GT500/8500

Heavy-Duty/Low-Energy
ADA Swing Door Operator

Where SOLUTIONS are AUTOMATIC

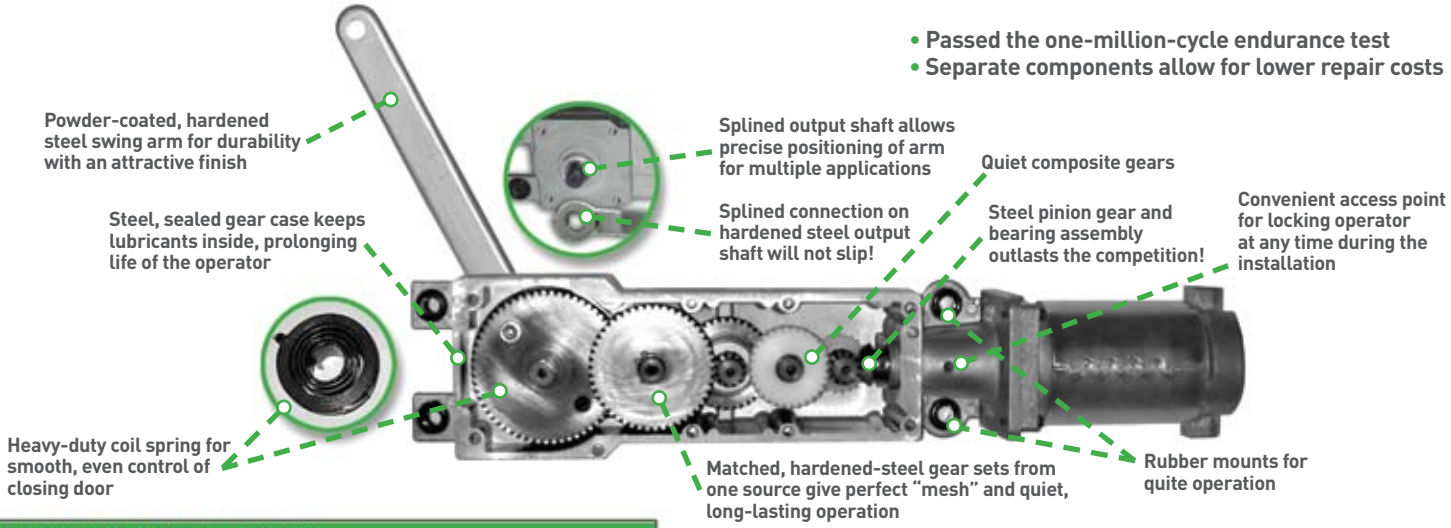
Product Features and Benefits

- Adjustable closing speeds to **enhance energy savings**
- Heavy-duty motor and mechanical gearbox **offer longevity and dependability**
- Mechanical operator with a microprocessor control **provides efficient, smooth operation**
- Compliments new/existing door frames, as well as in-ground capability which **provides versatility**
- A workhorse operator that **provides confidence and peace of mind** while complying with the ANSI A156.19 standard

GT500/8500 Heavy-Duty/Low-Energy ADA Swing Door Operator

The NABCO GT500/8500 Heavy-Duty/Low-Energy Operator is engineered for interior and exterior use, and designed to automate essentially any new or existing door frame. The side load header access panel simply pivots up and locks into position, out of the way, enabling quick installation and ease of servicing. NABCO ensures the highest level of customer satisfaction and the lowest failure rate by rigorously testing each unit prior to shipment. The low-energy performance combined with the adjustable opening and closing speeds reduce energy consumed, which offers a prompt return on your investment.

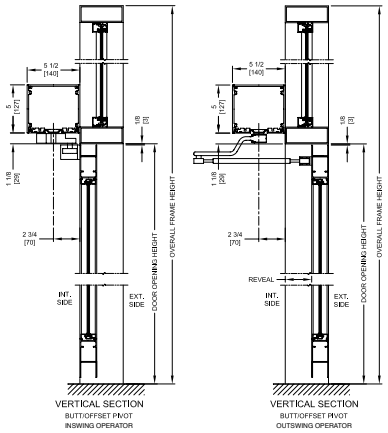
- Passed the one-million-cycle endurance test
- Separate components allow for lower repair costs



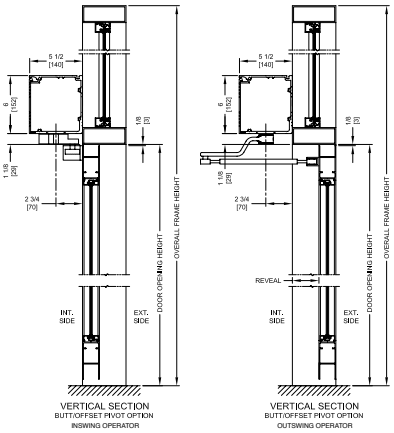
PRODUCT INFORMATION

Header dimensions	**Bottom load – 5" H X 5 1/2" D** (GT500) **Side load – 6" H X 5 1/2" D** (GT8500)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Surface applied/In-ground**
Installation types	**Push or pull**
Operating voltage	**120 VAC**
Auxiliary power output	**12VDC 700mA**
Operator drive	**Electro-mechanical**
Motor voltage	**Pulse width modulated**
Motor type	**1/10th HP permanent magnet motor**
Control type	**Microprocessor**
Door panel weight	**300 lbs.**
Adjustable open	**Force and speed**
Adjustable close	**Speed**
Closing method	**Spring** (with selectable power assist)
Adjustable opening angle	**90º to 110º**
Power boost close	**Selectable**
Basic features	**Low-energy operation** **Push and go** **Obstacle detection in opening and closing cycles** **Sequential or timer mode operation** **LCD screen for programming and diagnostics** **Open- or closed-circuit safety inputs** **Momentary or maintained activation**
Switch modes	**On, off, hold-open**
Opening and closing speed	**Adjustable**
Hold-open time	**Adjustable** (0-30 seconds)
Code compliances	**ANSI A156.19/ANSI A117.1**
Approvals	**UL, ULC**

GT500 Operator
Bottom load



GT8500 Operator
Side load



CONFIGURATIONS:
The GT500/8500 is available for multiple configurations such as single doors, simultaneous pairs, dual egress and in-ground applications, as well as the Opman configuration, which is a single, continuous header for a pair of doors containing a manual closer on one side and an automatic operator on the other.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10/A156.19 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

NABCO GYROTECH

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Distributed by:

GT710/8710

Low-Energy
ADA Swing Door Operator

Where SOLUTIONS are AUTOMATIC

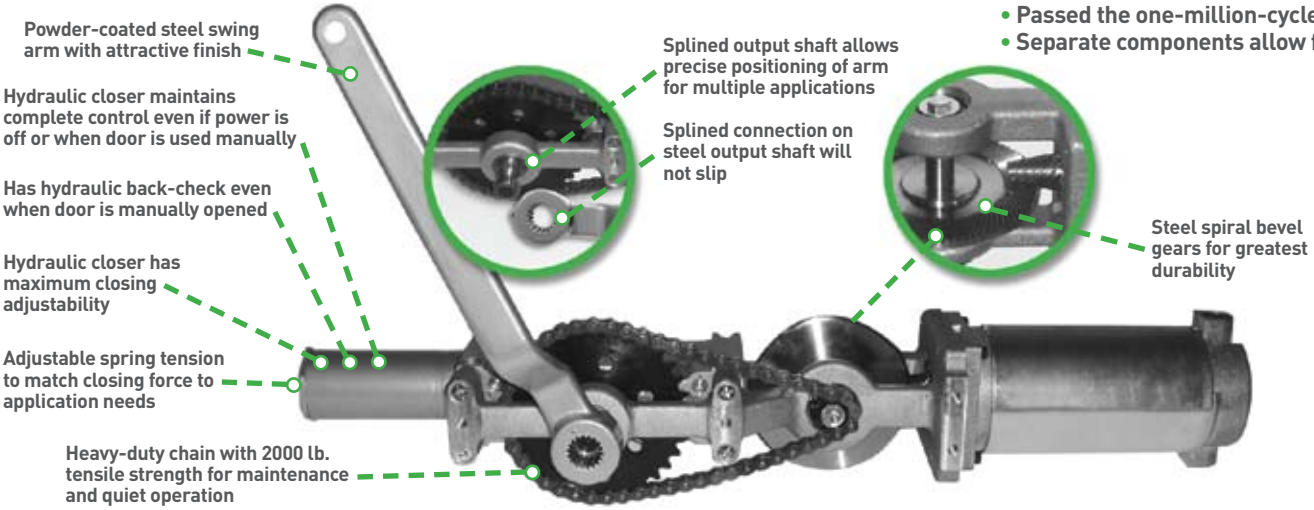
Product Features and Benefits

- Hydraulic design offers **proven reliability**
- Adjustable closing speeds to **enhance energy savings**
- Manual mode requires very little pressure to open **promoting ease of operation**
- Approved on fire door assemblies rated up to 3 hours, **maintaining security and safety**
- Hydraulic back-check during windy conditions **protects the door and operator from damage**

GT710/8710 Low-Energy ADA Swing Door Operator

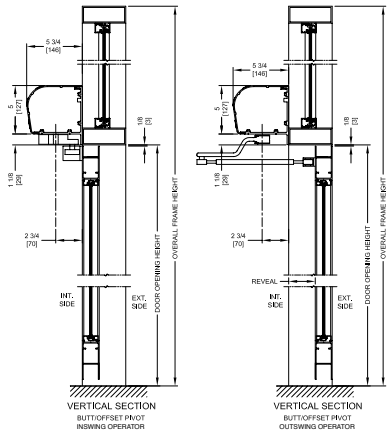
The NABCO GT710/8710 Low-Energy Operator is engineered for interior and exterior use, and designed to automate essentially any new or existing door frame. The GT710/8710 operates in both automatic and manual modes with a hydraulic back-check that protects the door and mechanical operator from damage when forced open in windy conditions or when manually operated. The GT710/8710 Operator has been approved for use on fire door assemblies rated up to 3 hours. The low-energy performance, combined with the adjustable opening and closing speeds, reduces energy consumed, which offers a prompt return on your investment.

- **Passed the one-million-cycle endurance test**
- **Separate components allow for lower repair costs**

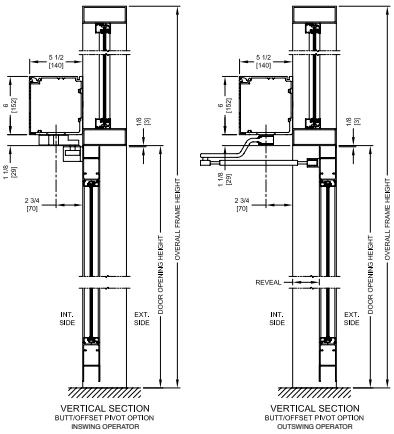


PRODUCT INFORMATION	
Header dimensions	**Side load - 5" H X 5 3/4" D** (GT710) **curved header** **Side load - 6" H X 5 1/2" D** (GT8710)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Surface applied or overhead concealed**
Installation types	**Push or pull**
Operating voltage	**120 VAC @ <5 amps**
Auxiliary power output	**12VDC 700mA**
Operator drive	**Electro-hydraulic**
Motor voltage	**Pulse width modulated**
Motor type	**1/8th HP @ peak**
Control type	**Microprocessor**
Door panel weight	**300 lbs.**
Adjustable open	**Force and speed**
Adjustable close	**Force and speed**
Closing method	**Spring/hydraulic** (with selectable power assist)
Adjustable opening angle	**Up to 145°**
Power boost close	**Selectable**
Basic features	**Low-energy operation** **Push and go** **Obstacle detection in opening and closing cycles** **Sequential or timer mode operation** **LCD display for programming and diagnostics** **Open- or closed-circuit safety inputs** **Momentary or maintained activation**
Switch modes	**On, off, hold-open**
Opening and closing speed	**Adjustable**
Hold-open time	**Adjustable** (0-30 seconds)
Code compliances	**ANSI A156.19/ANSI A117.1**
Approvals	**UL, ULC**

GT710 Operator



GT8710 Operator



CONFIGURATIONS:
The GT710/8710 is available for multiple configurations, such as single doors, simultaneous pairs, and dual-egress, as well as the Opman configuration, which is a single continuous header for a pair of doors containing a manual closer on one side and an automatic operator on the other.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10/A156.19 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.NABCOentrances.com | Email info@nabcoentrances.com

Distributed by:

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Model GT500 and GT710
Low Energy Power Operated Doors

OWNER'S MANUAL

A Founding Member of: AAADM
(American Association of Automatic Door Manufacturers)

Table of Contents

WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-11293
Rev. 6/18/15

Chapter 1: Warning Labels

Please refer to this Chapter in the event a warning label is displayed within this manual and further definition needs to be explained.

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: Indicates important information that provides further instruction.

Chapter 2: Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

> NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

Chapter 3: Service Availability

Low Energy automatic door systems are distributed through a nationwide network of authorized suppliers for sales, installation, and service.

Immediately contact the Door Manufacturer or the Authorized Door Manufacturer Representative, if service must be performed on a Low Energy automatic door system.

Chapter 4: To Our Customers

The purpose of this manual is to provide the owner and/or caretaker a description of operation and maintenance requirements for the Low Energy automatic door system, and to also provide instruction for a Daily Safety Check.

It is essential for the owner and/or caretaker to recognize the importance of *maintaining* each automatic door system.

It is the responsibility of the owner and/or caretaker to *inspect* the operation of each automatic door system - daily - to ensure pedestrian safety and personal protection.

WARNING **Should the door fail to operate as prescribed in the Daily Safety Check, or at any other time for any other reason, DO NOT attempt to repair or adjust the door. Call an AAADM Certified technician. These technicians are trained to service automatic door systems in accordance with ANSI/BHMA A156.19 (Low Energy).**

Chapter 5: Provided Information

It is the responsibility of the Automatic Door Installer to ensure the following information for each automatic door system has been provided to the owner and/or caretaker:

- Number to call for service or questions about your system if you are uncertain of any condition or situation.
- Warranty information for each door.
- Instruction on how to conduct the Daily Safety Check.
- Location of function switches and instruction in their use.
- Circuit breaker or main power-disconnect location for each door system.
- AAADM inspection form or a work order signed by an AAADM Certified Inspector.
- A completed annual ANSI compliance inspection label located at the bottom of the safety information label affixed to the door.

Note: If there are any problems, or if the safe performance of the door is in question, discontinue door operation immediately and secure in a safe manner. Call an authorized automatic door professional for repair.

Note: AAADM Daily Safety Check videos are available. Contact the Authorized Door Supplier *or AAADM.*

Chapter 6: Compliance with Safety Standards

To ensure safe operation of the automatic door system, it is the responsibility of the owner or caretaker to ensure the following regulations are maintained according to ANSI/BHMA A156.19 (Low Energy):

- Proper signage and labels must be applied and maintained on each Door Panel.
- If signage is removed or cannot be read, request replacement when calling for service.

The American Association of Automatic Door Manufacturers (AAADM), has established a program to certify automatic door inspectors. Through this program, inspectors are trained to check Low Energy automatic door systems for compliance with the American National Standards Institute standard ANSI/BHMA A156.19 (Low Energy).

Chapter 7: General Safety Checks

An ecologically acceptable disposal of the installation is ensured if the different materials are separated and recycled. No particular measures are required for the protection of the environment. However, the relevant legal prescriptions applicable for the installation site have to be complied with!

CAUTION **In order to guarantee reliability of the installation, any components showing signs of wear must be replaced as a preventive measure.**

- Housekeeping: Check the door area for tripping or slipping hazards.
- Traffic Patterns: Observe traffic patterns. Plan routing so pedestrians enter and exit in a straight approach, directly toward the center of the door opening.
- Damage:
  - Check all door panels for damage.
  - Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions in the door area that would interfere with use of the door or invite people to stop or stand in the door area.

- Breakout Stop (OHC):
  - For *OHC Inswing* Doors that are Center pivoted may be supplied with an Emergency Breakout Stop or Switch that will allow the door to open in the direction of emergency egress.
  - When the door is pushed into the breakout mode, check that door will not activate.
  - Call your supplier for details.
- Guide Rails:
  - Check that guide rails or other barriers or separators are present (two per swing door side) and firmly anchored. Rail length should be the width of the open door or greater.
- Activating Switch (Knowing Act):
  - Doors equipped with a manual activating switch shall hold fully open for a minimum of 5 seconds before closing.
  - Doors equipped with a manual activating switch shall have a decal as follows: "Automatic Door. Activate Switch to Operate." The decal should be visible from both sides of the door.
- Finger Guard: If installed, inspect the Finger Guard to see that it is secure and in good repair. Please see Figure 1.

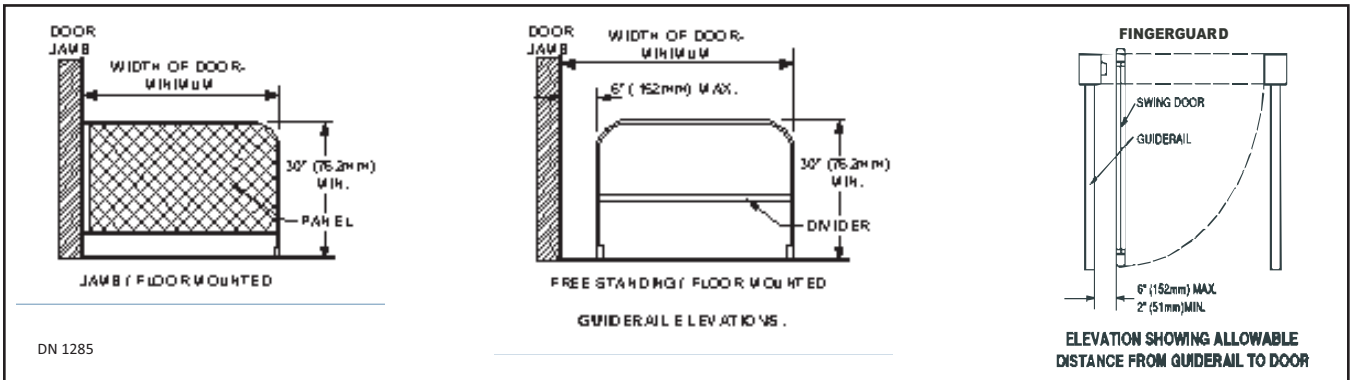
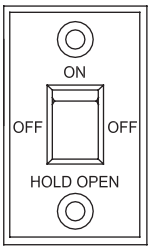


Figure 1 Guard Rail and Finger Guard

Chapter 8: Power Switch

ON	When the switch is in ON position, all signals are accepted and the door is ready for operation.	
OFF	When the switch is in the OFF position, the activation signal from the push switch is not accepted by the control box. The OFF position does not shut off the power.	
HOLD OPEN	When the switch is in HOLD OPEN position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.	

Chapter 9: Daily Servicing

WARNING **Electrocution hazard. When servicing the unit, turn power OFF at the circuit breaker in the building's electrical box, unless it is necessary for adjustments.**

Notice: **Use Mild Soap to clean.**

Installation and Control Elements Description	Check	Clean
General Condition	X	
Free door movement (manually)	X	
Guide Rails	X	X
Weather Stripping	X	X
Header Cover	X	X
Force to prevent the door from closing should not exceed 15 pounds. Can be measured with a force gauge.	X	
▶ Center pivoted Inswing Doors may be supplied with an emergency breakout stop or a switch allowing the door to open in the direction of emergency egress. ▶ When the door is pushed into breakout mode, check that the door will not activate. ▶ Call supplier for details.	X	
All existing Control elements such as: Sensors, Key-operated Switches, Floor Control Mats, etc.	X	X
Stickers, AAADM labels	X	X

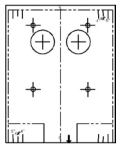
Chapter 10: Daily Safety Check

CAUTION **If a problem exists, turn OFF the POWER. Call the Automatic Door Supplier.**

1. Activate the Door Panel. The Door Panel should open at a slow smooth pace (4 seconds or more) and then stop without impact.
2. The Door Panel must remain fully open for a minimum of 5 seconds before beginning to close.
3. The Door Panel should close at a slow smooth pace (4 seconds or more) and stop without impact.
4. Inspect the floor area. It should be clean with no loose parts that might cause user to trip or fall. Keep traffic path clear.
5. Inspect each Door Panel's overall condition. The appropriate signage should be present and the hardware should be in good condition.
6. Have the Low Energy automatic door system inspected annualy by an AAADM certified inspector.

Chapter 11: Signage

Note: For additional decals or labels for automatic doors, call your automatic door supplier.

Decal	Description	
Activate Switch to Operate	▶ (2) Activate Switch signs, shall be adhered to both sides of door, with the words "Automatic Caution Door and Activate Switch to Operate" to be clearly visible. ▶ The sign shall be a minimum of 6 inches in diameter. Black lettering shall be a minimum 5/8 inch tall on a yellow background. White lettering shall be a minimum 1/2 inch tall on a blue background.	
Header Template	Used for OHC Swing Doors only	
AAADM Safety Information Label (Low Energy Swing Doors)	▶ (1) Safety Information sign shall be adhered to Jamb Tube on Interior Side of Door Panel. ▶ The sign shall be a minimum of 9 inches tall. Black lettering shall be a minimum of 10 point type on a white background. White lettering shall be a minimum of 10 point type on a blue background.	

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Model GT500 and GT710
Low Energy Power Operated Doors

OWNER'S MANUAL

A Founding Member of: AAADM
(American Association of Automatic Door Manufacturers)

Table of Contents

WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-11293
Rev. 6/18/15

Chapter 1: Warning Labels

Please refer to this Chapter in the event a warning label is displayed within this manual and further definition needs to be explained.

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: Indicates important information that provides further instruction.

Chapter 2: Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

> NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

Chapter 3: Service Availability

Low Energy automatic door systems are distributed through a nationwide network of authorized suppliers for sales, installation, and service.

Immediately contact the Door Manufacturer or the Authorized Door Manufacturer Representative, if service must be performed on a Low Energy automatic door system.

Chapter 4: To Our Customers

The purpose of this manual is to provide the owner and/or caretaker a description of operation and maintenance requirements for the Low Energy automatic door system, and to also provide instruction for a Daily Safety Check.

It is essential for the owner and/or caretaker to recognize the importance of *maintaining* each automatic door system.

It is the responsibility of the owner and/or caretaker to *inspect* the operation of each automatic door system - daily - to ensure pedestrian safety and personal protection.

WARNING **Should the door fail to operate as prescribed in the Daily Safety Check, or at any other time for any other reason, DO NOT attempt to repair or adjust the door. Call an AAADM Certified technician. These technicians are trained to service automatic door systems in accordance with ANSI/BHMA A156.19 (Low Energy).**

Chapter 5: Provided Information

It is the responsibility of the Automatic Door Installer to ensure the following information for each automatic door system has been provided to the owner and/or caretaker:

- Number to call for service or questions about your system if you are uncertain of any condition or situation.
- Warranty information for each door.
- Instruction on how to conduct the Daily Safety Check.
- Location of function switches and instruction in their use.
- Circuit breaker or main power-disconnect location for each door system.
- AAADM inspection form or a work order signed by an AAADM Certified Inspector.
- A completed annual ANSI compliance inspection label located at the bottom of the safety information label affixed to the door.

Note: If there are any problems, or if the safe performance of the door is in question, discontinue door operation immediately and secure in a safe manner. Call an authorized automatic door professional for repair.

Note: AAADM Daily Safety Check videos are available. Contact the Authorized Door Supplier *or AAADM.*

Chapter 6: Compliance with Safety Standards

To ensure safe operation of the automatic door system, it is the responsibility of the owner or caretaker to ensure the following regulations are maintained according to ANSI/BHMA A156.19 (Low Energy):

- Proper signage and labels must be applied and maintained on each Door Panel.
- If signage is removed or cannot be read, request replacement when calling for service.

The American Association of Automatic Door Manufacturers (AAADM), has established a program to certify automatic door inspectors. Through this program, inspectors are trained to check Low Energy automatic door systems for compliance with the American National Standards Institute standard ANSI/BHMA A156.19 (Low Energy).

Chapter 7: General Safety Checks

An ecologically acceptable disposal of the installation is ensured if the different materials are separated and recycled. No particular measures are required for the protection of the environment. However, the relevant legal prescriptions applicable for the installation site have to be complied with!

CAUTION **In order to guarantee reliability of the installation, any components showing signs of wear must be replaced as a preventive measure.**

- Housekeeping: Check the door area for tripping or slipping hazards.
- Traffic Patterns: Observe traffic patterns. Plan routing so pedestrians enter and exit in a straight approach, directly toward the center of the door opening.
- Damage:
  - Check all door panels for damage.
  - Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions in the door area that would interfere with use of the door or invite people to stop or stand in the door area.

- Breakout Stop (OHC):
  - For *OHC Inswing* Doors that are Center pivoted may be supplied with an Emergency Breakout Stop or Switch that will allow the door to open in the direction of emergency egress.
  - When the door is pushed into the breakout mode, check that door will not activate.
  - Call your supplier for details.
- Guide Rails:
  - Check that guide rails or other barriers or separators are present (two per swing door side) and firmly anchored. Rail length should be the width of the open door or greater.
- Activating Switch (Knowing Act):
  - Doors equipped with a manual activating switch shall hold fully open for a minimum of 5 seconds before closing.
  - Doors equipped with a manual activating switch shall have a decal as follows: "Automatic Door. Activate Switch to Operate." The decal should be visible from both sides of the door.
- Finger Guard: If installed, inspect the Finger Guard to see that it is secure and in good repair. Please see Figure 1.

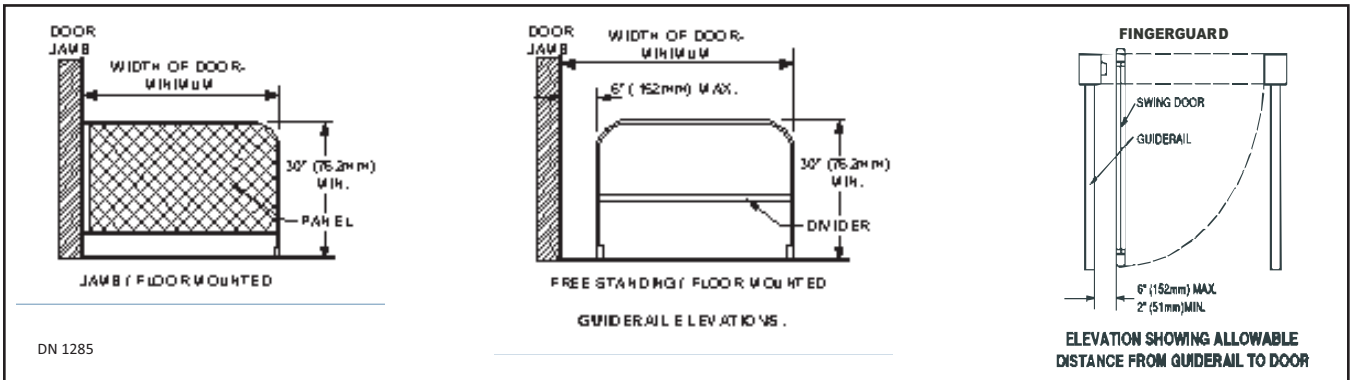
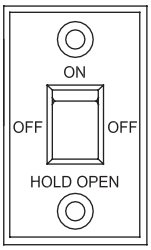


Figure 1 Guard Rail and Finger Guard

Chapter 8: Power Switch

ON	When the switch is in ON position, all signals are accepted and the door is ready for operation.	
OFF	When the switch is in the OFF position, the activation signal from the push switch is not accepted by the control box. The OFF position does not shut off the power.	
HOLD OPEN	When the switch is in HOLD OPEN position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.	

Chapter 9: Daily Servicing

WARNING **Electrocution hazard. When servicing the unit, turn power OFF at the circuit breaker in the building's electrical box, unless it is necessary for adjustments.**

Notice: **Use Mild Soap to clean.**

Installation and Control Elements Description	Check	Clean
General Condition	X	
Free door movement (manually)	X	
Guide Rails	X	X
Weather Stripping	X	X
Header Cover	X	X
Force to prevent the door from closing should not exceed 15 pounds. Can be measured with a force gauge.	X	
▶ Center pivoted Inswing Doors may be supplied with an emergency breakout stop or a switch allowing the door to open in the direction of emergency egress. ▶ When the door is pushed into breakout mode, check that the door will not activate. ▶ Call supplier for details.	X	
All existing Control elements such as: Sensors, Key-operated Switches, Floor Control Mats, etc.	X	X
Stickers, AAADM labels	X	X

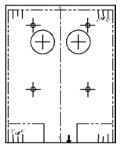
Chapter 10: Daily Safety Check

CAUTION **If a problem exists, turn OFF the POWER. Call the Automatic Door Supplier.**

1. Activate the Door Panel. The Door Panel should open at a slow smooth pace (4 seconds or more) and then stop without impact.
2. The Door Panel must remain fully open for a minimum of 5 seconds before beginning to close.
3. The Door Panel should close at a slow smooth pace (4 seconds or more) and stop without impact.
4. Inspect the floor area. It should be clean with no loose parts that might cause user to trip or fall. Keep traffic path clear.
5. Inspect each Door Panel's overall condition. The appropriate signage should be present and the hardware should be in good condition.
6. Have the Low Energy automatic door system inspected annualy by an AAADM certified inspector.

Chapter 11: Signage

Note: For additional decals or labels for automatic doors, call your automatic door supplier.

Decal	Description	
Activate Switch to Operate	▶ (2) Activate Switch signs, shall be adhered to both sides of door, with the words "Automatic Caution Door and Activate Switch to Operate" to be clearly visible. ▶ The sign shall be a minimum of 6 inches in diameter. Black lettering shall be a minimum 5/8 inch tall on a yellow background. White lettering shall be a minimum 1/2 inch tall on a blue background.	
Header Template	Used for OHC Swing Doors only	
AAADM Safety Information Label (Low Energy Swing Doors)	▶ (1) Safety Information sign shall be adhered to Jamb Tube on Interior Side of Door Panel. ▶ The sign shall be a minimum of 9 inches tall. Black lettering shall be a minimum of 10 point type on a white background. White lettering shall be a minimum of 10 point type on a blue background.	

GT SYSTEM 350, 500, 8350 & 8500
SWING OPERATOR - LOW ENERGY
AUTOMATIC ENTRANCE SYSTEM
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Models GT350, GT500, GT8350 & GT8500
HEAVY DUTY - LOW ENERGY - SWING DOOR OPERATOR
OVERHEAD CONCEALED (OHC) & CONVERSION UNIT (C.U.)

DIVISION 08 – OPENINGS
SECTION 08 42 29.33 SWINGING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic swing door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply:
Section_____

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.19.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of swinging door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following; opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and electrical to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

1.08 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturers (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.19 Standard for power operated pedestrian doors. Door(s) shall be inspected and a form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC SWING DOOR SYSTEM – LOW ENERGY – SURFACE APPLIED

A. Model GT350 & GT500 Bottom Load or GT8350 & GT8500 Side Load Swing Door System as indicated on door schedule and details.

B. Mode of operation: Spring Close. Gyro Tech swing operator shall open door by energizing motor and shall stop door by electrically reducing voltage and stalling motor against mechanical stop. Door shall close by means of spring energy, and closing force shall be controlled by gear system and with motor being used as a dynamic brake without power. System shall operate as a manual door control in event of power failure. Manual operation shall require less than 15 lbs. force applied to door lockstile. Opening and closing speeds shall be adjustable. Hold open time shall be adjustable from 1-60 seconds. Door operation shall not require any fluids or gases under pressure to be used in opening and closing of door.

C. Components:
1. Operator Housing
2. Gyro Tech GT350 (OHC), GT500 (C.U.), GT8350 (OHC) & GT8500 (C.U.) Swing Door Operator
3. Microprocessor Control
4. Connecting Hardware

1a) Operator Housing for the GT350 & GT500 Bottom Load shall be, 5 1/2" (140mm) deep by 5" (127mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .146” (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Housing cover shall be removable to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .093” (2mm). Plastic covers shall not be acceptable.

1b) Operator Housing for the GT8350 & GT8500 Side Load shall be, 5 1/2" (140mm) deep by 6" (152mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .166" (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Hinged housing cover shall be able to be raised and secured or removed to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .100" (3mm). Plastic covers shall not be acceptable.

1c) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes are available upon request.

2) Power Operator: Completely assembled and sealed unit which shall include helical gear-driven transmission, mechanical spring and bearings all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a DC permanent magnet motor with sealed ball bearings. Motor shall operate from 115-volt supply and require less than 3 amps at full power stall. Complete unit shall be resilient mounted with provisions to easily adjust/replace the motor and gearbox without removing door from pivots or frame.

3) Electrical Control: Shall be a solid-state microprocessor unit. The microprocessor control shall allow the opening speed, closing speed, back check and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. Adjustable opening and closing speeds shall be set in accordance with ANSI A156.19. Control shall include time delay, Push-N-Go functionality and sequential mode operation. All adjustments shall be specific and reproducible.

4) Connecting Hardware: Conversion Unit (C.U.) outswing doors shall be connected to operator by a two piece drive arm with self aligning rod ends and connecting door bracket for push-type operation. Inswing drive arm with a urethane covered roller, shall ride in a track fabricated of 6061-T6 or A380 aluminum alloy attached to the door rail where required for pull-type operation. Overhead Concealed (OHC) power operator drive arm to door with a pin linkage rotating in a self lubricated bearing, within a self adjusting slide block, traveling in an interconnected steel track and top door pivot assembly. The (OHC) unit will independently support the door on heavy-duty steel top and bottom door pivots. To allow for durability and easy serviceability, the door shall not pivot on shaft of operator.

2.03 ACTIVATING DEVICES

A. Wall Switches: 6", 4-1/2" diameter stainless steel surface or flush mounted, engraved or plain, as provided by NABCO ENTRANCES INC.

B. Optional activators and safety sensors are available - See Product Catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by AAADM Certified, factory-trained installers in compliance with ANSI A156.19, manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

END OF SECTION

GT1175

All Glass Automatic Sliding Doors

Where ELEGANCE meets DURABILITY

Product Features and Benefits

- Eliminates vertical framing for a **sleek, contemporary look**
- Heavy-duty anodized roller track for **long-lasting durability**
- Low-profile bottom rail allows for a **larger, unobstructed view**
- Large urethane door rollers for **smooth and long-lasting operation**
- Belt drive and brushless motor system ensures **silent and reliable operation**
- Superior double-mohair thermal brush provides **maximum isolation from outside elements**
- Equipped with sensor systems that comply with ANSI 156.10 and promote **reduced liability and increased safety**

GT1175 All Glass Automatic Sliding Doors

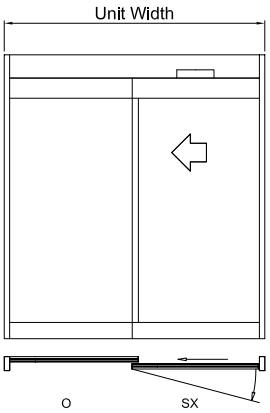
The NABCO GT1175 All Glass Sliding Door eliminates vertical framing resulting in a sleek, contemporary look. The low-profile bottom rail allows a larger, unobstructed view that is perfect for enhancing an attractive lobby or well-manicured grounds. While elegant by design, the GT1175 All Glass Sliding Door is engineered to withstand challenging environment and weather conditions while maintaining smooth operation and quiet, whisper-like performance. NABCO's microprocessor control provides reliable door operation, important usage counts, and diagnostic features for quick troubleshooting and reduced maintenance costs, making this a seamless automatic door entrance solution.

The GT1175 Slider Operator

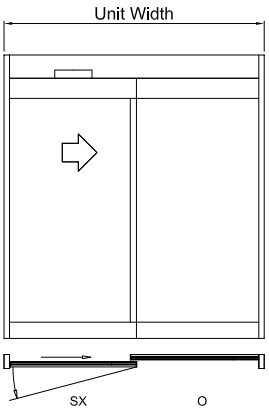
Header cover is pre-wired for sensor installation and uses extra-thick aluminum extrusions to minimize deflection.

PRODUCT INFORMATION	
Header dimensions - standard	**6 1/2"W** (165.1) **x 7 1/2"H** (190.5)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Concealed**
Threshold	**Surface-applied, recessed, none**
Configurations	**Single, bi-part / fixed sidelite**
TECHNICAL INFORMATION	
Operator drive	**Electro-mechanical**
Drive system	**Belt drive**
Motor type	**1/4 HP** (peak) **brushless**
Primary circuit protection	**Breaker**
Controller	**Microprocessor**
Breakout	**System disabled when panels break out**
Operating voltage	**120 VAC – 5 AMP**
Auxiliary power output	**12 VDC**
Maximum door panel weight	**600 lbs.**
Switch modes	**On/off, 1-way, 2-way, hold-open, night**
Opening and closing speed	**Adjustable**
Reduced opening function	**Standard**
Obstacle detection	**Available in both directions**
Hold-open time	**Adjustable** (0-67 seconds)
CODE COMPLIANCE / APPROVALS	
Code compliance	**ANSI A156.10**
Approvals	**UL, ULC and CSFM**

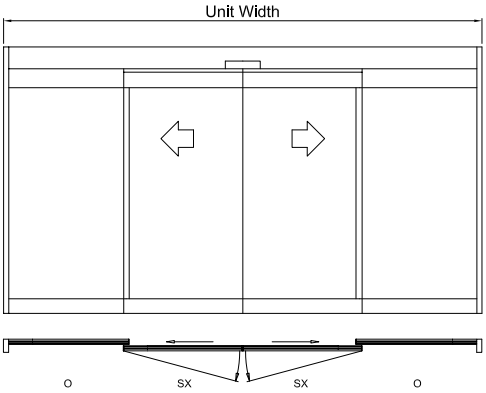
Left hand single slide – fixed sidelite



Right hand single slide – fixed sidelite



Bi-part slide – fixed sidelite



NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

SELECTION GUIDE			
DOOR TYPE	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
Single FSL	**7'** (1930) - **9'** (2743)	**37 3/8"** (949) - **49 3/8"** (1254)	**39"** (990) - **51"** (1295)
Bi-part FSL	**10'** (3048) - **14'** (4267)	**52 1/2"** (1334) - **76 1/2"** (1943)	**55 3/4"** (1416) - **79 3/4"** (2026)

Member of the Nabtesco Group

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Member AAADM

Distributed by:

15-14833 10/14

GT1175

Telescopic Automatic Sliding Doors

Where ELEGANCE meets DURABILITY

Product Features and Benefits

- Heavy-duty anodized roller track for **long-lasting durability**
- Large urethane door rollers for **smooth and long-lasting operation**
- Space-saving versatility with the **elegant look of a large door opening**
- Belt drive and brushless motor system ensures **silent and reliable operation**
- An unprecedented 25% larger door opening to **withstand demanding traffic conditions**
- Superior double-mohair thermal brush provides **maximum isolation from outside elements**
- Equipped with sensor systems that comply with ANSI 156.10 and promote **reduced liability and increased safety**

GT1175 Telescopic Automatic Sliding Doors

The NABCO GT1175 Telescopic Sliding Door puts your mind at ease when looking for an automatic door solution and limited space is a concern. This system combines the elegant look of a large, clear door opening with space-saving versatility. The durable, heavy-duty GT1175 Telescopic Sliding Door is engineered to withstand challenging environment and weather conditions while maintaining a smooth operation and quiet, whisper-like performance. NABCO's microprocessor control provides reliable door operation, important usage counts, and diagnostic features for quick troubleshooting and reduced maintenance costs, making this the ideal automatic door entrance solution for unique applications.

The GT1175 Slider Operator

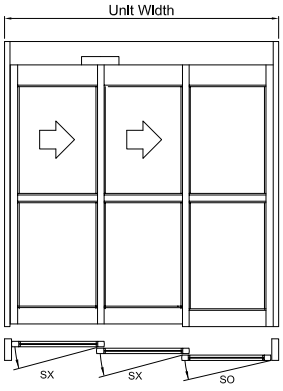
Header cover is pre-wired for sensor installation and uses extra-thick aluminum extrusions to minimize deflection.

PRODUCT INFORMATION	
Header dimensions	**8 3/4"W** (222.25) **x 7 1/2"H** (190.5)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Concealed**
Threshold	**Surface-applied, recessed, none**
Configurations	**Single, bi-part / full breakout, fixed sidelite**
Transom	**Optional**

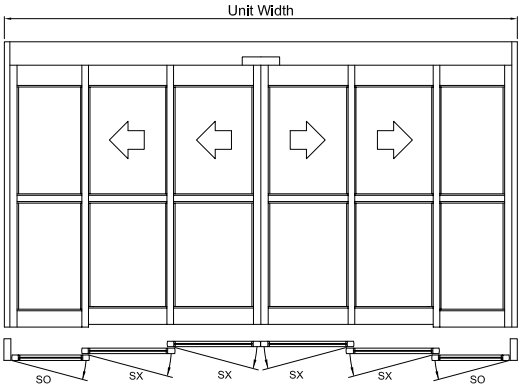
TECHNICAL INFORMATION	
Operator drive	**Electro-mechanical**
Drive system	**Belt drive**
Motor type	**1/4 HP** (peak) **brushless**
Primary circuit protection	**Breaker**
Controller	**Microprocessor**
Breakout	**System disabled when panels break out**
Operating voltage	**120 VAC – 5 AMP**
Auxiliary power output	**12 VDC**
Maximum door panel weight	**600 lbs.**
Switch modes	**On/off, 1-way, 2-way, hold-open, night**
Opening and closing speed	**Adjustable**
Reduced opening function	**Standard**
Obstacle detection	**Available in both directions**
Hold-open time	**Adjustable** (0-67 seconds)

CODE COMPLIANCE / APPROVALS	
Code compliance	**ANSI A156.10**
Approvals	**UL, ULC and CSFM**

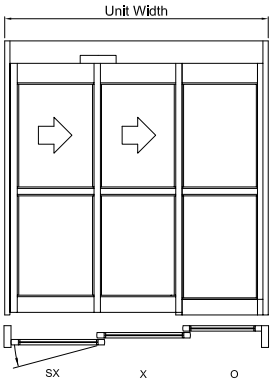
Right hand single FBO Telescopic



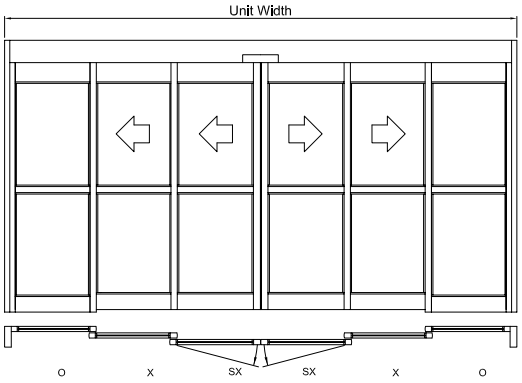
Bi-part FBO Telescopic



Right hand single FSL Telescopic



Bi-part FSL Telescopic



NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

SELECTION GUIDE			
DOOR TYPE	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
3-panel FSL 3-panel FBO	**5' 1 1/2"** (1562) - **12'** (3657)	**32 1/8"** (816) - **87 1/8"** (2213)	**35 1/2"** (902) - **90 1/2"** (2299) **51 1/2"** (1308) - **134"** (3404)
6-panel FSL 6-panel FBO	**7' 11 1/2"** (2425) - **16'** (4876)	**48 5/8"** (1235) - **113"** (2870)	**60 5/8"** (1540) - **125"** (3175) **79 1/2"** (2019) - **176"** (4470)

NABCO

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Distributed by:

GT1175

Automatic Sliding Doors

Where ELEGANCE meets DURABILITY

Product Features and Benefits

- Heavy-duty anodized roller track for **long-lasting durability**
- Integral flush-glazed framing **enhances the entrance appearance**
- Large urethane door rollers for **smooth and long-lasting operation**
- Belt drive and brushless motor system ensure **silent and reliable operation**
- Approved Class 1 Vertical Laminar Flow for **clean rooms and critical applications**
- Superior double-mohair thermal brush provides **maximum isolation from outside elements**
- Equipped with sensor systems that comply with ANSI A156.10 and **promotes reduced liability and increased safety**

GT1175

The NABCO GT1175 sets the standard for smooth operation and quiet, whisper-like performance. While elegant by design, the GT1175 is engineered to withstand challenging environment and weather conditions. NABCO's microprocessor control provides reliable door operation, important usage counts, and diagnostic features for quick trouble-shooting and reduced maintenance costs. Offering a prompt return on your investment with one of the lowest lifetime costs of ownership, the ultra-quiet, high-performance GT1175 is the right solution for every automatic sliding door entrance.

The GT1175 Slider Operator

Header cover is pre-wired for sensor installation and uses extra-thick aluminum extrusions to minimize deflection.

PRODUCT INFORMATION

Header dimensions - standard	**6 1/2"W** (165.1) **x 7 1/2"H** (190.5)
Standard finish	Clear and dark bronze anodized
Optional finishes	Painted, clad, special anodized
Mounting	Concealed and surface-applied
Threshold	Surface-applied, recessed, none
Configurations	Single, bi-part / full breakout, fixed sidelite
Transom	Optional

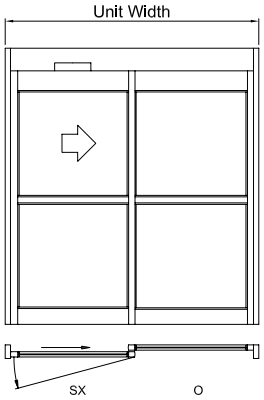
TECHNICAL INFORMATION

Operator drive	Electro-mechanical
Drive system	Belt drive
Motor type	**1/4 HP** (peak) **brushless**
Primary circuit protection	Breaker
Controller	Microprocessor
Breakout	System disabled when panels break out
Operating voltage	120 VAC – 5 AMP
Auxiliary power output	12 VDC
Maximum door panel weight	600 lbs.
Switch modes	On/off, 1-way, 2-way, hold-open, night
Opening and closing speed	Adjustable
Reduced opening function	Standard
Obstacle detection	Available in both directions
Hold-open time	Adjustable (0-67 seconds)

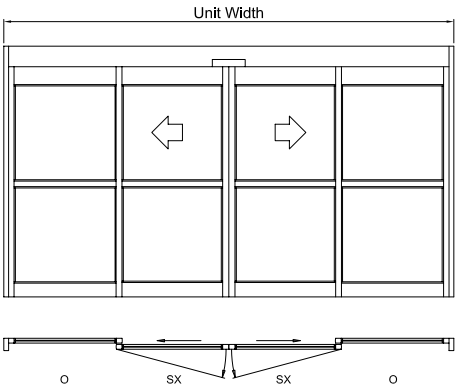
CODE COMPLIANCE / APPROVALS

Code compliance	ANSI A156.10
Approvals	UL, ULC and CSFM

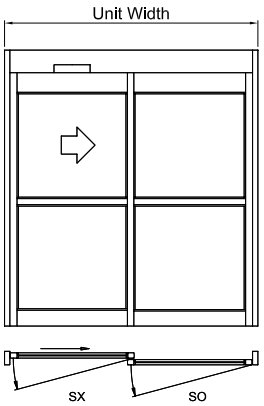
Single slider – fixed sidelite



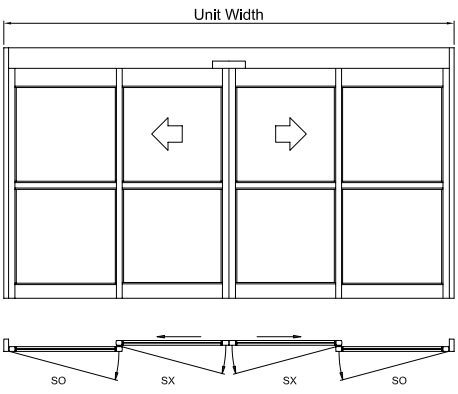
Bi-part slider – fixed sidelite



Single slider – full breakout



Bi-part slider – full breakout



NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

SELECTION GUIDE

DOOR TYPE	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
Single FSL Single FBO	**7'** (1930) - **9'** (2743)	**36"** (914) - **48"** (1219)	**39"** (990) - **51"** (1295) **76"** (1930) - **100"** (2794)
Bi-part FSL Bi-part FBO	**10'** (3048) - **18'** (5486)	**48"** (1219) - **96"** (2438)	**54"** (1371) - **102"** (2590) **104"** (2642) - **200"** (5080)

NABCO

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Distributed by:

GT1175

Hurricane Sliding Door Systems

Impact and **Non-impact** Rated

Product Features and Benefits

- Large urethane door rollers for **smooth operation**
- Heavy-duty anodized roller track for **long-lasting durability**
- Belt drive and brushless motor system ensure **silent and reliable operation**
- Widest width (18') available in the industry to further **enhance your entrance**
- AHCA/NFPA 101-compliant exit device for **secure locking during a hurricane**
- Pressure ratings up to 105psf provide **peace of mind during hurricane season**
- Dry-glazed system allows for glass only over door panel replacement, **reducing cost and time of repair**

GT1175 Hurricane Sliding Door Systems

The NABCO GT1175 Hurricane-rated Sliding Door System is in a class of its own. While elegant by design, the GT1175 offers pressure ratings up to 105psf, frame widths to 18', and a revolutionary dry-glaze system that allows damaged glass to be replaced without replacing the entire door panel. NABCO's microprocessor control provides reliable door operation, important usage counts, and diagnostic features for quick troubleshooting and reduced maintenance costs. Offering a prompt return on your investment with one of the lowest costs of ownership, the ultra-quiet, high-performance GT1175 Hurricane Package is the perfect solution to showcase your entrance.

The GT1175 Slider Operator

Header cover is pre-wired for sensor installation and uses extra-thick aluminum extrusions to minimize deflection.

PRODUCT INFORMATION

Header dimensions - standard	**6 1/2"W** (165.1) **x 7 1/2"H** (190.5)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Concealed**
Threshold	**Surface-applied, recessed, none**
Configurations	**Single, bi-part / full breakout, fixed sidelite**

TECHNICAL INFORMATION

Operator drive	**Electro-mechanical**
Drive system	**Belt drive**
Motor type	**1/4 HP** (peak) **brushless**
Primary circuit protection	**Breaker**
Controller	**Microprocessor**
Breakout	**System disabled when panels break out**
Operating voltage	**120 VAC – 5 AMP**
Auxiliary power output	**12 VDC**
Maximum door panel weight	**600 lbs.**
Switch modes	**On/off, 1-way, 2-way, hold-open, night**
Opening and closing speed	**Adjustable**
Reduced opening function	**Standard**
Obstacle detection	**Available in both directions**
Hold-open time	**Adjustable** (0-67 seconds)

CODE COMPLIANCE / APPROVALS

Code compliance	**ANSI A156.10**
Approvals	**UL, ULC and CSFM**

H60/H105 COMPARISON

	H60	H105
Max. Height	**7' 8"** (2336.8)	**8'8"** (2641.6)
Max. Width	**16'** (4876.8)	**18'** (5486.4)
Glass	**Impact: 1/2" Solutia Saflex (wet glaze)** **Non-Impact: 5/16" tempered (dry glaze)**	**Impact: 7/16" Dupont Sentry Glass (dry or wet glaze)** **Non-Impact: 1/4" tempered (dry glaze)**
Lock Options	**Standard single – 3-point** **Standard bi-part – 3-point active pan** **Flush bolt inactive panel** **4450 handles (optional)**	**Single – 2-point or 3-point (indicators on interior)** **4550 handles (optional)** **Bi-part – 3-point active panel/2-point other panel** **Or 2-point on both panels (indicators on interior)** **4450 handles (optional)** **Exterior key cylinder standard** **Adams Rite G86 panic device** **Applicable on full open with muntin only**
Flush bolts	**Required**	**Not used**
Stiles	**Narrow or medium**	**Medium only**
Bottom rail	**4", 6.5" or 10"**	**6.5" or 10"**
Muntin	**None**	**4" or none**
Wind pressure	**PSF +60 / -70**	**PSF 105**
FL product approval	**Impact: #16167.1 (Bi-part FSL)** **Non-impact: #16167.2 (Bi-part FSL)** **Impact: #16167.3 (Bi-part FBO)** **Non-impact: #16167.4 (Bi-part FBO)**	**Impact: #16802.1 (Single, bi-part /FSL, FBO)** **Non-impact: #16802.2 (Single, bi-part /FSL, FBO)**
Miami-Dade (NOA)		**Impact: #13-0521.14** **Non-impact: #13-0521-13**

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

SELECTION GUIDE

DOOR TYPE	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
Single FSL **Single FBO**	**7'** (1930) - **9'** (2743)	**36"** (914) - **48"** (1219)	**39"** (990) - **51"** (1295) **76"** (1930) - **100"** (2794)
Bi-part FSL **Bi-part FBO**	**10'** (3048) - **18'** (5486)	**48"** (1219) - **96"** (2438)	**54"** (1371) - **102"** (2590) **104"** (2642) - **200"** (5080)

NABCO

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Distributed by:

15-14831 10/14

NABCO ENTRANCES INC.

S82 W18717 Gemini Dr., PO Box 906
Muskego, Wisconsin 53150
Tel: 1-877-622-2694
Fax: 1-888-679-3319
http://www.nabcoentrances.com

A founding member of:

AAADM

American Association of Automatic Door Manufacturers

AUTOMATIC SLIDING DOOR

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation daily using safety checklist in Owner's Manual and at door.

Have door adjusted as described in Owner's Manual.

Safety devices should be in place and operational.

Have door inspected at least annually by an *AADM* certified inspector.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your automatic door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system in compliance with the industry standards for safety.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your invitees, customers, or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Daily Safety Check.*

Should the door fail to operate as prescribed in the *Daily Safety Check*, or at any other time for any other reason, **do not attempt to repair or adjust the door**. Call an AAADM Certified service technician. These technicians are trained to service your door in accordance with applicable industry safety standards.

Service Availability

Automatic door products are distributed through a nationwide network of authorized automatic door suppliers for sales, installation, and service.

Should you need service on your door system, consult the respective door manufacturer or its authorized representative.

Compliance with Safety Standards

Your door system was designed to the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- Your door system be maintained in compliance with the standards of the industry.
- Proper decals and labels be applied and maintained on your doors. If decals are removed or cannot be read, request labels to be replaced when calling for service.
- All doors should be checked by an AAADM certified inspector at least annually.

AAADM, the American Association of Automatic Door Manufacturers, has established a program to certify automatic door inspectors. Through this program, the inspectors are trained to check your door systems for compliance with the appropriate version of the American National Standards Institute standard ANSI/BHMA A156.10.

What You Should Know

Be sure that an automatic door supplier has provided the following for each door:

1. Instruction on how to conduct the *Daily Safety Check*[*] (by walk-through example).

2. Location of function switches and instruction in their use.

3. Circuit breaker or main power disconnect location for each door system.

4. Number to call for service or questions about your system if you are uncertain of any condition or situation.

5. AAADM inspection form or a work order signed by an AAADM certified inspector.

6. A completed Annual Compliance Inspection label, located at the bottom of the Safety Information label affixed to the door.

7. Warranty information for each door.

Note: If there are any problems, or if you are unsure about the safe performance of the door, **discontinue door operation immediately** and secure the door in a safe manner. Call your authorized automatic door professional for repairs.

[*] **Note**: AAADM Daily Safety Check videos are available. Contact an automatic door supplier or AAADM.

Automatic sliding doors are installed in a variety of combinations.

- Single or Bi-parting
- Sliding Door Swings out in emergency with fixed sidelite
- Sliding Door Swings out in emergency and sidelite also swings out
- One-Way Traffic or Two-Way Traffic
- Activated by Floor Mat, Sensors, or Push Switches

They always require the following safety items:

- A Safety Zone to cover the area the door travels.
- Guide Rails on the swing side of the door (unless a wall is in the same position).

DOOR OPERATION

Activation Switches

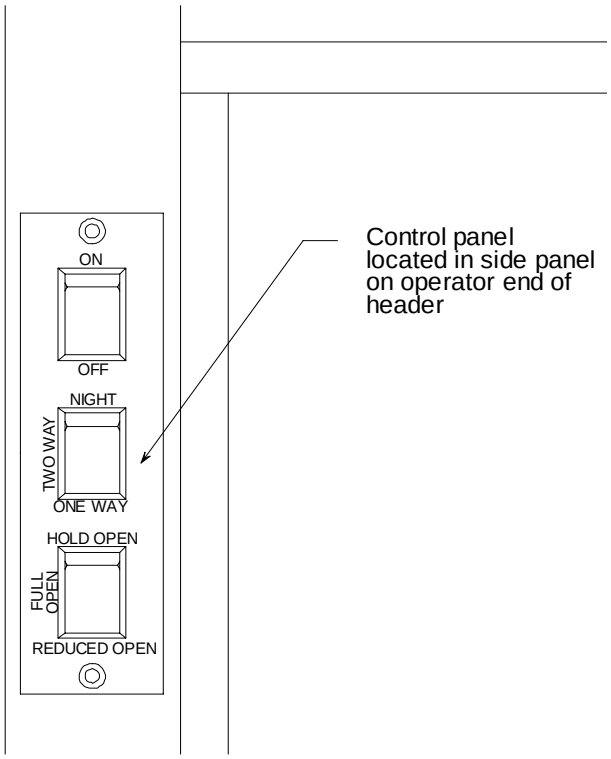
A. ON or OFF switch

1. When the switch is in the **ON** position, all signals are accepted and the door is ready for operation.

.

> Note: To shut off the power, turn off the circuit breaker in the building's electrical box.

2. When the switch is in the **OFF** position, the activation signal is not accepted by the control box. The OFF position does not shut off the power. The door may need to be closed manually to its full closed position if the switch is turned off in mid cycle. Gently pull on the edge of the door.



B. TWO-WAY, ONE-WAY or NIGHT

1. When the switch is in **TWO-WAY** position, both sensors are activated for two way traffic.

2. When the switch is in the **ONE-WAY** position, the electric lock (if equipped) will lock when the door is fully closed. The signal from the exterior sensor will not open the door. The system will still allow people to exit the building by using interior sensor. Both sensors then provide threshold protection during the door cycle.

3. When the switch is in the **NIGHT** position, the electric lock (if equipped) will lock when the door is fully closed. Neither sensor will open the door. Door activation must be generated from a wall switch or card reader. Both sensors then provide threshold protection during the door cycle.

C. HOLD OPEN, FULL OPEN and REDUCED OPEN

1. When the switch is in **HOLD OPEN** position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.

2. When the switch is in FULL OPEN position, doors are allowed to open all the way.

3. When the switch is in REDUCED OPEN position, doors open to specification preset during installation. Reduced Open is used, for example, in bad weather or while air conditioning is on. The width of the opening in the reduced open mode is adjustable. Contact a qualified service technician for adjustment.

Control Panel Switches	Option	Function
Top	1. ON 2. OFF	1. Turns the unit on. 2. Turns the unit off.
Middle	1. NIGHT 2. TWO-WAY 3. ONE-WAY	1. Limits access to the door by turning off the sensors on the door but allowing the door to be activated by a push plate, card reader or other source. Electric lock is activated if equipped. 2. Sets the door to open in both directions. 3. Sets the door to open in only one direction. Electric lock is activated if equipped.
Bottom	1. HOLD OPEN 2. FULL OPEN 3. REDUCED OPEN	1. Sets the door to open and remain open. 2. Sets the door to fully open. 3. Sets the door so that it does not open completely.

Descriptions of Switch Functions on Rocker or Key Switches

IX. ACUSENSOR OPERATION

A. Acusensors are latest in pedestrian traffic sensing technology. Acusensors cause the door to open by sending door opening signals to the sliding door control.

B. In simple terms when power is supplied to the Acusensor, it “sees” its environment including the floor and memorizes its appearance. When the appearance changes (when someone walks into the volume), the Acusensor sends a “door open” signal.

C. Appearance changes include:

1. A person, cart or forklift.
2. When common objects are left or moved into the sensing area, such as:
    * Carpets or mats
    * Boxes
    * Displays or merchandise
    * large pieces of paper

D. If the background changes and remains constant for thirty seconds, the Acusensor will re-memorize it. The doors will remain open until the re-memorization takes place.

Daily Safety Check **(All figures and diagrams are for purposes of illustration only)**

Perform the following safety checks *daily* on each automatic sliding door to ensure your customers' safety and your own protection. Perform these tests while traffic is restricted from all detection and sensing zones.

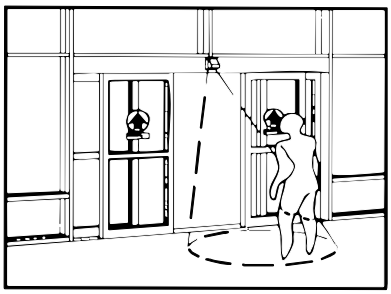


Figure 1

Figure 2

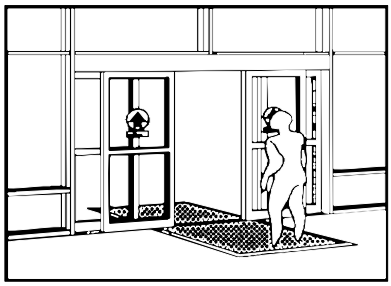


Figure 3

Sensor Activation

1. Check electronic sensor by walking toward the door opening at a moderate speed. The door should start opening when you are about four feet from the door, should slide open smoothly, and stop without impact. Repeat on other side of opening. Move slowly through the door opening (6 inches per second). The door should remain open. (See Figures 1 and 2)

   NOTE: If your door is set up for one -way traffic, the sensor on the side not intended for approach should be active until the door is within 6 inches of fully closed. The sensor should re-open the closing door if a person is detected a minimum of 24 inches from the door.

2. Step out of the sensor zone. After a brief time delay (at least 1 1/2 seconds) the door should slide closed smoothly and should close fully without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

3. Observe traffic routing to the door. Plan traffic routing so persons will approach the door straight on and not from an angle.

4. Walk parallel to the door face and towards the center of the door opening to check that the detection pattern is at least as wide as the door opening. This test should be performed within approximately 12 inches from the door face. Repeat this test in both directions.

5. Open the door. Crouch motionless in threshold for at least 10 seconds to check safety zone. The door should not close.

Floor Mat Activation

1. Step on the "opening" (activating) mat in several places. Door should slide open smoothly and stop without impact. (See Figure 3)

Figure 4

Figure 5

Figure 6

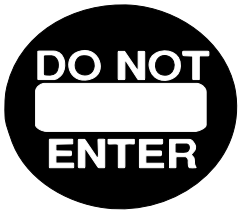


Figure 7

Figure 8

2. Step through the doorway onto the mat on the other side. Door should remain fully open without interruption.

   Note: If there is more than one mat on each side, each mat should be tested.

3. Step off the mat. After a brief time delay (at least 1 1/2 seconds), the door should close slowly and smoothly without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

4. Check the mat molding and threshold. It should be complete and secured with all screws required.

General Safety

Pay attention to the following general safety items and conduct checks periodically where noted.

1. Signage. Door should have decals properly displayed. There should be decals that include the statements: "AUTOMATIC DOOR" (in letters 1/2 in. high, minimum) and "IN EMERGENCY - PUSH TO OPEN". An adjacent sidelite or wall should have a “STAND CLEAR” or similar decal in the slide path of the door (See Figures 4, 5, 6, 7, and 8 for examples of some decals that may be used.). An AAADM safety information label should be affixed to the door frame in a visible, protected location

2. Closing Speed. The closing time of the door must not be less than the minimum time as shown in the following table. This closing time is taken from full open to a point six inches from fully closed. Example: If a single slide door with a nominal opening of 36 inches closes in 2.3 seconds it is too fast and must be slowed down. If it closes in 3.0 seconds it is in compliance.

Maximum Closing Speed - 1 Foot Per Second		
Nominal Door Opening		Minimum Closing Time to Within 6 inches of Closed
Single Slide	Bi-Part	
	48"	2 Sec
	60"	2½ Sec
36"	72"	3 Sec
42"	84"	3½ Sec
48"	96"	4 Sec

3. Force. Force to prevent the door from closing should not exceed 30 pounds. This can be measured with a force gauge.

AUTOMATIC DOOR
ACTIVATE SWITCH
TO OPERATE

Figure 9

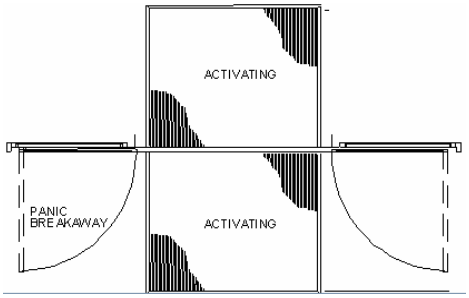


Figure 10

4. Activating Switch. (Knowing Act) Doors equipped with a manual operate switch shall, when activated, hold the door open for five seconds minimum after release of activating switch.

   Doors equipped with manual activating switch shall have a decal as follows: "AUTOMATIC DOOR. ACTIVATE SWITCH TO OPERATE". The sign should be visible from both sides of the door or the side with the knowing act switch if there is only one. (See Figure 9)

5. Emergency Breakout. Test by manually pushing door at lock area in direction of emergency exit. Release door. The door should either stop operation or spring to closed position. Make sure door panel or panels are properly re-latched.

   If the door is equipped with breakaway sidelites, door operation should stop when sidelites are broken out. (See Figure 10).

6. Housekeeping. Be sure floor guides are kept clean and free of any debris which could prevent proper door slide.

   Check the door area for tripping or slipping hazards.

   Check all door panels for damage. Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions that would interfere with the use of the door or invite people to stop or stand in the door area.

7. Traffic Patterns. Observe traffic patterns. Plan routing so people enter and exit in a straight approach, directly towards the center of the door opening.

   IF YOU HAVE A PROBLEM, TURN OFF THE DOOR OPERATING EQUIPMENT AND CALL AN AUTOMATIC DOOR SUPPLIER FOR PROMPT REPAIRS TO BE MADE.

Operation

Please refer to NABCO/Gyro-Tech Installation Manual for details of operation.

Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

NABCO ENTRANCES INC.

S82 W18717 Gemini Dr., PO Box 906
Muskego, Wisconsin 53150
Tel: 1-877-622-2694
Fax: 1-888-679-3319
http://www.nabcoentrances.com

A founding member of:

AAADM

American Association of Automatic Door Manufacturers

AUTOMATIC SLIDING DOOR

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation daily using safety checklist in Owner's Manual and at door.

Have door adjusted as described in Owner's Manual.

Safety devices should be in place and operational.

Have door inspected at least annually by an *AADM* certified inspector.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your automatic door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system in compliance with the industry standards for safety.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your invitees, customers, or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Daily Safety Check.*

Should the door fail to operate as prescribed in the *Daily Safety Check*, or at any other time for any other reason, **do not attempt to repair or adjust the door**. Call an AAADM Certified service technician. These technicians are trained to service your door in accordance with applicable industry safety standards.

Service Availability

Automatic door products are distributed through a nationwide network of authorized automatic door suppliers for sales, installation, and service.

Should you need service on your door system, consult the respective door manufacturer or its authorized representative.

Compliance with Safety Standards

Your door system was designed to the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- Your door system be maintained in compliance with the standards of the industry.
- Proper decals and labels be applied and maintained on your doors. If decals are removed or cannot be read, request labels to be replaced when calling for service.
- All doors should be checked by an AAADM certified inspector at least annually.

AAADM, the American Association of Automatic Door Manufacturers, has established a program to certify automatic door inspectors. Through this program, the inspectors are trained to check your door systems for compliance with the appropriate version of the American National Standards Institute standard ANSI/BHMA A156.10.

What You Should Know

Be sure that an automatic door supplier has provided the following for each door:

1. Instruction on how to conduct the *Daily Safety Check*[*] (by walk-through example).

2. Location of function switches and instruction in their use.

3. Circuit breaker or main power disconnect location for each door system.

4. Number to call for service or questions about your system if you are uncertain of any condition or situation.

5. AAADM inspection form or a work order signed by an AAADM certified inspector.

6. A completed Annual Compliance Inspection label, located at the bottom of the Safety Information label affixed to the door.

7. Warranty information for each door.

Note: If there are any problems, or if you are unsure about the safe performance of the door, **discontinue door operation immediately** and secure the door in a safe manner. Call your authorized automatic door professional for repairs.

[*] **Note**: AAADM Daily Safety Check videos are available. Contact an automatic door supplier or AAADM.

Automatic sliding doors are installed in a variety of combinations.

- Single or Bi-parting
- Sliding Door Swings out in emergency with fixed sidelite
- Sliding Door Swings out in emergency and sidelite also swings out
- One-Way Traffic or Two-Way Traffic
- Activated by Floor Mat, Sensors, or Push Switches

They always require the following safety items:

- A Safety Zone to cover the area the door travels.
- Guide Rails on the swing side of the door (unless a wall is in the same position).

DOOR OPERATION

Activation Switches

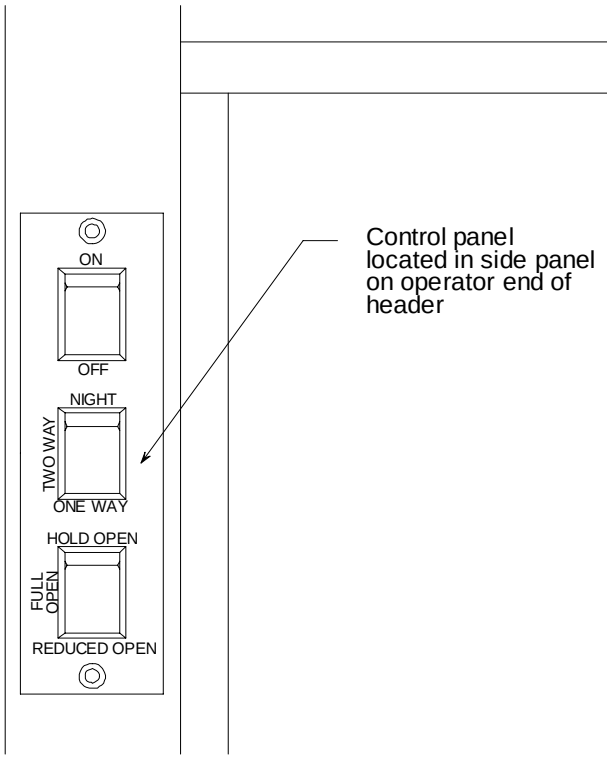
A. ON or OFF switch

1. When the switch is in the **ON** position, all signals are accepted and the door is ready for operation.

.

> Note: To shut off the power, turn off the circuit breaker in the building's electrical box.

2. When the switch is in the **OFF** position, the activation signal is not accepted by the control box. The OFF position does not shut off the power. The door may need to be closed manually to its full closed position if the switch is turned off in mid cycle. Gently pull on the edge of the door.



B. TWO-WAY, ONE-WAY or NIGHT

1. When the switch is in **TWO-WAY** position, both sensors are activated for two way traffic.

2. When the switch is in the **ONE-WAY** position, the electric lock (if equipped) will lock when the door is fully closed. The signal from the exterior sensor will not open the door. The system will still allow people to exit the building by using interior sensor. Both sensors then provide threshold protection during the door cycle.

3. When the switch is in the **NIGHT** position, the electric lock (if equipped) will lock when the door is fully closed. Neither sensor will open the door. Door activation must be generated from a wall switch or card reader. Both sensors then provide threshold protection during the door cycle.

C. HOLD OPEN, FULL OPEN and REDUCED OPEN

1. When the switch is in **HOLD OPEN** position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.

2. When the switch is in FULL OPEN position, doors are allowed to open all the way.

3. When the switch is in REDUCED OPEN position, doors open to specification preset during installation. Reduced Open is used, for example, in bad weather or while air conditioning is on. The width of the opening in the reduced open mode is adjustable. Contact a qualified service technician for adjustment.

Control Panel Switches	Option	Function
Top	1. ON 2. OFF	1. Turns the unit on. 2. Turns the unit off.
Middle	1. NIGHT 2. TWO-WAY 3. ONE-WAY	1. Limits access to the door by turning off the sensors on the door but allowing the door to be activated by a push plate, card reader or other source. Electric lock is activated if equipped. 2. Sets the door to open in both directions. 3. Sets the door to open in only one direction. Electric lock is activated if equipped.
Bottom	1. HOLD OPEN 2. FULL OPEN 3. REDUCED OPEN	1. Sets the door to open and remain open. 2. Sets the door to fully open. 3. Sets the door so that it does not open completely.

Descriptions of Switch Functions on Rocker or Key Switches

IX. ACUSENSOR OPERATION

A. Acusensors are latest in pedestrian traffic sensing technology. Acusensors cause the door to open by sending door opening signals to the sliding door control.

B. In simple terms when power is supplied to the Acusensor, it “sees” its environment including the floor and memorizes its appearance. When the appearance changes (when someone walks into the volume), the Acusensor sends a “door open” signal.

C. Appearance changes include:

1. A person, cart or forklift.
2. When common objects are left or moved into the sensing area, such as:
    * Carpets or mats
    * Boxes
    * Displays or merchandise
    * large pieces of paper

D. If the background changes and remains constant for thirty seconds, the Acusensor will re-memorize it. The doors will remain open until the re-memorization takes place.

Daily Safety Check **(All figures and diagrams are for purposes of illustration only)**

Perform the following safety checks *daily* on each automatic sliding door to ensure your customers' safety and your own protection. Perform these tests while traffic is restricted from all detection and sensing zones.

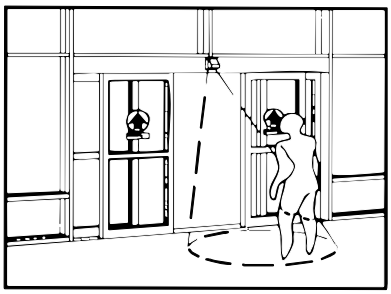


Figure 1

Figure 2

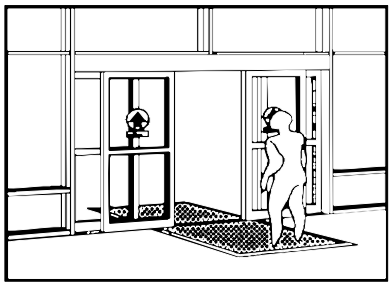


Figure 3

Sensor Activation

1. Check electronic sensor by walking toward the door opening at a moderate speed. The door should start opening when you are about four feet from the door, should slide open smoothly, and stop without impact. Repeat on other side of opening. Move slowly through the door opening (6 inches per second). The door should remain open. (See Figures 1 and 2)

   NOTE: If your door is set up for one -way traffic, the sensor on the side not intended for approach should be active until the door is within 6 inches of fully closed. The sensor should re-open the closing door if a person is detected a minimum of 24 inches from the door.

2. Step out of the sensor zone. After a brief time delay (at least 1 1/2 seconds) the door should slide closed smoothly and should close fully without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

3. Observe traffic routing to the door. Plan traffic routing so persons will approach the door straight on and not from an angle.

4. Walk parallel to the door face and towards the center of the door opening to check that the detection pattern is at least as wide as the door opening. This test should be performed within approximately 12 inches from the door face. Repeat this test in both directions.

5. Open the door. Crouch motionless in threshold for at least 10 seconds to check safety zone. The door should not close.

Floor Mat Activation

1. Step on the "opening" (activating) mat in several places. Door should slide open smoothly and stop without impact. (See Figure 3)

Figure 4

Figure 5

Figure 6

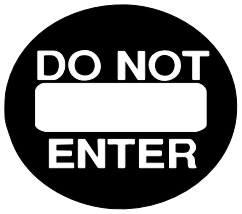


Figure 7

Figure 8

2. Step through the doorway onto the mat on the other side. Door should remain fully open without interruption.

   Note: If there is more than one mat on each side, each mat should be tested.

3. Step off the mat. After a brief time delay (at least 1 1/2 seconds), the door should close slowly and smoothly without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

4. Check the mat molding and threshold. It should be complete and secured with all screws required.

General Safety

Pay attention to the following general safety items and conduct checks periodically where noted.

1. Signage. Door should have decals properly displayed. There should be decals that include the statements: "AUTOMATIC DOOR" (in letters 1/2 in. high, minimum) and "IN EMERGENCY - PUSH TO OPEN". An adjacent sidelite or wall should have a “STAND CLEAR” or similar decal in the slide path of the door (See Figures 4, 5, 6, 7, and 8 for examples of some decals that may be used.). An AAADM safety information label should be affixed to the door frame in a visible, protected location

2. Closing Speed. The closing time of the door must not be less than the minimum time as shown in the following table. This closing time is taken from full open to a point six inches from fully closed. Example: If a single slide door with a nominal opening of 36 inches closes in 2.3 seconds it is too fast and must be slowed down. If it closes in 3.0 seconds it is in compliance.

Maximum Closing Speed - 1 Foot Per Second		
Nominal Door Opening		Minimum Closing Time to Within 6 inches of Closed
Single Slide	Bi-Part	
	48"	2 Sec
	60"	2½ Sec
36"	72"	3 Sec
42"	84"	3½ Sec
48"	96"	4 Sec

3. Force. Force to prevent the door from closing should not exceed 30 pounds. This can be measured with a force gauge.

AUTOMATIC DOOR
ACTIVATE SWITCH
TO OPERATE

Figure 9

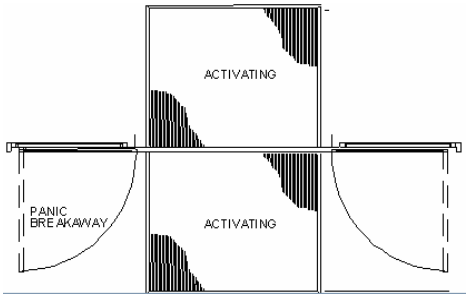


Figure 10

4. Activating Switch. (Knowing Act) Doors equipped with a manual operate switch shall, when activated, hold the door open for five seconds minimum after release of activating switch.

   Doors equipped with manual activating switch shall have a decal as follows: "AUTOMATIC DOOR. ACTIVATE SWITCH TO OPERATE". The sign should be visible from both sides of the door or the side with the knowing act switch if there is only one. (See Figure 9)

5. Emergency Breakout. Test by manually pushing door at lock area in direction of emergency exit. Release door. The door should either stop operation or spring to closed position. Make sure door panel or panels are properly re-latched.

   If the door is equipped with breakaway sidelites, door operation should stop when sidelites are broken out. (See Figure 10).

6. Housekeeping. Be sure floor guides are kept clean and free of any debris which could prevent proper door slide.

   Check the door area for tripping or slipping hazards.

   Check all door panels for damage. Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions that would interfere with the use of the door or invite people to stop or stand in the door area.

7. Traffic Patterns. Observe traffic patterns. Plan routing so people enter and exit in a straight approach, directly towards the center of the door opening.

   IF YOU HAVE A PROBLEM, TURN OFF THE DOOR OPERATING EQUIPMENT AND CALL AN AUTOMATIC DOOR SUPPLIER FOR PROMPT REPAIRS TO BE MADE.

Operation

Please refer to NABCO/Gyro-Tech Installation Manual for details of operation.

Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

NABCO ENTRANCES INC.

S82 W18717 Gemini Dr., PO Box 906
Muskego, Wisconsin 53150
Tel: 1-877-622-2694
Fax: 1-888-679-3319
http://www.nabcoentrances.com

A founding member of:

AAADM

American Association of Automatic Door Manufacturers

AUTOMATIC SLIDING DOOR

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation daily using safety checklist in Owner's Manual and at door.

Have door adjusted as described in Owner's Manual.

Safety devices should be in place and operational.

Have door inspected at least annually by an *AADM* certified inspector.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your automatic door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system in compliance with the industry standards for safety.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your invitees, customers, or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Daily Safety Check.*

Should the door fail to operate as prescribed in the *Daily Safety Check*, or at any other time for any other reason, **do not attempt to repair or adjust the door**. Call an AAADM Certified service technician. These technicians are trained to service your door in accordance with applicable industry safety standards.

Service Availability

Automatic door products are distributed through a nationwide network of authorized automatic door suppliers for sales, installation, and service.

Should you need service on your door system, consult the respective door manufacturer or its authorized representative.

Compliance with Safety Standards

Your door system was designed to the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- Your door system be maintained in compliance with the standards of the industry.
- Proper decals and labels be applied and maintained on your doors. If decals are removed or cannot be read, request labels to be replaced when calling for service.
- All doors should be checked by an AAADM certified inspector at least annually.

AAADM, the American Association of Automatic Door Manufacturers, has established a program to certify automatic door inspectors. Through this program, the inspectors are trained to check your door systems for compliance with the appropriate version of the American National Standards Institute standard ANSI/BHMA A156.10.

What You Should Know

Be sure that an automatic door supplier has provided the following for each door:

1. Instruction on how to conduct the *Daily Safety Check*[*] (by walk-through example).

2. Location of function switches and instruction in their use.

3. Circuit breaker or main power disconnect location for each door system.

4. Number to call for service or questions about your system if you are uncertain of any condition or situation.

5. AAADM inspection form or a work order signed by an AAADM certified inspector.

6. A completed Annual Compliance Inspection label, located at the bottom of the Safety Information label affixed to the door.

7. Warranty information for each door.

Note: If there are any problems, or if you are unsure about the safe performance of the door, **discontinue door operation immediately** and secure the door in a safe manner. Call your authorized automatic door professional for repairs.

[*] **Note**: AAADM Daily Safety Check videos are available. Contact an automatic door supplier or AAADM.

Automatic sliding doors are installed in a variety of combinations.

- Single or Bi-parting
- Sliding Door Swings out in emergency with fixed sidelite
- Sliding Door Swings out in emergency and sidelite also swings out
- One-Way Traffic or Two-Way Traffic
- Activated by Floor Mat, Sensors, or Push Switches

They always require the following safety items:

- A Safety Zone to cover the area the door travels.
- Guide Rails on the swing side of the door (unless a wall is in the same position).

