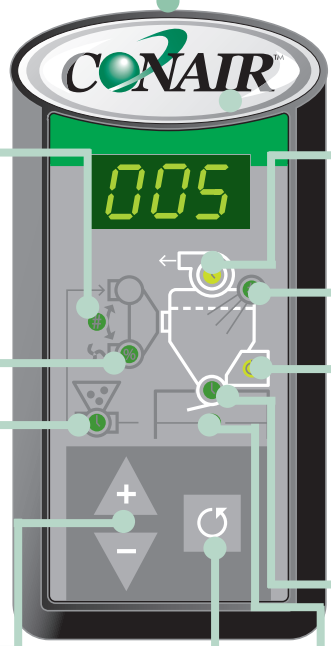
Illuminates when the Ratio Percentage adjustment is selected. Settings will be displayed in the digital readout.

Purge Time LED

Illuminates when the Purge Time adjustment is selected. Settings will be displayed in the digital readout.

Increment/Decrement Buttons

The increment/decrement buttons are used in conjunction with the **"Function"** button to alter conveying parameters. Press the **"Function"** button until the corresponding conveying parameter LED is illuminated, then use the increment/decrement, (+) and (-), to change their settings.



Function Button

Used to scroll through all the ControlMate's conveying parameter selections. Corresponding LED indicators will illuminate when a parameter is selected. During an alarm, the **"Function"** button can be pressed to acknowledge the alarm.

Load Time LED

Illuminates when the Load Time adjustment is selected. Settings will be displayed in the digital readout.

Blowback LED

Illuminates when the Blowback adjustment is selected. Settings will be displayed in the digital readout.

Enable/Disable LED

Illuminates when the Enable/Disable adjustment is selected. Settings will be displayed in the digital readout.

Unload Time LED

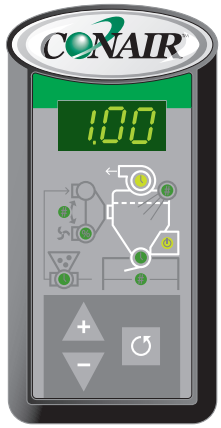
Illuminates when the Unload Time adjustment is selected. Settings will be displayed in the digital readout.

Load Attempts Before Alarm LED

Illuminates when the Load Attempts Before an Alarm adjustment is selected. Settings will be displayed in the digital readout.

NOTE: The functions described above can only be altered with the addition of the optional ControlMate pendant with the exception of Load Time, Blowback and Alarm Acknowledgement. *See the Operation section entitled, ELC Loading Control Operation.*

ControlMate™ Pendant Operation



If the optional ControlMate was purchased along with the Easy Loading Control (ELC), it will offer more conveying abilities such as: blowback pulses, ratio loading percentage, ratio layering, number of loading attempts before an alarm, purge time and unloading time. The ControlMate can be used interchangeably between each loader. The changes that are made will be saved within the ELC-M.

The following chart shows what parameters and capabilities are available at each user level and the ranges of each setting that can be changed with the optional ControlMate pendant.

Parameters are listed in the order that they appear when the **"Function"** button is pressed and will correspond to a LED indicator that will illuminate when adjustments are made. User Level 2 parameters will also be in the order that they appear, but will not have a corresponding LED. Only a three-digit number will appear in the ControlMate's digital display. *See Operation section entitled, User Level 2 Settings for the ControlMate Pendant.*

Description	Range	Default	User Level
On/Off	0-1	1	1
Unload time	3-120 sec.	15	1
Load attempts before alarm	0-50 counts	3	1
Ratio layers*	A, 1-5	A = automatic	1
Ratio percentage*	0 or 5-100%	0	1
Purge time*	0-120 sec	0	1
Load time	3-120 sec	15	1
Blowback pulses*	0-10 counts	3	1

NOTE: Listed defaults are model dependent.

User level 2 is accessed by holding the Function button down for five seconds.

Description	Range	Default	User Level
Priority demand	0-1	0	2
Demand sensor logic	0-1	1	2
Fill sensor logic	0-1	1	2
Fill sensor present	0-1	0	2
Load and hold†	0-1	0	2
Purge/Material valve option installed	0-1, 2	0	2
Ratio option installed	0-1	0	2
Blowback option installed	0-1	0	2

NOTE: 0 = "off" and 1 = Purge valve "on" for the settings in User Level 2. However for the Purge/Material valve option installed parameter, 2 = APV.

APPLICATION NOTES:

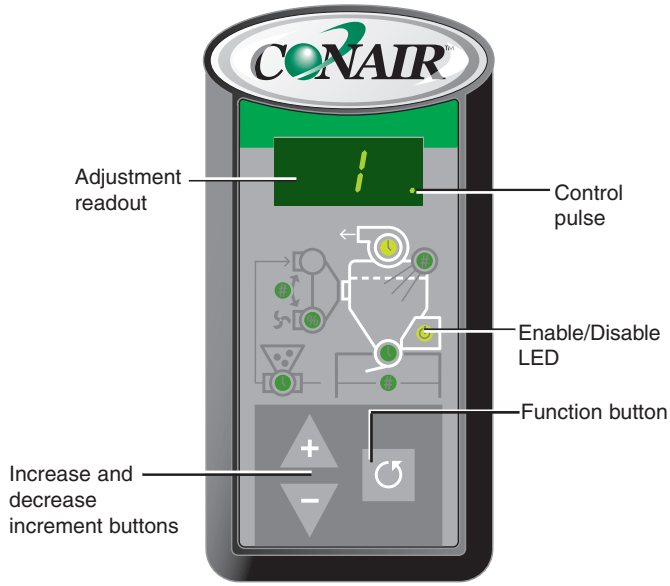
* Only visible when activated by altering the setting in User Level 2

† User must have a positive discharge loader to use this function, which can be activated through altering this setting in User Level 2.

ControlMate™ Pendant Operation

(continued)

Connecting the ControlMate™ Pendant



NOTE: If the ControlMate is deactivated, the loader will not function until it is enabled. However, if the ControlMate pendant is not available, cycle the ELC-M control's power to enable the loader.

NOTE: Power will remain active to both the ControlMate pendant and the ELC-M control module, when they are disabled. This function only disables the loader.

The ControlMate pendant automatically shows an enable screen when it is initially connected to the ELC-M control.

To connect the ControlMate pendant to the ELC-M control:

1. **Plug the communication cable into the terminal port** at the top of the ControlMate pendant.

2. **Plug the communication cable into the terminal port on the ELC-M module.** The ControlMate pendant will illuminate showing the default Power-on readout and the control will pulse (see control pulse in illustration above) to show that it is communicating with the ELC-M.

ControlMate™ Pendant Operation

(continued)

Enabling/Disabling the ControlMate Pendant

✎ **NOTE:** Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

To deactivate the ControlMate pendant along with the loader:

1 **Press the "Function" Button** until the Enable/Disable LED is illuminated.

2 **Adjust the Enable/Disable setting by using the (+) and (-) buttons to the left of the "Function" button to activate or deactivate the ControlMate pendant and the ELC-M's loader.** Pressing the (+) button will activate the ControlMate pendant and a "1" will be displayed in the Adjustment Readout, pressing the (-) button will deactivate the pendant and a "0" will be displayed.

Hopper Loading with Positive Discharge Option - How it Works

✎ **NOTE:** When using the Load/Hold function of the ControlMate pendant you **must** use a positive discharge valve.

Loaders equipped with positive discharge valves operate exactly as other loaders, however instead of having a simple gravity discharge flapper valve, its valve is "driven" open by an air cylinder linked to its flapper. The time of the discharge valve open cycle is controlled by the Unload Time setting, adjustable only with the ControlMate pendant.

✎ **NOTE:** To adjust the duration of unload time when using a positive discharge hopper, *see Operation section entitled, ControlMate Pendant Operation, Adjusting Unload Time.*

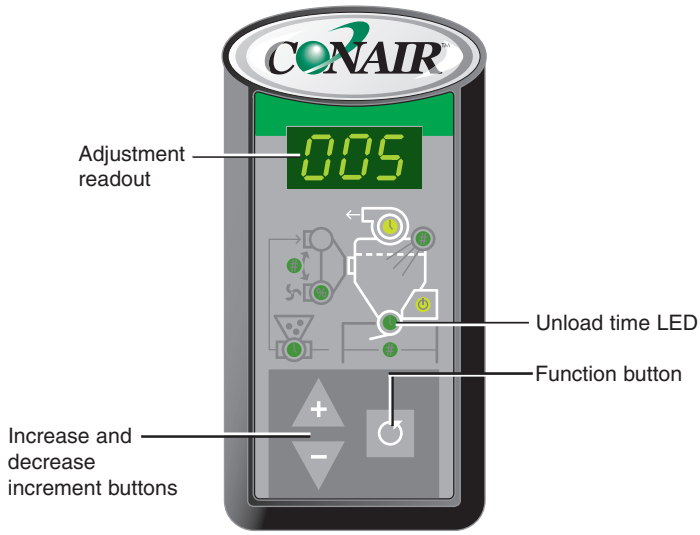
Positive discharge valves require remote demand sensors which sense the level of material within a hopper. A rotary switch can be used that has a motor driven paddle, that when stopped by material, indicates a full hopper. However, when the paddle is able to move freely, it signals the loader that there is a demand for material and signals the ELC-M to start a loading cycle. Rotary switches are equipped with long shafts to allow the paddle to be located far enough below the loader to prevent material interference when the positive discharge valve is either opened or closed.

The primary use of positive discharge loading is when using hoppers that may contain pressurized air (high CFM drying hoppers) or crystallizers which may restrict the free motion of gravity discharge flappers.

ControlMate™ Pendant Operation

(continued)

Adjusting Unload Time



To adjust the duration of Unload Time:

1 **Press the "Function" Button** until the Unload Time LED is illuminated.

2 **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the unload time duration.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The Unload Time range is 3 - 120 seconds.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.

3 **The control will automatically return to its default Power-on screen** after 30 seconds.

