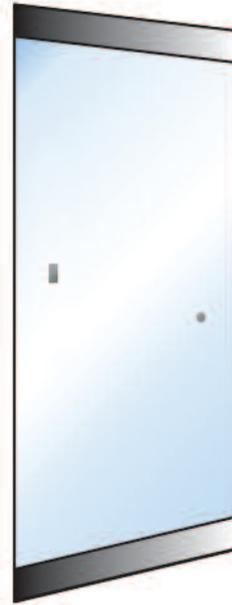


## INSTALLATION INSTRUCTIONS

# EG100Z Series Electronic Egress Handle



Interior View



Exterior View

### **IMPORTANT: PLEASE READ BEFORE INSTALLING THE HANDLE**

*The following instructions will reduce your chances of experiencing problems during installation, and ensure smooth, trouble-free operation of the handle.*



OBSERVE  
ELECTRICAL SHOCK  
HAZARD PRECAUTIONS



GROUNDING  
MAY BE  
REQUIRED



READ INSTRUCTIONS  
PRIOR TO BEGINNING  
THE INSTALLATION  
WORK

## **CAUTION !**

Verify the power is removed before installation or service. Only qualified persons should perform the wiring and maintenance. The handle power input must be in the low voltage class (less than 48 volts). Be sure to comply with local building codes and safety regulations. For installation guidelines see NFPA 101 chapters 8 thru 30. This handle is not intended for use as an NFPA 101 chapter 5, type egress device, and is not for use in locations deemed as a Fire Exit. If you are in question, we recommend that you consult with your local building or fire safety authority.

## Description

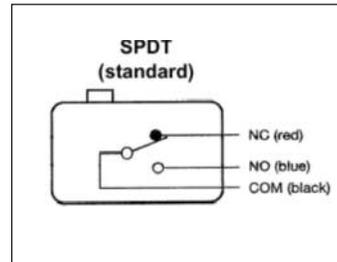
The **CRL Electric Egress Handle** is a spring loaded momentary exit control device. Consisting of a Single Pole, Double Throw (S.P.D.T.) Sealed Switch and supporting mechanism, mounted in a specially formed stainless steel tubing of high quality finish. Uses include control access into areas that call for security, and still maintain the beauty and view of an "all glass" door. When the handle is pushed, the electric switch disengages power to the magnetic lock at the top or bottom of the door. The Handle is designed to install on 35-3/4 to 48 inch wide doors ranging in height from 84 to 102 inches tall (108 inch for interior, see door requirements). Installations can be made on single or double doors.

## Handle Checklist

1. Remove the handle from package and inspect. Please advise CRL immediately if any damage is noted.
2. Re-tighten attaching hardware screws if required, as some may have loosened during transit. Do not turn the screws on components that are secure, as many are factory assembled with thread locking adhesive, and unnecessary rotation may dislodge the adhesive set.

## Specifications

- Handle material: 1-1/4 inch (32 millimeter) Diameter Stainless Steel Tubing.
- Switch, SPDT, maximum contact rating 5 Amps @ 250 Volts, watertight precision body, long life – 10 million-operation mechanism, meets with IP67 (IEC 529) requirements, CRL part number EECSW1TCH.



## Specifications (Optional Glazing)

- Tempered Glass Fabrication: Varies (Contact CRL Technical Sales for details).
- Tempered Glass Thickness: 1/2 or 3/4 inch (12 or 19 millimeter).

**Note:** We can supply 1-3/4 by four or 4-1/2 inches (44.5 by 102 or 114 millimeters) and two by six inch (51 by 152 millimeter) Headers prefabricated for door closers or pivots and strikes. (Please contact CRL Technical Sales for details)

## Materials Included

Handle and Mounting Components

## Materials Recommended (Not Included)

1. CRL Cat. No. 199 Utility Knife
2. CRL Cat. No. 1973 Glass Cleaner
3. CRL Cat. No. 1550 Lint Free Shop Towels
4. CRL Cat. No. M64 Construction Sealant (Select Color)
5. CRL Cat. No. NWS9 Tapered Wood Shims
6. Wire Nuts for #14-#16 AWG (required for hard wire installation only)
7. Screw Driver Set
8. Allen Wrench Set
9. Glass Handling, Support Tools & Safety Equipment

## Door Requirements

### Interior

#### *1/2" Thick Glass (12 Millimeter)*

- Width: Minimum 35-3/4 inches (908 millimeters), Maximum 48 inches (1219 Millimeters)
- Height: Minimum 84 inches (2134 millimeters), Maximum 102 inches (2591 Millimeters)

#### *3/4" Thick Glass (19 Millimeter)*

- Width: Minimum 35-3/4 inches (908 millimeters), Maximum 48 inches (1219 Millimeters)
- Height: Minimum 84 inches (2134 millimeters), Maximum 108 inches (2743 Millimeters)

### Exterior

#### *1/2" Thick Glass (12 Millimeter)*

- Width: Minimum 35-3/4 inches (908 millimeters), Maximum 48 inches (1219 Millimeters)
- Height: Minimum 84 inches (2134 millimeters), Maximum 96 inches (2438 Millimeters)

#### *3/4" Thick Glass (19 Millimeter)*

- Width: Minimum 35-3/4 inches (908 millimeters), Maximum 48 inches (1219 Millimeters)
- Height: Minimum 84 inches (2134 millimeters), Maximum 102 inches (2591 Millimeters)

## Electrical Requirements

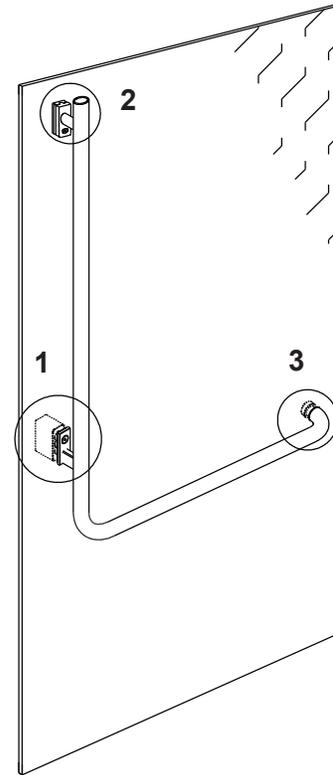
The maximum load for safe operation should not exceed 24 Volts @ 3Amps (or 72 Watts). Cable should be 18 to 22 AWG, stranded copper, rated at 300+ VAC, with PVC or other jacket rated to a maximum temperature of 140 degrees Fahrenheit, and UL recognized or listed. Check the electrical procedures below to determine the correct method of connecting to your power source.

## Pre-Installation Information

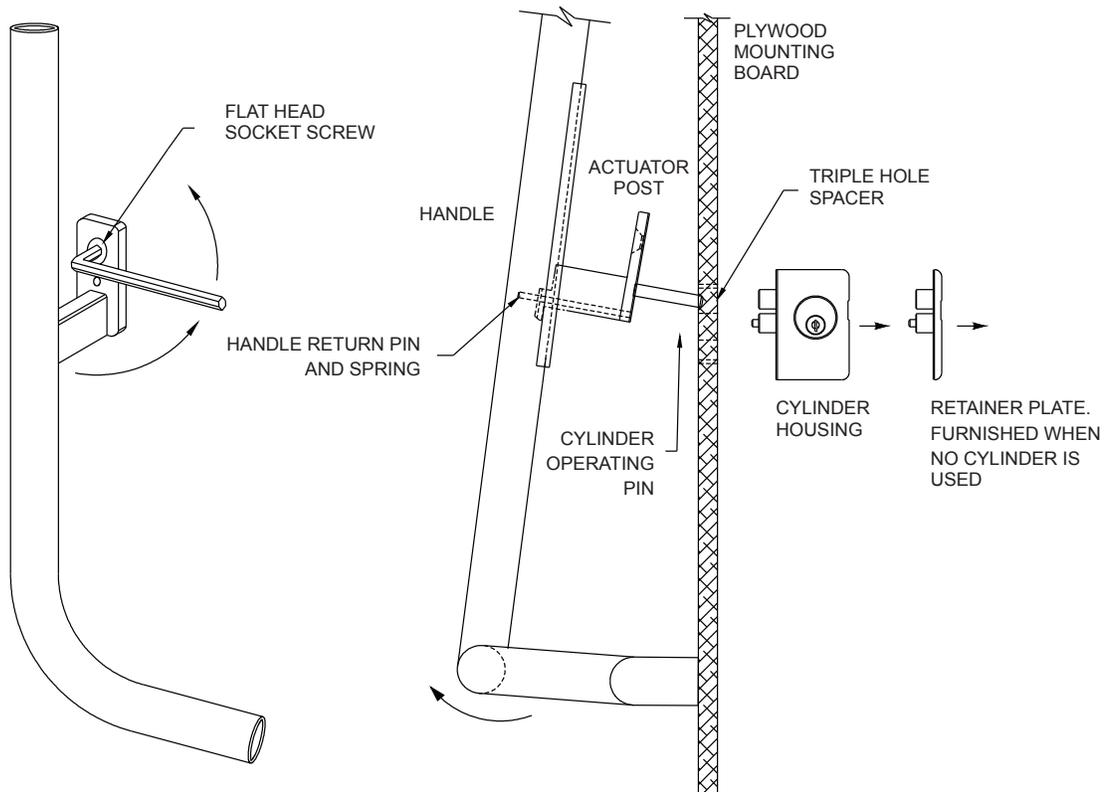
1. Be sure that you have the correct handle for the door's hole layout. Handles must be installed with gasket material. The gaskets prevent (any) direct metal contact to the glass door (that could result in a fracture to begin), and to achieve a proper weather seal. Test fit the gaskets to verify the parts insulate the door from direct glass to metal contact.
2. It is important that the distance between the mounting holes from the top of the door to the bottom, and all attaching areas in between will align with the handle. This will assure even and constant gliding of the handle stroke in the handle base that is attached to the door.
3. The two above requirements must be met at the time of installation. If the gaskets fit well and the holes align, there should be no problem in meeting the requirements (proceed to Installation Procedures). If the holes in the door are out of tolerance, adjustments/replacement will have to be made.