DOOR OPERATION

Activation Switches

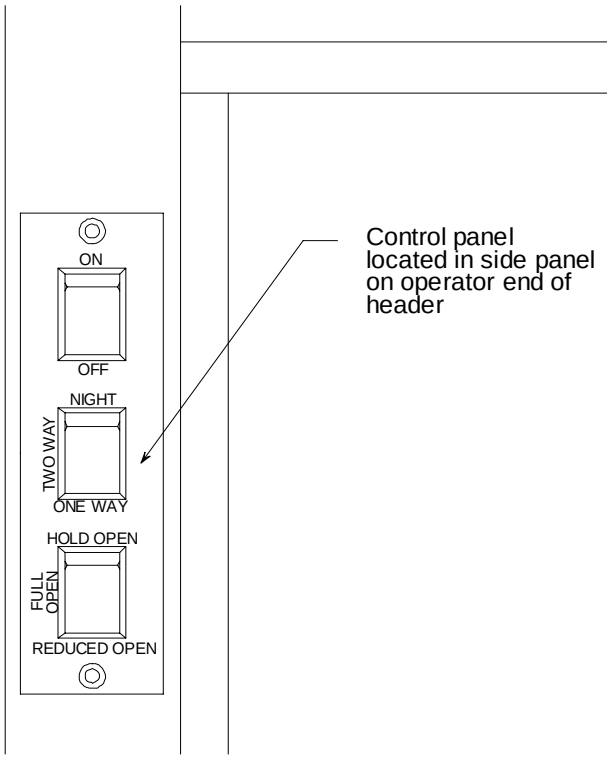
A. ON or OFF switch

1. When the switch is in the **ON** position, all signals are accepted and the door is ready for operation.

.

> Note: To shut off the power, turn off the circuit breaker in the building's electrical box.

2. When the switch is in the **OFF** position, the activation signal is not accepted by the control box. The OFF position does not shut off the power. The door may need to be closed manually to its full closed position if the switch is turned off in mid cycle. Gently pull on the edge of the door.



B. TWO-WAY, ONE-WAY or NIGHT

1. When the switch is in **TWO-WAY** position, both sensors are activated for two way traffic.

2. When the switch is in the **ONE-WAY** position, the electric lock (if equipped) will lock when the door is fully closed. The signal from the exterior sensor will not open the door. The system will still allow people to exit the building by using interior sensor. Both sensors then provide threshold protection during the door cycle.

3. When the switch is in the **NIGHT** position, the electric lock (if equipped) will lock when the door is fully closed. Neither sensor will open the door. Door activation must be generated from a wall switch or card reader. Both sensors then provide threshold protection during the door cycle.

C. HOLD OPEN, FULL OPEN and REDUCED OPEN

1. When the switch is in **HOLD OPEN** position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.

2. When the switch is in FULL OPEN position, doors are allowed to open all the way.

3. When the switch is in REDUCED OPEN position, doors open to specification preset during installation. Reduced Open is used, for example, in bad weather or while air conditioning is on. The width of the opening in the reduced open mode is adjustable. Contact a qualified service technician for adjustment.

Control Panel Switches	Option	Function
Top	1. ON 2. OFF	1. Turns the unit on. 2. Turns the unit off.
Middle	1. NIGHT 2. TWO-WAY 3. ONE-WAY	1. Limits access to the door by turning off the sensors on the door but allowing the door to be activated by a push plate, card reader or other source. Electric lock is activated if equipped. 2. Sets the door to open in both directions. 3. Sets the door to open in only one direction. Electric lock is activated if equipped.
Bottom	1. HOLD OPEN 2. FULL OPEN 3. REDUCED OPEN	1. Sets the door to open and remain open. 2. Sets the door to fully open. 3. Sets the door so that it does not open completely.

Descriptions of Switch Functions on Rocker or Key Switches

IX. ACUSENSOR OPERATION

A. Acusensors are latest in pedestrian traffic sensing technology. Acusensors cause the door to open by sending door opening signals to the sliding door control.

B. In simple terms when power is supplied to the Acusensor, it “sees” its environment including the floor and memorizes its appearance. When the appearance changes (when someone walks into the volume), the Acusensor sends a “door open” signal.

C. Appearance changes include:

1. A person, cart or forklift.
2. When common objects are left or moved into the sensing area, such as:
    * Carpets or mats
    * Boxes
    * Displays or merchandise
    * large pieces of paper

D. If the background changes and remains constant for thirty seconds, the Acusensor will re-memorize it. The doors will remain open until the re-memorization takes place.

Daily Safety Check **(All figures and diagrams are for purposes of illustration only)**

Perform the following safety checks *daily* on each automatic sliding door to ensure your customers' safety and your own protection. Perform these tests while traffic is restricted from all detection and sensing zones.

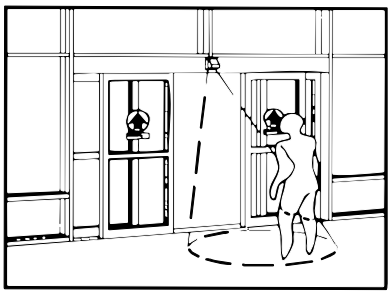


Figure 1

Figure 2

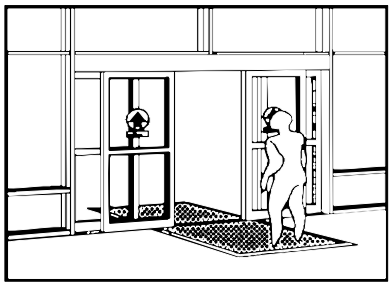


Figure 3

Sensor Activation

1. Check electronic sensor by walking toward the door opening at a moderate speed. The door should start opening when you are about four feet from the door, should slide open smoothly, and stop without impact. Repeat on other side of opening. Move slowly through the door opening (6 inches per second). The door should remain open. (See Figures 1 and 2)

   NOTE: If your door is set up for one -way traffic, the sensor on the side not intended for approach should be active until the door is within 6 inches of fully closed. The sensor should re-open the closing door if a person is detected a minimum of 24 inches from the door.

2. Step out of the sensor zone. After a brief time delay (at least 1 1/2 seconds) the door should slide closed smoothly and should close fully without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

3. Observe traffic routing to the door. Plan traffic routing so persons will approach the door straight on and not from an angle.

4. Walk parallel to the door face and towards the center of the door opening to check that the detection pattern is at least as wide as the door opening. This test should be performed within approximately 12 inches from the door face. Repeat this test in both directions.

5. Open the door. Crouch motionless in threshold for at least 10 seconds to check safety zone. The door should not close.

Floor Mat Activation

1. Step on the "opening" (activating) mat in several places. Door should slide open smoothly and stop without impact. (See Figure 3)

Figure 4

Figure 5

Figure 6

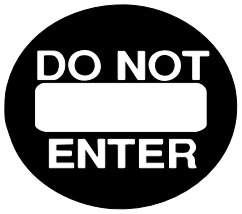


Figure 7

Figure 8

2. Step through the doorway onto the mat on the other side. Door should remain fully open without interruption.

   Note: If there is more than one mat on each side, each mat should be tested.

3. Step off the mat. After a brief time delay (at least 1 1/2 seconds), the door should close slowly and smoothly without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

4. Check the mat molding and threshold. It should be complete and secured with all screws required.

General Safety

Pay attention to the following general safety items and conduct checks periodically where noted.

1. Signage. Door should have decals properly displayed. There should be decals that include the statements: "AUTOMATIC DOOR" (in letters 1/2 in. high, minimum) and "IN EMERGENCY - PUSH TO OPEN". An adjacent sidelite or wall should have a “STAND CLEAR” or similar decal in the slide path of the door (See Figures 4, 5, 6, 7, and 8 for examples of some decals that may be used.). An AAADM safety information label should be affixed to the door frame in a visible, protected location

2. Closing Speed. The closing time of the door must not be less than the minimum time as shown in the following table. This closing time is taken from full open to a point six inches from fully closed. Example: If a single slide door with a nominal opening of 36 inches closes in 2.3 seconds it is too fast and must be slowed down. If it closes in 3.0 seconds it is in compliance.

Maximum Closing Speed - 1 Foot Per Second		
Nominal Door Opening		Minimum Closing Time to Within 6 inches of Closed
Single Slide	Bi-Part	
	48"	2 Sec
	60"	2½ Sec
36"	72"	3 Sec
42"	84"	3½ Sec
48"	96"	4 Sec

3. Force. Force to prevent the door from closing should not exceed 30 pounds. This can be measured with a force gauge.

AUTOMATIC DOOR
ACTIVATE SWITCH
TO OPERATE

Figure 9

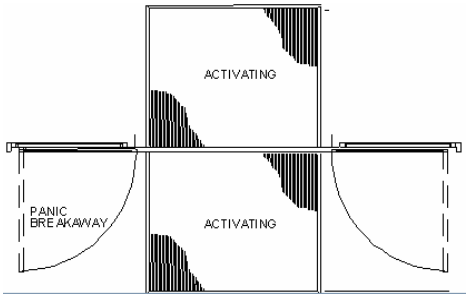


Figure 10

4. Activating Switch. (Knowing Act) Doors equipped with a manual operate switch shall, when activated, hold the door open for five seconds minimum after release of activating switch.

   Doors equipped with manual activating switch shall have a decal as follows: "AUTOMATIC DOOR. ACTIVATE SWITCH TO OPERATE". The sign should be visible from both sides of the door or the side with the knowing act switch if there is only one. (See Figure 9)

5. Emergency Breakout. Test by manually pushing door at lock area in direction of emergency exit. Release door. The door should either stop operation or spring to closed position. Make sure door panel or panels are properly re-latched.

   If the door is equipped with breakaway sidelites, door operation should stop when sidelites are broken out. (See Figure 10).

6. Housekeeping. Be sure floor guides are kept clean and free of any debris which could prevent proper door slide.

   Check the door area for tripping or slipping hazards.

   Check all door panels for damage. Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions that would interfere with the use of the door or invite people to stop or stand in the door area.

7. Traffic Patterns. Observe traffic patterns. Plan routing so people enter and exit in a straight approach, directly towards the center of the door opening.

   IF YOU HAVE A PROBLEM, TURN OFF THE DOOR OPERATING EQUIPMENT AND CALL AN AUTOMATIC DOOR SUPPLIER FOR PROMPT REPAIRS TO BE MADE.

Operation

Please refer to NABCO/Gyro-Tech Installation Manual for details of operation.

Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

NABCO ENTRANCES INC.

S82 W18717 Gemini Dr., PO Box 906
Muskego, Wisconsin 53150
Tel: 1-877-622-2694
Fax: 1-888-679-3319
http://www.nabcoentrances.com

A founding member of:

AAADM

American Association of Automatic Door Manufacturers

AUTOMATIC SLIDING DOOR

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation daily using safety checklist in Owner's Manual and at door.

Have door adjusted as described in Owner's Manual.

Safety devices should be in place and operational.

Have door inspected at least annually by an *AADM* certified inspector.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your automatic door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system in compliance with the industry standards for safety.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your invitees, customers, or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Daily Safety Check.*

Should the door fail to operate as prescribed in the *Daily Safety Check*, or at any other time for any other reason, **do not attempt to repair or adjust the door**. Call an AAADM Certified service technician. These technicians are trained to service your door in accordance with applicable industry safety standards.

Service Availability

Automatic door products are distributed through a nationwide network of authorized automatic door suppliers for sales, installation, and service.

Should you need service on your door system, consult the respective door manufacturer or its authorized representative.

Compliance with Safety Standards

Your door system was designed to the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- Your door system be maintained in compliance with the standards of the industry.
- Proper decals and labels be applied and maintained on your doors. If decals are removed or cannot be read, request labels to be replaced when calling for service.
- All doors should be checked by an AAADM certified inspector at least annually.

AAADM, the American Association of Automatic Door Manufacturers, has established a program to certify automatic door inspectors. Through this program, the inspectors are trained to check your door systems for compliance with the appropriate version of the American National Standards Institute standard ANSI/BHMA A156.10.

What You Should Know

Be sure that an automatic door supplier has provided the following for each door:

1. Instruction on how to conduct the *Daily Safety Check*[*] (by walk-through example).

2. Location of function switches and instruction in their use.

3. Circuit breaker or main power disconnect location for each door system.

4. Number to call for service or questions about your system if you are uncertain of any condition or situation.

5. AAADM inspection form or a work order signed by an AAADM certified inspector.

6. A completed Annual Compliance Inspection label, located at the bottom of the Safety Information label affixed to the door.

7. Warranty information for each door.

Note: If there are any problems, or if you are unsure about the safe performance of the door, **discontinue door operation immediately** and secure the door in a safe manner. Call your authorized automatic door professional for repairs.

[*] **Note**: AAADM Daily Safety Check videos are available. Contact an automatic door supplier or AAADM.

Automatic sliding doors are installed in a variety of combinations.

- Single or Bi-parting
- Sliding Door Swings out in emergency with fixed sidelite
- Sliding Door Swings out in emergency and sidelite also swings out
- One-Way Traffic or Two-Way Traffic
- Activated by Floor Mat, Sensors, or Push Switches

They always require the following safety items:

- A Safety Zone to cover the area the door travels.
- Guide Rails on the swing side of the door (unless a wall is in the same position).

DOOR OPERATION

Activation Switches

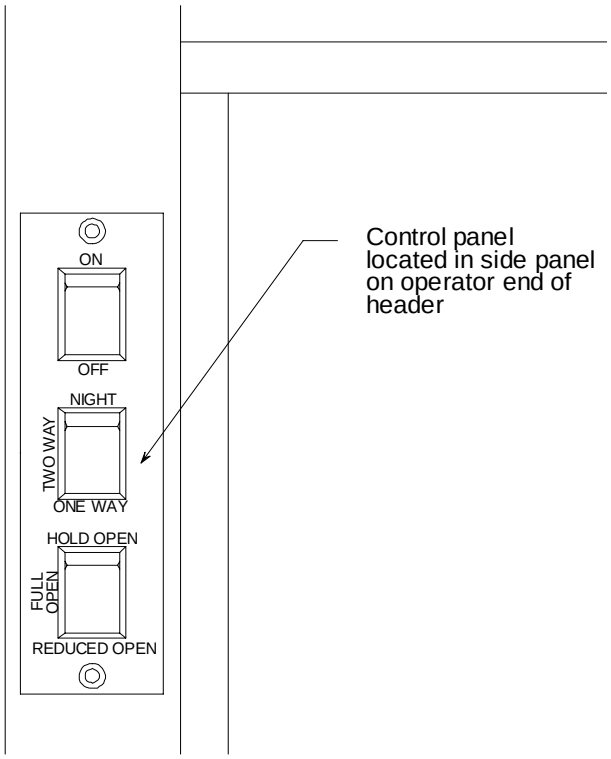
A. ON or OFF switch

1. When the switch is in the **ON** position, all signals are accepted and the door is ready for operation.

.

> Note: To shut off the power, turn off the circuit breaker in the building's electrical box.

2. When the switch is in the **OFF** position, the activation signal is not accepted by the control box. The OFF position does not shut off the power. The door may need to be closed manually to its full closed position if the switch is turned off in mid cycle. Gently pull on the edge of the door.



B. TWO-WAY, ONE-WAY or NIGHT

1. When the switch is in **TWO-WAY** position, both sensors are activated for two way traffic.

2. When the switch is in the **ONE-WAY** position, the electric lock (if equipped) will lock when the door is fully closed. The signal from the exterior sensor will not open the door. The system will still allow people to exit the building by using interior sensor. Both sensors then provide threshold protection during the door cycle.

3. When the switch is in the **NIGHT** position, the electric lock (if equipped) will lock when the door is fully closed. Neither sensor will open the door. Door activation must be generated from a wall switch or card reader. Both sensors then provide threshold protection during the door cycle.

C. HOLD OPEN, FULL OPEN and REDUCED OPEN

1. When the switch is in **HOLD OPEN** position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.

2. When the switch is in FULL OPEN position, doors are allowed to open all the way.

3. When the switch is in REDUCED OPEN position, doors open to specification preset during installation. Reduced Open is used, for example, in bad weather or while air conditioning is on. The width of the opening in the reduced open mode is adjustable. Contact a qualified service technician for adjustment.

Control Panel Switches	Option	Function
Top	1. ON 2. OFF	1. Turns the unit on. 2. Turns the unit off.
Middle	1. NIGHT 2. TWO-WAY 3. ONE-WAY	1. Limits access to the door by turning off the sensors on the door but allowing the door to be activated by a push plate, card reader or other source. Electric lock is activated if equipped. 2. Sets the door to open in both directions. 3. Sets the door to open in only one direction. Electric lock is activated if equipped.
Bottom	1. HOLD OPEN 2. FULL OPEN 3. REDUCED OPEN	1. Sets the door to open and remain open. 2. Sets the door to fully open. 3. Sets the door so that it does not open completely.

Descriptions of Switch Functions on Rocker or Key Switches

IX. ACUSENSOR OPERATION

A. Acusensors are latest in pedestrian traffic sensing technology. Acusensors cause the door to open by sending door opening signals to the sliding door control.

B. In simple terms when power is supplied to the Acusensor, it “sees” its environment including the floor and memorizes its appearance. When the appearance changes (when someone walks into the volume), the Acusensor sends a “door open” signal.

C. Appearance changes include:

1. A person, cart or forklift.
2. When common objects are left or moved into the sensing area, such as:
    * Carpets or mats
    * Boxes
    * Displays or merchandise
    * large pieces of paper

D. If the background changes and remains constant for thirty seconds, the Acusensor will re-memorize it. The doors will remain open until the re-memorization takes place.

Daily Safety Check **(All figures and diagrams are for purposes of illustration only)**

Perform the following safety checks *daily* on each automatic sliding door to ensure your customers' safety and your own protection. Perform these tests while traffic is restricted from all detection and sensing zones.

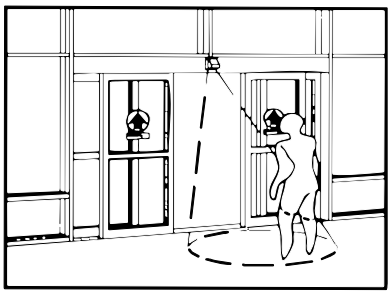


Figure 1

Figure 2

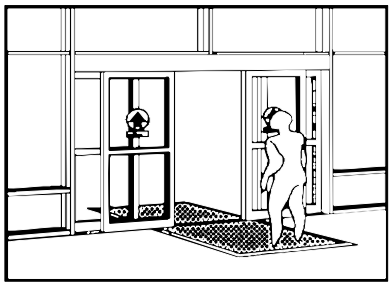


Figure 3

Sensor Activation

1. Check electronic sensor by walking toward the door opening at a moderate speed. The door should start opening when you are about four feet from the door, should slide open smoothly, and stop without impact. Repeat on other side of opening. Move slowly through the door opening (6 inches per second). The door should remain open. (See Figures 1 and 2)

   NOTE: If your door is set up for one -way traffic, the sensor on the side not intended for approach should be active until the door is within 6 inches of fully closed. The sensor should re-open the closing door if a person is detected a minimum of 24 inches from the door.

2. Step out of the sensor zone. After a brief time delay (at least 1 1/2 seconds) the door should slide closed smoothly and should close fully without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

3. Observe traffic routing to the door. Plan traffic routing so persons will approach the door straight on and not from an angle.

4. Walk parallel to the door face and towards the center of the door opening to check that the detection pattern is at least as wide as the door opening. This test should be performed within approximately 12 inches from the door face. Repeat this test in both directions.

5. Open the door. Crouch motionless in threshold for at least 10 seconds to check safety zone. The door should not close.

Floor Mat Activation

1. Step on the "opening" (activating) mat in several places. Door should slide open smoothly and stop without impact. (See Figure 3)

Figure 4

Figure 5

Figure 6

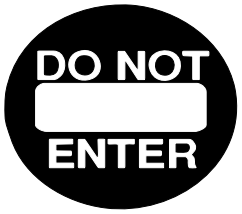


Figure 7

Figure 8

2. Step through the doorway onto the mat on the other side. Door should remain fully open without interruption.

   Note: If there is more than one mat on each side, each mat should be tested.

3. Step off the mat. After a brief time delay (at least 1 1/2 seconds), the door should close slowly and smoothly without impact. Doors should be adjusted so they do not close faster than 1 foot per second.

4. Check the mat molding and threshold. It should be complete and secured with all screws required.

General Safety

Pay attention to the following general safety items and conduct checks periodically where noted.

1. Signage. Door should have decals properly displayed. There should be decals that include the statements: "AUTOMATIC DOOR" (in letters 1/2 in. high, minimum) and "IN EMERGENCY - PUSH TO OPEN". An adjacent sidelite or wall should have a “STAND CLEAR” or similar decal in the slide path of the door (See Figures 4, 5, 6, 7, and 8 for examples of some decals that may be used.). An AAADM safety information label should be affixed to the door frame in a visible, protected location

2. Closing Speed. The closing time of the door must not be less than the minimum time as shown in the following table. This closing time is taken from full open to a point six inches from fully closed. Example: If a single slide door with a nominal opening of 36 inches closes in 2.3 seconds it is too fast and must be slowed down. If it closes in 3.0 seconds it is in compliance.

Maximum Closing Speed - 1 Foot Per Second		
Nominal Door Opening		Minimum Closing Time to Within 6 inches of Closed
Single Slide	Bi-Part	
	48"	2 Sec
	60"	2½ Sec
36"	72"	3 Sec
42"	84"	3½ Sec
48"	96"	4 Sec

3. Force. Force to prevent the door from closing should not exceed 30 pounds. This can be measured with a force gauge.

AUTOMATIC DOOR
ACTIVATE SWITCH
TO OPERATE

Figure 9

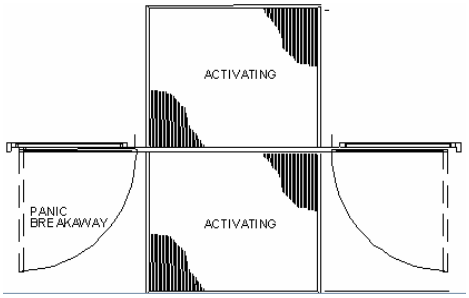


Figure 10

4. Activating Switch. (Knowing Act) Doors equipped with a manual operate switch shall, when activated, hold the door open for five seconds minimum after release of activating switch.

   Doors equipped with manual activating switch shall have a decal as follows: "AUTOMATIC DOOR. ACTIVATE SWITCH TO OPERATE". The sign should be visible from both sides of the door or the side with the knowing act switch if there is only one. (See Figure 9)

5. Emergency Breakout. Test by manually pushing door at lock area in direction of emergency exit. Release door. The door should either stop operation or spring to closed position. Make sure door panel or panels are properly re-latched.

   If the door is equipped with breakaway sidelites, door operation should stop when sidelites are broken out. (See Figure 10).

6. Housekeeping. Be sure floor guides are kept clean and free of any debris which could prevent proper door slide.

   Check the door area for tripping or slipping hazards.

   Check all door panels for damage. Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions that would interfere with the use of the door or invite people to stop or stand in the door area.

7. Traffic Patterns. Observe traffic patterns. Plan routing so people enter and exit in a straight approach, directly towards the center of the door opening.

   IF YOU HAVE A PROBLEM, TURN OFF THE DOOR OPERATING EQUIPMENT AND CALL AN AUTOMATIC DOOR SUPPLIER FOR PROMPT REPAIRS TO BE MADE.

Operation

Please refer to NABCO/Gyro-Tech Installation Manual for details of operation.

Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

Series 1175
ALL-GLASS AUTOMATIC SLIDING ENTRANCE SYSTEM

DIVISION 08 – OPENINGS
SECTION 08 42 29.23 SLIDING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic slide door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.

1. Concrete: Division 03, applicable sections.
2. Masonry: Division 04, applicable sections.
3. Thermal and Moisture Protection: Division 07, applicable sections.
5. Openings: Division 08, applicable sections.
6. Electrical: Division 26, applicable sections. (See note to Specifier*)

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.10.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of folding door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.04 WARRANTY

A. Warranty power operators, controls and labor provided by automatic sliding door equipment installer against defects in material and workmanship, at no cost to owner, for a period of one year from date of substantial completion. Provide warranty to owner after completion of installation.

1.05 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturer (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC GT- SYSTEM

A. GT Model #1175 ALL-GLASS as indicated on door schedule and details.

B. Mode of operation: an electro-mechanical 24V DC "Brush-less" operator with a microcomputer control system shall drive sliding door. The door will be pulled from closed to open and open to close position stopping the door in both directions by electrically reducing the voltage, stalling door against mechanical stop. Opening, closing speeds and hold open time shall be adjustable. A reinforced timing belt shall be used to convert rotating motion from the operator sprocket into horizontal motion of the door.

C. Components:
1. ALL-GLASS doors, ALL-GLASS sidelites, operator housing and frame.
2. Rollers-support, anti-riser and guide.
3. Door carrier hanger assembly, breakaway latch, limiting arm and door lock.
4. Air infiltration and intrusion protection equipment.
5. Nabco 24V DC "Brushless" power open/close operator with microcomputer control.
6. (Optional) Access Security Equipment

1a) ALL-GLASS door panel(s) and ALL-GLASS sidelite panel(s) shall be factory supplied. ALL-GLASS panels to be attached to aluminum hanger system by a certified supplier using the specified adhesive. Sliding glass door panels shall be pinned to top aluminum rails for added strength. Sliding door assemblies with only adhesive being used shall not be acceptable. Door panel shall consist of extruded aluminum top rail 1-3/4" (44mm) by 4-3/8" (111mm) and bottom rail 1-3/4" (44mm) by 4-1/2" (114mm) with end caps. Sidelite panel shall consist of extruded aluminum top rail 1-3/4" (44mm) by 6-7/8" (175mm) and bottom rail 1-3/4" (44mm) by 4-13/16" (122mm) with end caps.

1b) Operator housing section shall be three piece construction 6-1/2 (165mm) by 7-1/2 (191mm) extrusion with end caps. All header sections shall have a minimum thickness of 0.140" (4mm) and shall be fabricated of 6063-T5 aluminum alloy.

1c) Sidelite configuration shall be fixed type.

1d) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes available upon request.

1e) Vertical jambs shall be of 1-3/4 (44mm) by 4-1/2 (114mm) extruded aluminum tubes. Optional framing available.

2a) The door assembly shall ride on two 2-3/8" (60mm) dia. steel, urethane coated support rollers incorporating lubricated sealed ball bearings rated at 250 lbs. each. The door shall be held on the track by means of two 2-1/2" (64mm) anti-riser rollers. Lateral adjustment of the door assembly shall provide positive sealing at door edges. Door height shall be adjustable by" 9/32" (7mm).

2b) Fixed Sidelite Units - Each door shall include one guide assembly incorporating double rollers with sleeve bushings. Guide assembly shall be attached to the door with 10 gage (3mm) thick-formed guide bracket. All steel brackets and fittings shall be plated for corrosion resistance.

3a) Entrance systems shall have ALL-GLASS door panels attached to a door carrier hanger assembly by means of a cantilever pivot assembly and corrosion resistant adjustable breakaway release latch holding panel in the closed position under normal automatic operation. The cantilever pivot assembly allows the door panel to be broken outward at any point in the door's opening or closing cycle allowing for safe emergency egress in compliance with NFPA 101. The door panel in the breakout mode disconnects the power to the control circuit inhibiting automatic door operation. The control circuit shall be resettable by re-engaging the door panel with the door carrier hanger assembly. Breakaway pressure shall be field adjustable from 5 to 50 lbs (22N to 222N) to meet local building code requirements but will be factory set at 50 lbs (222N) maximum.

3b) Door assembly shall have a limiting arm to control the door as it swings in the direction of egress.

3c) (Optional) The active ALL-GLASS door will incorporate a one-point lock securing each door assembly to the threshold. The lock assembly will incorporate a key cylinder on the exterior and a thumb turn on the interior.

4a) (Optional) Weather-stripping on the lead edge of the sliding door(s) .36" thick (9mm).

4b) (Optional) Vertical weather-stripping on both the sliding door panel(s) and sidelite(s) panels.

4c) (Optional) 11/16" (17mm) wide nylon brush weather-stripping mounted on door bottom.

5a) Nabco Power Operator: Completely assembled and sealed unit which shall include gear-driven transmission, and bearings, all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a 24V DC "Brush-less" motor with sealed ball bearings. 1/10 HP motor shall operate from 115-volt supply and require less than 5 amps at full stall.

5b) Power Operator Control: Shall be a microprocessor unit. The microprocessor control shall allow the opening speed, closing speed; back check speed, latch check speed and back check and latch check positions each to be adjusted separately and independently from each other to meet specific site conditions. The doors shall be set to be held closed with the motor. The control system shall also be capable of providing transistor output signals at the door closed or door open positions to facilitate interaction with security and access control systems. A single input shall be available to initiate an emergency close and lock whereby the door immediately closes upon that circuit activation. Normally open or normally closed activation and safety signal inputs shall be available and able to be switched programmatically. Non-critical error resetting to be accomplished via cycling of On/Off Mode Switch. The processor shall be capable of providing information on the number of operations and error codes for maintenance purposes. Adjustable opening and closing speeds shall be set in accordance with ANSI 156.10. All adjustments shall be specific and reproducible. Settings with rotary switches are not allowed.

6a) Access Security Equipment: Shall consist of Gyro Tech 24 VDC power locking device. Lock shall be concealed in header. To facilitate smooth door operation lock release and engagement shall be governed by microprocessor control.

2.03 SENSOR DEVICES

A. Acusensor: Manufactured by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Units shall be supplied and installed on both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

B. Acuzone: Sold by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Acuzone uses two technologies for activation and presence sensing. The activation is achieved by Doppler microwave for long range sensing. Presence sensing is achieved by active-infrared. Unit shall have separate outputs for microwave and infrared signals. Sensors combining both microwave and infrared signals on one output only shall not be allowed. The Acuzone can also look back through the threshold to provide additional safety coverage when the door is open. Units shall be supplied and installed on one or both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

C. Redundant safety: In addition to the presence sensors on both sides of the header, unit shall include minimum one set of infrared safety beams across the walk through opening to prevent the door from closing if there are any obstructions. This is for redundant threshold protection.

D. Specification options for consideration:
1. Wall Switches
2. For others see product catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**
Indicate under appropriate Section the following work by others:

ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

CONCRETE INSTALLER shall prepare floor at location of automatic entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION

Series 1175
ALUMINUM TELESCOPIC AUTOMATIC SLIDING ENTRANCE SYSTEM

DIVISION 08 – OPENINGS
SECTION 08 42 29.23 SLIDING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic slide door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
1. Concrete: Division 03, applicable sections.
2. Masonry: Division 04, applicable sections.
3. Thermal and Moisture Protection: Division 07, applicable sections.
5. Openings: Division 08, applicable sections.
6. Electrical: Division 26, applicable sections. (See note to Specifier*)

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.10.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of sliding door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.04 WARRANTY

A. Warranty power operators, controls and labor provided by automatic sliding door equipment installer against defects in material and workmanship, at no cost to owner, for a period of one year from date of substantial completion. Provide warranty to owner after completion of installation.

1.06 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturer (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC GT 1175 WHISPERSLIDE TELESCOPIC SYSTEM

A. GT Model 1175 Telescopic Whisperslide as indicated on door schedule and details.

B. Mode of operation: an electro-mechanical operator with a microcomputer control system shall drive Sliding door. The door will be pulled from closed to open and open to close position stopping the door in both directions by electrically reducing the voltage, stalling door against mechanical stop. Opening, closing speeds and hold open time shall be adjustable. A reinforced timing belt shall be used to convert rotating motion from the operator sprocket into horizontal motion of the door.

C. Components:
1. Aluminum doors, sidelites, operator housing and frame.
2. Rollers-support, anti-riser and guide.
3. Door carrier hanger assembly, breakaway latch, limiting arm and door lock.
4. Air infiltration and intrusion protection equipment.
5. Gyro Tech Whisperslide power close operator with micro-computer control.

1a) Door panel(s) and sidelite(s) panel shall be factory assembled with 3/8"-16 threaded tie rod spanning full length of top and bottom rails. Snap-in glass stop with integral extruded vinyl standoff to accommodate glass flexing. A horizontal muntin bar to provide glass protection.
1b) Operator housing section shall be five piece construction 8-3/4" (222mm) by 7-1/2" (191mm) extrusion with enclosed end caps. All header sections shall have a minimum thickness of 1/8" (3mm) and shall be fabricated of 6063-T5 aluminum alloys.
1c) Sidelite configuration shall be fixed or full breakaway.
1d) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes available upon request.
1e) Vertical jambs shall be of 2" (51mm) by 7" (178mm) extruded aluminum tubes.

2a) The door assembly shall ride on two 1-13/32" (36mm) dia. steel, urethane coated support rollers incorporating lubricated sealed ball bearings rated at 250 lbs. each. The door shall be held on the track by means of two 1-13/32" (36mm) anti-riser rollers. Lateral adjustment of the door assembly shall provide positive sealing at door edges. Door height shall be adjustable by 7/16" (11mm).
2b) Fixed Sidelite - Each door shall include one guide assembly incorporating double rollers with sleeve bushings. Guide assembly shall be attached to the door with 10 gage (3mm) thick formed guide bracket. All steel brackets and fittings shall be plated for corrosion resistance.
2c) Full Open Units - Each door shall include one guide assembly incorporating one roller and guide piston riding in a surface or recessed floor track assembly.

3a) Entrance systems shall have door panels attached to a door carrier hanger assembly by means of an adjustable support rod pivot assembly and corrosion resistant adjustable breakaway release latch holding panel in the closed position under normal automatic operation. The support rod pivot assembly allows the door panel to be broken outward at any point in the door's opening or closing cycle allowing for safe emergency egress in compliance with NFPA 101. The door panel in the breakout mode disconnects the power to the control circuit inhibiting automatic door operation. The control circuit shall be resettable by re-engaging the door panel with the door carrier hanger assembly. Breakaway pressure shall be field adjustable (5-50 lbs.) to meet local building code requirements but will be factory set at 50 lbs. maximum.
3b) Door assemblies shall have a limiting arm to control the door as it swings in the direction of egress.
3c) The lead active door will incorporate a two point lock securing the lead stiles and door carrier hanger assembly. In the case of a single slider, securing at the jamb and door carrier hanger assembly. The lock assembly will incorporate a key

cylinder on the exterior and a thumb turn on the interior in accordance with NFPA 101.
4) Double pile weatherstripping on the lead edge of the sliding door(s) .36" thick (9mm) including the area of the lock.
4a) 11/16" (17mm) wide nylon brush weatherstripping on the vertical stile of both the sliding door panel(s) and sidelite(s) panels
4b) 11/16" (17mm) wide nylon brush weatherstripping mounted on door bottom.
5a) GyroTech Whisperslide Telescopic Power Operator: Completely assembled and sealed unit which shall include gear-driven transmission, and bearings, all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a 24 VDC "Brush-less" motor with sealed ball bearings. 1/10 HP motor shall operate from 115-volt supply and require less than 5 amps at full stall.
5b) Power Operator Control: Shall be a microprocessor unit. The microprocessor control shall allow the opening speed, closing speed; back check speed, latch check speed and back check and latch check positions each to be adjusted separately and independently from each other to meet specific site conditions. The doors shall be set to be held closed with the motor. The control system shall also be capable of providing transistor output signals at the door closed or door open positions to facilitate interaction with security and access control systems. A single input shall be available to initiate an emergency close and lock whereby the door immediately closes upon that circuit activation. Normally open or normally closed activation and safety signal inputs shall be available and able to be switched programmatically. Non-critical error resetting to be accomplished via cycling of On/Off Mode Switch. The processor shall be capable of providing information on the number of operations and error codes for maintenance purposes. Adjustable opening and closing speeds shall be set in accordance with ANSI 156.10. All adjustments shall be specific and reproducible. Settings with rotary switches are not allowed.

2.03 SENSOR DEVICES

A. Acusensor: Manufactured by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Units shall be supplied and installed on both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

B. Acuzone: Sold by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Acuzone uses two technologies for activation and presence sensing. The activation is achieved by Doppler microwave for long range sensing. Presence sensing is achieved by active-infrared. Unit shall have separate outputs for microwave and infrared signals. Sensors combining both microwave and infrared signals on one output only shall not be allowed. The Acuzone can also look back through the threshold to provide additional safety coverage when the door is open. Units shall be supplied and installed on one or both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

C. Redundant safety: In addition to the presence sensors on both sides of the header, unit shall include minimum one set of infrared safety beams across the walk through opening to prevent the door from closing if there are any obstructions. This is for redundant threshold protection.

D. Specification options for consideration: for others see product catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by or under the direction of factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**
Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.
CONCRETE INSTALLER shall prepare floor at location of automatic entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION

Series 1175
ALUMINUM AUTOMATIC SLIDING ENTRANCE SYSTEM

DIVISION 08 – OPENINGS
SECTION 08 42 29.23 SLIDING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION
A. Furnish and install automatic slide door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
1. Concrete: Division 03, applicable sections.
2. Masonry: Division 04, applicable sections.
3. Thermal and Moisture Protection: Division 07, applicable sections.
5. Openings: Division 08, applicable sections.
6. Electrical: Division 26, applicable sections. (See note to Specifier*)

1.02 REFERENCES
A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE
A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.10.

1.04 SUBMITTALS
A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of

sliding door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.04 WARRANTY

A. Warranty power operators, controls and labor provided by automatic sliding door equipment installer against defects in material and workmanship, at no cost to owner, for a period of one year from date of substantial completion. Provide warranty to owner after completion of installation.

1.05 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturer (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC GT-WHISPERSLIDE SYSTEM

A. GT Model 1175 Whisperslide as indicated on door schedule and details.

B. Mode of operation: an electro-mechanical 24 VDC “Brush-less” operator with a microcomputer control system shall drive sliding door. The door will be pulled from closed to open and open to close position stopping the door in both directions by electrically reducing the voltage, stalling door against mechanical stop. Opening, closing speeds and hold open time shall be adjustable. A reinforced timing belt shall be used to convert rotating motion from the operator sprocket into horizontal motion of the door.

C. Components:
1. Aluminum doors, sidelites, operator housing and frame.
2. Rollers-support, anti-riser and guide.
3. Door carrier hanger assembly, breakaway latch, limiting arm and door lock.
4. Air infiltration and intrusion protection equipment.
5. Nabco 24 VDC “Brushless” power open/close operator with microcomputer control.
6. (Optional) Access Security Equipment

1a) Door panel(s) and sidelite(s) panel shall be factory assembled with 3/8"-16 threaded tie rods spanning full length of top and bottom rails. Snap-in glass stop with integral extruded vinyl standoff to accommodate glass flexing. A horizontal muntin bar to provide glass protection. Available in narrow stile 2-1/8” (51mm) or optional medium stile 4” (102mm).

1b) Operator housing section shall be two piece construction 6-1/2” (165mm) by 7-1/2” (191mm) extrusion with end caps. All header sections shall have a minimum thickness of 0.140" (4mm) and shall be fabricated of 6063-T5 aluminum alloy.

1c) Sidelite configuration shall be fixed, full breakaway or pocket type.

1d) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes available upon request.

1e) Vertical jambs shall be of 1-3/4” (44mm) by 4-1/2” (114mm) extruded aluminum tubes. 1-3/4" (44mm) by 6-3/8" (162mm) for pocket type units. Optional framing available.

2a) The door assembly shall ride on two 2-3/8" (60mm) dia. steel, urethane coated support rollers incorporating lubricated sealed ball bearings rated at 250 lbs. each. The door shall be held on the track by means of two 2-1/2" (64mm) anti-riser rollers. Lateral adjustment of the door assembly shall provide positive sealing at door edges. Door height shall be adjustable by 9/32" (7mm).

2b) Fixed Sidelite Units - Each door shall include one guide assembly incorporating double rollers with sleeve bushings. Guide assembly shall be attached to the door with 10 gage (3mm) thick-formed guide bracket. All steel brackets and fittings shall be plated for corrosion resistance.

2c) Full Open Units - Each door shall include one guide assembly incorporating one roller and guide piston riding in a surface or recessed floor track assembly.

3a) Entrance systems shall have door panels attached to a door carrier hanger assembly by means of an adjustable support rod pivot assembly and corrosion resistant adjustable breakaway release latch holding panel in the closed position under normal automatic operation. The support rod pivot assembly allows the door panel to be broken outward at any point in the door's opening or closing cycle allowing for safe emergency egress in compliance with NFPA 101 and ANSI A156.10. The door panel in the breakout mode disconnects the power to the control circuit inhibiting automatic door operation. The control circuit shall be resettable by re-engaging the door panel with the door carrier hanger assembly. Breakaway pressure shall be field adjustable from 5 to 50 lbs (22N to 222N) to meet local building code requirements but will be factory set at 50 lbs (222N) maximum.

3b) Door assembly shall have a limiting arm to control the door as it swings in the direction of egress.

3c) The active door will incorporate a two-point lock securing the lead stiles and door carrier hanger assembly. In the case of a single slider, the door is secured at the jamb and door carrier hanger assembly. The lock assembly will incorporate a key cylinder on the exterior and a thumb turn on the interior in accordance with NFPA 101. Optional three point locking available.

4a) Double pile weather-stripping on the lead edge of the sliding door(s) .36" thick (9mm) including the area of the lock.

4b) 11/16" (17mm) wide nylon brush weather-stripping on the vertical stile of both the sliding door panel(s) and sidelite(s) panels

4c) 11/16" (17mm) wide nylon brush weather-stripping mounted on door bottom.

5a) Nabco Power Operator: Completely assembled and sealed unit which shall include gear-driven transmission, and bearings, all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a 24 VDC "Brush-less" motor with sealed ball bearings. 1/10 HP motor shall operate from 115-volt supply and require less than 5 amps at full stall.

5b) Power Operator Control: Shall be a microprocessor unit. The microprocessor control shall allow the opening speed, closing speed; back check speed, latch check speed and back check and latch check positions each to be adjusted separately and independently from each other to meet specific site conditions. The doors shall be set to be held closed with the motor. The control system shall also be capable of providing transistor output signals at the door closed or door open positions to facilitate interaction with security and access control systems. A single input shall be available to initiate an emergency close and lock whereby the door immediately closes upon that circuit activation. Normally open or normally closed activation and safety signal inputs shall be available and able to be switched programmatically. Non-critical error resetting to be accomplished via cycling of On/Off Mode Switch. The processor shall be capable of providing information on the number of operations and error codes for maintenance purposes. Adjustable opening and closing speeds shall be set in accordance with ANSI 156.10. All adjustments shall be specific and reproducible. Settings with rotary switches are not allowed.

6a) Access Security Equipment: Shall consist of Gyro Tech 24 VDC power locking device. Lock shall be concealed in header. Sliding door shall be capable of being fitted with optional panic hardware equipment complete with concealed vertical rods. To facilitate smooth door operation lock release and engagement shall be governed by microprocessor control.

2.03 SENSOR DEVICES

A. Acusensor: Manufactured by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Units shall be supplied and installed on both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

B. Acuzone: Sold by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Acuzone uses two technologies for activation and presence sensing. The activation is achieved by Doppler microwave for long range sensing. Presence sensing is achieved by active-infrared. Unit shall have separate outputs for microwave and infrared signals. Sensors combining both microwave and infrared signals on one output only shall not be allowed. The Acuzone can also look back through the threshold to provide additional safety coverage when the door is open. Units shall be supplied and installed on one or both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

C. Redundant safety: In addition to the presence sensors on both sides of the header, unit shall include minimum one set of

infrared safety beams across the walk through opening to prevent the door from closing if there are any obstructions. This is for redundant threshold protection.

D. Specification options for consideration:
   1. Wall Switches
   2. For others see product catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:

ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

CONCRETE INSTALLER shall prepare floor at location of automatic entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION

GT1175 WHISPERSLIDE HURRICANE PACKAGE
IMPACT RATED AUTOMATIC ENTRANCE SYSTEMS
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Part 1-GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic equipment as indicated on drawings and specifications.
B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply: Section_____

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
Products specified shall be represented by a factory authorized and trained distributor. Distributor shall maintain a parts inventory and trained service personnel capable of providing service.
B. All automatic equipment to comply with ANSI A156.10.
C. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as a base bid. Other systems can be quoted along with information specifically detailing the differences from the following specification.

1.03 SUBMITTALS

A. Shop drawings showing complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.
B. Templates and diagrams and/or shop drawings as needed shall be furnished to fabricators and installers of related work for coordination of sliding door system with concrete work, electrical work, and other related work.
C. A copy of appropriate manual shall be provided to owner's representative upon completion of installation.

1.04 WARRANTY

A. Warranty power operators, controls and labor provided by automatic sliding door equipment installer against defects in material and workmanship, at no cost to owner, for a period of one year from date of substantial completion. Provide warranty to owner after completion of installation.

1.05 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturer (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.
B. Automatic sliding door systems shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards:
ANSI/BHMA A156.10
NFPA 101
Underwriter's Laboratories (UL) 325
Miami-Dade County Building Code Compliance Office
Florida Building Code, 2001, 2004

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC GT-WHISPERSLIDE SYSTEM

A. GT Model #1175 Whisperslide as indicated on door schedule and details.

B. Mode of operation: an electro-mechanical 24V DC "Brush-less" operator with a microcomputer control system shall drive sliding door. The door will be pulled from closed to open and open to close position stopping the door in both directions by electrically reducing the voltage, stalling door against mechanical stop. Opening, closing speeds and hold open time shall be adjustable. A reinforced timing belt shall be used to convert rotating motion from the operator sprocket into horizontal motion of the door.

C. Components:
1. Doors, sidelites, operator housing and frame made from manufacturer's standard extruded aluminum reinforced as required to support imposed loads.
2. Rollers-support, anti-riser and guide.
3. Door carrier hanger assembly, breakaway latch, limiting arm and door lock.
4. Air infiltration and intrusion protection equipment.
5. Nabco 24V DC "Brushless" power open/close operator with microcomputer control.

6. (Optional) Access Security Equipment

1a) Door panel(s) and sidelite(s) panel shall be factory assembled with 3/8"-16 threaded tie rods spanning full length of top and bottom rails. Screw down glass stops with integral extruded vinyl standoff and screw down reinforcement angle to accommodate glass flexing. Glass stops are designed for use with 1/2" (13mm) thick impact glass as specified in the Miami-Dade Notice of Acceptance. Glass is wet glazed in place with DOW 995 adhesive or approved equal.

1b) Operator housing section shall be three piece construction 6-1/2" (165mm) by 7-1/2" (191mm) extrusion with end caps. All header sections shall have a minimum thickness of 0.140" (4mm) and shall be fabricated of 6063-T5 aluminum alloy.

1c) Sidelite configuration shall be fixed or full breakaway type.

1d) Finish: Aluminum shall have a standard finish of AA-M12-C21-A31 (204R1, clear) or AA-M12-C21-A44 (dark bronze). Special finishes available upon request.

1e) Vertical jambs shall be of 1-3/4" (44mm) by 4-1/2" (114mm) extruded aluminum tubes.

1f) Manufacturer's saddle thresholds as specified in the Miami-Dade Notice of Acceptance.

2a) The door assembly shall ride on two 2-3/8" (60mm) dia. steel, urethane coated support rollers incorporating lubricated sealed ball bearings rated at 250 lbs. each. The door shall be held on the track by means of two 2-1/2" (64mm) anti-riser rollers. Lateral adjustment of the door assembly shall provide positive sealing at door edges. Door height shall be adjustable by" 9/32" (7mm).

2b) Fixed Sidelite Units - Each door shall include one guide assembly incorporating double rollers with sleeve bushings. Guide assembly shall be attached to the door with 10 gage (3mm) thick-formed guide bracket. All steel brackets and fittings shall be plated for corrosion resistance.

2c) Full Open Units - Each door shall include one guide assembly incorporating one roller and guide piston riding in a surface or recessed floor track assembly.

3a) Entrance systems shall have door panels attached to a door carrier hanger assembly by means of an adjustable support rod pivot assembly and corrosion resistant adjustable breakaway release latch holding panel in the closed position under normal automatic operation. The support rod pivot assembly allows the door panel to be broken outward at any point in the door's opening or closing cycle allowing for safe emergency egress in compliance with NFPA 101 and ANSI A156.10. The door panel in the breakout mode disconnects the power to the control circuit inhibiting automatic door operation. The control circuit shall be resettable by re-engaging the door panel with the door carrier hanger assembly. Breakaway pressure shall be field adjustable from 5 to 50 lbs (22N to 222N) to meet local building code requirements but will be factory set at 50 lbs (222N) maximum.

3b) Door assembly shall have a limiting arm to control the door as it swings in the direction of egress.

3c) The active door will incorporate a three-point lock securing the lead stiles, door carrier hanger assembly and to the threshold. On a bi-part slider the inactive door will include additional two-point locking. In the case of a single slider, the door will incorporate a three-point lock securing the door carrier hanger assembly and to the jamb and threshold. The lock assembly will incorporate a key cylinder on the exterior and a thumb turn on the interior in accordance with NFPA 101. An optional Adams-Rite 4550 lever may be substituted for the interior thumb turn.

3d) On full open units the adjacent swing out sidelite will incorporate additional two-point locking securing it to the header and threshold.

4a) Double pile weather-stripping on the lead edge of the sliding door(s) .36" thick (9mm) including the area of the lock.

4b) 11/16" (17mm) wide nylon brush weather-stripping on the vertical stile of both the sliding door panel(s) and sidelite(s) panels

4c) 11/16" (17mm) wide nylon brush weather-stripping mounted on door bottom.

5a) Nabco Power Operator: Completely assembled and sealed unit which shall include gear-driven transmission, and bearings, all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a 24V DC "Brush-less" motor with sealed ball bearings. 1/10 HP motor shall operate from 115-volt supply and require less than 5 amps at full stall.

5b) Power Operator Control: Shall be a microprocessor unit. The microprocessor control shall allow the opening speed, closing speed; back check speed and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. The control shall interact with door sensors via digital signals and if a sensor error occurs the control shall hold the door open. The doors shall be set to be held closed with the motor. The control system shall also be capable of providing transistor output signals at the door closed or door open positions to facilitate interaction with security and access control systems. It shall be capable of providing information on the number of operations and error codes for maintenance purposes. Adjustable opening and closing speeds shall be set in accordance with ANSI 156.10. All adjustments shall be specific and reproducible. Settings with rotary switches are not allowed.

6) Access Security Equipment: Shall consist of Gyro Tech Access Control Panel with switches and LED indicators to allow user to change door operation mode, open the door or observe the status of the door.

2.03 SENSOR DEVICES

A. Acusensor or Acuvision: Manufactured by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Units shall be supplied and installed on both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

B. Acumotion: Manufactured by NABCO ENTRANCES, INC.
Sensors for door activation and threshold sensing shall provide a rectangular shaped pattern with a sensing area next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern shall be adjustable both in width and depth of coverage while remaining at a full power setting. Acumotion uses two technologies for activation and presence sensing. The activation is achieved by Doppler microwave for long range sensing. Presence sensing is achieved by active-infrared. Unit shall have separate outputs for microwave and infrared signals. Sensors combining both microwave and infrared signals on one output shall not be allowed. Units shall be supplied and installed on one or both sides of the operator housing to activate doors for single or two-way traffic. Units shall be sealed for protection against dust and moisture. An optional rain cover shall be available for sensors directly exposed to the elements.

C. Specification options for consideration:
1. Wall Switches
2. For others see product catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings. Type and quantity of fasteners to secure the door package into the framed opening is per the requirements in the Miami-Dade Notice of Acceptance.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**
Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.
CONCRETE INSTALLER shall prepare floor at location of automatic entrance system to accommodate the surface as indicated on drawings.

GYRO TECH™
by NABCO Entrances Inc.
Where quality and service are automatic

GT 400
Heavy-Duty, Surface-Mounted Swing Door Operator

The GT 400 is designed to work with existing or new door installations. This heavy duty system can handle pedestrian traffic under the busiest conditions. It's proven mechanical design provides smooth, long lasting operation. New Side Load Header makes installation and maintenance easier and faster.

The GT 400 is available as a complete swing door package including operators, sensors, jambs and stiles!

GT 400 Single Swing Door System

PRODUCT FEATURES

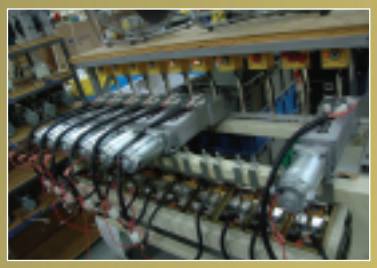
- Proven design for **proven reliability**
- Works with new or existing door frames
- Mechanical operator used with basic electronic or microprocessor (standard) controller provides smooth, efficient operation
- Adjustable closing speeds allow the door to close sooner for energy savings or slower for increased pedestrian protection
- Mechanical operator used with Microprocessor **provides efficient, smooth operation**
- Hold Close function **counteracts positive building stack pressures**
- Works with butt-hung , offset pivot or center pivot door without requiring the special linkage making it **easy to install**
- Optional length headers for improved appearance
- Heavy-duty spring closer
- Heavy-duty all steel motor and mechanical gear box **outperforms the competition**
- Available with bottom load or **convenient Sideload Header**
- Sideload access panel simply pivots up and locks into position, out of the way, enabling the operator to be **quickly installed or removed for easy servicing** while allowing the door to remain in a closed position, **eliminating the loss of energy from within the building**
- Panic breakout available for center pivoted doors – **allows inswinging doors to swing out in case of emergency**
- Recycle feature stops and reverses direction of swing path when an object is encountered for greater pedestrian protection
- **Seamless interface** with a variety of activation devices and auxiliary equipment including fire alarm systems
- CAD drawings and 3-part specs are available on the website **www.nabcoentrances.com**

APPROVALS:

Meets ANSI Standard 156.10 when used with mats, Acusensor 1B or Acugard complete swing door sensor system, sensor packages, UL, CSA and CSFM approved.

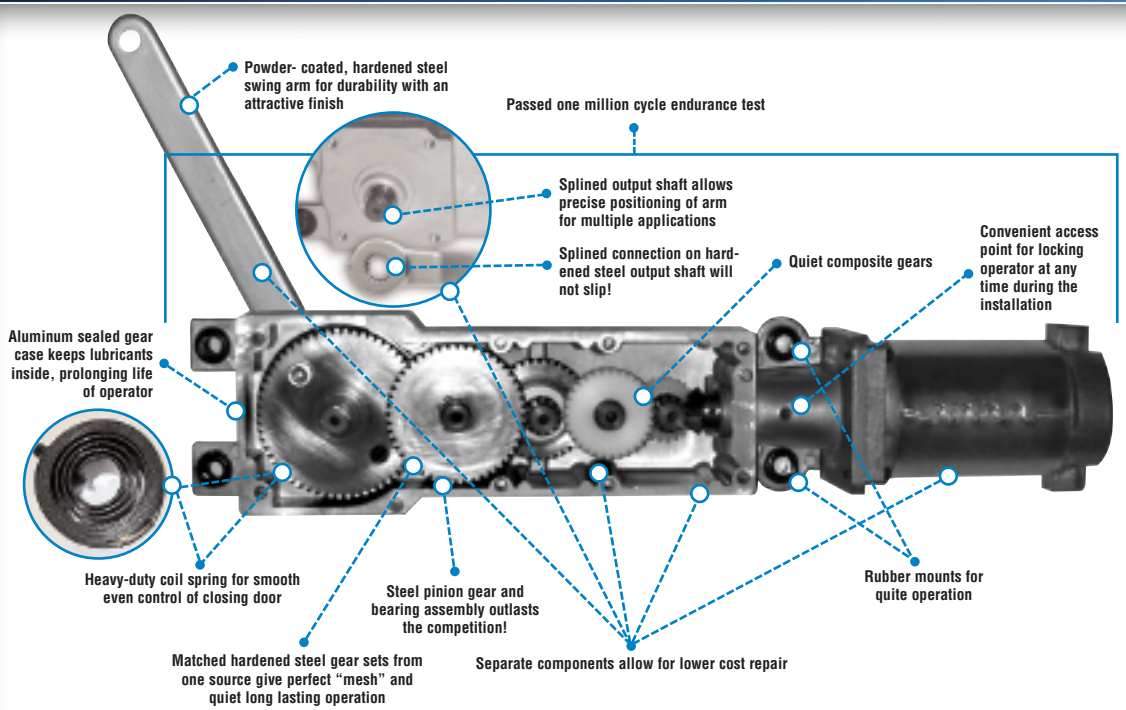
GT 400 Mechanical Operator

Sideload Header makes it easier and faster to install and service the door operator and controls



We ensure the highest level of Customer Satisfaction and the lowest failure rate by rigorously testing each GT 400 for hundreds of cycles prior to shipment.

NABCO offers a complete line of activating devices including key switches, wall switches, jamb mounted switches and radio controls.

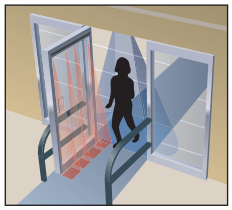


FINISHES:

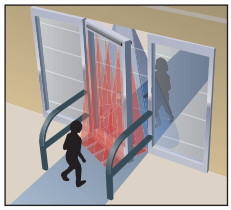
The GT 400 is available in 2 standard anodized finishes, clear aluminum or dark bronze. NABCO can provide a custom color match in wet paint or powder coat paint. Custom anodized colors are available to meet your specifications. The header can also be clad in stainless or bronze with your choice of finishes.

OPTIONAL SENSORS:

ACUGARD 3
Complete Sensing System



When used with the advanced "U" Series microprocessor, sensors starting from the pivot end systematically adjust as walls or guide rails overlap the sensing area.



As the door is opening, an Acugard sensor detects a person in the path of the door and stops the door from opening.

NABCO SERVICE

Our friendly, qualified technicians service swing, slide, and folding doors, and sensors for all major brands of entrances. NABCO also offers turnkey programs that meet all ANSI standards to replace entire entrance systems from tear-out to finish.
Email – **customerservice@nabcoentrances.com**

TECHNICAL SPECIFICATIONS:

Complete 3-part specs are available at **www.nabcoentrances.com**

Distributed By:

GYRO TECH™ by NABCO Entrances Inc.
Where quality and service are automatic

MANUFACTURER
NABCO ENTRANCES INC.
P.O. Box 906
Muskego, WI 53150
Phone 877-622-2694 Fax 888-679-3319

www.nabcoentrances.com
email **info@nabcoentrances.com**

15-11315-08 4/08

GT500/8500

Heavy-Duty/Low-Energy
ADA Swing Door Operator

Where SOLUTIONS are AUTOMATIC

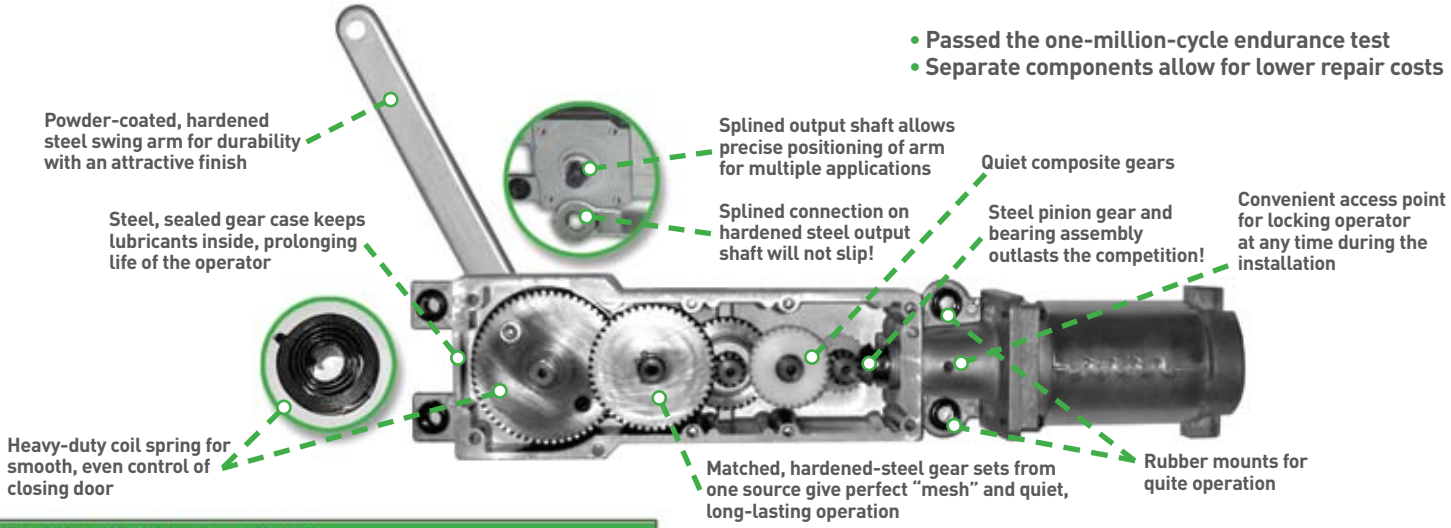
Product Features and Benefits

- Adjustable closing speeds to **enhance energy savings**
- Heavy-duty motor and mechanical gearbox **offer longevity and dependability**
- Mechanical operator with a microprocessor control **provides efficient, smooth operation**
- Compliments new/existing door frames, as well as in-ground capability which **provides versatility**
- A workhorse operator that **provides confidence and peace of mind** while complying with the ANSI A156.19 standard

GT500/8500 Heavy-Duty/Low-Energy ADA Swing Door Operator

The NABCO GT500/8500 Heavy-Duty/Low-Energy Operator is engineered for interior and exterior use, and designed to automate essentially any new or existing door frame. The side load header access panel simply pivots up and locks into position, out of the way, enabling quick installation and ease of servicing. NABCO ensures the highest level of customer satisfaction and the lowest failure rate by rigorously testing each unit prior to shipment. The low-energy performance combined with the adjustable opening and closing speeds reduce energy consumed, which offers a prompt return on your investment.

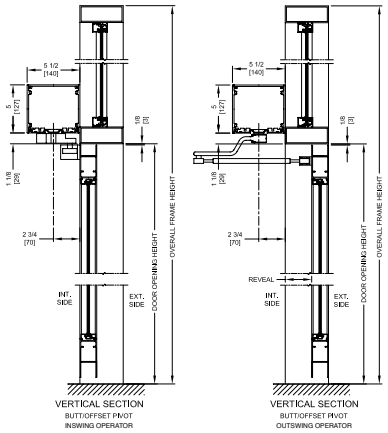
- Passed the one-million-cycle endurance test
- Separate components allow for lower repair costs



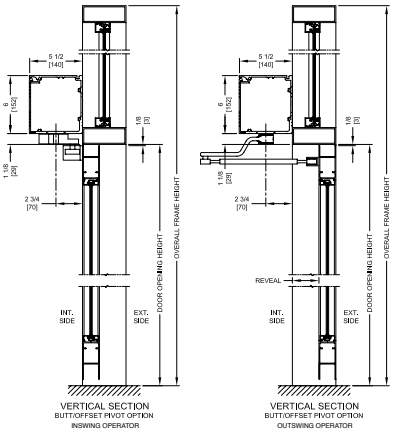
PRODUCT INFORMATION

Header dimensions	**Bottom load – 5" H X 5 1/2" D** (GT500) **Side load – 6" H X 5 1/2" D** (GT8500)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Surface applied/In-ground**
Installation types	**Push or pull**
Operating voltage	**120 VAC**
Auxiliary power output	**12VDC 700mA**
Operator drive	**Electro-mechanical**
Motor voltage	**Pulse width modulated**
Motor type	**1/10th HP permanent magnet motor**
Control type	**Microprocessor**
Door panel weight	**300 lbs.**
Adjustable open	**Force and speed**
Adjustable close	**Speed**
Closing method	**Spring** (with selectable power assist)
Adjustable opening angle	**90º to 110º**
Power boost close	**Selectable**
Basic features	**Low-energy operation** **Push and go** **Obstacle detection in opening and closing cycles** **Sequential or timer mode operation** **LCD screen for programming and diagnostics** **Open- or closed-circuit safety inputs** **Momentary or maintained activation**
Switch modes	**On, off, hold-open**
Opening and closing speed	**Adjustable**
Hold-open time	**Adjustable** (0-30 seconds)
Code compliances	**ANSI A156.19/ANSI A117.1**
Approvals	**UL, ULC**

GT500 Operator
Bottom load



GT8500 Operator
Side load



CONFIGURATIONS:
The GT500/8500 is available for multiple configurations such as single doors, simultaneous pairs, dual egress and in-ground applications, as well as the Opman configuration, which is a single, continuous header for a pair of doors containing a manual closer on one side and an automatic operator on the other.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10/A156.19 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

NABCO GYROTECH

Member of the Nabtesco Group

Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Distributed by:

GYRO TECH™
by NABCO Entrances Inc.
Where quality and service are automatic

GT 600
Heavy-Duty, Surface-Mounted, Fire Door Operator

The GT 600 Fire Door offers state-of-the-art fire door protection. In the event of a fire emergency, the system powers down, allowing the doors to close and latch. Entry is prevented but personnel can exit by pushing the panic hardware.

GT 600 Fire Door Operator

PRODUCT FEATURES

- Works in conjunction with all new or existing UL Listed door, frame and fire exit hardware
- State-of-the-art protection with **proven reliability**
- Recycle feature stops and reverses direction of swing path when an object is encountered for **greater pedestrian protection**
- Adjustable opening and closing speeds for **safe operation and energy savings**
- **Low current draw** - less than 5 amp, 115 VAC, 1-phase
- Electronic control system
- Heavy-duty motor and gear box **outperforms the competition**

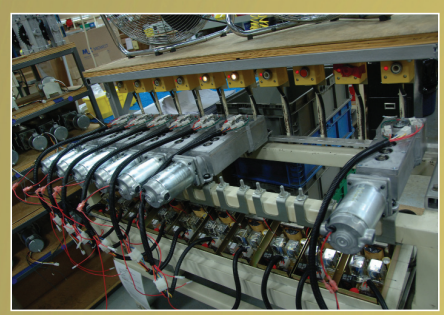
APPROVALS:

Meets ANSI Standard 156.10. Approved for use with UL listed door frames and latching devices as designated by NFPA 101 and NFPA 80.

- Available with bottom load or **convenient Sideload header**
- Sideload header access panel pivots up and locks into position, enabling the operator to be **quickly installed or removed for easy servicing** while allowing the door to remain in a closed position, **eliminating the loss of energy from within the building**
- Can be mounted to new or existing door frames
- Panic breakout available for center pivoted doors - **allows inswinging doors to swing out in case of emergency**
- **Seamless interface with a variety of activation devices** and auxilliary equipment including fire alarm systems
- Door can be **easily operated manually**
- Works with either single or double door systems
- Includes Mechanical Operator, Latch Mechanism (double door only), Power Reset Box (double door only), Power Box (single door only) and Caution Labels
- CAD drawings and 3-part specs are available on the website **www.nabcoentrances.com**

GT 600 Mechanical Operator

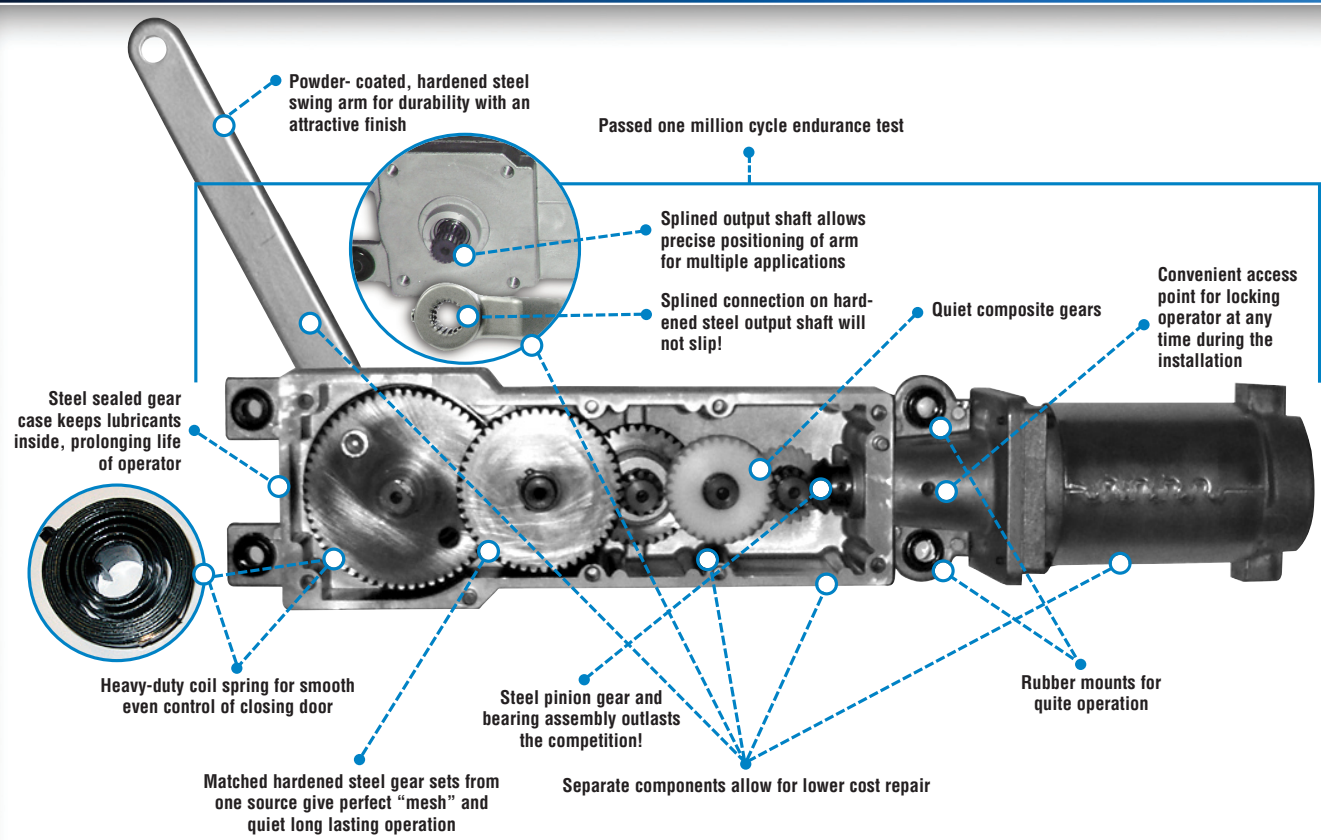
Sideload Header makes it easier and faster to install and service the door operator and controls



We ensure the highest level of Customer Satisfaction and the lowest failure rate by rigorously testing each GT 600 for hundreds of cycles prior to shipment.

NABCO offers a complete line of activating devices including key switches, wall switches, jamb mounted switches and radio controls.

GYRO TECH™
by NABCO Entrances Inc.
Where quality and service are automatic

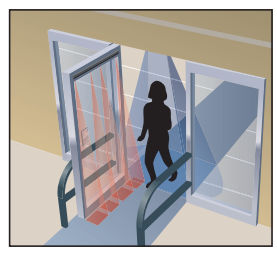


FINISHES:

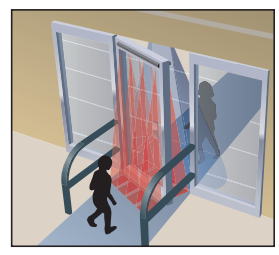
The GT 600 is available in 2 standard anodized finishes, clear aluminum or dark bronze. NABCO can provide a custom color match in wet paint or powder coat paint. Custom anodized colors are available to meet your specifications. The header can also be clad in stainless or bronze with your choice of finishes.

OPTIONAL SENSORS:

ACUGARD
Complete Sensing System



When used with the advanced “U” Series microprocessor, sensors starting from the pivot end systematically adjust as walls or guide rails overlap the sensing area.



As the door is opening, an Acugard sensor detects a person in the path of the door and stops the door from opening.

NABCO SERVICE

Our friendly, qualified technicians service swing, slide, and folding doors, and sensors for all major brands of entrances. NABCO also offers turnkey programs that meet all ANSI standards to replace entire entrance systems from tear-out to finish.
Email – **customerservice@nabcoentrances.com**

TECHNICAL SPECIFICATIONS:

Complete 3-part specs are available at **www.nabcoentrances.com**

Distributed By:

MANUFACTURER
NABCO ENTRANCES INC.
P.O. Box 906
Muskego, WI 53150
Phone 877-622-2694 Fax 888-679-3319

www.nabcoentrances.com
email **info@nabcoentrances.com**

15-11315-09 1/08

GT710/8710

Low-Energy
ADA Swing Door Operator

Where SOLUTIONS are AUTOMATIC

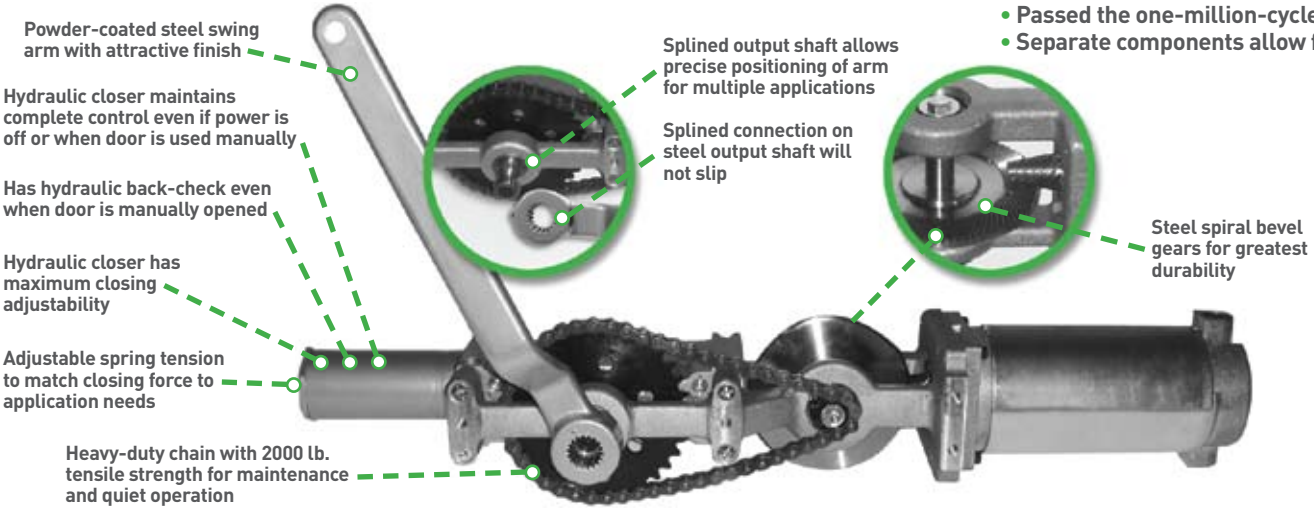
Product Features and Benefits

- Hydraulic design offers **proven reliability**
- Adjustable closing speeds to **enhance energy savings**
- Manual mode requires very little pressure to open **promoting ease of operation**
- Approved on fire door assemblies rated up to 3 hours, **maintaining security and safety**
- Hydraulic back-check during windy conditions **protects the door and operator from damage**

GT710/8710 Low-Energy ADA Swing Door Operator

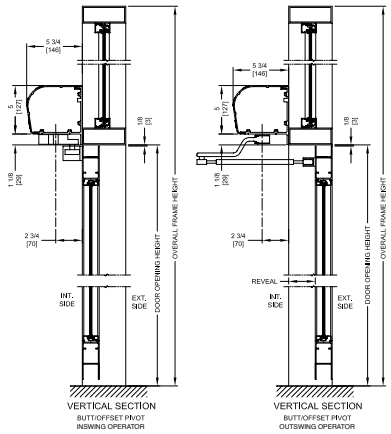
The NABCO GT710/8710 Low-Energy Operator is engineered for interior and exterior use, and designed to automate essentially any new or existing door frame. The GT710/8710 operates in both automatic and manual modes with a hydraulic back-check that protects the door and mechanical operator from damage when forced open in windy conditions or when manually operated. The GT710/8710 Operator has been approved for use on fire door assemblies rated up to 3 hours. The low-energy performance, combined with the adjustable opening and closing speeds, reduces energy consumed, which offers a prompt return on your investment.

- **Passed the one-million-cycle endurance test**
- **Separate components allow for lower repair costs**

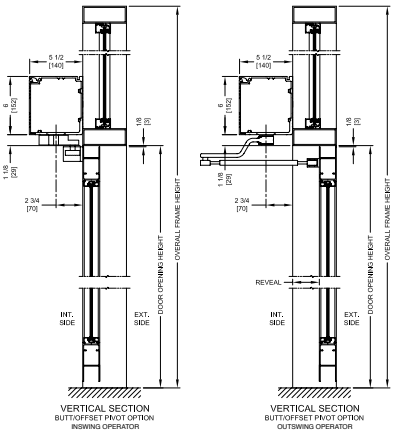


PRODUCT INFORMATION	
Header dimensions	**Side load - 5" H X 5 3/4" D** (GT710) **curved header** **Side load - 6" H X 5 1/2" D** (GT8710)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, clad, special anodized**
Mounting	**Surface applied or overhead concealed**
Installation types	**Push or pull**
Operating voltage	**120 VAC @ <5 amps**
Auxiliary power output	**12VDC 700mA**
Operator drive	**Electro-hydraulic**
Motor voltage	**Pulse width modulated**
Motor type	**1/8th HP @ peak**
Control type	**Microprocessor**
Door panel weight	**300 lbs.**
Adjustable open	**Force and speed**
Adjustable close	**Force and speed**
Closing method	**Spring/hydraulic** (with selectable power assist)
Adjustable opening angle	**Up to 145°**
Power boost close	**Selectable**
Basic features	**Low-energy operation** **Push and go** **Obstacle detection in opening and closing cycles** **Sequential or timer mode operation** **LCD display for programming and diagnostics** **Open- or closed-circuit safety inputs** **Momentary or maintained activation**
Switch modes	**On, off, hold-open**
Opening and closing speed	**Adjustable**
Hold-open time	**Adjustable** (0-30 seconds)
Code compliances	**ANSI A156.19/ANSI A117.1**
Approvals	**UL, ULC**

GT710 Operator



GT8710 Operator



CONFIGURATIONS:
The GT710/8710 is available for multiple configurations, such as single doors, simultaneous pairs, and dual-egress, as well as the Opman configuration, which is a single continuous header for a pair of doors containing a manual closer on one side and an automatic operator on the other.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10/A156.19 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

Member of the Nabtesco Group

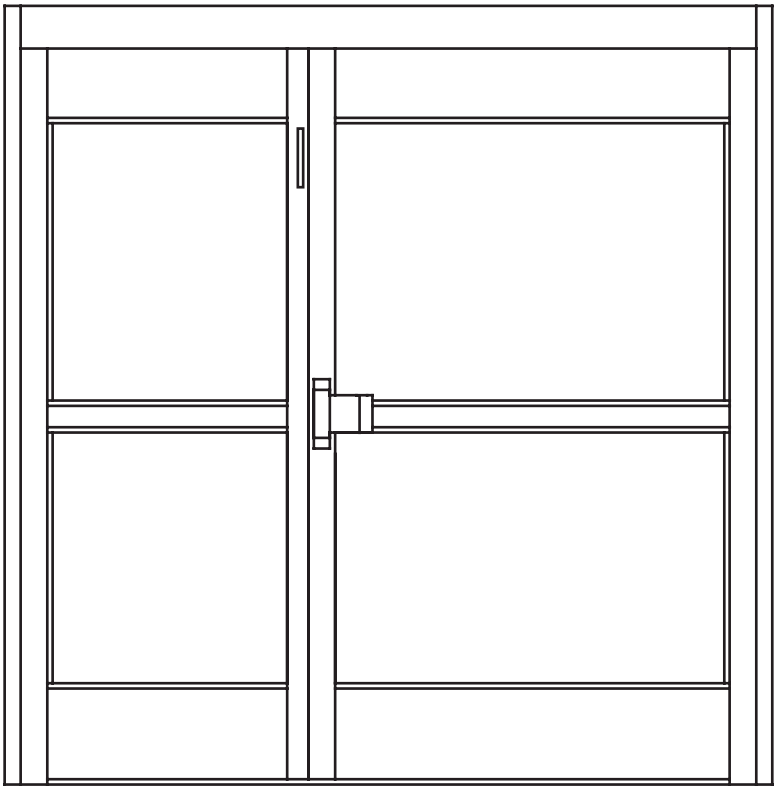
Member AAADM

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.NABCOentrances.com | Email info@nabcoentrances.com

Distributed by:

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Model GT 2300
ICU Manual Swing Door
Unequal Panels - Smoke Rated



DN 0451

WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-13913
Rev. 4/10/13

Table of Contents

WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.**

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: *Indicates important information that provides further instruction.*

GENERAL SAFETY RECOMMENDATIONS

WARNING **Do Not install or service this product unless Safety Practices, Warning Labels, Installation Instructions, and Operating Instructions, have been read and fully understood. Failure to so do may result in bodily injury or property damage.**

CAUTION **Handle Glass With Care!!! Use caution when moving and installing the glass panels. These panels are designed to be assembled with tempered glass. Any sharp objects that come in contact with glass may cause the glass to shatter. NABCO Entrances is not responsible for glass that is broken during the installation of this Unit.**

Notice: **Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.**

Notice: **This manual and the owner's manual must be given to and retained by the purchasing facility or end user.**

Notice: **Advise the purchasing facility or end user to make regular safety checks and all other duties that may apply.**

- If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.
- It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door. Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distrubutor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.
- Do Not take shortcuts.
- Ensure that all safety devices provided by the manufacturer work as intended.
- Ensure that all safety decals are properly displayed on any/all swing doors.

CHAPTER 1: SCOPE

Section 1a: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards.

In the United States, the GT-2300 ICU Swing door is certified to have a Smoke and Air Infiltration NFPA-105 rating (for sprinklered buildings).

Instruct the building owners and operator on the essentials of the operation of the door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

Section 1b: Objective

The GT-2300 is designed to be installed in the frame of a door opening. The door function is controlled manually. Adhesive gaskets plus a continuous hinge help to provide smoke and air infiltration at ambient temperature. Two unequal door panels allow maximum CDO width, and incorporate NABCO's sturdy tie rod construction (accommodating 1/4 inch to 1 inch thick glass). A low profile Header allows greater CDO height in a low ceiling/frame height application.

This manual offers step by step instructions.

