



Owners Manual

PowerLift Hydraulic Doors
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THANK YOU FOR CHOOSING POWERLIFT HYDRAULIC DOORS

Safety

PowerLift places a great importance on the safety of each door and ensuring that all individuals that will be operating or near the door can remain safe at all times. Each door is equipped with certain features to ensure safe operation of the door during any environmental circumstances.

Reliability

Each PowerLift Door is manufactured and installed by trained professionals to ensure the reliability of the product for years of trouble free use. We have over 25 years of experience and rigorously tested each component that goes into our product to ensure each customer gets has the best experience with their PowerLift Door.



Excellence & Reliability Guaranteed

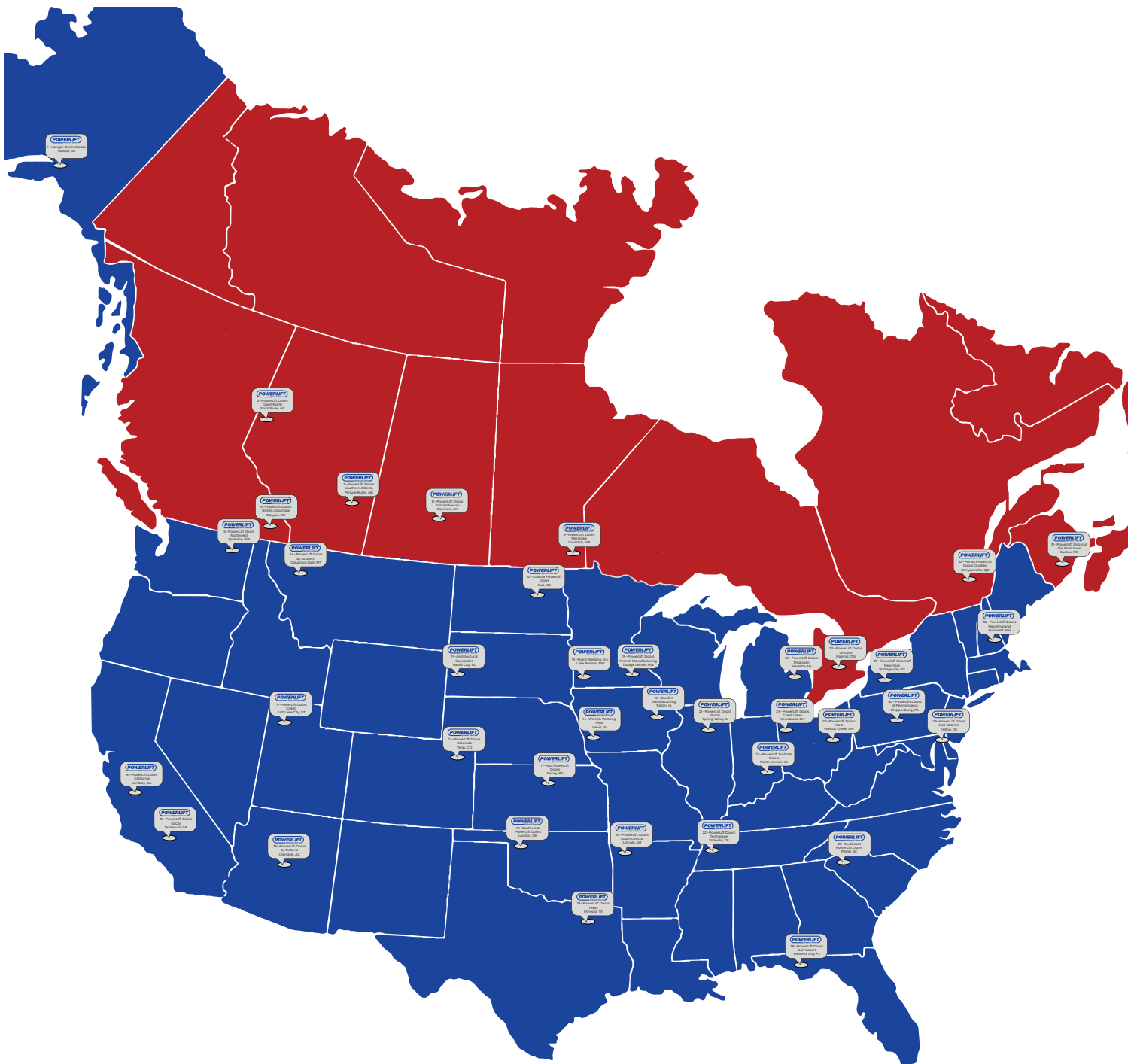
Efficiency

Efficiency is a major concern for many customers when they are evaluating a new product for their home, shop or business. We have spent years perfecting our product to ensure the maximum efficiency no matter the location of the PowerLift Door. We have tested our product to ensure wind and water permeation are not an issue.