## Removal from Packaging

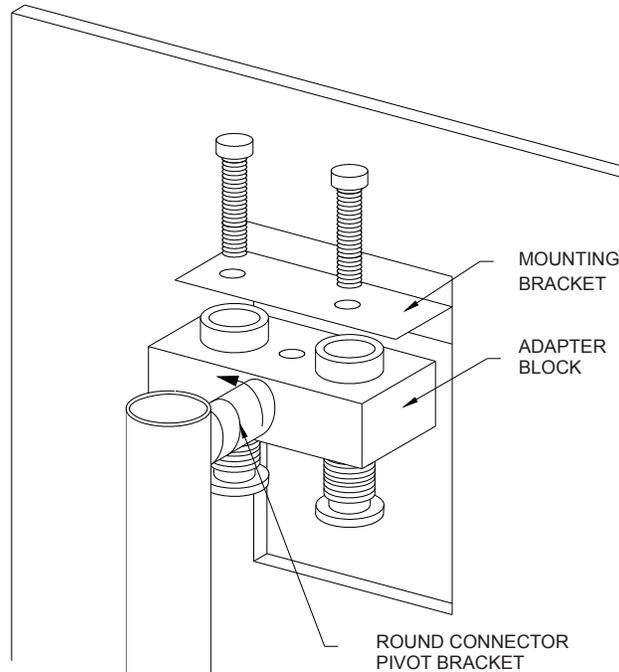
Handle comes mounted on a plywood mounting board inside the wooden crate. To remove the handle from the board, please follow steps 1 through 3. ➔



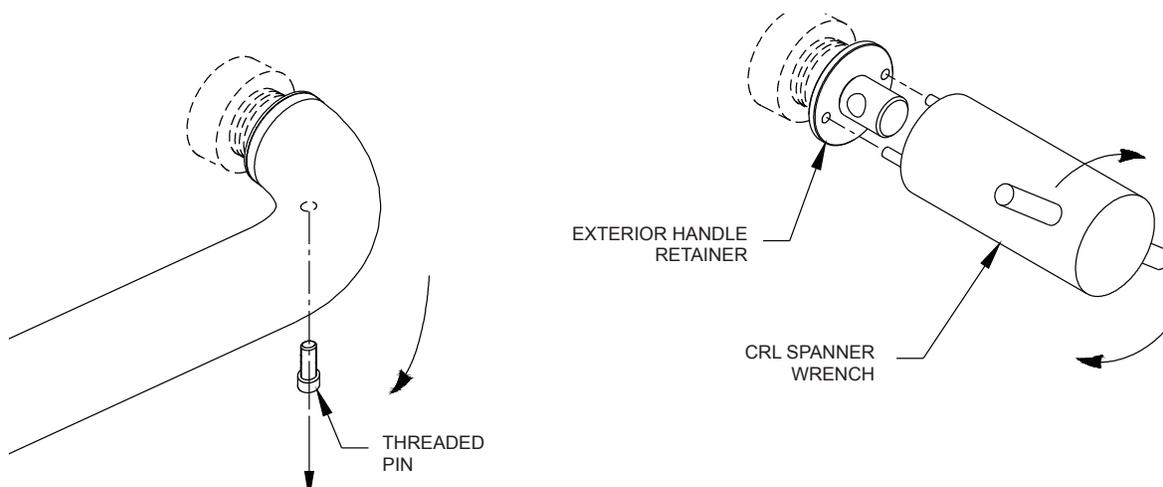
1. To remove Actuator Post: Unscrew flat head socket screw with Allen wrench, being careful that the keyed actuator device or exterior retainer plate does not fall from the backside of the plywood mounting board. Now lift the handle away from plywood. Be careful not to lose the triple hole bushing. ↓



2. Rotate round connector pivot fitting counter clockwise and remove from Adapter Block.  
**Note:** Use pliers and rubber strip (to protect finish) for removal of round connector. →

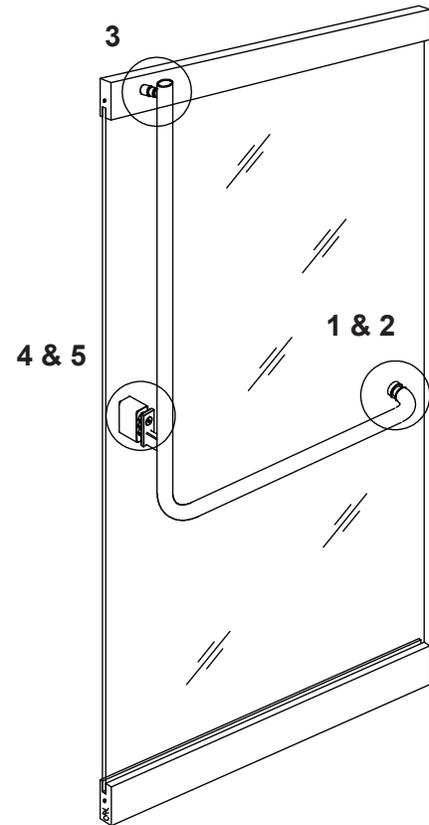


3. Remove threaded pin from bottom of horizontal handle and pull horizontal handle away from plywood. Use Cat. No. MPH5W CRL Spanner Wrench to remove exterior horizontal handle retainer and rubber bushing. ↘

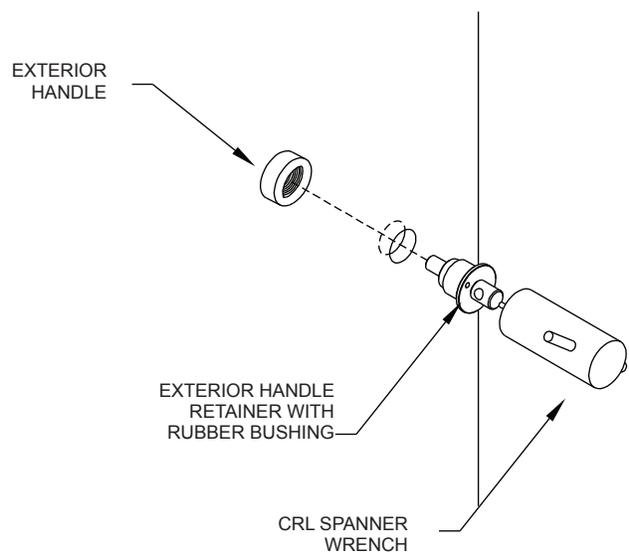
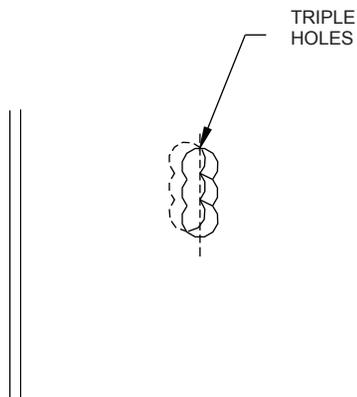