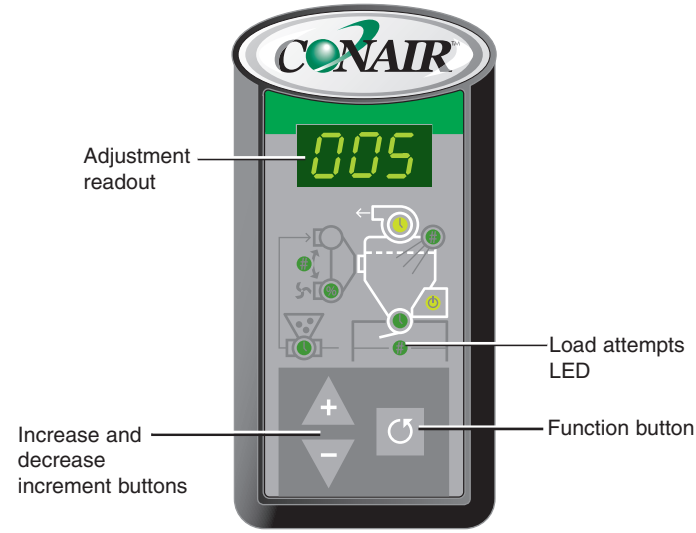
NOTE: Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

ControlMate™ Pendant Operation

(continued)

Adjusting the Number of Load Attempts Before an Alarm



On initial start-up and fill-up of your material vessel, the Load Attempts setting will be ignored. Only after the initial fill-up will the Load Attempts setting be used by the control. However, if you are using the loader to convey regrind from a granulator, setting the Load Attempts to "0" will allow unlimited load attempts to avoid nuisance alarms.

NOTE: Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

To adjust the number of Load Attempts:

1. **Press the "Function" Button** until the Load Attempts LED is illuminated.
2. **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the amount of Load Attempts.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The range is 0 - 50 attempts.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.
3. **The control will automatically return to its default Power-on screen** after 30 seconds.

ControlMate™ Pendant Operation

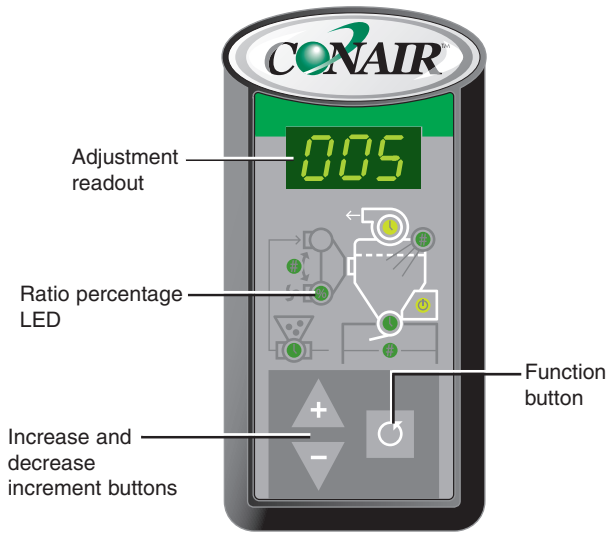
(continued)

Adjusting Ratio Percentage

✎ **NOTE:** Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

Ratio percentage and ratio layering parameters will need to be altered when operation of a ratio valve is required.

Ratio Percentage is a percentage of load time. For example, If your loader has a 20 second load time and your ratio percentage is set at 25% the regrind load time will be 5 seconds of regrind material and 15 seconds of virgin material.



To adjust Ratio Percentage:

1. **Press the "Function" button** until the Ratio Percentage LED is illuminated.
2. **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the ratio percentage.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The percentage range is 0 or 5 - 100%.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.
3. **The control will automatically return to its default Power-on screen** after 30 seconds.

✎ **NOTE:** Careful examination of your material's unique flow characteristics and conveying distances will aid in adjusting for proper ratio percentage settings.

✎ **NOTE:** The ratio setting is altered using percentage amounts of total load time.

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

ControlMate™ Pendant Operation

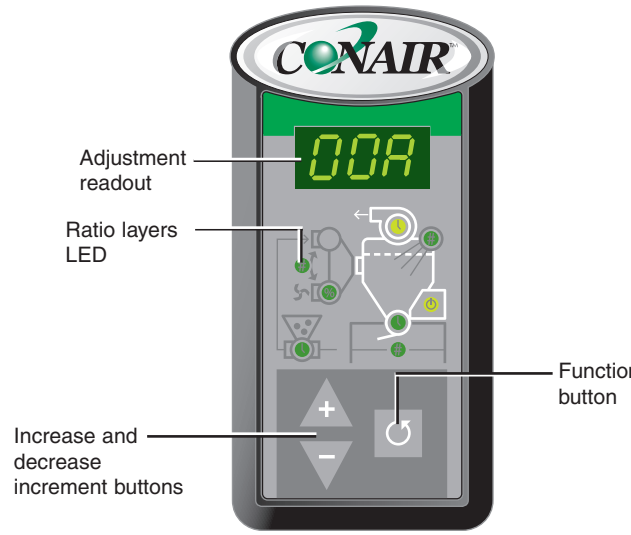
(continued)

Adjusting Ratio Layers

NOTE: Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

The Ratio Layering setting allows the ELC-M to control the number of alternating layers of virgin and regrind material. To make ratio loading as simple as possible the ControlMate pendant has a setting "A" to automatically calculate the maximum number of possible layers based on the ratio percentage and total load time. Using the automatic layer number selection is recommended unless you require special conveying parameters, in those cases a selection of 1 to 5 layers may be used.

NOTE: Careful examination of your material's unique flow characteristics and conveying distances will aid in adjusting for proper ratio layering settings.



To adjust the number of Ratio Layers:

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

1. **Press the "Function" button** until the Ratio Layers LED is illuminated.

2. **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the number of layers.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The range is 1 - 5 or A for automatic layering.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.

3. **The control will automatically return to its default Power-on screen** after 30 seconds.

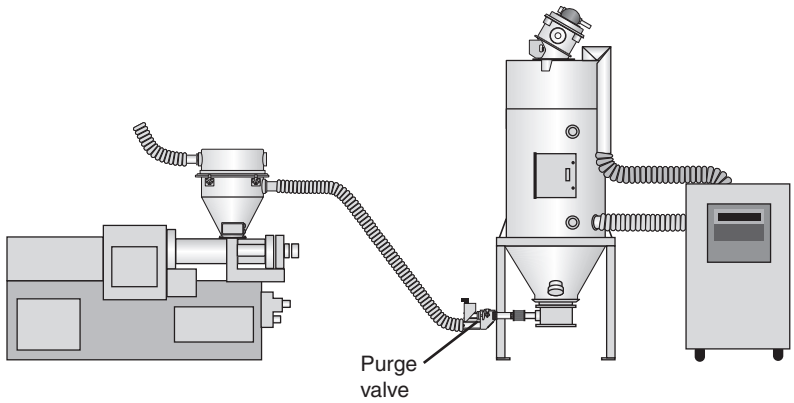
ControlMate™ Pendant Operation

(continued)

Using Purge Operation

NOTE: Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

The first stages of the loading cycle for a loader using the purge function will operate exactly as a normal load cycle. Only after the end of the user set load time will the material valve (purge or APV) be signaled by the ELC-M to change state and stop the flow of material into the material line. The material line will then be purged with air for the amount of time set by the user for purge time. *See Appendix F entitled, Purge Valve Wiring Connections, for instructions to connect the ELC-M control to the purge valve.*



Purge valve example shown

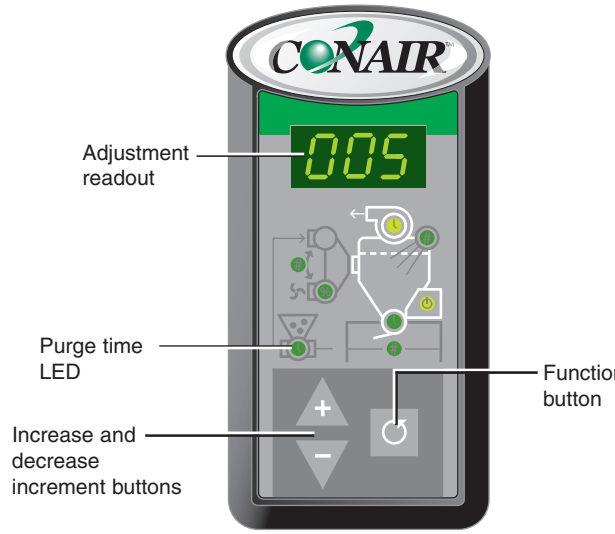
NOTE: Purge time setup varies depending on the model of purge valve you are using. Reference your purge valve manual for proper setup.

(continued)

ControlMate™ Pendant Operation

(continued)

Using Purge Operation (continued)



NOTE: When using purge, the ratio layer settings will default to one (1). (One layer of virgin material and one layer of regrind material regardless of the ratio percentage setting.)

To adjust the duration of Purge Time:

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

1. **Press the "Function button"** until the Purge Time LED is illuminated.

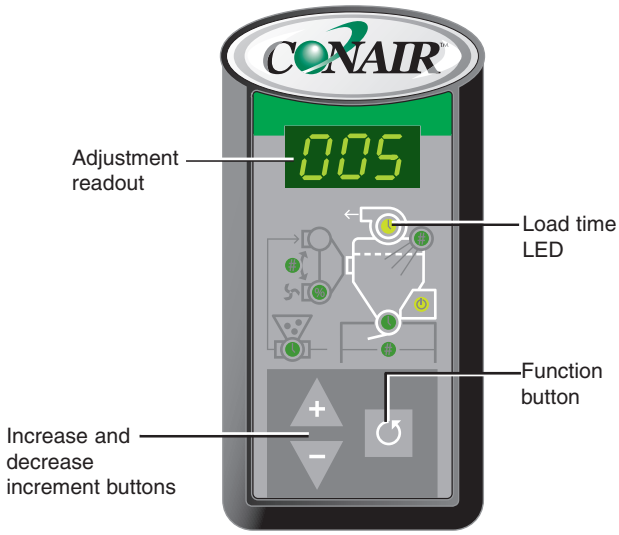
2. **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the Purge Time duration.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The purge time range is 0 - 120 seconds.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.

3. **The control will automatically return to its default Power-on screen** after 30 seconds.

ControlMate™ Pendant Operation

(continued)

Adjusting Load Time



NOTE: The ELC-M loading control's default load time is loader model dependent and will be set by Conair.