Customer Service

PowerLift chooses each manufacturing site carefully to ensure that each customer experiences the same level of service no matter their location. It is paramount to us that each customer is happy with their product and the service they receive each time they interact with their door representatives.

PowerLift Manufacturing Locations



SECTION 01

CONTRACTOR/OWNER RESPONSIBILITIES

THANK YOU FOR CHOOSING POWERLIFT HYDRAULIC DOORS FOR YOUR PROJECT.

Each PowerLift Hydraulic Door is custom manufactured based on customer requirements and building specifications. PowerLift expects that the building will be prepared to the specifications detailed in the following pages. PowerLift is not responsible for any possible damages to the building if the following requirements are not met by the building owner or contractor.

Each PowerLift Door is professionally installed by company trained representatives to ensure a quick, trouble-free installation and is covered by the best warranty in the industry.

Prior to Installation

DUE TO FIELD CONDITIONS AND VARYING BUILDING PRACTICES POWERLIFT HYDRAULIC DOORS CAN ONLY MAKE RECOMMENDATIONS BASED UPON PAST EXPERIENCE. THE BUILDING SUPPLIER IS RESPONSIBLE FOR INCORPORATING ANY REACTIONS OR STRESSES IMPOSED BY POWERLIFT HYDRAULIC DOORS INTO THE BUILDING DESIGN. ENGINEERING DATA CAN EASILY BE OBTAINED BY CONTACTING YOUR POWERLIFT LOCATION. THE FINAL BUILDING STRUCTURE'S INTEGRITY IS THE RESPONSIBILITY OF THE BUILDING SUPPLIER

Door Arrival

The door will arrive on a trailer pulled by our delivery truck with at least one door installer. The door frame will arrive as one painted component. All horizontal wood or steel girts, cylinders and hydraulic lines will be installed with the door.

The door will be moved from the trailer to the door rough opening with the help of the contractor supplied equipment. The PowerLift installer, will then position, adjust and fasten the door to the building. Fastening is completed in two stages. The fastening process is determined by the building structure.



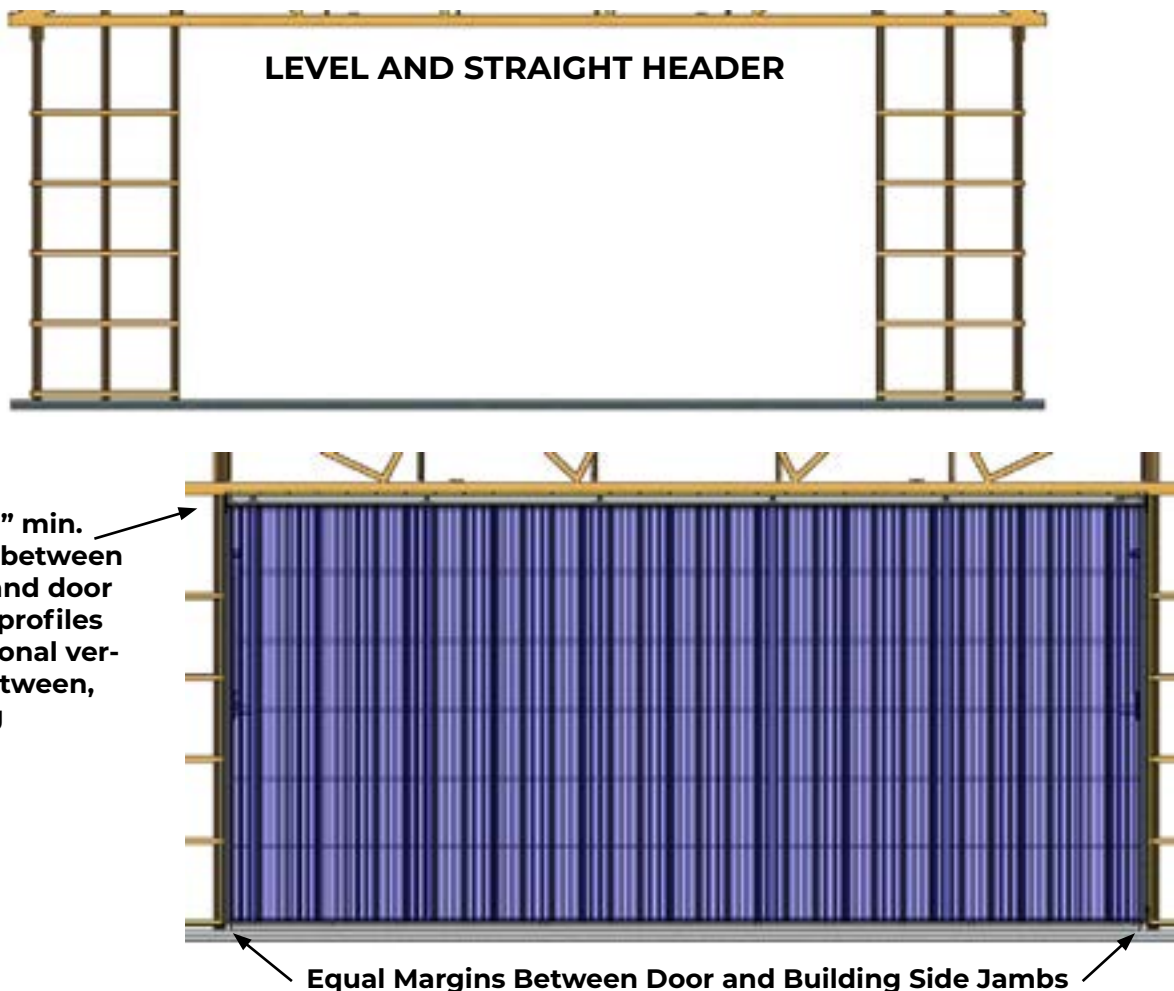
Upon completion of securing the door, the hydraulic pump and connecting hydraulic hoses will be installed on the designated door side. The pump is fastened to framing members by four 1/4" lags. If the pump requires to be removed (for example, for lining the building interior) lags of the same diameter but of longer length can be used. The recommended height of the pump controls is 72" or higher from the finished floor to discourage young or unauthorized individuals from operating the door, however the pump controls can be located per the customers specifications.