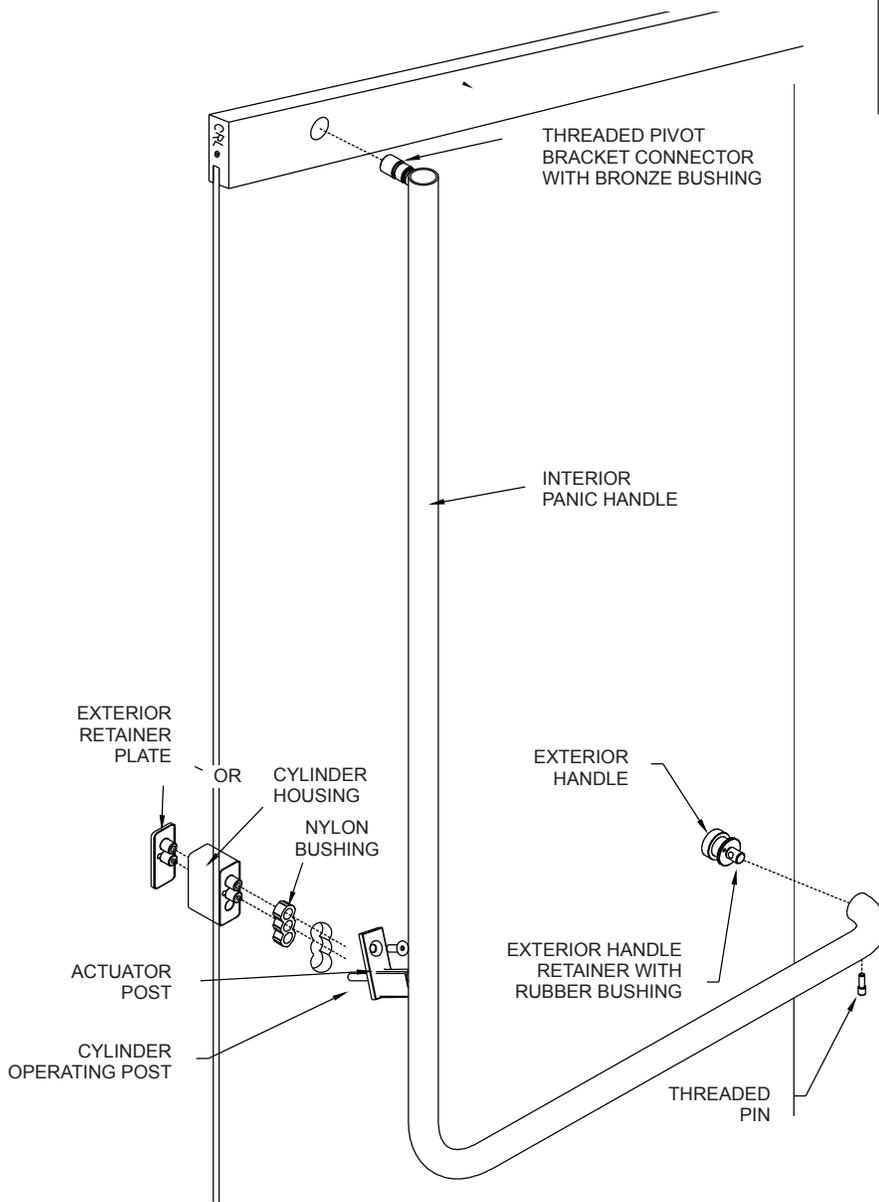
## Installation of Handle to Door:

- Lay glass flat with the exterior side facing down on a pair of saw horses.
- Attach Door Rails (if applicable) positioning the mounting hole in the rail at the inside face/strike edge of door. CRL Door Rail System Installation instructions attached.



1. Push exterior cap retainer with rubber bushing through glass hole from interior side, into exterior cap, and tighten with CRL spanner wrench. Cap may be tightened with pliers and rubber strip. ↓



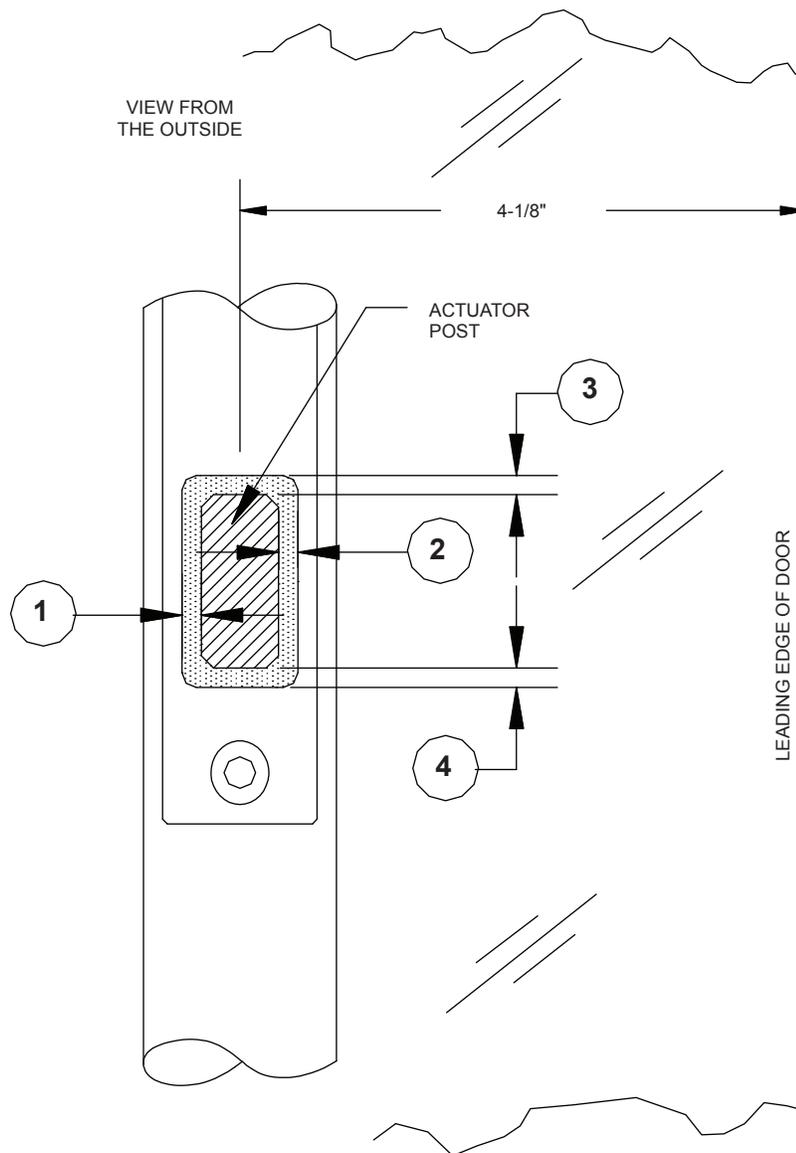


Apply **THREADLOCKER** to all fasteners used to mount handle on doors.

2. Place interior handle over pivoting end of exterior horizontal handle retainer, first rotating the pivoting projection so that the cross hole is aligned to the hole in the horizontal bar. Insert threaded pin and tighten with Allen wrench.
3. Tighten the threaded pivot bracket connector at the top of the door making sure the bronze bushing is inside of threaded pivot bracket connector.
4. Insert Nylon Bushing into the triple hole cutout in glass. Note that CRL provides four bushings and only one is to be used. Please see the instructions on following pages for this **critical procedure - Actuator Post Alignment and Nylon Bushing Selection** process.
5. Place flat base of actuator post against glass over the triple hole nylon bushing. Insert keyed actuator device or exterior retainer plate into nylon bushing in glass. Screw actuator post to either keyed actuator device or exterior retainer plate.

**CRITICAL PROCEDURE**

**Actuator Post Alignment**

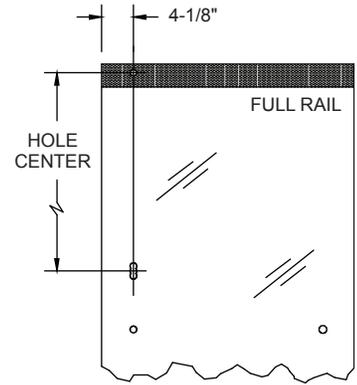


To insure proper handle operation the Actuator Post must be centered within the rectangular slot in the handle. View the Actuator Post where it enters the rectangular slot in the handle, through the door glass. With the handle dogged in the operational position, dimension "1" should be smaller than dimension "2". Dimension "3" and "4" should be equal. With the handle dogged in the unlocked position, dimension "2" should be smaller than dimension "1". Dimension "3" and "4" should be equal.