Setup for Load Time using the optional ControlMate pendant will operate exactly as the ELC-M control. *See Operation section entitled, ELC-M Loading Control Operation, Load Time Adjustment.*

To adjust Load Time:

1. **Press the "Function" button** until the Load Time LED is illuminated.
2. **Adjust the Load Time through trial and error using the (+) and (-) buttons to the left of the "Function" button to increase or decrease the amount of load time.** Several adjustments may be needed to optimize your loading time. Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The range of Load Time adjustment is 3 - 120 seconds.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.
3. **The control will automatically return to its default Power-on screen** after 30 seconds.

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

(continued)

ControlMate™ Pendant Operation

(continued)

Adjusting Load Time (continued)

If your loader is equipped with a "fill sensor" (a capacitance sensor, mounted in the loader body), the load time should be set slightly higher than your typical load time, due to the fill sensor terminating the loading cycle once it detects material. A correctly adjusted fill sensor will automatically optimize your loading cycles. The ELC-M control will signal an alarm if the fill sensor does not see any material by the time the load time setting expires.

TIP: To avoid nuisance alarms, set the load time duration higher than the duration it takes to satisfy the fill sensor.

ControlMate™ Pendant Operation

(continued)

Using Blowback

NOTE: Activating and altering this setting is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

Loaders equipped with blowback function use air pulses to clean their internal filter. Internal jumpers on the ELC-M's control board are set to activate three (3) blowback pulses as standard. These jumpers can be configured to active one to seven (1 to 7) pulses, by removing or relocating the jumpers. However, when blowback is accessed through the optional ControlMate pendant it is possible to override the internal setting of the blowback jumpers in favor of the amount set using the pendant. *See Operation section entitled, ELC-M Loading Control Operation, Using BlowBack.*

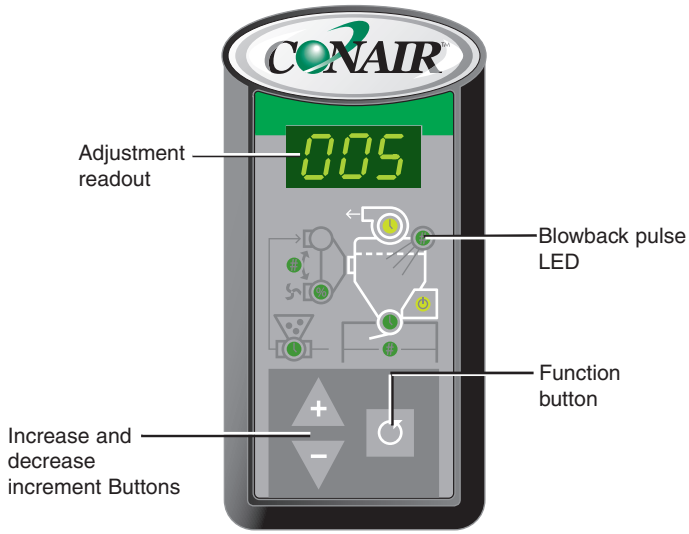
NOTE: One blowback cycle is 1.5 seconds (0.5 second pulse followed by 1 second off). The amount of blowback pulses is limited to the total amount of unload time.

(continued)

ControlMate™ Pendant Operation

(continued)

Using Blowback (continued)



To adjust the number of blowback pulses:

1 **Press the "Function" button** until the Blowback Pulse LED is illuminated.

2 **Use the (+) and (-) buttons to the left of the "Function" button to increase or decrease the number of blowback pulses.** Holding down the (+) or (-) buttons will cause the number to ramp up or down at a faster rate. (The blowback pulse range is 0 - 10 pulses.) Changes will be displayed in the ControlMate's three-digit adjustment readout display.

3 **The control will automatically return to its default Power-on screen** after 30 seconds.

✎ **NOTE:** The number of blowback pulses depends on the total unload time.

✎ **NOTE:** Depending upon loader model, the ELC-M's default settings may not allow the maximum number of blowback pulses.

IMPORTANT: Any adjustments made with the ControlMate pendant will not take effect until the loader starts a new loading cycle.

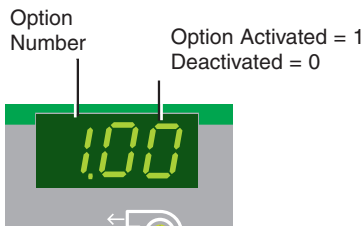
User Level 2 Settings for the ControlMate™ Pendant

NOTE: All User Level 2 settings will be set by Conair.

NOTE: Activating and altering these settings is possible only through the optional ControlMate pendant. *See Operation Section entitled, ControlMate Pendant Operation.*

The settings in User Level 2 of the ControlMate pendant are configured to match your associated loader operation features.

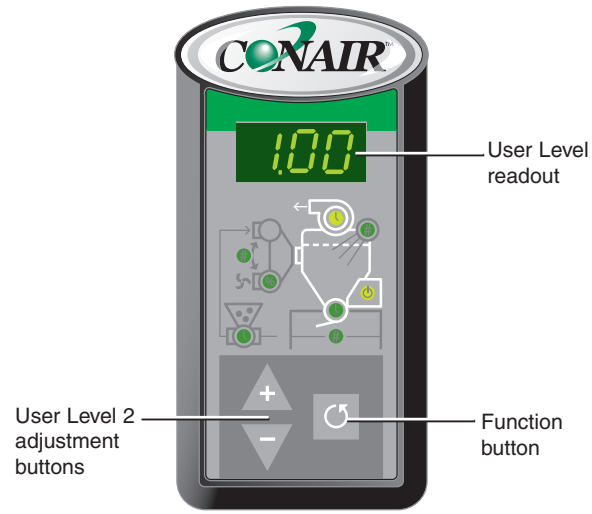
To access User Level 2 settings:



1. **Press the "Function" button down for 5 seconds.** A three-digit number will appear displaying the first option of User Level 2. The first number will be the option number, then a decimal point followed by a zero and then either the digit one or zero. The last digit represents whether the option has been activated, "0" signifies that the option is not activated and "1" indicates that it has been activated. Each function will have a corresponding number (1 - 8).

2. **Use the "Function" button to scroll through the user level options.** There are eight functions in User Level 2 (priority demand, demand sensor logic, fill sensor logic, fill sensor present, load and hold, purge/pocket option installed, ratio option installed and blowback option installed).

3. **Use the (+) or (-) buttons to activate or deactivate the options setting.** If no changes have been made the ControlMate pendant will return to the User Level 1 default screen after 30 seconds.



User Level 2 Settings for the ControlMate™ Pendant

(continued)

1.0x - **Priority Demand** - This feature allows you to override the FIFO (First-In/First-Out) standard demand setting. Receivers with this option activated will always be the first to receive material regardless of other receiver demand signals. (If more than one receiver is set with priority demand the control with setup receiver demands with two demand tiers.

1 = Installed **0 = Not installed**

2.0x - **Demand Sensor Logic** - This setting determines the type of circuit used for the demand sensor. The setting is defaulted to a normally-closed circuit which will provide a demand signal when it senses there is no material.

1 = Close on demand (24 VDC) **0 = Open on demand (0 VDC)**

3.0x - **Fill Sensor Logic** - This setting determines the type of circuit used for the fill sensor. The setting is defaulted to a normally closed circuit which will provide a fill signal when it senses material at the level of the sensor.

1 = Close on full (24 VDC) **0 = Open on full (0 VDC)**

4.0x - **Fill Sensor Present** -

1 = Installed **0 = Not installed**

5.0x - **Load and Hold** -

1 = Installed **0 = Not installed**

6.0x - **Purge/Material Valve Option** -

0 = Not installed **1 = Purge Valve** **2 = Material Valve**

7.0x - **Ratio Option** -

1 = Installed **0 = Not installed**

8.0x - **Blowback Option** -

1 = Installed **0 = Not installed**

✎ **NOTE:** The Priority Demand setting for the optional ControlMate pendant will NOT be used with the ELC-M control.

Types of Feed Tubes

Additional feed tubes are available from Conair.

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

Feed tubes may be provided in a variety of styles made to match the needs for your production. Whether they are horizontal types like distribution boxes (take-off boxes) or horizontal bin tubes, or vertical types that are made to be hand inserted into material bins, they will need to be adjusted for their air-to-material ratio. Conair provides vertical feed tubes that provide a fixed amount of material entry with adjustments for air flow and horizontal types with fixed air flow and adjustments for regulating material entry.

Vertical Feed Tube Adjustments

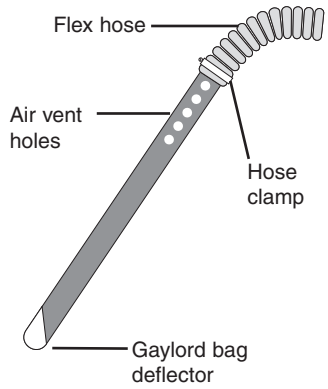
Smooth material flow is controlled by opening or closing the holes at the top of the feed tube, either with the flex hose connected to the feed tube or with strong tape (duct tape is commonly used).

To adjust the material flow of a vertical feed tube:

1 **Insert the feed tube into the supply of material.** If the material surges ("gulps" as it is conveyed), clear the line by lifting the feed tube out of the material supply and allow the line to clear.

2 **Cover the holes on the feed tube and retest until the material conveys smoothly.** Covering all holes conveys the maximum amount of material with minimal air, producing the highest volume of material flow but at the slowest possible conveying speed (a low air-to-material ratio). This can make conveying over longer distances or through bends difficult. With holes uncovered, a 'thinner' flow of material is created and the high conveying speeds are possible. However, this high air-to-material ratio can create undesirable material fracturing in the loader, "angle hair" in the conveying lines and material dust.

3 **Test several cycles to achieve the desired results** by covering or uncovering feed tube holes. Once conveying is fine-tuned, the feed tube should be twisted in its conveying hose to place the open feed tube holes up, so that material cannot fall out of the holes when conveying stops.