The PowerLift installer will connect temporary power and pour the hydraulic oil (supplied by the customer) into the pump reservoir. We recommend either an ISO 32 hydraulic oil or an ISO 22 synthetic hydraulic oil based on our experience. The door will be temporarily operated through several cycles. Any final adjustments will be completed prior to the installer leaving the project. If the Owner is available, operating instructions will be provided by the installer. An Owner's Installation Checklist will also be zip tied to the pump.

Center In Opening

The rough opening should be completed with the side columns plumb, straight and the header level, straight and without bow or twist. To eliminate any building movement, installation of roof trusses, wall girts, bracing and roof sheeting should be completed prior to door installation. Door side jamb trim installed prior to door installation. This method is quicker and less problematic for the builder than installing trim after the door installation. The door will fasten to the inside of the header. Bracing should not extend closer than 3.5" from the bottom of the header opening.

Door installation is preferred to be completed prior to concrete floor placement. By allowing our door frame posts to be extended and the concrete placed around them, the posts are soundly secured. For completed concrete floors anchor plates and bolts will be installed.

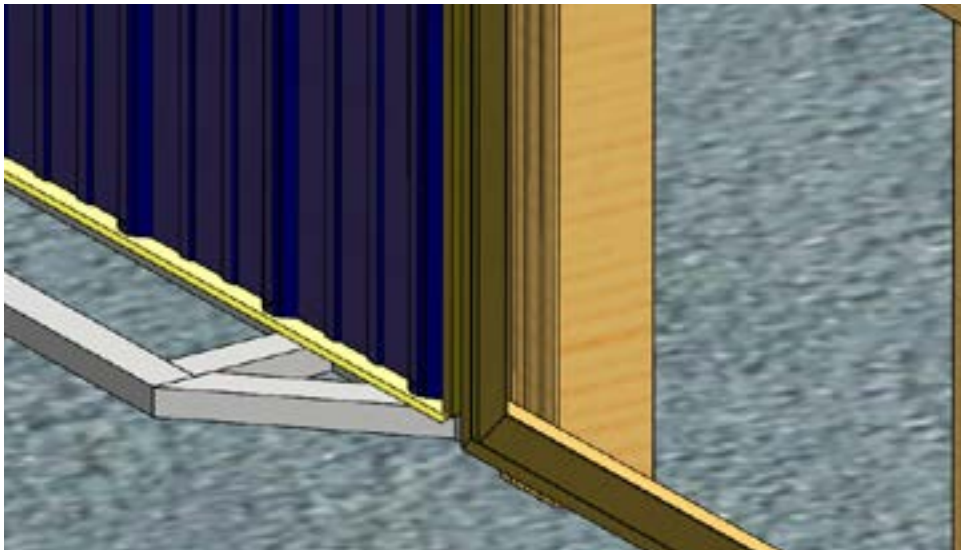


Trim Materials/Recommendations

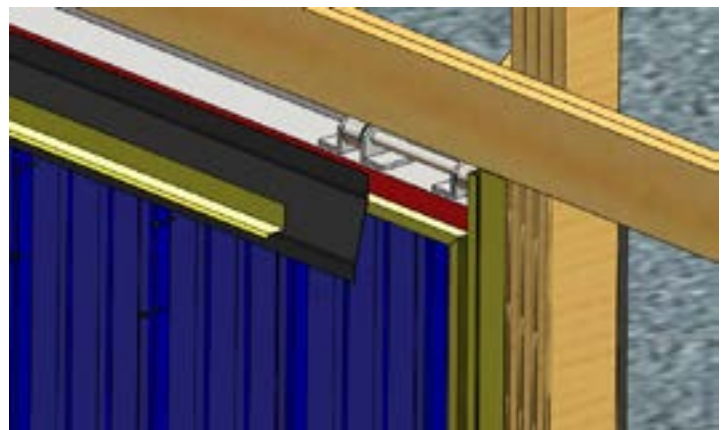
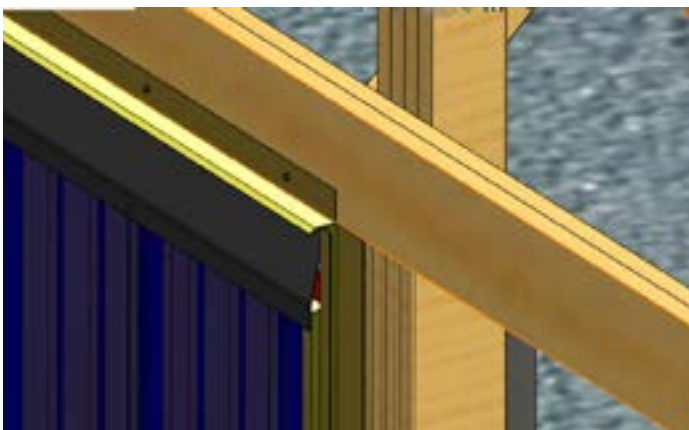
When installing the door trims and cladding a minimum distance of 5 1/2" must be maintained between the trim or cladding above the header and the trim or cladding on the door. This allows the door to open past 90 degrees without damaging either material. Cladding material deeper than 1" profiles will require more distance. In this circumstance, raise the building trims and cladding above the rough opening and operate the door to verify that the trims and cladding will not collide. Upon request we can provide cladding/trim cut lengths. All cut lengths assume the use of drip edge and j-channel. For any trim pieces that add height to the base there will need to be a portion deducted from the cladding length to compensate the additional height.