**CRITICAL PROCEDURE**

**Nylon Bushings Selection**

CRL has provided four nylon bushings to make this critical alignment an easy task. These bushings are offset in one or more directions to correct for misalignment of holes in the glass. The next page will help to determine which bushing will provide the best alignment.

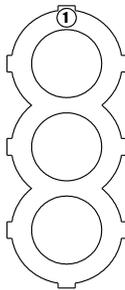


Use Bushing #1 when the "Hole Centers" dimension is correct and the 4 1/8" dimension from door's edge is accurate.

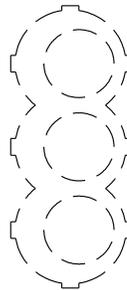
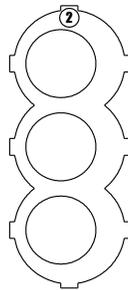
Use Bushing #2 when the "Hole Centers" dimension is correct and the 4 1/8" dimension from door's edge is 1/16" off either direction in the width of the door.

Use Bushing #3 when the Hole Centers" dimension is 1/16" off either direction in the height of the door and the 4 1/8" dimension from door's edge is accurate.

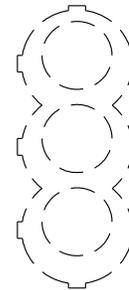
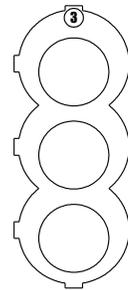
**Bushing #1**



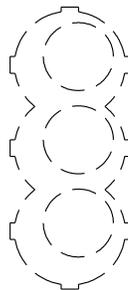
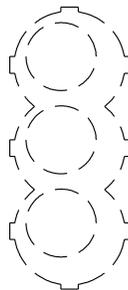
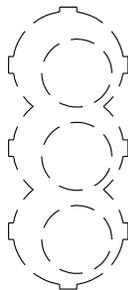
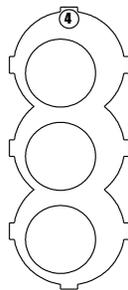
**Bushing #2**



**Bushing #3**



**Bushing #4**



Use Bushing #4 when the "Hole Centers" and the 4-1/8" dimension from door's edge are both off 1/16" in either direction.

- This completes installation of the handle to the door. Please be careful not to lift the door with any portion of the Panic Handle.
- When handling the Door assembly, it is recommended to use CRL RB200 Roller-Blocks for supporting the corner of the door rail while rolling into the vertical position. This will prevent damage to the end cap.