Types of Feed Tubes (continued)

Horizontal Feed Tube Adjustments

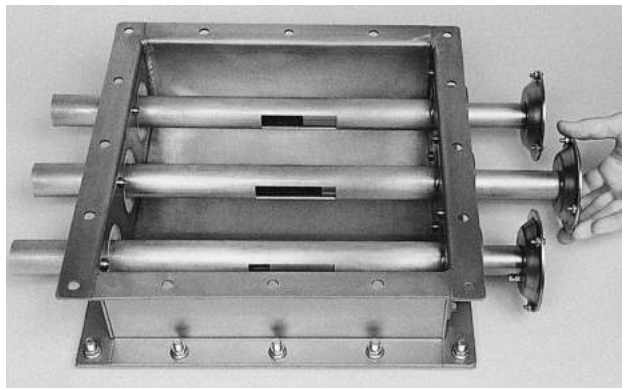
To adjust the horizontal feed tube:

1. **Loosen the thumb screw next to the adjustable air inlet tube** and push it all the way in. This closes off material flow and allows 100% air to flow through to the loader.

2. **Pull the air tube out slowly during operation** until optimum material conveying is achieved with minimal surging (gulping). If surging does occur, clear the conveying line by pushing the air inlet tube all the way in until the line centers.

3. **Lock the air inlet into position** with the thumb screw once optimum settings are achieved.

✎ **NOTE:** As described in "Types of Feed Tubes", different types of feed tubes feed material mixed with air in different ways. Conair horizontal feed tubes (distribution boxes, etc.) provide adjustments for material flow with a fixed amount of conveying air for optimum material flow.



Additional feed tubes are available from Conair.

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

Sensor Adjustments

Capacitive Level Sensors use their own on-board electronics to sense the presence or absence of material located in front of the flat face of their cylindrical bodies and trigger loader control functions. Typical uses are as fill sensors, to indicate a full loader condition and terminating the loading cycle or demand sensors, which start a loading cycle by indicating the absence of material in a bin or sight glass. Before use, the sensor must be set to detect the material being conveyed and to ignore the sensor's surroundings (metal, sight glasses, etc.) as well as set to ignore material dust that may collect on the sensor face. In some cases, sensors must be readjusted for different types of conveying material.

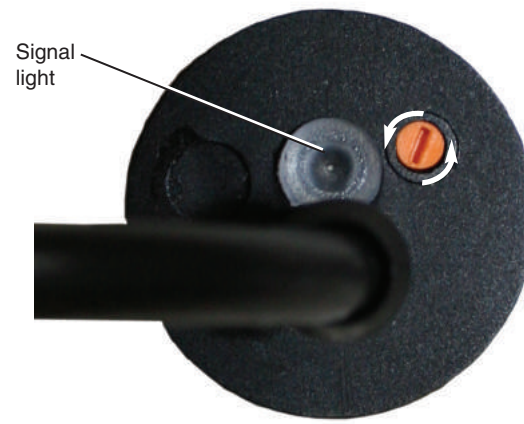
General Sensor Sensitivity Adjustments

Every sensor is equipped with a multi-turn screwdriver adjustment, located within a small hole on the corded end of the sensor body. Most are also equipped with an indicator light to signal response by the sensor.

To adjust the capacitive level sensor's sensitivity:

1 **Rotate the multi-turn screwdriver adjustment clockwise for more sensitivity and counter-clockwise for less sensitivity.** The small signal light on the sensor illuminates when the sensor does not "see" material. As a guide, the light will go off, when the sensor detects something in front of its face. It should be adjusted to ignore glass and adjacent surfaces and fine-tuned to respond only to the presence of material. This may require several back and forth adjustments to optimize the setting.

✎ **NOTE:** Some sensors may use push-button adjustments for sensor sensitivity. See the sensor's documentation for adjustment procedures.



Sensor Adjustments

General Sensor Sensitivity Adjustments

(continued)

Newer style capacitive sensors feature a push-button sensitivity adjustment. Simply install the sensor to its location and press the push-button to set it for your material.

To adjust the capacitive level sensor's sensitivity without material present:

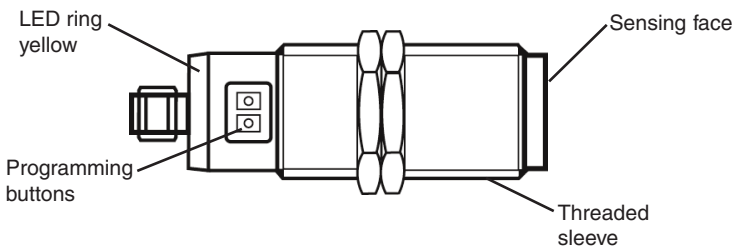
1 **Use small screwdriver or pen and press the adjustment push button until the green LED flashes** at one Hz or 1 flash per second (a maximum of 5 seconds). Release the button as soon as the flashing starts, and after a short time, the green LED lights solid. This means the unit is set and is in operating mode. Unit is set and should need no further adjustment.

For most applications setting the sensor with no material is sufficient. A large amount of fines or regrind or a low bulk density material may require adjustment of the the sensor with material present in the bin. Making a full adjustment (material present) does not change the empty adjustment.

To adjust the capacitive level sensor's sensitivity with material present:

1 **With material present, use a small screwdriver or pen and press the "Out Off" adjustment push button until the yellow LED ring flashes** at a rate of 1Hz - this should take about 2 seconds. Release the "Out Off" button and the yellow LED ring will turn off. The sensor is now set for material present.

IMPORTANT: Do not adjust the "Out On" LED, this will change the operation of the level sensor and it will no longer work for this application.



Sensor Adjustments (continued)

Demand Sensors

Demand sensors are utilized in two different ways: In direct contact with material or through a sight glass.

When coming in direct contact with material, it is recommended that the sensor be initially adjusted for sensitivity and then readjusted, once the sensor becomes coated with typical material fines, common to plastics conveying. *See Operation section entitled, Sensor Adjustments, General Sensor Sensitivity Adjustments.*

Sensors that sense material through glass or plastic windows must be adjusted to "ignore" the window and sense only the material on the other side. These adjustments must be made with the material to be conveyed, it is suggested that these adjustments are made during normal operation. The sight glass may become coated with a certain build-up of plastic dust (from static electricity attraction, etc.) and the sensor should be adjusted (and/or readjusted) to ignore this condition. Sensors that are mounted in movable brackets that allow different levels to be set must maintain the same distance setting from the sight glass to assure consistent operation, or be reset for sensitivity. Optimum distance from sight glass for a sensor is the thickness of a piece of paper. This setting permits the closest possible contact with the glass or window while isolating the sensor from heat variations that could effect sensor operation. *See Operation section entitled, Sensor Adjustments, General Sensor Sensitivity Adjustments.*

Fill Sensors

Fill sensors are installed right in the loader body and come in direct contact with material, as it is being loaded. If set correctly, the time the material contacts the sensor is brief, since loading is terminated by the sensor and unloading usually occurs immediately afterwards. If possible, the loader's unload function may be interrupted by holding the discharge valve closed, long enough to set the sensor's sensitivity. If not possible, trial and error settings may be made during repeated loads to set the sensor to terminate the loading cycle. *See Operation section entitled, ControlMate Pendant Operation, Adjusting Load Time.* It is recommended to check the sensor's sensitivity after the loader has operated for a period of time, and readjust if necessary, to allow the sensor to 'ignore' material dust that may have collected on the sensor face. *See Operation section entitled, Sensor Adjustments, General Sensor Sensitivity Adjustments.*

SECTION

5

Maintenance

Preventative Maintenance Checklist

Routine maintenance will ensure optimum operation and performance of the Access Loader, ELC-M control and optional ControlMate pendant. 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 between the ELC-M and Access Loader 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 optional ControlMate pendant communication cable**
Check ControlMate pendant for any loose connection points or frayed communication cables. Replace as necessary.

❒ **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 Access Loader 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).

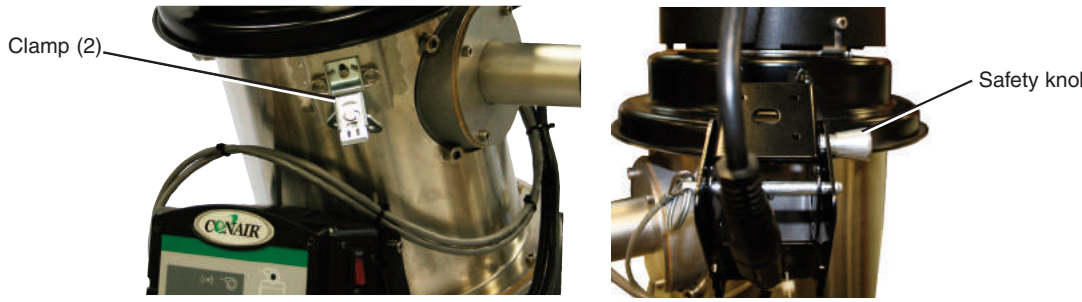
To remove the filter for cleaning:

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

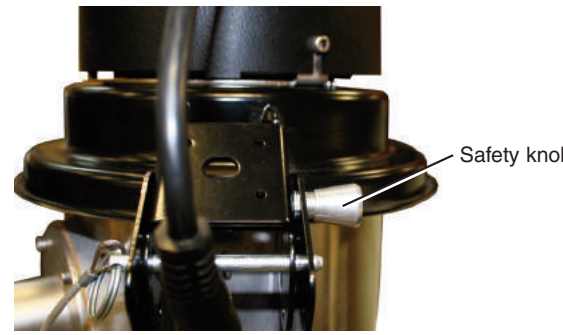
(continued)

The filter in a Conair Loader 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 Access Loader 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.

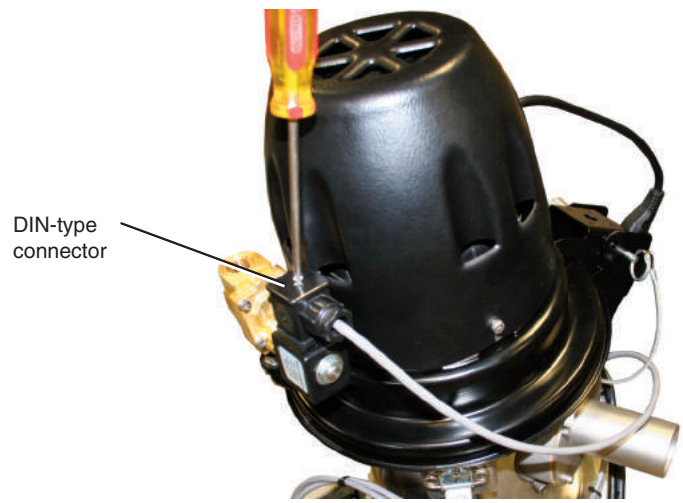
Disconnect power to the loader before attempting brush maintenance.