Weatherstripping

The door bottom weatherstripping has been installed (referenced in the picture below). The PowerLift installer will trim to fit and add/adjust metal closeout plates on each end of the door. If the concrete is not installed at the time of the door installation the owner or contractor may need to adjust the closeout plates. The closeout plates can easily be adjusted by loosening the screws and moving the slotted rubber membrane up or down and then retightening the screws. This provides the best door seal.



The upper rubber membrane should be installed after door installation. To attach it you will put the top portion underneath your sheeting/trim above the door then wrap it over the header and attach it to the door with a screw in each high rib. You should then apply sealer to each screw and down the sides of the building jamb to ensure the best seal possible. Reference pictures below for additional information.



Windows

Windows can be installed in every PowerLift Hydraulic Door. The window type selected is restricted awning, fixed or sliding. The recommended rough opening or total size should be no larger than 5' wide or 4' high with no individual pane of glass being larger than 9 square feet (width multiplied by height). Tempered glass is recommended no matter the size of the window.

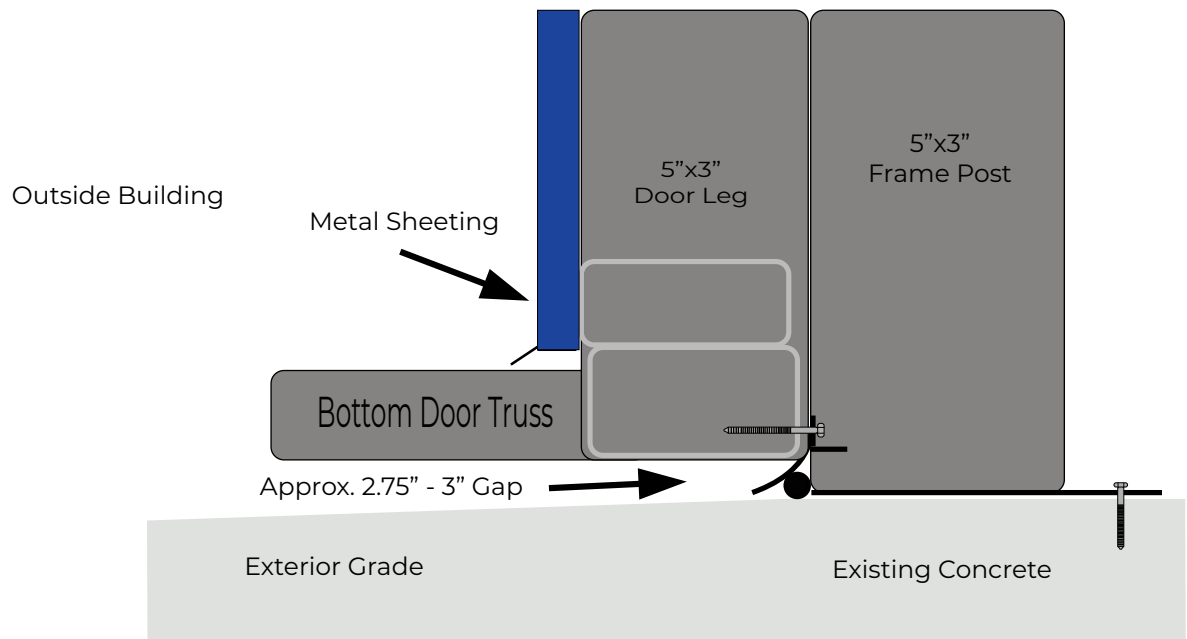
Recommended window mounting is by continuous molded or permanently attached window nail flange lapping the rough opening at least 1" at each edge and permanently fastened per manufactures instructions. All windows shall be installed per applicable building codes. The window supplier is responsible for: (a) providing windows of the correct glazing type, (b) sufficient framing and track depth so windows remain intact for door movement or varying horizontal positions, (c) installation of windows per manufacturer's instructions and (d) warranty for installation conditions. Due to varying conditions, PowerLift Hydraulic Doors cannot be held liable for any conditions or circumstances resulting from window installation.