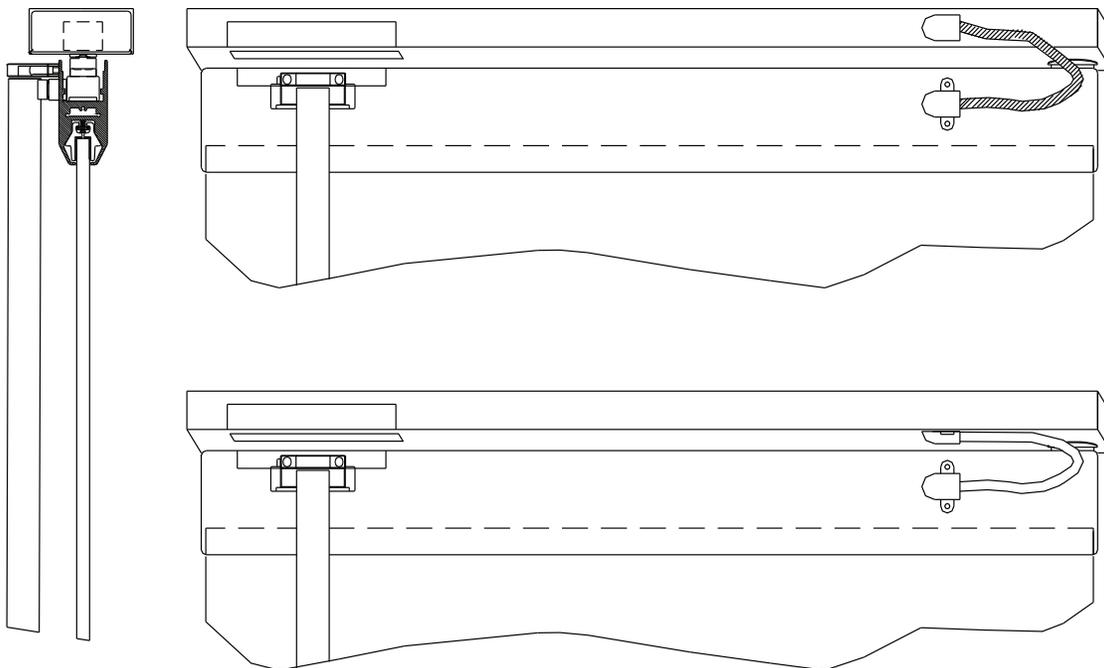
## Electrical Installation Procedures

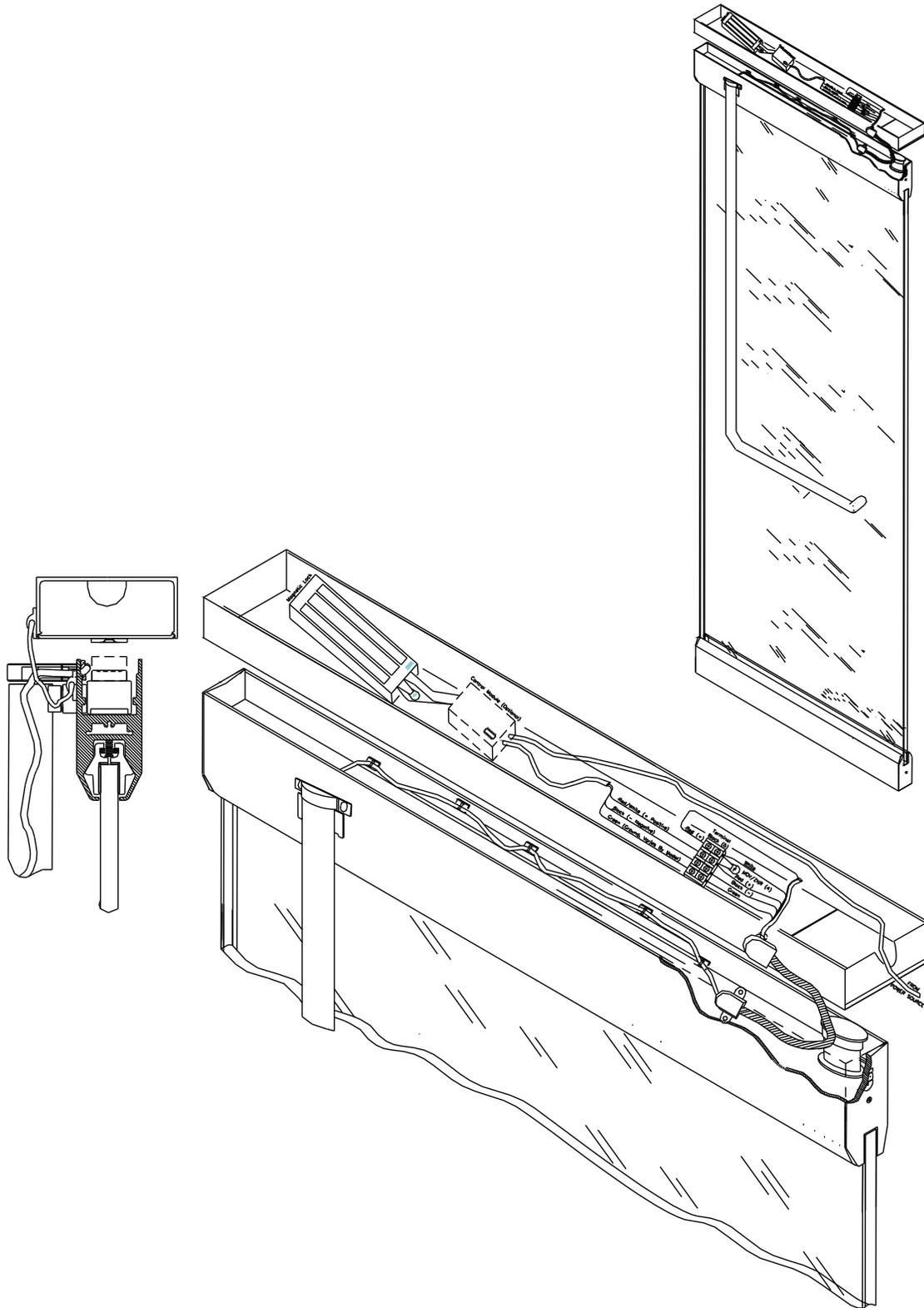
### Wire Path Hole Drilling

- Use the CRL supplied Door Loop Flex Conduit (or other commercially available transfer hinge or connecting block), to conceal and route the 4-wire cable from the door rail into the header or other conduit.
- Most manufacturers supply a template to use in locating where to drill hole positions. Use care not to drill anywhere that you may come into contact with the glazing. CRL Door Rails and Headers will be supplied with this work already completed.
- The Door Rail must be drilled to accept the CRL supplied conduit fitting that is positioned directly above the interior handle. This conduit will route electrical cable from the handle into the Door Rail. This must be done prior to installing the handle. CRL supplies a hole punch / pilot drill fixture to assist with this operation, CRL Cat. No. PAEGDF1.
- When inserting/pulling the cable through the Door Rail, leave plenty of slack in the cable to accommodate movement within the handle pivot joint (angle at the top of the handle).
- The cord should be secured with wire fasteners or a double-sided tape to the web inside the top of the Door Rail.
- Additional holes are needed in the Door Rail near the Pivot point of the door for the Door Loop Flex Conduit or transfer hinge. Create all of the holes as required to mount the cable transfer component. CRL Door Rails will be supplied with this work already completed.

### Important Notes:

1. Test the placement of the flexible conduit before making the attachment holes.
2. Verify that the conduit can move freely and that the door is unrestricted. Locate a point where the door is at its furthest point of travel (fully open) so that enough slack is available in the flexible conduit to prevent binding, and cannot move into a location where it may be crushed when the door is closed.



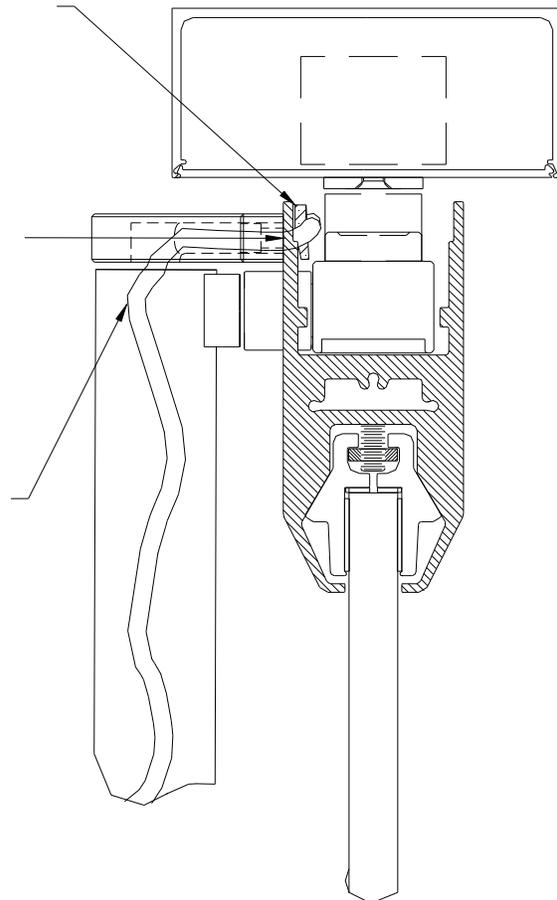


3. If the door has a self-closing mechanism located in the header, see that the cable entry location has adequate clearance. Adjustments to the flexible conduit mounting location may require to clear internal the door closer mechanism.
4. Before installing the wires inspect the holes that you made for any sharp edges. Trim sharp edges and/or install poly tubing or grommets to protect the cable. Carefully route the four-wire cable through the exit hole that you made in the top Rail.

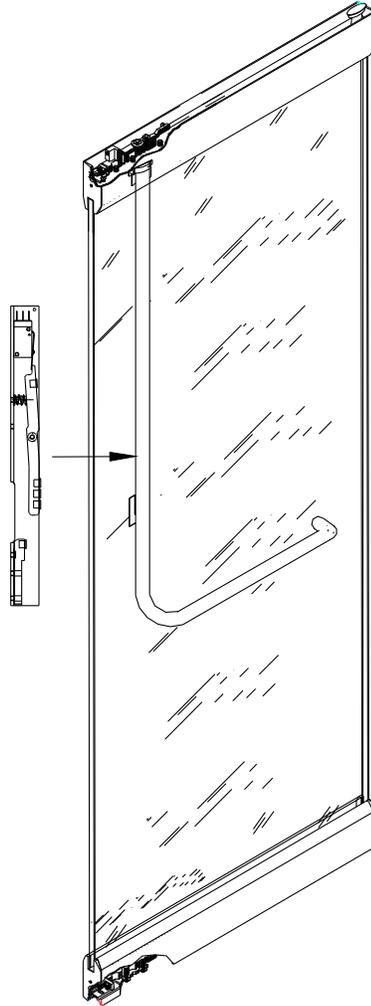
Secure the cable with adhesive back wire fasteners, or a durable double sided tape to the Web within the header. Check that the wiring can not make contact to any moving parts and/or the upper header

Remove any sharp edges within the cable entry hole. Install insulating grommet(s). If needed to prevent wear to the wiring outer jacket.

Provide slack for the cable within the hand upper pivot point area. The cable should be installed with a snug fit along the inside of the rail and have 1 to 2 inches of extra length to allow for flex within joint.



5. Slide the cable through the flexible conduit before attaching it to the header. Tip: By placing a piece of Scotch tape around the end of the wires, it will make it easier to slide the cable through the conduit.
6. The hard wiring for the switch and internal ground connection (inside the handle) is pre-wired at the factory (see page 13).



### Wire Path Hole Drilling

- With the cable in place, strip the wire ends of the insulation for 1/8 to 3/16 inches; using pliers twist the stranded wires (this helps to hold wire from pulling out of the connecting block).
- Connect the wires per the below drawings and schematics.

### Notes:

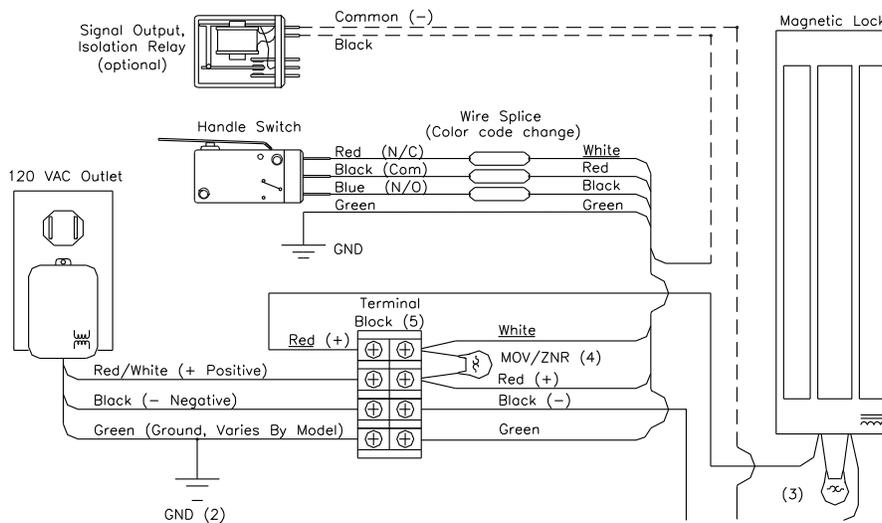
Some systems require that an open circuit design be applied, in these cases use the black wire in place of the red wire, found within the 4-wire cable coming from the top of the handle.