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.



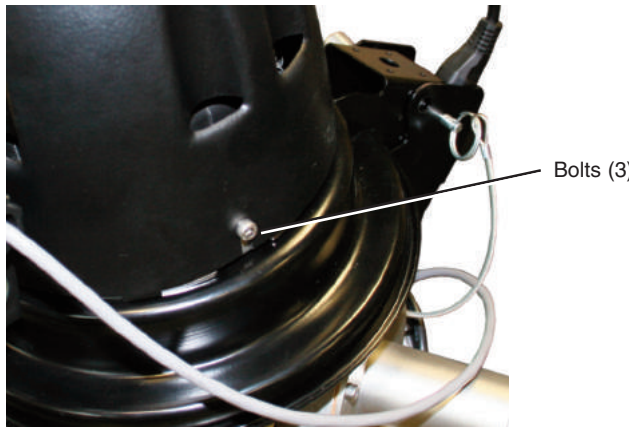
(continued)

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 Access Loaders (AL-2 and AL-5) covered in this manual.

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

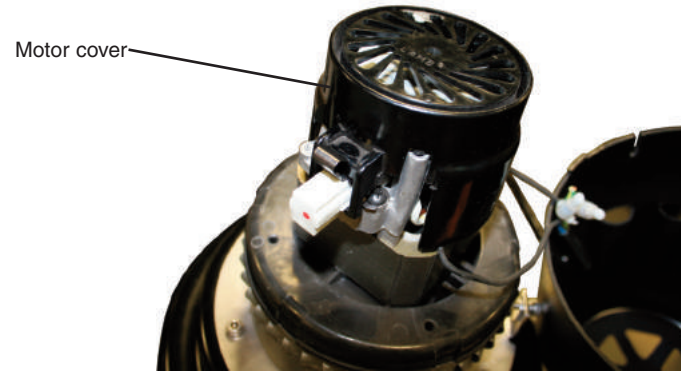
Motor Brush Checking/Replacement

(continued)

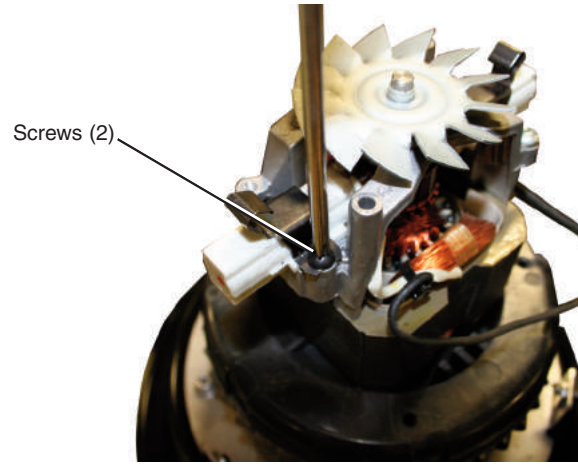
AL-2 Loaders (5/8 Hp Motor with 2 brushes)

To access the AL-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 AL-2 will be visible on each side of the motor.



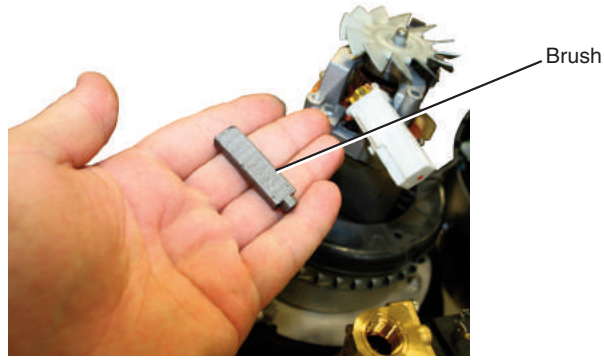
(continued)

Motor Brush Checking/Replacement

(continued)

AL-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.



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.**

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

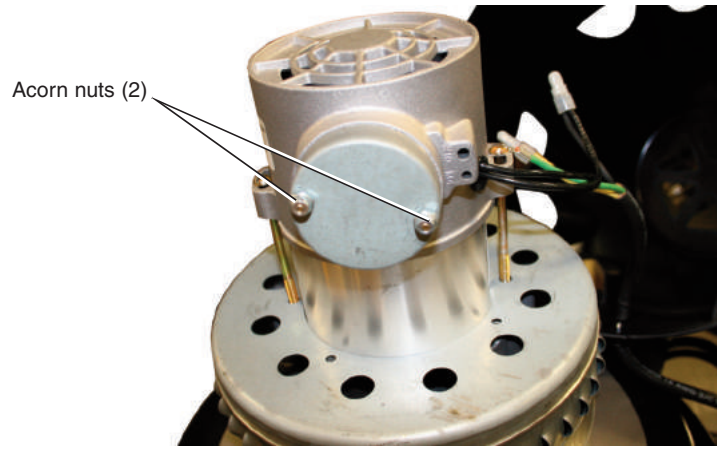
Motor Brush Checking/Replacement

(continued)

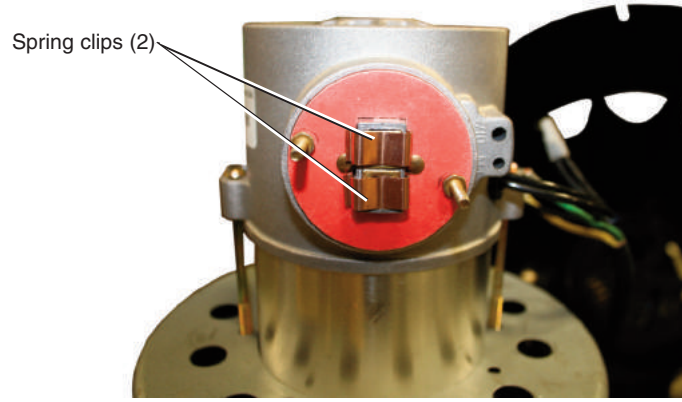
AL-5 Loaders (7/8 Hp Motor with 4 brushes)

To access the AL-5 Loader's motor brushes:

1 **Remove the two (2) acorn nuts that secure the circular caps that contain the AL-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.**



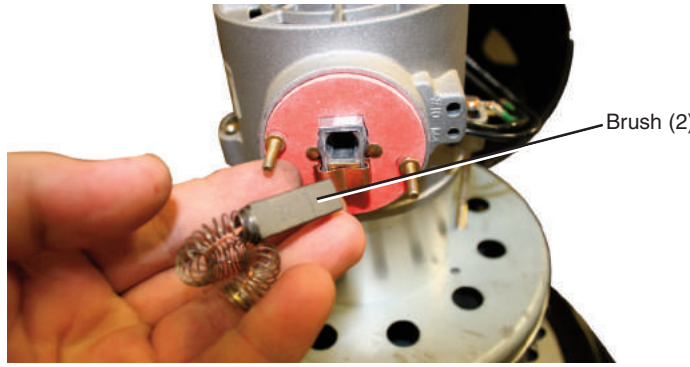
(continued)

Motor Brush Checking/Replacement

(continued)

AL-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.



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.**

✎ **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

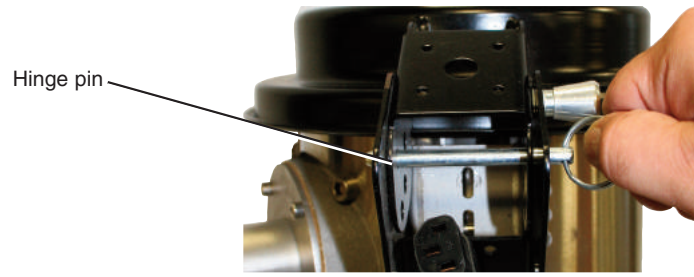
Reinstalling the Loader Lid

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.

(continued)

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.

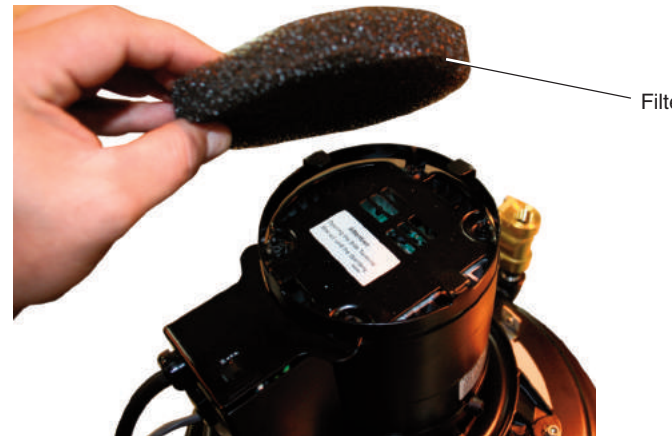
To clean the disc filter:

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.



(continued)

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. Simply turning the ELC-M off will not reset the motor's internal overload.

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.

SECTION

6

Troubleshooting

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 ELC-M's 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: ELC-M Control

Problem	Possible cause	Solution
The ELC-M does not have power.	The ELC-M's power switch is not turned on.	Turn the ELC-M's power switch to the "On" position. *See Installation section entitled, Powering the ELC-M Control.*
	Power connection is loose or detached.	Ensure that the ELC-M's power supply is connected. *See Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.*
	Circuit breaker has been tripped.	Turn the ELC-M's power switch "Off" and then "On". *See Installation section entitled, Powering the ELC-M Control.*
	Incoming voltage is incorrect.	Checking for correct incoming power voltage and amp ratings. ⚠ **WARNING:** Any electrical checks should be performed by a qualified electrician.
The ELC-M has power, but it fails to start a load cycle. (Demand LED is off.)	The demand sensor indicator located on the front of the ELC-M is not illuminated showing that there is no demand for material.	Check demand sensors (reed switch or optional capacitive demand sensors). Clean or adjust if necessary. *See Operation section entitled, Sensor Adjustment.*
	Material line is clogged.	Check material lines, clean as necessary.
	Material line does not have vacuum.	Check vacuum connections. Check or replace internal disc filter, *see Maintenance section entitled, Conveying Disc Filter Cleaning.* Loader's motor has failed, replace motor.