Insulation

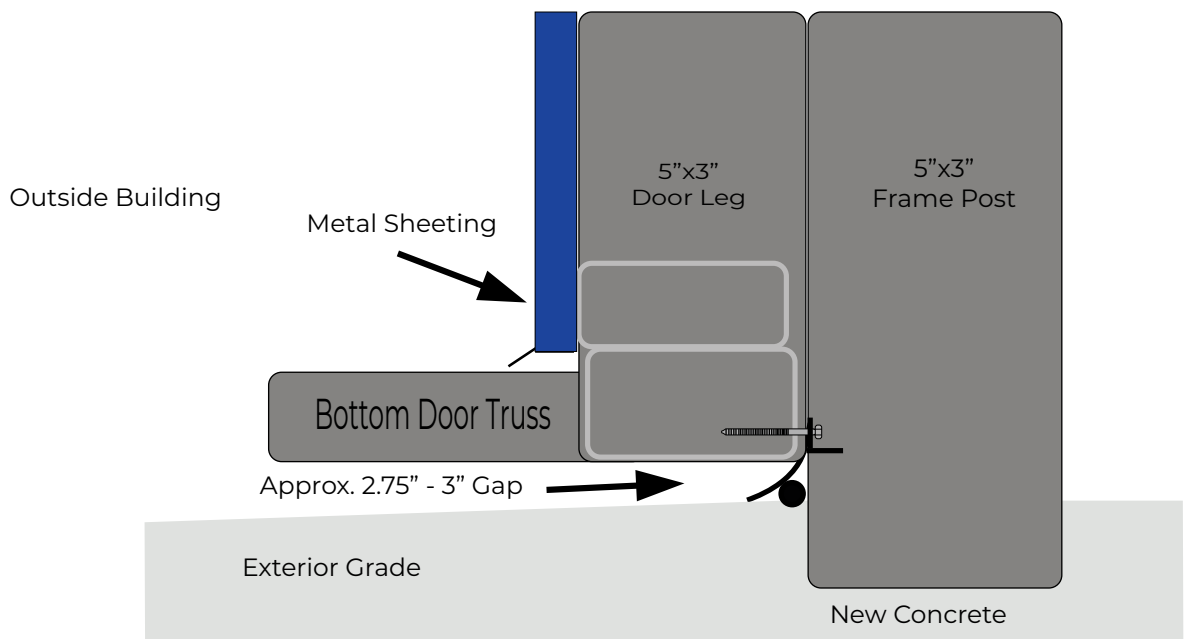
PowerLift Hydraulic Doors are fabricated with the anticipation that the door will be insulated and completed with a liner panel. No additional door modifications are required if this application is undertaken in the future.

PowerLift Hydraulic Doors does not expressly require a specific insulation material however, based on our years of installation experiece we would recommend either a hard board or sprayed insulation. This helps to alleviate any issues if water were to permeate the door cladding or weatherstripping. All insulation is to be provided by others. Due to varying conditions, PowerLift Hydraulic Doors cannot be held liable for conditions or circumstances resulting from insulation issues.