### Wiring Schematics

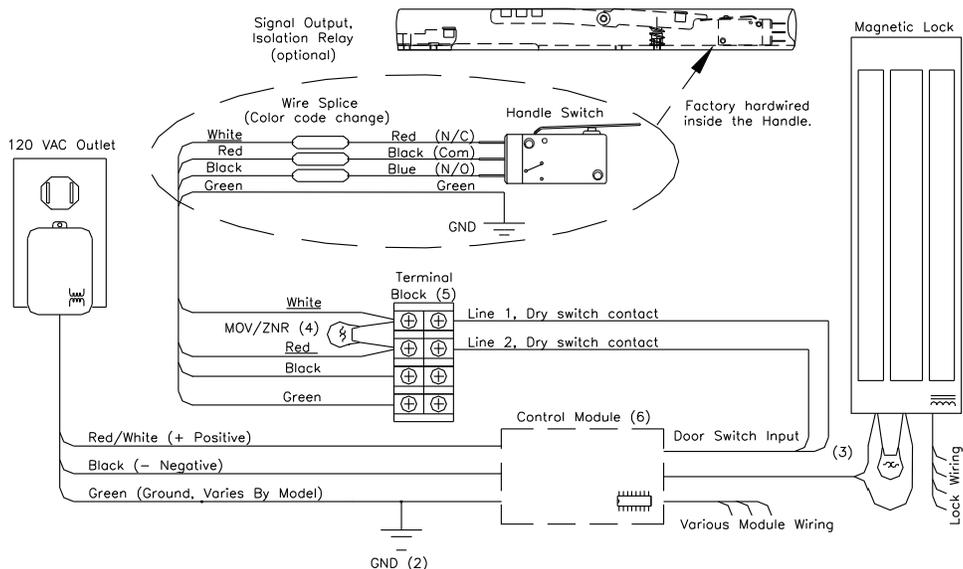
- Examine the schematics supplied with the Magnetic Lock system to determine the appropriate layout for your system.
- Select one of the Door Handle example schematics shown on the following pages; connect the necessary wiring as it relates to your installation.

- A closed-loop design is highly recommended (all contacts normally-closed). A fail-safe design of this type will result in the lock releasing during a loss of power from the opening of the circuit, as the result of external damage to the cables, power supply failure and etc. Some systems require that an open circuit design be applied, in these cases use the black wire in place of the red wire, found within the 4-wire cable coming from the top of the handle.
- Any non-connected wires (extra for optional components) should have the exposed wire ends insulated (i.e. bare tips), using electrical tape or wire nuts to protect the controller and/or lock, as these may have output power present. Please re-check the color codes of the wiring before applying the power.

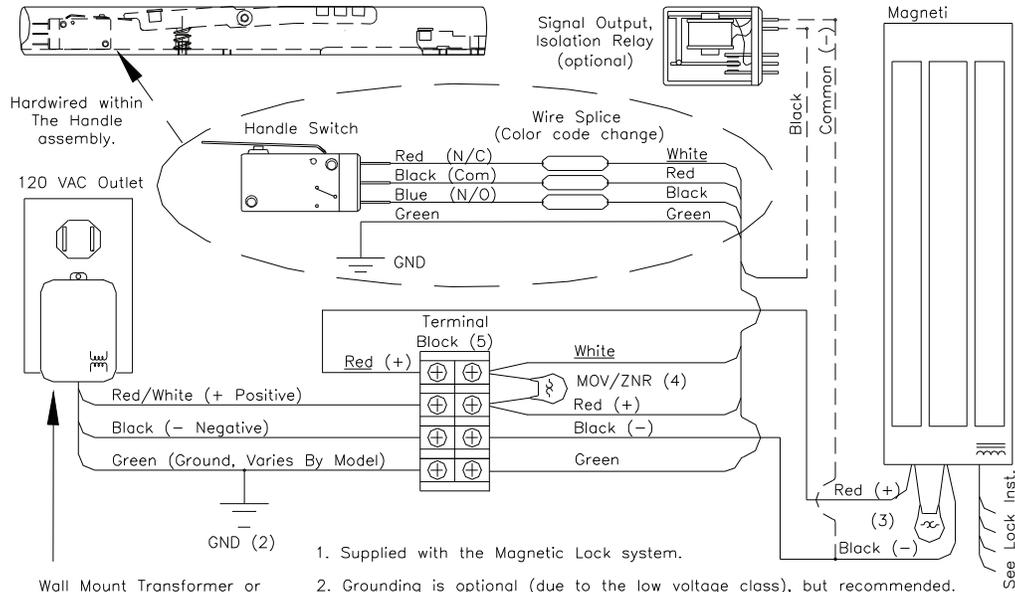
### Schematic (Part Representation)



### Dry Contact Switch Input to the Magnetic Lock Controller



## Supply Power Control of Locking Mechanism Closed-Loop Fail Safe Mode



Wall Mount Transformer or other Power Supply (1). The most common output is 24 Volts AC or DC (regulated or linear). Use a Class II isolated supply for safety (UL listed or recognized).

1. Supplied with the Magnetic Lock system.

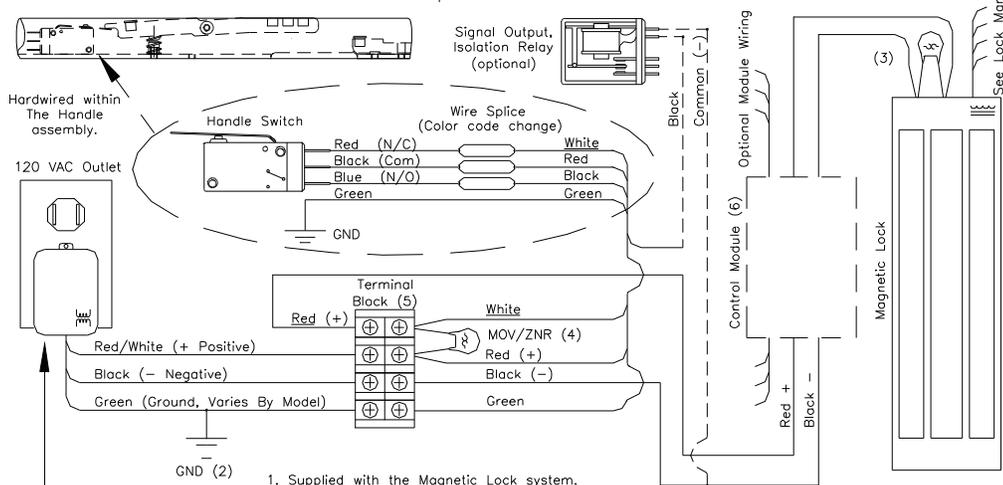
2. Grounding is optional (due to the low voltage class), but recommended. Please comply with your local electrical codes. ⊕

3. Please reference the diagram included with the Magnetic Lock for the wiring color code specifications, the MOV/ZNR representation is a Lock component.

4. The CRL supplied MOV/ZNR is for use in 6 to 24 Volt AC/DC systems. Remove the component if the Magnetic Lock is using a higher voltage.

5. Install the terminal block within the Header or other location that has protection from the weather, and having a removable panel for future access.

## Lock Release by Opening Power Supply Circuit Closed-Loop Fail Safe Mode



Wall Mount Transformer or other Power Supply (1). The most common output is 24 Volts AC or DC (regulated or linear). Use a Class II isolated supply for safety (UL listed or recognized).

1. Supplied with the Magnetic Lock system.

2. Grounding is optional (due to the low voltage class), but recommended. Please comply with your local electrical codes. ⊕

3. Please reference the diagram included with the Magnetic Lock for the wiring color code specifications, the MOV/ZNR representation is a Lock component.