CHAPTER 2: GETTING STARTED

Section 2a: Materials Specifications

List of Materials	
► Tape Measure	► Power Drill
► Pencil	► 5/8 and 3/4 inch Drill Bit
► Assorted Phillips Head Screw Drivers	► Chalk
► Level	► 3/32 inch Allen Wrench
► Plumb	► Shims

Section 2b: Standard Swing Door Configurations

Note: Optional width of an Inactive Panel can be minimum 12 inches to maximum 48 inches.

Note: Optional width of an Active Panel can be minimum 24 inches to maximum 48 inches.

Rough Opening	Inactive Panel	Active Panel	Swing Opening
5 feet 3 inches	24 inches	36 inches	55 - 1/2 inches
5 feet 9 inches	24 inches	42 inches	61 - 1/2 inches
6 feet 3-1/2 inches	24 inches	48 inches	67 - 1/2 inches

Section 2c: Prepare the Rough Opening

1. Ensure the Rough Opening is the correct size. Please see Figure 2-1.
   - ► The width of the Rough Opening should equal:
     PACKAGE WIDTH + 1/4 INCH ON EACH SIDE
   - ► The height of the Rough Opening should equal:
     PACKAGE HEIGHT + 1/4 INCH

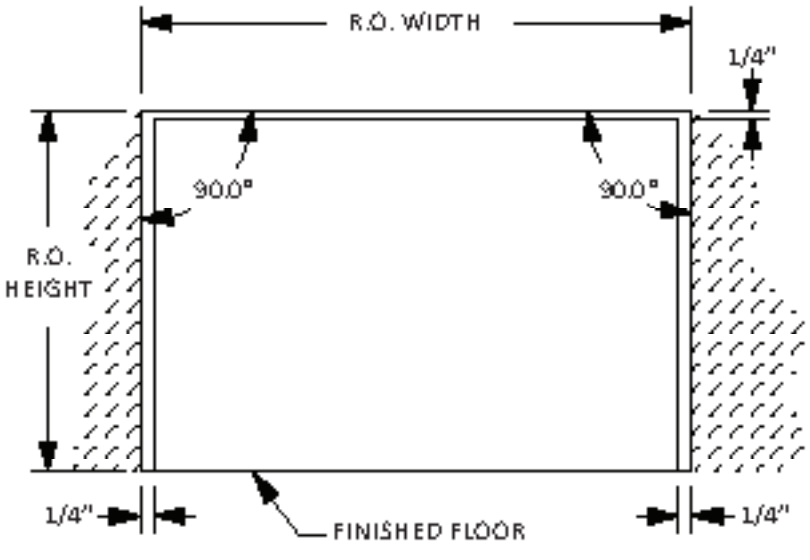


Figure 2-1 Masonry Opening

CHAPTER 3: INSTALL HEADER/FRAME ASSEMBLY

Section 3a: Install Header to Jamb Tubes

Note: Jamb Tubes have been pre-drilled at the NABCO factory for proper Header installation.

1. Remove from Carton:
   - Header
   - Jamb Tubes
2. Align predrilled screw holes located on the inside face of each Jamb tube to both sides of the Header. Please see Figure 3-1.

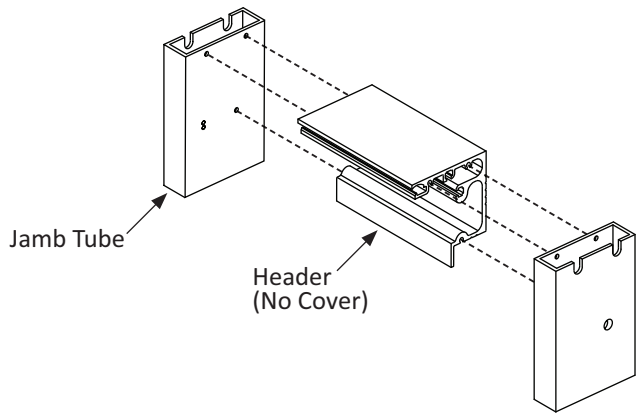


Figure 3-1 Align Jamb Tubes to Header

3. Orientate the frame in relation to the outside of building. Please see Figure 3-2.

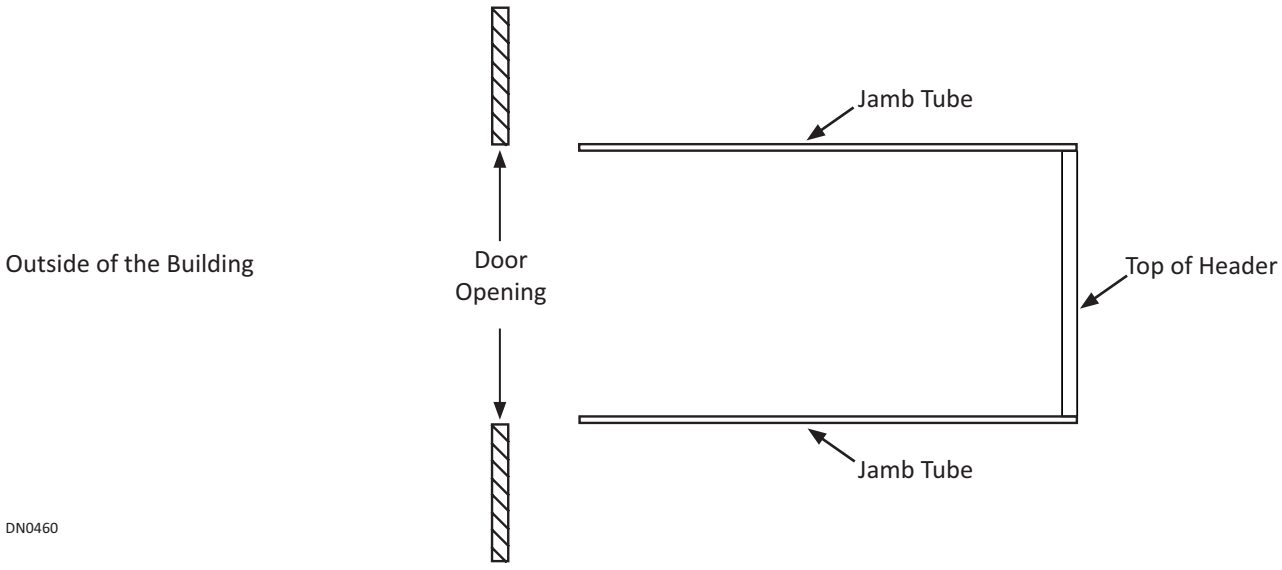


Figure 3-2 Layout Header and Jamb Tubes

4. Obtain Parts bag 12-11019 provided within Header. The following should be provided:
   - (6) 1/4-20 x 3/4 inch Large Phillips Head Screws
   - (2) L-Shaped Brackets
   - (4) 1/4-20 x 3/4 inch Phillips Flat Head Screws
   - (2) #8-32 x 1/4" Round Head Screws
5. Secure Header to both Jamb Tubes with (6) 1/4-20 x 3/4 inch Large Philips Head Screws by inserting screws through Access Holes located on outside face of Jambs.Please see Figure 3-3.

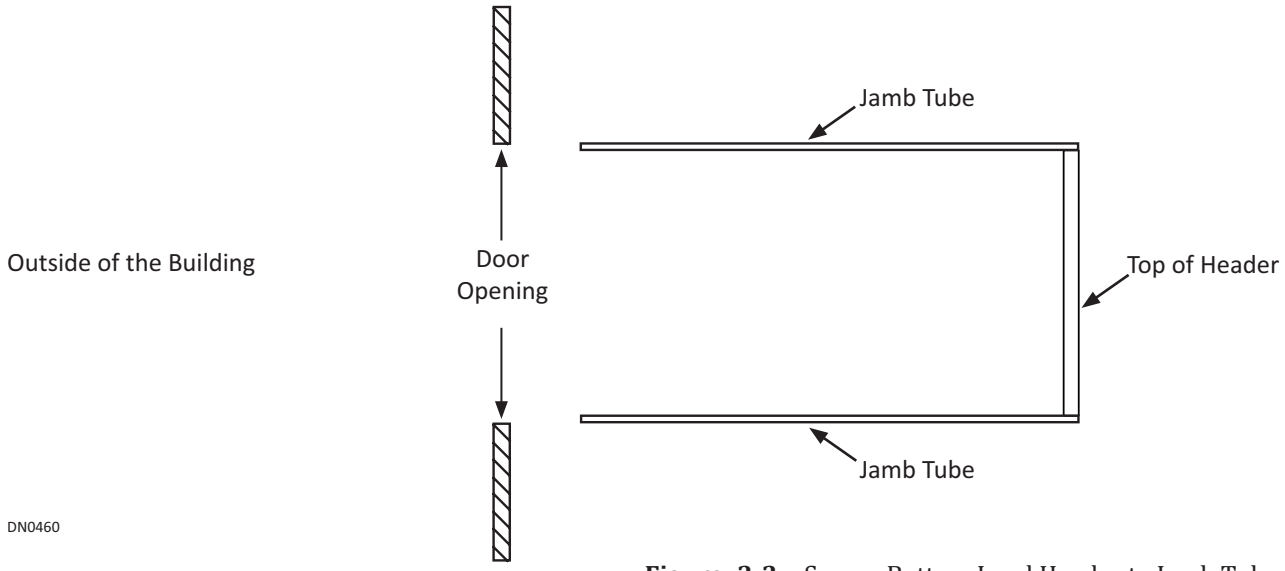


Figure 3-3 Secure Bottom Load Header to Jamb Tubes

6. Secure (1) Cover Clip to each Jamb Tube with (4) 1/4-20 x 3/4 inch Flat Head Screws. Please see Figure 3-4.

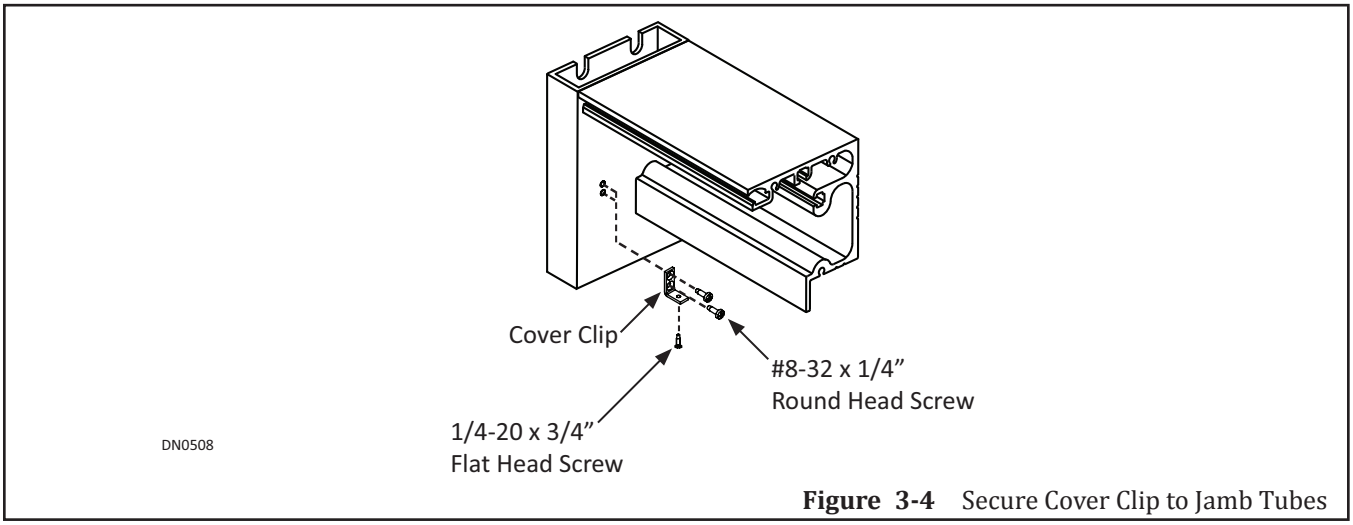


Figure 3-4 Secure Cover Clip to Jamb Tubes

7. Insert Cover into the Header Channel, swing down to close, and secure Cover to each Cover Clip with (2) Round Head Screws. Please see Figure 3-5.

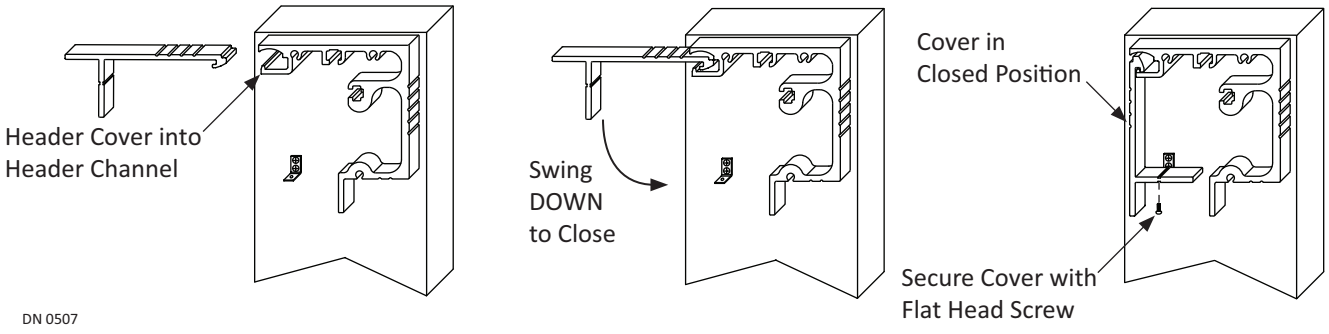


Figure 3-5 Install Header Cover

Section 3b: Install Frame Assembly to Building

1. Lift to position the assembled Frame into the rough opening.
2. Plumb Jamb tubes in both planes to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 3-6.
   a. Shim back of Jamb as required.

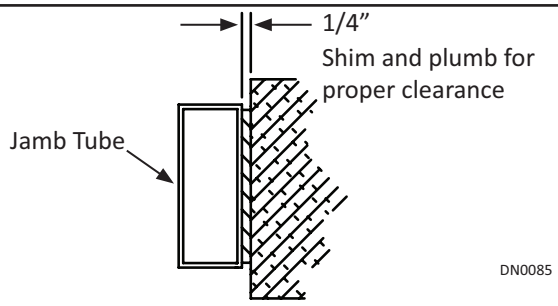


Figure 3-6 Shim Back of Jamb

3. Plumb the Header at the top to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 3-7.
   a. Shim top of Header as required.

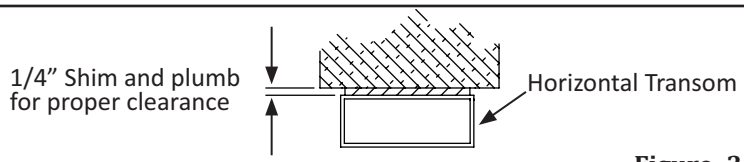


Figure 3-7 Shim Top of Header

Note: It is recommended to countersink holes as required to flush the surface.

Note: It is recommended to drill tap threads for anchors in a steel or aluminum structure.

Note: If anchor points in structure are known, the aluminum door framing can be pre drilled prior to installing into the opening.

Note: To prevent Header sag, secure the Header in the middle to the top horizontal structural member of the opening. Use of 3/8 inch threaded rod or 1/4 inch bolts are acceptable methods of supporting the center of the header.

3.b.a: Anchor Placement for Header

Use 1/4 inch diameter anchors or 3/8 inch threaded rods, with a maximum 48 inches on center. First anchor maximum is 36 inches from each end of the Header. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 3-8 and Figure 3-9.

3.b.b: Anchor Placement for Slick Jamb

Use 1/4 inch diameter anchors with a minimum of 3 per Jamb tube, maximum is 48 inches on center. Drill 1/4 inch diameter holes in the face of Jamb and then countersink each hole. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 3-8 and Figure 3-9.

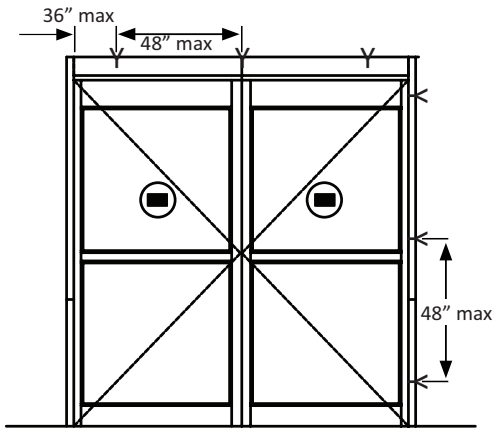


Figure 3-8 Anchor Placement

4. Screw in fasteners to secure the Frame.

Note: Do not overtighten anchors to prevent deforming Jamb tubes.

Note: Ensure anchor heads to not come in contact with edges of glass to prevent breakage.

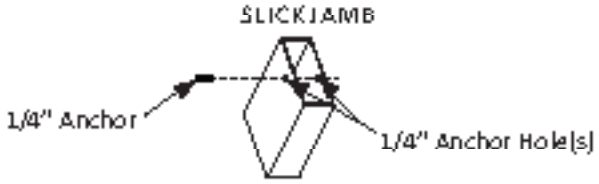


Figure 3-9 Screw Anchors

CHAPTER 4: INSTALL THE SWING DOORS

The GT-2300 ICU Manual Swing door System can be ordered with Swing doors of equal width (Optional) or Swing doors of unequal width (Standard). For Swing doors of unequal width, the wider Swing door is the main means of egress and identified as the Active Panel. The narrow Swing door is used to provide additional egress for moving larger objects through the door opening. The narrow Swing door is identified as the Inactive Panel because it is normally fixed.

Remove from Carton:

- (2) Swing Doors
- Push Paddle
- Entry Trim with Handle
- Strike Plate Assembly
- Hardware
- Weathering Seal

The GT-2300 ICU Manual Swing door System has been shipped with the following support equipment pre-installed at the NABCO factory:

- Continuous Hinge
  - Listed for fire applications up to 90 minutes without special preparation.
- Silicone Smoke and Draft Control Gaskets
  - Horizontally on Header, exterior of roller track.
  - Vertically between Swing door Panels and Jamb Tubes.
- Concealed Vertical Rod Mechanism
  - Used to lock the Active Swing door into position.
- Flush Bolt
  - Used to lock the Inactive Swing door into position.

Section 4a: Secure Swing Doors to Jamb Tubes

Note: Do Not cut Continuous Hinge from the top end. Resize Continuous Hinge at bottom end only.

1. Obtain approximately (40) #12-24 x 7/16 inch thread forming screws provided by NABCO.
2. Place Swing door directly underneath the Break Out side of Header. Please see Figure 4-1.
   a. Ensure Swing door swings out in right direction.
   b. If Continuous Hinge is too long, cut it shorter at the bottom only. Fill the gap with foam.

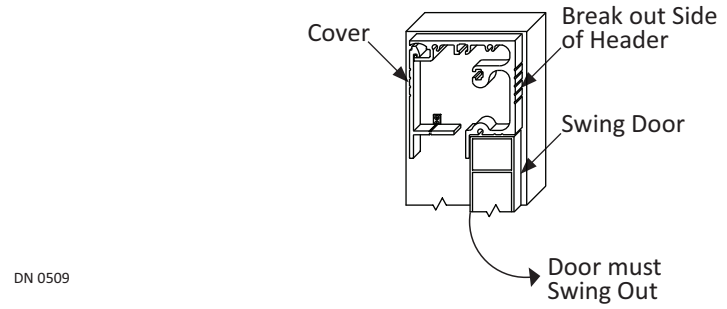


Figure 4-1 Break Out Side of Header

3. Ensure the Swing door is square and the Continuous Hinge is properly aligned against the Jamb tube.
   a. It is recommended to use a level.
4. Keep Continuous Hinge flush against Jamb tube while swinging out the door 90 degrees. Please see Figure 4-2.
   a. It is recommended to prop bottom of door with shims so door will stay square and the Continuous Hinge will stay flush against the Jamb Tube.

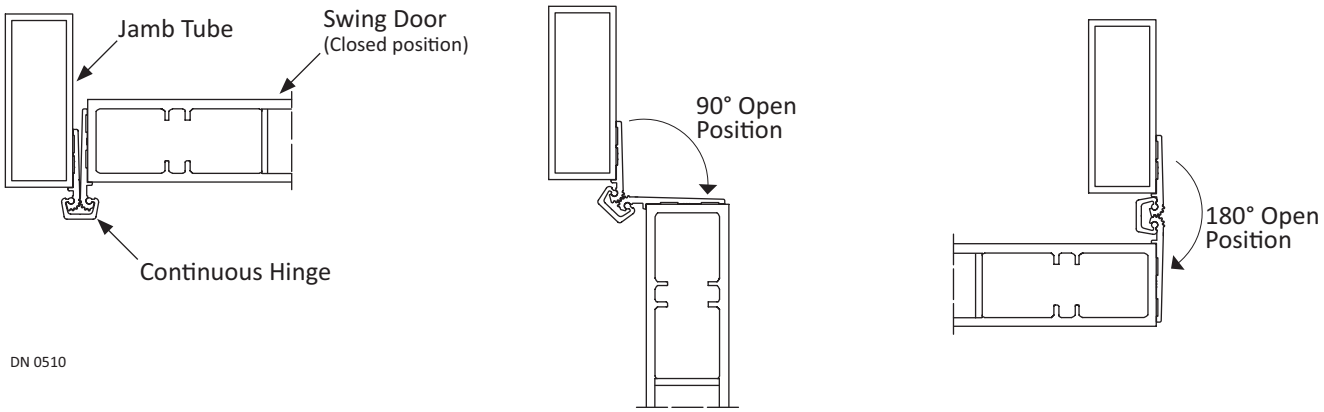


Figure 4-2 Swing Door open 90 degrees

5. Ensure the Continuous Hinge and Swing door are still square.
   a. It is recommended to use a level.
6. Locate the (2) upper most, predrilled screw holes on the Continuous Hinge at the very top of Swing door.
7. Mark screw holes onto face of Jamb Tube.
8. Carefully place Swing door onto flat surface.
9. Drill (2) #16 (0.177) screw holes onto face of Jamb Tube.
10. Obtain Swing door.
11. Align (2) upper most, predrilled screw holes on the Continuous Hinge with drilled screw holes on face of Jamb tube. Please see Figure 4-3.

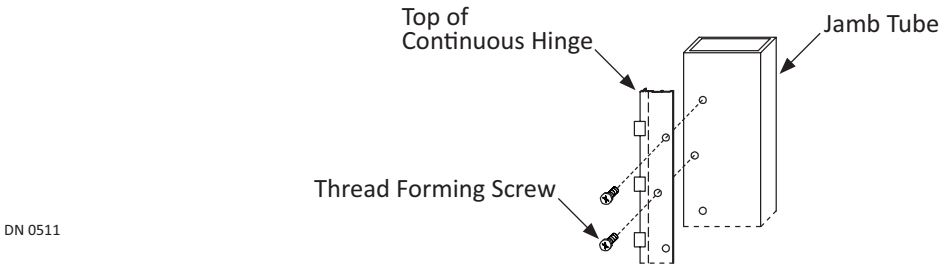


Figure 4-3 Temporarily Secure Swing Door

12. Temporarily secure the top of Continuous Hinge with (2) #12-24 x 7/16 inch thread forming screws. Do Not tighten down.
    a. Screws must be removed at least one time before the Swing door installation is complete.
13. Plumb and Square the Swing door.
    a. It is recommended to prop bottom of door with shims so door will stay square and the Continuous Hinge will stay flush against Jamb Tube.
14. Mark remaining screw holes onto the Jamb Tube.
15. Remove (2) #12-24 x 7/16 inch thread forming screws.
    a. Save screws for reinstallation.
16. Carefully place the Swing door back onto a flat surface.
17. Drill remaining #16 (0.177) screw holes onto face of Jamb Tube.
18. Obtain Swing door.
19. Align all predrilled screw holes on the Continuous Hinge with drilled screw holes on face of Jamb tube.
20. Permanently secure the Continuous Hinge with #12-24 x 7/16 inch thread forming screws.
    a. Do not overtighten screws to prevent deforming Continuous Hinge.
21. Repeat steps for second Swing door.

Section 4b: Install Entry Trim with Curved Handle (Active Swing Door)

The Entry Trim is installed on the Outswing side of the Active Swing door. It is used to manually latch or unlatch the vertical rod (Same as Push Paddle). When unlocked and pulled the Active Swing door swings out into the corridor.

1. Obtain (1) Entry Trim, (4) #10-24 x 2 inch Flat Head Screws, (1) CVR Spindle, (1) Spring, (1) Handle, (2) Washers, (1) Hex Nut and Installation Instructions provided by NABCO.
2. Go to Inswing side of the Door. Insert (1) #10-24 x 2 inch Flat Head screw through each predrilled countersunk hole located above and below the Tailpiece Adapter. Please see Figure 4-4.
    a. The inserted Flat Head screws will stick out through the Outswing side of door.

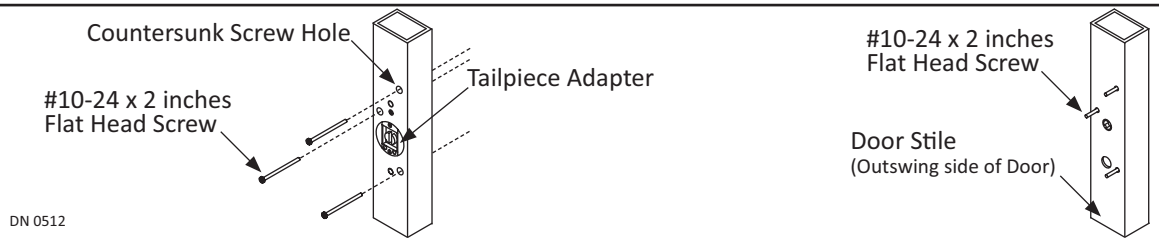


Figure 4-4 Insert Flat Head Screws from Outswing side of Swing Door

3. Obtain the Entry Trim that was assembled at the NABCO Factory.
   a. If Entry Trim was not shipped assembled, please refer to the Installation Instructions that were provided by NABCO.
4. Go to the back side of Entry Trim. Locate the Output Spindle Hub that can be found in the middle of the Entry Trim Plate. Please see Figure 4-5.
5. Obtain (1) CVR Spindle and (1) Spring.
   a. The CVR Spindle was tested and cut according to the Swing door thickness at the NABCO Factory. There is no need to determine the correct CVR Spindle length.
6. Slide the Spring onto the round end of CVR Spindle, then inside the Output Spindle.

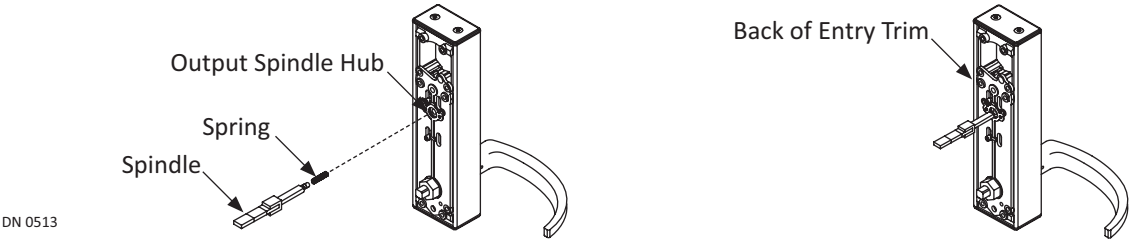


Figure 4-5 Insert Spring end of CVR Spindle into Output Spindle Hub

7. Go to Outswing side of the door. Insert the flat metal end of the CVR Spindle into the CVR Tailpiece adapter.Please see Figure 4-6.
8. Slide the Entry Trim onto the (3) Flat Head screws until it is flush with the face of Stile.
   a. If the Entry Trim can not be flush against the face of Stile, remove the CVR Spindle to cut off excess notches.

Figure 4-6 Resize SCR/RIM Inset Spindle

9. Tighten (3) #10-24 x 2 inch Flat Head screws to secure the Entry Trim to the Stile.
   a. Do not overtighten screws to prevent deforming of Stile.
10. Test the Door Handle to ensure the vertical rod turns clockwise/counter clockwise.

Section 4c: Install the Push Paddle (Active Swing Door)

The Push Paddle is installed on the Inswing side of the Active Swing Door. It is used to manually latch or unlatch the vertical rod (Same as Handle). When unlocked and pushed, the Active Swing door swings out into the corridor.

1. Obtain (1) assembled Eschutcheon, (1) Push Paddle, (2) #10-24 x 1-1/2 inch Pan Head Screws, (1) Shaft, (1) 3/8-24 inch Set Screw, (1) Label, (1) Dogging Screw, and (1) Dogging Key provided by NABCO.
2. Obtain the Escutcheon and (2) #10-24 x 1-1/2 inch Pan Head screws.
3. Go to the Inswing side of Stile. Please see Figure 4-7.
4. Align (2) screw holes located inside the Escutcheon to (2) pre-drilled screw holes located on the face of Stile. Directly above and below the Tailpiece Adapter.
5. Secure the Escutcheon to the Stile with (2) #10-24 x 1-1/2 inch Pan Head screws.

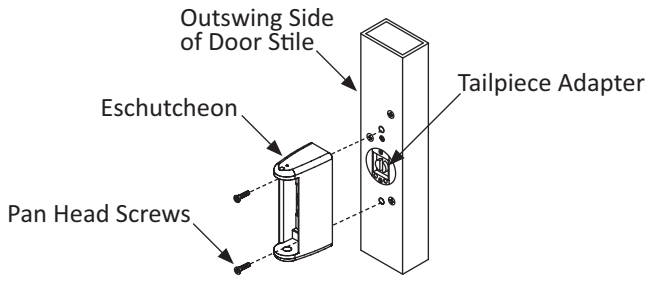


Figure 4-7 Secure Escutcheon to Inswing side of Door Stile

6. Obtain (1) Push Paddle, (1) Shaft, and (1) 3/8-24 inch Set screw.
7. Insert the hinge end of Push Paddle into the Escutcheon until the bottom holes are aligned. Please see Figure 4-8.

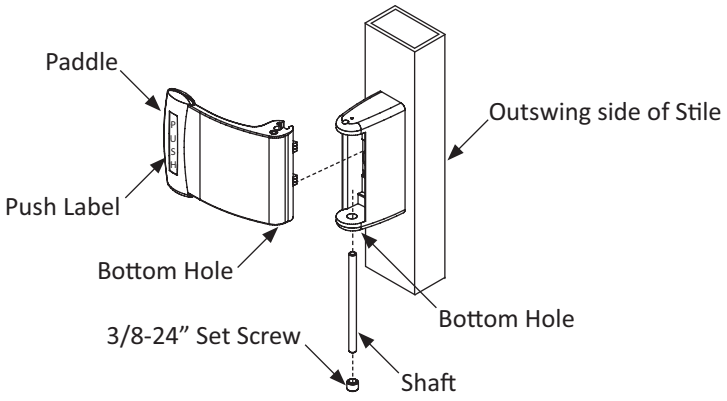


Figure 4-8 Secure Paddle to Eschutcheon

8. Run (1) Shaft up into the aligned holes.
9. Insert (1) 3/8-24 inch Set Screw into the bottom of the Shaft. Tighten the Set Screw.
10. Adhere (1) Push label onto the Paddle.

4.b.a: Dogging Key

A Dogging Key is used to lock or unlock the Push Paddle. If the Push Paddle is locked the Swing door is not allowed to open from the Inswing side of door. Please see Figure 4-9.

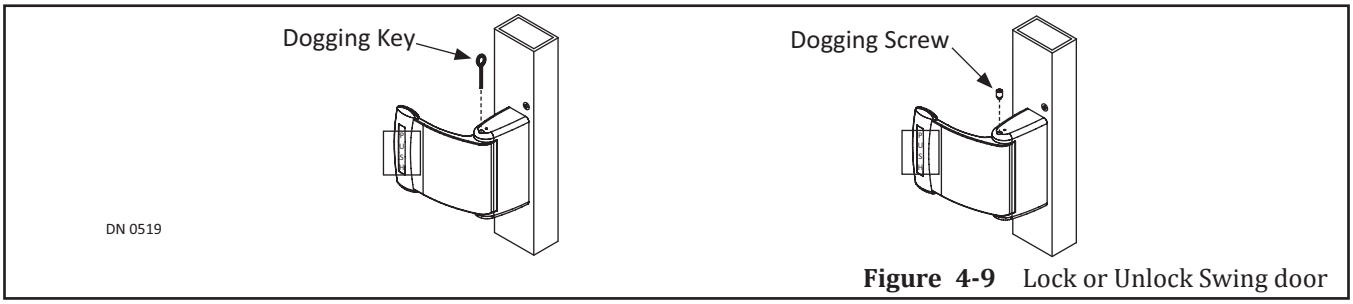


Figure 4-9 Lock or Unlock Swing door

1. Obtain (1) Dogging Key.
2. Insert (1) Dogging Key in the hole located on top of the Escutcheon.
3. Turn the Dogging Key:
   - Clockwise to lock the vertical rod.
   - Counter Clockwise to unlock the vertical rod.
4. Remove the Dogging Key when not in use.
5. Replace the Dogging Key with the Dogging Screw. Please see Figure 4-9.
   a. The Dogging Screw must be inserted into the hole when the Swing door does not need to be locked or unlocked by the Dogging Key.

Section 4d: Install the Strike Plate Assembly (Active Swing Door)

The Strike Plate assembly is installed within the Header so the Deadlatch that is located at the top of the Concealed Vertical Rod Mechanism can wrap around it. The Strike Plate assembly is used to prevent forced entry by bowing of the Swing door Panel.

1. Open the Active Swing Door.
2. Go to the top of Stile. Locate the Deadlatch. Please see Figure 4-10.

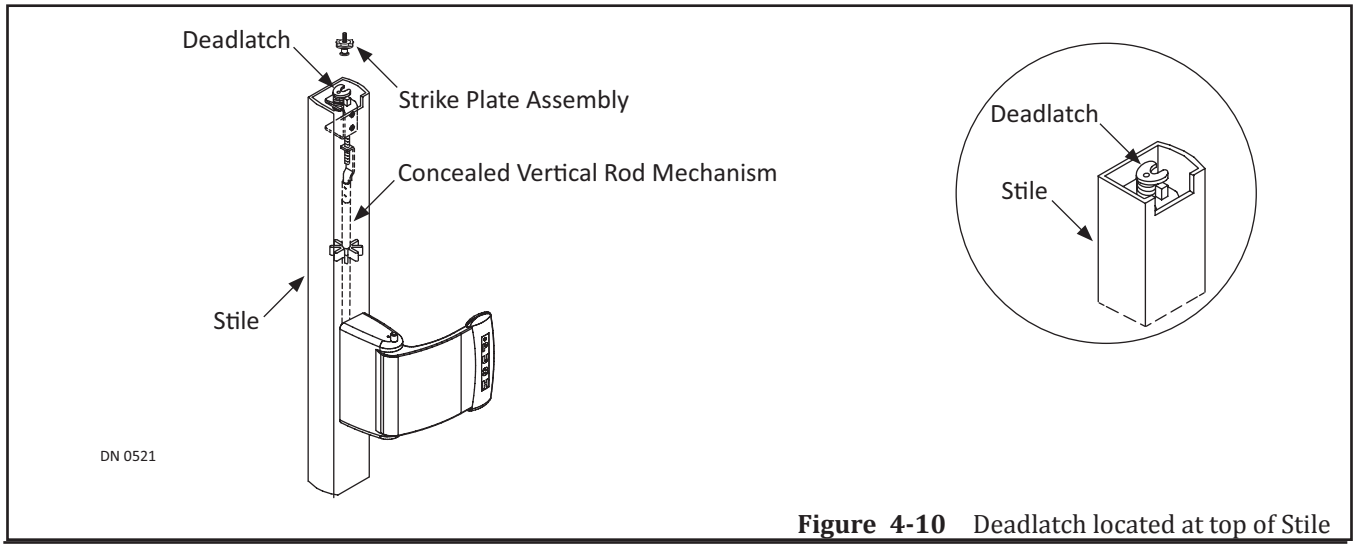


Figure 4-10 Deadlatch located at top of Stile

3. Measure (2) Horizontal lines. (1) each; between the center of the Deadlatch to the:
   - ▶ Outside edge of the Stile.
   - ▶ Push Paddle edge of the Stile.
4. Mark both measurements down. Please see Figure 4-11.

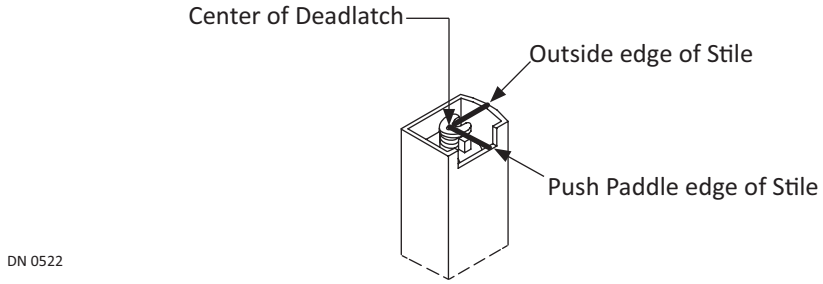


Figure 4-11 Measure between Center of Deadlatch and Stile

5. Open the Inactive Swing door, then immediately close the Active Swing door.
6. Go to the bottom of Header. Please see Figure 4-12.
7. Draw (2) Horizontal lines on the bottom face of Header to reflect the entire width of the:
   - ▶ Outside edge of the Stile.
   - ▶ Push Paddle edge of the Stile.
   a. Do not draw horizontal lines longer than the actual width.

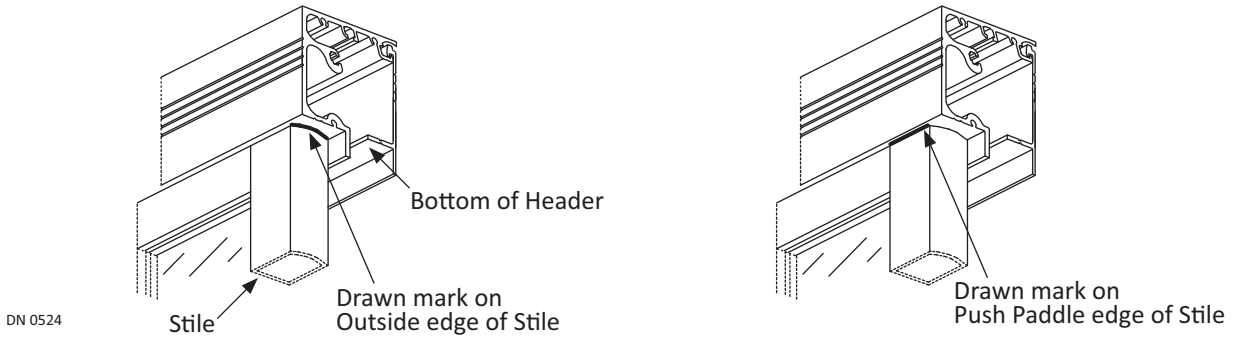


Figure 4-12 Draw Outswing Side Corner of Door Stile onto Header

8. Open the Active Swing Door.
9. Go to the drawn line mark of the Outside edge of Stile. Please see Figure 4-13.
10. Locate the center of the drawn line. Draw a horizontal line from the center of the outside edge to be as long as the measurement that was recorded in Step 3.
    a. Do not draw line longer than measurement.
11. Go to the drawn line mark of the Push Paddle edge of Stile.
12. Locate the center of the drawn line. Draw a horizontal line from the center of the Push Paddle edge to be as long as the measurement that was recorded in Step 3.
    a. Do not draw line longer than measurement.
13. Drill 3/4 inch hole at the center of where both Horizontal lines meet.

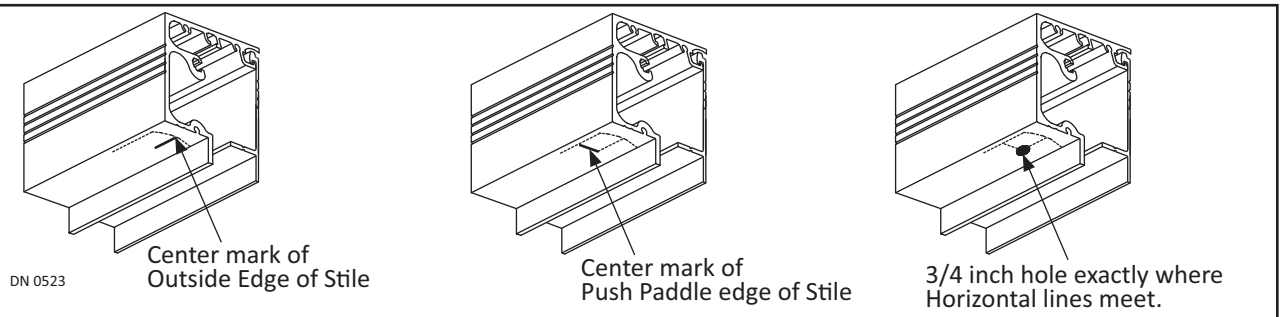


Figure 4-13 Measure to Drill 3/4 inch Hole at Bottom of Header

14. Obtain the Strike Plate assembly.
15. Unscrew the Flange Nut from the Post. Please see Figure 4-14.
16. Insert the Post through the 3/4 inch hole until the Strike Plate is flush against the face of Header. Ensure Post is centered.
17. Screw the Flange Nut down onto the Strike Post.
    a. Ensure the Strike Plate assembly is centered.
18. Insert a 3/32 inch Allen Wrench into bottom of the Strike Plate. Tighten down.

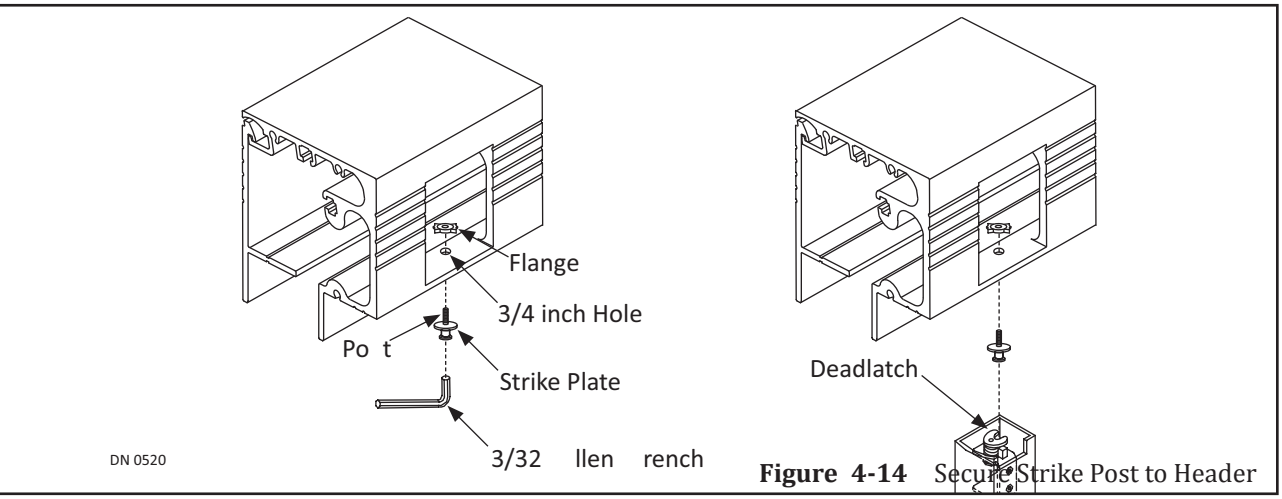


Figure 4-14 Secure Strike Post to Header

Section 4e: Install the Flush Bolt Strike (Inactive Swing Door)

1. Open the Inactive Swing door, then immediately close the Active Swing door.
2. Go to the top of Stile. Locate the Flush Bolt. Please see Figure 4-15.
3. Heavily chalk top of Bolt.
4. Close the Inactive Swing door.
5. Raise the Flush Bolt until it hits the bottom face of Header.
6. Lower the Flush Bolt and reopen the Inactive Swing door.
    a. The bottom face of Header should be marked with a circular chalk mark.
    b. If a circular chalk mark is not visible, chalk the bolt again. Repeat steps until a chalk mark can be seen.

7. Drill a 5/8 inch hole at the exact center of the Chalk mark.
8. Close the Inactive Swing door.
9. Raise the Flush Bolt until it is all the way through the 5/8 inch hole.
   a. If Flush Bolt cannot go all the way through, drill the hole again to make it slightly bigger.
   b. Do not drill hole so big that the Flush Bolt will be rendered useless.

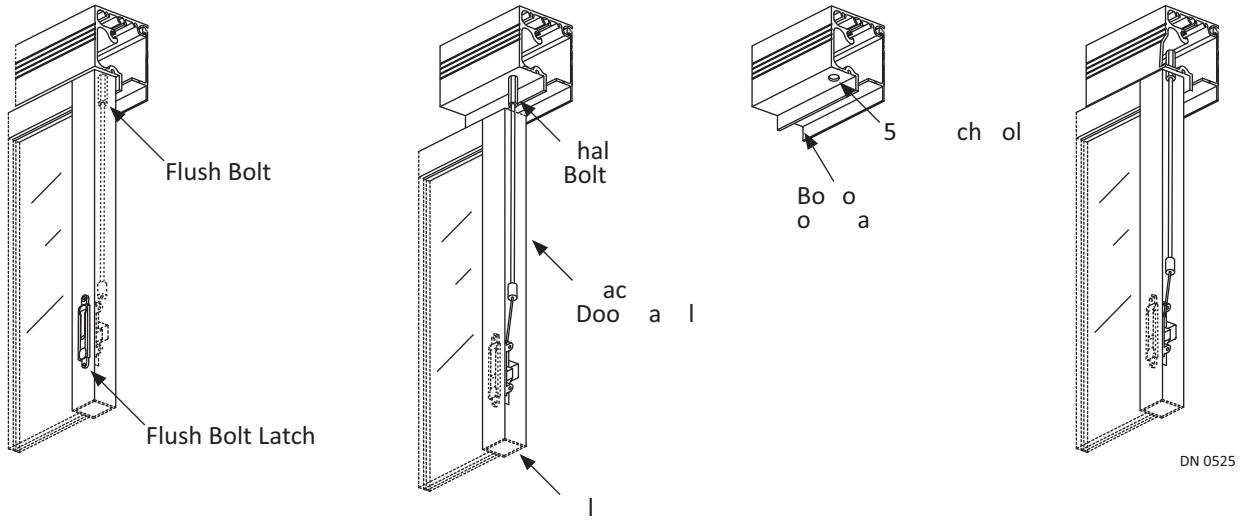


Figure 4-15 Drill Hole for Flush Bolt

CHAPTER 5: INSTALL WEATHERING

Section 5a: Install the Weathering Brush

1. Obtain the Weathering Extrusion with Brush pre-installed.
2. Go to the Inswing side of the Swing door. Please see Figure 5-3.
3. Align the Weathering Extrusion along the bottom edge of Swing Door.
4. Use the Weathering Extrusion as a template to mark and drill (3) 1/8 inch diameter holes onto the face of Swing door.
   a. There should not be any excess Brush on this weathering.
5. Secure Weathering Extrusion to the Swing door with color coordinated #6 x 1/2 inch self tapping screws provided by NABCO.

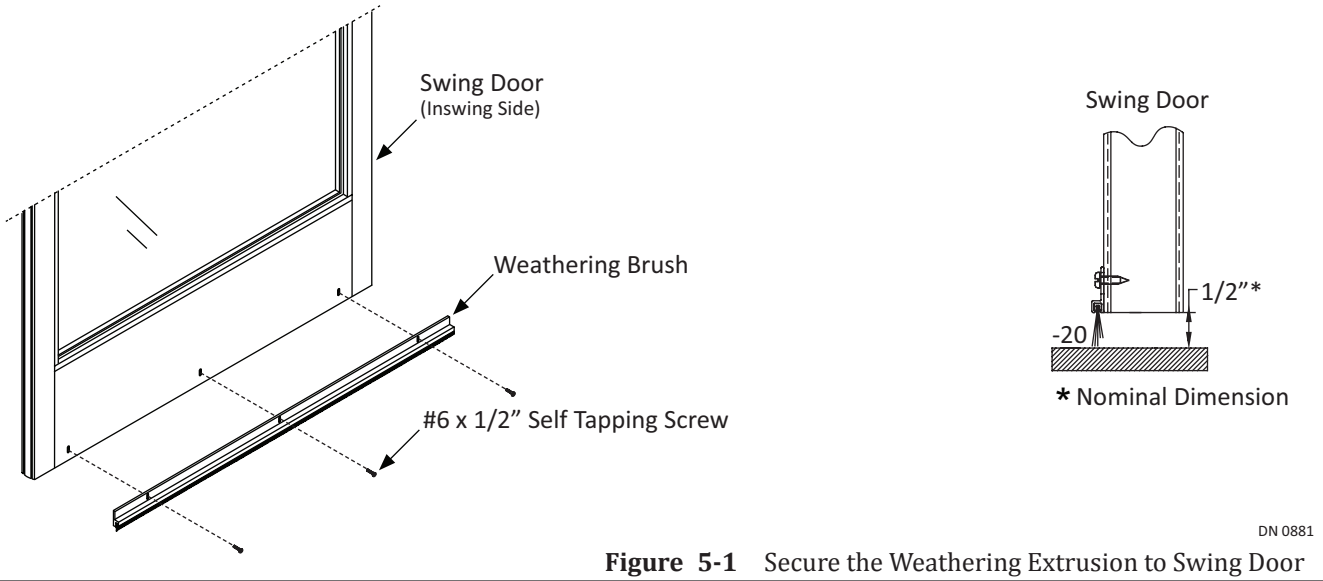


Figure 5-1 Secure the Weathering Extrusion to Swing Door

Section 5b: Apply Caulking Bead

1. Ensure the entire Swing Door Frame is properly secured to the Rough Opening.
2. Apply caulking bead between the Swing Door Frame and Rough Opening (inside and outside)

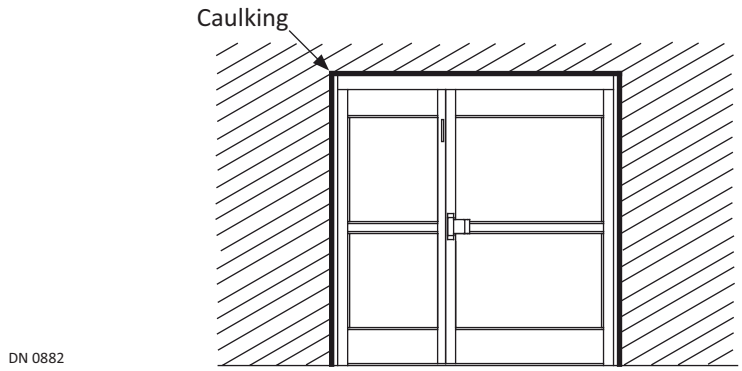
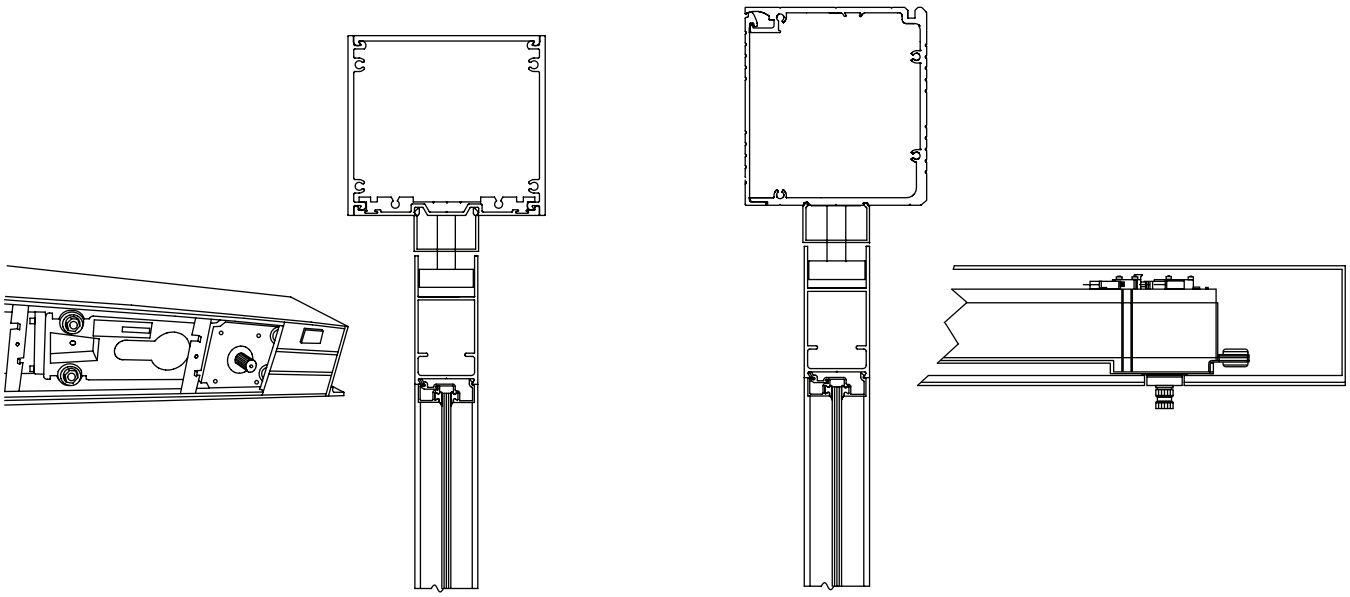


Figure 5-2 Caulk between the Swing Door Frame and Rough Opening

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Overhead Concealed Swing Door Systems

Bottom Load Models: GT 300 and GT 350
Side Load Models: GT 8300 and GT 8350



DN 0376

GT 300
GT 350

GT 8300
GT 8350

WARNING

Do Not install or service this product unless Safety Practices, Warning Labels, Installation instructions, and Operating Instructions, have been read and fully understood.

Failure to so do may result in bodily injury or property damage.

Part #15-10744
Rev. 9/19/14

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.**

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: Indicates important information that provides further instruction.

GENERAL SAFETY RECOMMENDATIONS

WARNING **Read this "General Safety Recommendations" section before installing, operating or servicing the automatic door. Failure to follow these practices may result in serious consequences.**

Notice: Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.

DANGER **Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.**

Notice: This manual and the owner's manual must be given to and retained by the purchasing facility or end user.

Notice: Advise the purchasing facility or end user to make regular safety checks and all other duties that may apply.

- If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.
- Disconnect power at the fused disconnect during all electrical or mechanical service. When uncertain whether power supply is disconnected, always verify using a voltmeter.
- All electrical troublshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.
- It is the responsibility of the installing window technician to install all warning and instructional labels in accordance with ANSI 156.10 (GT-300 and GT-8300) or ANSI 156.19 (GT-350 and GT-8350).
- It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door. Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distrubutor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.
- Do Not take shortcuts.
- Study and understand both ANSI Standard Codes A156.10 and A156.19.
- Ensure that all safety devices provided by the manufacturer work as intended.
- Ensure that all safety decals are properly displayed on any/all swing doors.

CHAPTER 1: SCOPE

Section 1a: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.10 (GT-300 and GT-8300) or ANSI Standard 156.19 (GT-350 and GT-8350) covers these types of doors. Other local standards or codes may apply. Use them in addition to the ANSI standard. The GT-300, GT-8300, GT-350 and GT-8350 OHC are listed with the Underwriters Laboratory and is identified as such on the label.

Instruct the building owners and operator on the essentials of the operation of the door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

The OHC Header assembly can be purchased as a standalone unit and may be installed on other makes of doors and frames in lieu of the NABCO Complete Swing Door System.

Section 1b: Objective

The GT-300, GT-8300, GT-350 and GT-8350 OHC swing door series is designed inline with the frame as a concealed unit. The door function is operated by the Magnum IV Control Board which offers many features to accommodate most installation options. This manual offers step by step instructions to install each of the GT-300, GT-8300, GT-350 and GT-8350 OHC swing door units.

CHAPTER 2: GETTING STARTED

Section 2a: Mechanical Configurations

Base Model	OHC Bottom Load	OHC Side Load
Full Automatic	GT300	GT8300
Low Energy	GT350	GT8350

Section 2b: Electrical Standards

Note: It is recommended for the Installer to use an Electrical Conduit to house all incoming 120 VAC wires.

Note: All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.

Electricity	Description
Power Input	120 (±10%) AC 50-60Hz, 10 Amps
Available Current for accessories	0.5 Amps 24 VAC
Available wire size for incoming power	14 AWG

Section 2c: Installation Specifications

Specification	Measurement	
Minimum Frame Face for Mounting	1-3/4 inches (44mm)	
Minimum Clearance from Top of Door to Ceiling	**Bottom Load**	**Side Load**
	6-1/8" (156 mm)	7-18" (181 mm)
Minimum Door Thickness	1-3/4 inches (44 mm)	
Door Width	Specified when ordered	

Section 2d: Base Unit Types

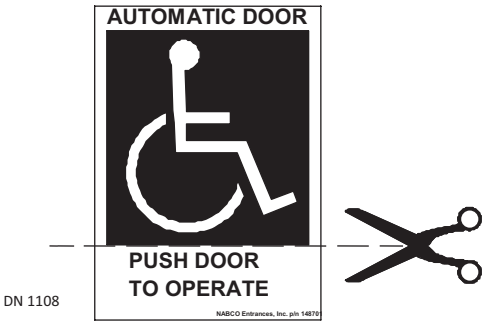
2.d.a: Full Power Swing Doors

- Utilize Sensor(s) to open a Swing door.
  - Sensors activate the Control by detecting motion of pedestrians (or moving objects) that come into range.
- Must be compliant with ANSI Standard Code 156.10 to reduce chance of injury to pedestrians and wheeled traffic.

2.d.b: Low Energy Swing Doors

- Utilize a Knowing Act to open a Swing door.
  - A conscious effort that is carried out in many different ways, including (but not limited to): manually opening/closing a Swing door; pressing various types of Push Plates; turning a Key switch; flipping a Rocker Switch; utilizing a keypad or card reader, etc.
- Must be compliant with the ANSI Standard Code 156.19 to reduce chance of injury to pedestrians and wheeled traffic.

DANGER **Always remove the bottom portion of the HandiCap Label stating "Push Door To Operate" if the "Push-n-Go" feature is not being used.**



Section 2e: Header Types

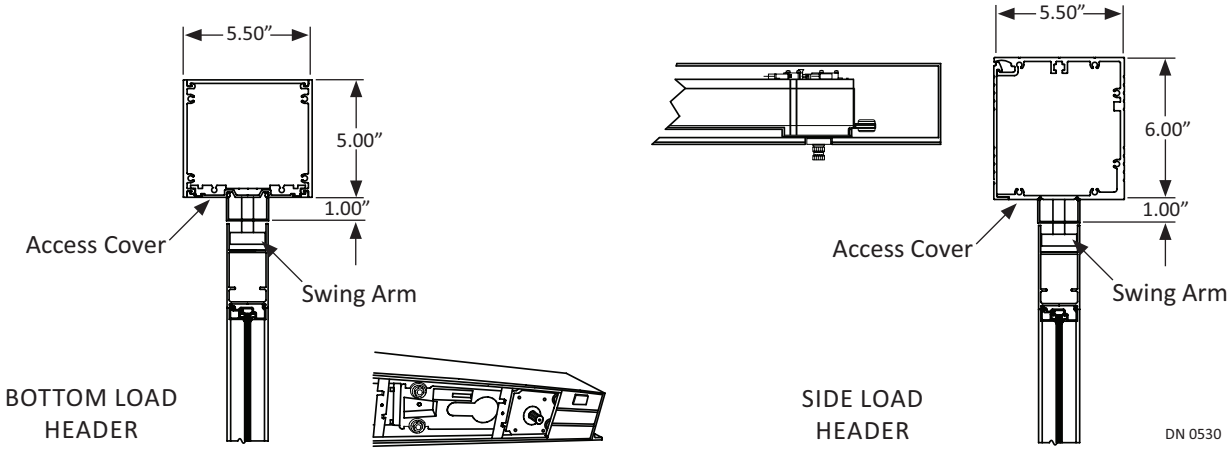


Figure 2-1 Two Types of Headers

Section 2f: How to Determine Handing

- To Determine Handing from the Operator: locate the Serial Number underneath Operator. Please see Figure 2-2.
  - The Letter (L) or (R) located in front of the Serial Number indicates the Handing.

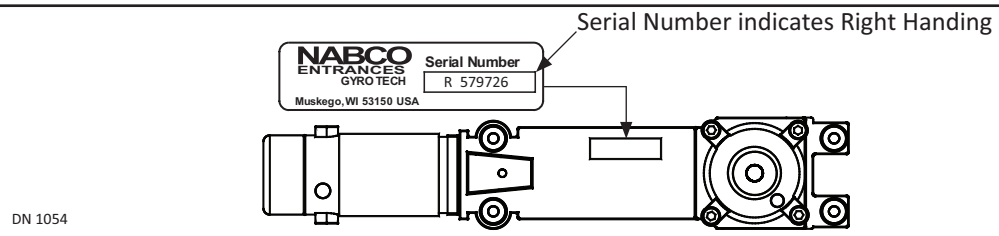


Figure 2-2 Handing Labeled

- To determine Handing from standing underneath the Header: Open the Swing door. Butt your back against the Pivot side of Swing door. Swing out the (right or left) arm in the direction the Swing door opened. Please see Figure 2-3.

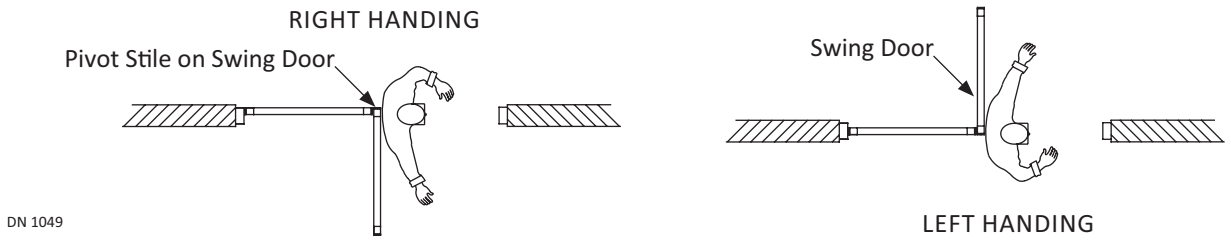


Figure 2-3 Stand with back against Pivot Side of Swing door

- To determine Handing from the direction the Swing Arm opens. Please see Figure 2-4.
  - If the Swing Arm swings underneath the Threshold to open, it is an Outswing Unit.
  - If the Swing Arm does not swing underneath the Threshold to open, it is an Inswing Unit.

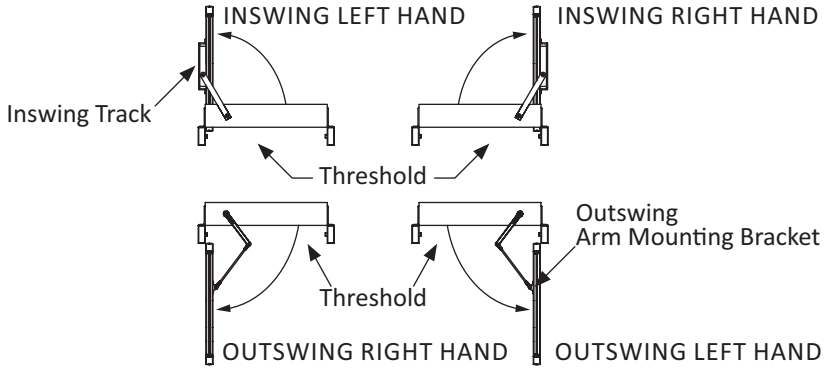


Figure 2-4 Determine Handing

Section 2g: Swing Door Types

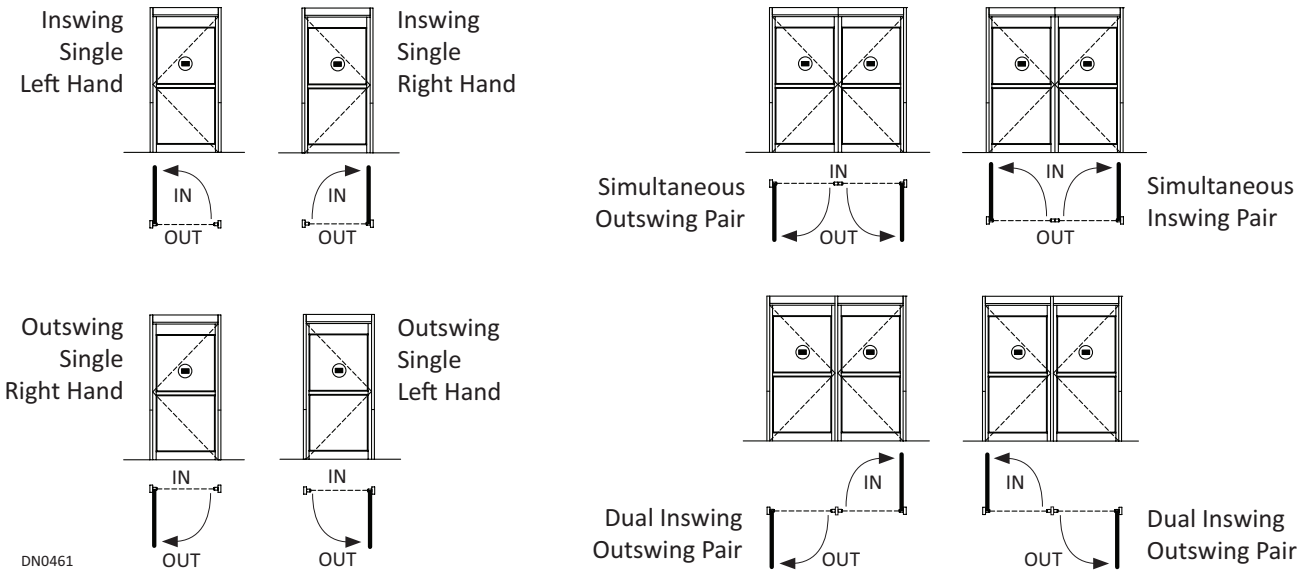


Figure 2-5 Handing

Section 2h: Control Types

The Control is programmed to open/close the Swing door according to how the door will be used in terms of Handing, Speed, Time Delay, Back Check, and Latch Check. Two types of Controls can be purchased for the CU Series Swing doors:

- Magnum 4A
- Analog Control

Section 2i: Emergency Egress

Emergency Egress allows a Swing door to breakout during an emergency, and is commonly referred to as a Panic Breakout. The hardware used to allow Emergency Egress is called a Panic Latch. A Panic Latch can only be installed on Inswing Doors.

Section 2j: Associated Manuals Part Number

- Magnum 4A Control Wiring and Adjustment Manual; P/N 15-10682
- Analog Control Wiring and Adjustment Manual; P/N 15-10745
- GT300/350/8300/8350 OHC Swing Door QSPG; P/N 15-12499-005

CHAPTER 3: PREPARE THE ROUGH OPENING

Note: Make allowances for tile or other existing materials that may change the floor height.

Note: Use of a supplemental door stop is always required.

1. Ensure the Rough Opening is the correct size. Please see Figure 3-1.
   - The width of the Rough Opening should equal:
     PACKAGE WIDTH + 1/4 INCH ON EACH SIDE
   - The height of the Rough Opening should equal:
     PACKAGE HEIGHT + 1/4 INCH

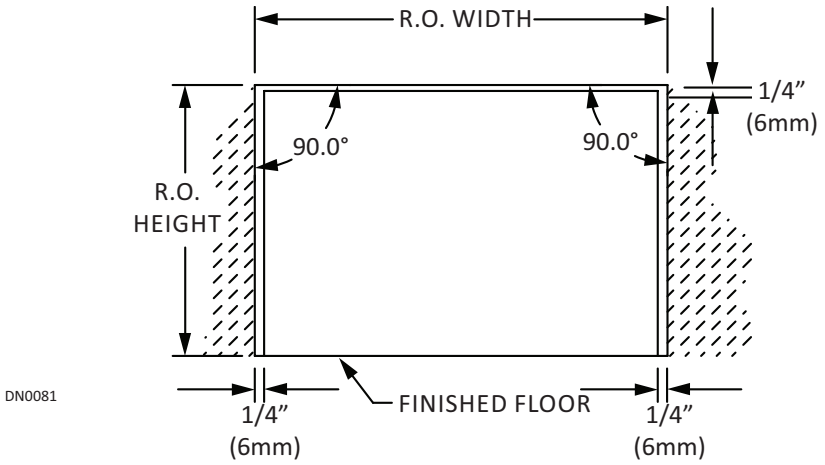


Figure 3-1 Masonry Opening

2. Check to make sure that the floor is level across the entire opening.
3. If used, check recessed threshold across the door opening. Please see Figure 3-2.

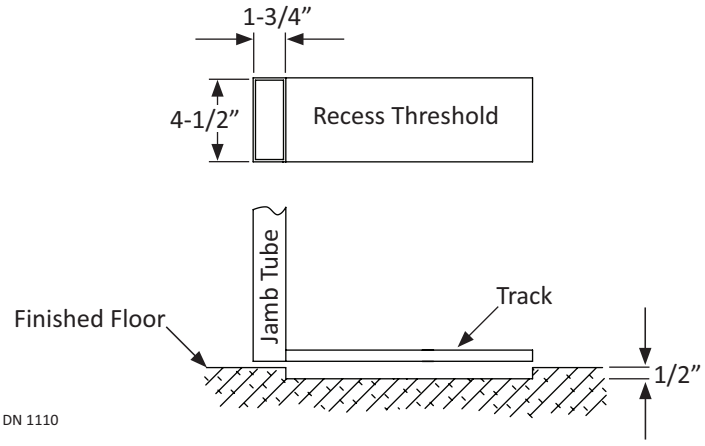


Figure 3-2 Recessed Track

CHAPTER 4: ASSEMBLE THE DOOR FRAME

Section 4a: Prep the Bottom Load Header

FOR SIDE LOAD HEADER SKIP TO SECTION 4B

1. Place Header on flat surface with Bottom facing up.
   a. Protect header from scratches.
2. Remove the Snap In Dress Channel and the Snap In Channel Pivot. Please see Figure 4-1.
3. Remove screws used to secure the Snap In Dress Plate. Set aside.
4. Remove the Snap In Dress Plate and (3) Bottom Cover Lock Plates. Set Aside.
5. Remove any/all decals, paperwork and Parts bag from inside Header. Set all Contents aside.

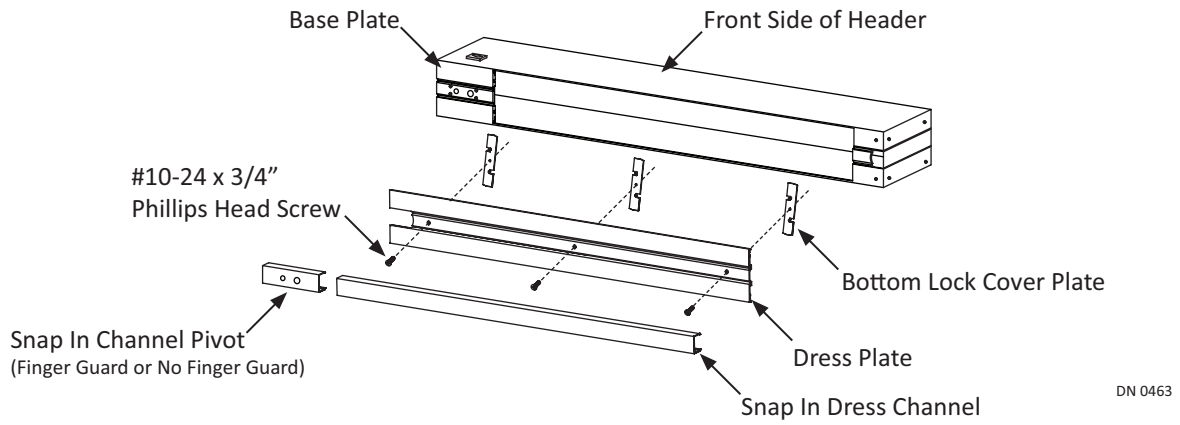


Figure 4-1 Open Bottom Load Header

4.a.a: Install the Door Stop (Standard)

FOR PANIC LATCH SKIP TO SUBSECTION 4.A.B

Door Stops are standard and can be installed on an Inswing door and an Outswing door. A Door Stop is used to stop the door from swinging farther back from the fully closed position.

1. Obtain the Door Stop.
2. Remove (4) Socket Head Cap Screws and (4) Washers. Set aside.
3. Go to the bottom, Pivot side of Header. Butt the Door Stop against the underside of the 3-1/4 inch Strike Base. Please see Figure 4-2.
   a. For an Outswing, the Stop end of Door Stop must face front side of Header.
   b. For an Inswing, the Stop end of Door Stop must face back side of Header.
4. Secure Door Stop from inside Header with (2) Socket Head Cap Screws and (2) Washers.

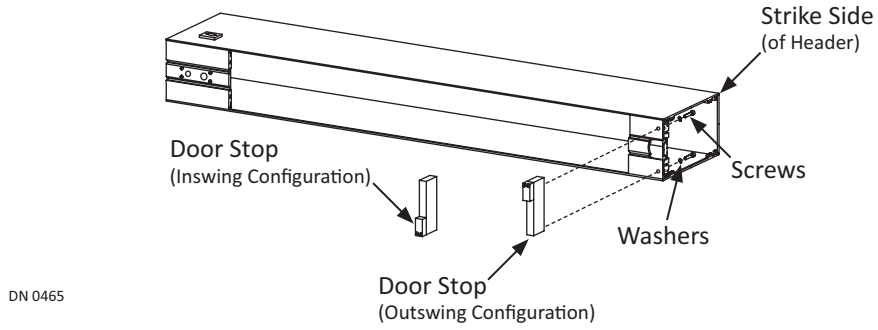


Figure 4-2 Install the Door Stop

4.a.b: Install the Panic Latch (Inswing Doors)

Note: The Panic Latch is installed on Inswing doors only.

During Automatic Operation, the Inswing door opens to the Interior side of the building/room. The Panic Latch is then used as a Door Stop. Please see Figure 4-3.

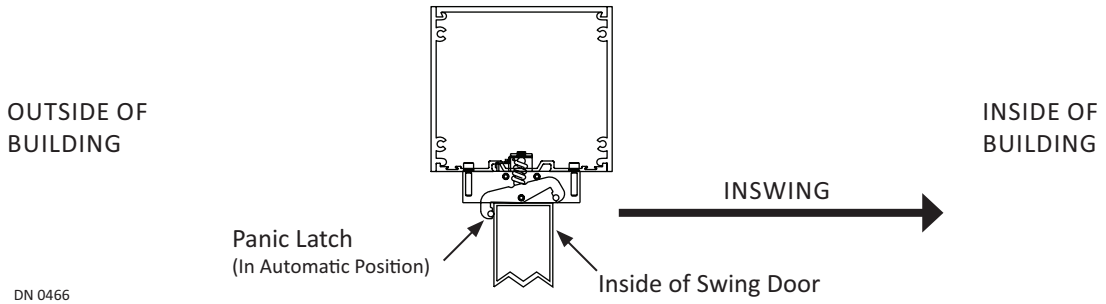


Figure 4-3 Panic Latch during Automatic Operation (Panic Latch acts as Door Stop)

During Emergency Operation, the Inswing door is manually pushed Out to the exterior side of the building/room (not to exceed 50 pounds of pressure; per ANSI code). The Panic Latch flips to allow emergency egress and immediately shuts the Swing door OFF. Please see Figure 4-4.

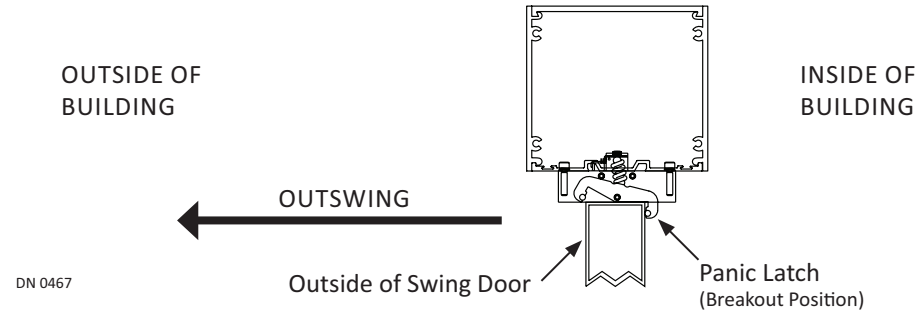


Figure 4-4 Panic Latch during Breakout Operation (Panic Latch flipped to allow Egress)

Note: For wiring instructions please refer to P/N 15-4572 Panic Breakout Latch Wiring Installation Instructions Manual.

1. Obtain the Panic Latch and (1) Decal. Set the Decal aside with all other Decals that were packed within Header.
   a. Decals are placed on Swing Door(s) after installation is complete.
2. Remove (4) Socket Head Cap Screws and (4) Washers. Set aside.
3. Turn the Panic Latch so the (EXT→) (exit arrow) points to the Exterior side of the Building. Please see Figure 4-5.
   a. Failure to do so, will install the Panic Latch backwards.

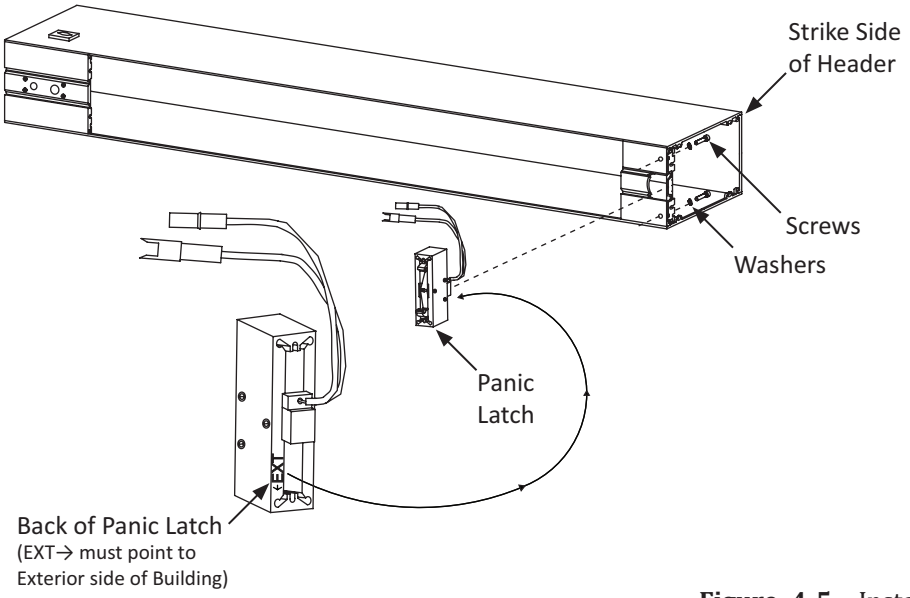


Figure 4-5 Install the Panic Latch

4. Go to the bottom, Strike side of Header.
5. Insert the Panic Latch wires and spring coil into the opening until the Panic Latch butts up against the Header. Please see Figure 4-6.

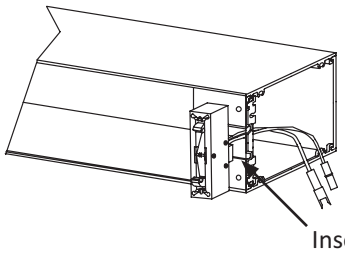


Figure 4-6 Insert Wires and Spring Coil thru Opening of Strike Plate

6. Secure the Panic Latch from inside the Header with (2) Socket Head Cap Screws and (2) Washers.
   a. Do Not wire or test the Panic Latch at this time.

Section 4b: Prep the Jamb Tubes

1. Measure the full height of existing Swing door.
2. Go to the bottom of each Jamb Tube, measure the full height calculation of Swing door plus:
   - 3/4 inch (19mm); if a Threshold is being installed
   - 1/4 inch (6.4mm); if a Threshold is not being installed
3. Mark the measurement across the full width of each Jamb Tube.
   a. It is recommended to use a level for this step.
4. Obtain (1) Jamb Drilling Template provided by NABCO.
5. Locate the line that was drawn across the inside face of each Jamb Tube. Place the bottom edge of the Jamb Drilling Template directly above that line.
6. Line up center of the Jamb Drilling Template to the previously drawn center mark.
7. Adhere the Jamb Drilling Template to each Jamb. Please see Figure 4-7.
   a. The Jamb Drilling Template is removable.
   b. An arrow is clearly marked at the bottom of the Jamb Drilling Template. This arrow must point to the line that was marked across the full width of Jambs.

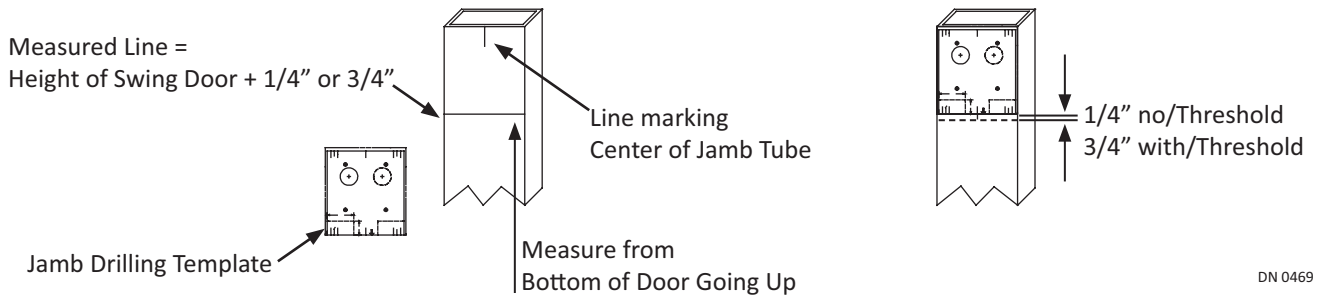


Figure 4-7 Adhere Jamb Drilling Template

8. Drill (4) .391 diameter holes through (4) clearly marked (A)s on the Template. Countersink each screw hole. Please see Figure 4-8.
   a. It is recommended to drill tap threads for anchors in a steel or aluminum structure.
9. Obtain (4) Rivnuts provided by NABCO. Install (1) Rivnut into each drilled .391 hole.
10. Drill (1) 1-1/4 inch diameter hole through (1 of 2) clearly marked (B)s on the Template to allow incoming 120 VAC Power.
    a. The 120 VAC incoming power must be routed through the Strike Jamb, only.
11. Remove the Template from the Strike Jamb, then adhere same Template to the Pivot Jamb.
12. Repeat steps.
13. Remove the Template. Set aside.