Concrete



A Typical Inside Mount Threshold Detail w/Placed Concrete & Secondary Seal



B Typical Inside Mount Threshold Detail w/New Concrete & Secondary Seal

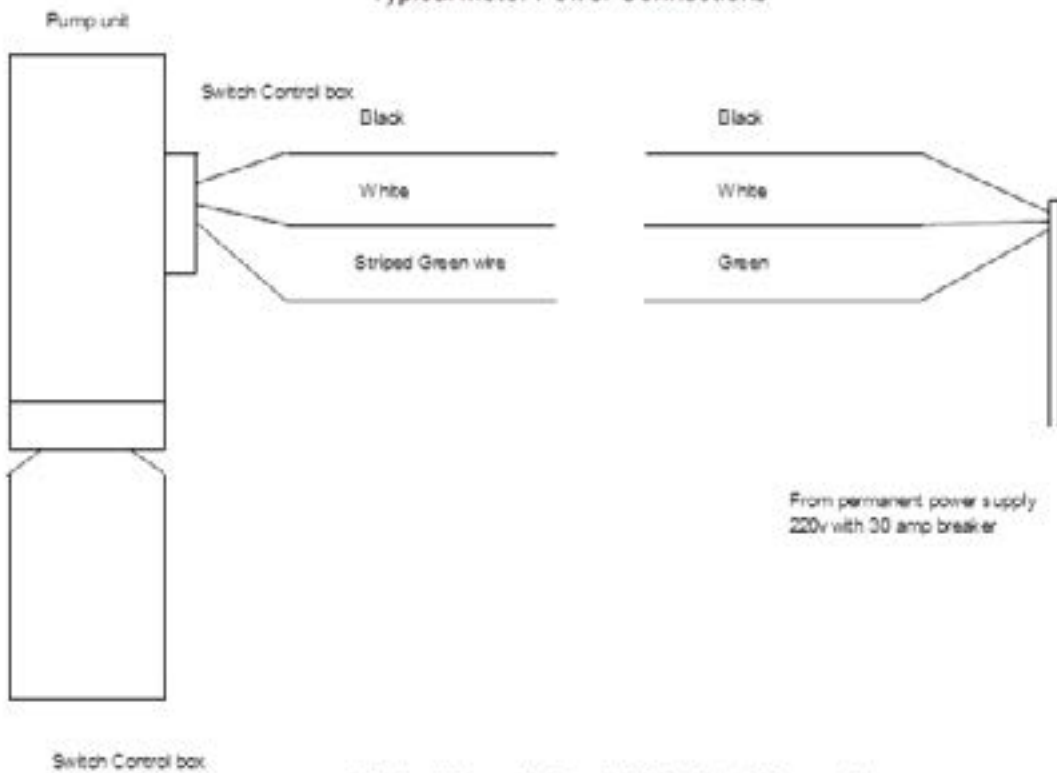
Electrical Connections

Both the pump and the remote control option can be wired by the same power supply. A 220v 30-amp breaker is required. All wiring is completed using the color coded wiring located in the pump switch box. For a list of additional wiring connections please contact your local Powerlift Manufacturing Location.

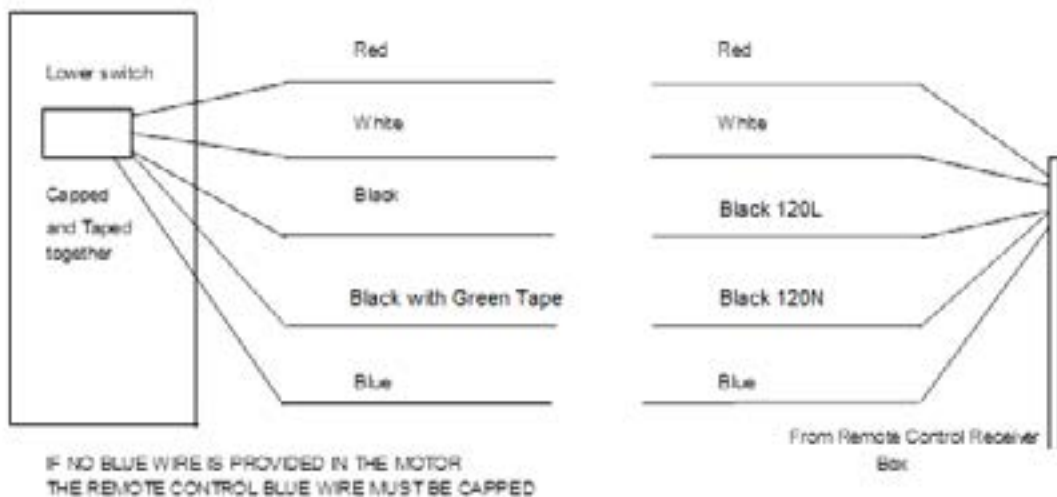
ELECTRICAL WIRING SHALL BE INSTALLED BY AN ELECTRICAL CONTRACTOR AND MEET FEDERAL, STATE AND LOCAL CODES.

Typical Electrical Connections

Typical Motor Power Connections



Typical Remote Control Electrical Connections



SECTION 02

DOOR OPERATION

Safety

You are responsible for the safe use of this product. Unsafe use could result in property damage, serious personal injury, serious injury to others or a fatality.

Do not operate the door until you understand all the safety instructions. If you have any questions, contact your door provider or go to www.powerlift-doors.com for assistance.

Recognize safety information and labels:

- The labels are located on the pump and at eye level at each door frame jamb.
- Understand the label's meaning and the potential risk it identifies.
- Keep the labels in good condition.
- Replace unreadable labels by contacting your door installer or at www.powerliftdoors.com.