Troubleshooting: ELC-M Control (continued)

Problem	Possible cause	Solution
Alarm has sounded during a load attempt. (Demand LED is flashing.)	Material plug within the conveying line has stopped the flow of material.	Check the material line, clear any obstructions.
	Foreign object within the material.	Check the material line, clear any foreign objects.
	Material line is damaged.	Check the material line, replace any damaged hoses.
	Optional internal fill sensor has not been satisfied before the load time setting has expired.	Reset the ELC-M's load time slightly higher than the time required to meet the loader's optional internal fill sensor. *See Operation section entitled, ELC-M Loading Control Operation, Load Time Adjustment.* *See Operation section entitled, ControlMate Pendant Operation, Adjusting Load Time.*
	Demand sensor is damaged or not adjusted properly.	Check the demand sensor, replace or readjust as necessary. *See Operation section entitled, Sensor Adjustment.*
	Optional remote demand sensor is dirty.	Clean the optional remote demand sensor.

Troubleshooting: LED Readout

The ELC-M control is equipped with internal and external LEDs that will remain on, flash or dim depending on the current condition of the ELC-M control. Internal access is required for LEDs located inside the ELC-M enclosure. *See Operation section entitled, ELC-M Loading Control Operation, Using Blowback for instructions to open the ELC-M enclosure.*

CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.

Problem	Possible cause	Solution
Internal LEDs are not lit or dim. *(See Appendix D entitled, ELC-M Circuit Board Connections, Control Board Diagram for internal LED locations.)*	Run LED off, no power or failed processor.	Connect power, *see Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.* Replace board. **CAUTION:** Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.
	24 Volt LED off, no power, 24Volt supply failure.	Check incoming power, *see Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.*
	24 Volt LED is dim, power overload.	Incoming power not the correct voltage, check power supply. *See Description section entitled, Specifications: Access Loader and Easy Loading Control (ELC).* Check for a shorted output.
	5 Volt LED off, no power, 5 Volt supply failure.	Check incoming power, *see Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.*
	5 Volt LED is dim, power overload.	Incoming power not the correct voltage, check power supply. *See description section entitled, Specifications: Access Loader and Easy Loading Control (ELC).*

Troubleshooting: LED Readout (continued)

The ELC-M control is equipped with internal and external LEDs that will remain on, flash or dim depending on the current condition of the ELC-M control. Internal access is required for LEDs located inside the ELC-M enclosure. *See Operation section entitled, ELC-M Loading Control Operation, Using Blowback for instructions to open the ELC-M enclosure.*

CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.

Problem	Possible cause	Solution
External LEDs are not lit or dim. *(See Operation section entitled, ELC-M Loading Control Panel Layout.)*	Load LED is off, not loading or failed board.	There is no demand for material. Replace board. **CAUTION:** Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.
	Demand LED is off.	There is no demand for material.
	Demand LED is on.	There is a demand for material from the loader.
	Demand LED is flashing.	The number of load attempts is set too low. *See Operation section entitled, ControlMate Pendant Operation, Adjusting the Number of Attempts Before an Alarm.* *See Troubleshooting section entitled, Conveying Problems.*

Troubleshooting: Optional ControlMate™ Pendant

Problem	Possible cause	Solution
ControlMate pendant does not have power. **Replacement ControlMate pendants and communication cables are available from Conair.** Contact Conair Parts (800) 458 1960 From outside of the United States, call: (814) 437 6861	The ControlMate pendant is not connected to the ELC-M module.	Check communication connection points between the ELC-M module and ControlMate pendant, reconnect if necessary. *See Operation section entitled, ControlMate Pendant Operation, Connecting the ControlMate Pendant.*
	The ControlMate communication cable is loose.	
	The ControlMate communication cable is damaged.	Replace damaged ControlMate pendant communication cable.
	ELC-M's power is not turned on.	Turn on the power to the ELC-M. *See Installation section entitled, Powering the ELC-M Control.*
	ELC-M's circuit breaker has been tripped.	Reset the ELC-M circuit breaker. *See Installation section entitled, Powering the ELC-M Control.*
	The ControlMate pendant is damaged.	Replace ControlMate pendant.
ControlMate has power, but is not communicating with the ELC control. (No heartbeat)	The ControlMate communication cable is damaged.	Replace damaged ControlMate communication cable.
	The ControlMate pendant is damaged.	Replace ControlMate pendant.

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.	The conveying filter is clogged.	Check the filter and clean if it is clogged with dust or fines. *See Maintenance section entitled, Conveying Disc Filter Cleaning.*
	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. *See Operation section entitled, Types of Feed Tubes, Vertical Feed Adjustments and Horizontal Feed Adjustments.*
	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. *See Maintenance section entitled, Motor Brush Checking/Replacing.*
	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. *See Operation section entitled, Types of Feed Tubes, Vertical Feed Adjustments and Horizontal Feed Adjustments.*
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. *See Maintenance section entitled, Brushless Motor Filter Cleaning/ Replacement, Thermal Overload.*
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. *See Maintenance section entitled, Motor Brush Checking/Replacement.*
	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
Motor speed sounds like it varies as it operates (continued). **Isolator valves are available from Conair.** Contact Conair Parts (800) 458 1960 From outside of the United States, call: (814) 437 6861	Possible vacuum leak.	Check o-rings and gaskets for damage or leaks. Check the (optional) volume-fill sensor, for a tight seal. If a blowback option is installed, make sure the compressed air line is connected at the lid. **(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.
	The loader is overfilled.	Adjust the load time. *See Operation section entitled, ELC-M Loading Control Operation, Load Time Adjustment and ControlMate Pendant Operation, Adjusting Load Time.*
	Material line is blocked.	Check material line, clean as necessary.
Loader will not cycle.	Incorrect electrical connections.	Check to make sure the loader is plugged into a power source. *See Installation section entitled, Connecting Main Power to the Access Loader and ELC-M Control.* Check all electrical connections. Check to make sure the sensor(s) is connect properly.

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.

Installing Ratio Valves

Ratio valves that are to be installed in the field will need to be mounted to the Access Loader's material inlet. For this purpose, the cast aluminum material inlet of the loader will need to be removed. When the valve is installed, it will provide the material inlet line(s) accordingly.

To install the valve onto the inlet casting:

1 **Ensure that the Access Loader is oriented as desired on the bin or material vessel** that you will be loading and visually check the positioning of the valve on the inlet casting.

2 **Check the orientation of the installed valve,** the valve itself may be reoriented to allow the material to enter the valve as supplied, or 180 degrees from its supplied orientation. In the case of a ratio valve, the dual inlets may actually be reoriented to enter from opposite directions, *see Appendix C entitled, Adjusting Ratio Valve Inlet.*

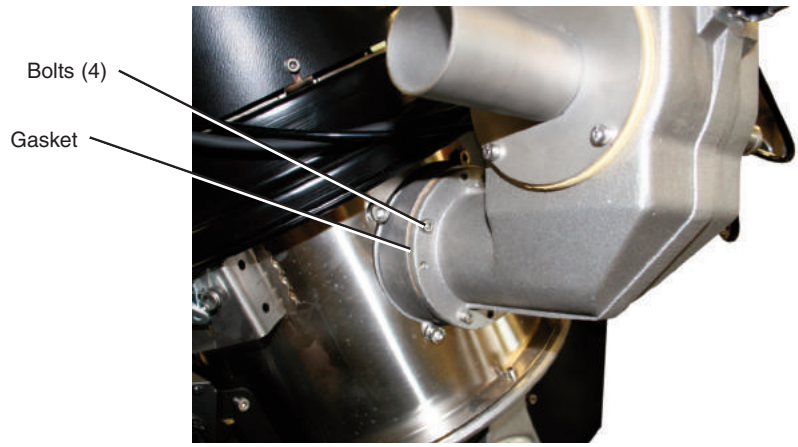
3 **The valve casting is supplied with a mounting flange** that mates with the inlet casting of the loader. Note that the inlet casting contains eight holes to allow mounting the valve in two different orientations, depending upon which side of the loader the inlet casting is located. Select the set of mounting holes that position the valve body upright, with the clean out cover on top horizontal.

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

(continued)

Installing Ratio Valves (continued)