Section 4c: Install the Header to Jamb Tubes

1. Determine which Jamb tube is the Pivot Jamb and the Strike Jamb.
   a. Swing door pivots on side of Pivot Jamb.
   b. Swing door locks on side of Strike Jamb.
2. Position each Jamb tube at both sides of the Header. Please see Figure 4-8.
   a. Be sure to orientate the frame in relation to the outside of building/room.

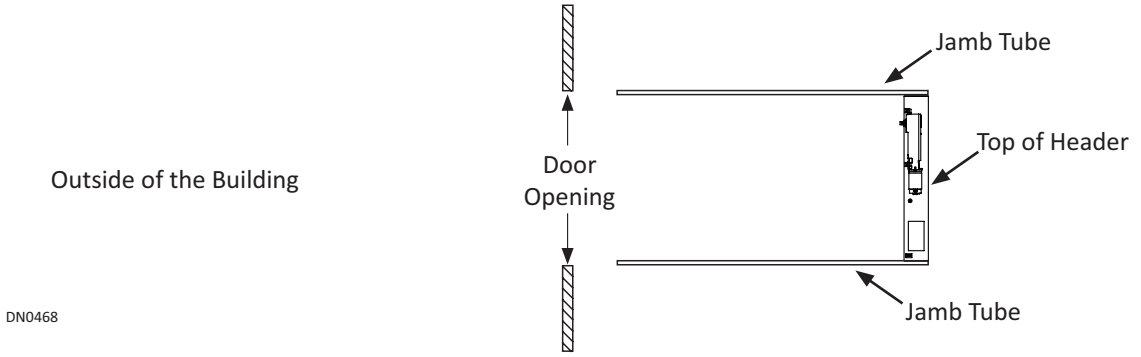


Figure 4-8 Layout Header and Jamb Tubes

3. Secure Header to both Jamb Tubes with (8) 1/4-20 x 3/4 inch Hex Head Cap Screws and (8) 1/4 inch Star Washers from the Parts bag provided within the Header. Please see Figure 4-9.

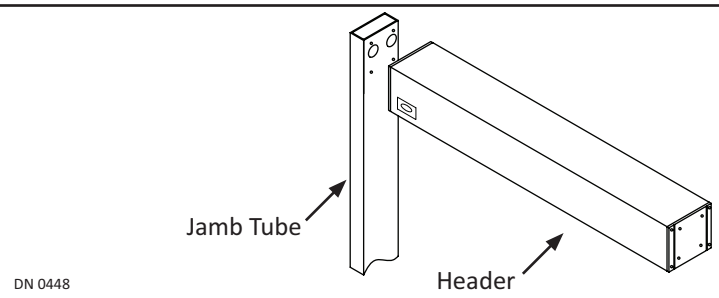


Figure 4-9 Secure Bottom Load Header to Jamb Tubes

CHAPTER 5: INSTALL FRAME TO BUILDING

Section 5a: Secure Frame to Rough Opening

1. Lift to position the assembled Frame into the rough opening.
2. Insert all incoming wiring through the 1-1/4 inch hole located on the Strike side of Header.

Note: It is recommended for the Installer to use an Electrical Conduit to house all incoming 120 VAC wires.

Note: Incoming 120 VAC Power wires must be pulled through the Strike end of Header for a single Swing door or the middle of Header for a simultaneous pair Swing door.

Note: All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.

3. Plumb Jamb tubes in both planes to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 5-1.
   a. Shim back of Jamb as required.

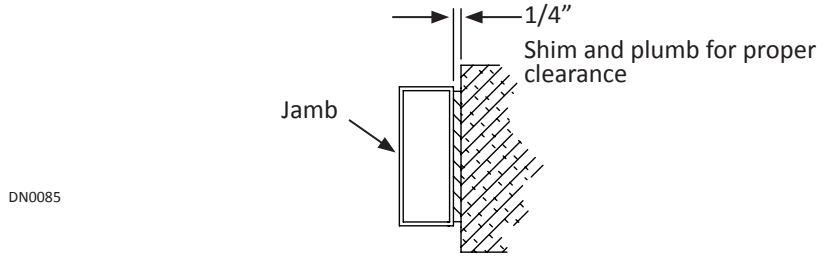


Figure 5-1 Shim Back of Jamb

4. Plumb the Header at the top to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 5-2.
   a. Shim top of Header as required.

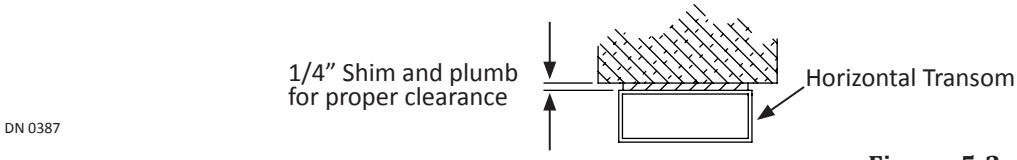


Figure 5-2 Shim Top of Header

Note: It is recommended to countersink holes as required to flush the surface.

Note: It is recommended to drill tap threads for anchors in a steel or aluminum structure.

Note: If anchor points in structure are known, the aluminum door framing can be pre drilled prior to installing into the opening.

Note: To prevent Header sag, secure the Header in the middle to the top horizontal structural member of the opening. Use of 3/8 inch threaded rod or 1/4 inch bolts are acceptable methods of supporting the center of the header.

5.a.a: Anchor Placement for Header

Use 1/4 inch diameter anchors or 3/8 inch threaded rods, with a maximum 48 inches on center. First anchor maximum is 36 inches from each end of the Header. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 5-3 and Figure 5-4.

5.a.b: Anchor Placement for Jamb Tubes

Use 1/4 inch diameter anchors with a minimum of 3 per Jamb Tube, maximum is 48 inches on center. Drill 1/4 inch diameter holes in the face of Jamb and then countersink each hole. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 5-3 and Figure 5-4.

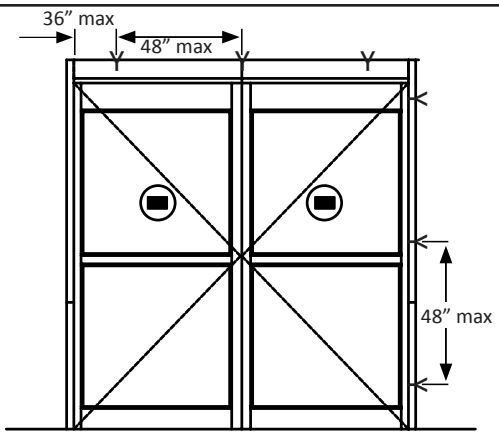


Figure 5-3 Anchor Placement

5. Screw in fasteners to secure the Frame.

Note: Do not overtighten anchors to prevent deforming Jamb tubes.

Note: Ensure anchor heads to not come in contact with edges of glass to prevent breakage.

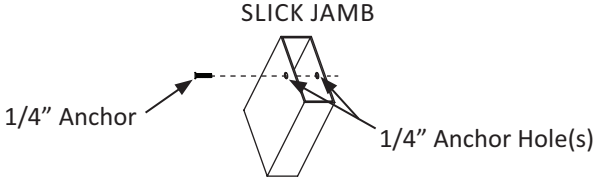


Figure 5-4 Screw Anchors

Section 5b: Install the Finger Guard

Note: Screws must be appropriate for the type of structure being fastened into.

Note: Screws are not provided by NABCO.

Note: Do not overtighten screws to prevent deforming Weatherstrip Extrusion.

Note: Ensure each screw is flush to the Jamb tube.

1. Go to the top of the Pivot Jamb tube, at the center, drop a Plumb Line to the floor.
2. Mark the Center line on the inside face of the Pivot Jamb Tube.
   a. It is recommended to use a level.

1. Obtain the Finger Guard Mounting Plate.
2. Insert the Weather Strip into both channels located on the Finger Guard Mounting Plate. Please see Figure 5-5.
   a. Sprayed silicone (not included) inside the Channels may ease the insertion of the Weather Strip.

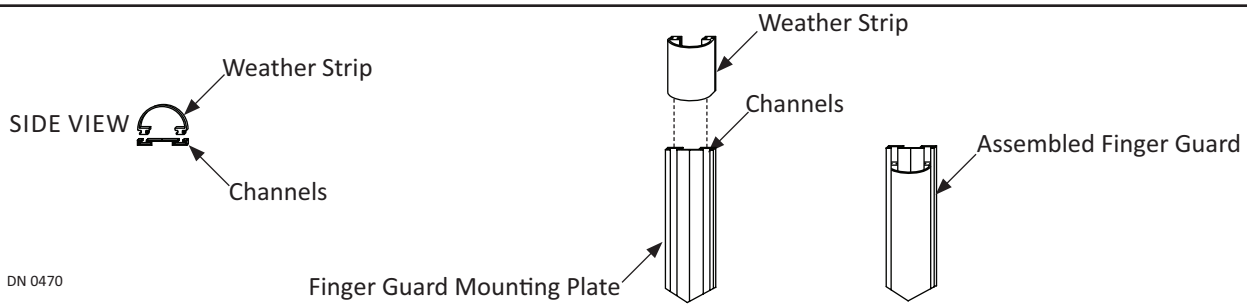


Figure 5-5 Install Weather Strip onto Finger Guard Mounting Plate

3. Line up the Center Notch located down the full length of the Finger Guard Mounting Plate, with the Center Mark located on the Pivot Jamb Tube. Please see Figure 5-6.
   a. It is recommended to use a level.

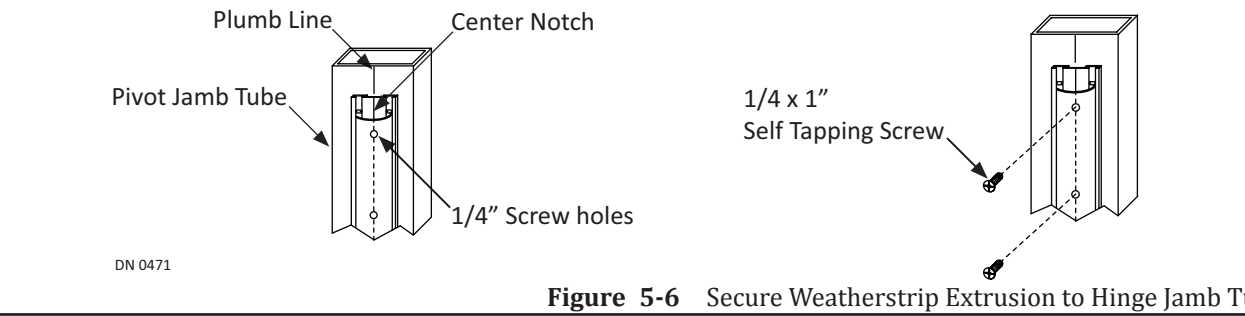


Figure 5-6 Secure Weatherstrip Extrusion to Hinge Jamb Tube

4. Drill (3-4) 1/4 inch evenly spaced screw holes down the Finger Guard Assembly.
   a. Each screw hole must go through the Weather Strip, Mounting Plate and the Pivot Jamb Tube.
5. Secure the Finger Guard Mounting Plate onto the Pivot Jamb with 1/4 x 1 inch self tapping Screws (zinc or steel plated).

CHAPTER 6: INSTALL BOTTOM LOAD COMPONENTS

FOR SIDE LOAD HEADER SKIP TO CHAPTER 7

Note: Location of Contents within Header are subject to change according to Swing door specifications.

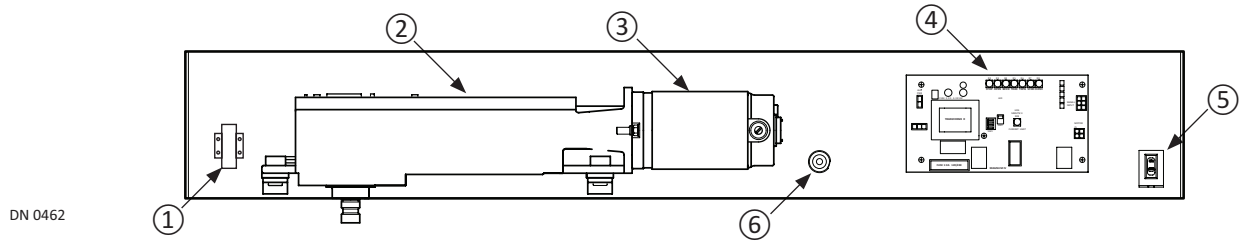


Figure 6-1 Contents of Header

1. Transformer (Optional)
2. Motor Operator
3. Control
4. Rocker Switch
5. Multi-Module (Optional)
6. Ground Screw

Section 6a: Secure Incoming Wires

1. Obtain (self sticking) white plastic Wire Clips provided by NABCO.
2. Adhere each Wire Clip to sides of Header. Insert wiring (as deemed necessary). Please see Figure 6-2
   a. 120 VAC Power wires must be routed separate from other wiring, adhere those Wire Clips inside the Header, near the top to prevent pinching.

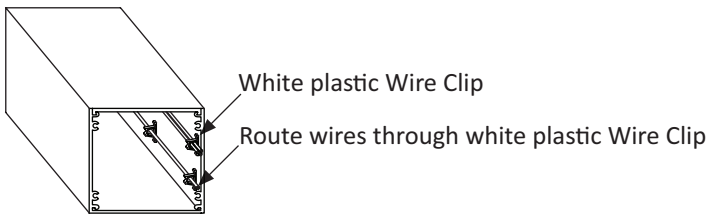


Figure 6-2 Adhere White Plastic Wire Clip and Route Wires

Note: If 120 VAC Power wires must be installed from Hinge Side of Header, ensure that wires are securely clipped, to prevent pinching of the wires during the Motor/Operator installation process.

Section 6b: Install Motor/Operator into Header

1. Go to (inside) top of Header. Please see Figure 6-3.
2. Locate factory installed, Rear Mount Bracket located inside Header.
3. With a 9/16 inch Deep Well Socket and Ratchet, remove (2) 3/8-16 Hex Jam Nuts and (2) Washers from (2) studs that extend downward from the Rear Mount Bracket.
   a. Save all hardware for reinstallation.

4. Hold the Front end of Motor/Operator at an upward angle to slide Front Mount onto (2) Pivot Base Tabs located inside of Header.

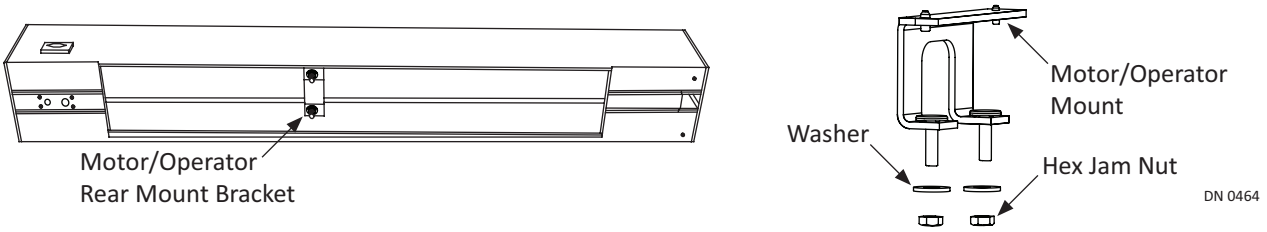


Figure 6-3 Remove Hardware from Mount

5. Lift the rear of the Motor Operator up onto (2) studs extending downward. Please see Figure 6-4.
   a. Ensure the Switch Harness is tucked between the back wall of Header and above the Mounting Bracket.
6. Secure the Motor/Operator with (2) 3/8-16 inch Hex Jam Nuts and (2) 7/16 x 1 inch Washers.
   a. It is important not to pinch any wiring during the Motor/Operator installation.

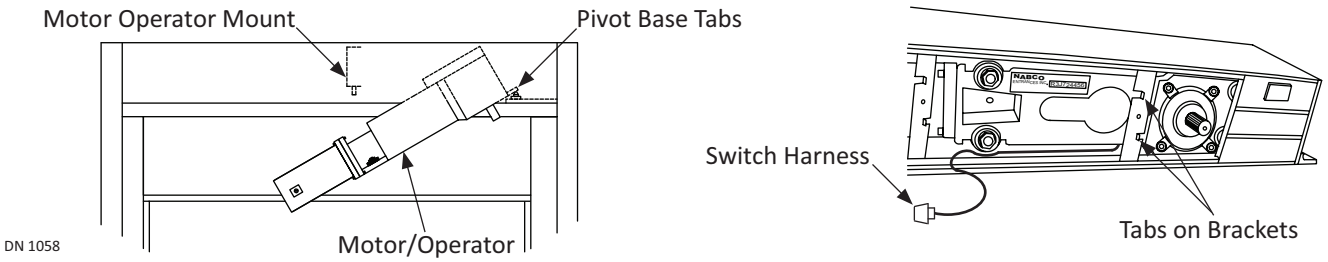


Figure 6-4 Mount Motor/Operator into Header

Section 6c: Install the Control

It may be necessary to mount a Soft Starter Capacitor on the Operator prior to installing the Analog Control. For detailed information, please refer to the "Analog Control Wiring and Adjustment Manual; P/N 15-10745".

1. Obtain the Bracket Clip.
2. Squeeze (2) open ends of the Bracket Clip together until both protruding channels are successfully snapped inside each recessed channel. Please see Figure 6-5.
3. Snap the Bracket Clip within the recessed channels approximately 4-5 inches away from where the Motor/Operator will be installed.

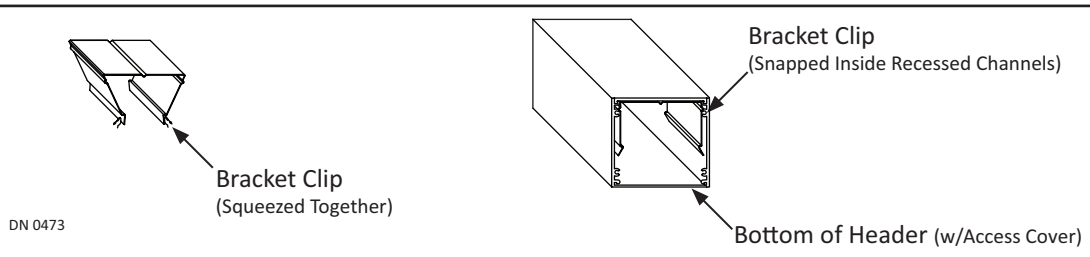


Figure 6-5 Snap Bracket Clip inside Header

4. Snap the Control inside the Bracket Clip. Please see Figure 6-6.
   a. Face of Control must face down (towards bottom opening of Header).

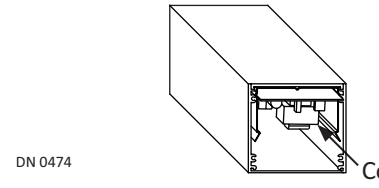
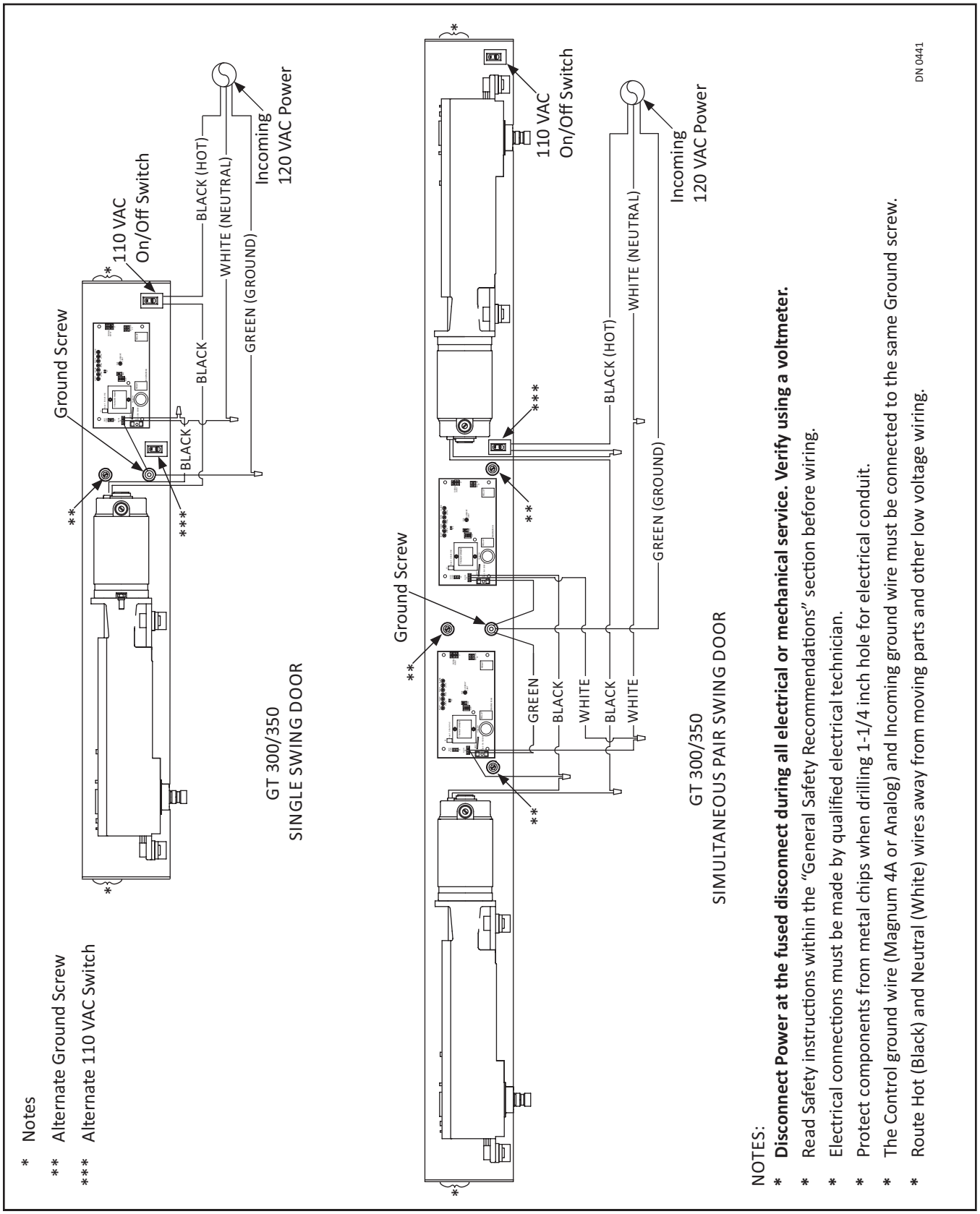


Figure 6-6 Snap Control into Bracket Clip

Section 6d: Install Optional Components

Install all other optional components by following installation and wiring instructions that were provided with each Component.

CHAPTER 7: 110 VAC GENERAL WIRING



NOTES:

* * **Disconnect Power at the fused disconnect during all electrical or mechanical service. Verify using a voltmeter.**
* * Read Safety instructions within the "General Safety Recommendations" section before wiring.
* * Electrical connections must be made by qualified electrical technician.
* * Protect components from metal chips when drilling 1-1/4 inch hole for electrical conduit.
* * The Control ground wire (Magnum 4A or Analog) and Incoming ground wire must be connected to the same Ground screw.
* * Route Hot (Black) and Neutral (White) wires away from moving parts and other low voltage wiring.

CHAPTER 8: INSTALL THE FLOOR PIVOT

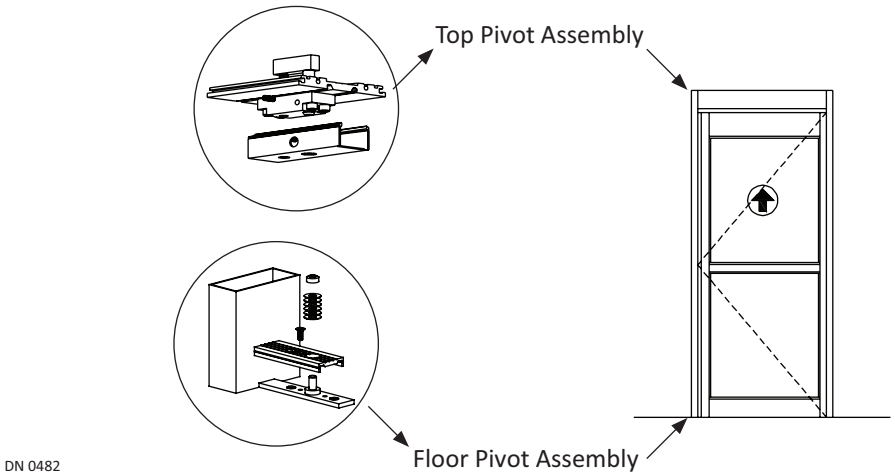


Figure 8-1 Center Pivot Locations

1. Obtain the Floor Pivot Assembly.
2. The Pivot Shaft is not centered on the Floor Pivot. One end is used:
   - With the Finger Guard; so the Pivot Shaft measures 3.75 inches away from the Pivot Jamb.
   - Without the Finger Guard; so the Pivot Shaft measures 2.75 inches away from the Pivot Jamb.

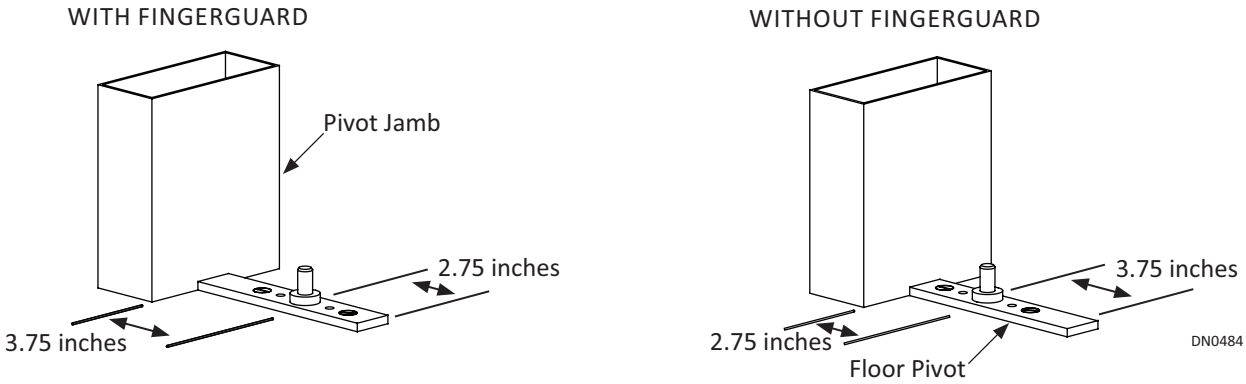


Figure 8-2 Position Floor Pivot according to Finger Guard Installation

3. Measure and mark the center of the Pivot Jamb and the Floor Pivot. Please see Figure 8-3.
4. Butt the center mark of the Floor Pivot up against the center mark of the Pivot Jamb.
5. Align both Pivot Shafts. Drop a Plumb Line from the Top Pivot Shaft to the Floor Pivot Shaft.
   a. The Plumb Line must drop down the center.
6. Use the Floor Pivot as a template to mark and drill (2) holes for #14 x 1 inch Blue anchors provided by NABCO.
7. Insert (2) #14 x 1" Blue anchors into each anchor hole.
8. Secure the Floor Pivot with (2) #14 x 1-1/2 inch Slotted Flat Head Screws provided by NABCO.

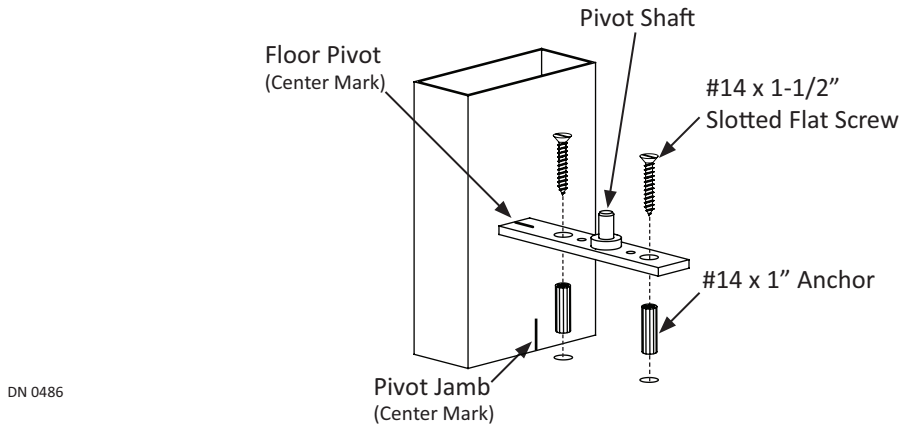


Figure 8-3 Install Floor Pivot

9. Secure the Pivot Cover onto the Floor Pivot with (1) 1/2-20 x 7/16 inch Flat Head Machine Screw. Please see Figure 8-4.

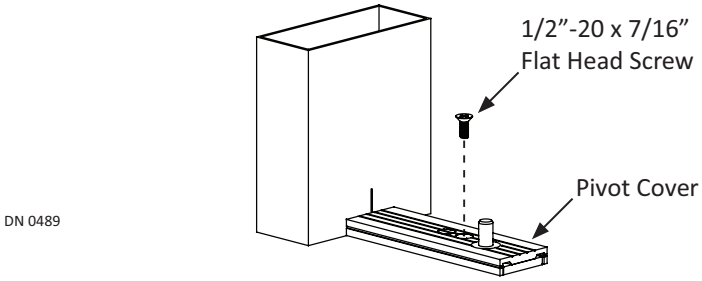


Figure 8-4 Install Pivot Cover onto Floor Pivot

CHAPTER 9: INSTALL THE SADDLE THRESHOLD

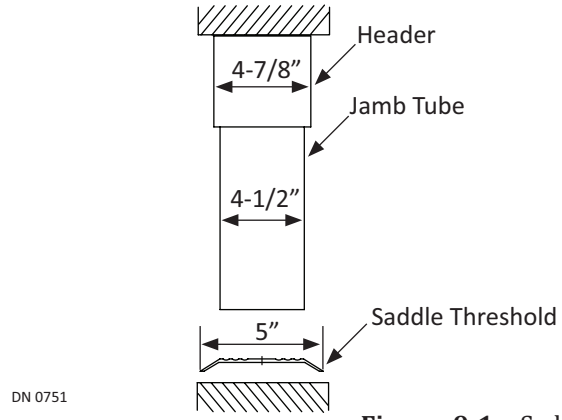


Figure 9-1 Saddle Track installed on Surface only

1. Obtain the Saddle Threshold. The Pivot Side of the Saddle Threshold has a cut out for the Pivot Plate. Place the Pivot Side of the Saddle Threshold over the Floor Pivot Assembly. Please see Figure 9-2.
   a. Ensure the Saddle Track is centered to the Strike Jamb and square.

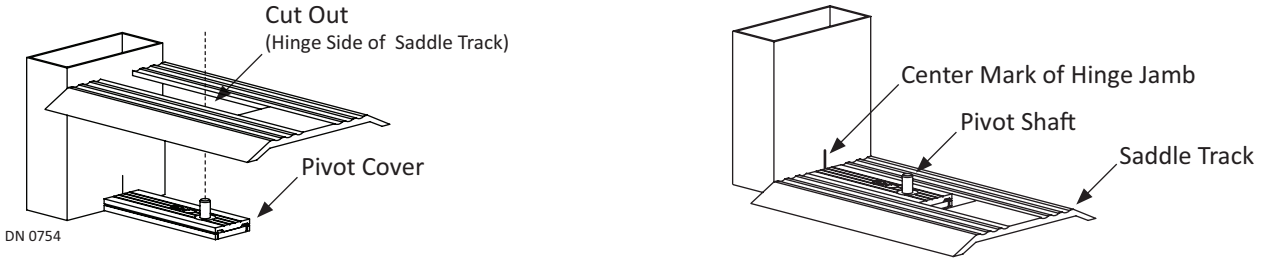


Figure 9-2 Place Saddle Track over Floor Pivot

2. Square and center the Saddle Threshold to the Strike Jamb.
3. Obtain #10 x 1-1/2 inch sheet metal screws and anchors (Not provided by NABCO).
   a. The number of screws and anchors depends upon the length of the Saddle Threshold.
4. In the center of the Saddle Threshold, approximately 4 inches from the cutout for the Pivot Plate, mark (1) screw hole. Please see Figure 9-3.
5. In the center of the Saddle Threshold, approximately 4 inches from the Strike Jamb, mark (1) screw hole.

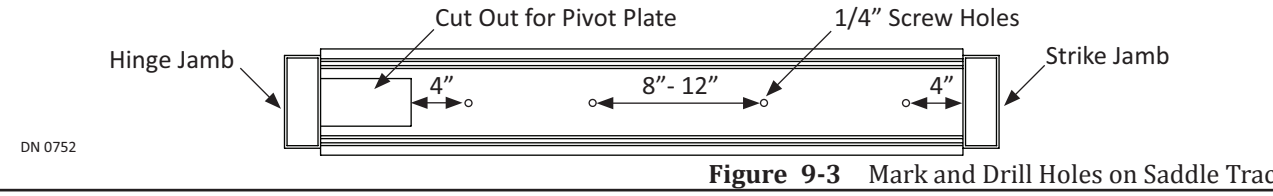


Figure 9-3 Mark and Drill Holes on Saddle Track

6. Mark remaining screw holes 8 - 12 inches apart and evenly spaced.

7. Drill screw holes into the floor no less than 1-1/2 inch deep for #14 x 1" anchors.
8. Remove the Saddle Threshold. Set aside.
9. Insert #14 x 1" plastic anchors into the drilled screw holes. Please see Figure 9-4.
10. Secure the Floor Track with #10 x 1-1/2 inch sheet metal screws (Not provided by NABCO).
    a. Do not overtighten screws to prevent deforming the Saddle Threshold.

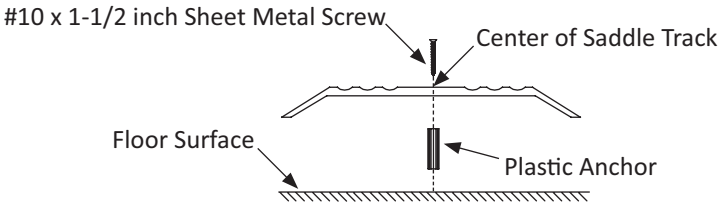


Figure 9-4 Secure Floor Track to Floor Surface

CHAPTER 10: INSTALL THE SWING DOOR

Section 10a: Install the NABCO Swing Door

FOR SWING DOORS NOT PROVIDED BY NABCO SKIP TO SECTION 10B

1. Go to the Pivot side of Header.
2. Loosen the Set Screw located directly above the Pivot Shaft. Please see Figure 10-1.
3. Go to the Self Riser screw located underneath the top Pivot.
4. Turn the Self Riser Screw counter-clockwise to retract the Center Pivot Shaft.

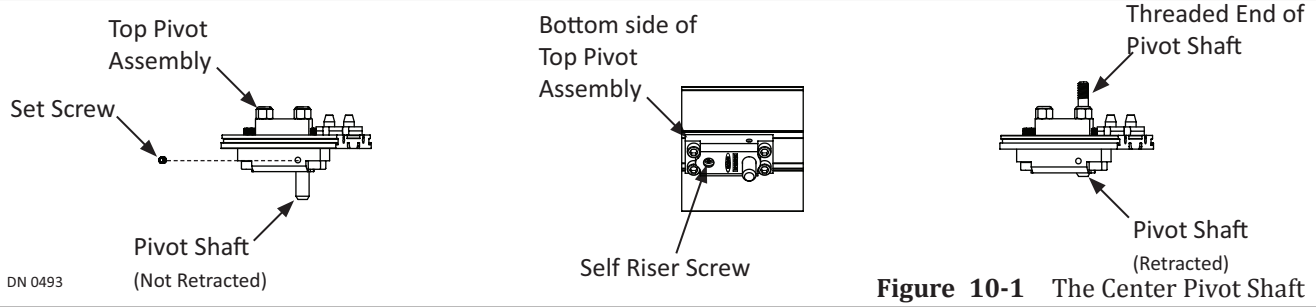


Figure 10-1 The Center Pivot Shaft

5. Go to the bottom Pivot Assembly. Locate the Ball Bearing. Insert the Ball Bearing onto the Floor Pivot Shaft. Please see Figure 10-2.

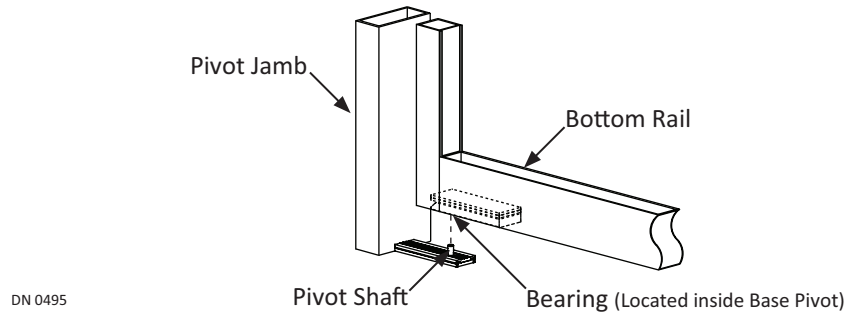


Figure 10-2 Install Swing door onto Floor Pivot Shaft

6. Go to the Top Rail. Locate the Track Assembly. Please see Figure 10-3.
7. With a flat head screwdriver, turn the Self Riser Screw clockwise until the Riser Bar is all the way down into the Bearing.
   a. Tighten the Riser Bar tight to the base Pivot Plate to ensure the Pivot Shaft is fully engaged inside the Bushing.

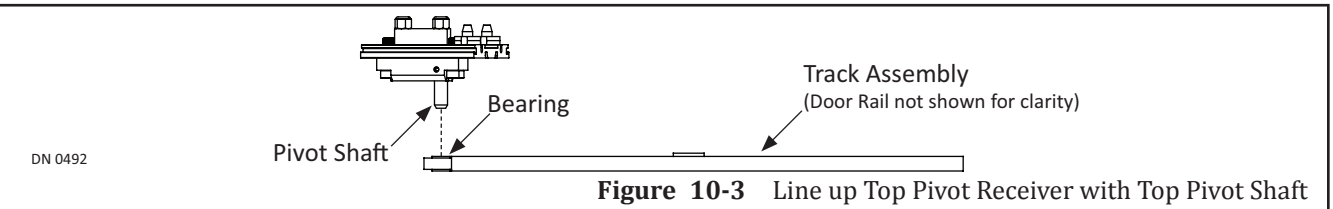


Figure 10-3 Line up Top Pivot Receiver with Top Pivot Shaft

Section 10b: Install the Swing Door (Not provided by NABCO)

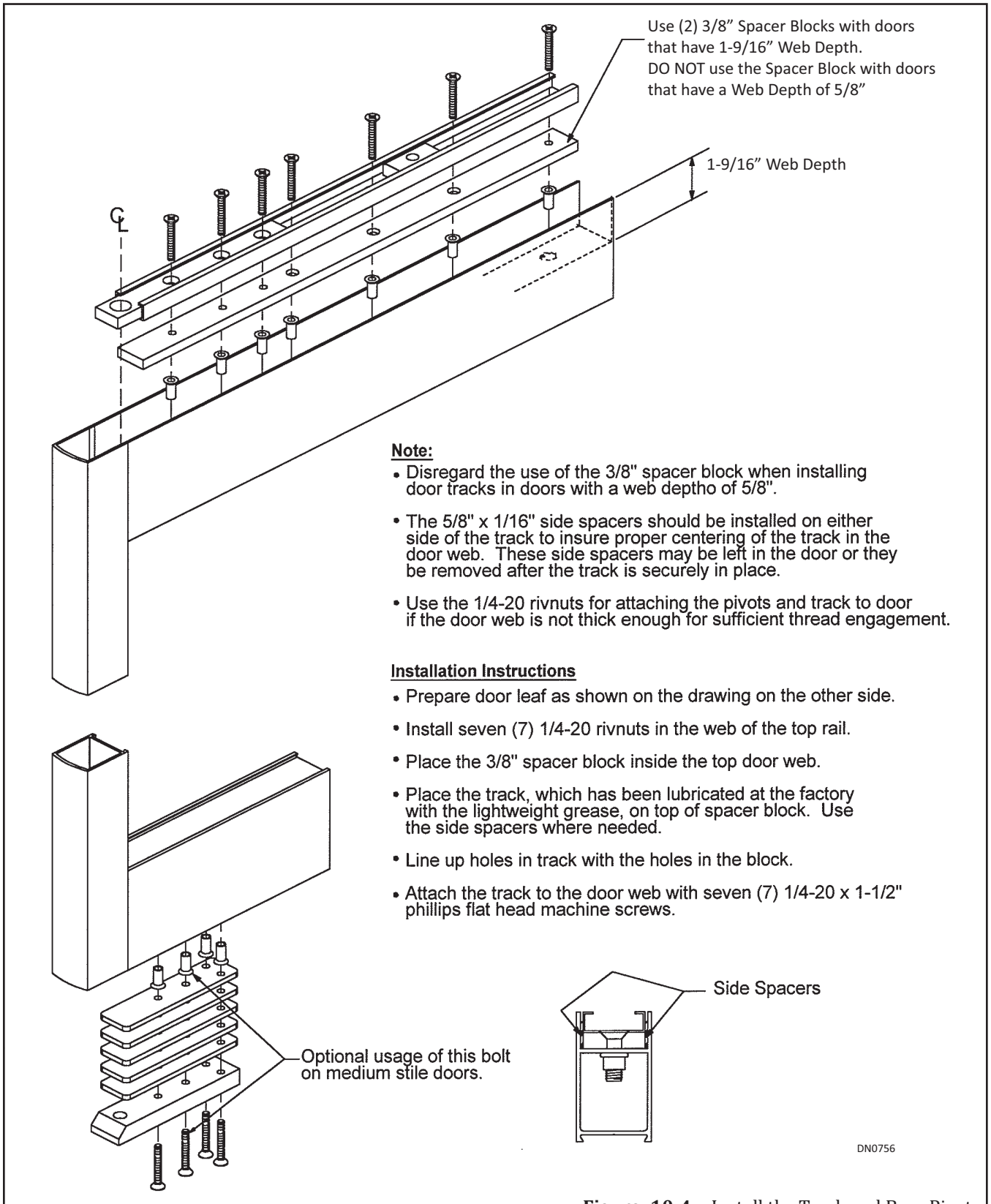


Figure 10-4 Install the Track and Base Pivot

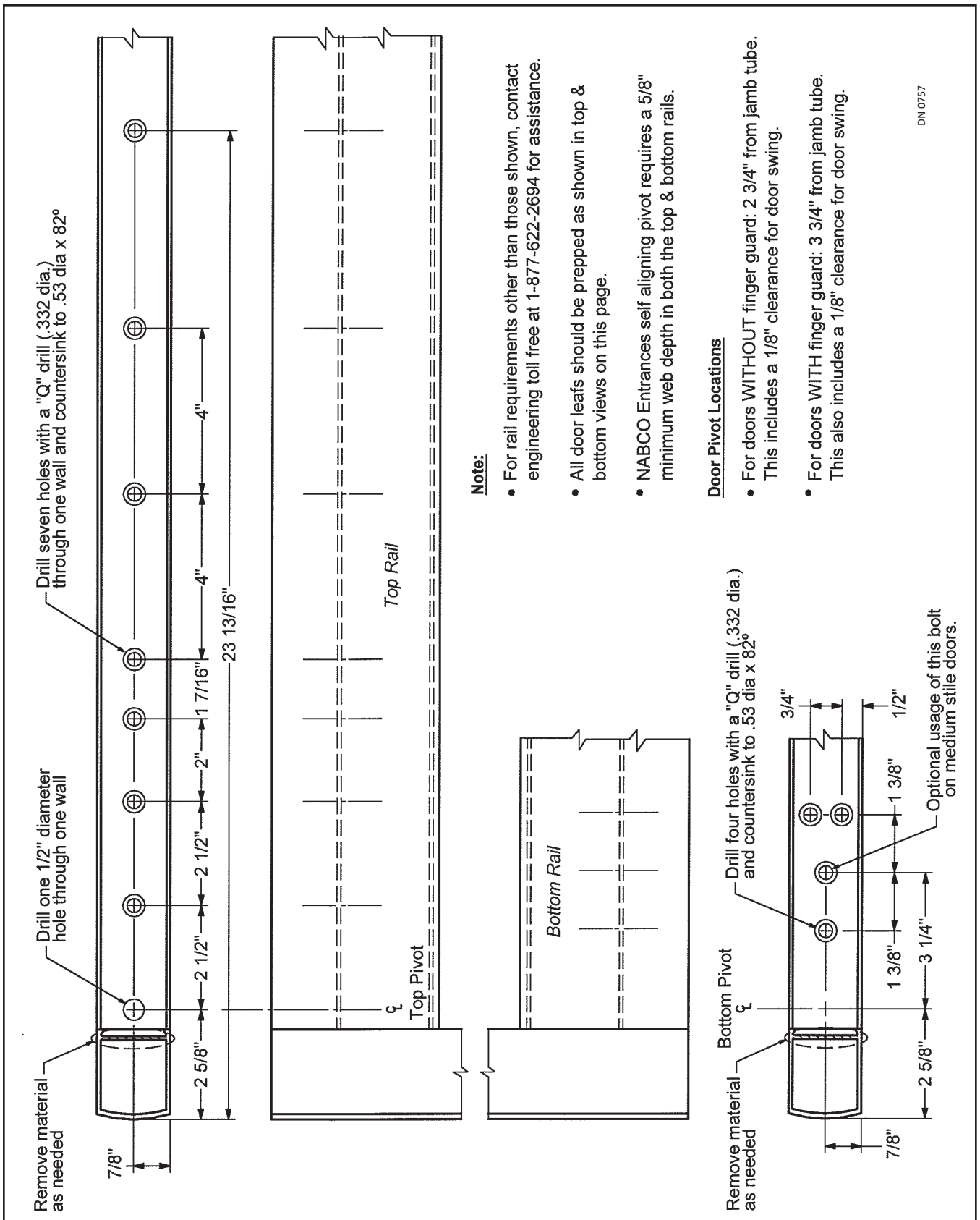


Figure 10-5 Pivot Shaft Measurements

10.b.a: Prep the Door Rail

The inside wall of the Pivot Stile may butt up against the Door Rail (at the very top). If the Track needs to extend past the Door Rail, the inside wall will need to be milled out to match the width and depth of the Web. This may need to be done to the top Door Rail and/or the bottom Door Rail. Please see Figure 10-6.

Figure 10-6 Mill out the inside wall of the Pivot Stile

10.b.b: Install the Base Pivot into the Bottom Door Rail

1. Lay the Swing door on a flat surface that is sturdy enough to keep the door stable, and high enough to see while drilling.
   a. Protect Swing door from scratches.
2. Please refer to Figure 10-5 for detailed Base Pivot installation measurements.
3. Go to the Bottom Rail on the Pivot side of Swing Door. Measure to find the center inside the Web. Mark a horizontal line all the way across the full width of the Web face.
4. From the outer edge of the Pivot Stile measure:
   - With the Finger Guard; 3-5/8 inches.
   - Without the Finger Guard; 2-5/8 inches.
5. Mark a vertical line across the horizontal line onto the Web face. This is the center of the Bearing.
6. From that mark, measure another 3-1/4 inches. Mark a vertical line across the horizontal line onto the Web face. This is the center of the second .322 diameter anchor hole.
7. Obtain (1) Spacer. Center the Spacer inside the Web. Align the second screw hole to the second anchor hole marked onto the Web face.
8. Use the Spacer as a template to mark the remaining (3) anchor holes.
   a. Ensure the Spacer is aligned and centered.
   b. Refer to Figure 10-5 for detailed measurements.
9. Drill (4) .322 anchor holes.
10. Countersink the (4) anchor holes to .53 diameter x 82 degrees.
    a. It is recommended to drill tap threads for anchors in a steel or aluminum structure.
11. Insert (4) 1/4-20 tapped Rivnuts into the (4) .322 anchor holes.
12. Obtain the Base Pivot assembly. Please see Figure 10-7.
13. Place (1-4) Spacers on the bottom side of the Pivot Base.
    a. The Gel filled Bearing is located on the top side of the Pivot Base.

14. Insert the Pivot Base assembly up into the Web.
    a. Add/subtract spacers until the Base Pivot is flush to the outside edge of the Door Rail.
15. Secure the Pivot Base to the Web with (4) 1/4 - 20 x 2 inch Phillips Head Machine Screws.

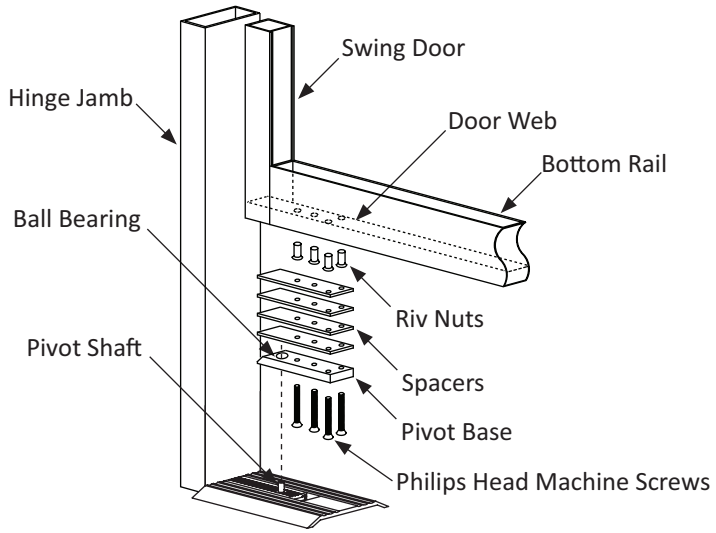


Figure 10-7 Base Pivot Assembly

10.b.c: Partially Install the Track inside the Top Door Rail

1. Lay the Swing door on a flat surface that is sturdy enough to keep the door stable, and high enough to see while drilling.
    a. Protect Swing door from scratches.
2. Please refer to Figure 10-5 for detailed Track installation measurements.
3. Go to the Top Rail on the Pivot side of Swing Door. Measure to find the center inside the Web. Mark a horizontal line all the way across the full width of the Web face.
4. From the outer edge of the Pivot Stile measure 23-13/16 inches. Mark a vertical line across the horizontal line onto the Web Face. This is the center of (1) .322 anchor hole.
5. Drill (1) .322 anchor hole.
6. Countersink the anchor hole to .53 diameter x 82 degrees.
    a. It is recommended to drill tap threads for anchors in a steel or aluminum structure.
7. Insert (1) 1/4-20 tapped Rivnut into the .322 anchor hole.
8. Obtain the Track Assembly. Please see Figure 10-8.
9. Place (1) Spacer Block inside the Web according to the Web Depth:
    - 5/8 inch deep: No Spacer Block is required
    - 7/8 inch deep: Insert 1/4 inch Spacer Block
    - 1 inch deep: Insert 3/8 inch Spacer Block
    - 1-9/16 inch deep: Insert (2) 3/8 inch Spacer Blocks
10. Place (1) Track on top of the Spacer Block (or the Web if a Spacer Block is not used).
    a. Ensure the Pivot Pin Receiver is on the Pivot Side of the Web.
11. Place (2) 5/8 " x 1/16" Side Spacers on either side of the Track.
    a. Side Spacers are used to ensure proper centering of Track.

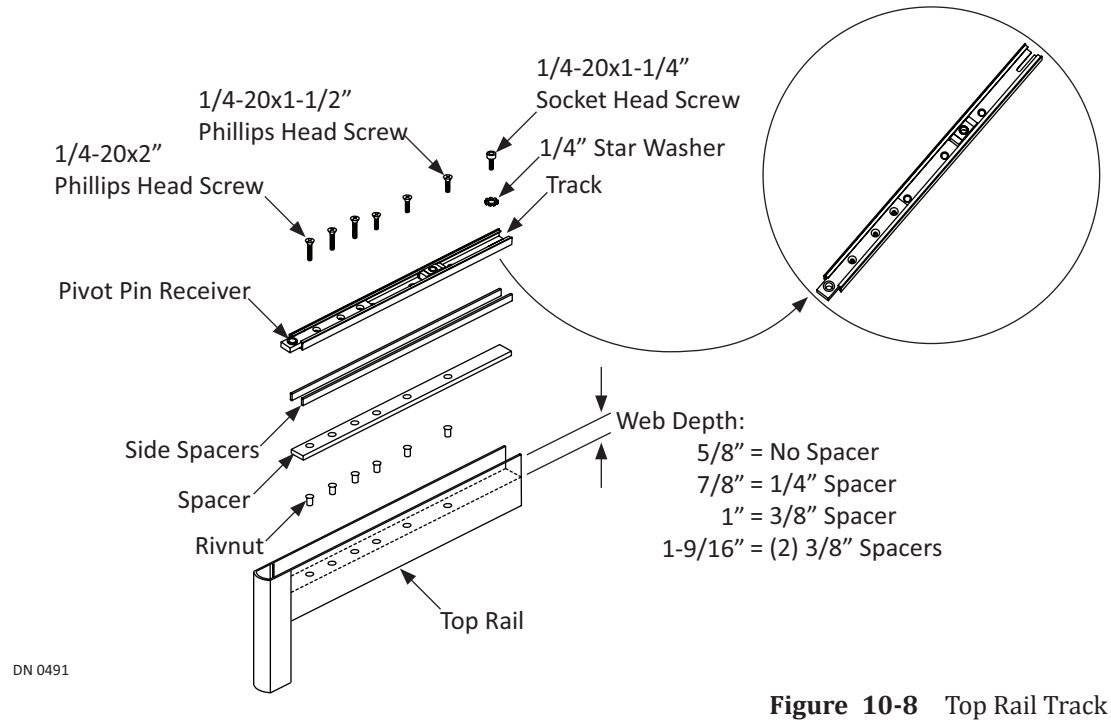


Figure 10-8 Top Rail Track Assembly

12. From the outer edge of the Pivot Stile measure:
    - With the Finger Guard; 3-5/8 inches.
    - Without the Finger Guard; 2-5/8 inches
13. Slide the Track towards the Pivot Stile or away from the Pivot Stile until the Bearing is centered to that measurement. Please see Figure 10-9.
14. Locate the Slot at the end of the Track. Locate the Pre-drilled screw hole.
15. Secure the Track to the Web with (1) 1/4 inch Star Washer and (1) 1/4-20x1-1/4 inch Socket Head screw. Tighten but do not overtighten. The Socket Head screw may need to be loosened one more time.

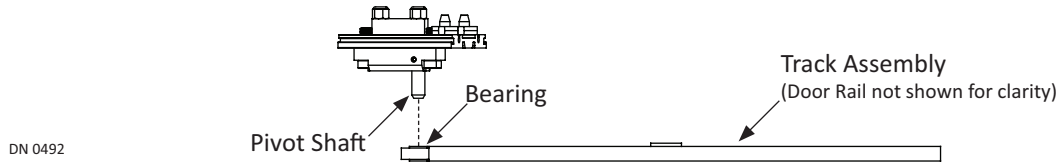


Figure 10-9 Insert the Top Pivot Shaft into the Bearing

10.b.d: Temporily Install the Swing Door

1. Go to the Pivot side of Header. Locate the Pivot Assembly.
2. Loosen the Set Screw located directly above the Pivot Shaft. Please see Figure 10-10.
3. Go to the Self Riser screw located underneath the Pivot Assembly.
4. Turn the Self Riser Screw counter-clockwise to retract the Pivot Shaft.

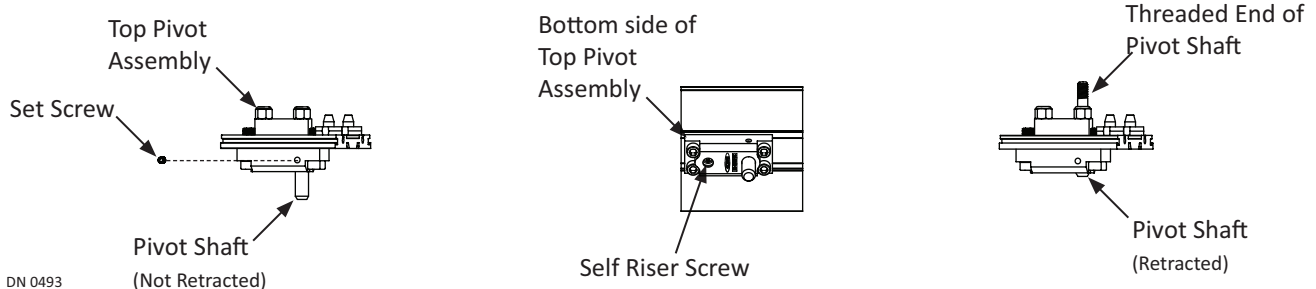


Figure 10-10 The Center Pivot Shaft

5. Go to the bottom Door Rail. Slide the Bearing onto the Pivot Shaft. Please see Figure 10-11.

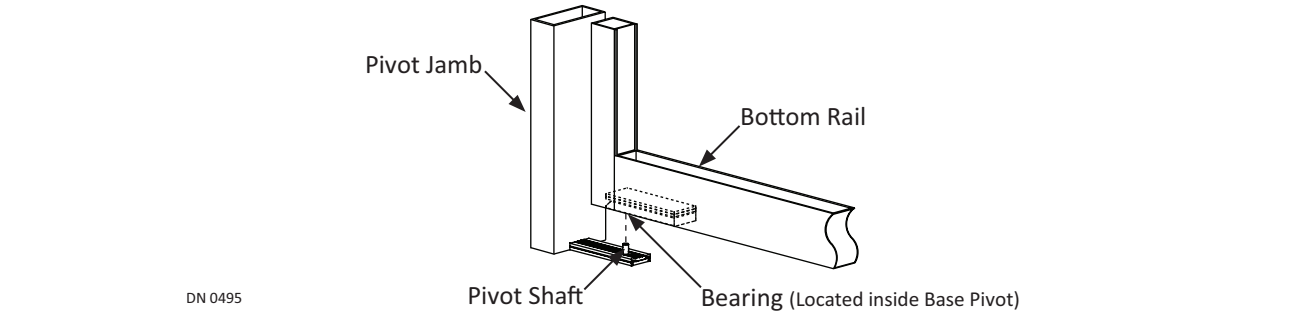


Figure 10-11 Install Swing door onto Floor Pivot Shaft

6. Go to the top Door Rail. Turn the Self Riser Screw clockwise to insert the Pivot Shaft into the Bearing. Please see Figure 10-10.
7. With a flat head screwdriver, turn the Self Riser Screw clockwise until the Pivot Shaft is inserted all the way down into the Bearing.
8. Tighten the Set Screw, do not overtighten. The Set Screw may have to be loosened one more time.

10.b.e: Adjust the Swing Door Height

1. Measure for proper clearance:
   - Top of Swing door must be: 1/8 inch to 1/16 inch from Header
   - Bottom of Swing door must be: 3/16 inch to 1/16 inch from Floor (or threshold)
2. Remove the Swing door.
3. Slide (1-6) Spacer Shims onto the Pivot Shaft to adjust the Swing door for proper clearance.
4. Slide (1) Self Aligner Cap on top of the (1-6) Spacer Shims. Reinstall the Swing door.

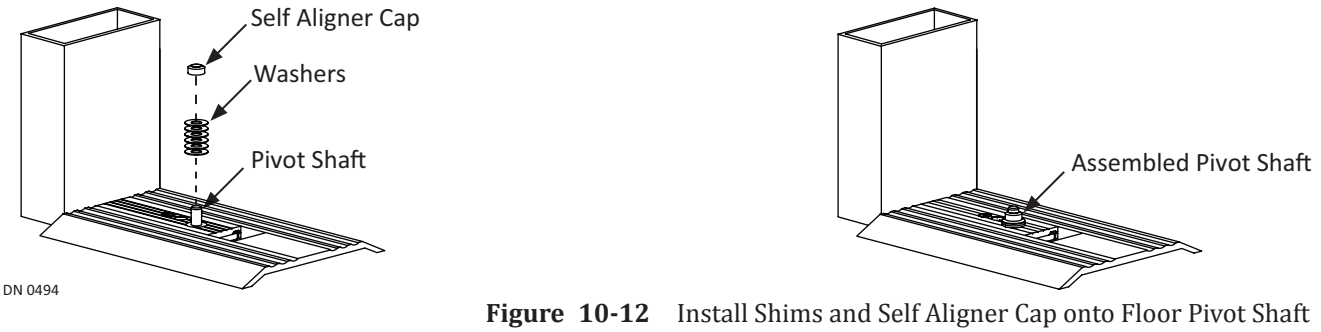


Figure 10-12 Install Shims and Self Aligner Cap onto Floor Pivot Shaft

10.b.f: Align the Swing Door

1. Fully open the Swing door.
2. Go to the Track Assembly located inside the Top Rail.
3. Loosen (1) 1/4-20x1-1/4 inch Socket Head Screw.
4. Slide the Track Assembly back and forth until the Swing door is properly aligned.
   a. It is recommended to use a Level.
5. Tighten the Socket Head Screw but do not tighten all the way down.
   a. The Socket Head Cap Screw may need to be loosened one more time.

10.c.g: Permanently Install the Track inside the Top Door Rail

1. Fully open the Swing door.
2. Use the Track as a template. Mark a vertical line across the horizontal line inside each pre-drilled screw hole. Each mark is the center of (6) .322 anchor holes.
3. Remove the Swing door.
4. Lay the Swing door on a flat surface that is sturdy enough to keep the door stable, and high enough to see while drilling.
   a. Protect Swing door from scratches.
5. Drill (6) .322 anchor holes.
6. Countersink the anchor hole to .53 diameter x 82 degrees.
   a. It is recommended to drill tap threads for anchors in a steel or aluminum structure.
7. Insert (6) 1/4-20 tapped Rivnut into each .322 anchor hole.
8. Secure the Track to the Web with (3) 1/4-20x2 inch Socket Head screws and (3) 1/4-20x1-1/2 inch Phillips Head screws. Tighten but do not overtighten. Please see Figure 9-13.

10.c.h: Permanently Install the Swing Door

1. Follow instructions within subsection 10.b.d.

CHAPTER 11: INSTALL THE SWING ARM

Section 11a: Set Pre-Load

WARNING **Proper Preload is critical for the Control and Operator to open/close the Swing Door correctly.**

CAUTION **Power must be turned OFF during the Swing Arm installation.**

DANGER **Ensure the Motor/Operator is plugged into the Controller.**

1. Ensure the Spring on the Operator is in the Unwound (0˚) position.
   a. The Motor/Operator is shipped in the Unwound (0˚) position.
2. Obtain (1) Pin or 1/8 inch Allen Wrench.
3. Go underneath the Header. Locate the Operator Spindle.
4. Slide the Swing Arm onto the Spindle.
5. In order to achieve correct Back Check and Latch Check positions, the Spring on the Operator must be wound up approximately 130 - 140 degrees. With a firm grip, from the Unwound (0 degree) position, rotate the Swing Arm approximately 60 degrees:
   - ► Clockwise
     - For Left Handing
   - ► Counter-Clockwise
     - For Right Handing
6. While holding the Swing Arm in that position, insert (1) Pin or 1/8 inch Allen Wrench into the Lovejoy Coupling Access Hole. Please see Figure 11-1.
   a. It may be necessary to ease the Swing Arm back until the Pin or 1/8 inch Allen Wrench engages the Lovejoy Coupling.

DANGER **Do not allow the Pin or 1/8 inch Allen Wrench to drop out of the Lovejoy Coupling Access hole at any time during installation. The Swing Arm will spring back to its original location and can result in personal injury or damage.**

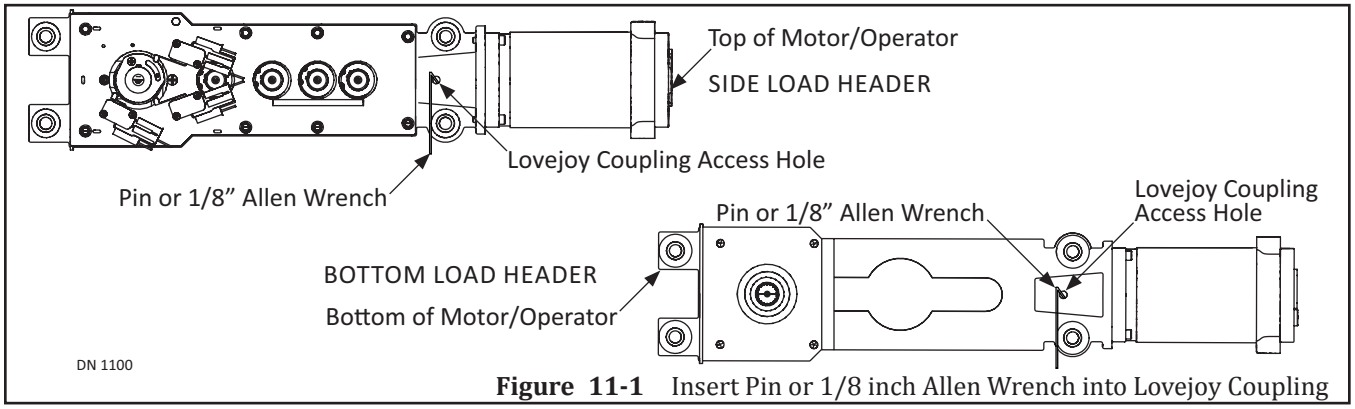


Figure 11-1 Insert Pin or 1/8 inch Allen Wrench into Lovejoy Coupling

7. Remove the Swing Arm from the Operator Spindle.
   a. The Pin or 1/8 inch Allen Wrench will keep the Spring from unwinding.

8. Go to the 0 degree position again, slide the Swing Arm back onto the Operator Spindle. Please see Figure 11-2.

9. With a firm grip, slightly remove pressure from the Spring to allow removal of the Allen wrench. Continue to rotate the Swing Arm an additional 70-80 degrees. Re-insert the Allen wrench and then remove the Swing Arm.
   a. The Spring on the Operator should be wound approximately 130 - 140 degrees.

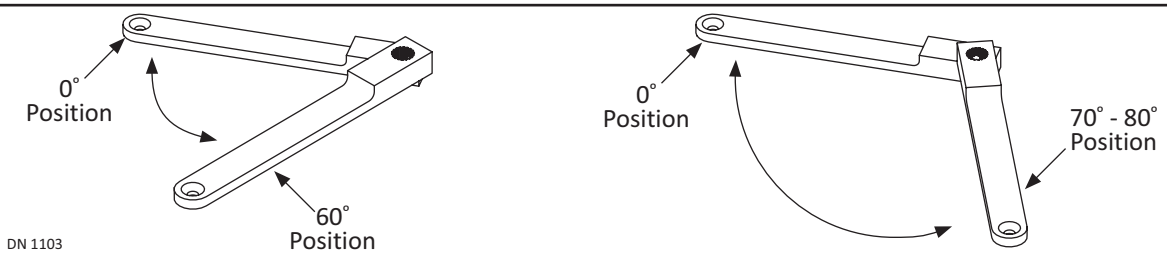


Figure 11-2 Rotate Swing Arm

Section 11b: Secure the Swing Arm

1. Obtain the Swing Arm.

2. With an 5/16 inch Allen Wrench, remove the Pivot Screw and (3) washers. Set aside. Please see Figure 11-3.

3. Remove the Set Screw to loosen the Shoulder Bolt with an 3/16 inch Allen Wrench. Set aside.

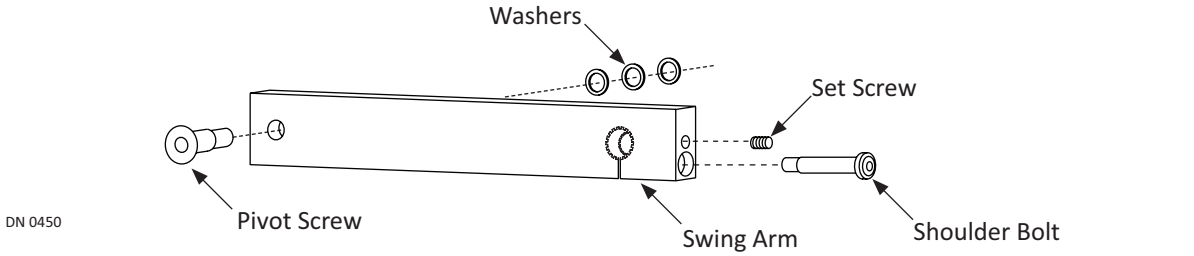


Figure 11-3 Prepare the Swing Arm

4. Fully close the Swing door. Go to the Output Spindle located at the bottom of the Operator. Please see Figure 11-4.
   a. A Score has been etched onto the bottom of Output Spindle.

5. Line up the Opening located on the bottom of the Swing Arm so it is perpendicular to the Spindle Score. Slide the Swing Arm onto the Spindle.

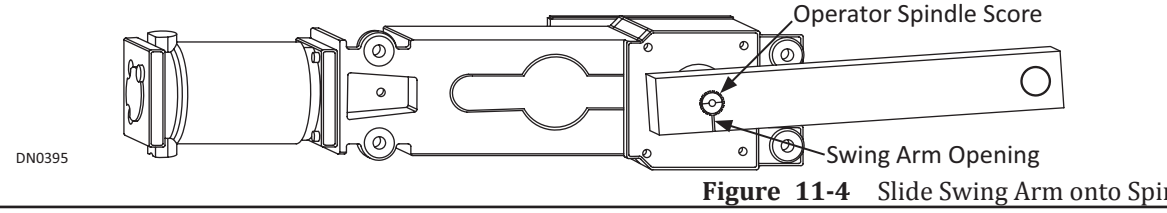


Figure 11-4 Slide Swing Arm onto Spindle

6. Obtain the Swing Arm's Pivot Screw and (3) Washers that were set aside during Pre-Load.

7. Open Swing Door to align the Top Slide Block with the Pivot Screw hole (located on free end of Swing Arm). Please see Figure 11-5.

8. Check to see how many Washers will be necessary to install between the Swing Arm and the Swing door.
   - 3 for 3/16 inch Clearance Door
   - 2 for 1/8 inch Clearance Door
   - 1 for 1/16 inch Clearance Door

9. Align Washers on top of the hole located on the Top Slide Block.
   a. Hold washers in place.

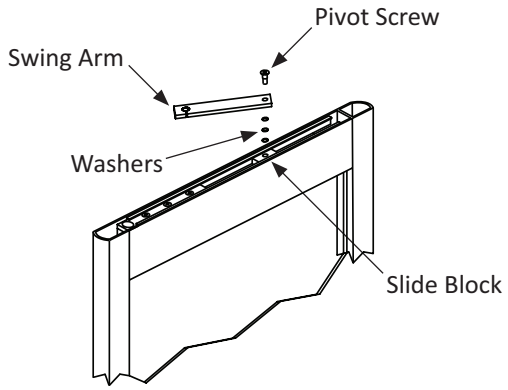


Figure 11-5 Align Swing Door to Swing Arm

10. Align the Slide Block so it is aligned with the Pivot Screw hole again.

11. Secure the Swing Arm to the Slide Block with the Pivot Screw. Please see Figure 11-6.
    a. Do not to overtighten Pivot Screw.

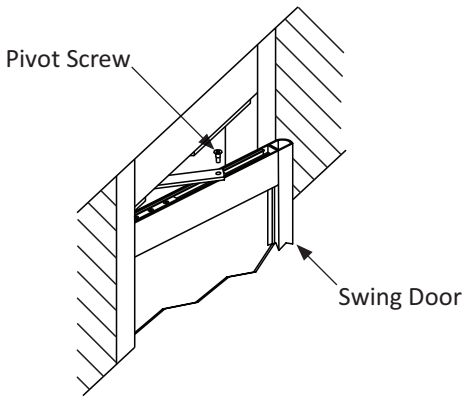


Figure 11-6 Secure Swing Door to Swing Arm

12. Secure the Swing Arm by reinstalling the Set Screw and tightening both the Shoulder Bolt plus Set Screw with an 5/16 inch Allen Wrench.

13. Remove the 1/8 inch Allen Wrench or similar tool from the Lovejoy Coupling Access hole.
    a. The Swing door will close.

14. Go to the Rocker Switch. Flip the switch to ON.
    a. This will activate the Swing door.

15. Go the Magnum 4A Control.
    1. When the Swing door opens, watch the Green LED go from Blinking Fast on opening, then Solid in Back Check to full open.
    2. When the Swing door closes, watch the Green LED go from Blinking slowly, to Flashing slowly when opening to Solid OFF for Latch Check (approximately 10° closed).

Section 11c: Test the Pre-Load

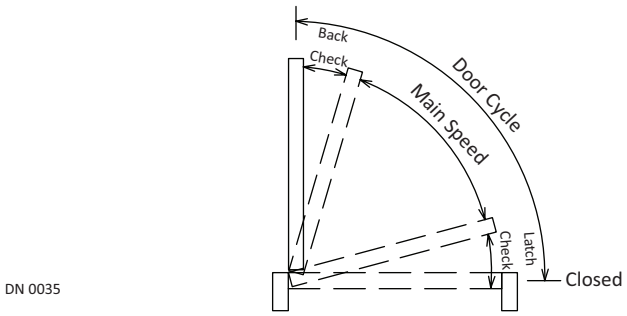


Figure 11-7 Swing Door Positions

Position	Description
Opening	Range from fully closed to 10° from fully open.
Back Check	10° from fully open to fully open.
Closing	Range from fully open to 10° from fully closed.
Latch Check	10° from fully closed to fully closed.

1. Turn Power ON.
2. Open Swing Door.
    a. Swing door should slow down at 75° - 80° open.
    b. If Swing door stops at any other degree, Back Check needs to be adjusted.
3. Close Swing Door.
    a. Swing door should slow down at 75° - 80° close.
    b. If Swing door slows down at any other degree, Latch Check needs to be adjusted.

CHAPTER 12: PRE-LOAD ADJUSTMENTS

Note: Adjustments to the Cam Assembly is rarely necessary. It is recommended to adjust the Cams Assembly as a last resort.

Note: It is recommended to obtain one of the following Manuals to use as reference:

- *Magnum 4A Manual; 15-10682*
- *Analog Control Manual; 15-10745*

The Cam Assembly is preset at the NABCO factory to activate Back Check/Latch Check at 90 degrees with the Operator Spring set in the UNWOUND position. Please see Figure 12-1.

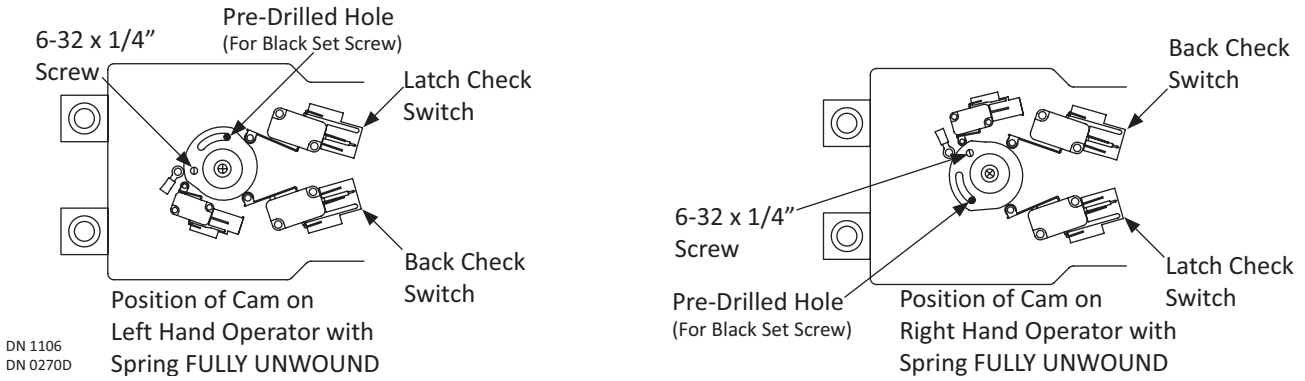


Figure 12-1 Cam in UNWOUND Position

LEFT HAND OPERATOR MAGNUM CONTROL		RIGHT HAND OPERATOR MAGNUM CONTROL	
Latch Check Switch Wires	White & Green	Back Check Switch Wires	Red & Blue
Back Check Switch Wires	Red & Blue	Latch Check Switch Wires	White & Green
ANALOG CONTROL		**ANALOG CONTROL**	
Latch Check Switch Wires	Orange & Brown	Back Check Switch Wires	Yellow, White & Blue
Back Check Switch Wires	Yellow, White & Blue	Latch Check Switch Wires	Orange & Brown

Section 12a: Rotate the Cam for Back Check

12.a.a: Bottom Load Units

1. Go to the top of Header. Remove to the Cover used to protect the access hole located directly above the Cam Assembly.
2. Go inside the Header. Remove the Cover used to protect the Cam Assembly. Set Aside.
1. Remove the 6-32 x 1/4 inch screw. Please see Figure 12-2.
2. Go to the c-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
3. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
4. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.

5. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw.
6. Rotate the Cam until the appropriate Back Check position has been achieved.

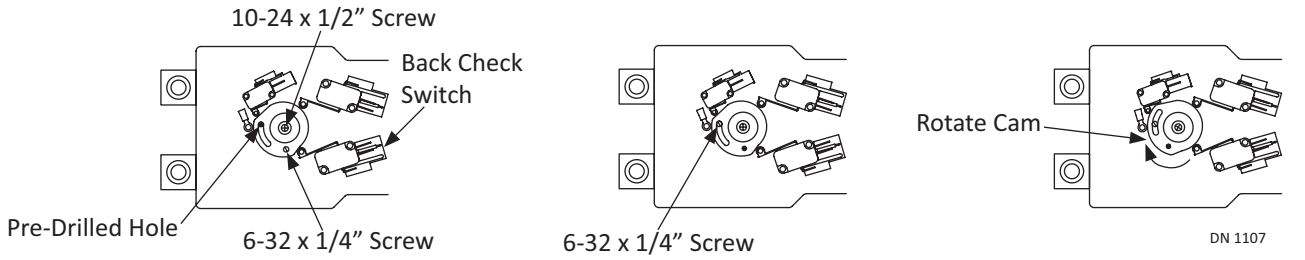


Figure 12-2 Adjust the Back Check Switch

7. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.
8. Replace both Covers.

12.a.b: Side Load Units

1. Go inside the Header. The Cam Assembly can be adjusted from the side.
   a. A Switch Assembly Cover is not installed on a Side Load Header.
2. Remove the 6-32 x 1/4 inch screw with a 1/4 inch open end wrench. Please see Figure 12-2.
3. Go to the C-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
4. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
5. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.
6. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw with a 5/16 inch box or open end wrench.
7. Rotate the Cam until the appropriate Back Check position has been achieved.
8. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.

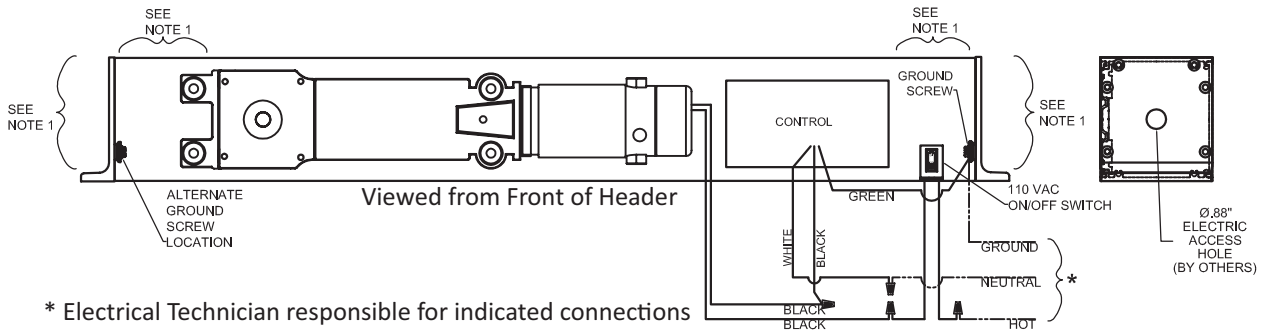
Section 12b: Adjust the Swing Arm for Latch Check

Latch Check positions can not be adjusted by rotating the Cam. Adjustments must be accomplished by removing, and then sliding the Swing Arm back onto the Operator Spindle to the left or right of the last position.