Safety

Follow all safety instructions:

- Read and understand all safety, operation and maintenance instructions.
- Allow only those persons who have read and understand the instructions to operate the door.
- Turn off the power when making electrical connections or conducting any electrical work.
- Install all electrical connections per state and local codes.
- Do not re-adjust or modify the settings completed by the door installer.
- Avoid electrical shock by not operating controls with wet hands or standing on a wet surface.
- Operate the door only for the door's intended purpose.
- Inspect and verify that the area in the path of the door swing is free of equipment, vehicles, or obstructions.
- The labels are located on the pump and at eye level at each door frame jamb.
- Stay alert and watch during the door's operation.
- Keep fingers and extremities away from pinch points located between the door and door frame.

- Keep children and pets away from the door while door is operating.
- Maintain the door in good operating condition.
- Wear safety glasses when using hydraulic connections.
- Door operation should not occur in wind speeds exceeding 40 MPH.
- If a remote control is ordered, do not leave the remote transmitter where unauthorized persons could operate the control.
- If cane bolts are provided, verify the bolts are not engaged prior to door operation.

Hurricane Pin

On larger width doors, hurricane pins may be added to the inside of the truss near the center of the door. While the PowerLift door can withstand significant wind loads, the use of hurricane pins adds additional strength at the door truss location. If severe or abnormal weather is anticipated the hurricane pin can be engaged by lowering the pin into a hole in the floor slab. This procedure may aid in preventing unwanted building or door damage. Under normal weather conditions the hurricane pin may be left in the raised or unengaged position.

NEVER OPERATE THE DOOR WHEN THE HURRICANE PIN IS ENGAGED.

Standard Operating Procedure

Temporary Power

We recommend that the door be temporarily operated by live hydraulic power. The door is provided with pioneer type hydraulic nipples located on the hydraulic lines near the pump. Tractors or other hydraulic equipment can operate the door using these connections. Hydraulic connections should be left attached for the entire door cycle to prevent pressure buildup.

Not recommended, but if a generator must be used to supply temporary electrical power, **Only use a generator that can provide at least 10,000 watts of continuous power.** Do Not starve the pump unit of electrical power by using undersized generators. This will adversely affect the lifetime of the power unit and **VOID YOUR WARRANTY.**

Standard Operating Procedure

Permanent Power

PowerLift hydraulic doors are operated by the means of a deadman switch. In the event of an emergency, release pressure on the controls. This will stop the door at its present location.

To operate the door manually:

- Verify that the area in the path of the door is free of obstructions and that the optional cane bolts are not engaged.
- On the pump, push and continue pushing the button labeled in the desired direction. This will energize the pump causing the door to move in the selected direction.
- To stop, release pressure on the button. The door will remain in whatever position the door was in when the button pressure was released.
- When the door has reached the door cylinders' limit (complete open or completely closed) the pump will bypass and door movement will cease. This will cause a change in the sound of the pump's operation. Release pressure on the pump buttons. The door cannot travel any further in the same direction.

To operate the door using the remote control option:

- Verify that the area in the path of the door is free of obstructions and that the optional cane bolts are not engaged.
- On the pump, push and continue pushing the button labeled in the desired direction. This will energize the pump causing the door to move in the selected direction.
- To stop, release pressure on the button. The door will remain in whatever position the door was in when the button pressure was released.
- When the door has reached the door cylinders' limit (complete open or completely closed) the pump will bypass and door movement will cease. This will cause a change in the sound of the pump's operation. Release pressure on the pump buttons. The door cannot travel any further in the same direction.

Maintenance

Yearly inspect hoses, lines and connectors for signs of deterioration. Contact your door installer if deterioration is detected.

In high moisture buildings, (dairy buildings, livestock confinements) replace the hydraulic oil to prevent moisture accumulation. Protect motor from excessive moisture.

SECTION 03

OPERATING SYSTEMS

Standard 3HP 230volt Power Unit

The electrical motor and pump are combined into one self contained unit. This unit will be located adjacent to the door. The Owner is responsible for providing electrical power connections for the pump unit. The motor is 3HP or 5HP 230 volt and requires a 30-amp breaker. Electrical power installation is to meet federal, state and local codes. The pump unit contains a contact toggle style switch. Push the toggle in the desired direction according to the labels (raise or lower). The toggle switch requires constant pressure to operate. When pressure is released from the switch, the pump operation will cease causing the door to stop moving and stay at the door's present position.

Standard 5HP 230volt Power Unit

The electrical motor and pump are combined into one self contained unit. This unit will be located adjacent to the door. The Owner is responsible for providing electrical power connections for the pump unit. The motor is 3HP or 5HP 230 volt and requires a 30-amp breaker. Electrical power installation is to meet federal, state and local codes. The pump unit contains a contact toggle style switch. Push the toggle in the desired direction according to the labels (raise or lower). The toggle switch requires constant pressure to operate. When pressure is released from the switch, the pump operation will cease causing the door to stop moving and stay at the door's present position.