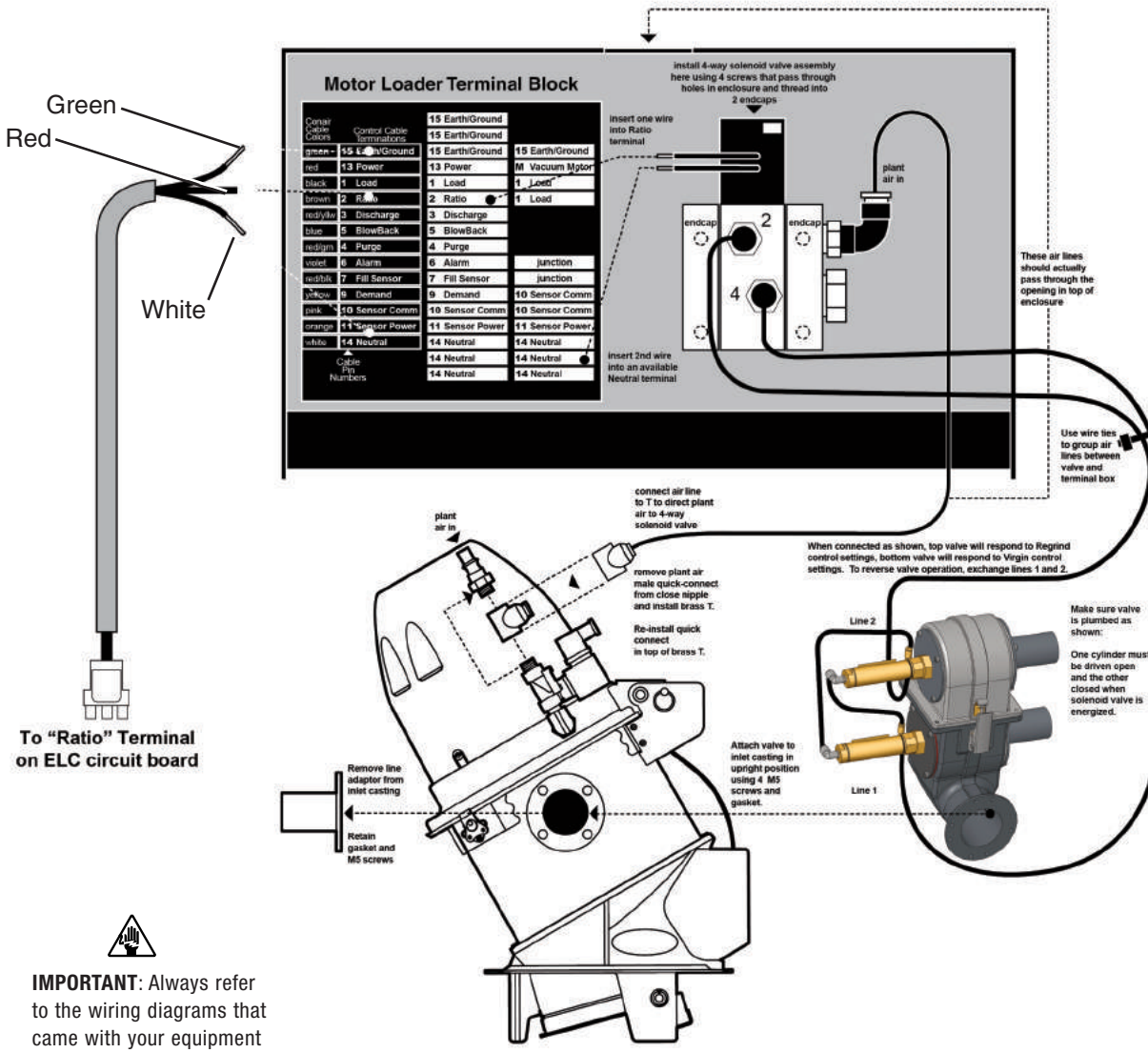
4 **Use the accompanying bolts to secure the valve casting to the inlet casting** with the included gasket in between the two mating surfaces.



5 **Connect the compressed air hoses to the ratio valve.** The ratio solenoid inside the terminal box is equipped with two hoses, connected to ports “1” and “2”. The hose stemming from the port marked “2” should be connected to the “T” fitting on the bottom (regrind) cylinder. Port “1” on the solenoid should be connected to the “T” fitting on the top (virgin) cylinder. Route the hoses through the square hole in the top of the terminal box and remount the terminal box cover. *See Appendix B, Installing Ratio Valves, Installation Diagram.*

Installing Ratio Valves (continued)

Installation Diagram



IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

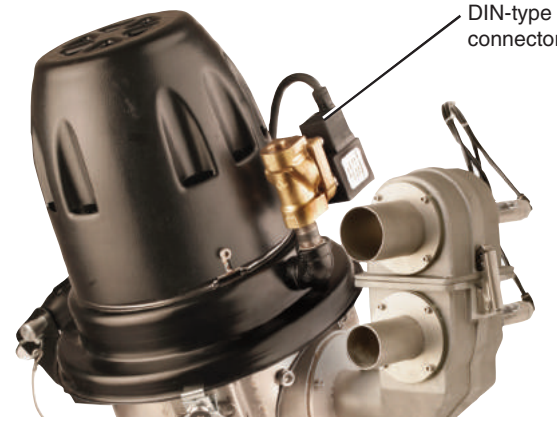
Adjusting Ratio Valve Inlet Orientation

Ratio valve inlet orientation can be adjust to allow material to be supplied from the same, opposite or alternating directions. This allows you to route material supply lines to suit your application.

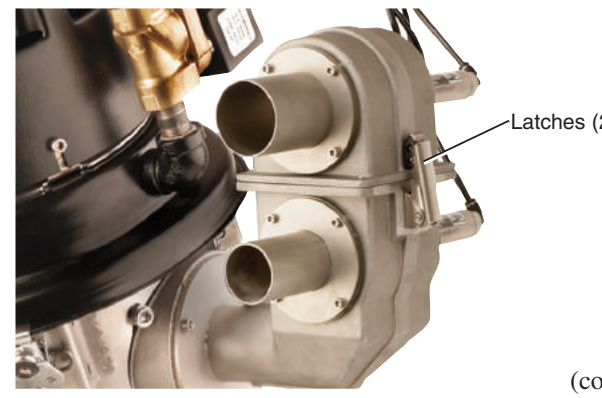
To adjust ratio valve material inlet orientation:

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.



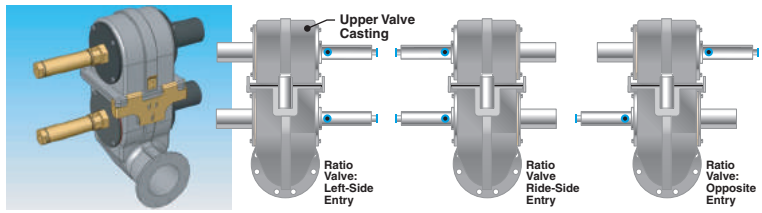
3 **Remove the two (2) latches that secure the top portion of the ratio valve.**



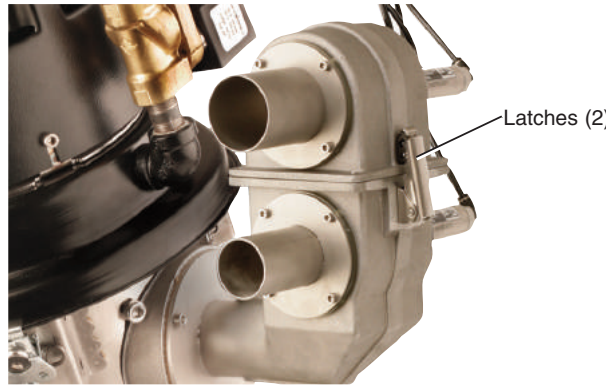
(continued)

Adjusting Ratio Valve Inlet Orientation (continued)

4 **Reorient the ratio valve's top portion to suit your material line layout.**



5 **Reattach the two (2) latches that secure the top portion of the ratio valve.** Route any vacuum lines to eliminate kinks and out of the way of moving equipment.



6 **Attach the material supply lines to the appropriate material inlet of the ratio valve.**

7 **Reconnect power supply and compressed air source.**

ELC-M Circuit Board Connections

CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.

Loaders that have Remote Disable Switch, Remote Demand Sensor Kits or Ratio Valves added in the field require internal wiring from the Access Loader's terminal box to the ELC-M control. Internal access to the ELC-M's circuit board is required for installing and wiring these options.

To access the ELC-M's internal circuit board:

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

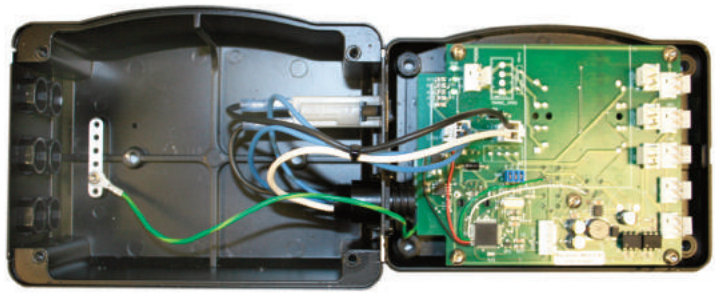
2 **Remove the four (4) screws that secure the ELC-M's front cover** with an appropriately sized Allen wrench.

(continued)

ELC-M Circuit Board Connections

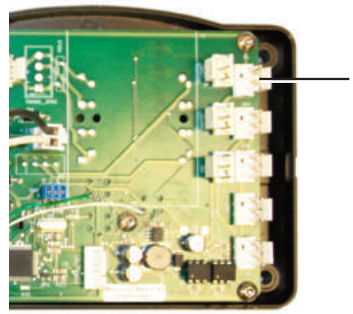
(continued)

3 **Remove the ELC-M control cover and place it along side the control box.**



CAUTION: Always disconnect and lock out the main power sources before accessing the ELC-M's internal connections. Electrical connections should be made only by qualified personnel.

4 **Locate the terminal ports on the right-side of the circuit board.**



5 **Attach the wiring connection from the terminal box to the appropriate port inside the ELC-M that is used by your specific option.** *See Appendix B entitled, ELC-M Circuit Board Connections, Control Board Diagram.* Remove the terminal plug from the outside of the ELC-M's enclose. Route the wiring through the hole, secure with a proper strain relief.

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

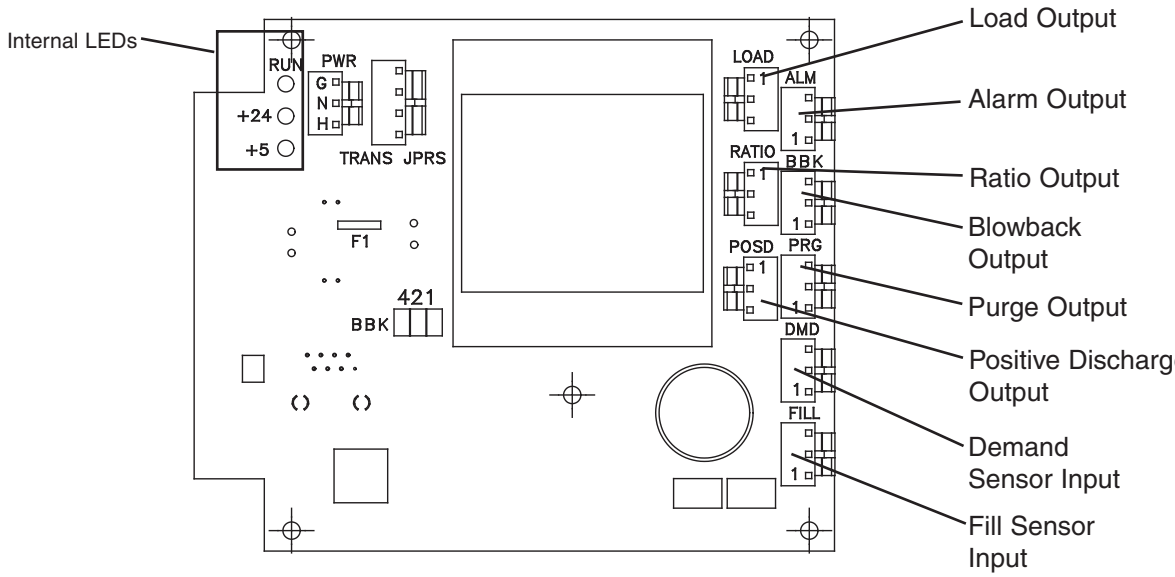
6 **Reassemble the ELC control module by following steps 1-3 in reverse order.**