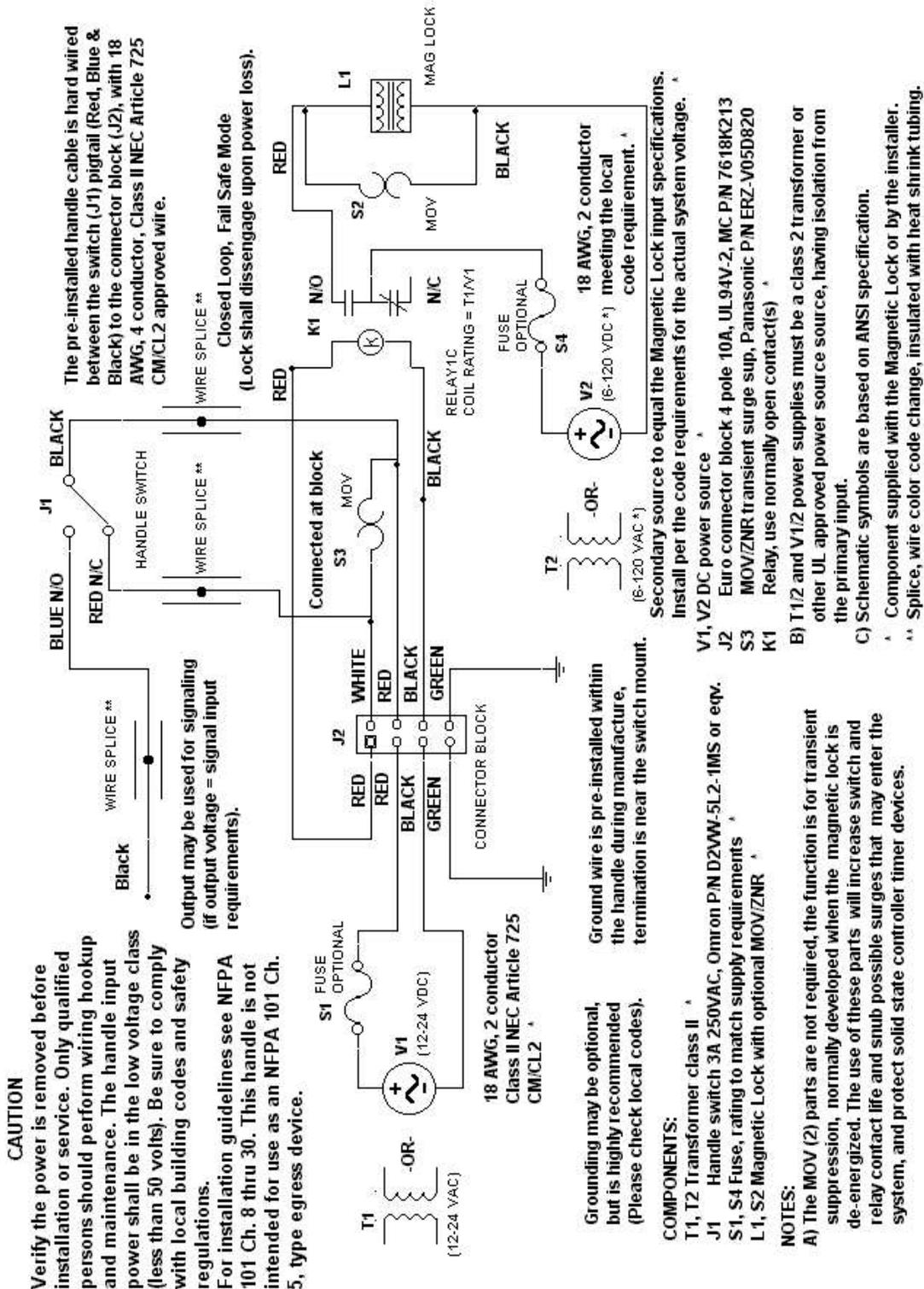
4. The CRL supplied MOV/ZNR is for use in 6 to 24 Volt AC/DC systems. Remove the component if the Magnetic Lock is using a higher voltage.

5. Install the terminal block within the Header or other location that has protection from the weather, and having a removable panel for future access.

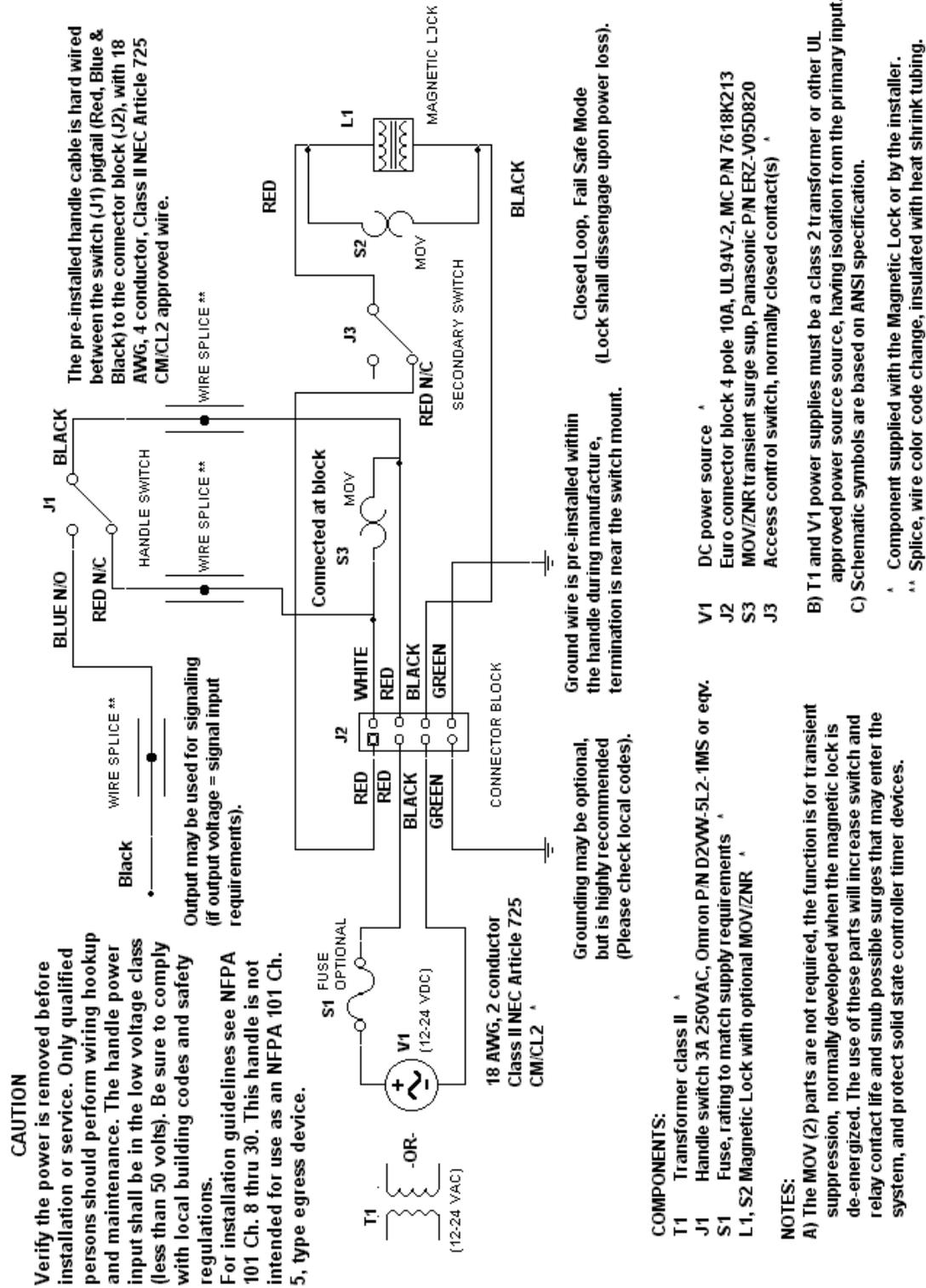
6. Control Module and/or Control Panel are components, that may be included with the Magnetic Lock.



## Secondary Power Source, Alternate Voltage



## Double Break Wiring, Alternate/Secondary Control Switch





## Electrical Procedures

The EG Series handle requires a 'low voltage' input to operate (less than 48 Volts). Locks that include a hardwired step down transformer may have high voltage present (possibly within the header access panel), so general electrical safety precautions should be followed. Each handle is manufactured with a pre-installed internal ground wire, attaching this ground wire to the 'power input cable ground' or to a good earth ground, will enable the handles ground protection. Before making electrical connections remove any debris that may have become lodged between the magnet and strike. When power is applied, the lock should set automatically.

**Note: Only qualified professionals should perform electrical connections or servicing.  
Always remove the power before opening the access covers to the electrical system.**

## Mounting and Connecting the Magnetic Lock

Please refer to the documentation supplied with the magnetic lock for installation instructions specific for that product. Before connecting the lock to a power source, the handle assembly must be installed. If you need to disconnect the handle or lock wiring in order to route the connecting wires, refer to the following guidelines:

- a) Label all wires before disconnecting; we also suggest writing notes on the schematic diagram(s) supplied with the magnetic lock.
- b) Use conduit as required, avoiding exposure of the wiring.
- c) Carefully route the wiring as to not allow the insulation to be cut or rub against sharp edges.
- d) To reconnect, reverse the disconnection process. Carefully verify the color code of each wire before reapplying power.

## Power Source

The power source is supplied with the magnetic lock or by the installer. The supply usually is an external wall mount step down transformer requiring its own installation and hookup procedure. Please refer to the documentation supplied with the magnetic lock for power supply specifications. Carefully route wiring as required, and be sure to follow any local electrical building codes based on the voltage being used.

## First Time Applying Power to the Handle and Lock

When power is first applied, the magnetic lock may engage automatically!

Keep hands and body parts away from any possible pinch areas.

Turn the **MASTER POWER SWITCH** "On". Actuate the handle toward the door "Open" unlock position and then out, to the "Closed" lock position. Check the handle operation to ensure that the sliding action moves freely in and out with no binding or misalignment. Check all lock functions.