Standard 5HP 230/460volt 3-Phase Power Unit

The electrical motor and pump are combined into one self-contained unit. This unit will be located adjacent the door. The Owner is responsible for providing electrical power connections for the pump unit. The motor is 5HP 208-230 3-Phase/460-480 3-Phase volt and requires a 20-amp breaker. Electrical power installation is to meet federal, state and local codes. The pump unit contains a contact toggle style switch. Push the toggle in the desired direction according to the labels (raise or lower). The toggle switch requires constant pressure to operate. When pressure is released from the switch, the pump operation will cease causing the door to stop moving and stay at the door's present position.

SECTION 04

WARRANTY

1. WHAT IS COVERED BY THIS WARRANTY

The PowerLift Hydraulic Door Manufacturing and Installing Location [hereinafter "PowerLift"] warrants to the Purchaser the following items for the duration from substantial completion of the project shown in their respective headings. Substantial completion is when PowerLift's contracted work is complete.

FOR 7 YEARS (Original Purchaser Only):

- PowerLift will repair or replace any steel framework or steel parts that have failed due to defects in the material or workmanship.

FOR 3 YEARS (Original Purchaser Only):

- PowerLift will repair or replace all hydraulic or electrical systems, paint, or weather-stripping that malfunction or cease operation during this time frame due to malfunction of the product for reasons that are covered under the PowerLift Warranty. For information about situations not covered by the warranty please consult the "Not Covered by Warranty section."

If the purchaser discovers a claim within the applicable warranty period, they must promptly notify the PowerLift Hydraulic Door Manufacturing and Installing Location. In no event shall such notifications be received by PowerLift later than two weeks after the expiration of the applicable warranty period. Within reasonable time after written notification of a warranty claim has been received, PowerLift will repair any failure of the hydraulic door in compliance with this Warranty. During the first year PowerLift will cover all applicable parts, labor and travel expenses. During years 2-3, PowerLift will cover all applicable parts and the customer will be billed for a service fee based on travel time and onsite labor expense. Your PowerLift location will discuss the service fee expense with you prior to onsite work and provide you with an estimate based on expected travel and onsite time, note that this is only an estimate and charges may vary depending on the complexity of the repair and the onsite repair time.

These remedies are the purchaser's sole and exclusive remedies for a breach of warranty.

2. WHAT IS NOT COVERED BY THIS WARRANTY

PowerLift does not warrant:

- Damage caused by use of the hydraulic door for purposes other than those for which it was designed.
- Damage which occurs at the attachment points of the door frame to the building framework.
- Damage to painted surfaces due to contact with chemicals, soil, gravel, landscape materials or plants including grass or weeds, herbicides, pesticides, concrete or asphalt.
- Damage caused by disasters such as fire, flood, or lightning.

- Damage caused by wind that exceeds the maximum designed wind load for your hydraulic door.
- Damage due to deterioration caused by moisture permeation of the interior and/or exterior door covering.
- Damage due to deterioration caused by interior chemical vapors, dust, excessive humidity, condensation, algae, mold, mildew, animal waste or saliva.
- Damage due to flying or falling objects including hail or storm debris.
- Damage caused by anyone other than PowerLift's employees or agents.
- Damage caused by anyone other than PowerLift's employees or agents.
- Damage caused to the hydraulic system due to battery deterioration in remote controls.
- Damage or injury caused by battery deterioration in remote controls.
- Damage caused by other abuse or misuse.
- Damage caused due to providing insufficient power to the electrical system due to electrical connections or powering with an insufficient generator (generator requirements are provided in Owner's Manual and on a sticker on the face of the pump).
- Normal wear and tear.

This warranty is void if structural members of the hydraulic door are altered without the written approval of PowerLift.

3. NO OTHER WARRANTY AND DISCLAIMER OF WARRANTY

Unless modified in writing a signed and dated by both parties, this Warranty is understood to be the complete and exclusive warranty from PowerLift to the purchaser in connection with the sale of the hydraulic door. It supercedes all prior warranties, oral and written, and other communication between the parties relating to the hydraulic door warranty. No employee or agent of PowerLift or any other party is authorized to make any warranty in addition to those made in this Warranty other than an Officer of PowerLift.

4. LIMITATIONS OF REMEDIES

In no case shall PowerLift be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of savings or revenue, loss of use of the hydraulic door or any associated equipment, cost of capital, cost of any substitute facilities or services, downtime, the claims of third parties including customers, and injury to property. The limitation of consequential damages does not apply for injury to the person in those jurisdictions where such limitation is precluded. Some states do not allow limits on warranties, or on remedies for breach in certain transactions. In such states, the limits in this paragraph and in paragraph 3 above may not apply.

5. ALLOCATION OF RISK

This Warranty allocates the risk of product failure between PowerLift and the purchaser. This allocation is recognized by both parties and is reflected in the price of the hydraulic door. The purchaser acknowledges that he has read this Warranty, understands it, and is bound by its terms.



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