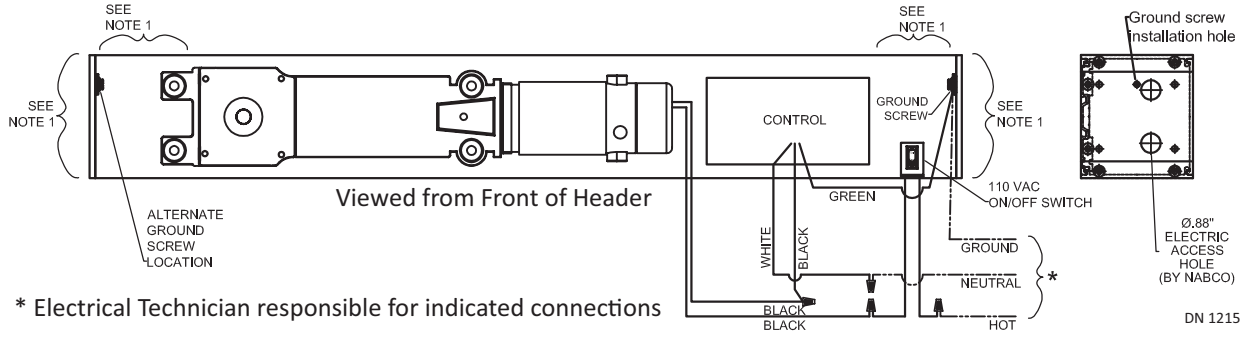
S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

MAIN POWER CONNECTIONS - PAIRS

BOTTOM LOAD 400/500/600



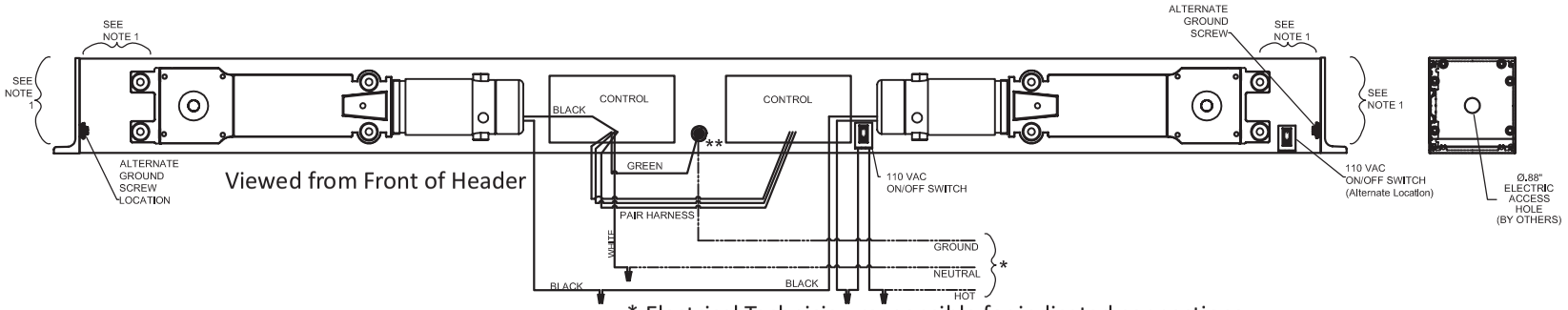
BOTTOM LOAD 300/350



- Safe drill locations for electrical conduit. Protect components from metal chips when drilling.
- Electrical connections must be made by qualified electrical technicians and must comply with all applicable governing agency codes.
- Disconnect power at the fused disconnect during all electrical or mechanical service. Verify using a voltmeter.
- Do not place finger or uninsulated tools inside the electrical control box. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.
- The Control ground wire and incoming ground wire must be connected to the same grounding screw provided in the Header. Connect hot and neutral wires as shown above. Route these wires away from moving parts and other low voltage wiring.
- If the Swing door appears broken or does not seem to work correctly, it should be immediately removed from service and a qualified service technician contacted for corrective action.

MAIN POWER CONNECTIONS - PAIRS

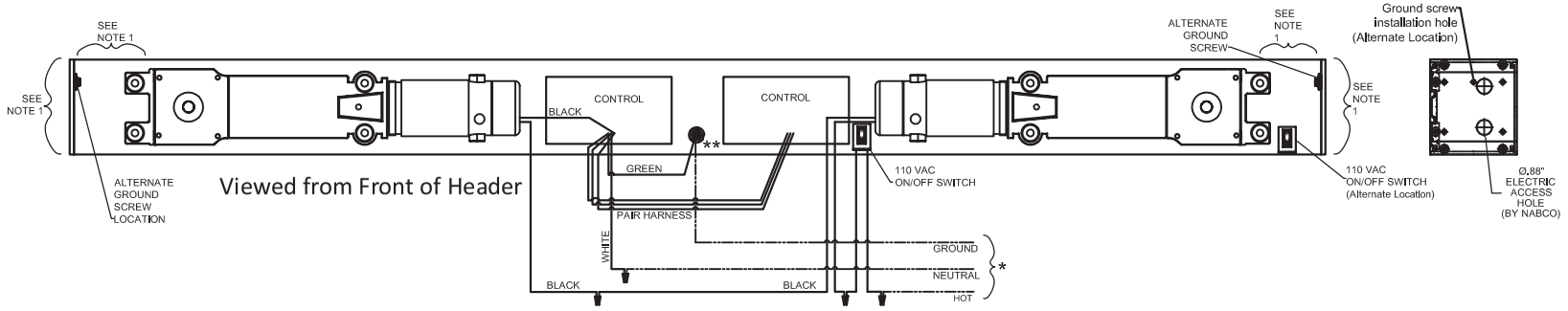
BOTTOM LOAD 400/500/600



* Electrical Technician responsible for indicated connections.

** Ground screw at center of Header installed on center of Strike Plate (Plate not shown).

BOTTOM LOAD 300/350



DN 1216

* Electrical Technician responsible for indicated connections.

** Ground screw at center of Header installed on center of Strike Plate (Plate not shown).

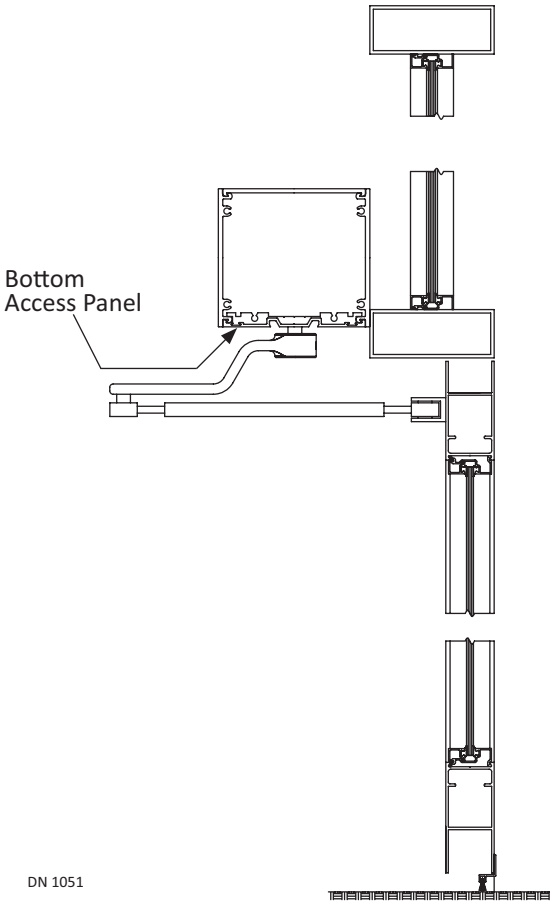
- Safe drill locations for electrical conduit. Protect components from metal chips when drilling.
- Electrical connections must be made by qualified electrical technicians and must comply with all applicable governing agency codes.
- Disconnect power at the fused disconnect during all electrical or mechanical service. Verify using a voltmeter.
- Do not place finger or uninsulated tools inside the electrical control box. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.
- The Control ground wire and incoming ground wire must be connected to the same grounding screw provided in the Header. Connect hot and neutral wires as shown above. Route these wires away from moving parts and other low voltage wiring.
- If the Swing door appears broken or does not seem to work correctly, it should be immediately removed from service and a qualified service technician contacted for corrective action.

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

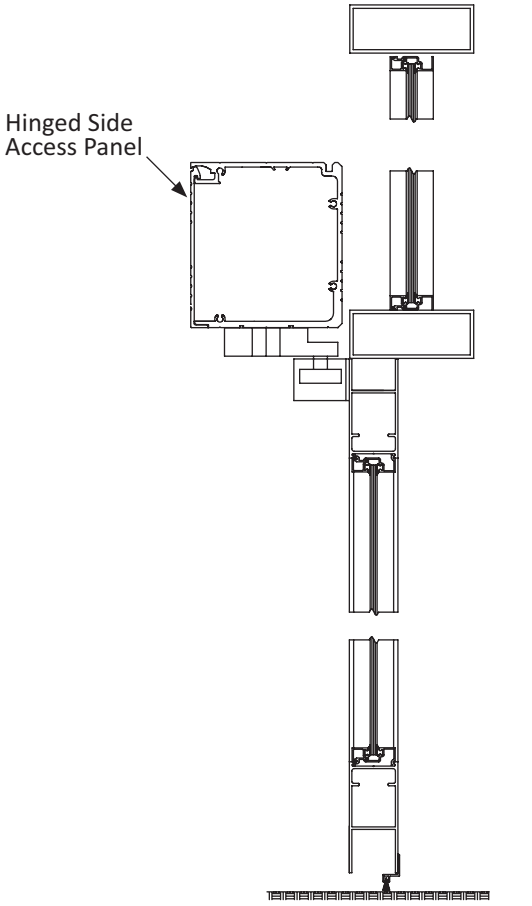
Conversion Unit Swing Door Systems

Bottom Load Units: GT400 and GT500 and GT600
Side Load Units: GT8400 and GT8500 and GT8600

OUTSWING BOTTOM LOAD UNIT



INSWING SIDE LOAD UNIT



WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-10538
Rev. 9/26/14

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER — **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.**

WARNING — **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION — **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: *Indicates important information that provides further instruction.*

GENERAL SAFETY RECOMMENDATIONS

WARNING **Read this "General Safety Recommendations" section before installing, operating or servicing the automatic door. Failure to follow these practices may result in serious consequences.**

Notice: **Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.**

WARNING **Do not install, operate or service this product unless you have read and understand the General Safety Recommendations, Warning Labels, Installation and Operating Instructions contained in this manual. Failure to do so may result in bodily injury, or property damage.**

Notice: **This manual and the owner's manual must be given to and retained by the purchasing facility or end user.**

- If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.
- Disconnect power at the fused disconnect during all electrical or mechanical service. When uncertain whether power supply is disconnected, always verify using a voltmeter.
- All electrical troublshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.
- It is the responsibility of the installing door technician to install all warning and instructional labels in accordance with ANSI 156.10 and ANSI 156.19.
- It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door.
- Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distrubutor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.

DANGER **Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.**

CHAPTER 1: SCOPE

Section 1a: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.10 (Full Power) and ANSI Standard 156.19 and ADA Standard (Low Energy) covers the Conversion Unit Swing Door System. Other local standards or codes may apply. Use them in addition to the ANSI standard. Both Full Power and Low Energy Swing door Units are listed with the Underwriters Laboratory and is identified as such on the label.

Instruct the building owners and operator on the essentials of the operation of the Swing door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

Section 1b: Objective

Swing Door Conversion Units are designed to be installed onto the top surface of the Door Frame. The Operator is controlled by the Magnum 4A Control (Standard) or by the Model 1400 Analog Control (Optional). Both Controls offer many features to accommodate most installation options. This manual offers step by step instructions.

CHAPTER 2: GETTING STARTED

Section 2a: Mechanical Configurations

Base Model	Conversion Unit Bottom Load	Conversion Unit Side Load
Full Power	GT 400	GT 8400
Low Energy	GT 500	GT 8500

Section 2b: Electrical Standards

Note: It is recommended for the Installer to use an Electrical Conduit to house all incoming 120 VAC wires.

Note: All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.

Electricity	Description
Power Input	120 (±10%) AC 50-60Hz, 10 Amps
Available Current for accessories	0.5 Amps 24 VAC
Available wire size for incoming power	14 AWG

Section 2c: Installation Specifications

Specification	Measurement	
Minimum Frame Face for Mounting	1-3/4 inches (44mm)	
Minimum Clearance from Top of Door to Ceiling	**Bottom Load**	**Side Load**
	6-1/8" (156 mm)	7-18" (181 mm)
Minimum Door Thickness	1-3/4 inches (44 mm)	
Door Width	Specified when ordered	

Section 2d: Base Unit Types

2.d.a: Full Power Swing Doors

- Utilize Sensor(s) to open a Swing door.
  - Sensors activate the Control by detecting motion of pedestrians (or moving objects) that come into range.
- Must be compliant with ANSI Standard Code 156.10 to reduce chance of injury to pedestrians and wheeled traffic.

2.d.b: Low Energy Swing Doors

- Utilize a Knowing Act to open a Swing door.
  - A conscious effort that is carried out in many different ways, including (but not limited to): manually opening/closing a Swing door; pressing various types of Push Plates; turning a Key switch; flipping a Rocker Switch; utilizing a keypad or card reader, etc.
- Must be compliant with the ANSI Standard Code 156.19 to reduce chance of injury to pedestrians and wheeled traffic.

DANGER **Always remove the bottom portion of the HandiCap Label stating "Push Door To Operate" if the "Push-n-Go" feature is not being used.**

Figure 2-1 Cut Bottom Portion of HandiCap Label when Push-n-Go Feature is not used

Section 2e: Header Types

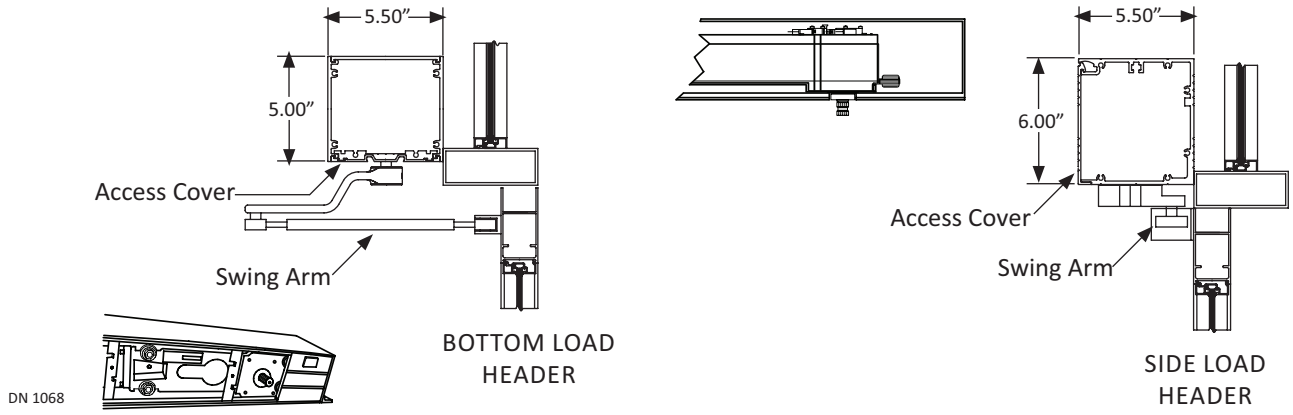


Figure 2-2 Two Types of Headers

Section 2f: How to Determine Handing

► To Determine Handing from the Operator: locate the Serial Number underneath Operator. Please see Figure 2-3.

a. The Letter (L) or (R) located in front of the Serial Number indicates the Handing.

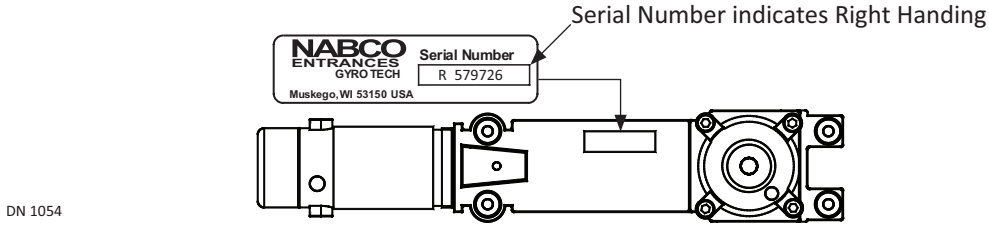


Figure 2-3 Handing Labeled

► To determine Handing from standing underneath the Header: Open the Swing door. Butt your back against the Pivot side of Swing door. Swing out the (right or left) arm in the direction the Swing door opened. Please see Figure 2-4.

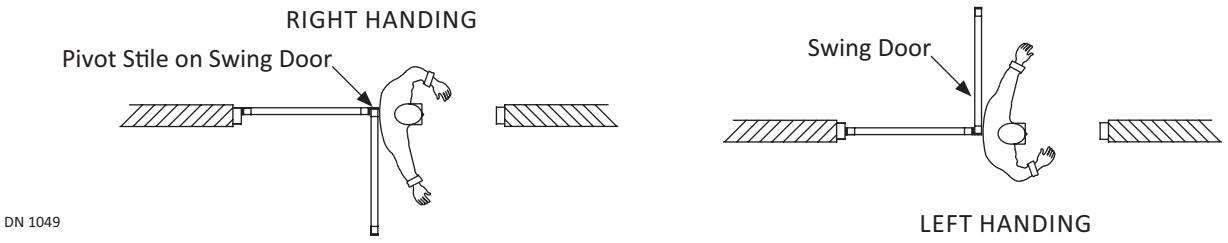


Figure 2-4 Stand with back against Pivot Side of Swing door

► To determine Handing from the direction the Swing Arm opens. Please see Figure 2-5.

a. If the Swing Arm swings underneath the Threshold to open, it is an Outswing Unit.

b. If the Swing Arm does not swing underneath the Threshold to open, it is an Inswing Unit.

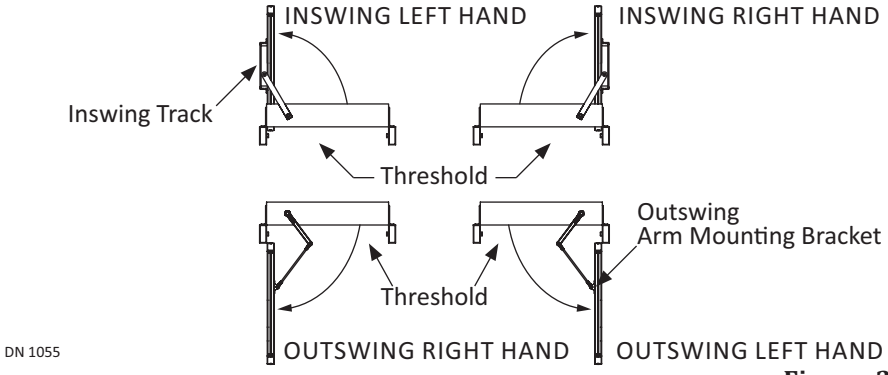
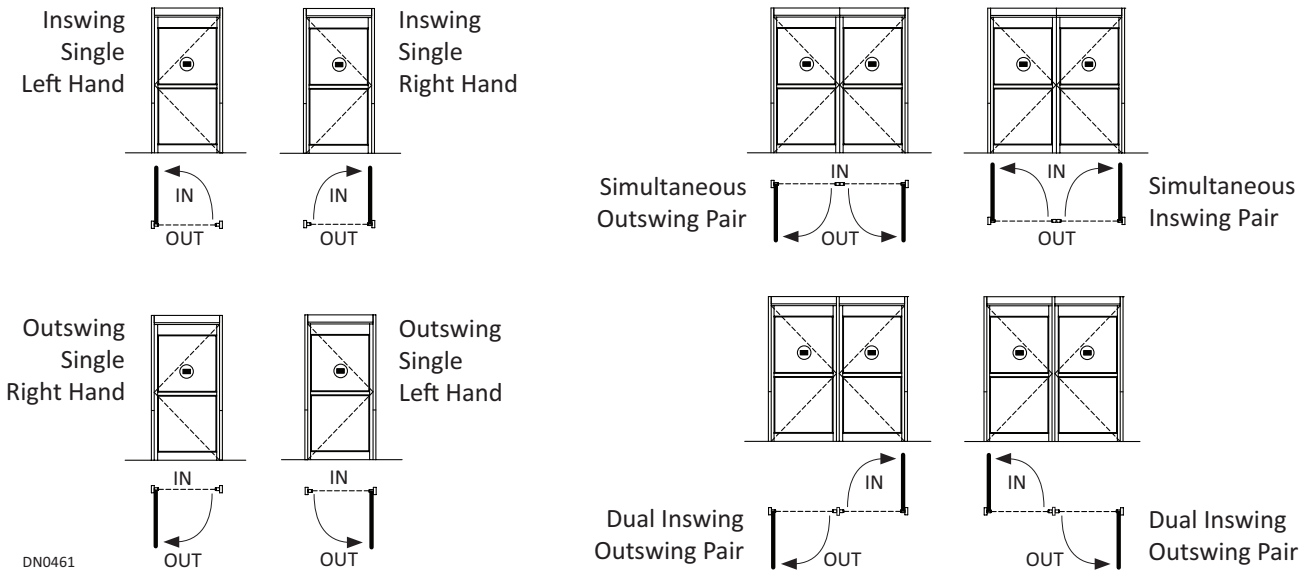


Figure 2-5 Determine Handing

Section 2g: Swing Door Types



Section 2h: Control Types

The Control is programmed to open/close the Swing door according to how the door will be used in terms of Handing, Speed, Time Delay, Back Check, and Latch Check. Two types of Controls can be purchased for the CU Series Swing doors:

- Magnum 4A
- Analog Control

Section 2i: Associated Manuals Part Numbers

- Magnum 4A Control Wiring and Adjustment Manual ;P/N 15-10682
- Analog Control Wiring and Adjustment Manual; P/N 15-10745
- Main Power Connection Side Load; P/N 15-12544-10
- Main Power Connection Bottom Load; P/N 15-12544-20
- Panic Breakout Latch Wiring Installation Instructions Manual; P/N 15-4572
- GT400-500-600-8400-8500-8600 Swing Door C.U. QSPG; P/N 15-12499-004

CHAPTER 3: INSTALL THE BOTTOM LOAD HEADER

FOR SIDE LOAD UNITS SKIP TO CHAPTER 5

Section 3a: Prepare the Header

1. Place the Header on flat surface with Bottom facing up.
   a. Protect Header from scratches.
2. Remove #10-24 x 3/4 inch screws and Dress Plate. Set aside. Please see Figure 3-1.
3. Mark the locations of each Lock Cover Plate to ensure it is reinstalled in the correct position.
4. Remove Lock Cover Plates. Set Aside.
5. Remove boxes and/or parts bags from inside Header. Set aside.

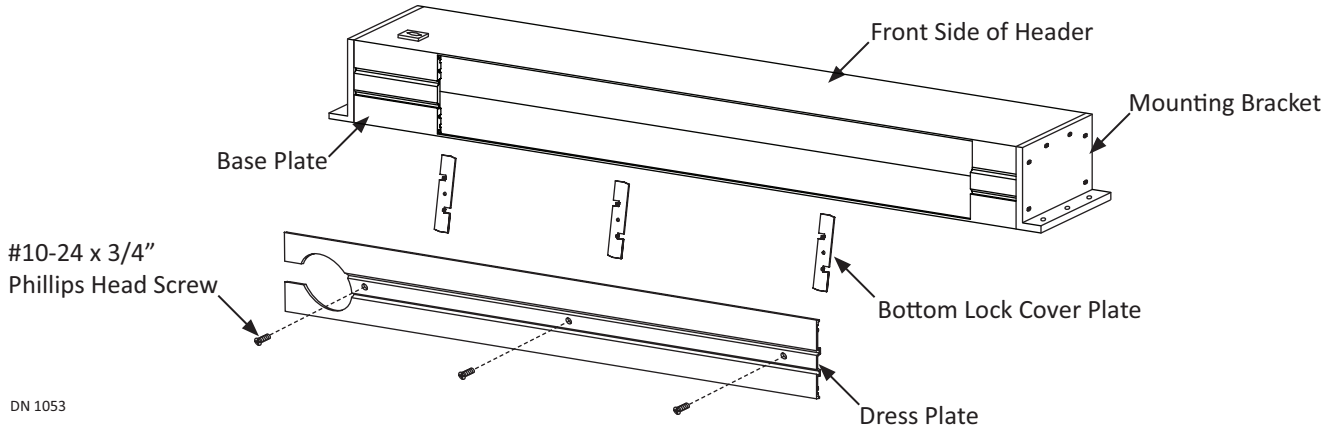


Figure 3-1 Remove Dress Plate from Bottom Load Header

Section 3b: Prepare the Door Frame

Note: The following instructions are for typical Metal Doors and Frame Profile. It is recommended to use lag bolts.

Note: If the Door Frame is not properly reinforced nor anchored to the building surface, and/or is hollow, reinforce the Door Frame with 1/4-20 blind rivnuts (not provided by NABCO).

Note: If the Door Frame is not Metal, ensure the Door Frame being used is of equal strength.

1. Go to the Pivot Side of Swing door.
2. Measure 1-1/8 inch from the Top of Swing door to the Top door frame.
3. Mark a Horizontal Line on the face of Top door frame, at both ends. Please see Figure 3-2.

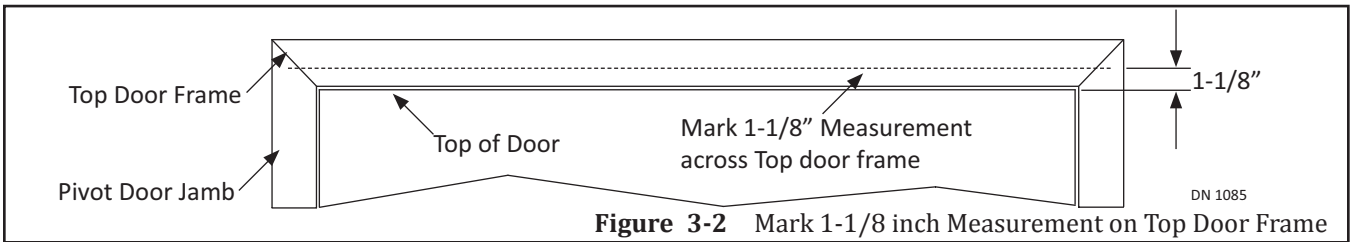


Figure 3-2 Mark 1-1/8 inch Measurement on Top Door Frame

4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends. Please see Figure 3-3.

5. To ensure proper operation of the Swing Arm:
   - For a Door Jamb that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
   - For a Door Jamb that is wider than 1-3/4 inches, measure from the inner edge of the Pivot Door Jamb to the center. Mark a vertical line at the 1-3/4 inch measurement. The Pivot side of Header must butt against the 1-3/4 inch mark.

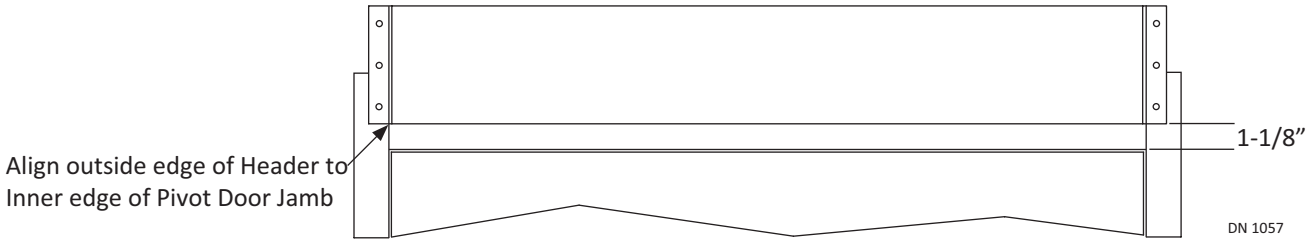


Figure 3-3 Position Header onto Door Frame

6. Ensure the Header is square and level.

7. Use the Header as a template to mark screw holes onto the face of the door frame.

8. Remove the Header. Set Aside.

Section 3c: Install Shim behind Header (Only if deemed necessary)

FOR UNITS NOT INSTALLING A SHIM SKIP TO SECTION 3D

1. Butt the Header up against the Horizontal line, line up the screw holes and then ensure the Header is square and level.

2. Go to the top of Header. Mark a horizontal line along the top edge of Header and the wall. Please see Figure 3-4.

3. Measure the depth between the back side of the Header and wall.
   a. Write that measurement down and label it #1.

4. Measure the distance between the top of the door frame and the horizontal line that was just drawn at the top of Header.
   a. Write that measurement down and label it #2.

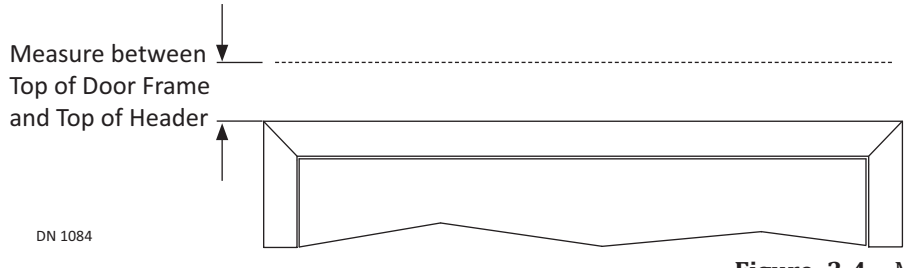


Figure 3-4 Measure for Shim Dimension

5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width of Header including Brackets.
   a. It is recommended to use a Shim made from Fir or Spruce.
   b. Three Shims can be used as long as each Shim is approximately the same width and height of each Bracket.
6. Secure the Shim to stud(s). Please see Figure 3-5.
   a. It is recommended to use Lag Bolts.

Figure 3-5 Shim between Conversion Unit and Wall

Section 3d: Secure Header to the Door Frame

1. Lift up Header to insert Power Wiring through the 7/8 inch hole.
   a. It is recommended to use a Conduit.
   b. It is recommended to insert all other Wiring through a separate hole.
2. Butt the bottom edge of Header against the 1-1/8 inch Horizontal Line.
3. Line up the screw holes.
4. Secure the Header to the Door Frame. Please see Figure 3-6.
   a. It is recommended to use Lag Bolts.
   b. For additional mounting, secure the Header to the Studs located behind the Shim.

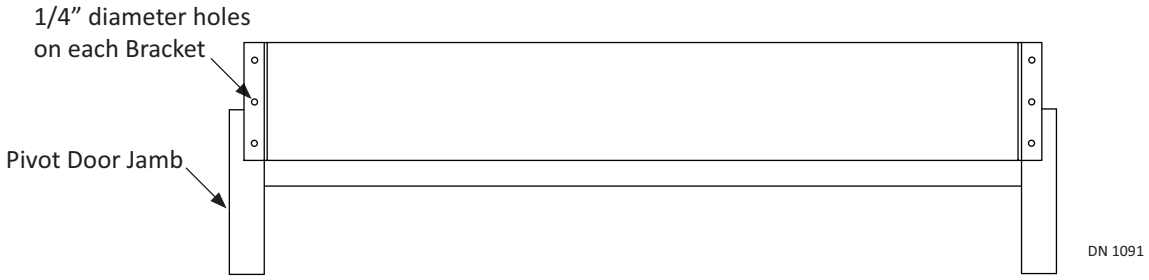


Figure 3-6 Secure Header to Door Frame

CHAPTER 4: INSTALL BOTTOM LOAD COMPONENTS

FOR SIDE LOAD UNITS SKIP TO CHAPTER 5

Note: Location of Contents within Header are subject to change according to Swing door specifications.

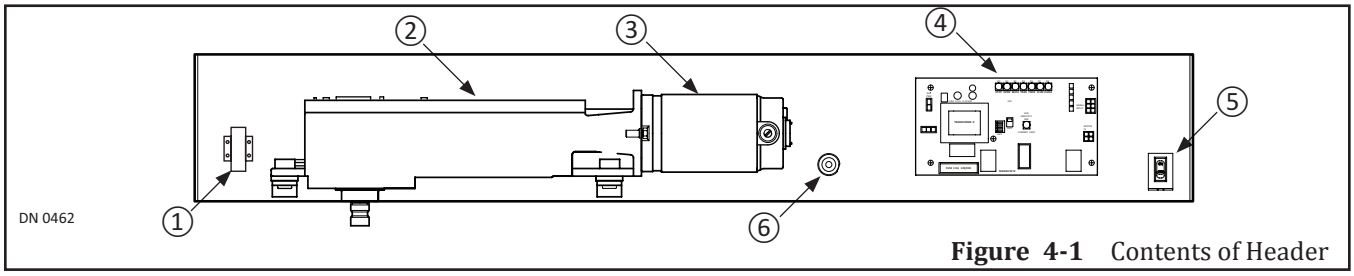


Figure 4-1 Contents of Header

1. Transformer (Optional)
2. Operator
3. Motor
4. Control
5. Rocker Switch
6. Ground Screw

Section 4a: Secure Incoming Wires

1. Obtain (self sticking) white plastic Wire Clips provided by NABCO.
2. Adhere each Wire Clip to sides of Header. Insert wiring (as deemed necessary). Please see Figure 4-2.
   a. 120 VAC Power wires must be routed separate from other wiring, adhere those Wire Clips inside the Header, near the top to prevent pinching.

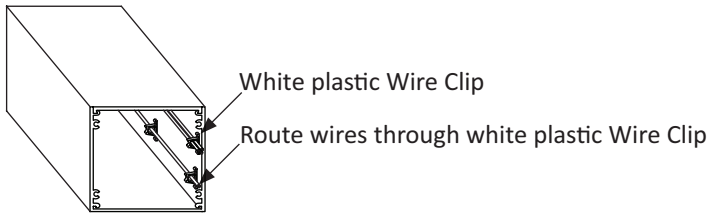


Figure 4-2 Adhere White Plastic Wire Clip and Route Wires

Section 4b: Install the Stop Ring

1. Place the Motor/Operator on a flat surface with the underside facing up. Please see Figure 4-3.
2. Obtain the Stop Ring Assembly provided by NABCO.
3. Slide the Limit Stop onto the Spindle.
4. Secure (4) Ring Stops onto the Limit Stop with 5/16-18 Socket Head screws.
   a. Do not fully tighten at this time.
5. Once the Swing Arm is fully installed and Pre-Load has been tested:
   1. Open the Swing door 90 degrees.
   2. Rotate the Limit Stop Spindle until it hits the Swing Arm.
   3. Tighten down (4) Ring Stops with 5/16-18 Socket Head screws.

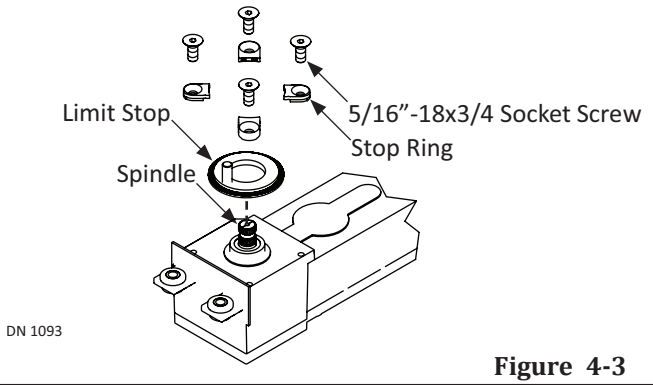


Figure 4-3 Loosen Stop Ring Brackets

Section 4c: Install the Motor/Operator

Table 4-1 Dimension “A” Spindle Location

Bottom Load Units		Inswing				Outswing			
		With Fingerguard		No Fingerguard		With Fingerguard		No Fingerguard	
Model	Pivot Type	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate
GT 400	Butt/Offset	N/A	N/A	5”	2-1/2”	N/A	N/A	7-1/4”	4-3/4”
	Center Pivot	6”	3-1/2”	5”	2-1/2”	8-1/4”	5-3/4”	7-1/4”	4-3/4”
GT 500	Butt/Offset	N/A	N/A	5”	2-1/2”	N/A	N/A	5”	2-1/2”
	Center Pivot	6”	3-1/2”	5”	2-1/2”	6”	3-1/2”	5”	2-1/2”

1. Go to Table 4-1 to determine the distance from the center of the Operator Spindle to the Center Pivot or the inside edge of the Pivot Door Jamb.

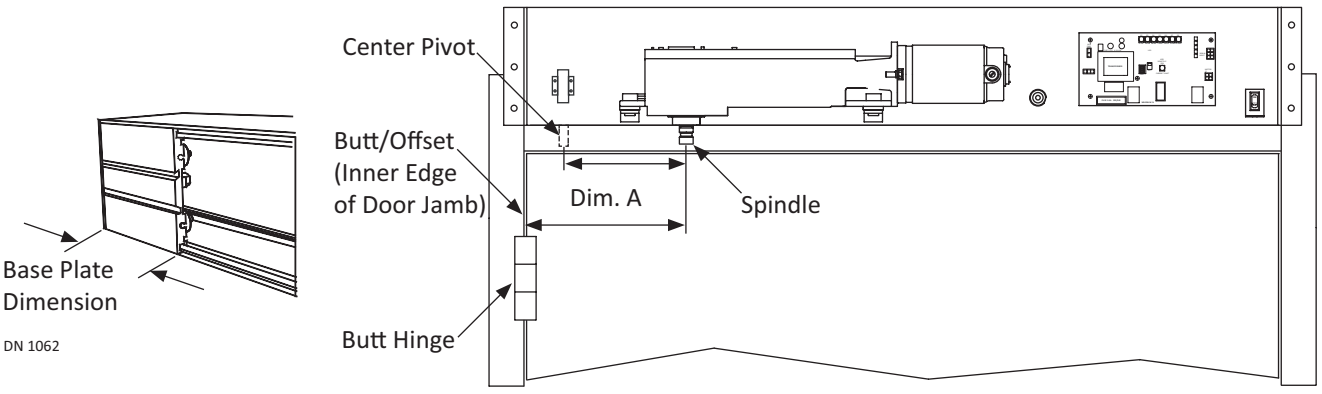


Figure 4-4 IDetermine Dimension of Spindle Location

2. Go to (inside) top of Header. Please see Figure 4-5.
3. Locate the factory installed Rear Mount Bracket at the top of Header.
4. With a 9/16 inch Deep Well Socket and Ratchet, remove (2) 3/8-16 inch Hex Jam Nuts and (2) 7/16 x 1 inch Washers from (2) Studs extending downward. Set aside.
5. Hold the Front end of Motor/Operator at an upward angle to slide Front Mount onto (2) Pivot Base Tabs located inside of Header.

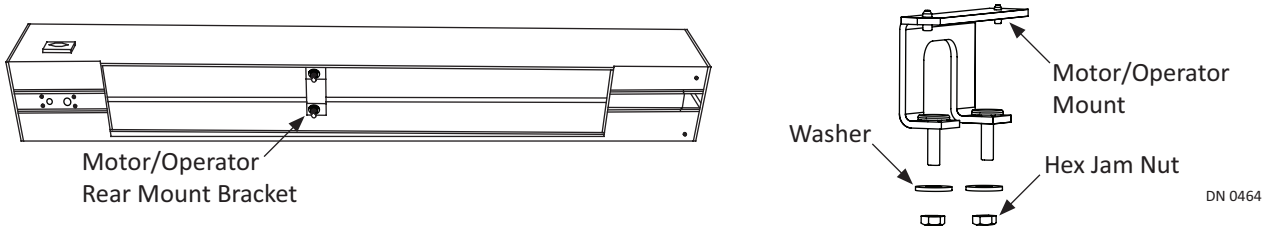


Figure 4-5 Remove Hardware from Mount

6. Lift the rear of the Motor Operator up onto (2) studs extending downward. Please see Figure 4-6.
   a. Ensure the Switch Harness is tucked between the back wall of Header and above the Mounting Bracket.
7. Secure the Motor/Operator with (2) 3/8-16 inch Hex Jam Nuts and (2) 7/16 x 1 inch Washers.
   a. It is important not to pinch any wiring during the Motor/Operator installation.

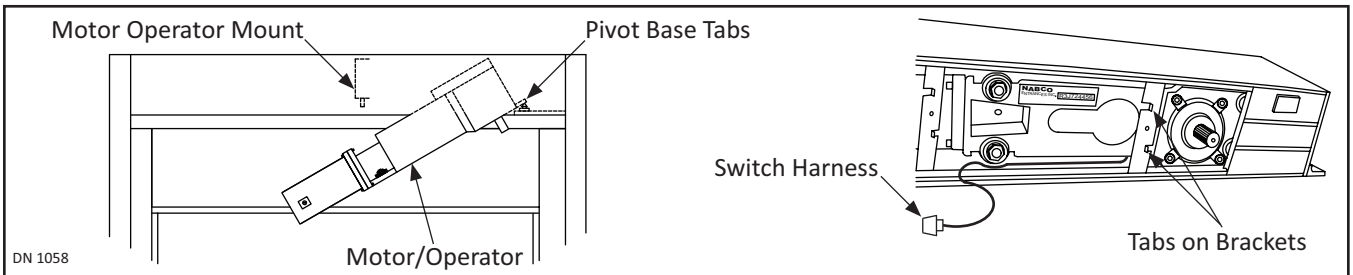


Figure 4-6 Mount Motor/Operator into Header

Section 4d: Install the Control

Note: It may be necessary to mount a Soft Starter Capacitor on the Operator prior to installing the Analog Control. For detailed information, please refer to the "Analog Control Wiring and Adjustment Manual; P/N 15-10745".

1. Obtain the Bracket Clip. Please see Figure 4-7.
2. Go approximately 4-5 inches away from where the Motor/Operator will be installed.
3. Squeeze (2) open ends of the Bracket Clip together until both protruding channels are successfully snapped inside each recessed channel.

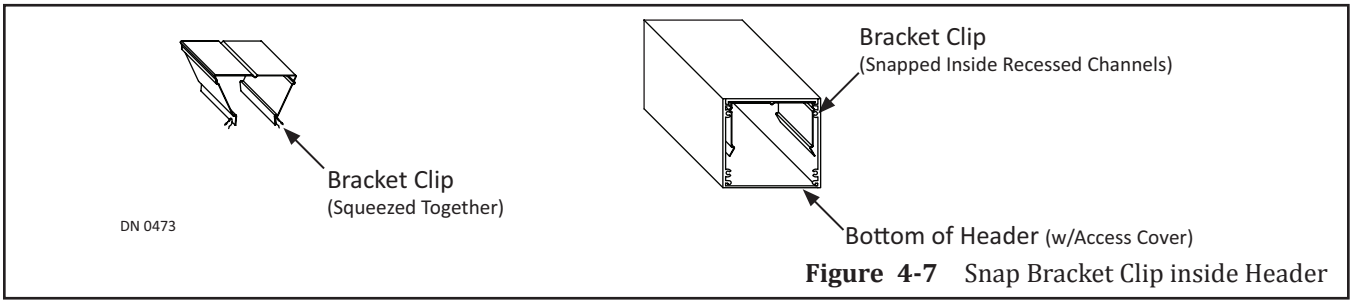


Figure 4-7 Snap Bracket Clip inside Header

4. Snap the Control inside the Bracket Clip. Please see Figure 4-8.
   a. Face of Control must face down (towards bottom opening of Header).

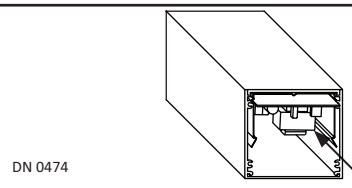


Figure 4-8 Snap Control into Bracket Clip

Section 4e: Install Optional Components

Install all other optional components by following installation and wiring instructions provided with each Component.

CHAPTER 5: INSTALL THE SIDE LOAD HEADER

FOR BOTTOM LOAD UNITS SKIP TO CHAPTER 6

Section 5a: Inswing Doors

FOR OUTSWING UNITS SKIP TO SECTION 5B

1. Open the Swing door 90 degrees.
2. Measure between the wall and the outside face of the Swing door.
   a. There must be a 2 inch minimum gap for the Inswing Arm to operate properly.
   b. If there is less than a 2 inch gap, please call Customer Service at (877) 622-2694.

Section 5b: Prepare the Header

Note: It may be necessary to remove the Motor/Operator from the Header to reduce weight, while positioning the Header onto the Door Frame.

3. Place the Header on flat surface with Side facing up.
   a. Protect header from scratches.
4. Remove two screws from underneath cover. Set Aside.
5. Remove Cover by lifting it up from Header, and then pulling it out. Please see Figure 5-1.
6. Remove boxes and/or parts bags from inside Header. Set aside.

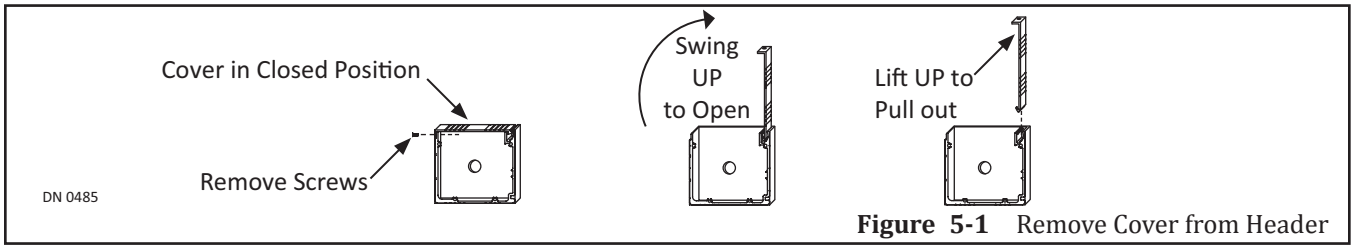


Figure 5-1 Remove Cover from Header

5.b.a: Drill Holes

1. Go to the Strike side of Header. Drill one 7/8 inch hole through the Header to allow all wiring to be drawn inside.
   a. The Side Load Header can be ordered with a Knockout hole located at either end of the Header. For details, please call Customer Service at 1-888-679-3319.
2. Go to the back wall inside Header on the Pivot side. Please see Figure 5-2.
3. Measure 1 inch from the End Cap of Header towards the center. Mark a Vertical Line.
4. Measure at least 1/2 inch from the bottom of Header towards the top. Mark a Horizontal Line across the Vertical line. This is the center of the first screw hole. Drill 1/4 inch screw hole.
5. Mark (1) more Horizontal line across the Vertical line directly above the first screw hole. This is the center of the second screw hole. Drill 1/4 inch screw hole.
   a. It may be necessary to install a Shim behind the Header if mounting the Header to a wall.
6. Go to the Strike side of Header. Repeat steps 3 thru 5.

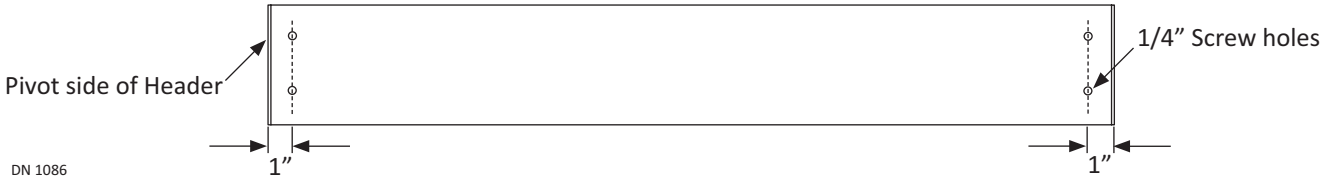


Figure 5-2 Drill 1/4” Screw holes on both sides of Header

Section 5c: Prepare the Door Frame

Note: The following instructions are for typical Metal Doors and Frame Profile. It is recommended to use lag bolts.

Note: If the Door Frame is not properly reinforced nor anchored to the building surface, and/or is hollow, reinforce the Door Frame with 1/4-20 blind rivnuts (not provided by NABCO).

Note: If the Door Frame is not Metal, ensure the Door Frame being used is of equal strength.

1. Go to the Pivot Side of Swing door.
2. Measure 1-1/8 inch from the Top of Swing door to the Top door frame.
3. Mark a Horizontal Line on the face of the Top door frame, at both ends. Please see Figure 5-3.

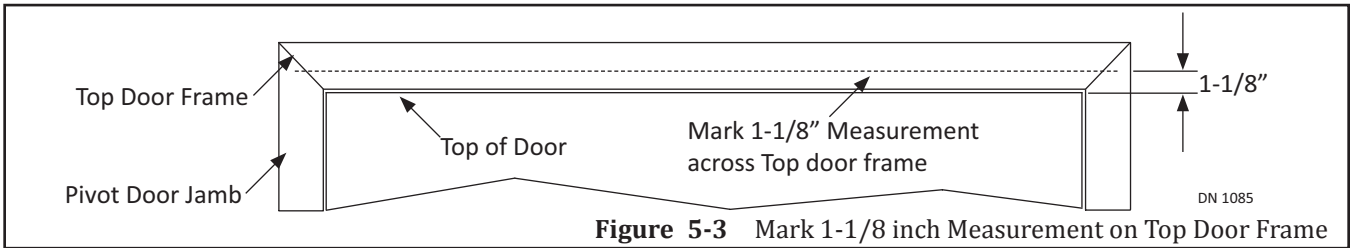


Figure 5-3 Mark 1-1/8 inch Measurement on Top Door Frame

4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends. Please see Figure 5-4.
5. To ensure proper operation of the Swing Arm:
   - For a Door Jamb that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
   - For a Door Jamb that is wider than 1-3/4 inches, measure from the inner edge of the Pivot Door Jamb to the center. Mark a vertical line at the 1-3/4 inch measurement. The Pivot side of Header must butt against the 1-3/4 inch mark.

Figure 5-4 Position GT8710 Header onto Door Frame

6. Ensure the Header is square and level.
7. Use the Header as a template to mark screw holes onto the face of the door frame.
8. Remove the Header. Set Aside.

Section 5d: Install Shim (Only if deemed necessary)

FOR UNITS NOT INSTALLING A SHIM SKIP TO SECTION 5E

1. Butt the Header up against the Horizontal line, line up the screw holes and then ensure the Header is square and level.
2. Go to the top of Header. Mark a horizontal line along the top edge of Header and the wall.
3. Measure the depth between the back wall of the Header and the wall
   a. Write that measurement down and label it #1.
4. Measure the distance between the top of door frame and the horizontal line that was just drawn at the top of Header. Please see Figure 5-5.
   a. Write that measurement down and label it #2.

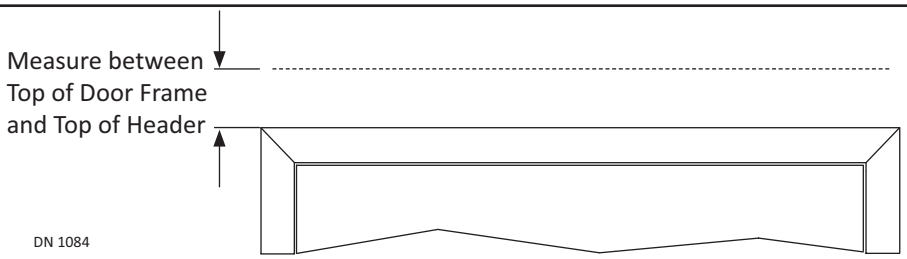


Figure 5-5 Measure for Shim Dimension

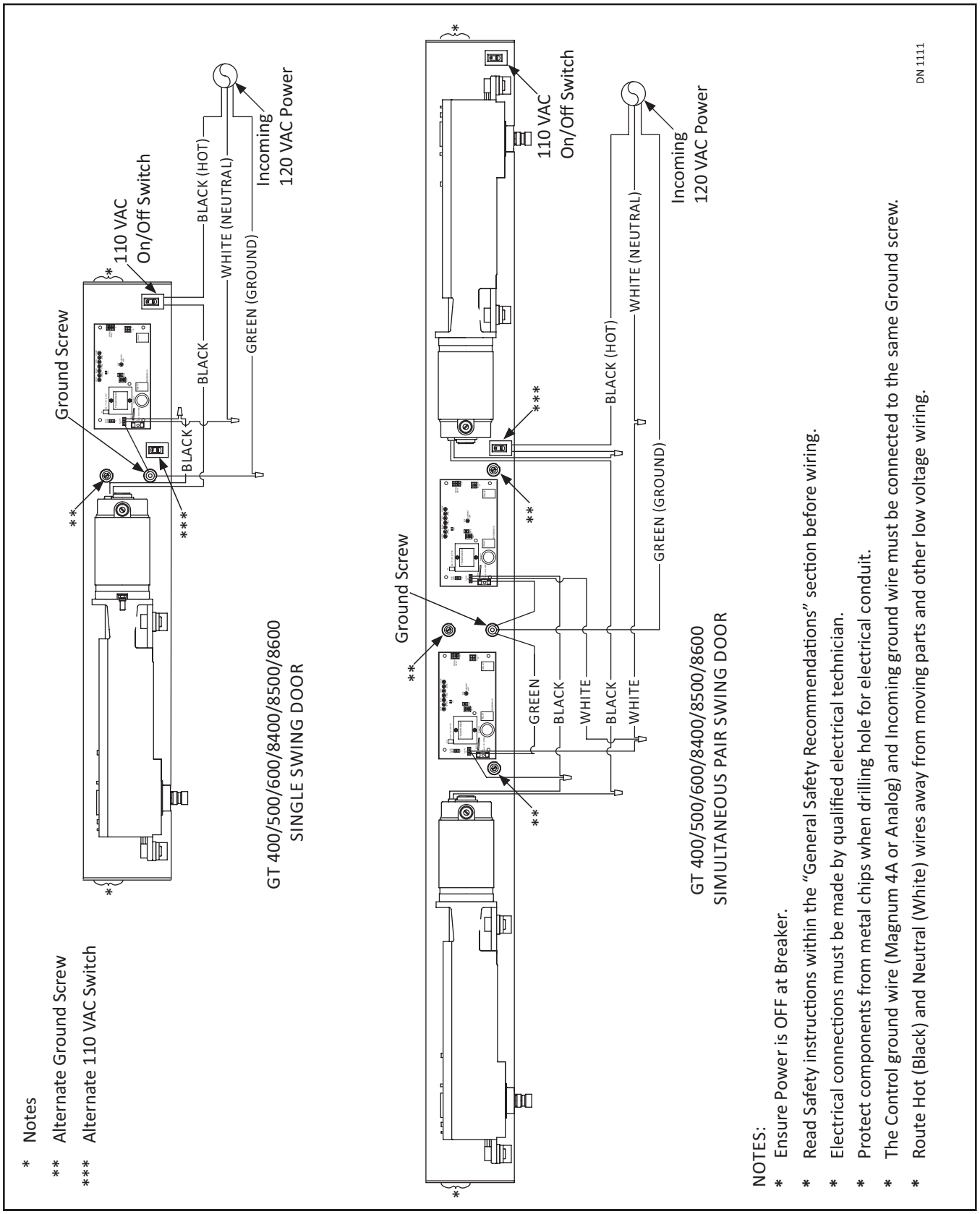
5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width as the Header.
   a. It is recommended to use a Shim made from Fir or Spruce.
6. Secure the Shim to stud(s). Please see Figure 5-6.
   a. It is recommended to use Lag Bolts.

Figure 5-6 Shim between Conversion Unit and Wall

Section 5e: Secure Header to the Door Frame

1. Lift up the Header to insert Power Wiring through the 7/8 inch hole.
   a. It is recommended to use a Conduit.
   b. It is recommended to insert all other Wiring through a separate hole..
2. Secure the Header to the Door Frame. Please see Figure 5-4.
   a. It is recommended to use Lag Bolts.
   b. For additional mounting, secure the Header to the Studs located behind the Shim.

CHAPTER 6: 110 VAC GENERAL WIRING



CHAPTER 7: INSTALL THE FIRST HALF OF SWING ARM

Section 7a: Outswing Arm

FOR INSWING ARMS SKIP TO SECTION 7B

7.a.a: Prep the Swing Door

Table 7-1 Dimension "A" Arm Shoe Mounting Locations

Model	Pivot Type	Outswing	
		With Fingerguard	No Fingerguard
GT 400 & 8400	Butt/Offset	N/A	12-7/16"
	Center Pivot	16"	15"
GT 500 & 8500	Butt/Offset	N/A	10-3/16"
	Center Pivot	13-3/4"	12-3/4"

1. Go to Table 7-1 to measure the distance from the inside edge of the Pivot Door Jamb, or the Center Pivot to the center of the first Sex Bolt hole (used to attach the Arm Shoe).
2. Mark a Vertical line on the face of the Swing door. Please see Figure 7-1.
3. At the Vertical line, measure 1-1/2 inches from the top edge of the Swing door down to the center of the Swing Door.
4. Mark a Horizontal line to cross the Vertical line. This is the center of the first Sex Bolt hole.

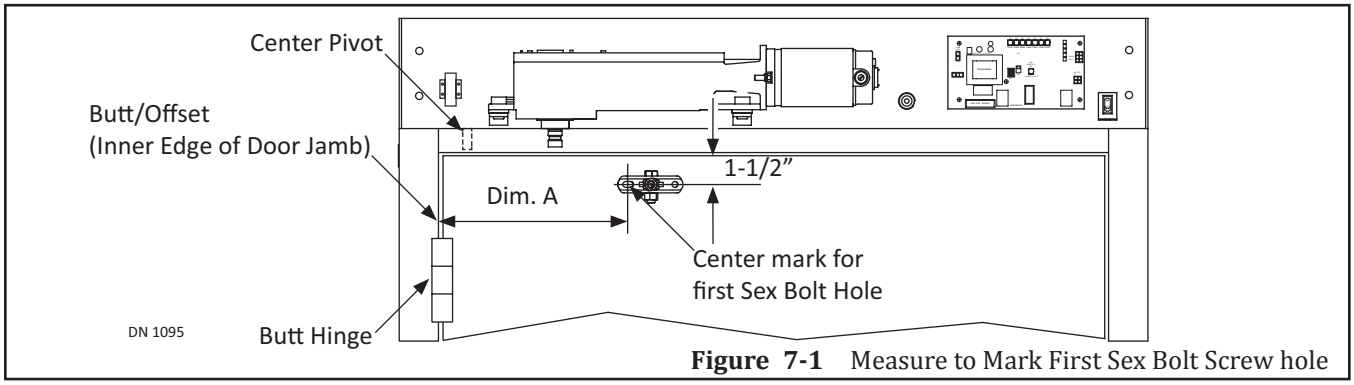


Figure 7-1 Measure to Mark First Sex Bolt Screw hole

7.a.b: Prep the Outswing Arm Assembly

1. Remove the Outswing Arm from the Threaded Rod. Set aside. Please see Figure 7-2.

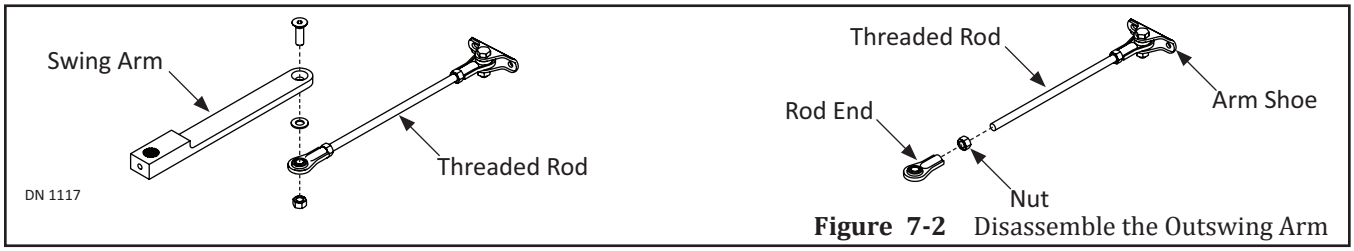


Figure 7-2 Disassemble the Outswing Arm

2. Go to Table 7-3 to locate the appropriate length measurement for the Threaded Arm.

Note: For Reveals that are (0 inches thru 6-1/2 inches), a 20 inch Threaded Rod must be purchased. For Reveals that are (6-3/4 inches and higher), a 30 inch Threaded Rod must be purchased.

Table 7-3 Dimension "B" Rod Length

		Reveal					
Model	**Pivot Type**	**1-1/8 inch**	**2-1/8 inch**	**3-1/8 inch**	**4-1/8 inch**	**5-1/8 inch**	**6-1/8 inch**
GT 400 & 8400	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8'	15-7/8"	16-7/8"
	Center Pivot	12-1/2"	13-1/2"	14-1/2"	15-1/2"	16-1/2"	17-1/2"
GT 500 & 8500	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
	Center Pivot	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"

3. Measure the Threaded Rod between the center of each Eye, located on each Eye, Located at each end of the Rod. Please see Dim B in Figure 7-3.
4. Remove the Link that is not attached to the Arm Shoe, from the Threaded Rod.
5. Cut the Threaded Rod according to the measurement that was determined in Step 3.

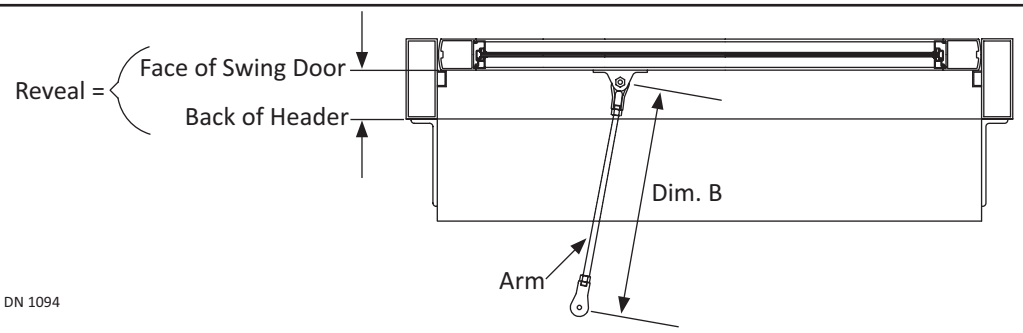


Figure 7-3 Cut the Threaded Rod and Plastic Tube

6. Obtain (1) color coordinated Plastic Tube from the Outswing Rod assembly.
7. Cut the Plastic Tube to the same length as the exposed Rod (between the Links and Nuts).
8. Slide the Plastic Tube over the Threaded Rod.
9. Replace the Rod Link back onto the Threaded Rod.
10. Tighten the Nut against the Link to prevent the Rod from screwing In or Out.

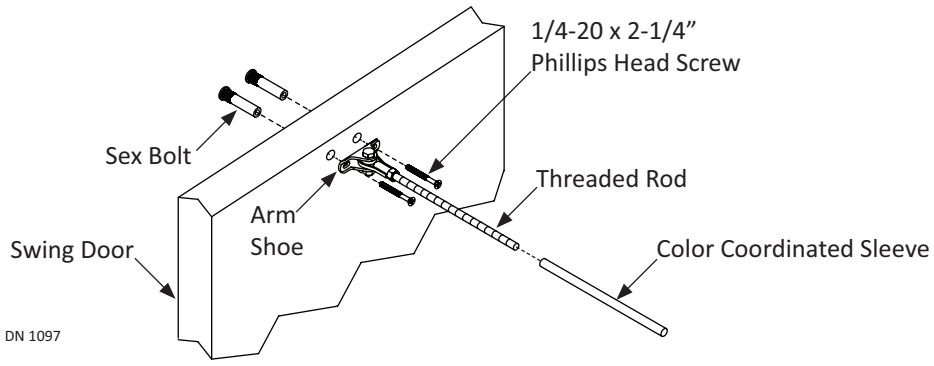


Figure 7-4 Secure Arm Shoe to the Swing door

7.a.c: Secure the Arm Shoe to the Swing Door

1. Butt the Arm Shoe against the Swing door. Align the first Sex Bolt hole to the measured Mark.
2. Ensure the Arm Shoe is square and level.
3. Use the Arm Shoe as a Template to mark the second Sex Bolt hole. Set aside.
4. Drill (2) 3/8 inch bolt holes all the way through the Swing door.
5. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
6. Go to the front of the Swing door. Secure the Arm Shoe to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.

Section 7b: Inswing Arm

Note: Ensure there is a 2 inch gap between the wall and the outside face of the Swing door in the fully operated position of 90 degress, for the Inswing Arm to operate properly.

Table 7-4 Dimension "C" Track Mounting Locations

		Inswing Standard Track (ST) 12-1/4"		Inswing Standard Track (PT) 21"	
Model	**Pivot Type**	**With Fingerguard**	**No Fingerguard**	**With Fingerguard**	**No Fingerguard**
GT 400 & 8400	Butt/Offset	N/A	8-1/4"	N/A	N/A
	Center Pivot	13"	12"	3-3/4"	2-3/4"
GT 500 & 8500	Butt/Offset	N/A	8-1/4"	N/A	N/A
	Center Pivot	13-3/4"	12"	3-3/4"	2-3/4"

1. Go to Table 7-4 to measure distance from the inside edge of the Pivot Door Jamb, or the Center Pivot to the center of the first Sex Bolt hole (used to attach the Track).
2. Mark a Vertical line on the face of the Swing door. Please see Figure 7-5.

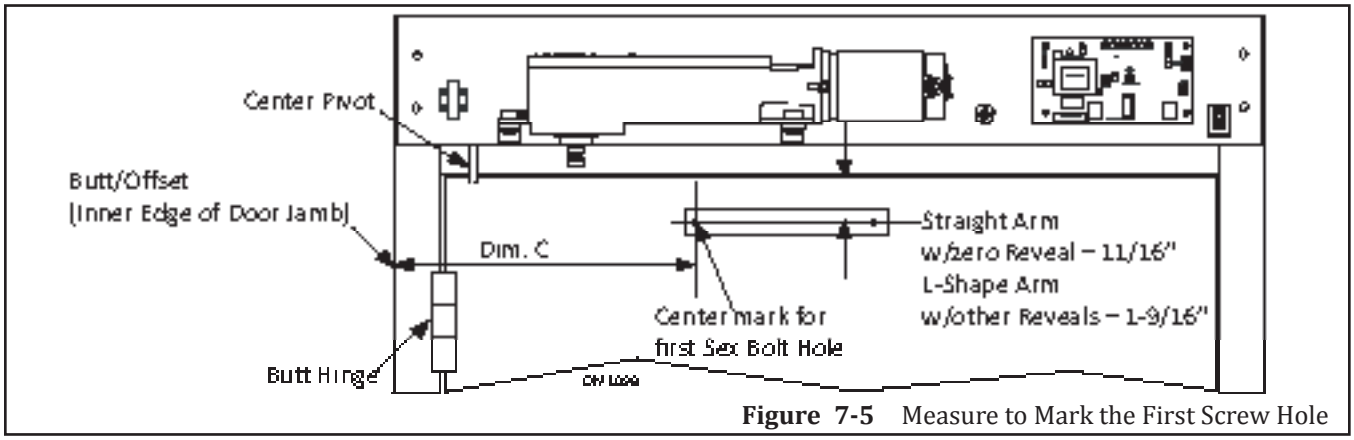


Figure 7-5 Measure to Mark the First Screw Hole

3. Measure:
   - 0 inch Reveal (Straight Arm): 11/16 inch from the top edge of the Swing Door down to the center of the Swing Door.
   - Reveals greater than 0 inch (L-Shape Arm): 1-9/16 inch from the top edge of the Swing Door down to the center of the Swing Door.
   - New dimension not shown (L-Shape Arm): Reveal + 8-7/8 inch = New dimension

4. Mark a Horizontal line to cross the Vertical line. This is the center of the first Sex Bolt hole.
5. Butt the Track against the Swing door by aligning the first Sex Bolt hole with the measured Mark.
6. Ensure the Track is square and level.
7. Use the Track as a Template to mark the second Sex Bolt hole. Set aside.
8. Drill (2) 3/8 inch bolt holes all the way through the Swing door.
9. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
10. Go to the front of the Swing door.
11. Butt the Track against the Swing door by aligning the Sex Bolt holes.
    a. Install (1) Spacer behind the Track for Swing doors with “0” Reveal.
12. Secure the Track to the Swing Door with (2) 1/4-20 x 2-1/4” Screw. Please see Figure 7-6.

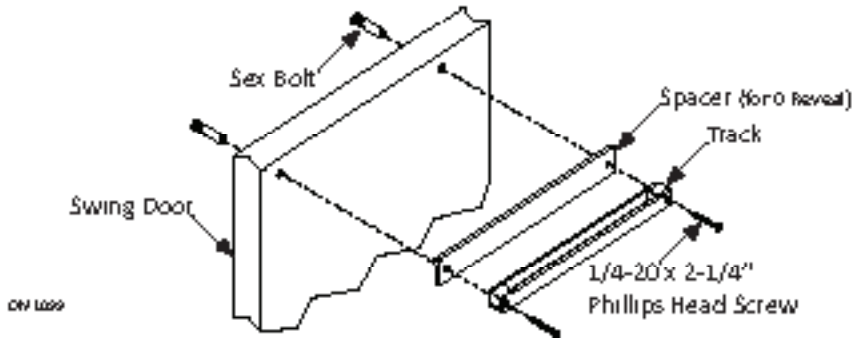


Figure 7-6 Secure the Track to the Swing Door

CHAPTER 8: INSTALL THE SECOND HALF OF SWING ARM

Section 8a: Set Pre-Load

WARNING **Proper Preload is critical for the Control and Operator to open/close the Swing Door correctly.**

CAUTION **Power must be turned OFF during the Swing Arm installation.**

DANGER **Ensure the Motor/Operator is plugged into the Controller.**

1. Ensure the Spring on the Operator is in the Unwound (0˚) position. Please see Figure 8-1.
   a. The Motor/Operator is shipped in the Unwound (0˚) position.

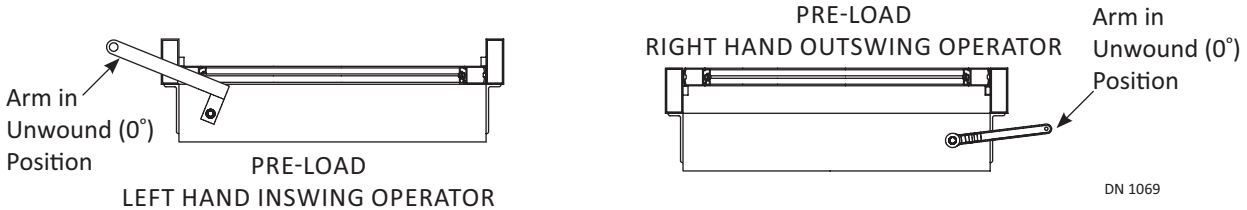


Figure 8-1 Preload Positions

2. Obtain (1) Pin or 1/8 inch Allen Wrench.
3. Go underneath the Header. Locate the Operator Spindle.
4. At the 0 degree position, slide the Swing Arm onto the Spindle.

DANGER **Do not allow the Pin or 1/8 inch Allen Wrench to drop out of the Lovejoy Coupling Access hole at any time during installation. The Swing Arm will spring back to its original location and can result in personal injury or damage.**

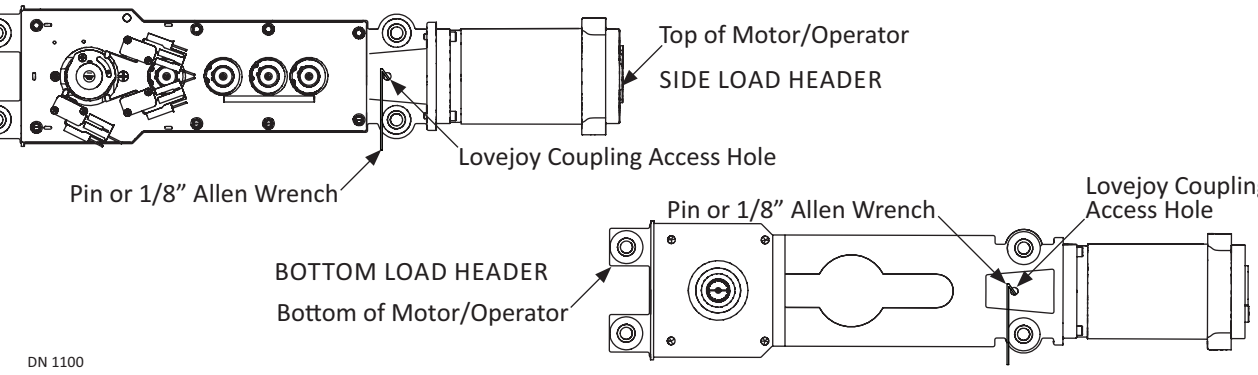


Figure 8-2 Insert Pin or 1/8 inch Allen Wrench into Lovejoy Coupling

5. In order to achieve correct Back Check and Latch Check positions, the Spring on the Operator must be wound up approximately 130 - 140 degrees. With a firm grip, from the Unwound (0 degree) position, rotate the Swing Arm approximately 60 degrees:
   - ▶ Clockwise
     - For Left Handing
   - ▶ Counter-Clockwise
     - For Right Handing

6. While holding the Swing Arm in that position, insert (1) Pin or 1/8 inch Allen Wrench into the Lovejoy Coupling Access Hole. Please see Figure 8-2.
   a. It may be necessary to ease the Swing Arm back until the Pin or 1/8 inch Allen Wrench engages the Lovejoy Coupling.

7. Remove the Swing Arm from the Operator Spindle.
   a. The Pin or 1/8 inch Allen Wrench will keep the Spring from unwinding.

8. Go to the 0 degree position again, slide the Swing Arm back onto the Operator Spindle. Please see Figure 8-3.

9. With a firm grip, slightly remove pressure from the Spring to allow removal of the Allen wrench. Continue to rotate the Swing Arm an additional 70-0 degrees. Re-insert the Allen wrench and then remove the Swing Arm.
   a. The Spring on the Operator should be wound approximately 130 - 140 degrees.

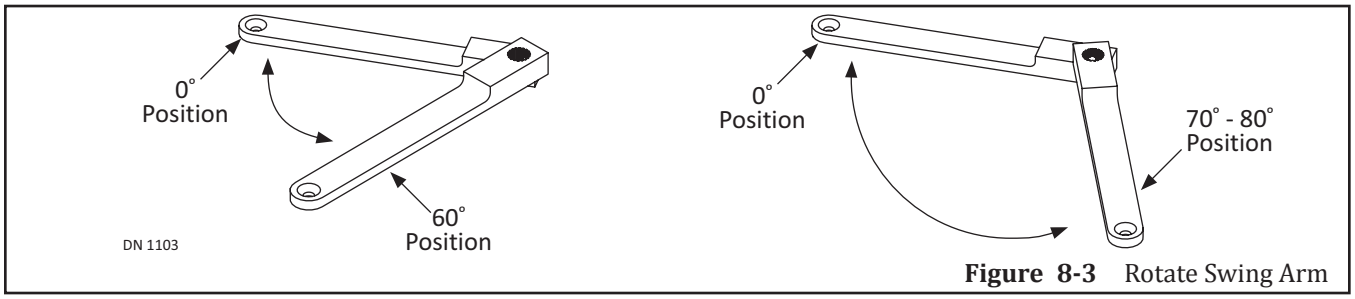


Figure 8-3 Rotate Swing Arm

Section 8b: Secure the Swing Arm to the Swing Door

8.b.a: Outswing Arm

1. Align the Screw hole at the end of Swing Arm to the Screw hole at the end of Threaded Rod.
   a. It may be necessary to remove and then slide the Swing Arm back onto the Operator Spindle.

2. Secure the Swing Arm to the Threaded Rod with (1) 3/8"-24 x 1-1/4" Socket Screw, (1) .405 Washer, and (1) 3/8"-24 Lock Nut.

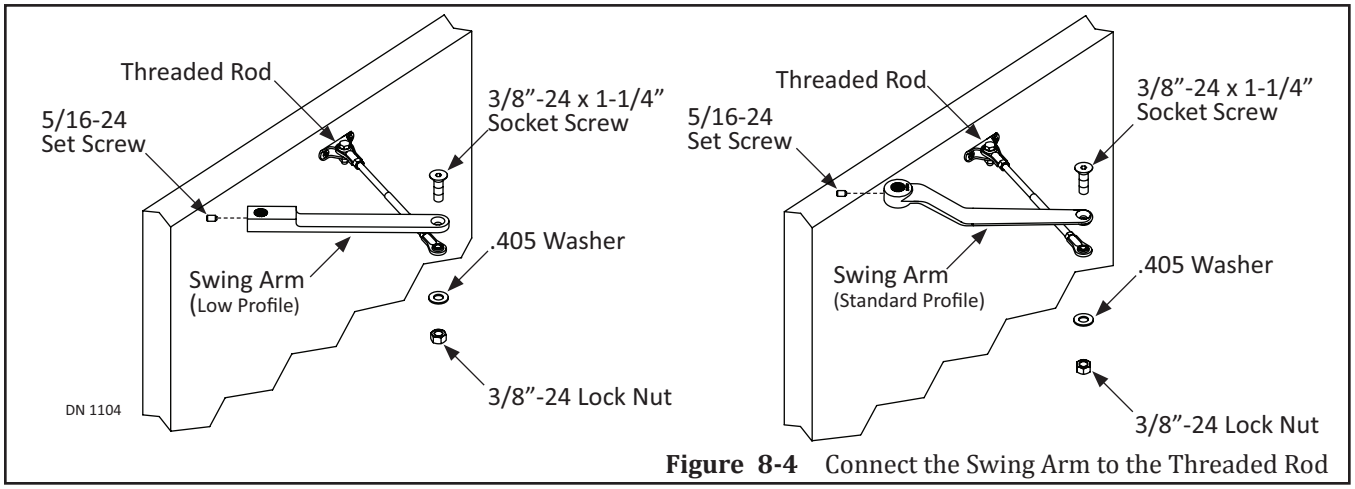


Figure 8-4 Connect the Swing Arm to the Threaded Rod

8.b.b: Inswing Arm

1. Go to the first 1/4-20 x 2-1/4" Screw (closest to the Pivot Door Jamb) that is used to secure the Track to the Swing door.
2. Remove the first 1/4-20 x 2-1/4" Screw so that side of the Track will hang down.
3. Close the Swing door to allow the Wheeled Roller (located at the end of the Swing Arm) to butt against the Swing door.
4. Raise the Track until the screw hole is aligned with the screw hole on the Swing door.
   a. The Wheeled Roller will insert itself into the Track.
5. Secure the Track to the Swing door with (1) 1/4-20 x 2-1/4" Screw.

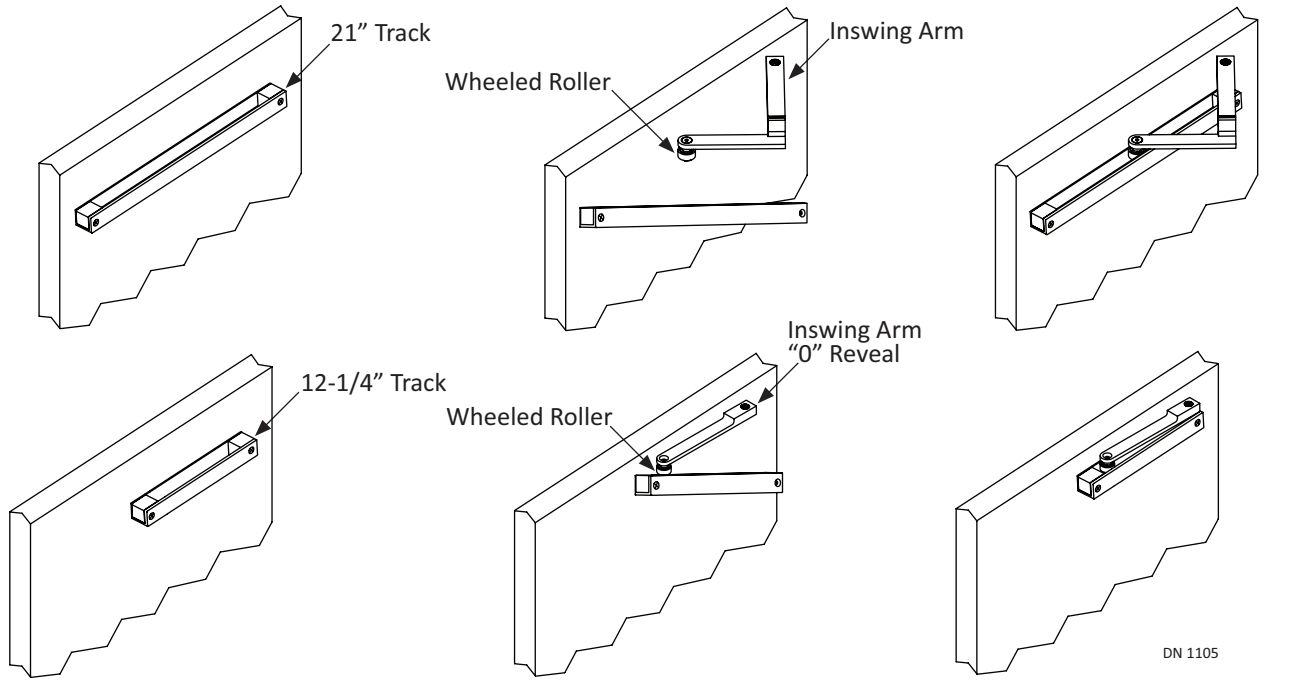


Figure 8-5 Insert the Swing Arm into the Track

8.b.c: Inspect the Scribe Mark

1. Fully close the Swing door.
2. Go to the underside of the Operator Spindle. Locate (1) Scribe Mark.
3. Ensure the Scribe Mark is parallel with the Swing Door.

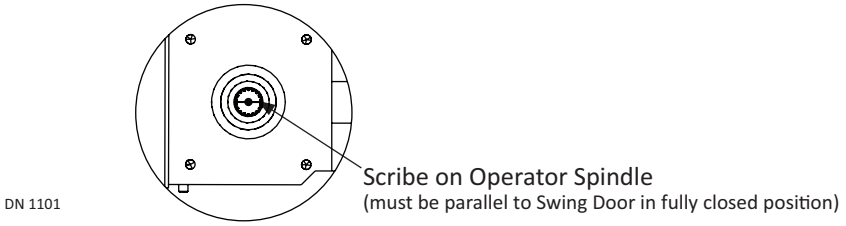


Figure 8-6 Scribe Mark must be Parallel to Swing Door

8.b.d: Secure the Swing Arm to the Operator Spindle

1. Secure the Swing Arm to the Operator Spindle with (1) Set Screw. Tighten but do not overtighten.
   a. Ensure the Set Screw is seated correctly within the groove on the Operator Spindle.
2. Remove the Allen Wrench.

Section 8c: Test the Pre-Load

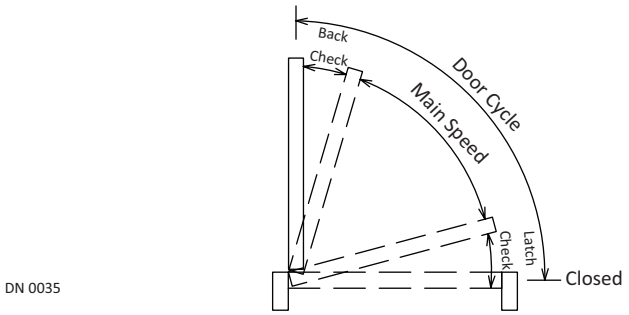


Figure 8-7 Swing Door Positions

Position	Description
Opening	Range from fully closed to 10° from fully open.
Back Check	10° from fully open to fully open.
Closing	Range from fully open to 10° from fully closed.
Latch Check	10° from fully closed to fully closed.