7 **Reconnect power supply and compressed air source.**

ELC-M Circuit Board Connections

(continued)

Control Board Diagram

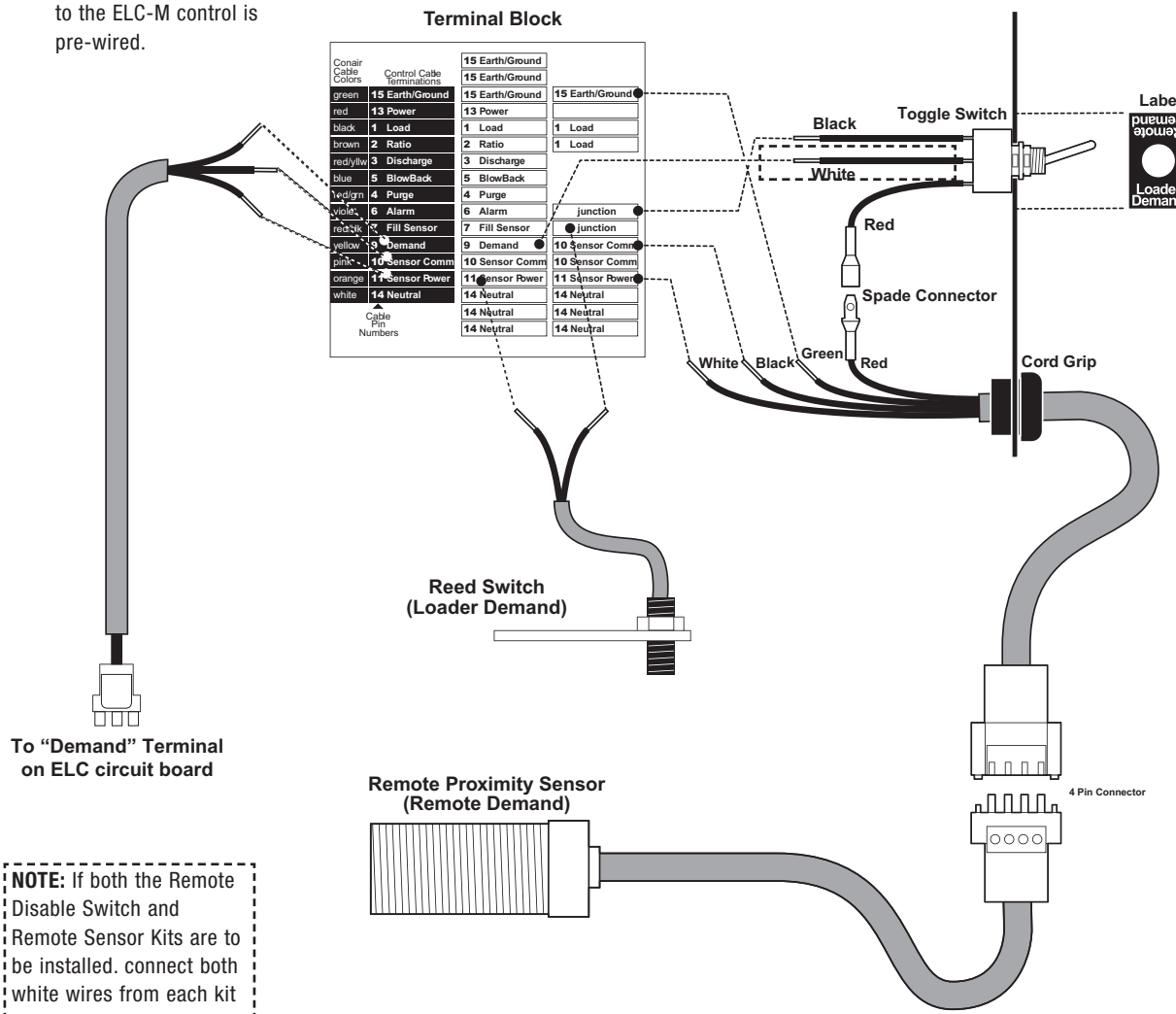


Wiring the Remote Demand Sensor Kit with Demand Selector Switch

(optional)

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

NOTE: The wiring connection from the terminal box to the ELC-M control is pre-wired.



NOTE: If both the Remote Disable Switch and Remote Sensor Kits are to be installed. connect both white wires from each kit together with a wire nut.

Wiring the Remote Demand Sensor Kit with Demand Selector Switch

(optional) (continued)

CAUTION: Always disconnect and lock out the main power sources before accessing the Access Loader's internal connections. Electrical connections should be made only by qualified personnel.

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

Prepare the Access Loader's terminal box for installation of the switch label, switch and 4-pin receptical pigtail cable. The 4-conductor cable can be located in any of the remaining holes. Remove the appropriate hole plugs and clean surface.

To install the Remote Demand Sensor and switch:

1. **Unplug the loader's power supply and remove its compressed air source.** Conair recommends that the loader be removed from the hopper or vessel to a well lit work area for this conversion.

2. **Remove the two (2) screws from each side of the terminal box** and open the box by tilting the top edge down and exposing the inside where the terminal block may be seen.

3. **Peel back from label and install the label over the small switch hole.** Align the long edge of the label with the adjacent edge of the terminal box enclosure.

4. **Install switch in the hole** so that the terminal with the spade connector is located on the "Loader Demand" side of the label. Use accompanying hardware to firmly secure the switch to the terminal box.

5. **Install the pigtail end of the 4-pin receptical cable through the selected hole in the terminal box** using the accompanying cord grip. Ensure that there is enough wire length inside the box to connect to the terminal block and switch.

6. **Connect the spade terminal from the toggle switch to the spade terminal of the 4-pin receptical cable.**

(continued)

Wiring the Remote Demand Sensor Kit with Demand Selector Switch

(optional) (continued)

CAUTION: Always disconnect and lock out the main power sources before accessing the Access Loader's internal connections. Electrical connections should be made only by qualified personnel.

7 **Locate the loader's reed switch connections on the terminal block.** It should be connected to #9 (Demand) and #11 (Sensor Power). Press the adjacent terminal block lever and remove the reed switch wire from the #9 terminal. Relocate this reed switch wire to either of the "junction" terminals by pressing the adjacent lever of this terminal and inserting the wire. Check to see that it is firmly installed by tugging on it lightly.

8 **Insert the wire from the center terminal of the toggle switch into the now vacant #9 (Demand) terminal.**

9 **Install the remaining wire of the switch into the open "junction" terminal block.**

10 **Attach the three (3) remaining wires from the 4-pin receptacle cable as follows:**
- **Connect the green wire to the #15 (Earth/Ground) terminal.**
- **Connect the black wire to the #10 (Sensor Comm) terminal.**
- **Connect the white wire to the #11 (Sensor Power) terminal.**

11 **Reattach the loader's terminal box and reconnect power supply and compressed air source.**

12 **Connect the remote demand sensor's plug to the receptical and route the wire away from hot surfaces and moving parts to the desired sensor location.** If the cable will not reach, an extension cable may be added.

13 **Adjust the sensitivity of the demand sensor according to the type of material.** *See Operation section entitled, General Sensor Sensitivity Adjustments.*

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

Extension cables are available from Conair.

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

Using the Remote Demand Sensor
(optional)

To test the Loader Demand or Remote Demand Sensor switch:

1. **Place the toggle switch in the "Loader Demand" position.**

2. **Energize the loader and observe operation.** The loader, providing there is no material or other obstruction holding the discharge flapper open, should load repeatedly as expected.

3. **Place the toggle switch in the "Remote Demand" position.** The loader should now only respond to the need for material as determined by the remote demand sensor. Depending on the type of material to conveying the remote sensor will need to be adjusted. *See Operation section entitled, General Sensor Sensitivity Adjustments.*

Purge Valve Wiring Connections

(optional)

CAUTION: Always disconnect and lock out the main power sources before accessing the Access Loader's internal connections. Electrical connections should be made only by qualified personnel.

Adjustable Purge Valve (APV)

To wire the purge valve connection to the ELC-M control:

1. **Unplug the loader's power supply and remove its compressed air source.** It is recommended that the loader be removed from the hopper or vessel to a well lit work area for this conversion.

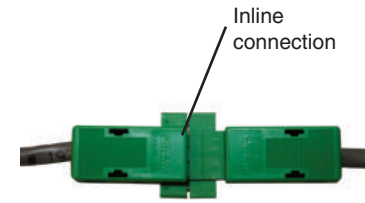
2. **Remove the four (4) screws that secure the ELC-M's front cover** with an appropriately sized Allen wrench. *See Appendix D entitled, ELC-M Circuit Board Connections.*

3. **Connect the purge valve cable (10765507) to the "Ratio" connection port on the ELC-M's circuit board.** *See Appendix D entitled, ELC-M Circuit Board Connections, Control Board Diagram.* Route the cable through the wiring ports located on the side of the ELC-M. Remove one of the cabling plugs and secure the cable with an appropriately sized strain relief (included).

4. **Close the ELC-M's control front cover and resecure the four (4) bolts** after all internal connections have been made. *See Appendix D entitled, ELC-M Circuit Board Connections.*

IMPORTANT: Always refer to the wiring diagrams that came with your equipment to locate specific electrical components.

To connect the purge valve cable to customer supplied cable extension:



1. **Connect the wire-end of the purge valve cable (10765507) to the customer supplied cable extension of your purge valve.** The purge valve cable will have a male and female connection inline for ease of servicing and wiring. The purge valve cable is labeled as follows: red wire is +24 VDC, white is purge output and green is ground.

2. **Refer to the wiring diagrams that were shipped with your purge/material valve for the proper wiring procedures of the cable extension to the purge/material valve.** It is necessary to determine the correct termination points for the supplied wiring harness of your purge/material valve for proper valve operation.