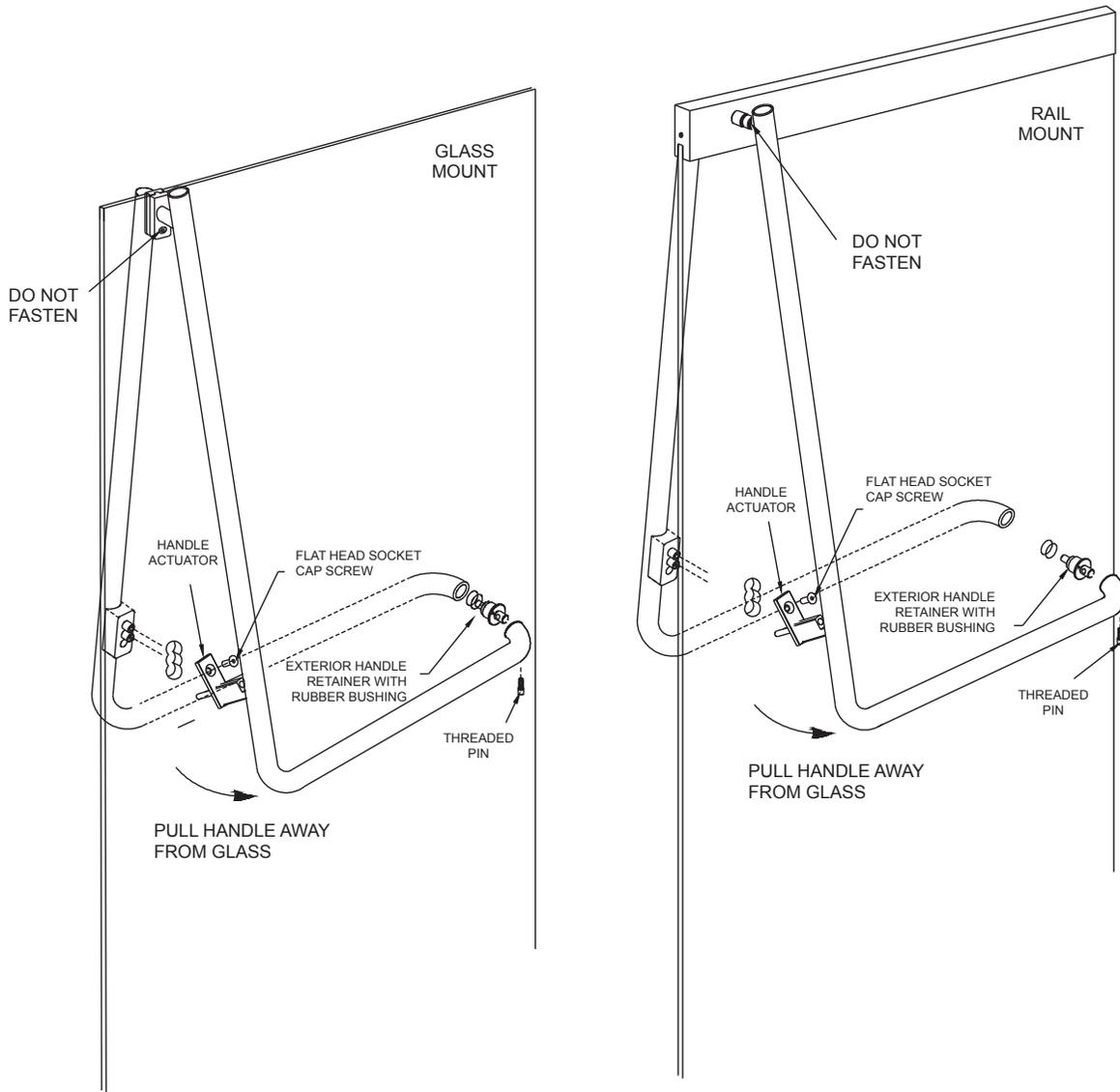
**IF YOU HAVE ANY ADDITIONAL QUESTIONS OR COMMENTS,  
PLEASE CALL C.R. LAURENCE AT (800) 421-6144 AND ASK FOR OUR  
TECHNICAL SALES DEPARTMENT.**

## Routine Maintenance

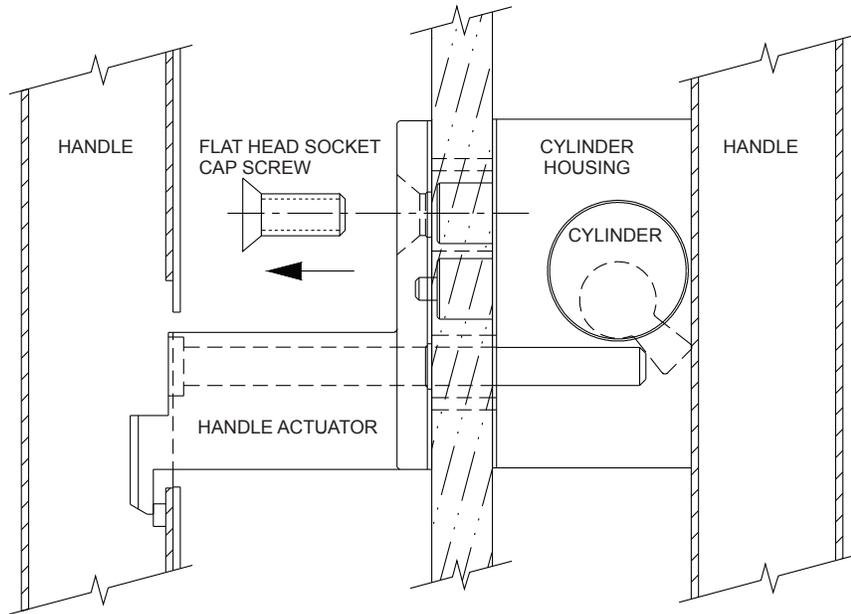
Under normal operating conditions, your CRL Panic Handle system should require no maintenance over the life of the system other than cleaning the bars. However, if you experience difficulty with the operation of the system, please do not attempt to repair the system yourself. Please contact the original installer or contact CRL at (800) 421-6144 x 7700.

## Repair and Replacements

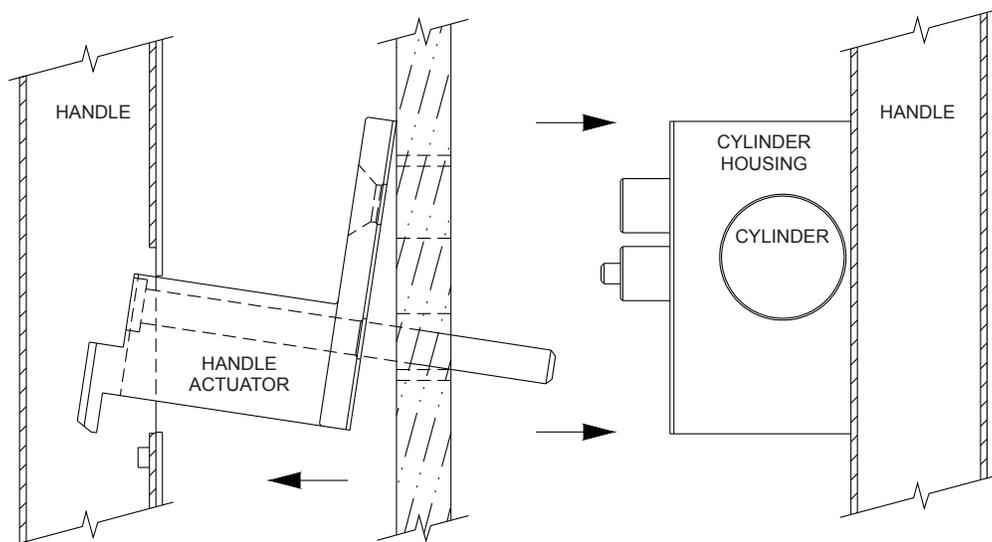
### Replacing Lock Cylinder



1. Hold on to exterior cylinder housing.
2. Remove flat head socket cap screw.



3. Pull handle away from glass. Remove handle actuator from handle.



4. Loosen set screw holding cylinder in place with an Allen wrench.

5. Remove old cylinder and check to see if tailpiece matches new cylinder tail piece. Also the length of the new cylinder must be the same as the old one. A cylinder of any other length will require a new length collar. Wind in new cylinder until it stops inside the collar ring. Key slot should be on bottom of cylinder nearest the floor.
6. To reassemble system, Insert handle actuator into panic handle and place against door (reverse of step 3 on page 6).
7. Replace cylinder housing and attach to handle actuator with flat head socket cap screw (reverse of step 2 on page 6).