1. Turn Power ON.
2. Open Swing Door.
   a. Swing door should slow down at 75° - 80° open.
   b. If Swing door stops at any other degree, Back Check needs to be adjusted.
3. Close Swing Door.
   a. Swing door should slow down at 75° - 80° close.
   b. If Swing door slows down at any other degree, Latch Check needs to be adjusted.

Section 8d: Install the Arm Stop (Side Load Units)

BOTTOM LOAD UNITS SKIP TO CHAPTER 9

CAUTION **Do Not drill screw holes for the Arm Stop into the Motor/Operator!!!**

1. Open the Swing Door 90 degrees.
2. Obtain the Parts Bag that includes (1) Arm Stop and (2) 1/4-20 inch Self Tapping screws.
3. Position the Arm Stop at the bottom of Header according to type of Swing Arm and Reveal shown in Figure 8-8.

4. Use the Arm Stop as a template to mark and drill (2) 7/32 inch diameter screw holes.
5. Secure the Arm Stop with (2) 1/4-20 inch Self Tapping screws.

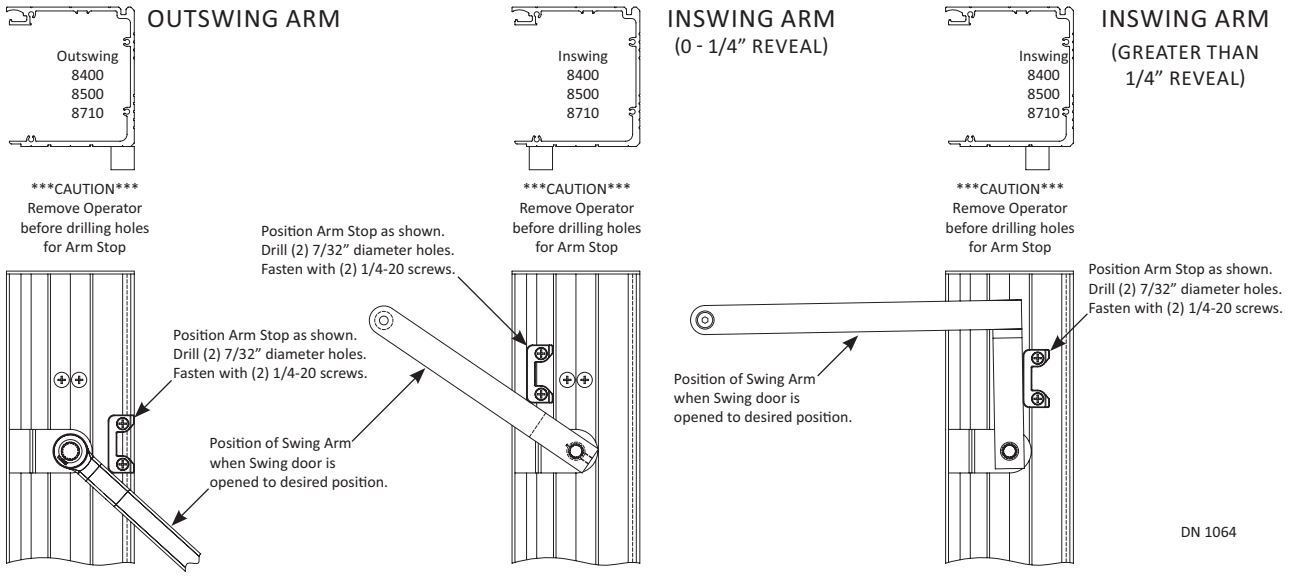
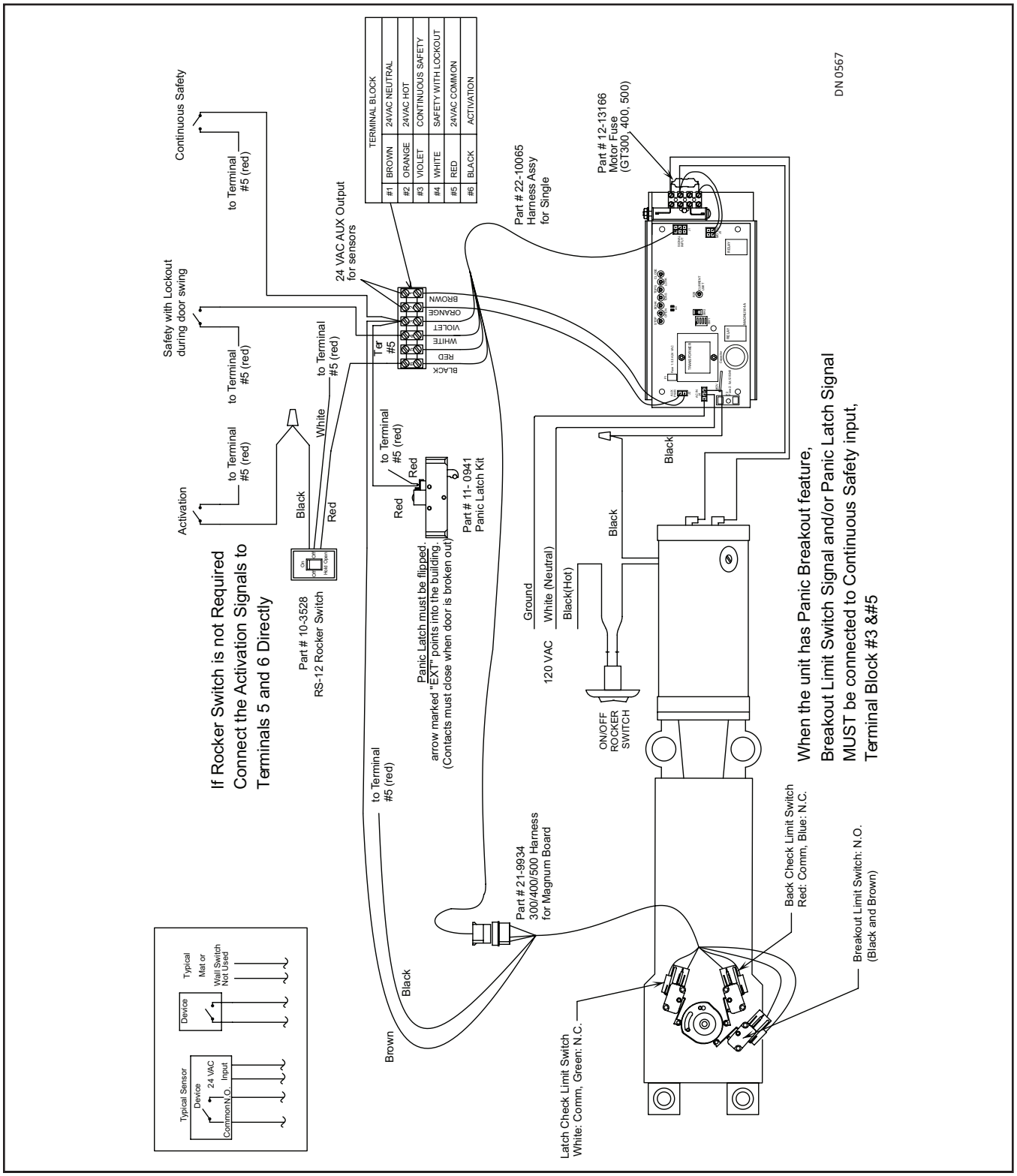


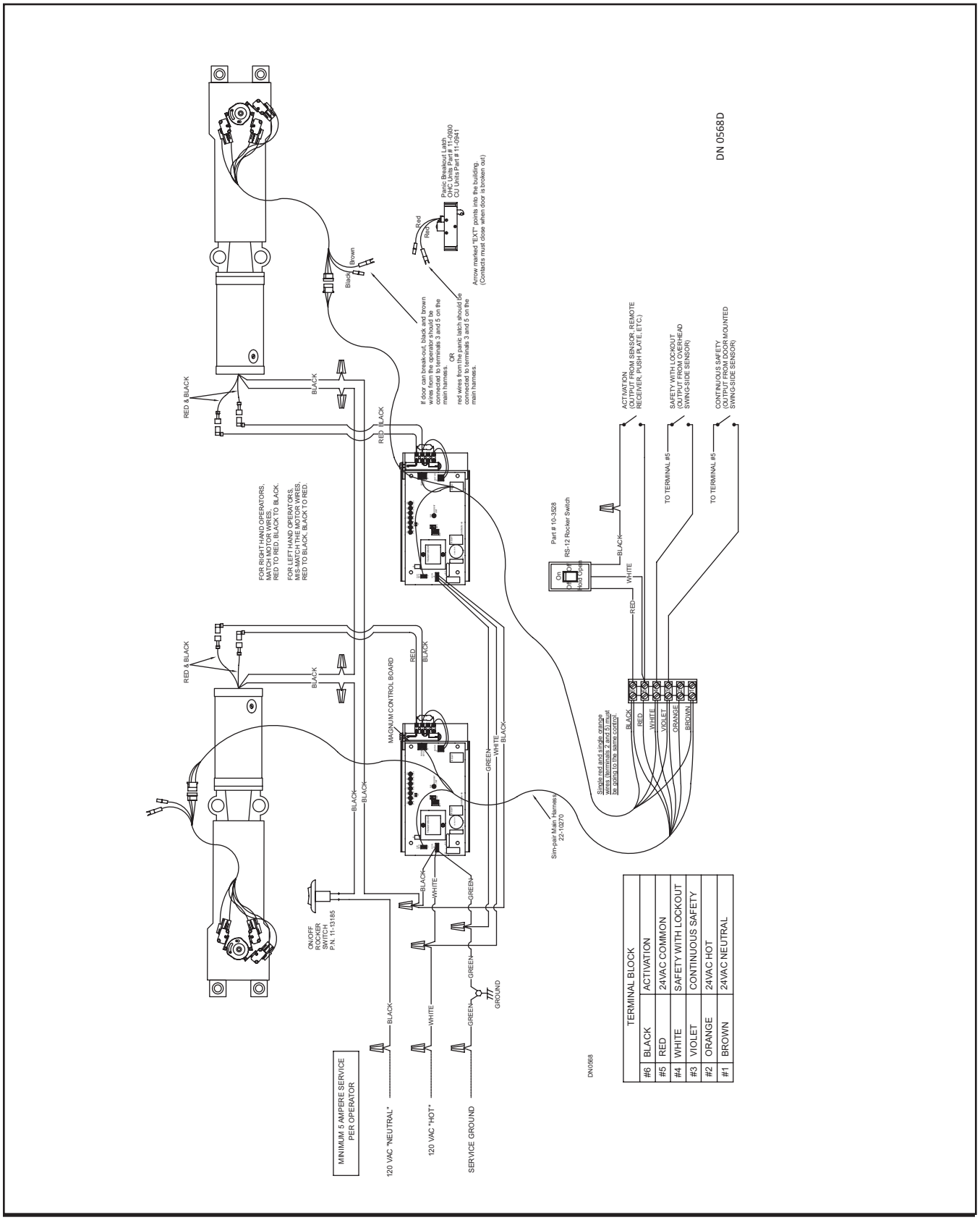
Figure 8-8 Arm Stop Configurations

CHAPTER 9: MAGNUM GENERAL WIRING

Section 9a: GT-400-500-600-8400-8500-8600 Single Swing Door



Section 9b: GT-400-500-600-8400-8500-8600 Simultaneuous Swing Door



CHAPTER 10: ADJUSTMENTS

10.1 Pre-Load Adjustments

Note: Adjustments to the Cam Assembly is rarely necessary. It is recommended to adjust the Cams Assembly as a last resort.

Note: It is recommended to obtain one of the following Manuals to use as reference:

- *Magnum 4A Manual; 15-10682*
- *Analog Control Manual; 15-10745*

The Cam Assembly is preset at the NABCO factory to activate Back Check/Latch Check at 90 degrees with the Operator Spring set in the UNWOUND position.

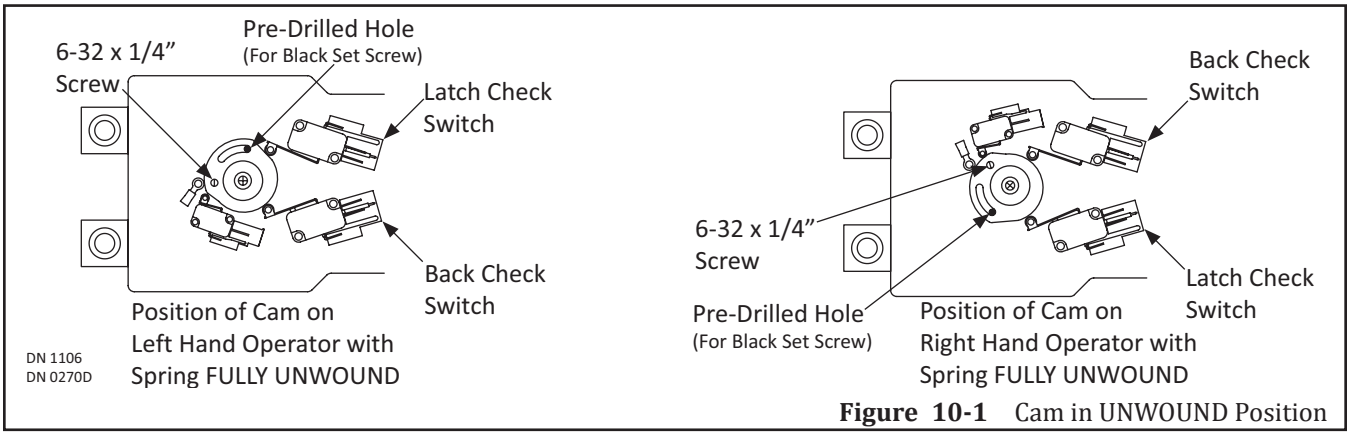


Figure 10-1 Cam in UNWOUND Position

LEFT HAND OPERATOR MAGNUM CONTROL		RIGHT HAND OPERATOR MAGNUM CONTROL	
Latch Check Switch Wires	White & Green	Back Check Switch Wires	Red & Blue
Back Check Switch Wires	Red & Blue	Latch Check Switch Wires	White & Green
ANALOG CONTROL		**ANALOG CONTROL**	
Latch Check Switch Wires	Orange & Brown	Back Check Switch Wires	Yellow, White & Blue
Back Check Switch Wires	Yellow, White & Blue	Latch Check Switch Wires	Orange & Brown

10.1.1 Rotate the Cam for Back Check (Bottom Load Units)

1. Go to the top of Header. Remove to the Cover used to protect the access hole located directly above the Cam Assembly.
2. Go inside the Header. Remove the Cover used to protect the Cam Assembly. Set Aside.
3. Remove the 6-32 x 1/4 inch screw.
4. Go to the c-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
5. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
6. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.
7. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw.
8. Rotate the Cam until the appropriate Back Check position has been achieved.

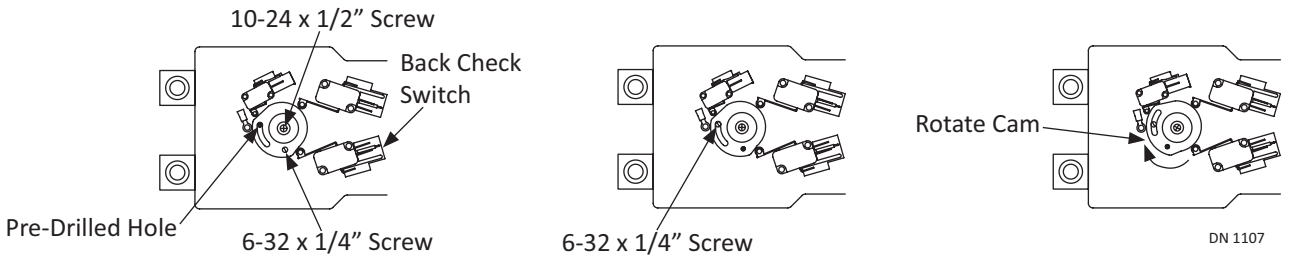


Figure 10-2 Adjust the Back Check Switch

9. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.
10. Replace both Covers.

10.1.2 Rotate the Cam For Back Check (Side Load Units)

1. Go inside the Header. The Cam Assembly can be adjusted from the side.
   a. A Switch Assembly Cover is not installed on a Side Load Header.
2. Remove the 6-32 x 1/4 inch screw with a 1/4 inch open end wrench.
3. Go to the c-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
4. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
5. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.
6. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw with a 5/16 inch box or open end wrench.
7. Rotate the Cam until the appropriate Back Check position has been achieved.
8. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.

10.2 Adjust the Swing Arm for Latch Check

Latch Check positions can not be adjusted by rotating the Cam. Adjustments must be accomplished by removing, and then sliding the Swing Arm back onto the Operator Spindle to the left or right of the last position.

10.3 Magnum Control Adjustments

Before adjusting speeds:

- Set the Current Limit to maximum
- Adjust the Open-Close-Check speeds
- Adjust current limit to the proper level

Table 10-1 Dip Switch Information

Dip Switch	ON Position	OFF Position
1	Not Used	Not Used
2	Normally Open Safely	Normally Closed Safely
3	Push-N-Go Inactive	Push-N-Go Active
4	Timer Mode	Sequential Mode

Table 10-2 Slide Switch

Position	Function
UP	Low Energy (GT-500)
DOWN	High Energy (GT-400); Door opens faster

Table 10-3 Potentiometers and Functions

Potentiometer	Function
STOP	▶ Adjusts how door reacts to continuous safety input (terminal # 3) during Opening. Counterclockwise = door slowly closes, Clockwise = door creeps open ▶ For Magnum 4 and 4A only: After 8 seconds of the door being held open, motor voltage is lowered to reduce stress on motor and control. "stop" will adjust this reduced voltage.
OPEN	Adjusts opening speed. Clockwise = Faster
BCHK	Adjusts Back Check speed. Clockwise = Faster
TDAS	Adjusts how long door remains open after activation signal. Clockwise = Longer
TDPG	Adjusts how long door remains open after Push-N-Go. Clockwise = Longer
LCHK	Adjusts Latch Check speed. Clockwise = Faster
CLOSE	Adjusts closing speed. Clockwise = Faster
Current Limit	Adjusts how hard the door will push against an obstacle (while opening) before recycling. Clockwise = less sensitive

Table 10-4 Magnum Control LED Information

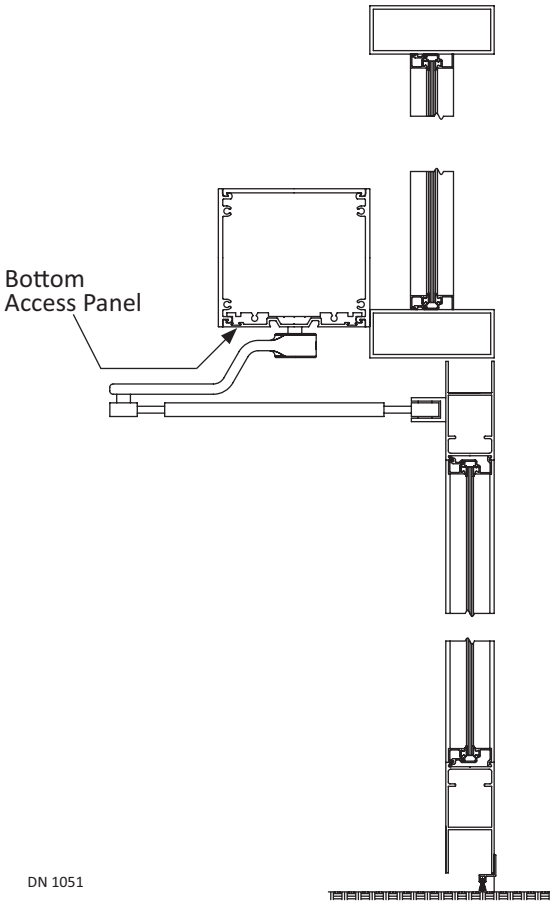
LED Color	LED Status	Door Status
Green	Fast Flashing (2 flashes per second)	Door is opening.
	On Steady	Door is in Back Check.
	Slow Flashing (1 flash per second)	Door is closing.
	Off	Door is in Latch Check or Closed
Red	**Indicator**	**Action**
	Slow Flashing (1 flashes per second)	Continuous Safety Activated
	Fast Flashing (2 flashes per second)	Safety with Lockout Activated
	On Solid	Recycle Activated

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

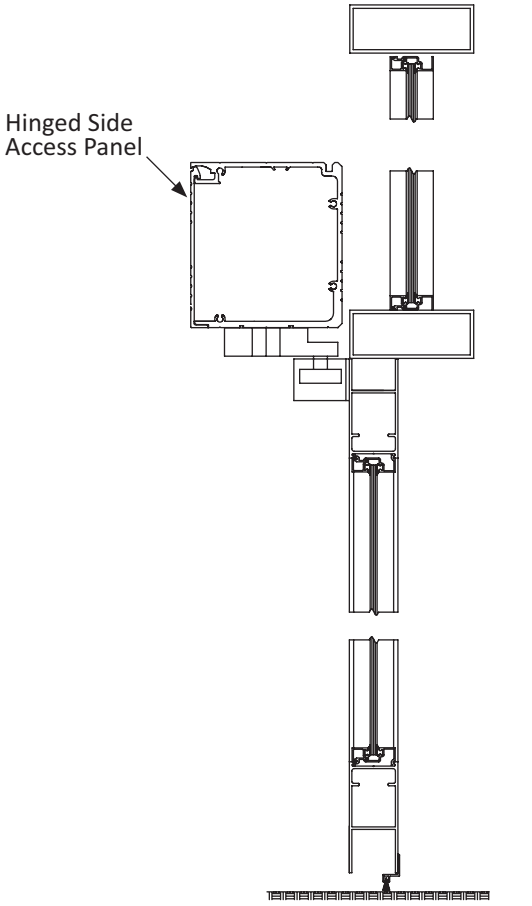
Conversion Unit Swing Door Systems

Bottom Load Units: GT400 and GT500 and GT600
Side Load Units: GT8400 and GT8500 and GT8600

OUTSWING BOTTOM LOAD UNIT



INSWING SIDE LOAD UNIT



WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-10538
Rev. 9/26/14

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER — **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.**

WARNING — **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION — **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: *Indicates important information that provides further instruction.*

GENERAL SAFETY RECOMMENDATIONS

WARNING **Read this "General Safety Recommendations" section before installing, operating or servicing the automatic door. Failure to follow these practices may result in serious consequences.**

Notice: **Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.**

WARNING **Do not install, operate or service this product unless you have read and understand the General Safety Recommendations, Warning Labels, Installation and Operating Instructions contained in this manual. Failure to do so may result in bodily injury, or property damage.**

Notice: **This manual and the owner's manual must be given to and retained by the purchasing facility or end user.**

- If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.
- Disconnect power at the fused disconnect during all electrical or mechanical service. When uncertain whether power supply is disconnected, always verify using a voltmeter.
- All electrical troublshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.
- It is the responsibility of the installing door technician to install all warning and instructional labels in accordance with ANSI 156.10 and ANSI 156.19.
- It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door.
- Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distrubutor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.

DANGER **Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.**

CHAPTER 1: SCOPE

Section 1a: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.10 (Full Power) and ANSI Standard 156.19 and ADA Standard (Low Energy) covers the Conversion Unit Swing Door System. Other local standards or codes may apply. Use them in addition to the ANSI standard. Both Full Power and Low Energy Swing door Units are listed with the Underwriters Laboratory and is identified as such on the label.

Instruct the building owners and operator on the essentials of the operation of the Swing door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

Section 1b: Objective

Swing Door Conversion Units are designed to be installed onto the top surface of the Door Frame. The Operator is controlled by the Magnum 4A Control (Standard) or by the Model 1400 Analog Control (Optional). Both Controls offer many features to accommodate most installation options. This manual offers step by step instructions.

CHAPTER 2: GETTING STARTED

Section 2a: Mechanical Configurations

Base Model	Conversion Unit Bottom Load	Conversion Unit Side Load
Full Power	GT 400	GT 8400
Low Energy	GT 500	GT 8500

Section 2b: Electrical Standards

Note: It is recommended for the Installer to use an Electrical Conduit to house all incoming 120 VAC wires.

Note: All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.

Electricity	Description
Power Input	120 (±10%) AC 50-60Hz, 10 Amps
Available Current for accessories	0.5 Amps 24 VAC
Available wire size for incoming power	14 AWG

Section 2c: Installation Specifications

Specification	Measurement	
Minimum Frame Face for Mounting	1-3/4 inches (44mm)	
Minimum Clearance from Top of Door to Ceiling	**Bottom Load**	**Side Load**
	6-1/8" (156 mm)	7-18" (181 mm)
Minimum Door Thickness	1-3/4 inches (44 mm)	
Door Width	Specified when ordered	

Section 2d: Base Unit Types

2.d.a: Full Power Swing Doors

- Utilize Sensor(s) to open a Swing door.
  - Sensors activate the Control by detecting motion of pedestrians (or moving objects) that come into range.
- Must be compliant with ANSI Standard Code 156.10 to reduce chance of injury to pedestrians and wheeled traffic.

2.d.b: Low Energy Swing Doors

- Utilize a Knowing Act to open a Swing door.
  - A conscious effort that is carried out in many different ways, including (but not limited to): manually opening/closing a Swing door; pressing various types of Push Plates; turning a Key switch; flipping a Rocker Switch; utilizing a keypad or card reader, etc.
- Must be compliant with the ANSI Standard Code 156.19 to reduce chance of injury to pedestrians and wheeled traffic.

DANGER **Always remove the bottom portion of the HandiCap Label stating "Push Door To Operate" if the "Push-n-Go" feature is not being used.**

Figure 2-1 Cut Bottom Portion of HandiCap Label when Push-n-Go Feature is not used

Section 2e: Header Types

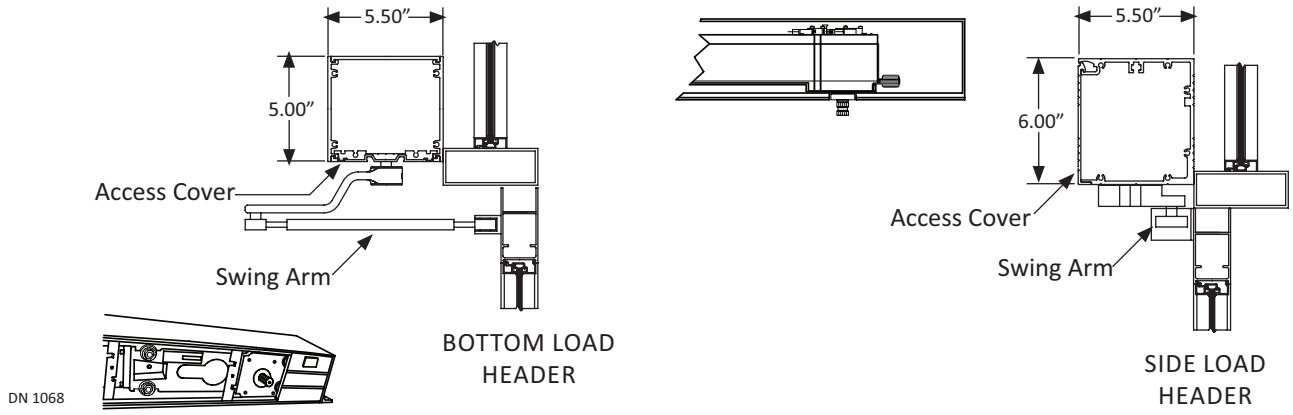


Figure 2-2 Two Types of Headers

Section 2f: How to Determine Handing

► To Determine Handing from the Operator: locate the Serial Number underneath Operator. Please see Figure 2-3.

a. The Letter (L) or (R) located in front of the Serial Number indicates the Handing.

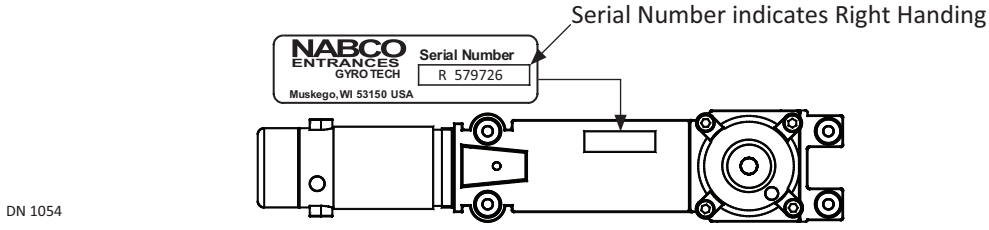


Figure 2-3 Handing Labeled

► To determine Handing from standing underneath the Header: Open the Swing door. Butt your back against the Pivot side of Swing door. Swing out the (right or left) arm in the direction the Swing door opened. Please see Figure 2-4.

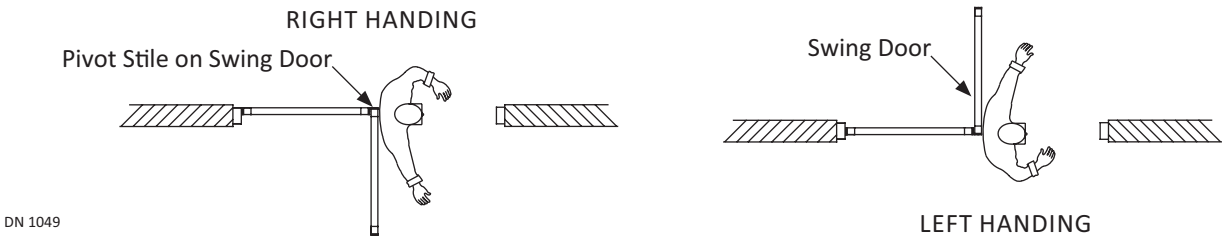


Figure 2-4 Stand with back against Pivot Side of Swing door

► To determine Handing from the direction the Swing Arm opens. Please see Figure 2-5.

a. If the Swing Arm swings underneath the Threshold to open, it is an Outswing Unit.

b. If the Swing Arm does not swing underneath the Threshold to open, it is an Inswing Unit.

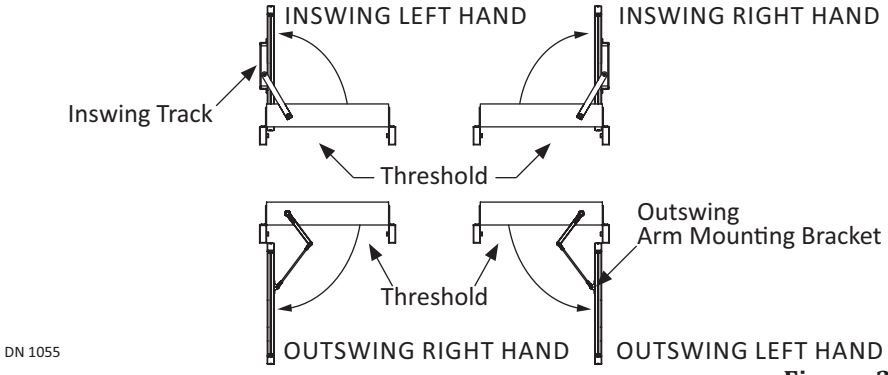
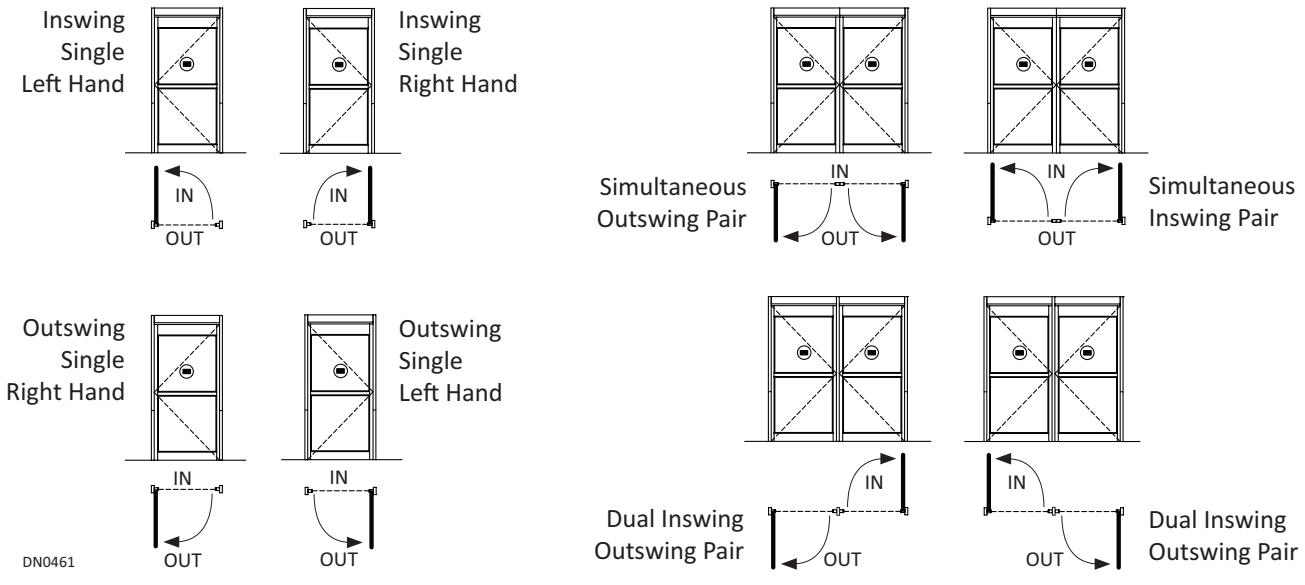


Figure 2-5 Determine Handing

Section 2g: Swing Door Types



Section 2h: Control Types

The Control is programmed to open/close the Swing door according to how the door will be used in terms of Handing, Speed, Time Delay, Back Check, and Latch Check. Two types of Controls can be purchased for the CU Series Swing doors:

- Magnum 4A
- Analog Control

Section 2i: Associated Manuals Part Numbers

- Magnum 4A Control Wiring and Adjustment Manual ;P/N 15-10682
- Analog Control Wiring and Adjustment Manual; P/N 15-10745
- Main Power Connection Side Load; P/N 15-12544-10
- Main Power Connection Bottom Load; P/N 15-12544-20
- Panic Breakout Latch Wiring Installation Instructions Manual; P/N 15-4572
- GT400-500-600-8400-8500-8600 Swing Door C.U. QSPG; P/N 15-12499-004

CHAPTER 3: INSTALL THE BOTTOM LOAD HEADER

FOR SIDE LOAD UNITS SKIP TO CHAPTER 5

Section 3a: Prepare the Header

1. Place the Header on flat surface with Bottom facing up.
   a. Protect Header from scratches.
2. Remove #10-24 x 3/4 inch screws and Dress Plate. Set aside. Please see Figure 3-1.
3. Mark the locations of each Lock Cover Plate to ensure it is reinstalled in the correct position.
4. Remove Lock Cover Plates. Set Aside.
5. Remove boxes and/or parts bags from inside Header. Set aside.

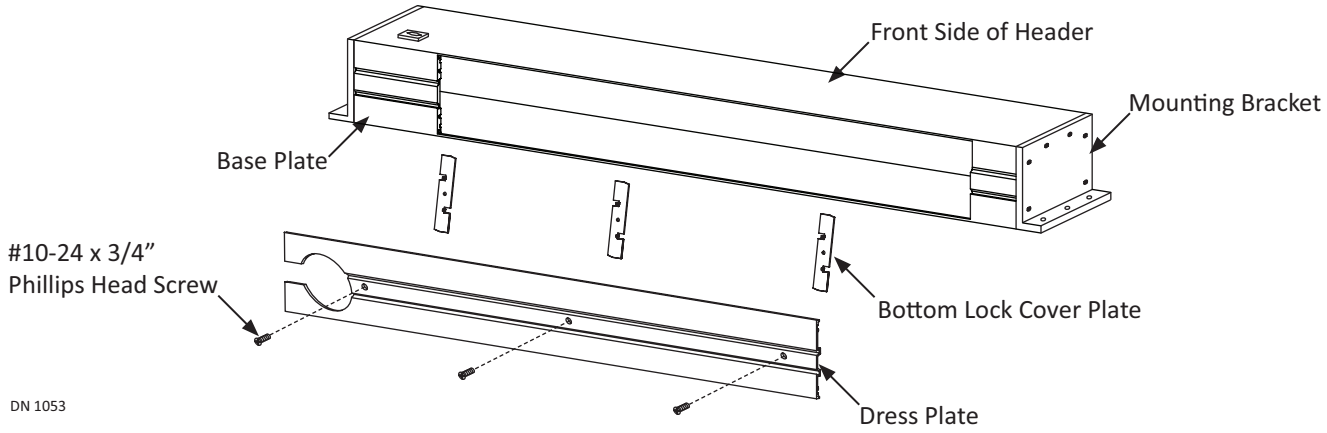


Figure 3-1 Remove Dress Plate from Bottom Load Header

Section 3b: Prepare the Door Frame

Note: The following instructions are for typical Metal Doors and Frame Profile. It is recommended to use lag bolts.

Note: If the Door Frame is not properly reinforced nor anchored to the building surface, and/or is hollow, reinforce the Door Frame with 1/4-20 blind rivnuts (not provided by NABCO).

Note: If the Door Frame is not Metal, ensure the Door Frame being used is of equal strength.

1. Go to the Pivot Side of Swing door.
2. Measure 1-1/8 inch from the Top of Swing door to the Top door frame.
3. Mark a Horizontal Line on the face of Top door frame, at both ends. Please see Figure 3-2.

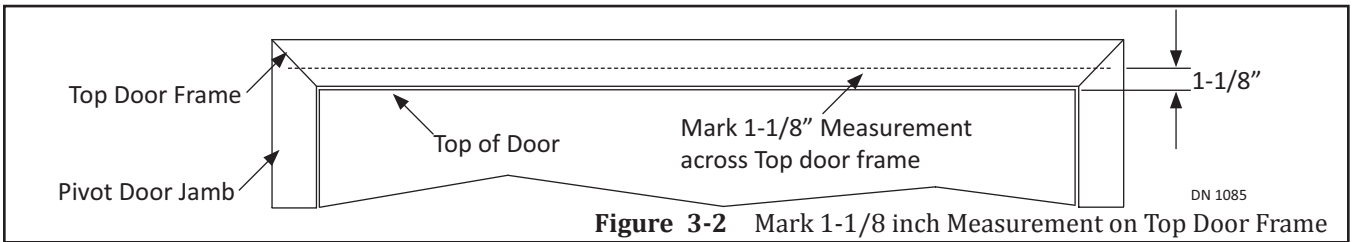


Figure 3-2 Mark 1-1/8 inch Measurement on Top Door Frame

4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends. Please see Figure 3-3.

5. To ensure proper operation of the Swing Arm:
   - For a Door Jamb that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
   - For a Door Jamb that is wider than 1-3/4 inches, measure from the inner edge of the Pivot Door Jamb to the center. Mark a vertical line at the 1-3/4 inch measurement. The Pivot side of Header must butt against the 1-3/4 inch mark.

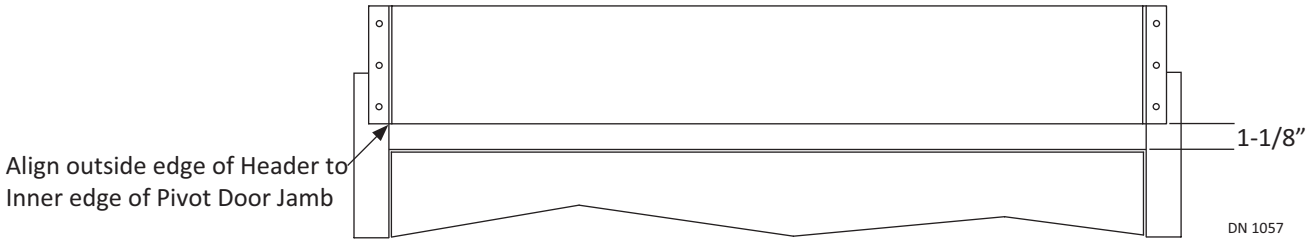


Figure 3-3 Position Header onto Door Frame

6. Ensure the Header is square and level.

7. Use the Header as a template to mark screw holes onto the face of the door frame.

8. Remove the Header. Set Aside.

Section 3c: Install Shim behind Header (Only if deemed necessary)

FOR UNITS NOT INSTALLING A SHIM SKIP TO SECTION 3D

1. Butt the Header up against the Horizontal line, line up the screw holes and then ensure the Header is square and level.

2. Go to the top of Header. Mark a horizontal line along the top edge of Header and the wall. Please see Figure 3-4.

3. Measure the depth between the back side of the Header and wall.
   a. Write that measurement down and label it #1.

4. Measure the distance between the top of the door frame and the horizontal line that was just drawn at the top of Header.
   a. Write that measurement down and label it #2.

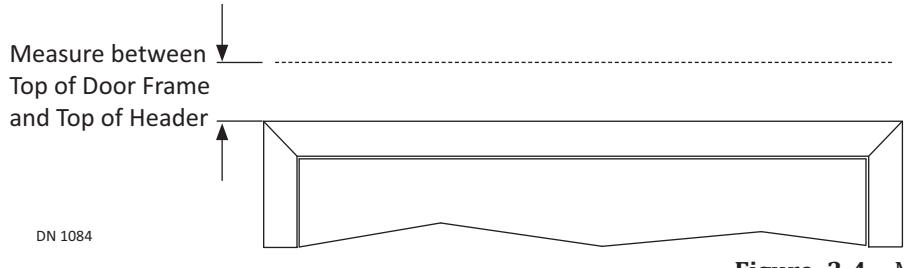


Figure 3-4 Measure for Shim Dimension

5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width of Header including Brackets.
   a. It is recommended to use a Shim made from Fir or Spruce.
   b. Three Shims can be used as long as each Shim is approximately the same width and height of each Bracket.
6. Secure the Shim to stud(s). Please see Figure 3-5.
   a. It is recommended to use Lag Bolts.

Figure 3-5 Shim between Conversion Unit and Wall

Section 3d: Secure Header to the Door Frame

1. Lift up Header to insert Power Wiring through the 7/8 inch hole.
   a. It is recommended to use a Conduit.
   b. It is recommended to insert all other Wiring through a separate hole.
2. Butt the bottom edge of Header against the 1-1/8 inch Horizontal Line.
3. Line up the screw holes.
4. Secure the Header to the Door Frame. Please see Figure 3-6.
   a. It is recommended to use Lag Bolts.
   b. For additional mounting, secure the Header to the Studs located behind the Shim.

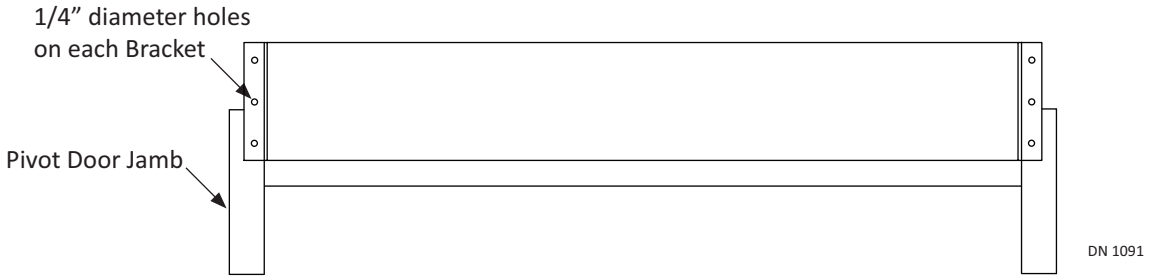


Figure 3-6 Secure Header to Door Frame

CHAPTER 4: INSTALL BOTTOM LOAD COMPONENTS

FOR SIDE LOAD UNITS SKIP TO CHAPTER 5

Note: Location of Contents within Header are subject to change according to Swing door specifications.

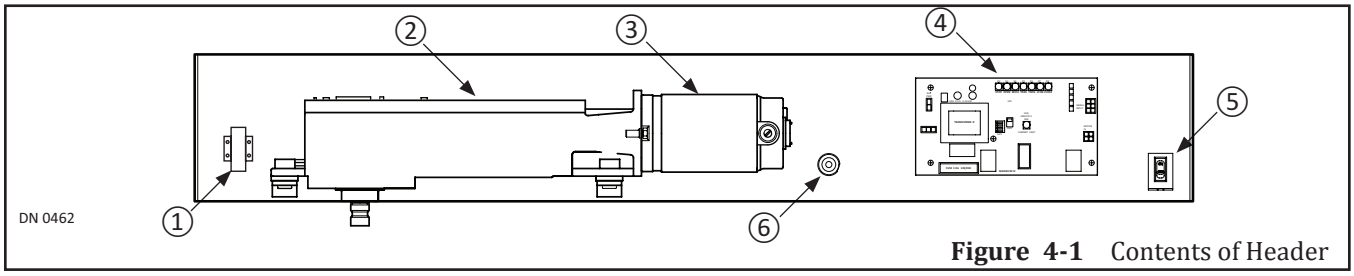


Figure 4-1 Contents of Header

1. Transformer (Optional)
2. Operator
3. Motor
4. Control
5. Rocker Switch
6. Ground Screw

Section 4a: Secure Incoming Wires

1. Obtain (self sticking) white plastic Wire Clips provided by NABCO.
2. Adhere each Wire Clip to sides of Header. Insert wiring (as deemed necessary). Please see Figure 4-2.
   a. 120 VAC Power wires must be routed separate from other wiring, adhere those Wire Clips inside the Header, near the top to prevent pinching.

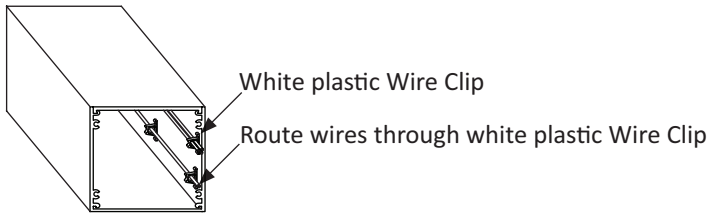


Figure 4-2 Adhere White Plastic Wire Clip and Route Wires

Section 4b: Install the Stop Ring

1. Place the Motor/Operator on a flat surface with the underside facing up. Please see Figure 4-3.
2. Obtain the Stop Ring Assembly provided by NABCO.
3. Slide the Limit Stop onto the Spindle.
4. Secure (4) Ring Stops onto the Limit Stop with 5/16-18 Socket Head screws.
   a. Do not fully tighten at this time.
5. Once the Swing Arm is fully installed and Pre-Load has been tested:
   1. Open the Swing door 90 degrees.
   2. Rotate the Limit Stop Spindle until it hits the Swing Arm.
   3. Tighten down (4) Ring Stops with 5/16-18 Socket Head screws.

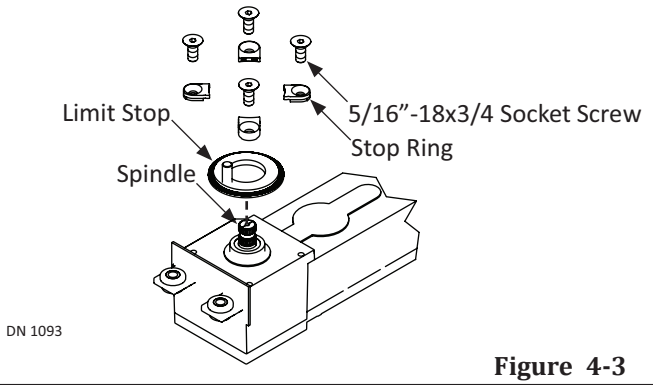


Figure 4-3 Loosen Stop Ring Brackets

Section 4c: Install the Motor/Operator

Table 4-1 Dimension “A” Spindle Location

Bottom Load Units		Inswing				Outswing			
		With Fingerguard		No Fingerguard		With Fingerguard		No Fingerguard	
Model	Pivot Type	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate	Spindle Loc.	Base Plate
GT 400	Butt/Offset	N/A	N/A	5”	2-1/2”	N/A	N/A	7-1/4”	4-3/4”
	Center Pivot	6”	3-1/2”	5”	2-1/2”	8-1/4”	5-3/4”	7-1/4”	4-3/4”
GT 500	Butt/Offset	N/A	N/A	5”	2-1/2”	N/A	N/A	5”	2-1/2”
	Center Pivot	6”	3-1/2”	5”	2-1/2”	6”	3-1/2”	5”	2-1/2”

1. Go to Table 4-1 to determine the distance from the center of the Operator Spindle to the Center Pivot or the inside edge of the Pivot Door Jamb.

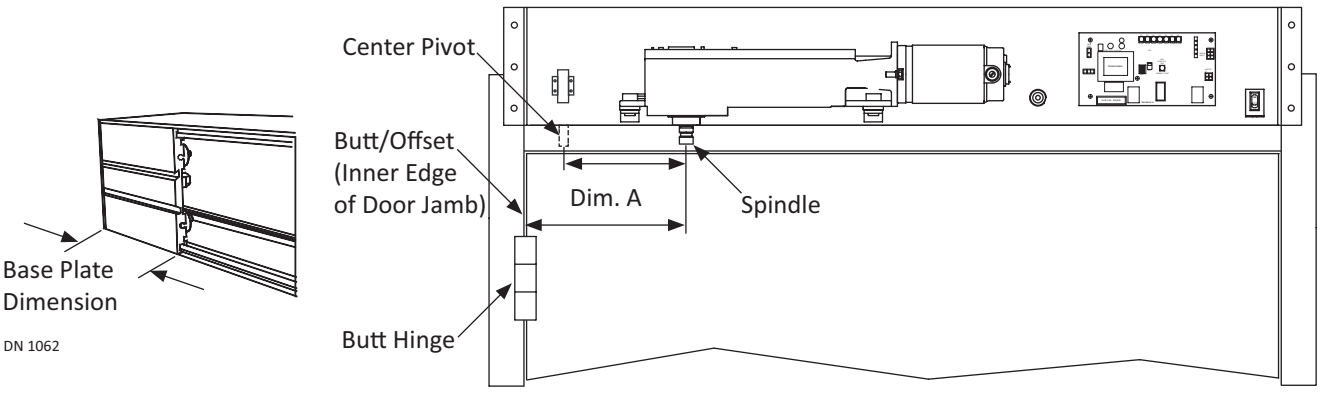


Figure 4-4 IDetermine Dimension of Spindle Location

2. Go to (inside) top of Header. Please see Figure 4-5.
3. Locate the factory installed Rear Mount Bracket at the top of Header.
4. With a 9/16 inch Deep Well Socket and Ratchet, remove (2) 3/8-16 inch Hex Jam Nuts and (2) 7/16 x 1 inch Washers from (2) Studs extending downward. Set aside.
5. Hold the Front end of Motor/Operator at an upward angle to slide Front Mount onto (2) Pivot Base Tabs located inside of Header.

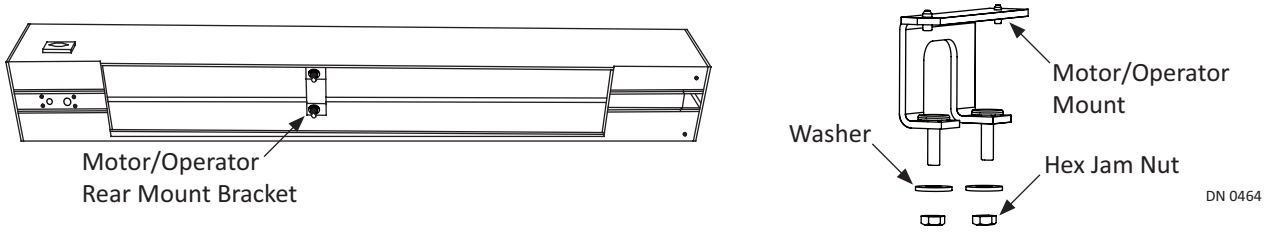


Figure 4-5 Remove Hardware from Mount

6. Lift the rear of the Motor Operator up onto (2) studs extending downward. Please see Figure 4-6.
   a. Ensure the Switch Harness is tucked between the back wall of Header and above the Mounting Bracket.
7. Secure the Motor/Operator with (2) 3/8-16 inch Hex Jam Nuts and (2) 7/16 x 1 inch Washers.
   a. It is important not to pinch any wiring during the Motor/Operator installation.

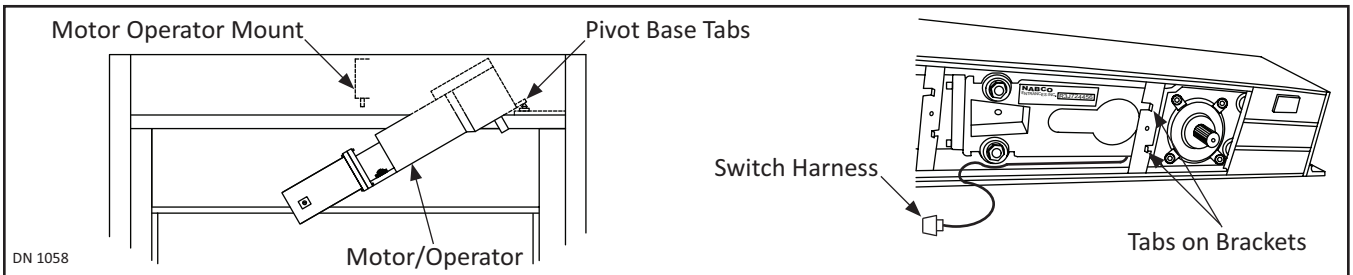


Figure 4-6 Mount Motor/Operator into Header

Section 4d: Install the Control

Note: It may be necessary to mount a Soft Starter Capacitor on the Operator prior to installing the Analog Control. For detailed information, please refer to the "Analog Control Wiring and Adjustment Manual; P/N 15-10745".

1. Obtain the Bracket Clip. Please see Figure 4-7.
2. Go approximately 4-5 inches away from where the Motor/Operator will be installed.
3. Squeeze (2) open ends of the Bracket Clip together until both protruding channels are successfully snapped inside each recessed channel.

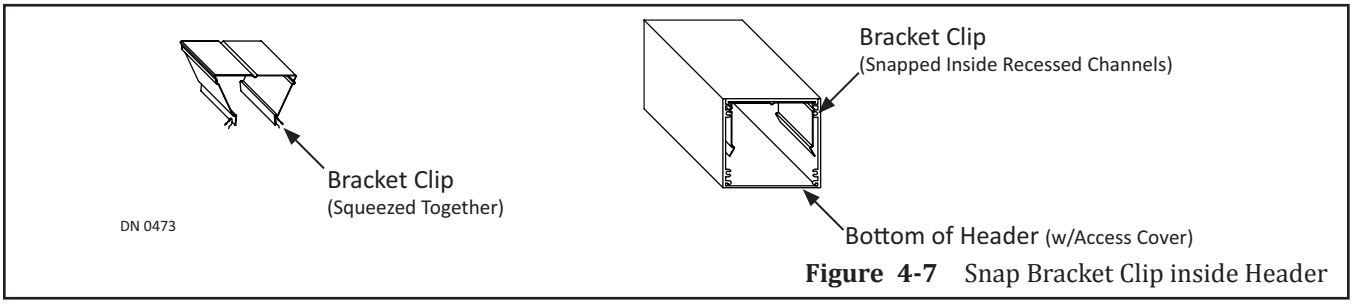


Figure 4-7 Snap Bracket Clip inside Header

4. Snap the Control inside the Bracket Clip. Please see Figure 4-8.
   a. Face of Control must face down (towards bottom opening of Header).

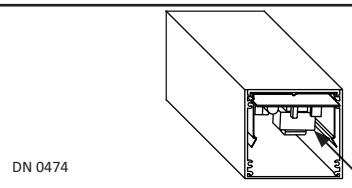


Figure 4-8 Snap Control into Bracket Clip

Section 4e: Install Optional Components

Install all other optional components by following installation and wiring instructions provided with each Component.

CHAPTER 5: INSTALL THE SIDE LOAD HEADER

FOR BOTTOM LOAD UNITS SKIP TO CHAPTER 6

Section 5a: Inswing Doors

FOR OUTSWING UNITS SKIP TO SECTION 5B

1. Open the Swing door 90 degrees.
2. Measure between the wall and the outside face of the Swing door.
   a. There must be a 2 inch minimum gap for the Inswing Arm to operate properly.
   b. If there is less than a 2 inch gap, please call Customer Service at (877) 622-2694.

Section 5b: Prepare the Header

Note: It may be necessary to remove the Motor/Operator from the Header to reduce weight, while positioning the Header onto the Door Frame.

3. Place the Header on flat surface with Side facing up.
   a. Protect header from scratches.
4. Remove two screws from underneath cover. Set Aside.
5. Remove Cover by lifting it up from Header, and then pulling it out. Please see Figure 5-1.
6. Remove boxes and/or parts bags from inside Header. Set aside.

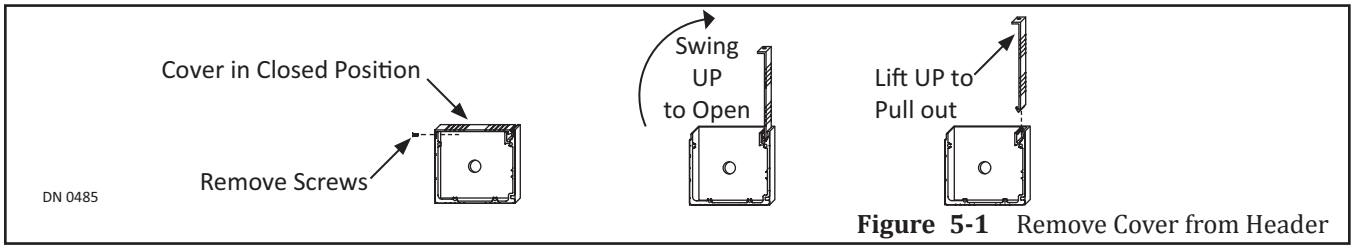


Figure 5-1 Remove Cover from Header

5.b.a: Drill Holes

1. Go to the Strike side of Header. Drill one 7/8 inch hole through the Header to allow all wiring to be drawn inside.
   a. The Side Load Header can be ordered with a Knockout hole located at either end of the Header. For details, please call Customer Service at 1-888-679-3319.
2. Go to the back wall inside Header on the Pivot side. Please see Figure 5-2.
3. Measure 1 inch from the End Cap of Header towards the center. Mark a Vertical Line.
4. Measure at least 1/2 inch from the bottom of Header towards the top. Mark a Horizontal Line across the Vertical line. This is the center of the first screw hole. Drill 1/4 inch screw hole.
5. Mark (1) more Horizontal line across the Vertical line directly above the first screw hole. This is the center of the second screw hole. Drill 1/4 inch screw hole.
   a. It may be necessary to install a Shim behind the Header if mounting the Header to a wall.
6. Go to the Strike side of Header. Repeat steps 3 thru 5.

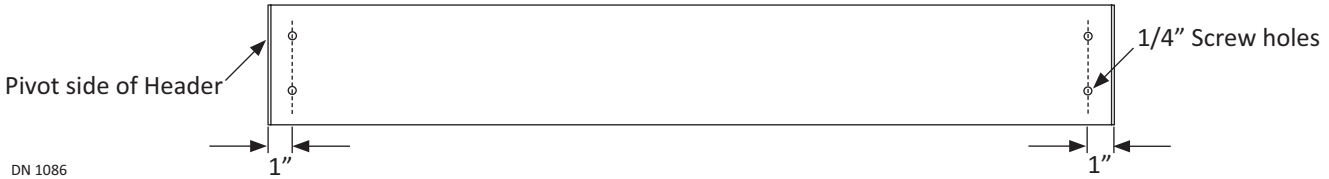


Figure 5-2 Drill 1/4” Screw holes on both sides of Header

Section 5c: Prepare the Door Frame

Note: The following instructions are for typical Metal Doors and Frame Profile. It is recommended to use lag bolts.

Note: If the Door Frame is not properly reinforced nor anchored to the building surface, and/or is hollow, reinforce the Door Frame with 1/4-20 blind rivnuts (not provided by NABCO).

Note: If the Door Frame is not Metal, ensure the Door Frame being used is of equal strength.

1. Go to the Pivot Side of Swing door.
2. Measure 1-1/8 inch from the Top of Swing door to the Top door frame.
3. Mark a Horizontal Line on the face of the Top door frame, at both ends. Please see Figure 5-3.

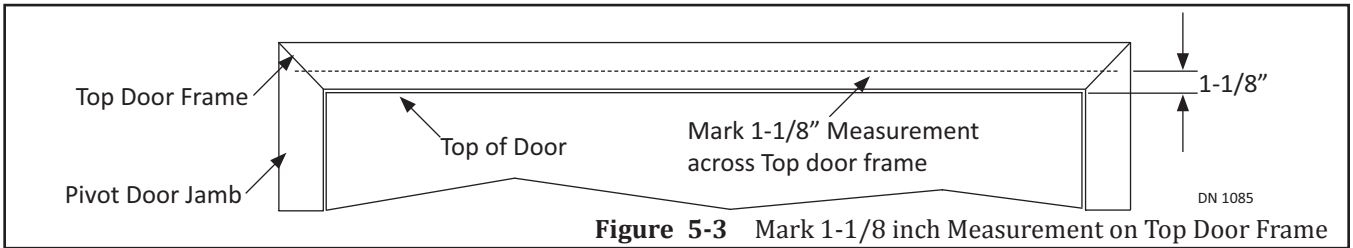


Figure 5-3 Mark 1-1/8 inch Measurement on Top Door Frame

4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends. Please see Figure 5-4.
5. To ensure proper operation of the Swing Arm:
   - For a Door Jamb that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
   - For a Door Jamb that is wider than 1-3/4 inches, measure from the inner edge of the Pivot Door Jamb to the center. Mark a vertical line at the 1-3/4 inch measurement. The Pivot side of Header must butt against the 1-3/4 inch mark.

Figure 5-4 Position GT8710 Header onto Door Frame

6. Ensure the Header is square and level.
7. Use the Header as a template to mark screw holes onto the face of the door frame.
8. Remove the Header. Set Aside.

Section 5d: Install Shim (Only if deemed necessary)

FOR UNITS NOT INSTALLING A SHIM SKIP TO SECTION 5E

1. Butt the Header up against the Horizontal line, line up the screw holes and then ensure the Header is square and level.
2. Go to the top of Header. Mark a horizontal line along the top edge of Header and the wall.
3. Measure the depth between the back wall of the Header and the wall
   a. Write that measurement down and label it #1.
4. Measure the distance between the top of door frame and the horizontal line that was just drawn at the top of Header. Please see Figure 5-5.
   a. Write that measurement down and label it #2.

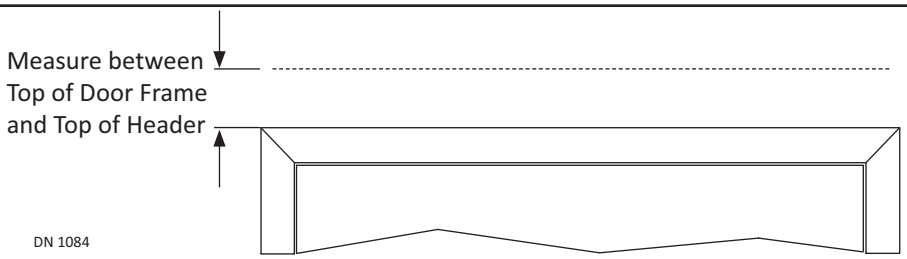


Figure 5-5 Measure for Shim Dimension

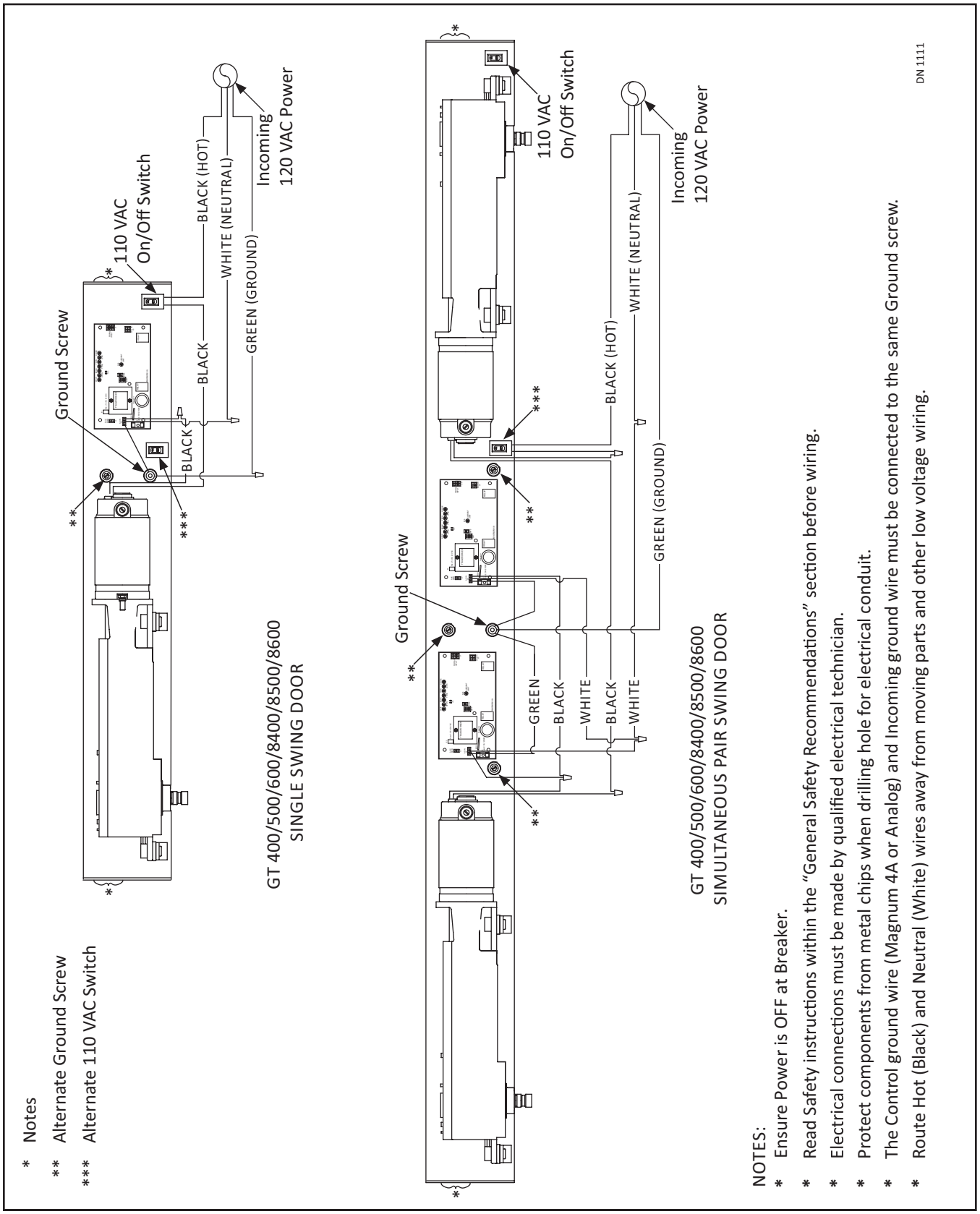
5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width as the Header.
   a. It is recommended to use a Shim made from Fir or Spruce.
6. Secure the Shim to stud(s). Please see Figure 5-6.
   a. It is recommended to use Lag Bolts.

Figure 5-6 Shim between Conversion Unit and Wall

Section 5e: Secure Header to the Door Frame

1. Lift up the Header to insert Power Wiring through the 7/8 inch hole.
   a. It is recommended to use a Conduit.
   b. It is recommended to insert all other Wiring through a separate hole..
2. Secure the Header to the Door Frame. Please see Figure 5-4.
   a. It is recommended to use Lag Bolts.
   b. For additional mounting, secure the Header to the Studs located behind the Shim.

CHAPTER 6: 110 VAC GENERAL WIRING



CHAPTER 7: INSTALL THE FIRST HALF OF SWING ARM

Section 7a: Outswing Arm

FOR INSWING ARMS SKIP TO SECTION 7B

7.a.a: Prep the Swing Door

Table 7-1 Dimension "A" Arm Shoe Mounting Locations

Model	Pivot Type	Outswing	
		With Fingerguard	No Fingerguard
GT 400 & 8400	Butt/Offset	N/A	12-7/16"
	Center Pivot	16"	15"
GT 500 & 8500	Butt/Offset	N/A	10-3/16"
	Center Pivot	13-3/4"	12-3/4"

1. Go to Table 7-1 to measure the distance from the inside edge of the Pivot Door Jamb, or the Center Pivot to the center of the first Sex Bolt hole (used to attach the Arm Shoe).
2. Mark a Vertical line on the face of the Swing door. Please see Figure 7-1.
3. At the Vertical line, measure 1-1/2 inches from the top edge of the Swing door down to the center of the Swing Door.
4. Mark a Horizontal line to cross the Vertical line. This is the center of the first Sex Bolt hole.

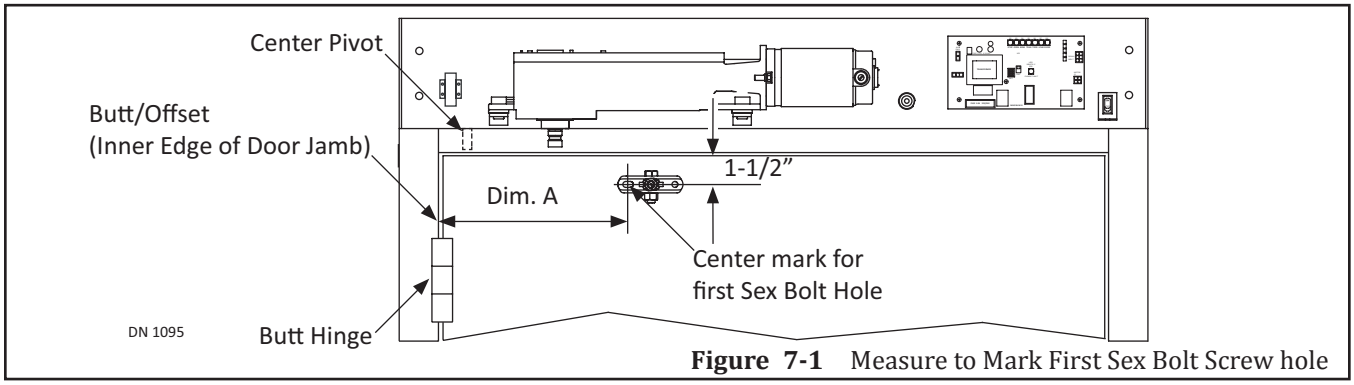


Figure 7-1 Measure to Mark First Sex Bolt Screw hole

7.a.b: Prep the Outswing Arm Assembly

1. Remove the Outswing Arm from the Threaded Rod. Set aside. Please see Figure 7-2.

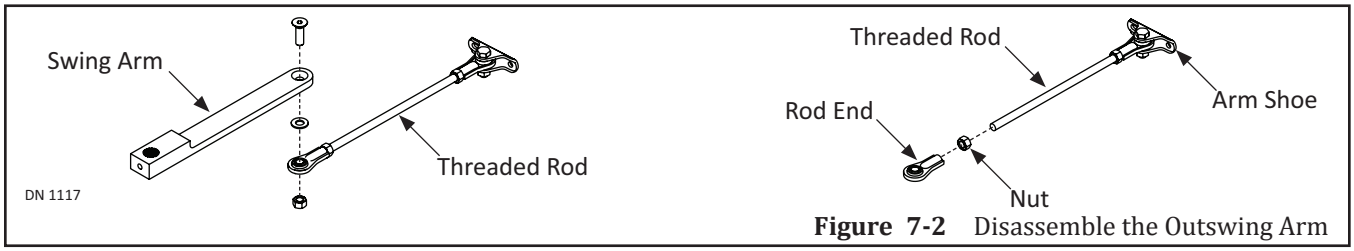


Figure 7-2 Disassemble the Outswing Arm

2. Go to Table 7-3 to locate the appropriate length measurement for the Threaded Arm.

Note: For Reveals that are (0 inches thru 6-1/2 inches), a 20 inch Threaded Rod must be purchased. For Reveals that are (6-3/4 inches and higher), a 30 inch Threaded Rod must be purchased.

Table 7-3 Dimension "B" Rod Length

		Reveal					
Model	**Pivot Type**	**1-1/8 inch**	**2-1/8 inch**	**3-1/8 inch**	**4-1/8 inch**	**5-1/8 inch**	**6-1/8 inch**
GT 400 & 8400	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8'	15-7/8"	16-7/8"
	Center Pivot	12-1/2"	13-1/2"	14-1/2"	15-1/2"	16-1/2"	17-1/2"
GT 500 & 8500	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
	Center Pivot	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"

3. Measure the Threaded Rod between the center of each Eye, located on each Eye, Located at each end of the Rod. Please see Dim B in Figure 7-3.
4. Remove the Link that is not attached to the Arm Shoe, from the Threaded Rod.
5. Cut the Threaded Rod according to the measurement that was determined in Step 3.

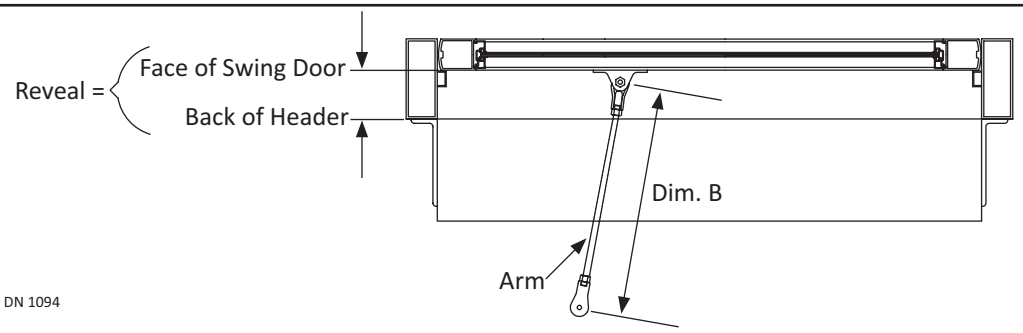


Figure 7-3 Cut the Threaded Rod and Plastic Tube

6. Obtain (1) color coordinated Plastic Tube from the Outswing Rod assembly.
7. Cut the Plastic Tube to the same length as the exposed Rod (between the Links and Nuts).
8. Slide the Plastic Tube over the Threaded Rod.
9. Replace the Rod Link back onto the Threaded Rod.
10. Tighten the Nut against the Link to prevent the Rod from screwing In or Out.

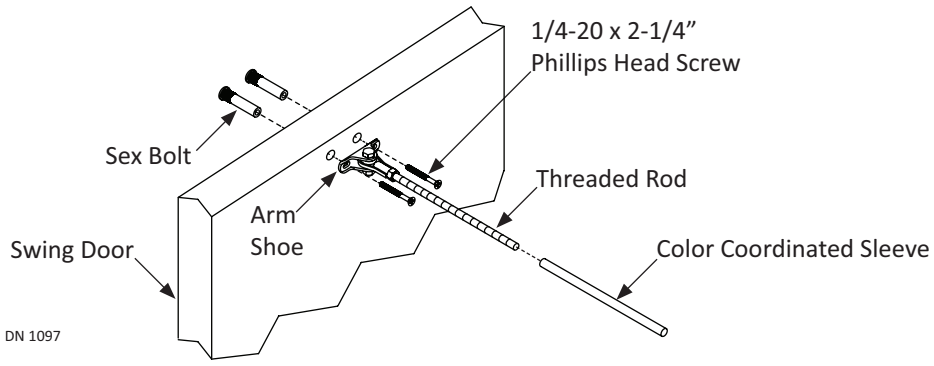


Figure 7-4 Secure Arm Shoe to the Swing door

7.a.c: Secure the Arm Shoe to the Swing Door

1. Butt the Arm Shoe against the Swing door. Align the first Sex Bolt hole to the measured Mark.
2. Ensure the Arm Shoe is square and level.
3. Use the Arm Shoe as a Template to mark the second Sex Bolt hole. Set aside.
4. Drill (2) 3/8 inch bolt holes all the way through the Swing door.
5. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
6. Go to the front of the Swing door. Secure the Arm Shoe to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.

Section 7b: Inswing Arm

Note: Ensure there is a 2 inch gap between the wall and the outside face of the Swing door in the fully operated position of 90 degress, for the Inswing Arm to operate properly.

Table 7-4 Dimension "C" Track Mounting Locations

		Inswing Standard Track (ST) 12-1/4"		Inswing Standard Track (PT) 21"	
Model	**Pivot Type**	**With Fingerguard**	**No Fingerguard**	**With Fingerguard**	**No Fingerguard**
GT 400 & 8400	Butt/Offset	N/A	8-1/4"	N/A	N/A
	Center Pivot	13"	12"	3-3/4"	2-3/4"
GT 500 & 8500	Butt/Offset	N/A	8-1/4"	N/A	N/A
	Center Pivot	13-3/4"	12"	3-3/4"	2-3/4"

1. Go to Table 7-4 to measure distance from the inside edge of the Pivot Door Jamb, or the Center Pivot to the center of the first Sex Bolt hole (used to attach the Track).
2. Mark a Vertical line on the face of the Swing door. Please see Figure 7-5.

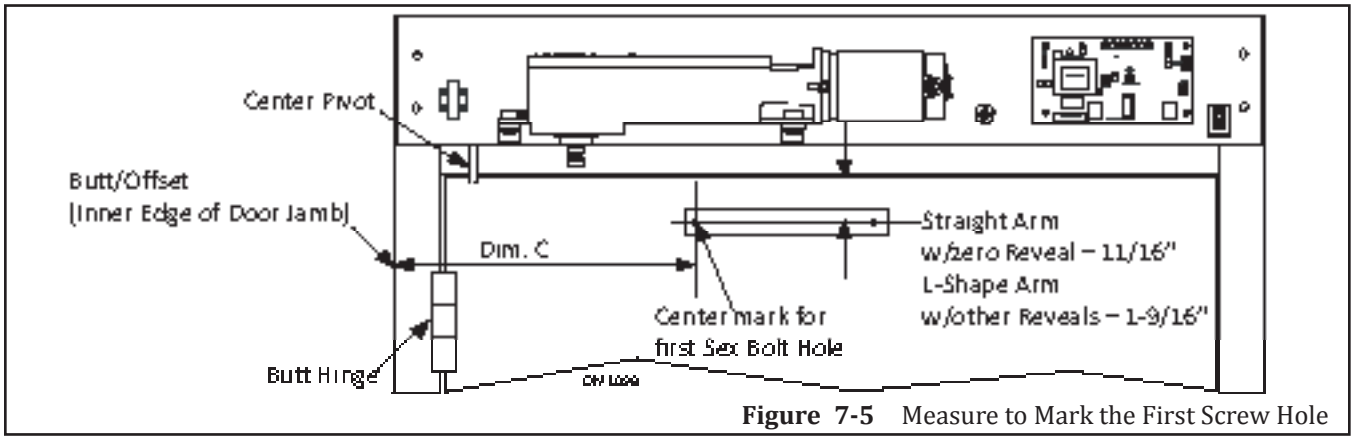


Figure 7-5 Measure to Mark the First Screw Hole

3. Measure:
   - 0 inch Reveal (Straight Arm): 11/16 inch from the top edge of the Swing Door down to the center of the Swing Door.
   - Reveals greater than 0 inch (L-Shape Arm): 1-9/16 inch from the top edge of the Swing Door down to the center of the Swing Door.
   - New dimension not shown (L-Shape Arm): Reveal + 8-7/8 inch = New dimension

4. Mark a Horizontal line to cross the Vertical line. This is the center of the first Sex Bolt hole.
5. Butt the Track against the Swing door by aligning the first Sex Bolt hole with the measured Mark.
6. Ensure the Track is square and level.
7. Use the Track as a Template to mark the second Sex Bolt hole. Set aside.
8. Drill (2) 3/8 inch bolt holes all the way through the Swing door.
9. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
10. Go to the front of the Swing door.
11. Butt the Track against the Swing door by aligning the Sex Bolt holes.
    a. Install (1) Spacer behind the Track for Swing doors with “0” Reveal.
12. Secure the Track to the Swing Door with (2) 1/4-20 x 2-1/4” Screw. Please see Figure 7-6.

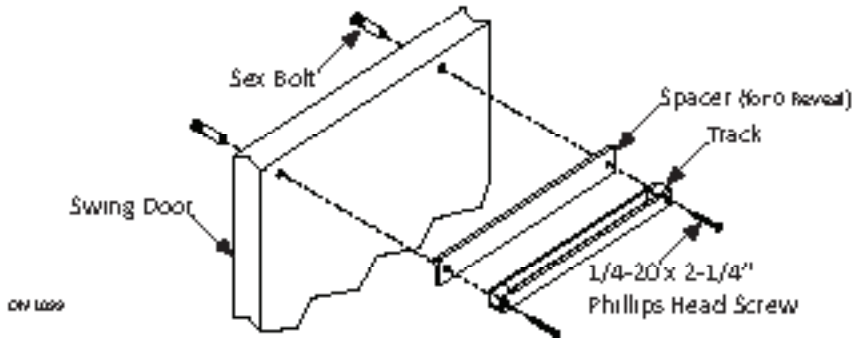


Figure 7-6 Secure the Track to the Swing Door

CHAPTER 8: INSTALL THE SECOND HALF OF SWING ARM

Section 8a: Set Pre-Load

WARNING **Proper Preload is critical for the Control and Operator to open/close the Swing Door correctly.**

CAUTION **Power must be turned OFF during the Swing Arm installation.**

DANGER **Ensure the Motor/Operator is plugged into the Controller.**

1. Ensure the Spring on the Operator is in the Unwound (0˚) position. Please see Figure 8-1.
   a. The Motor/Operator is shipped in the Unwound (0˚) position.

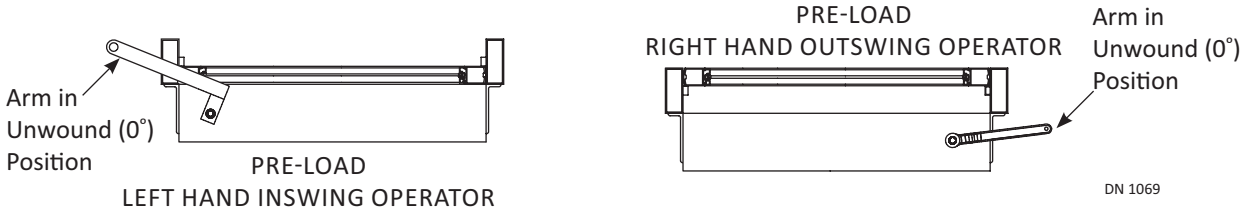


Figure 8-1 Preload Positions

2. Obtain (1) Pin or 1/8 inch Allen Wrench.
3. Go underneath the Header. Locate the Operator Spindle.
4. At the 0 degree position, slide the Swing Arm onto the Spindle.

DANGER **Do not allow the Pin or 1/8 inch Allen Wrench to drop out of the Lovejoy Coupling Access hole at any time during installation. The Swing Arm will spring back to its original location and can result in personal injury or damage.**

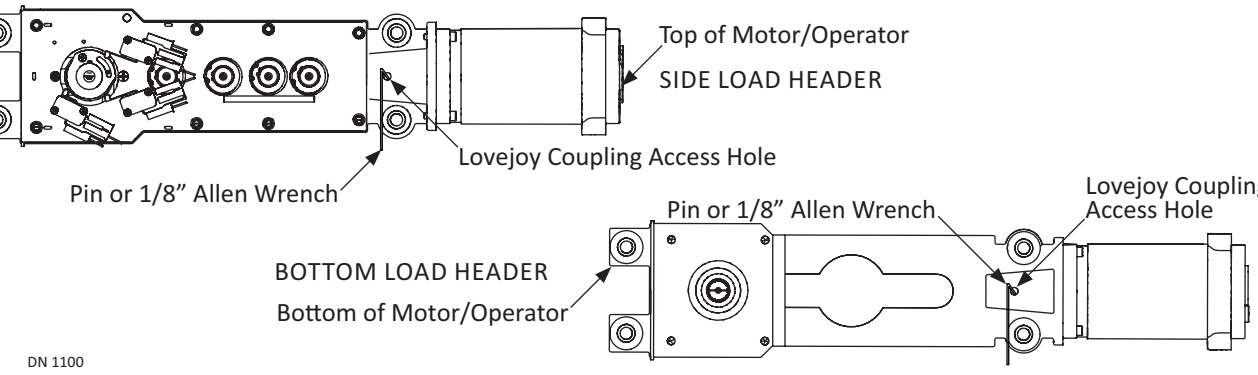


Figure 8-2 Insert Pin or 1/8 inch Allen Wrench into Lovejoy Coupling

5. In order to achieve correct Back Check and Latch Check positions, the Spring on the Operator must be wound up approximately 130 - 140 degrees. With a firm grip, from the Unwound (0 degree) position, rotate the Swing Arm approximately 60 degrees:
   - ▶ Clockwise
     - For Left Handing
   - ▶ Counter-Clockwise
     - For Right Handing

6. While holding the Swing Arm in that position, insert (1) Pin or 1/8 inch Allen Wrench into the Lovejoy Coupling Access Hole. Please see Figure 8-2.
   a. It may be necessary to ease the Swing Arm back until the Pin or 1/8 inch Allen Wrench engages the Lovejoy Coupling.

7. Remove the Swing Arm from the Operator Spindle.
   a. The Pin or 1/8 inch Allen Wrench will keep the Spring from unwinding.

8. Go to the 0 degree position again, slide the Swing Arm back onto the Operator Spindle. Please see Figure 8-3.

9. With a firm grip, slightly remove pressure from the Spring to allow removal of the Allen wrench. Continue to rotate the Swing Arm an additional 70-0 degrees. Re-insert the Allen wrench and then remove the Swing Arm.
   a. The Spring on the Operator should be wound approximately 130 - 140 degrees.

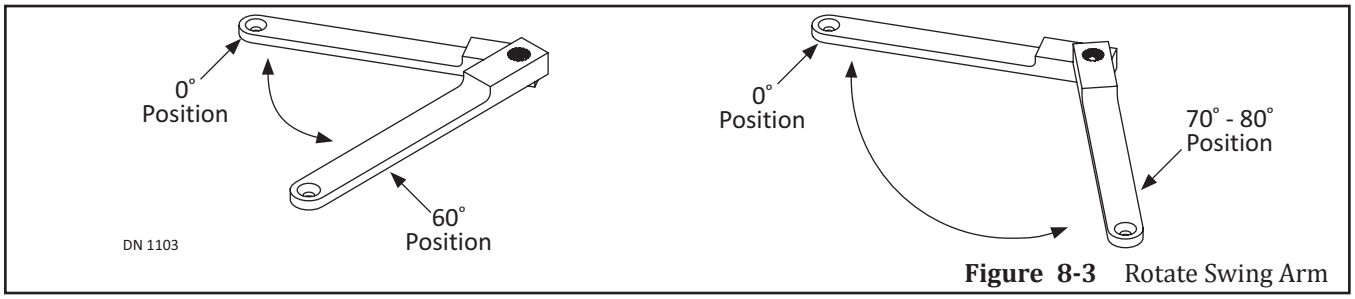


Figure 8-3 Rotate Swing Arm

Section 8b: Secure the Swing Arm to the Swing Door

8.b.a: Outswing Arm

1. Align the Screw hole at the end of Swing Arm to the Screw hole at the end of Threaded Rod.
   a. It may be necessary to remove and then slide the Swing Arm back onto the Operator Spindle.

2. Secure the Swing Arm to the Threaded Rod with (1) 3/8"-24 x 1-1/4" Socket Screw, (1) .405 Washer, and (1) 3/8"-24 Lock Nut.

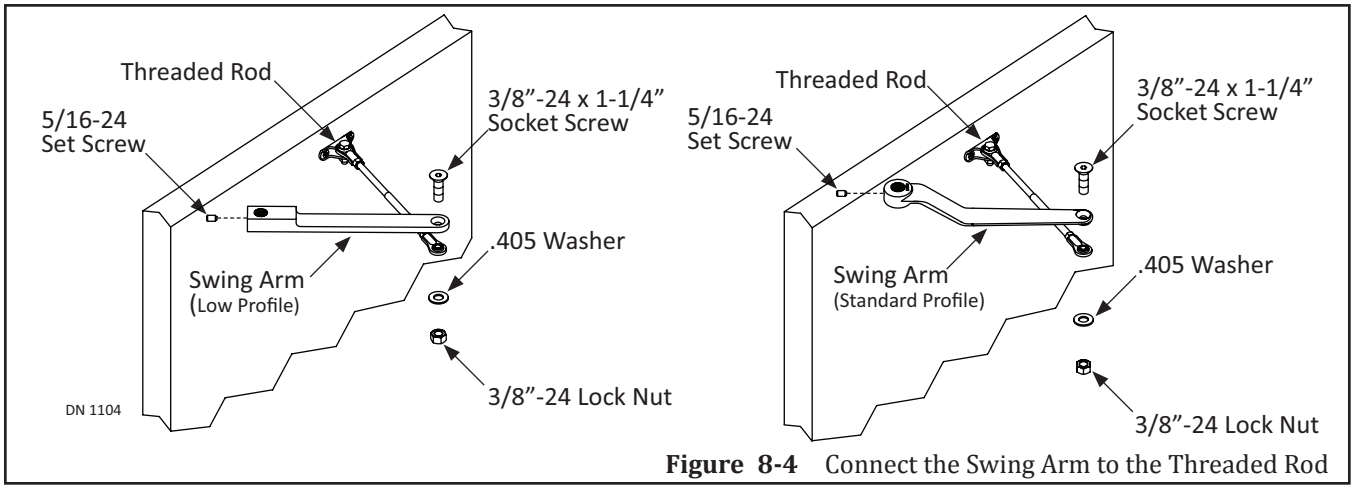


Figure 8-4 Connect the Swing Arm to the Threaded Rod

8.b.b: Inswing Arm

1. Go to the first 1/4-20 x 2-1/4" Screw (closest to the Pivot Door Jamb) that is used to secure the Track to the Swing door.
2. Remove the first 1/4-20 x 2-1/4" Screw so that side of the Track will hang down.
3. Close the Swing door to allow the Wheeled Roller (located at the end of the Swing Arm) to butt against the Swing door.
4. Raise the Track until the screw hole is aligned with the screw hole on the Swing door.
   a. The Wheeled Roller will insert itself into the Track.
5. Secure the Track to the Swing door with (1) 1/4-20 x 2-1/4" Screw.

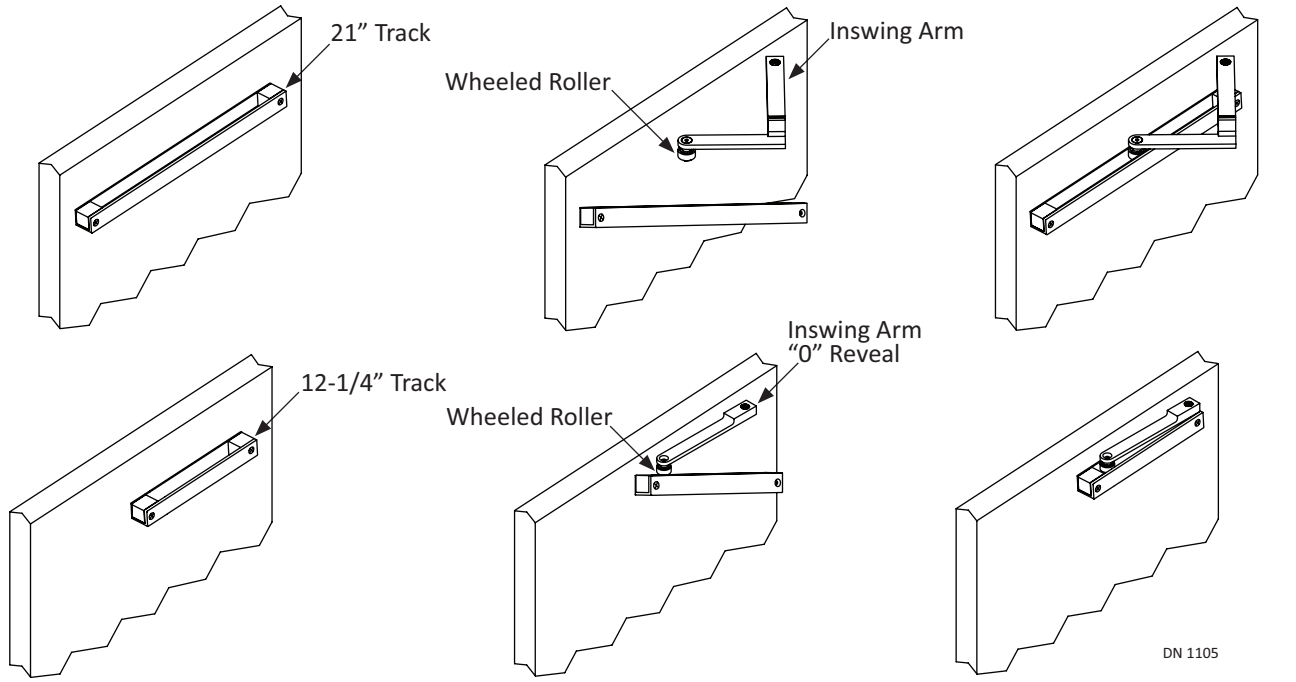


Figure 8-5 Insert the Swing Arm into the Track

8.b.c: Inspect the Scribe Mark

1. Fully close the Swing door.
2. Go to the underside of the Operator Spindle. Locate (1) Scribe Mark.
3. Ensure the Scribe Mark is parallel with the Swing Door.

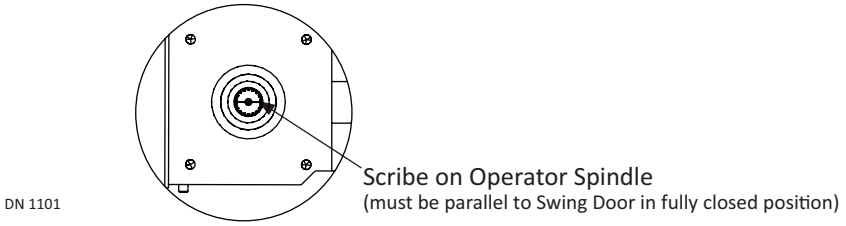


Figure 8-6 Scribe Mark must be Parallel to Swing Door

8.b.d: Secure the Swing Arm to the Operator Spindle

1. Secure the Swing Arm to the Operator Spindle with (1) Set Screw. Tighten but do not overtighten.
   a. Ensure the Set Screw is seated correctly within the groove on the Operator Spindle.
2. Remove the Allen Wrench.

Section 8c: Test the Pre-Load

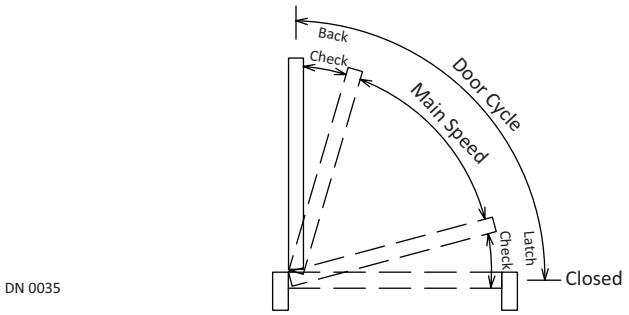


Figure 8-7 Swing Door Positions

Position	Description
Opening	Range from fully closed to 10° from fully open.
Back Check	10° from fully open to fully open.
Closing	Range from fully open to 10° from fully closed.
Latch Check	10° from fully closed to fully closed.

1. Turn Power ON.
2. Open Swing Door.
   a. Swing door should slow down at 75° - 80° open.
   b. If Swing door stops at any other degree, Back Check needs to be adjusted.
3. Close Swing Door.
   a. Swing door should slow down at 75° - 80° close.
   b. If Swing door slows down at any other degree, Latch Check needs to be adjusted.

Section 8d: Install the Arm Stop (Side Load Units)

BOTTOM LOAD UNITS SKIP TO CHAPTER 9

CAUTION **Do Not drill screw holes for the Arm Stop into the Motor/Operator!!!**

1. Open the Swing Door 90 degrees.
2. Obtain the Parts Bag that includes (1) Arm Stop and (2) 1/4-20 inch Self Tapping screws.
3. Position the Arm Stop at the bottom of Header according to type of Swing Arm and Reveal shown in Figure 8-8.

4. Use the Arm Stop as a template to mark and drill (2) 7/32 inch diameter screw holes.
5. Secure the Arm Stop with (2) 1/4-20 inch Self Tapping screws.

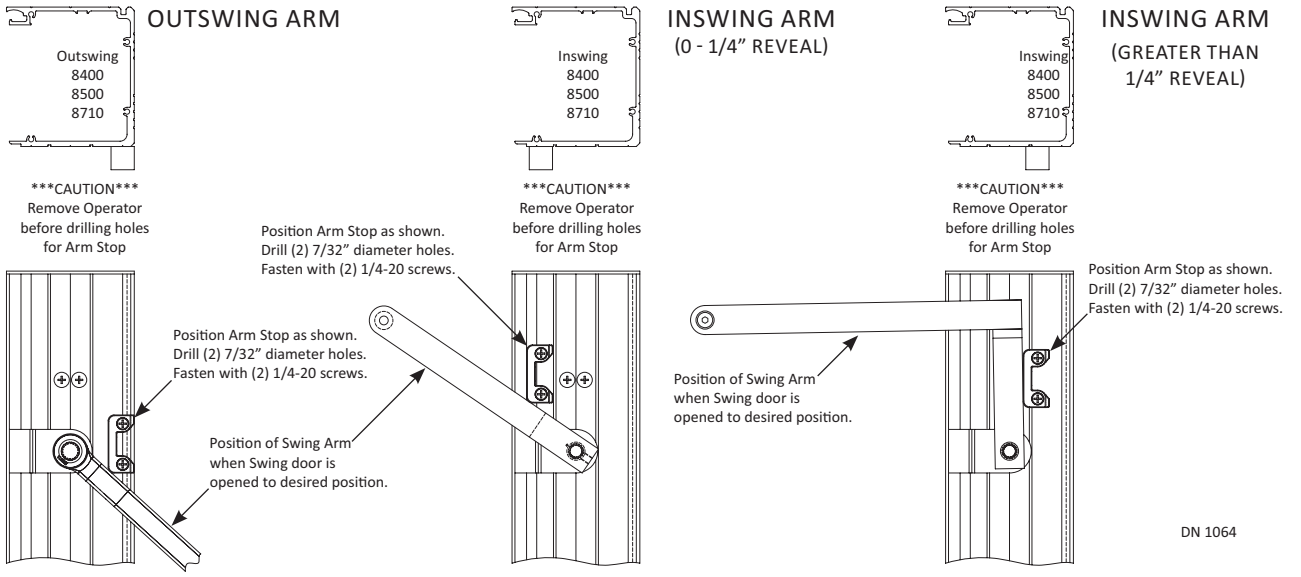
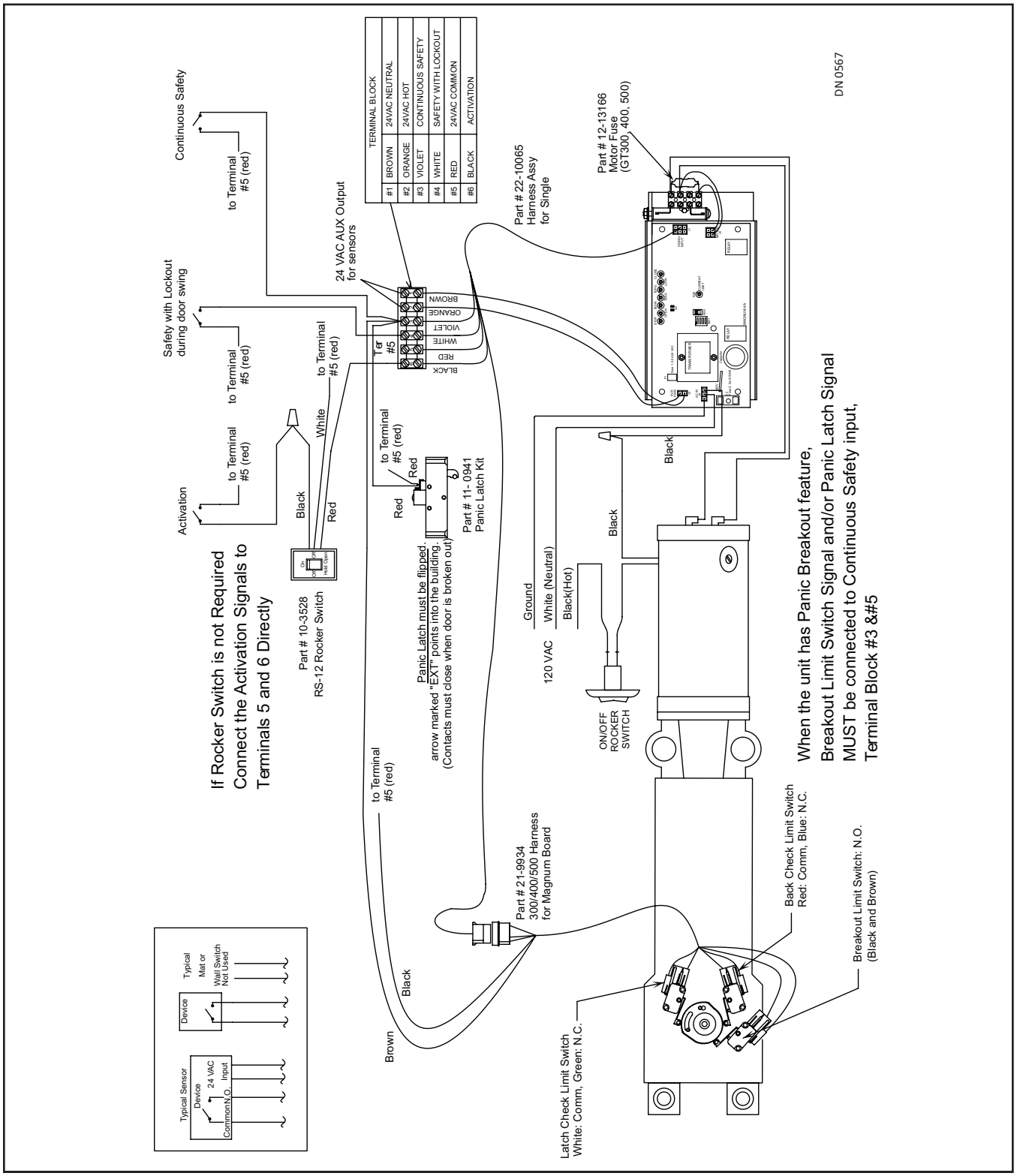


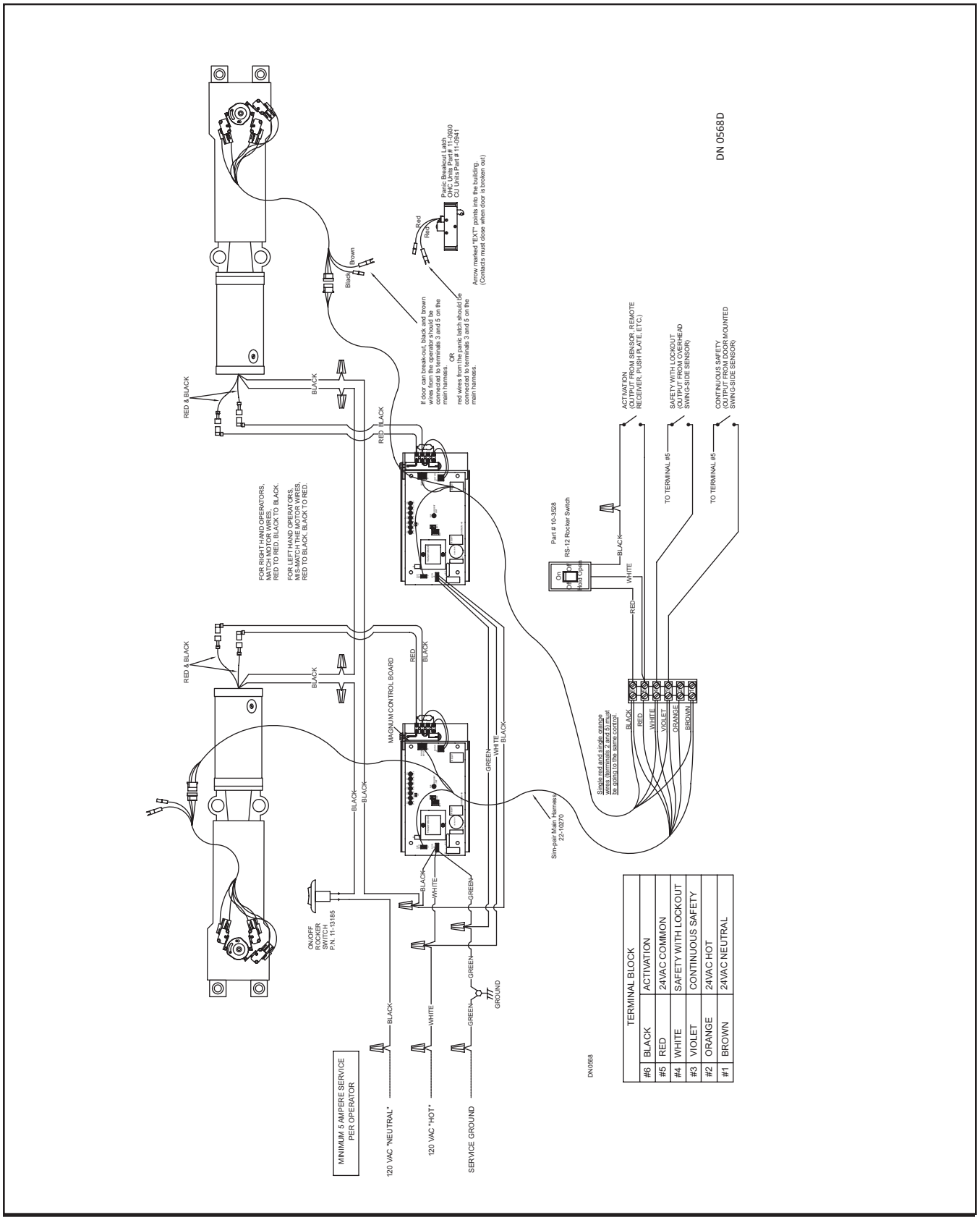
Figure 8-8 Arm Stop Configurations

CHAPTER 9: MAGNUM GENERAL WIRING

Section 9a: GT-400-500-600-8400-8500-8600 Single Swing Door



Section 9b: GT-400-500-600-8400-8500-8600 Simultaneuous Swing Door



CHAPTER 10: ADJUSTMENTS

10.1 Pre-Load Adjustments

Note: Adjustments to the Cam Assembly is rarely necessary. It is recommended to adjust the Cams Assembly as a last resort.

Note: It is recommended to obtain one of the following Manuals to use as reference:

- *Magnum 4A Manual; 15-10682*
- *Analog Control Manual; 15-10745*

The Cam Assembly is preset at the NABCO factory to activate Back Check/Latch Check at 90 degrees with the Operator Spring set in the UNWOUND position.

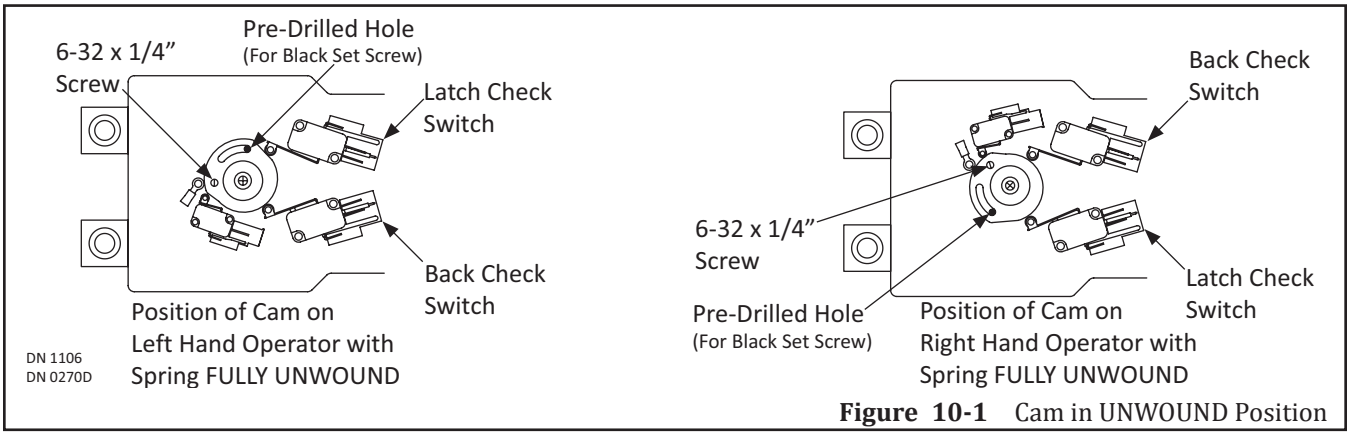


Figure 10-1 Cam in UNWOUND Position

LEFT HAND OPERATOR MAGNUM CONTROL		RIGHT HAND OPERATOR MAGNUM CONTROL	
Latch Check Switch Wires	White & Green	Back Check Switch Wires	Red & Blue
Back Check Switch Wires	Red & Blue	Latch Check Switch Wires	White & Green
ANALOG CONTROL		**ANALOG CONTROL**	
Latch Check Switch Wires	Orange & Brown	Back Check Switch Wires	Yellow, White & Blue
Back Check Switch Wires	Yellow, White & Blue	Latch Check Switch Wires	Orange & Brown

10.1.1 Rotate the Cam for Back Check (Bottom Load Units)

1. Go to the top of Header. Remove to the Cover used to protect the access hole located directly above the Cam Assembly.
2. Go inside the Header. Remove the Cover used to protect the Cam Assembly. Set Aside.
3. Remove the 6-32 x 1/4 inch screw.
4. Go to the c-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
5. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
6. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.
7. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw.
8. Rotate the Cam until the appropriate Back Check position has been achieved.

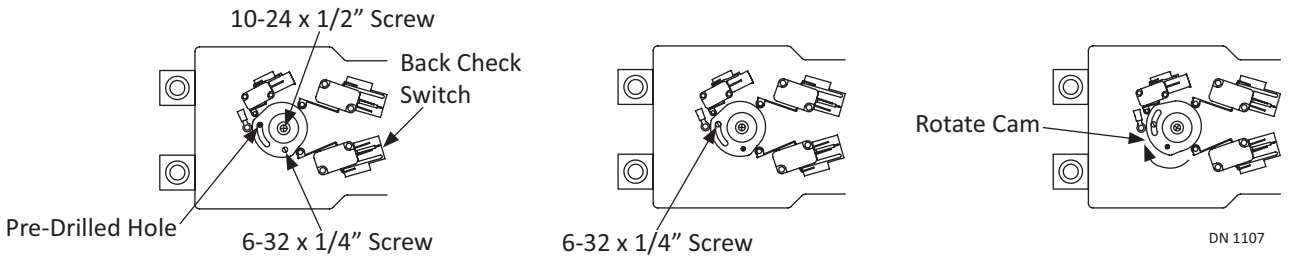


Figure 10-2 Adjust the Back Check Switch

9. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.
10. Replace both Covers.

10.1.2 Rotate the Cam For Back Check (Side Load Units)

1. Go inside the Header. The Cam Assembly can be adjusted from the side.
   a. A Switch Assembly Cover is not installed on a Side Load Header.
2. Remove the 6-32 x 1/4 inch screw with a 1/4 inch open end wrench.
3. Go to the c-shaped slot located to the Left or Right of the 6-32 x 1/4 inch screw. Locate (1) pre-drilled hole.
4. Insert the 6-32 x 1/4 inch screw inside the pre-drilled hole.
5. Tighten, but only so the 6-32 x 1/4 inch screw does not fall out of the Slot.
6. Go to the middle of the Cam. Loosen the 10-24 x 1/2 inch screw with a 5/16 inch box or open end wrench.
7. Rotate the Cam until the appropriate Back Check position has been achieved.
8. Tighten down both the 6-32 x 1/4 inch screw and 10-24 x 1/2 inch screw.

10.2 Adjust the Swing Arm for Latch Check

Latch Check positions can not be adjusted by rotating the Cam. Adjustments must be accomplished by removing, and then sliding the Swing Arm back onto the Operator Spindle to the left or right of the last position.

10.3 Magnum Control Adjustments

Before adjusting speeds:

- Set the Current Limit to maximum
- Adjust the Open-Close-Check speeds
- Adjust current limit to the proper level

Table 10-1 Dip Switch Information

Dip Switch	ON Position	OFF Position
1	Not Used	Not Used
2	Normally Open Safely	Normally Closed Safely
3	Push-N-Go Inactive	Push-N-Go Active
4	Timer Mode	Sequential Mode

Table 10-2 Slide Switch

Position	Function
UP	Low Energy (GT-500)
DOWN	High Energy (GT-400); Door opens faster

Table 10-3 Potentiometers and Functions

Potentiometer	Function
STOP	▶ Adjusts how door reacts to continuous safety input (terminal # 3) during Opening. Counterclockwise = door slowly closes, Clockwise = door creeps open ▶ For Magnum 4 and 4A only: After 8 seconds of the door being held open, motor voltage is lowered to reduce stress on motor and control. "stop" will adjust this reduced voltage.
OPEN	Adjusts opening speed. Clockwise = Faster
BCHK	Adjusts Back Check speed. Clockwise = Faster
TDAS	Adjusts how long door remains open after activation signal. Clockwise = Longer
TDPG	Adjusts how long door remains open after Push-N-Go. Clockwise = Longer
LCHK	Adjusts Latch Check speed. Clockwise = Faster
CLOSE	Adjusts closing speed. Clockwise = Faster
Current Limit	Adjusts how hard the door will push against an obstacle (while opening) before recycling. Clockwise = less sensitive

Table 10-4 Magnum Control LED Information

LED Color	LED Status	Door Status
Green	Fast Flashing (2 flashes per second)	Door is opening.
	On Steady	Door is in Back Check.
	Slow Flashing (1 flash per second)	Door is closing.
	Off	Door is in Latch Check or Closed
Red	**Indicator**	**Action**
	Slow Flashing (1 flashes per second)	Continuous Safety Activated
	Fast Flashing (2 flashes per second)	Safety with Lockout Activated
	On Solid	Recycle Activated

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Model GT500 and GT710
Low Energy Power Operated Doors

OWNER'S MANUAL

A Founding Member of: AAADM
(American Association of Automatic Door Manufacturers)

Table of Contents

WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-11293
Rev. 6/18/15

Chapter 1: Warning Labels

Please refer to this Chapter in the event a warning label is displayed within this manual and further definition needs to be explained.

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: Indicates important information that provides further instruction.

Chapter 2: Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

> NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contactor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

Chapter 3: Service Availability

Low Energy automatic door systems are distributed through a nationwide network of authorized suppliers for sales, installation, and service.

Immediately contact the Door Manufacturer or the Authorized Door Manufacturer Representative, if service must be performed on a Low Energy automatic door system.

Chapter 4: To Our Customers

The purpose of this manual is to provide the owner and/or caretaker a description of operation and maintenance requirements for the Low Energy automatic door system, and to also provide instruction for a Daily Safety Check.

It is essential for the owner and/or caretaker to recognize the importance of *maintaining* each automatic door system.

It is the responsibility of the owner and/or caretaker to *inspect* the operation of each automatic door system - daily - to ensure pedestrian safety and personal protection.

WARNING **Should the door fail to operate as prescribed in the Daily Safety Check, or at any other time for any other reason, DO NOT attempt to repair or adjust the door. Call an AAADM Certified technician. These technicians are trained to service automatic door systems in accordance with ANSI/BHMA A156.19 (Low Energy).**

Chapter 5: Provided Information

It is the responsibility of the Automatic Door Installer to ensure the following information for each automatic door system has been provided to the owner and/or caretaker:

- Number to call for service or questions about your system if you are uncertain of any condition or situation.
- Warranty information for each door.
- Instruction on how to conduct the Daily Safety Check.
- Location of function switches and instruction in their use.
- Circuit breaker or main power-disconnect location for each door system.
- AAADM inspection form or a work order signed by an AAADM Certified Inspector.
- A completed annual ANSI compliance inspection label located at the bottom of the safety information label affixed to the door.

Note: If there are any problems, or if the safe performance of the door is in question, discontinue door operation immediately and secure in a safe manner. Call an authorized automatic door professional for repair.

Note: AAADM Daily Safety Check videos are available. Contact the Authorized Door Supplier *or AAADM.*

Chapter 6: Compliance with Safety Standards

To ensure safe operation of the automatic door system, it is the responsibility of the owner or caretaker to ensure the following regulations are maintained according to ANSI/BHMA A156.19 (Low Energy):

- Proper signage and labels must be applied and maintained on each Door Panel.
- If signage is removed or cannot be read, request replacement when calling for service.

The American Association of Automatic Door Manufacturers (AAADM), has established a program to certify automatic door inspectors. Through this program, inspectors are trained to check Low Energy automatic door systems for compliance with the American National Standards Institute standard ANSI/BHMA A156.19 (Low Energy).

Chapter 7: General Safety Checks

An ecologically acceptable disposal of the installation is ensured if the different materials are separated and recycled. No particular measures are required for the protection of the environment. However, the relevant legal prescriptions applicable for the installation site have to be complied with!

CAUTION **In order to guarantee reliability of the installation, any components showing signs of wear must be replaced as a preventive measure.**

- Housekeeping: Check the door area for tripping or slipping hazards.
- Traffic Patterns: Observe traffic patterns. Plan routing so pedestrians enter and exit in a straight approach, directly toward the center of the door opening.
- Damage:
  - Check all door panels for damage.
  - Make sure that all hardware and overhead covers are properly secured. There should be no bulletin boards, literature racks, merchandise displays, or other attractions in the door area that would interfere with use of the door or invite people to stop or stand in the door area.

- Breakout Stop (OHC):
  - For *OHC Inswing* Doors that are Center pivoted may be supplied with an Emergency Breakout Stop or Switch that will allow the door to open in the direction of emergency egress.
  - When the door is pushed into the breakout mode, check that door will not activate.
  - Call your supplier for details.
- Guide Rails:
  - Check that guide rails or other barriers or separators are present (two per swing door side) and firmly anchored. Rail length should be the width of the open door or greater.
- Activating Switch (Knowing Act):
  - Doors equipped with a manual activating switch shall hold fully open for a minimum of 5 seconds before closing.
  - Doors equipped with a manual activating switch shall have a decal as follows: "Automatic Door. Activate Switch to Operate." The decal should be visible from both sides of the door.
- Finger Guard: If installed, inspect the Finger Guard to see that it is secure and in good repair. Please see Figure 1.

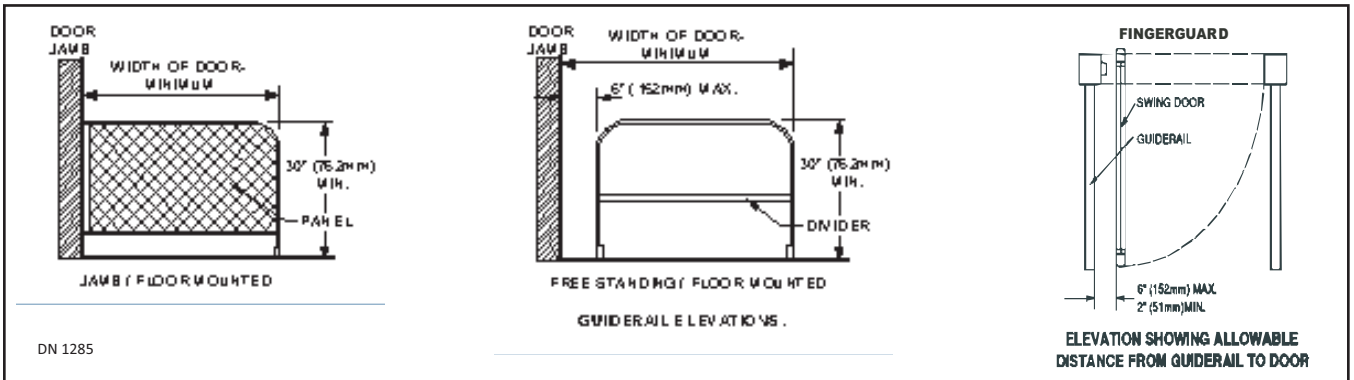
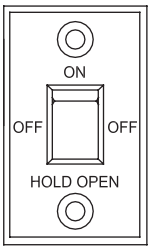


Figure 1 Guard Rail and Finger Guard

Chapter 8: Power Switch

ON	When the switch is in ON position, all signals are accepted and the door is ready for operation.	
OFF	When the switch is in the OFF position, the activation signal from the push switch is not accepted by the control box. The OFF position does not shut off the power.	
HOLD OPEN	When the switch is in HOLD OPEN position, doors are held open as long as the switch remains in this position. The doors should be held open in this manner. Do not prop open the doors with any object.	

Chapter 9: Daily Servicing

WARNING **Electrocution hazard. When servicing the unit, turn power OFF at the circuit breaker in the building's electrical box, unless it is necessary for adjustments.**

Notice: **Use Mild Soap to clean.**

Installation and Control Elements Description	Check	Clean
General Condition	X	
Free door movement (manually)	X	
Guide Rails	X	X
Weather Stripping	X	X
Header Cover	X	X
Force to prevent the door from closing should not exceed 15 pounds. Can be measured with a force gauge.	X	
▶ Center pivoted Inswing Doors may be supplied with an emergency breakout stop or a switch allowing the door to open in the direction of emergency egress. ▶ When the door is pushed into breakout mode, check that the door will not activate. ▶ Call supplier for details.	X	
All existing Control elements such as: Sensors, Key-operated Switches, Floor Control Mats, etc.	X	X
Stickers, AAADM labels	X	X

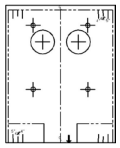
Chapter 10: Daily Safety Check

CAUTION **If a problem exists, turn OFF the POWER. Call the Automatic Door Supplier.**

1. Activate the Door Panel. The Door Panel should open at a slow smooth pace (4 seconds or more) and then stop without impact.
2. The Door Panel must remain fully open for a minimum of 5 seconds before beginning to close.
3. The Door Panel should close at a slow smooth pace (4 seconds or more) and stop without impact.
4. Inspect the floor area. It should be clean with no loose parts that might cause user to trip or fall. Keep traffic path clear.
5. Inspect each Door Panel's overall condition. The appropriate signage should be present and the hardware should be in good condition.
6. Have the Low Energy automatic door system inspected annualy by an AAADM certified inspector.

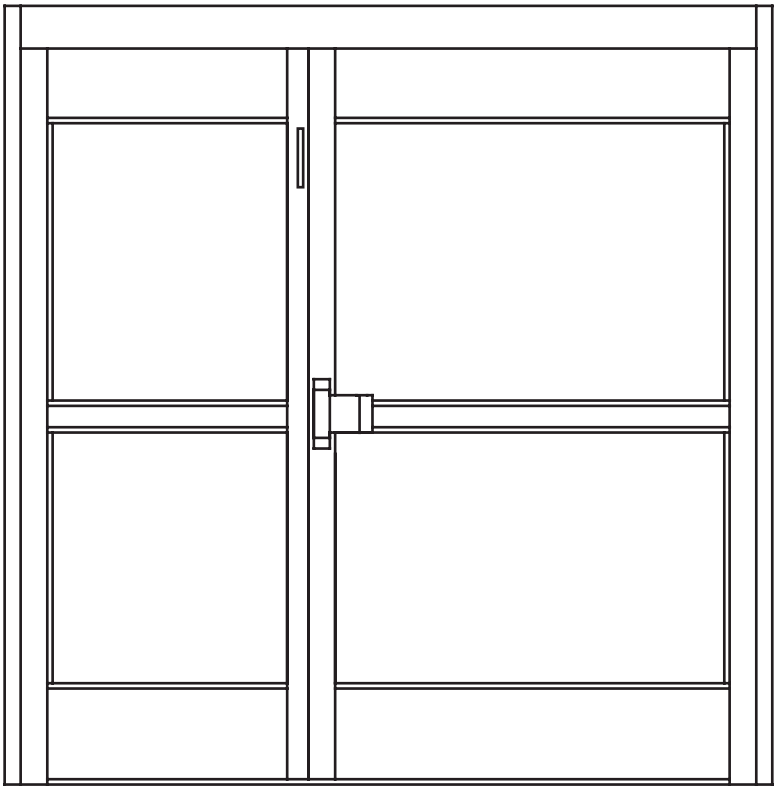
Chapter 11: Signage

Note: For additional decals or labels for automatic doors, call your automatic door supplier.

Decal	Description	
Activate Switch to Operate	▶ (2) Activate Switch signs, shall be adhered to both sides of door, with the words "Automatic Caution Door and Activate Switch to Operate" to be clearly visible. ▶ The sign shall be a minimum of 6 inches in diameter. Black lettering shall be a minimum 5/8 inch tall on a yellow background. White lettering shall be a minimum 1/2 inch tall on a blue background.	
Header Template	Used for OHC Swing Doors only	
AAADM Safety Information Label (Low Energy Swing Doors)	▶ (1) Safety Information sign shall be adhered to Jamb Tube on Interior Side of Door Panel. ▶ The sign shall be a minimum of 9 inches tall. Black lettering shall be a minimum of 10 point type on a white background. White lettering shall be a minimum of 10 point type on a blue background.	

S82 W18717 Gemini Drive
Muskego, Wisconsin 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com
Technical Support: (866) 622-8325

Model GT 2300
ICU Manual Swing Door
Unequal Panels - Smoke Rated



DN 0451

WARNING

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #15-13913
Rev. 4/10/13

Table of Contents

WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.**

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Notice: **Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.**

Note: *Indicates important information that provides further instruction.*

GENERAL SAFETY RECOMMENDATIONS

WARNING **Do Not install or service this product unless Safety Practices, Warning Labels, Installation Instructions, and Operating Instructions, have been read and fully understood. Failure to so do may result in bodily injury or property damage.**

CAUTION **Handle Glass With Care!!! Use caution when moving and installing the glass panels. These panels are designed to be assembled with tempered glass. Any sharp objects that come in contact with glass may cause the glass to shatter. NABCO Entrances is not responsible for glass that is broken during the installation of this Unit.**

Notice: **Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.**

Notice: **This manual and the owner's manual must be given to and retained by the purchasing facility or end user.**

Notice: **Advise the purchasing facility or end user to make regular safety checks and all other duties that may apply.**

- If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.
- It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door. Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distrubutor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.
- Do Not take shortcuts.
- Ensure that all safety devices provided by the manufacturer work as intended.
- Ensure that all safety decals are properly displayed on any/all swing doors.

CHAPTER 1: SCOPE

Section 1a: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards.

In the United States, the GT-2300 ICU Swing door is certified to have a Smoke and Air Infiltration NFPA-105 rating (for sprinklered buildings).

Instruct the building owners and operator on the essentials of the operation of the door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

Section 1b: Objective

The GT-2300 is designed to be installed in the frame of a door opening. The door function is controlled manually. Adhesive gaskets plus a continuous hinge help to provide smoke and air infiltration at ambient temperature. Two unequal door panels allow maximum CDO width, and incorporate NABCO's sturdy tie rod construction (accommodating 1/4 inch to 1 inch thick glass). A low profile Header allows greater CDO height in a low ceiling/frame height application.

This manual offers step by step instructions.

CHAPTER 2: GETTING STARTED

Section 2a: Materials Specifications

List of Materials	
► Tape Measure	► Power Drill
► Pencil	► 5/8 and 3/4 inch Drill Bit
► Assorted Phillips Head Screw Drivers	► Chalk
► Level	► 3/32 inch Allen Wrench
► Plumb	► Shims

Section 2b: Standard Swing Door Configurations

Note: Optional width of an Inactive Panel can be minimum 12 inches to maximum 48 inches.

Note: Optional width of an Active Panel can be minimum 24 inches to maximum 48 inches.

Rough Opening	Inactive Panel	Active Panel	Swing Opening
5 feet 3 inches	24 inches	36 inches	55 - 1/2 inches
5 feet 9 inches	24 inches	42 inches	61 - 1/2 inches
6 feet 3-1/2 inches	24 inches	48 inches	67 - 1/2 inches

Section 2c: Prepare the Rough Opening

1. Ensure the Rough Opening is the correct size. Please see Figure 2-1.
   - ► The width of the Rough Opening should equal:
     PACKAGE WIDTH + 1/4 INCH ON EACH SIDE
   - ► The height of the Rough Opening should equal:
     PACKAGE HEIGHT + 1/4 INCH

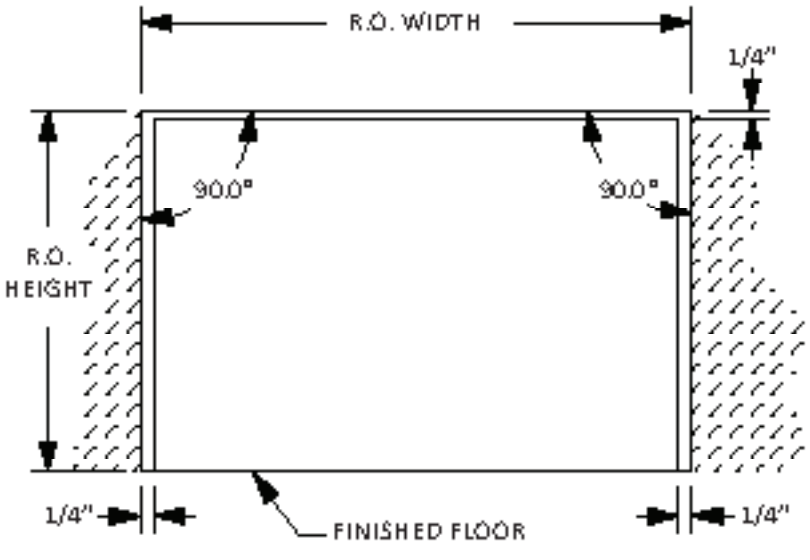


Figure 2-1 Masonry Opening

CHAPTER 3: INSTALL HEADER/FRAME ASSEMBLY

Section 3a: Install Header to Jamb Tubes

Note: Jamb Tubes have been pre-drilled at the NABCO factory for proper Header installation.

1. Remove from Carton:
   - Header
   - Jamb Tubes
2. Align predrilled screw holes located on the inside face of each Jamb tube to both sides of the Header. Please see Figure 3-1.

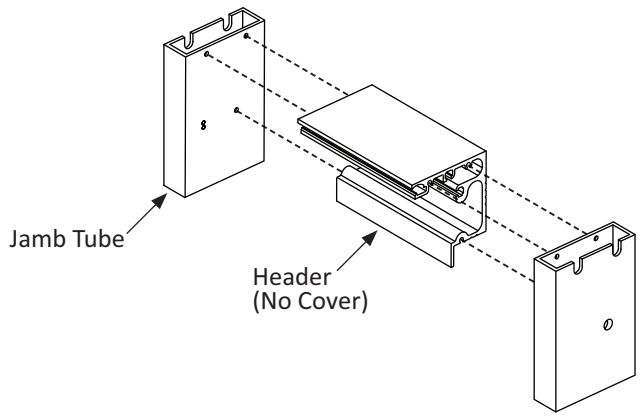


Figure 3-1 Align Jamb Tubes to Header

3. Orientate the frame in relation to the outside of building. Please see Figure 3-2.

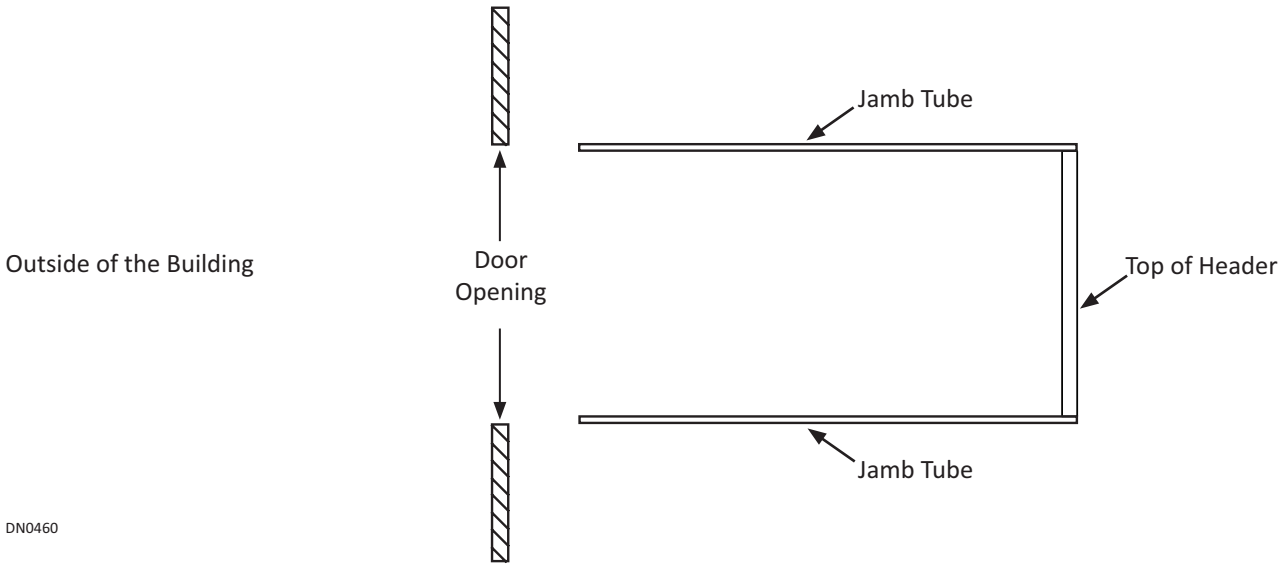


Figure 3-2 Layout Header and Jamb Tubes

4. Obtain Parts bag 12-11019 provided within Header. The following should be provided:
   - (6) 1/4-20 x 3/4 inch Large Phillips Head Screws
   - (2) L-Shaped Brackets
   - (4) 1/4-20 x 3/4 inch Phillips Flat Head Screws
   - (2) #8-32 x 1/4" Round Head Screws
5. Secure Header to both Jamb Tubes with (6) 1/4-20 x 3/4 inch Large Philips Head Screws by inserting screws through Access Holes located on outside face of Jambs.Please see Figure 3-3.

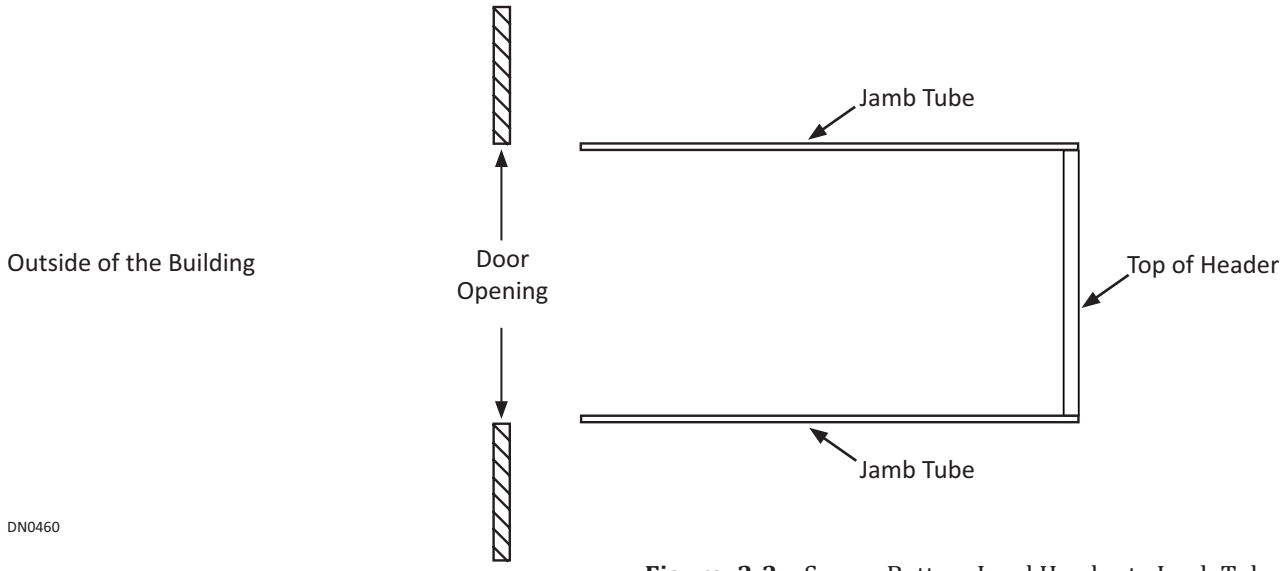


Figure 3-3 Secure Bottom Load Header to Jamb Tubes

6. Secure (1) Cover Clip to each Jamb Tube with (4) 1/4-20 x 3/4 inch Flat Head Screws. Please see Figure 3-4.

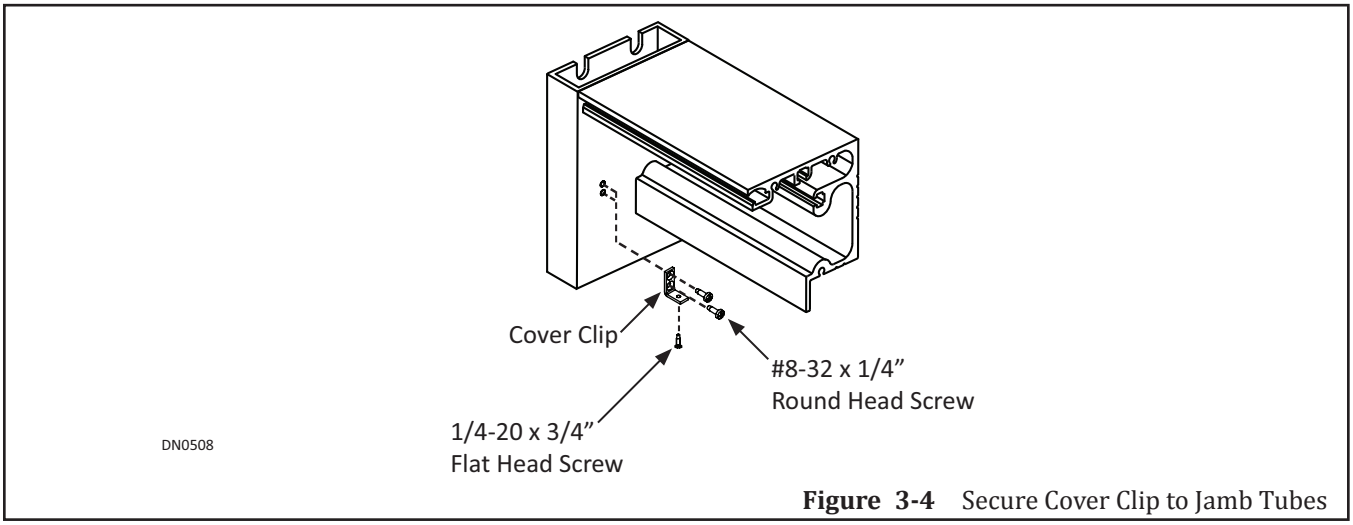


Figure 3-4 Secure Cover Clip to Jamb Tubes

7. Insert Cover into the Header Channel, swing down to close, and secure Cover to each Cover Clip with (2) Round Head Screws. Please see Figure 3-5.

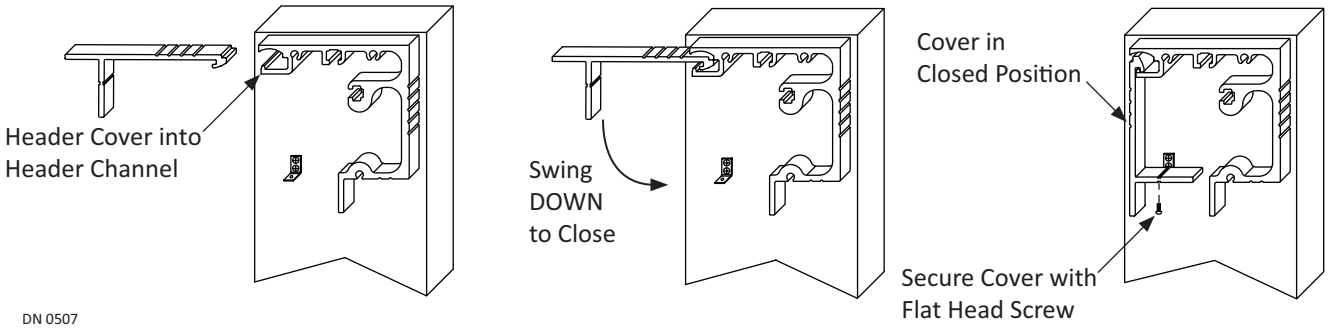


Figure 3-5 Install Header Cover

Section 3b: Install Frame Assembly to Building

1. Lift to position the assembled Frame into the rough opening.
2. Plumb Jamb tubes in both planes to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 3-6.
   a. Shim back of Jamb as required.

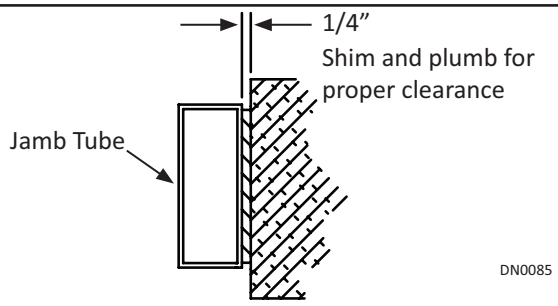


Figure 3-6 Shim Back of Jamb

3. Plumb the Header at the top to ensure the rough opening allows a 1/4 inch clearance. Please see Figure 3-7.
   a. Shim top of Header as required.

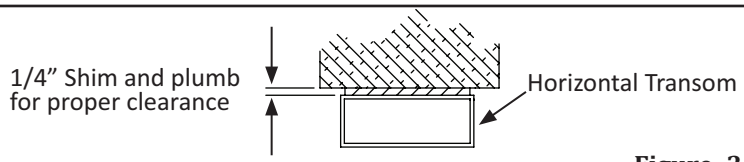


Figure 3-7 Shim Top of Header

Note: It is recommended to countersink holes as required to flush the surface.

Note: It is recommended to drill tap threads for anchors in a steel or aluminum structure.

Note: If anchor points in structure are known, the aluminum door framing can be pre drilled prior to installing into the opening.

Note: To prevent Header sag, secure the Header in the middle to the top horizontal structural member of the opening. Use of 3/8 inch threaded rod or 1/4 inch bolts are acceptable methods of supporting the center of the header.

3.b.a: Anchor Placement for Header

Use 1/4 inch diameter anchors or 3/8 inch threaded rods, with a maximum 48 inches on center. First anchor maximum is 36 inches from each end of the Header. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 3-8 and Figure 3-9.

3.b.b: Anchor Placement for Slick Jamb

Use 1/4 inch diameter anchors with a minimum of 3 per Jamb tube, maximum is 48 inches on center. Drill 1/4 inch diameter holes in the face of Jamb and then countersink each hole. Anchors and Fasteners must be appropriate for the type of structure being fastened into. Anchors and Fasteners are not provided by NABCO. Please see Figure 3-8 and Figure 3-9.

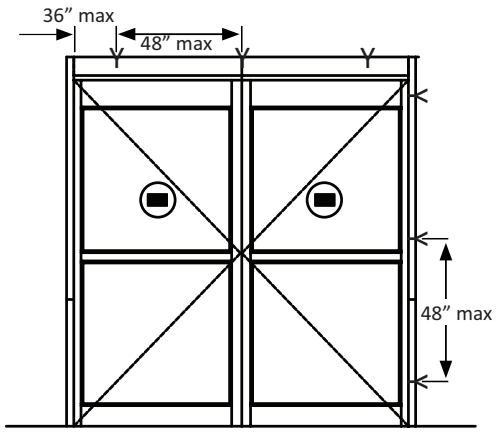


Figure 3-8 Anchor Placement

4. Screw in fasteners to secure the Frame.

Note: Do not overtighten anchors to prevent deforming Jamb tubes.

Note: Ensure anchor heads to not come in contact with edges of glass to prevent breakage.

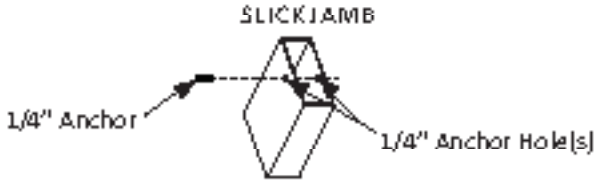


Figure 3-9 Screw Anchors

CHAPTER 4: INSTALL THE SWING DOORS

The GT-2300 ICU Manual Swing door System can be ordered with Swing doors of equal width (Optional) or Swing doors of unequal width (Standard). For Swing doors of unequal width, the wider Swing door is the main means of egress and identified as the Active Panel. The narrow Swing door is used to provide additional egress for moving larger objects through the door opening. The narrow Swing door is identified as the Inactive Panel because it is normally fixed.

Remove from Carton:

- (2) Swing Doors
- Push Paddle
- Entry Trim with Handle
- Strike Plate Assembly
- Hardware
- Weathering Seal

The GT-2300 ICU Manual Swing door System has been shipped with the following support equipment pre-installed at the NABCO factory:

- Continuous Hinge
  - Listed for fire applications up to 90 minutes without special preparation.
- Silicone Smoke and Draft Control Gaskets
  - Horizontally on Header, exterior of roller track.
  - Vertically between Swing door Panels and Jamb Tubes.
- Concealed Vertical Rod Mechanism
  - Used to lock the Active Swing door into position.
- Flush Bolt
  - Used to lock the Inactive Swing door into position.

Section 4a: Secure Swing Doors to Jamb Tubes

Note: Do Not cut Continuous Hinge from the top end. Resize Continuous Hinge at bottom end only.

1. Obtain approximately (40) #12-24 x 7/16 inch thread forming screws provided by NABCO.
2. Place Swing door directly underneath the Break Out side of Header. Please see Figure 4-1.
   a. Ensure Swing door swings out in right direction.
   b. If Continuous Hinge is too long, cut it shorter at the bottom only. Fill the gap with foam.

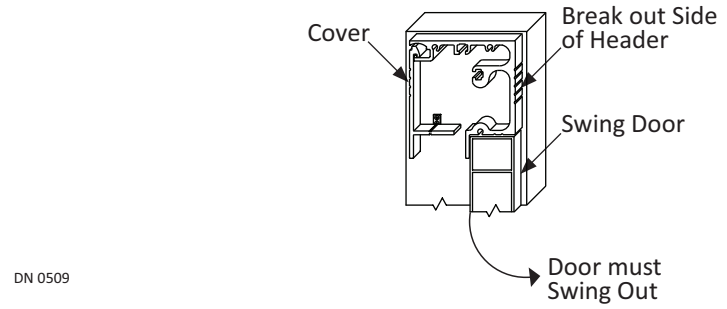


Figure 4-1 Break Out Side of Header

3. Ensure the Swing door is square and the Continuous Hinge is properly aligned against the Jamb tube.
   a. It is recommended to use a level.
4. Keep Continuous Hinge flush against Jamb tube while swinging out the door 90 degrees. Please see Figure 4-2.
   a. It is recommended to prop bottom of door with shims so door will stay square and the Continuous Hinge will stay flush against the Jamb Tube.

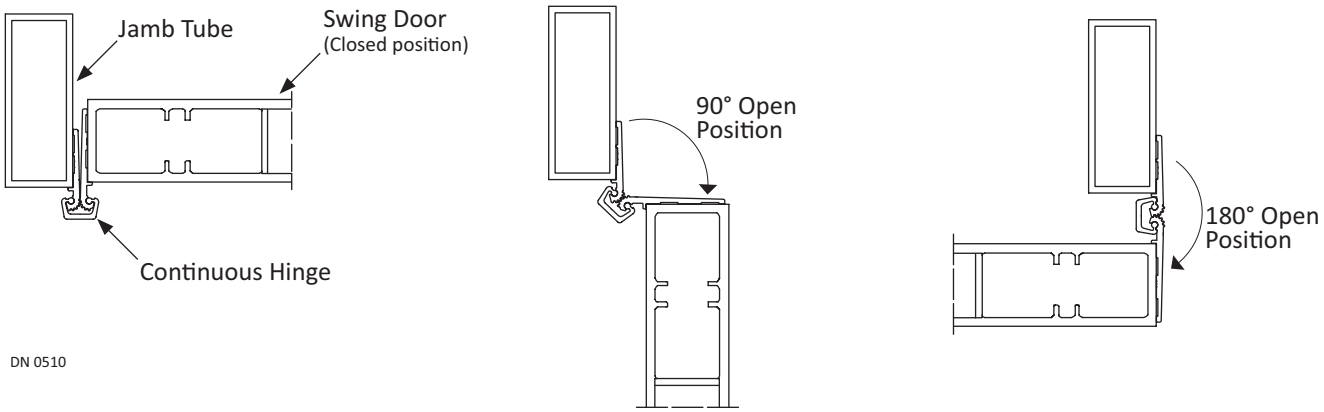


Figure 4-2 Swing Door open 90 degrees

5. Ensure the Continuous Hinge and Swing door are still square.
   a. It is recommended to use a level.
6. Locate the (2) upper most, predrilled screw holes on the Continuous Hinge at the very top of Swing door.
7. Mark screw holes onto face of Jamb Tube.
8. Carefully place Swing door onto flat surface.
9. Drill (2) #16 (0.177) screw holes onto face of Jamb Tube.
10. Obtain Swing door.
11. Align (2) upper most, predrilled screw holes on the Continuous Hinge with drilled screw holes on face of Jamb tube. Please see Figure 4-3.

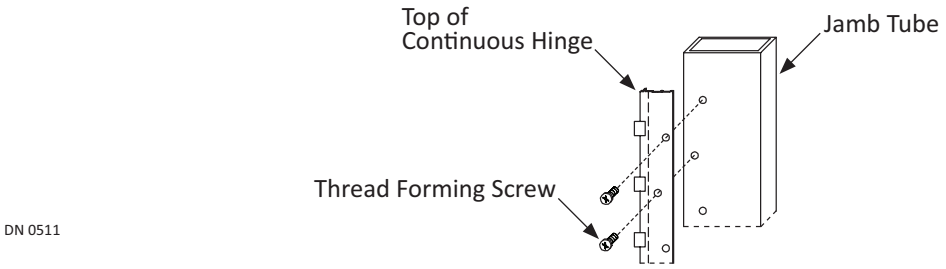


Figure 4-3 Temporarily Secure Swing Door

12. Temporarily secure the top of Continuous Hinge with (2) #12-24 x 7/16 inch thread forming screws. Do Not tighten down.
    a. Screws must be removed at least one time before the Swing door installation is complete.
13. Plumb and Square the Swing door.
    a. It is recommended to prop bottom of door with shims so door will stay square and the Continuous Hinge will stay flush against Jamb Tube.
14. Mark remaining screw holes onto the Jamb Tube.
15. Remove (2) #12-24 x 7/16 inch thread forming screws.
    a. Save screws for reinstallation.
16. Carefully place the Swing door back onto a flat surface.
17. Drill remaining #16 (0.177) screw holes onto face of Jamb Tube.
18. Obtain Swing door.
19. Align all predrilled screw holes on the Continuous Hinge with drilled screw holes on face of Jamb tube.
20. Permanently secure the Continuous Hinge with #12-24 x 7/16 inch thread forming screws.
    a. Do not overtighten screws to prevent deforming Continuous Hinge.
21. Repeat steps for second Swing door.

Section 4b: Install Entry Trim with Curved Handle (Active Swing Door)

The Entry Trim is installed on the Outswing side of the Active Swing door. It is used to manually latch or unlatch the vertical rod (Same as Push Paddle). When unlocked and pulled the Active Swing door swings out into the corridor.

1. Obtain (1) Entry Trim, (4) #10-24 x 2 inch Flat Head Screws, (1) CVR Spindle, (1) Spring, (1) Handle, (2) Washers, (1) Hex Nut and Installation Instructions provided by NABCO.
2. Go to Inswing side of the Door. Insert (1) #10-24 x 2 inch Flat Head screw through each predrilled countersunk hole located above and below the Tailpiece Adapter. Please see Figure 4-4.
    a. The inserted Flat Head screws will stick out through the Outswing side of door.

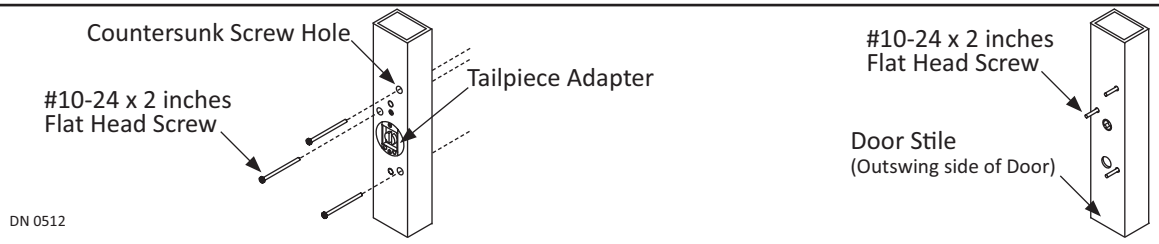


Figure 4-4 Insert Flat Head Screws from Outswing side of Swing Door

3. Obtain the Entry Trim that was assembled at the NABCO Factory.
   a. If Entry Trim was not shipped assembled, please refer to the Installation Instructions that were provided by NABCO.
4. Go to the back side of Entry Trim. Locate the Output Spindle Hub that can be found in the middle of the Entry Trim Plate. Please see Figure 4-5.
5. Obtain (1) CVR Spindle and (1) Spring.
   a. The CVR Spindle was tested and cut according to the Swing door thickness at the NABCO Factory. There is no need to determine the correct CVR Spindle length.
6. Slide the Spring onto the round end of CVR Spindle, then inside the Output Spindle.

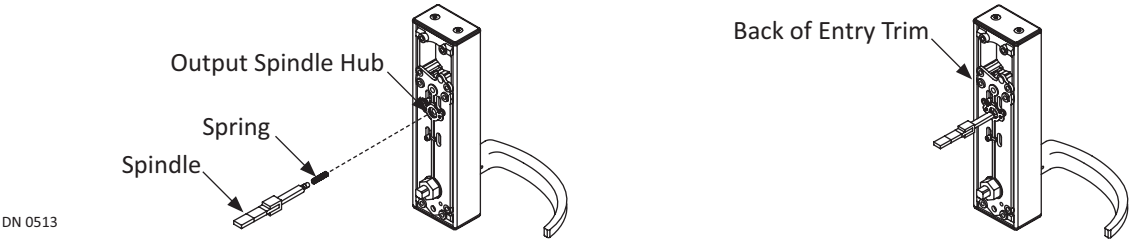


Figure 4-5 Insert Spring end of CVR Spindle into Output Spindle Hub

7. Go to Outswing side of the door. Insert the flat metal end of the CVR Spindle into the CVR Tailpiece adapter.Please see Figure 4-6.
8. Slide the Entry Trim onto the (3) Flat Head screws until it is flush with the face of Stile.
   a. If the Entry Trim can not be flush against the face of Stile, remove the CVR Spindle to cut off excess notches.

Figure 4-6 Resize SCR/RIM Inset Spindle

9. Tighten (3) #10-24 x 2 inch Flat Head screws to secure the Entry Trim to the Stile.
   a. Do not overtighten screws to prevent deforming of Stile.
10. Test the Door Handle to ensure the vertical rod turns clockwise/counter clockwise.

Section 4c: Install the Push Paddle (Active Swing Door)

The Push Paddle is installed on the Inswing side of the Active Swing Door. It is used to manually latch or unlatch the vertical rod (Same as Handle). When unlocked and pushed, the Active Swing door swings out into the corridor.

1. Obtain (1) assembled Eschutcheon, (1) Push Paddle, (2) #10-24 x 1-1/2 inch Pan Head Screws, (1) Shaft, (1) 3/8-24 inch Set Screw, (1) Label, (1) Dogging Screw, and (1) Dogging Key provided by NABCO.
2. Obtain the Escutcheon and (2) #10-24 x 1-1/2 inch Pan Head screws.
3. Go to the Inswing side of Stile. Please see Figure 4-7.
4. Align (2) screw holes located inside the Escutcheon to (2) pre-drilled screw holes located on the face of Stile. Directly above and below the Tailpiece Adapter.
5. Secure the Escutcheon to the Stile with (2) #10-24 x 1-1/2 inch Pan Head screws.

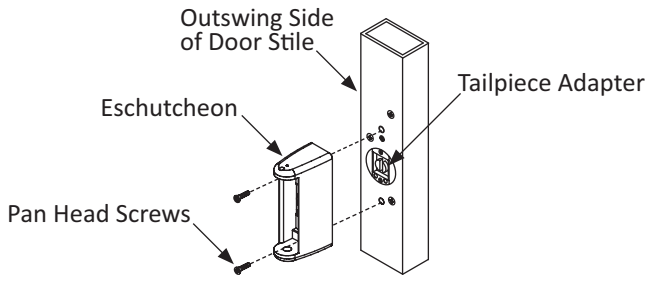


Figure 4-7 Secure Escutcheon to Inswing side of Door Stile

6. Obtain (1) Push Paddle, (1) Shaft, and (1) 3/8-24 inch Set screw.
7. Insert the hinge end of Push Paddle into the Escutcheon until the bottom holes are aligned. Please see Figure 4-8.

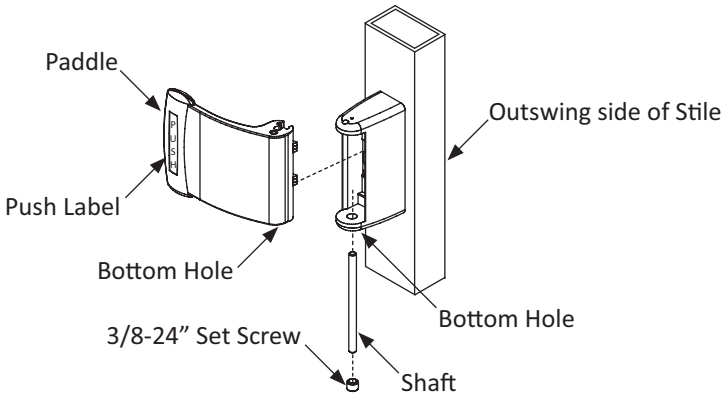


Figure 4-8 Secure Paddle to Eschutcheon

8. Run (1) Shaft up into the aligned holes.
9. Insert (1) 3/8-24 inch Set Screw into the bottom of the Shaft. Tighten the Set Screw.
10. Adhere (1) Push label onto the Paddle.

4.b.a: Dogging Key

A Dogging Key is used to lock or unlock the Push Paddle. If the Push Paddle is locked the Swing door is not allowed to open from the Inswing side of door. Please see Figure 4-9.

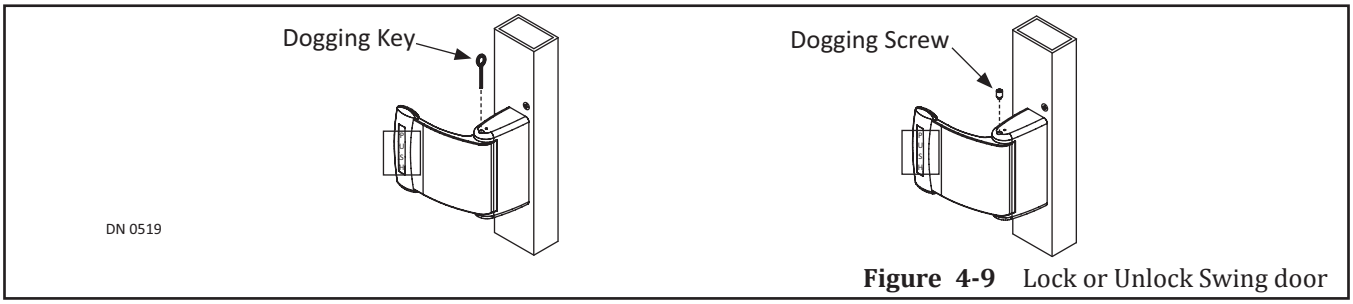


Figure 4-9 Lock or Unlock Swing door

1. Obtain (1) Dogging Key.
2. Insert (1) Dogging Key in the hole located on top of the Escutcheon.
3. Turn the Dogging Key:
   - Clockwise to lock the vertical rod.
   - Counter Clockwise to unlock the vertical rod.
4. Remove the Dogging Key when not in use.
5. Replace the Dogging Key with the Dogging Screw. Please see Figure 4-9.
   a. The Dogging Screw must be inserted into the hole when the Swing door does not need to be locked or unlocked by the Dogging Key.

Section 4d: Install the Strike Plate Assembly (Active Swing Door)

The Strike Plate assembly is installed within the Header so the Deadlatch that is located at the top of the Concealed Vertical Rod Mechanism can wrap around it. The Strike Plate assembly is used to prevent forced entry by bowing of the Swing door Panel.

1. Open the Active Swing Door.
2. Go to the top of Stile. Locate the Deadlatch. Please see Figure 4-10.

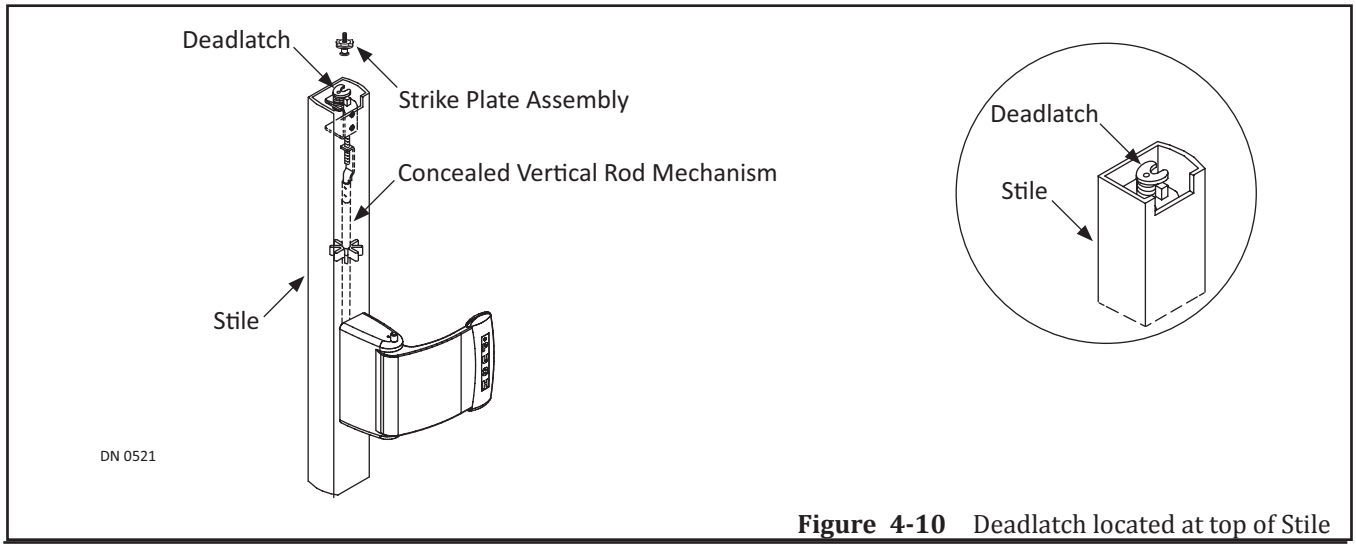


Figure 4-10 Deadlatch located at top of Stile

3. Measure (2) Horizontal lines. (1) each; between the center of the Deadlatch to the:
   - ▶ Outside edge of the Stile.
   - ▶ Push Paddle edge of the Stile.
4. Mark both measurements down. Please see Figure 4-11.

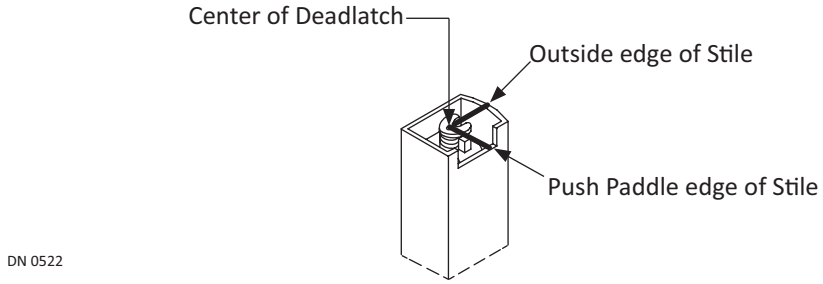


Figure 4-11 Measure between Center of Deadlatch and Stile

5. Open the Inactive Swing door, then immediately close the Active Swing door.
6. Go to the bottom of Header. Please see Figure 4-12.
7. Draw (2) Horizontal lines on the bottom face of Header to reflect the entire width of the:
   - ▶ Outside edge of the Stile.
   - ▶ Push Paddle edge of the Stile.
   a. Do not draw horizontal lines longer than the actual width.

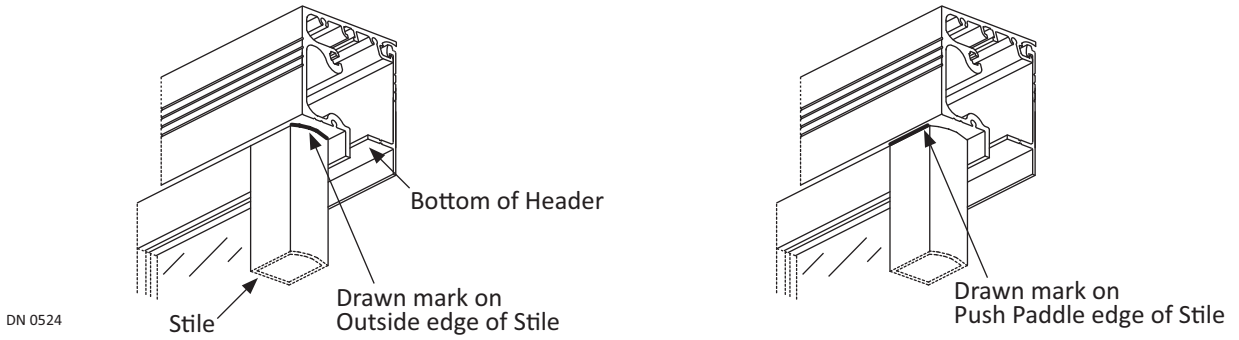


Figure 4-12 Draw Outswing Side Corner of Door Stile onto Header

8. Open the Active Swing Door.
9. Go to the drawn line mark of the Outside edge of Stile. Please see Figure 4-13.
10. Locate the center of the drawn line. Draw a horizontal line from the center of the outside edge to be as long as the measurement that was recorded in Step 3.
    a. Do not draw line longer than measurement.
11. Go to the drawn line mark of the Push Paddle edge of Stile.
12. Locate the center of the drawn line. Draw a horizontal line from the center of the Push Paddle edge to be as long as the measurement that was recorded in Step 3.
    a. Do not draw line longer than measurement.
13. Drill 3/4 inch hole at the center of where both Horizontal lines meet.

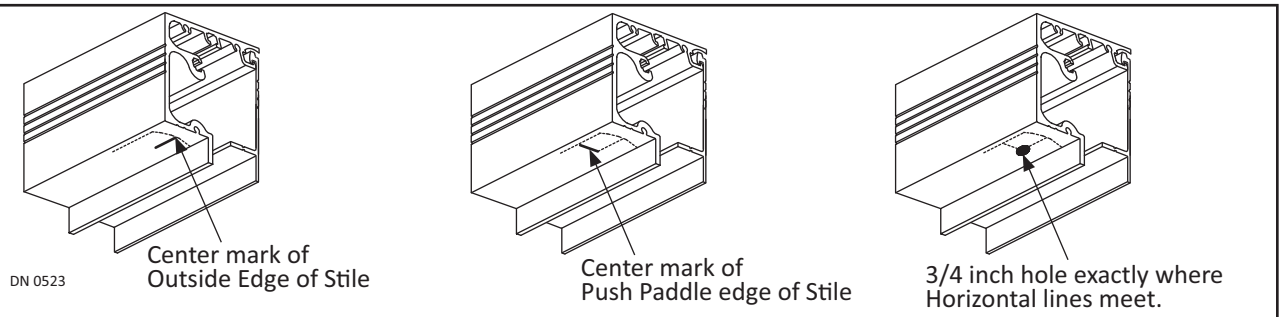


Figure 4-13 Measure to Drill 3/4 inch Hole at Bottom of Header

14. Obtain the Strike Plate assembly.
15. Unscrew the Flange Nut from the Post. Please see Figure 4-14.
16. Insert the Post through the 3/4 inch hole until the Strike Plate is flush against the face of Header. Ensure Post is centered.
17. Screw the Flange Nut down onto the Strike Post.
    a. Ensure the Strike Plate assembly is centered.
18. Insert a 3/32 inch Allen Wrench into bottom of the Strike Plate. Tighten down.

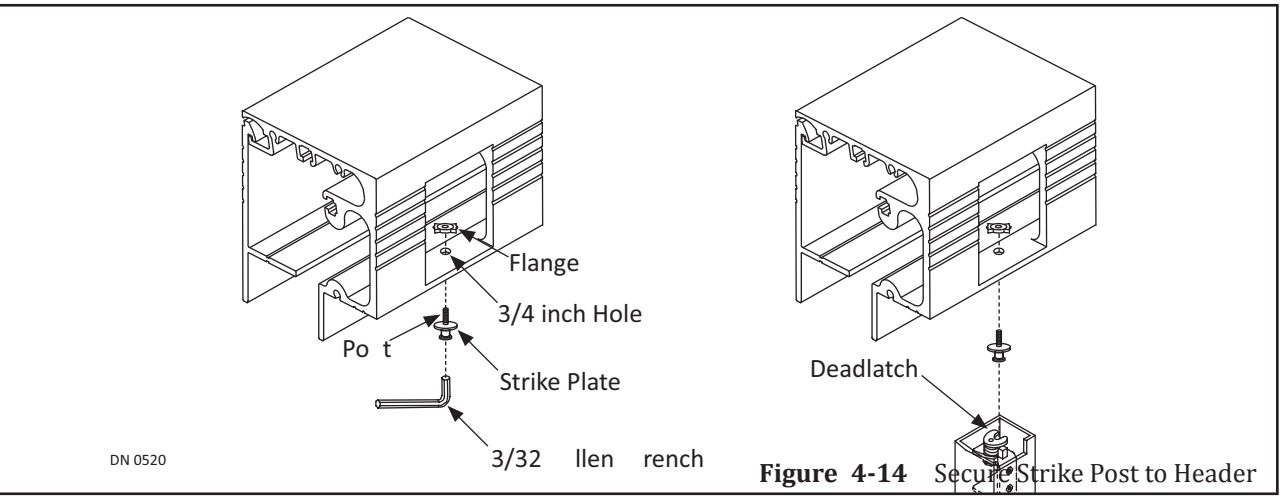


Figure 4-14 Secure Strike Post to Header

Section 4e: Install the Flush Bolt Strike (Inactive Swing Door)

1. Open the Inactive Swing door, then immediately close the Active Swing door.
2. Go to the top of Stile. Locate the Flush Bolt. Please see Figure 4-15.
3. Heavily chalk top of Bolt.
4. Close the Inactive Swing door.
5. Raise the Flush Bolt until it hits the bottom face of Header.
6. Lower the Flush Bolt and reopen the Inactive Swing door.
    a. The bottom face of Header should be marked with a circular chalk mark.
    b. If a circular chalk mark is not visible, chalk the bolt again. Repeat steps until a chalk mark can be seen.

7. Drill a 5/8 inch hole at the exact center of the Chalk mark.
8. Close the Inactive Swing door.
9. Raise the Flush Bolt until it is all the way through the 5/8 inch hole.
   a. If Flush Bolt cannot go all the way through, drill the hole again to make it slightly bigger.
   b. Do not drill hole so big that the Flush Bolt will be rendered useless.

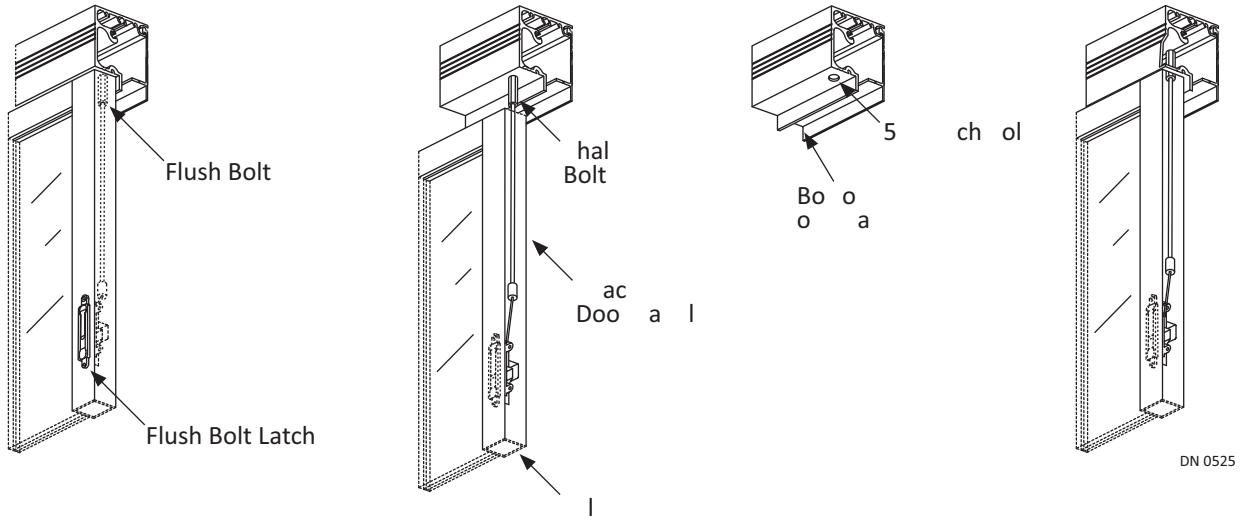


Figure 4-15 Drill Hole for Flush Bolt

CHAPTER 5: INSTALL WEATHERING

Section 5a: Install the Weathering Brush

1. Obtain the Weathering Extrusion with Brush pre-installed.
2. Go to the Inswing side of the Swing door. Please see Figure 5-3.
3. Align the Weathering Extrusion along the bottom edge of Swing Door.
4. Use the Weathering Extrusion as a template to mark and drill (3) 1/8 inch diameter holes onto the face of Swing door.
   a. There should not be any excess Brush on this weathering.
5. Secure Weathering Extrusion to the Swing door with color coordinated #6 x 1/2 inch self tapping screws provided by NABCO.

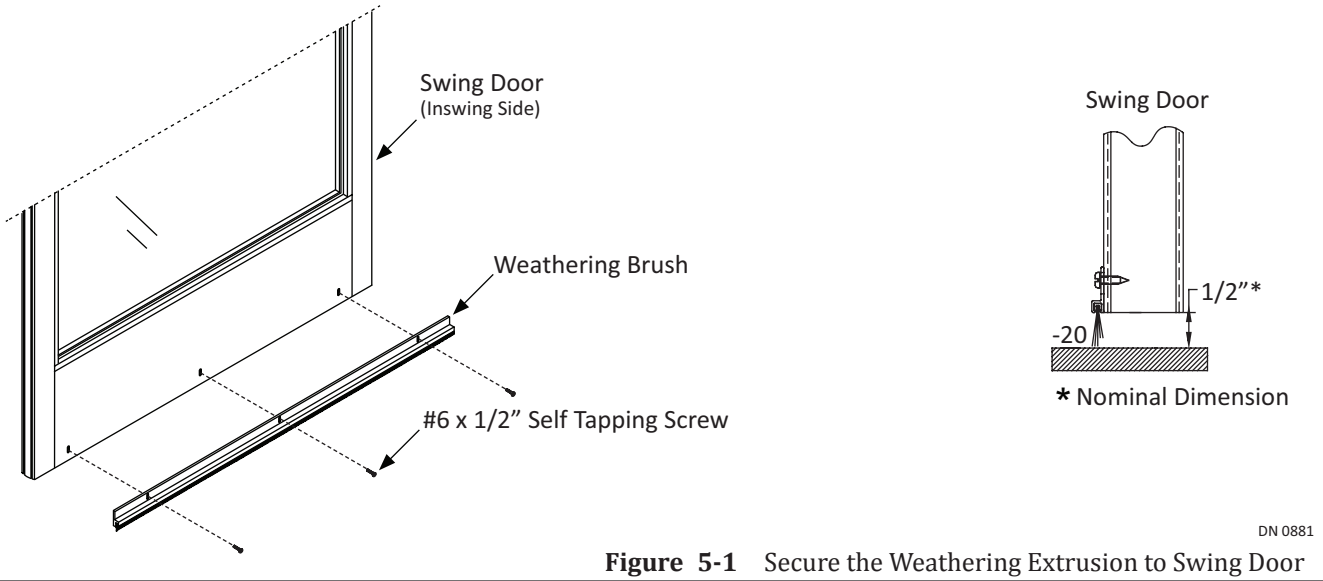


Figure 5-1 Secure the Weathering Extrusion to Swing Door

Section 5b: Apply Caulking Bead

1. Ensure the entire Swing Door Frame is properly secured to the Rough Opening.
2. Apply caulking bead between the Swing Door Frame and Rough Opening (inside and outside)

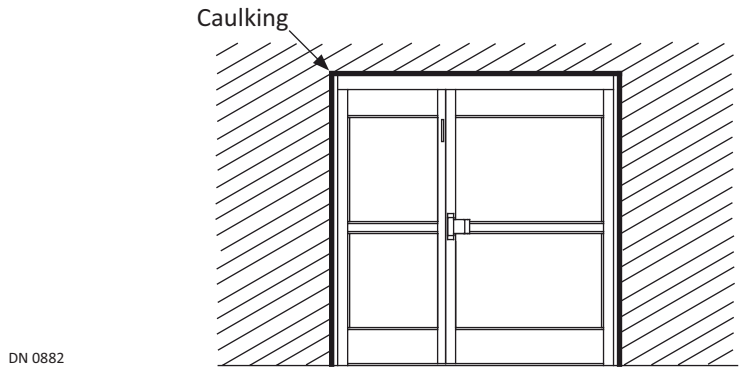


Figure 5-2 Caulk between the Swing Door Frame and Rough Opening

GT SYSTEM 300 & 8300 OVERHEAD CONCEALED (OHC)
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8
AUTOMATIC ENTRANCE SYSTEMS

Models GT300 & GT8300
HEAVY DUTY - SWING DOOR OPERATOR - OVERHEAD CONCEALED

DIVISION 08 – OPENINGS
SECTION 08 42 29.33 SWINGING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic swing door equipment as indicated on drawings and specifications.
B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply:
Section_____

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.10.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of swinging door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manuals shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following: opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and electrical to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

1.08 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturers (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and a form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2 - PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC OVERHEAD CONCEALED (OHC) SWING DOOR SYSTEM

A. Model GT300 **Bottom Load** or GT8300 **Side Load** Swing Door System as indicated on door schedule and details.

B. Mode of operation: Spring Close. Gyro Tech swing operator shall open door by energizing motor and shall stop door by electrically reducing voltage and stalling motor against mechanical stop. Door shall close by means of spring energy, and closing force shall be controlled by gear system and with motor being used as a dynamic brake without power. System shall operate as a manual door control in event of power failure. Manual operation shall require less than 30 lbs. force applied to door lockstile. Opening and closing speeds shall be adjustable. Hold open time shall be adjustable from 1-60 seconds. Door operation shall not require any fluids or gases under pressure to be used in opening and closing of door.

C. Components:
1. Operator Housing
2. Gyro Tech GT300 & GT8300 Swing Door Operator
3. Microprocessor Control
4. Connecting Hardware
5. Breakaway Door Stop – If required

1a) Operator Housing for the GT300 Bottom Load shall be, 5 1/2" (140mm) deep by 5" (127mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .146" (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Housing cover shall be removable to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .093" (2mm). Plastic covers shall not be acceptable.

1b) Operator Housing for the GT8300 Side Load shall be, 5 1/2" (140mm) deep by 6" (152mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .166" (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Hinged housing cover shall be able to be raised and secured or removed to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .100" (3mm). Plastic covers shall not be acceptable.

1c) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes available upon request.

2) Power Operator: Completely assembled and sealed unit which shall include helical gear-driven transmission, mechanical spring and bearings all located in cast aluminum housing and filled with special lubricant for extreme

temperature conditions. Attached to transmission system shall be a DC permanent magnet motor with sealed ball bearings. Motor shall operate from 115-volt supply and require less than 3 amps at full power stall. Complete unit shall be resilient mounted with provisions to easily adjust/replace the motor and gearbox without removing door from pivots or frame.

3) Electrical Control: Shall be a solid-state microprocessor unit. The microprocessor control shall allow the opening speed, closing speed, back check and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. Adjustable opening and closing speeds shall be set in accordance with ANSI A156.10. All adjustments shall be specific and reproducible.

4) Connecting Hardware: Connect overhead (OHC)-type power operator drive arm to door with a pin linkage rotating in a self lubricated bearing, within a self adjusting slide block, traveling in an interconnected steel track and top door pivot assembly. The (OHC) unit will independently support the door on heavy-duty steel top and bottom door pivots. To allow for durability and easy serviceability, the door shall not pivot on shaft of operator.

5) Emergency breakaway doorstop shall mount directly to the underside of operator housing. It shall function as a stop on all center pivoted in-swinging doors. A force of not more than 50 LBF applied at the lock stile shall cause the breakaway stop to rotate, interrupt automatic operation and allow the door to swing open 180 degrees opposite its normal travel. Swinging the door back into the normal mode of operation resets the breakaway doorstop and reengages the operator for normal automated operation.

2.03 ACTIVATING DEVICES

A. Sensor Devices - Approach side. Nabco Entrances Acusensor or Optex Reaction Two

1.) The Acusensor as manufactured by NABCO ENTRANCES, INC. is a presence sensing active infrared sensor. Sensing shall be provided in a rectangular shaped pattern with sensing immediately next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern width and depth shall be adjustable while remaining at a full power setting.

2.) The OPTEX Reaction Two microwave sensor is specially designed to increase efficiency on opening of automatic doors. Uni-directional mode ignores traffic moving away from the door and assures the minimum door open time. The OPTEX microwave provides fast detection for automatic door installations and particularly for applications with high speed entries

B. Sensor Devices - Swing Side. The Optex OA Edge system shall be provided which includes two sensors mounted near the top of the door to provide continuous sensing coverage on both sides of the door panel including during the opening and closing operations.

C. Additional Specification Options for consideration - See product catalog

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by AAADM Certified, factory-trained installers in compliance with ANSI A156.10, manufacturer's recommendations and approved shop drawings.

3.01 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

*** COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.
CONCRETE INSTALLER shall prepare floor at location of automatic entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION

GT SYSTEM 400 & 8400 SWING OPERATOR
CONVERSION UNIT (C.U.)
AUTOMATIC ENTRANCE SYSTEM
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Models GT400 & GT8400
HEAVY DUTY - SWING DOOR OPERATOR – SURFACE APPLIED

DIVISION 08 – OPENINGS
SECTION 08 42 29.33 SWINGING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION
A. Furnish and install automatic swing door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply:
Section_____

1.02 REFERENCES
A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE
A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.10.

1.04 SUBMITTALS
A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of swinging door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following: opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and electrical to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

1.08 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturers (AAADM) compliance form shall be submitted as proof of compliance with ANSI 156.10 Standard for power operated pedestrian doors. Door(s) shall be inspected and a form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC CONVERSION UNIT (C.U.) SWING DOOR SYSTEM

A. Model GT400 Bottom Load or GT8400 Side Load Swing Door System as indicated on door schedule and details.

B. Mode of operation: Spring Close. Gyro Tech swing operator shall open door by energizing motor and shall stop door by electrically reducing voltage and stalling motor against mechanical stop. Door shall close by means of spring energy, and closing force shall be controlled by gear system and with motor being used as a dynamic brake without power. System shall operate as a manual door control in event of power failure. Manual operation shall require less than 30 lbs. force applied to door lockstile. Opening and closing speeds shall be adjustable. Hold open time shall be adjustable from 1-60 seconds. Door operation shall not require any fluids or gases under pressure to be used in opening and closing of door.

C. Components:
1. Operator Housing
2. Gyro Tech GT400 & GT8400 Swing Door Operator
3. Microprocessor Control
4. Connecting Hardware

1a) Operator Housing for the GT400 Bottom Load shall be 5 1/2" (140mm) deep by 5" (127mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .146” (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Housing cover shall be removable to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .093” (2mm). Plastic covers shall not be acceptable.

1b) Operator Housing for the GT8400 Side Load shall be 5 1/2" (140mm) deep by 6" (152mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .166” (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Hinged housing cover shall be able to be raised and secured or removed to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .100” (3mm). Plastic covers shall not be acceptable.

1c) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes are available upon request.

2) Power Operator: Completely assembled and sealed unit which shall include helical gear-driven transmission, mechanical spring and bearings all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a DC permanent magnet motor with sealed ball bearings. Motor shall operate from 115-volt supply and require less than 3 amps at full power stall. Complete unit shall be resilient mounted with provisions to easily adjust/replace the motor and gearbox without removing door from pivots or frame.

3) Electrical Control: Shall be a solid-state microprocessor unit. The microprocessor control shall allow the opening speed, closing speed, back check and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. Adjustable opening and closing speeds shall be set in accordance with ANSI A156.10. All adjustments shall be specific and reproducible.

4) Connecting Hardware: Outswing doors shall be connected to operator by a two piece drive arm with self aligning rod ends and connecting door bracket for push-type operation. Inswing drive arm with a urethane covered roller, shall ride in a track fabricated of 6061-T6 or A380 aluminum alloy attached to the door rail where required for pull-type operation.

2.03 ACTIVATING DEVICES

A. Sensor Devices - Approach side. Nabco Entrances Acusensor or Optex Reaction Two

1.) The Acusensor as manufactured by NABCO ENTRANCES, INC. is a presence sensing active infrared sensor. Sensing shall be provided in a rectangular shaped pattern with sensing immediately next to the door system. To provide optimum coverage to meet specific site conditions the sensing pattern width and depth shall be adjustable while remaining at a full power setting.

2.) The OPTEX Reaction Two microwave sensor is specially designed to increase efficiency on opening of automatic doors. Uni-directional mode ignores traffic moving away from the door and assures the minimum door open time. The OPTEX microwave provides fast detection for automatic door installations and particularly for applications with high speed entries.

B. Sensor Devices - Swing Side. The Optex OA Edge system shall be provided which includes two sensors mounted near the top of the door to provide continuous sensing coverage on both sides of the door panel including during the opening and closing operations.

C. Additional Specification Options for consideration - See product catalog

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by AAADM Certified, factory-trained installers in compliance with ANSI A156.10, manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

*** COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

END OF SECTION

GT SYSTEM 350, 500, 8350 & 8500
SWING OPERATOR - LOW ENERGY
AUTOMATIC ENTRANCE SYSTEM
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Models GT350, GT500, GT8350 & GT8500
HEAVY DUTY - LOW ENERGY - SWING DOOR OPERATOR
OVERHEAD CONCEALED (OHC) & CONVERSION UNIT (C.U.)

DIVISION 08 – OPENINGS
SECTION 08 42 29.33 SWINGING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic swing door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply:
Section_____

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.19.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of swinging door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following; opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and electrical to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

1.08 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturers (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.19 Standard for power operated pedestrian doors. Door(s) shall be inspected and a form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC SWING DOOR SYSTEM – LOW ENERGY – SURFACE APPLIED

A. Model GT350 & GT500 Bottom Load or GT8350 & GT8500 Side Load Swing Door System as indicated on door schedule and details.

B. Mode of operation: Spring Close. Gyro Tech swing operator shall open door by energizing motor and shall stop door by electrically reducing voltage and stalling motor against mechanical stop. Door shall close by means of spring energy, and closing force shall be controlled by gear system and with motor being used as a dynamic brake without power. System shall operate as a manual door control in event of power failure. Manual operation shall require less than 15 lbs. force applied to door lockstile. Opening and closing speeds shall be adjustable. Hold open time shall be adjustable from 1-60 seconds. Door operation shall not require any fluids or gases under pressure to be used in opening and closing of door.

C. Components:
1. Operator Housing
2. Gyro Tech GT350 (OHC), GT500 (C.U.), GT8350 (OHC) & GT8500 (C.U.) Swing Door Operator
3. Microprocessor Control
4. Connecting Hardware

1a) Operator Housing for the GT350 & GT500 Bottom Load shall be, 5 1/2" (140mm) deep by 5" (127mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .146” (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Housing cover shall be removable to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .093” (2mm). Plastic covers shall not be acceptable.

1b) Operator Housing for the GT8350 & GT8500 Side Load shall be, 5 1/2" (140mm) deep by 6" (152mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .166" (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Hinged housing cover shall be able to be raised and secured or removed to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .100" (3mm). Plastic covers shall not be acceptable.

1c) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes are available upon request.

2) Power Operator: Completely assembled and sealed unit which shall include helical gear-driven transmission, mechanical spring and bearings all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a DC permanent magnet motor with sealed ball bearings. Motor shall operate from 115-volt supply and require less than 3 amps at full power stall. Complete unit shall be resilient mounted with provisions to easily adjust/replace the motor and gearbox without removing door from pivots or frame.

3) Electrical Control: Shall be a solid-state microprocessor unit. The microprocessor control shall allow the opening speed, closing speed, back check and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. Adjustable opening and closing speeds shall be set in accordance with ANSI A156.19. Control shall include time delay, Push-N-Go functionality and sequential mode operation. All adjustments shall be specific and reproducible.

4) Connecting Hardware: Conversion Unit (C.U.) outswing doors shall be connected to operator by a two piece drive arm with self aligning rod ends and connecting door bracket for push-type operation. Inswing drive arm with a urethane covered roller, shall ride in a track fabricated of 6061-T6 or A380 aluminum alloy attached to the door rail where required for pull-type operation. Overhead Concealed (OHC) power operator drive arm to door with a pin linkage rotating in a self lubricated bearing, within a self adjusting slide block, traveling in an interconnected steel track and top door pivot assembly. The (OHC) unit will independently support the door on heavy-duty steel top and bottom door pivots. To allow for durability and easy serviceability, the door shall not pivot on shaft of operator.

2.03 ACTIVATING DEVICES

A. Wall Switches: 6", 4-1/2" diameter stainless steel surface or flush mounted, engraved or plain, as provided by NABCO ENTRANCES INC.

B. Optional activators and safety sensors are available - See Product Catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by AAADM Certified, factory-trained installers in compliance with ANSI A156.19, manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

END OF SECTION

GT600 Fire Door Package Systems

For comprehensive information on door and frame installation, proper smoke detector, etc., the following books are available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210

Life Safety Code (NFPA No. 101)
Fire Doors and Windows (NFPA No. 80)

NABCO Entrances, Inc. offers multiple options with regards to having an automatic fire door package. With a fire door assembly, the entire doorway must consist of UL listed equipment. In the event of fire or power failure the doors must close from any position, latch and be able to function as a standard manual emergency exit. The standard fire door package normally includes:

A. UL listed door leaf and frame packages. Options exist from several manufacturers.
B. UL listed fire exit hardware. Packages approved by UL including the push bars, latch mechanisms, locks and power boxes which are routinely available from manufacturers such as von Duprin, Dorman, Adams Rite and others.
C. Standard NABCO Entrances, Inc. activating devices such as the Acusensor, Acumotion, push plates, or other suitable compatible devices.
D. Automatic door operator package conversion unit (CU) header with supporting documentation.
E. UL specified labels.

For standard installation elevations, sections and other typical information see the drawings for the system GT400 or GT710.

9/17/09

GT SYSTEM 350, 500, 8350 & 8500
SWING OPERATOR - LOW ENERGY
AUTOMATIC ENTRANCE SYSTEM
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Models GT350, GT500, GT8350 & GT8500
HEAVY DUTY - LOW ENERGY - SWING DOOR OPERATOR
OVERHEAD CONCEALED (OHC) & CONVERSION UNIT (C.U.)

DIVISION 08 – OPENINGS
SECTION 08 42 29.33 SWINGING AUTOMATIC ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install automatic swing door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
(See note to Specifier*)
1. Electrical Supply:
Section_____

1.02 REFERENCES

A. American Association of Automatic Door Manufacturers (AAADM) - www.aaadm.com

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. Underwriters Laboratory, Inc. (UL) - www.ul.com

E. Canadian Standards Association (CSA) - www.csa.ca

F. National Fire Protection Association (NFPA) - www.nfpa.org

G. International Code Council (ICC) - www.iccsafe.org

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

C. All automatic equipment to comply with UL325 (USA and Canada).

D. All automatic equipment to comply with ANSI A156.19.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of swinging door system with concrete work, electrical work, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following; opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and electrical to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

1.08 COMPLIANCE

A. A completed American Association of Automatic Door Manufacturers (AAADM) compliance form shall be submitted as proof of compliance with ANSI A156.19 Standard for power operated pedestrian doors. Door(s) shall be inspected and a form shall be signed by an AAADM certified inspector prior to placing door(s) in operation.

Part 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. Automatic equipment and controls shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 AUTOMATIC SWING DOOR SYSTEM – LOW ENERGY – SURFACE APPLIED

A. Model GT350 & GT500 Bottom Load or GT8350 & GT8500 Side Load Swing Door System as indicated on door schedule and details.

B. Mode of operation: Spring Close. Gyro Tech swing operator shall open door by energizing motor and shall stop door by electrically reducing voltage and stalling motor against mechanical stop. Door shall close by means of spring energy, and closing force shall be controlled by gear system and with motor being used as a dynamic brake without power. System shall operate as a manual door control in event of power failure. Manual operation shall require less than 15 lbs. force applied to door lockstile. Opening and closing speeds shall be adjustable. Hold open time shall be adjustable from 1-60 seconds. Door operation shall not require any fluids or gases under pressure to be used in opening and closing of door.

C. Components:
1. Operator Housing
2. Gyro Tech GT350 (OHC), GT500 (C.U.), GT8350 (OHC) & GT8500 (C.U.) Swing Door Operator
3. Microprocessor Control
4. Connecting Hardware

1a) Operator Housing for the GT350 & GT500 Bottom Load shall be, 5 1/2" (140mm) deep by 5" (127mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .146” (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Housing cover shall be removable to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .093” (2mm). Plastic covers shall not be acceptable.

1b) Operator Housing for the GT8350 & GT8500 Side Load shall be, 5 1/2" (140mm) deep by 6" (152mm) high aluminum extrusion with finished end caps and shall be prepared for mounting to new or existing door frames. All structural sections shall have a minimum thickness of .166" (4mm) and shall be fabricated of 6063-T5 aluminum alloys. Hinged housing cover shall be able to be raised and secured or removed to provide service access and shall be extruded from 6063-T5 aluminum alloys to a minimum thickness of .100" (3mm). Plastic covers shall not be acceptable.

1c) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1, clear) or AA-M12-C22-A44 (dark bronze). Black and special finishes are available upon request.

2) Power Operator: Completely assembled and sealed unit which shall include helical gear-driven transmission, mechanical spring and bearings all located in cast aluminum housing and filled with special lubricant for extreme temperature conditions. Attached to transmission system shall be a DC permanent magnet motor with sealed ball bearings. Motor shall operate from 115-volt supply and require less than 3 amps at full power stall. Complete unit shall be resilient mounted with provisions to easily adjust/replace the motor and gearbox without removing door from pivots or frame.

3) Electrical Control: Shall be a solid-state microprocessor unit. The microprocessor control shall allow the opening speed, closing speed, back check and latch check speed each to be adjusted separately and independently from each other to meet specific site conditions. Adjustable opening and closing speeds shall be set in accordance with ANSI A156.19. Control shall include time delay, Push-N-Go functionality and sequential mode operation. All adjustments shall be specific and reproducible.

4) Connecting Hardware: Conversion Unit (C.U.) outswing doors shall be connected to operator by a two piece drive arm with self aligning rod ends and connecting door bracket for push-type operation. Inswing drive arm with a urethane covered roller, shall ride in a track fabricated of 6061-T6 or A380 aluminum alloy attached to the door rail where required for pull-type operation. Overhead Concealed (OHC) power operator drive arm to door with a pin linkage rotating in a self lubricated bearing, within a self adjusting slide block, traveling in an interconnected steel track and top door pivot assembly. The (OHC) unit will independently support the door on heavy-duty steel top and bottom door pivots. To allow for durability and easy serviceability, the door shall not pivot on shaft of operator.

2.03 ACTIVATING DEVICES

A. Wall Switches: 6", 4-1/2" diameter stainless steel surface or flush mounted, engraved or plain, as provided by NABCO ENTRANCES INC.

B. Optional activators and safety sensors are available - See Product Catalog.

PART 3- EXECUTION

3.01 INSTALLATION

A. Automatic door equipment shall be installed by AAADM Certified, factory-trained installers in compliance with ANSI A156.19, manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by the manufacturer. Aluminum surfaces in contact with masonry, concrete or steel shall be protected from contact by use of neoprene gaskets, where indicated, or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

* **COVER NOTE TO SPECIFICATION WRITER**

Indicate under appropriate Section the following work by others:
ELECTRICAL INSTALLER shall furnish and install all conduit and electrical wiring for activating devices and door operators. A minimum of 5 amperes, 115 volts, A/C, 1-phase circuit shall be furnished for each door operator, terminate and connect to operator control panel, in operator housing.

END OF SECTION

GT SYSTEM 2300 MANUAL SWING DOOR
UNEQUAL PANELS - SMOKE RATED
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.
(See Note to Specifier)
1. Prepared Opening: Section_____
2. Glazing: Section _____

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
Products specified shall be represented by a factory authorized and trained distributor. Distributor shall maintain a parts inventory and trained personnel capable of providing service.

B. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Other systems can be quoted along with information specifically detailing the differences from the following specification.

1.03 SUBMITTALS

A. Shop drawings showing complete elevations, details and method of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

B. Templates and diagrams and/or shop drawings as needed shall be furnished to fabricators and installers of related work for coordination of doors, frames, hardware, concrete work and other work.

C. A copy of appropriate manual shall be provided to owner's engineer upon completion of installation.

1.04 WARRANTY

A. Warrant all material and labor provided by manual door equipment installer against defects in material and workmanship at no cost to owner, for a period of one year from date of substantial completion. Provide warranty to owner after completion of installation.

PART 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. All door equipment shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 MANUAL SLIDING DOOR SYSTEM

GYRO TECH Slide System GT 2300

A. Mode of operation: The GYRO TECH Series 2300 Manual Swing Door System includes a header, jambs and swing panels. The wider Primary Panel is used as main means of egress. The narrow Auxiliary Panel provides additional egress when needed for moving larger objects through the door opening. The Auxiliary Panel is normally fixed.

B. Product Components:
1. Aluminum swing panels, header and frame assembly.
2. Swing panel latches, hardware and weathering seal.

1a) Swing panels shall be factory assembled with 3/8-16 threaded tie rods spanning full length of top and bottom rails. Snap in glass stop with integral extruded vinyl standoff to accommodate glass flexing. A horizontal muntin bar to provide glass protection.
1b) Horizontal Header shall be 5" by 4-1/2" (127mm x 114mm) and Vertical Jambs shall be 1-3/4"x 4-1/2 (45mm x 114mm) aluminum extrusions. Header includes a hinged cover that locks in the open position.
1c) All major extrusions to be minimum 1/8" (3mm) wall thickness.
1d) All extruded aluminum sections shall be 6063-T5 or equivalent.
1e) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1) or AA-M12-C22-A42 (dark bronze). Paint and other anodized finishes available upon request.
2a) Primary Panel will include lever handles on each side to unlock the door. A positive latching feature will hold the door in place when closed. The Auxiliary Panel will include a flush bolt which must be manually released in order for the panel to swing open.
2b) Both panels are capable of swinging 90 degrees and will require less than 30 lbs (133N) to release the latch.
2c) Header, jambs and panel bottoms include gaskets to meet air infiltration requirements.

C. Air and Smoke Infiltration Rating:
Assemblies are tested and certified by Professional Systems Analysis without artificially sealing the bottom of the door and framing. At ambient temperature, and test pressure at 0.03", the air leakage is less than 3 cfm/sqft. Glass is wet sealed and affixed with aluminum glass stops. Door sweeps close bottom door gap to floor.

PART 3-EXECUTION

3.01 INSTALLATION

Door equipment shall be installed by manufacturer-approved, factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

After installation, clean framing members as recommended by manufacturer. Aluminum surfaces in contact with masonry, concrete, or steel shall be protected from contact by use of neoprene gaskets where indicated or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

*** COVER NOTE TO SPECIFICATION WRITER**

A. Preparation of a plumb and square opening to receive door equipment with adequate support.
B. Glass and glazing shall be described in glazing section of the specifications, door to be glazed square.

GT2100/2125/2150

ICU/CCU Manual Sliding Doors

Where VISIBILITY meets PEACE OF MIND

Product Features and Benefits

- Self-closing option **allows door to slide closed slowly after opening**
- Available with track or trackless options to **meet today's design needs**
- Substantial unobstructed view to patients **provides nurses peace of mind**
- Large opening access for **trouble-free transport of beds and medical equipment**
- Air infiltration package includes positive latching to **reduce the spread of germs and maintain air quality**

GT2100/2125/2150 Series Manual Sliders for ICU and CCU

The NABCO GT2100, GT2125 and GT2150 Manual Sliders are engineered to accommodate the specific needs of hospital intensive and cardiac care units (ICU/CCU). The 2100 series provides room access in a full-open breakout, trackless-style unit. The 2125 is also a trackless-style unit, but in a fixed sidelight configuration, where the door panel(s) only breakout. The 2150 is a full-open, breakout-style unit using a floor track. Each system is available in two, three, four and six panels, allowing users to stack the panels to one side to maximize full opening access for ease of patient transport and other large medical equipment. When in the closed position, the doors contribute an unobstructed view, awarding patients a comfortable atmosphere while still ensuring immediate access during an emergency. With the air infiltration package, the sliders are ideal for rooms where air quality must be maintained in case of fire, as well as "infection control" to reduce germs from spreading and preserving a sterile environment.

PRODUCT INFORMATION

Header dimensions – standard	**4 1/2" W** (114.3 mm) **x 4" H** (101.6 mm)
Header dimensions – telescopic	**6 3/8" W** (161.93 mm) **x 4" H** (101.6 mm)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, special anodized, clad**

CONFIGURATIONS

Trackless – standard	**2-panel, 4-panel /full breakout, fixed sidelite**
Trackless – telescopic	**3-panel, 6-panel /full breakout, fixed sidelite**
Track – standard	**2-panel, 4-panel /full breakout**
Track – telescopic	**3-panel, 6-panel /full breakout**

STANDARD FEATURES

Horizontal muntins	**Pullhandles** (one side); **Recessed pulls** (one side)	**Flush bolt** (2100 FBO trackless only)
4" bottom rails	**2 1/8" narrow stiles**	**Electrostatic discharge grounding** (anti-static)
Vinyl seals (accommodates glazing to 1" thickness)		

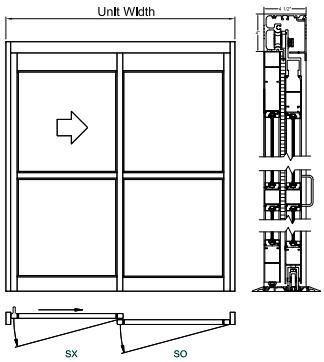
AVAILABLE OPTIONS

Air infiltration package	**Permanent anti-microbial finish**	**4" medium stiles**
5", 6 1/2", 10" bottom rails	**Self-closing**	**Positive latch**
Security hook and latch	**Hold-open tied to fire alarm**	**Door control sensor**
Accommodates between-the-glass horizontal blinds up to 1" thickness (by others)		
Accommodates etched/matte glass; electronic privacy glass (by others)		

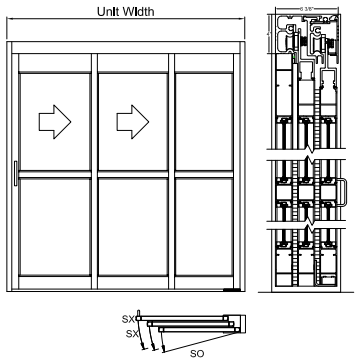
APPROVALS

Approvals	**UL1784, NFPA105, NFPA101**

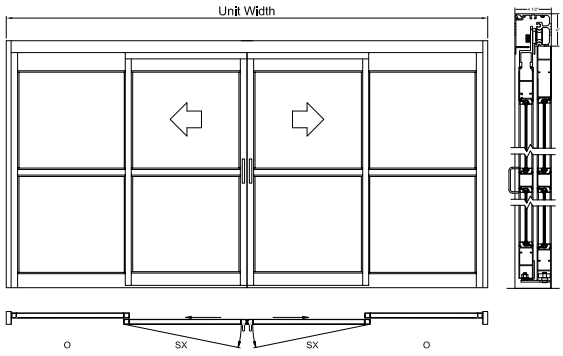
GT2150 RH Single
(Also available: Bi-part and Telescopic)



GT2100 RH Telescopic
(Also available: Bi-part and Single)



GT2125 Bi-Part
(Also available: Single and Telescopic)



SELECTION GUIDE

DOOR TYPE	FBO / FSL	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
2100 Trackless 2-panel - standard	**FBO**	**7' 2 7/8"** (2207) – **9' 4 3/8"** (2854)	**36"** (914) – **48"** (1219)	**78 13/16"** (2002) – **104 5/16"** (2650)
2100 Trackless 4-panel - standard	**FBO**	**10' 2 1/4"** (3105) – **18' 5 1/4"** (5620)	**48"** (1219) – **96"** (2438)	**109"** (2784) – **208"** (5299)
2100 Trackless 3-panel - telescopic	**FBO**	**5' 2 "** (1575) – **12' 6 3/8"** (3820)	**28' 11/16"** (729) – **87' 11/16"** (2227)	**51 3/16"** (1300) – **139 9/16"** (3545)
2100 Trackless 6-panel - telescopic	**FBO**	**8 '** (2438) – **24' 9"** (7544)	**41 3/8"** (1051) – **175 3/8"** (4455)	**78 3/8"** (1991) – **279 3/8"** (7096)
2125 Trackless 2-panel - standard	**FSL**	**6' 9 1/2"** (2070) – **8' 9 1/2"** (2680)	**36"** (914) – **48"** (1219)	**39"** (991) – **51"** (1295)
2125 Trackless 4-panel - standard	**FSL**	**9' 3 1/2"** (2832) – **17' 3 1/2"** (5271)	**48"** (1219) – **96"** (2438)	**54"** (1371) – **102"** (2591)
2125 Trackless 3-panel - telescopic	**FSL**	**5' 1 1/2"** (1562) – **13'** (3962)	**32 1/8"** (816) – **95 1/8"** (2415)	**35 1/8"** (892) – **98 1/8"** (2492)
2125 Trackless 6-panel - telescopic	**FSL**	**8'** (2438) – **26'** (7925)	**49"** (1245) – **193"** (4902)	**55"** (1397) – **199 "** (5055)
2150* Track 2-panel - standard	**FBO**	**6' 9 1/2"** (2070) – **8' 9 1/2"** (2680)	**36"** (914) – **48"** (1219)	**73 1/2"** (1867) – **97 1/2"** (2477)
2150* Track 4-panel - standard	**FBO**	**9' 3 1/2"** (2832) – **17' 3 1/2"** (5271)	**48"** (1219) – **96"** (2438)	**99"** (2515) – **195 "** (4953)
2150* Track 3-panel - telescopic	**FBO**	**5' 1 1/2"** (1562) – **13'** (3962)	**32 1/8"** (816) – **95 1/8"** (2416)	**48 1/2"** (1232) – **143"** (3632)
2150* Track 6-panel - telescopic	**FBO**	**8'** (2438) – **26'** (7925)	**49"** (1245) – **193"** (4902)	**74"** (1880) – **290"** (7366)

*Recessed track available.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

Member of the Nabtesco Group

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Member AAADM

Distributed by:

GT2100/2125/2150

ICU/CCU Manual Sliding Doors

Where VISIBILITY meets PEACE OF MIND

Product Features and Benefits

- Self-closing option **allows door to slide closed slowly after opening**
- Available with track or trackless options to **meet today's design needs**
- Substantial unobstructed view to patients **provides nurses peace of mind**
- Large opening access for **trouble-free transport of beds and medical equipment**
- Air infiltration package includes positive latching to **reduce the spread of germs and maintain air quality**

GT2100/2125/2150 Series Manual Sliders for ICU and CCU

The NABCO GT2100, GT2125 and GT2150 Manual Sliders are engineered to accommodate the specific needs of hospital intensive and cardiac care units (ICU/CCU). The 2100 series provides room access in a full-open breakout, trackless-style unit. The 2125 is also a trackless-style unit, but in a fixed sidelight configuration, where the door panel(s) only breakout. The 2150 is a full-open, breakout-style unit using a floor track. Each system is available in two, three, four and six panels, allowing users to stack the panels to one side to maximize full opening access for ease of patient transport and other large medical equipment. When in the closed position, the doors contribute an unobstructed view, awarding patients a comfortable atmosphere while still ensuring immediate access during an emergency. With the air infiltration package, the sliders are ideal for rooms where air quality must be maintained in case of fire, as well as "infection control" to reduce germs from spreading and preserving a sterile environment.

PRODUCT INFORMATION

Header dimensions – standard	**4 1/2" W** (114.3 mm) **x 4" H** (101.6 mm)
Header dimensions – telescopic	**6 3/8" W** (161.93 mm) **x 4" H** (101.6 mm)
Standard finish	**Clear and dark bronze anodized**
Optional finishes	**Painted, special anodized, clad**

CONFIGURATIONS

Trackless – standard	**2-panel, 4-panel /full breakout, fixed sidelite**
Trackless – telescopic	**3-panel, 6-panel /full breakout, fixed sidelite**
Track – standard	**2-panel, 4-panel /full breakout**
Track – telescopic	**3-panel, 6-panel /full breakout**

STANDARD FEATURES

Horizontal muntins	**Pullhandles** (one side); **Recessed pulls** (one side)	**Flush bolt** (2100 FBO trackless only)
4" bottom rails	**2 1/8" narrow stiles**	**Electrostatic discharge grounding** (anti-static)
Vinyl seals (accommodates glazing to 1" thickness)		

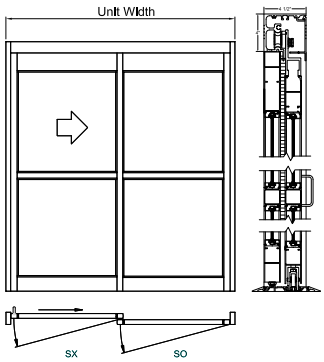
AVAILABLE OPTIONS

Air infiltration package	**Permanent anti-microbial finish**	**4" medium stiles**
5", 6 1/2", 10" bottom rails	**Self-closing**	**Positive latch**
Security hook and latch	**Hold-open tied to fire alarm**	**Door control sensor**
Accommodates between-the-glass horizontal blinds up to 1" thickness (by others)		
Accommodates etched/matte glass; electronic privacy glass (by others)		

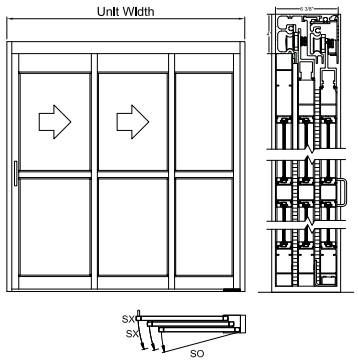
APPROVALS

Approvals	**UL1784, NFPA105, NFPA101**

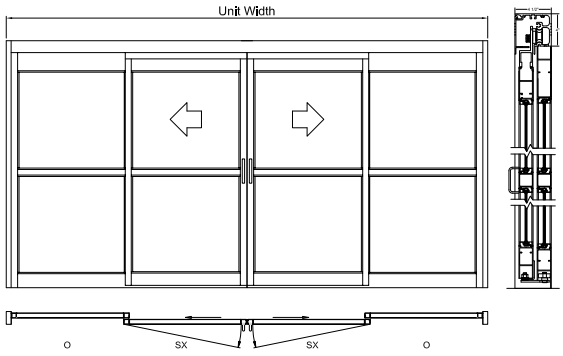
GT2150 RH Single
(Also available: Bi-part and Telescopic)



GT2100 RH Telescopic
(Also available: Bi-part and Single)



GT2125 Bi-Part
(Also available: Single and Telescopic)



SELECTION GUIDE

DOOR TYPE	FBO / FSL	FRAME WIDTH	DOOR OPENING	BREAKOUT OPENING
2100 Trackless 2-panel - standard	**FBO**	**7' 2 7/8"** (2207) – **9' 4 3/8"** (2854)	**36"** (914) – **48"** (1219)	**78 13/16"** (2002) – **104 5/16"** (2650)
2100 Trackless 4-panel - standard	**FBO**	**10' 2 1/4"** (3105) – **18' 5 1/4"** (5620)	**48"** (1219) – **96"** (2438)	**109"** (2784) – **208"** (5299)
2100 Trackless 3-panel - telescopic	**FBO**	**5' 2 "** (1575) – **12' 6 3/8"** (3820)	**28' 11/16"** (729) – **87' 11/16"** (2227)	**51 3/16"** (1300) – **139 9/16"** (3545)
2100 Trackless 6-panel - telescopic	**FBO**	**8 '** (2438) – **24' 9"** (7544)	**41 3/8"** (1051) – **175 3/8"** (4455)	**78 3/8"** (1991) – **279 3/8"** (7096)
2125 Trackless 2-panel - standard	**FSL**	**6' 9 1/2"** (2070) – **8' 9 1/2"** (2680)	**36"** (914) – **48"** (1219)	**39"** (991) – **51"** (1295)
2125 Trackless 4-panel - standard	**FSL**	**9' 3 1/2"** (2832) – **17' 3 1/2"** (5271)	**48"** (1219) – **96"** (2438)	**54"** (1371) – **102"** (2591)
2125 Trackless 3-panel - telescopic	**FSL**	**5' 1 1/2"** (1562) – **13'** (3962)	**32 1/8"** (816) – **95 1/8"** (2415)	**35 1/8"** (892) – **98 1/8"** (2492)
2125 Trackless 6-panel - telescopic	**FSL**	**8'** (2438) – **26'** (7925)	**49"** (1245) – **193"** (4902)	**55"** (1397) – **199 "** (5055)
2150* Track 2-panel - standard	**FBO**	**6' 9 1/2"** (2070) – **8' 9 1/2"** (2680)	**36"** (914) – **48"** (1219)	**73 1/2"** (1867) – **97 1/2"** (2477)
2150* Track 4-panel - standard	**FBO**	**9' 3 1/2"** (2832) – **17' 3 1/2"** (5271)	**48"** (1219) – **96"** (2438)	**99"** (2515) – **195 "** (4953)
2150* Track 3-panel - telescopic	**FBO**	**5' 1 1/2"** (1562) – **13'** (3962)	**32 1/8"** (816) – **95 1/8"** (2416)	**48 1/2"** (1232) – **143"** (3632)
2150* Track 6-panel - telescopic	**FBO**	**8'** (2438) – **26'** (7925)	**49"** (1245) – **193"** (4902)	**74"** (1880) – **290"** (7366)

*Recessed track available.

NABCO Service and Specifications

Along with the NABCO factory branches, NABCO has the largest independently owned network of automatic door distributors in North America. Their friendly, qualified installers and technicians always strive to exceed your expectations from install to after-sales service. NABCO's factory branches and independent distributors provide AAADM-certified technicians to ensure your doors meet all ANSI A156.10 standards.

Complete three-part specifications and CAD drawings are available on the NABCO website.

Member of the Nabtesco Group

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive | Muskego, WI 53150 | 877-622-2694 | Fax 888-679-3319
www.nabcoentrances.com | Email info@nabcoentrances.com

Member AAADM

Distributed by:

GYRO TECH™
by NABCO Entrances Inc.
Where quality and service are automatic

S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com

Manual Sliding Doors

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation periodically using the checklist in this owner's manual.

Have door adjusted as described in this owner's manual.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system per the manufacturer's recommendations.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system periodically to ensure that it is safe for use by your employees or customers.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Periodic Door Systems Check.*

Should the door fail to operate as prescribed in the *Periodic Door Systems Check*, or at any other time for any other reason, contact your service provider. These technicians are trained to service your door in accordance with the manufacturer's specifications.

Service Availability

NABCO products are distributed through a nationwide network of authorized suppliers for sales, installation, and service.

Should you need service on your door system contact:
NABCO Entrances Inc. @ 1-877-622-2694 or find a NABCO authorized representative in your area by visiting http://www.nabcoentrances.com/locator/default7.aspx

Periodic Door Systems Check

a) Sweep out floor tracks (if equipped)

b) Check that nothing is in the door path or preventing panic breakout

c) Check glass for cracks or damage and that glass stops are secure

d) Check motion of door - it should slide freely

e) Check for loose latch handles, push bars or cart bars (if equipped)

f) Flush bolts and door latches should operate smoothly

g) Check for damaged or missing smoke seals and brushes (if equipped)

h) Make sure that overhead covers are properly secured

General Maintenance

The following are suggested maintenance items performed by your service provider: (**Note:** Refer to the installation manual for adjustment details)

a) Clean track in header and adjust top rollers as required

b) Clean floor tracks and adjust bottom guide rollers as required

c) Check breakout mechanism periodically (if equipped). On GT2100's in breakout position check for loose door stops and position of bottom door guide pin in relation to the floor pivot plate assembly. The bottom door pivot pin must be fully recessed into the floor pivot assembly prior to breakout. **Note:** A properly adjusted GT2100 (with the door in the full slid open position) will be resting against the stop bumper in the header bottom pivot pin is fully engaged in the base pivot assembly on the floor.

d) Check thresholds, floor pivot assemblies and any brackets are securely fastened. Tighten if required.

e) Adjust breakout catches, flush bolts and positive latches (if equipped). Lubricate as necessary.

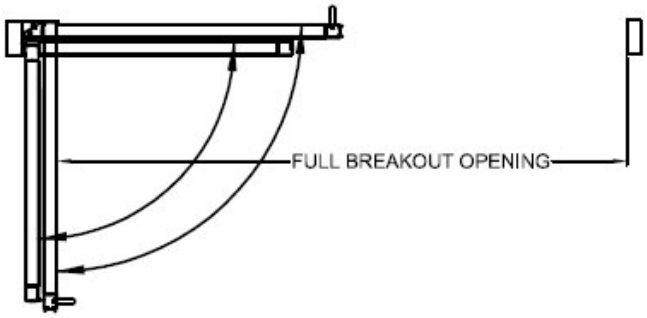
f) Check and adjust door and panel clearances as required. Generally a door in the breakout position should not come in contact with the floor. Adjust pre-load mechanism to prevent door sag. When necessary (due to weight or special application) a nose caster will be included for smooth operation. **Note:** Refer to installation manual for proper clearances.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position. During breakout keep fingers clear of pinch points between the door(s) and panel.

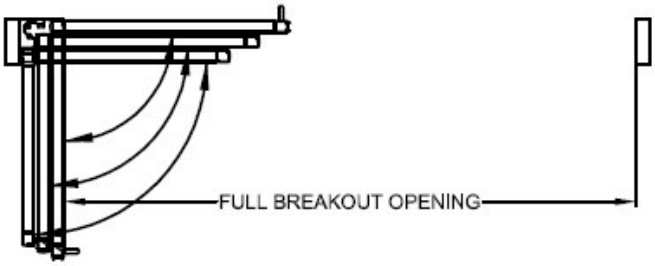
GT2100 Full breakout trackless: (1) Move the door(s) to the full open slide position as shown below then (2) release the flush bolt on the leading edge of the stationary sidelite and while keeping some pressure against the door to prevent sliding (3) push all the panels in the direction of breakout. The panels are all interconnected and breakout together. **Note**: Failure to release the flush bolt or pushing on the doors prior to reaching the full slide open position will damage the door hardware. On units equipped with a ball catch mechanism in place of the flush bolt you must still move the door(s) to the full slide open position before attempting breakout.

2-Panel Single L/H Unit



Breakout
Position

3-Panel Telescopic Single L/H Unit



Breakout
Position

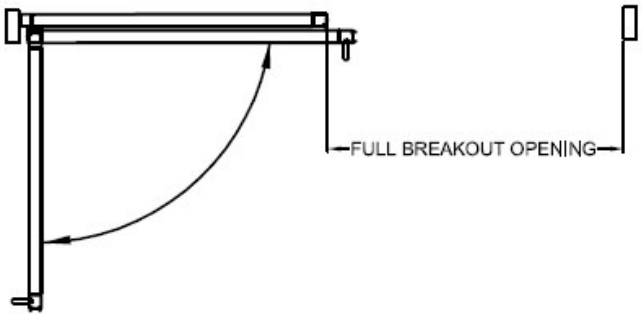
To reset from breakout position to sliding position (1) push all panels back in-line with the carrier mechanism snapping them in place and then (2) re-latch the flush bolt.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position.

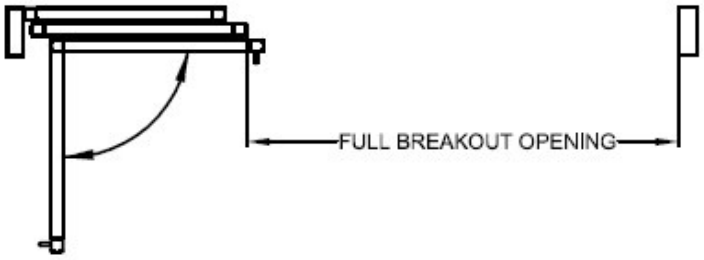
GT2125 Fixed sidelite trackless: The door may be pushed into breakout position at any point in the doors slide travel. For a telescopic unit only the lead door will have this feature. The intermediate door only slides and the adjacent sidelite is fixed and has no movement. For maximum breakout opening slide the door(s) to the full open position prior to breakout.

2-Panel Single L/H Unit



Breakout
Position

3-Panel Telescopic Single L/H Unit



Breakout
Position

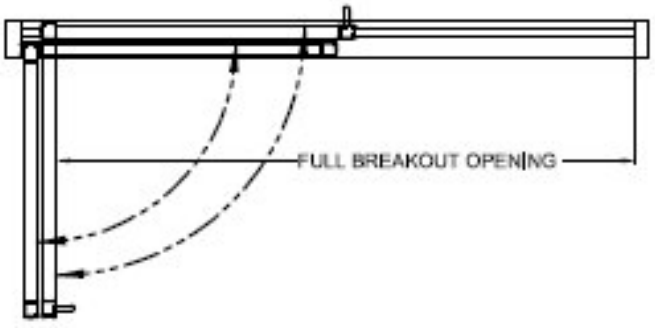
To reset from breakout position to sliding position push the door(s) back in-line with the carrier mechanism snapping it into place.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position.

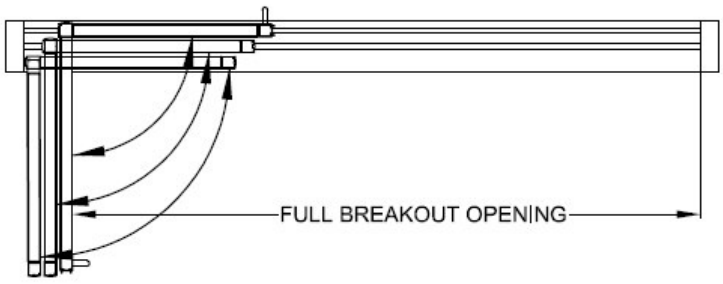
GT2150 Full breakout with floor track: The door(s) and sidelite may be pushed to swing out at any point in the door(s) slide travel. For maximum breakout opening first slide the doors to the full open position prior to breakout.

2-Panel Single L/H Unit (shown with recessed floor track)



Breakout
Position

3-Panel Telescopic Single L/H Unit (shown with recessed floor track)



Breakout
Position

To reset from breakout position to sliding position push all panels back in-line with the carrier mechanism snapping them in place.

Standard Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contractor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

GYRO TECH™
by NABCO Entrances Inc.
Where quality and service are automatic

S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319
www.nabcoentrances.com

Manual Sliding Doors

OWNER'S MANUAL

Distributed by:

Contents

CAUTION

An Improperly Adjusted Door can cause injury and/or equipment damage.

Inspect door operation periodically using the checklist in this owner's manual.

Have door adjusted as described in this owner's manual.

In the following manual, the word:

Caution means that injury or property damage can result from failure to follow instructions.

Note is used to indicate important steps to be followed or important differences in equipment.

To Our Customers

The purpose of this manual is to familiarize you with your door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system per the manufacturer's recommendations.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system periodically to ensure that it is safe for use by your employees or customers.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the *Periodic Door Systems Check.*

Should the door fail to operate as prescribed in the *Periodic Door Systems Check*, or at any other time for any other reason, contact your service provider. These technicians are trained to service your door in accordance with the manufacturer's specifications.

Service Availability

NABCO products are distributed through a nationwide network of authorized suppliers for sales, installation, and service.

Should you need service on your door system contact:
NABCO Entrances Inc. @ 1-877-622-2694 or find a NABCO authorized representative in your area by visiting http://www.nabcoentrances.com/locator/default7.aspx

Periodic Door Systems Check

a) Sweep out floor tracks (if equipped)

b) Check that nothing is in the door path or preventing panic breakout

c) Check glass for cracks or damage and that glass stops are secure

d) Check motion of door - it should slide freely

e) Check for loose latch handles, push bars or cart bars (if equipped)

f) Flush bolts and door latches should operate smoothly

g) Check for damaged or missing smoke seals and brushes (if equipped)

h) Make sure that overhead covers are properly secured

General Maintenance

The following are suggested maintenance items performed by your service provider: (**Note:** Refer to the installation manual for adjustment details)

a) Clean track in header and adjust top rollers as required

b) Clean floor tracks and adjust bottom guide rollers as required

c) Check breakout mechanism periodically (if equipped). On GT2100's in breakout position check for loose door stops and position of bottom door guide pin in relation to the floor pivot plate assembly. The bottom door pivot pin must be fully recessed into the floor pivot assembly prior to breakout. **Note:** A properly adjusted GT2100 (with the door in the full slid open position) will be resting against the stop bumper in the header bottom pivot pin is fully engaged in the base pivot assembly on the floor.

d) Check thresholds, floor pivot assemblies and any brackets are securely fastened. Tighten if required.

e) Adjust breakout catches, flush bolts and positive latches (if equipped). Lubricate as necessary.

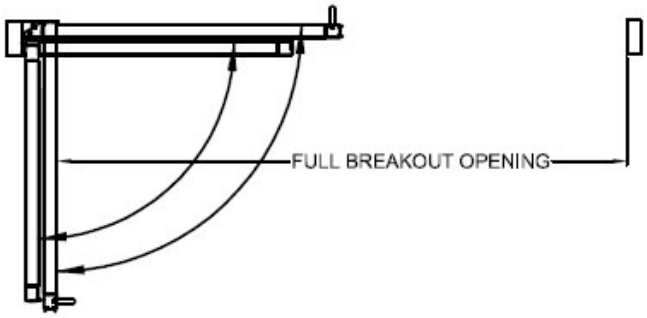
f) Check and adjust door and panel clearances as required. Generally a door in the breakout position should not come in contact with the floor. Adjust pre-load mechanism to prevent door sag. When necessary (due to weight or special application) a nose caster will be included for smooth operation. **Note:** Refer to installation manual for proper clearances.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position. During breakout keep fingers clear of pinch points between the door(s) and panel.

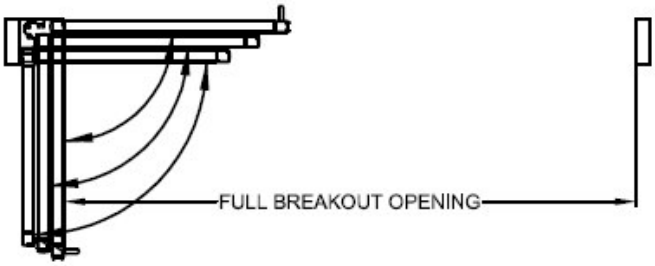
GT2100 Full breakout trackless: (1) Move the door(s) to the full open slide position as shown below then (2) release the flush bolt on the leading edge of the stationary sidelite and while keeping some pressure against the door to prevent sliding (3) push all the panels in the direction of breakout. The panels are all interconnected and breakout together. **Note**: Failure to release the flush bolt or pushing on the doors prior to reaching the full slide open position will damage the door hardware. On units equipped with a ball catch mechanism in place of the flush bolt you must still move the door(s) to the full slide open position before attempting breakout.

2-Panel Single L/H Unit



Breakout
Position

3-Panel Telescopic Single L/H Unit



Breakout
Position

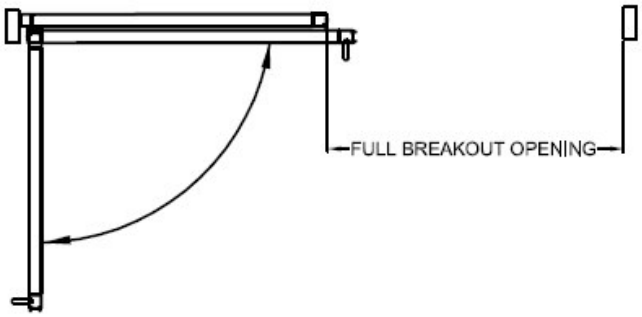
To reset from breakout position to sliding position (1) push all panels back in-line with the carrier mechanism snapping them in place and then (2) re-latch the flush bolt.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position.

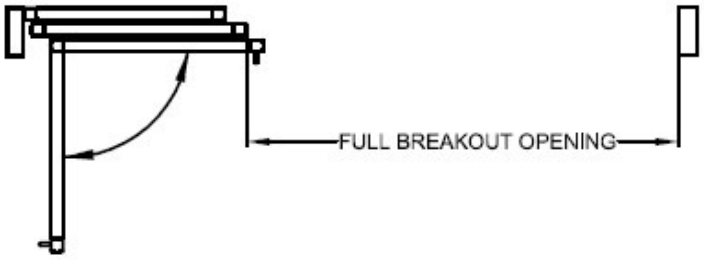
GT2125 Fixed sidelite trackless: The door may be pushed into breakout position at any point in the doors slide travel. For a telescopic unit only the lead door will have this feature. The intermediate door only slides and the adjacent sidelite is fixed and has no movement. For maximum breakout opening slide the door(s) to the full open position prior to breakout.

2-Panel Single L/H Unit



Breakout
Position

3-Panel Telescopic Single L/H Unit



Breakout
Position

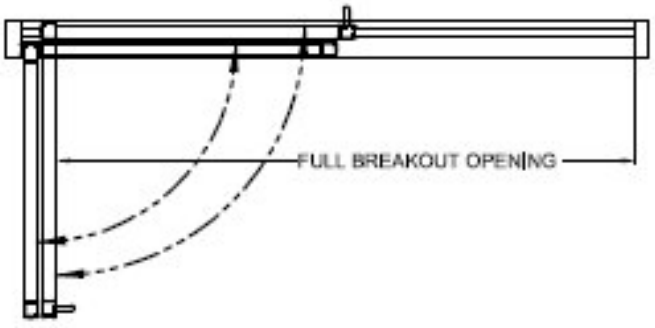
To reset from breakout position to sliding position push the door(s) back in-line with the carrier mechanism snapping it into place.

Emergency Breakout Door Operation

Your installer or service provider should demonstrate these important features. If door(s) are equipped with positive latches to prevent sliding you must disengage prior to attempting breakout from the full closed position.

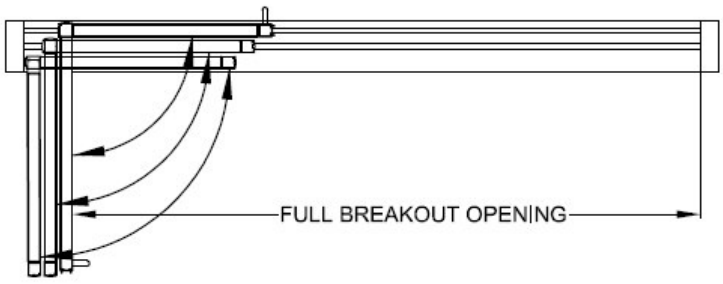
GT2150 Full breakout with floor track: The door(s) and sidelite may be pushed to swing out at any point in the door(s) slide travel. For maximum breakout opening first slide the doors to the full open position prior to breakout.

2-Panel Single L/H Unit (shown with recessed floor track)



Breakout
Position

3-Panel Telescopic Single L/H Unit (shown with recessed floor track)



Breakout
Position

To reset from breakout position to sliding position push all panels back in-line with the carrier mechanism snapping them in place.

Standard Limited Warranty

NABCO Entrances Inc., for its Gyro-Tech product line, provides to its purchasing distributor a limited warranty on the equipment supplied by NABCO Entrances Inc. The warranty is:

NABCO Entrances Inc. will exchange or repair, F.O.B. the NABCO Entrances Inc. plant any unit component found defective in workmanship and/or material, subject to NABCO inspection, for a period of one (1) year from date of installation. Warranty does not include field service labor. The installing contractor/distributor shall be responsible for installation and field service.

This warranty does not cover loss or damages resulting from causes beyond the manufacturer's control, or misuse, neglect, accident, wind storm, acts of terrorism or acts of God. Warranty is for normal use and service. The warranty will not apply for equipment which has been repaired or altered so as to adversely affect conditions of operation. Warranty will not obligate NABCO for damages resulting from such alterations, misuse, neglect, terrorism or acts of God.

GT SYSTEM 2100 MANUAL SLIDER
TRACKLESS
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Series GT 2100
MANUAL ICU / CCU - TRACKLESS – FULL BREAKAWAY

DIVISION 08 – OPENINGS
SECTION 08 42 43 – INTENSIVE CARE UNIT / CRITICAL CARE UNIT ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install manual slide door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.

1. Concrete: Division 03, applicable sections.
2. Masonry: Division 04, applicable sections.
3. Thermal and Moisture Protection: Division 07, applicable sections.
4. Openings: Division 08, applicable sections.
5 Electrical Grounding 16, applicable sections.

1.02 REFERENCES

A. American Architectural Manufacturers Association (AAMA) - www.aamanet.org

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. National Fire Protection Association (NFPA) - www.nfpa.org

E. International Code Council (ICC) - www.iccsafe.org or Applicable State and Local Codes

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of door system installation with concrete work, masonry, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following; opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and other trades to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

PART 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. All door equipment shall be manufactured by:

NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 MANUAL SLIDING DOOR SYSTEM

GYRO TECH Slide System GT2100

A. Mode of operation: The GYRO TECH Series 2100 Manual Sliding Door System provides the unique feature of room access without a floor track. Smooth entry and exit is provided for patient and also for delicate medical equipment. This feature also precludes the chance of contaminant build up. Under normal operating conditions, medical personnel have access by way of the sliding door. When patient and/or medical equipment access is required, the sliding door is moved to the breakaway position engaging the capture pivot. Release of a flush bolt located in the vertical stile of the sidelite allows the door(s) and swing panel(s) to become a pivoting unit capable of swinging 90 degrees giving access to approximately 95% of the framed opening. Reset procedures occur in reverse order.

B. Types / Configurations:
1. Single, SO-SX or SX-SO
2. Bi-part, SO-SX-SX-SO

C. Product Components:
1. Aluminum doors, swing panels and frame assembly.
2. Rollers – Support and Guide
3. Door carrier hanger assembly, swing panel pivots, breakaway latches, limiting arms, pull handles, static arrester, and weathering seal.

1a) Door panel(s) and Swing panel(s) shall be factory assembled with 3/8-16 threaded tie rods spanning full length of top and bottom rails. Snap in glass stop with integral extruded vinyl standoff to accommodate glass flexing. A horizontal muntin bar to provide glass protection. Configurations shall include a 2 panel (single) and 4 panel (bi-part) versions.

1b) Vertical Jambs shall be 1-3/4”x 4-1/2 (44mm x 114mm) and Horizontal Header shall be 5” by 4-1/2” (127mm x 114mm) aluminum extrusions. The header includes a door track and anti-riser guide. Header shall be accessible by a hinged cover that locks in the open position for ease of service.

1c) All major extrusions to be minimum 1/8” (3mm) wall thickness.

1d) All extruded aluminum sections shall be 6063-T5 or equivalent.

1e) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1) or AA-M12-C22-A44 (dark bronze). Paint and other anodized finishes available upon request.

2) Sliding door shall ride on two 1-13/32" (36mm) dia. steel, urethane coated support rollers incorporating lubricated sealed ball bearings, and two equivalent anti-rise rollers. Each roller assembly shall have ± 7/16" (11mm) of vertical adjustment. Each swing panel shall include one bottom guide assembly. Guide blocks shall be attached to the swing panel with a 3/16" (5mm) thick formed guide bracket. All steel brackets and fittings shall be plated for corrosion resistance.

3a) Entrance systems shall have door panels attached to a door carrier hanger assembly by means of an adjustable support rod pivot assembly and corrosion resistant adjustable breakaway release latch holding the door panel in the closed position under normal manual operation. Breakaway pressure shall be field adjustable (5-50 lbs.) to meet local building code requirements but will be factory set at 50 lbs. maximum. The support rod pivot assembly allows the door to swing freely in panic mode without sagging. The system shall have breakaway swing panels held in place by means of a top pivot and floor pivot plate secured to the floor and a flush bolt lock into the header.

3b) A limiting arm to control the panels as they swing in the direction of egress.

3c) Door pull adjacent to swing panel is of recessed type to preclude pinch point. "D" shaped pull extending from leading edge of stile provides external door activation.

3d) An electrical grounding system on each door grounds entrance package from static electricity.

3e) 1/2" wide vinyl fin positioned between the door(s) and lead stile(s) of the swing panel(s).

3f) Optional positive latch and additional air infiltration seals available upon request.

PART 3-EXECUTION

3.01 INSTALLATION

A. Door equipment shall be installed by manufacturer-approved, factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by manufacturer. Aluminum surfaces in contact with masonry, concrete, or steel shall be protected from contact by use of neoprene gaskets where indicated or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

***COVER NOTE TO SPECIFICATION WRITER**

A. Preparation of a plumb and square opening to receive sliding door equipment with adequate support.

B. Glass and glazing shall be described in glazing section of the specifications, door to be glazed square.

C. CONCRETE INSTALLER shall prepare floor at location of entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION

GT SYSTEM 2125 MANUAL SLIDER
FIXED SIDELITE
SUGGESTED ARCHITECTURAL SPECIFICATIONS
SECTION 8

Series GT 2125
MANUAL ICU / CCU - TRACKLESS – FIXED SIDELITE

DIVISION 08 – OPENINGS
SECTION 08 42 43 – INTENSIVE CARE UNIT / CRITICAL CARE UNIT ENTRANCES

Note to Specifier: Articles and paragraphs below may be edited or modified to suit specific project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's standard practice. Contact manufacturer's representative to discuss specification modifications, performance requirements, accessories and/or related equipment that may be applicable to this project.

Part 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install manual slide door equipment as indicated on drawings and specifications.

B. Related work specified elsewhere.

1. Concrete: Division 03, applicable sections.
2. Masonry: Division 04, applicable sections.
3. Thermal and Moisture Protection: Division 07, applicable sections.
4. Openings: Division 08, applicable sections.
5 Electrical Grounding 16, applicable sections.

1.02 REFERENCES

A. American Architectural Manufacturers Association (AAMA) - www.aamanet.org

B. American National Standards Institute (ANSI) - www.ansi.org

C. Builders' Hardware Manufacturers Association (BHMA) - www.buildershardware.com

D. National Fire Protection Association (NFPA) - www.nfpa.org

E. International Code Council (ICC) - www.iccsafe.org or Applicable State and Local Codes

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer to have at least (5) five years experience in the fabrication of automatic and manual entrance systems.

B. Installer's Qualifications: Products specified shall be represented by a factory authorized and trained distributor. Distributor shall be AAADM Certified, maintain a parts inventory and have trained service personnel with experience installing and maintaining units indicated for this project.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product and complete installation data for all materials covered in this section.

B. Shop Drawings: Submit complete elevations, details and methods of anchorage to location; installation of hardware; size, shape, joints and connections; and details of joining with other construction.

C. Templates and Diagrams: As needed shall be furnished to fabricators and installers of related work for coordination of door system installation with concrete work, masonry, and other related work.

D. A copy of appropriate manual shall be provided to owner / contractor upon completion of installation.

1.05 SUBSTITUTIONS

A. Gyro Tech equipment as manufactured by NABCO ENTRANCES, INC. has been specified and shall be quoted as the base bid. Proposals for substitution products may be submitted by the bidding contractors a minimum of 10 days prior to bid due date. The proposed substitution shall meet the quality and performance standards described in this specification.

1.06 JOB SITE CONDITIONS

A. Site Survey: Verify site conditions including, but not limited to the following; opening sizes, floor conditions, plumb and level mounting surfaces (substrates shall be of proper dimension and material).

B. Coordinate installation with glass, glazing, hardware and other trades to avoid construction delays.

1.07 WARRANTY

A. Warranted materials shall be free of defects in material and workmanship for a period of one year from date of substantial completion. During the warranty period the Owner shall request NABCO factory-trained technicians to perform service. Warranty repairs are provided during normal business hours. Owner to receive warranty after completion of installation.

PART 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A. All door equipment shall be manufactured by:
NABCO ENTRANCES INC.
S82 W18717 Gemini Drive
Muskego, WI 53150
Phone: (877) 622-2694
Fax: (888) 679-3319

2.02 MANUAL SLIDING DOOR SYSTEM

GYRO TECH Slide System GT 2125

A. Mode of operation: The GYRO TECH Series 2125 Manual Sliding Door package provides the unique feature of room access without a floor track. Smooth entry and exit is provided for patient and also for delicate medical equipment. This feature also precludes the chance of contaminant build up. Under normal operating conditions, medical personnel have access by way of the sliding door. When patient and/or medical equipment access is required, the sliding door(s) are slid behind the fixed sidelite(s) allowing for 1/2 of frame opening. At this location the door is completely open for moving equipment into the room. The slide door can be pivoted open at anytime during the door travel for emergency egress.

B. Types / Configurations:
1. Single, O-SX or SX-O
2. Bi-part, O-SX-SX-O
3. Single - Surface Applied - Without Sidelite - P-SX or SX-P
4. Bi-part - Surface Applied -Without Sidelites - P-SX-SX-P

C. Product Components:
1. Aluminum doors, fixed panels and frame assembly.
2. Rollers – Support and Guide
3. Door carrier hanger assembly, fixed panel, breakaway latches, limiting arms, pull handles, static arrester, and weathering seal

1a) Door(s) panel(s) and Fixed panel(s) shall be factory assembled with 3/8-16 threaded tie rods spanning full length of top and bottom rails. Snap in glass stop with integral extruded vinyl standoff to accommodate glass flexing. A horizontal muntin bar to provide glass protection. Configuration shall include a 2 panel (single) and a 4 panel (bi-part) versions.

1b) Vertical Jambs shall be 1-3/4" x 4-1/2" (44mm x 114mm) and Horizontal Header shall be 5" x 4-1/2" (127mm x 114mm) extruded aluminum. The header includes a door track and anti-riser guide. Header shall be accessible by a hinged cover that locks in the open position for ease of service

1c) All major extrusions to be minimum 1/8" (3mm) wall thickness.

1d) All extruded aluminum sections shall be 6063-T5 or equivalent.

1e) Finish: Aluminum shall have a standard finish of AA-M12-C22-A31 (204R1) or AA-M12-C22-A44 (dark bronze). Black and special finishes available upon request.

2) Sliding door shall ride on two 1-13/32" (36mm) dia. steel, urethane coated support rollers incorporating

lubricated sealed ball bearings, and two equal anti-rise rollers. Each roller assembly shall have ± 7/16" (11mm) of vertical adjustment. Each sliding panel shall include one guide assembly incorporating double rollers with sleeve bushings. Guide roller shall be attached to the sliding panel with a 10 gage (3mm) thick formed guide bracket. All steel brackets and fitting shall be plated for corrosion resistance.

3a) Entrance systems shall have door panels attached to a door carrier hanger assembly by means of an adjustable support rod pivot assembly and corrosion resistant adjustable breakaway release latch holding the door panel in the closed position under normal manual operation. Breakaway pressure shall be field adjustable (5-50 lbs.) to meet local building code requirements but will be factory set at 50 lbs. maximum. The support rod pivot assembly allows door to swing freely in panic mode without sagging.

3b) A limiting arm to control the panels as they swing in the direction of egress.

3c) Door pull adjacent to swing panel is of recessed type to preclude pinch point. "D" shaped pull extending from leading edge of stile provides external door activation.

3d) An electrical grounding system on each door grounds entrance package from static electricity.

3e) 1/2" wide vinyl fin positioned between the door(s) and lead stile(s) of the swing panel(s).

3f) Optional positive latch and additional air infiltration seals available upon request.

PART 3-EXECUTION

3.01 INSTALLATION

A. Door equipment shall be installed by manufacturer-approved, factory-trained installers in compliance with manufacturer's recommendations and approved shop drawings.

3.02 CLEANING AND PROTECTION

A. After installation, clean framing members as recommended by manufacturer. Aluminum surfaces in contact with masonry, concrete, or steel shall be protected from contact by use of neoprene gaskets where indicated or a coat of bituminous paint to prevent galvanic or corrosive action. Advise general contractor to protect unit from damage during subsequent construction activities.

*** COVER NOTE TO SPECIFICATION WRITER**

A. Preparation of a plumb and square opening to receive sliding door equipment with adequate support.

B. Glass and glazing shall be described in glazing section of the specifications, door to be glazed square.

C. CONCRETE INSTALLER shall prepare floor at location of entrance system to be level and smooth without changes in elevation between foundation and associated walkways.

END OF SECTION