

Single Tunnel Door

Installation Manual

PNEG-1572

Version: 8.0

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All information, illustrations, photos and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Contents

Chapter 1 Safety	4
Safety Guidelines	4
Cautionary Symbols Definitions	5
Safety Cautions	6
Safety Sign-Off Sheet	8
Chapter 2 Decals	9
Chapter 3 Installation	10
Frame Out	10
Safety Chain Installation	12
Assembling the End Panel	14
Installing the End Panel	15
Connecting Two (2) Tunnel Door Panels	16
Installing the Last Panel	17
Installing the Pulley and Lag Hook	17
Installing the Winch Ratchet Assembly	18
Installing Threaded Lag Hook Supports for Actuation Rod	21
Installing and Adjusting the Nylon Cord	21
Chapter 4 Parts List	23
Tunnel Door Panel Assembly 4' System (30-0858) - Black on Black	24
Tunnel Door Panel Assembly 5' System (30-0857) - Black on Black	26
Tunnel Door Panel Assembly 6' System (30-0859) - Black on Black	28
Winch Hardware Package	30
Safety Chain Package Tunnel Door	31
Chapter 5 Warranty	33

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

ST-0001-4

Cautionary Symbols Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.



This symbol indicates an imminently hazardous situation which, if not avoided, **will result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury.**



This symbol is used to address practices not related to personal injury.



This symbol indicates a general hazard.



This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection



- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment is properly grounded.



ST-0027-4

Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.



ST-0036-2

Check components shown in [Figure 2A](#) to ensure that the safety decals are in place and in good condition. Decals must be installed by installer on both ends of each door. [See Figure 2A](#) for decal location.

NOTE: [Figure 2A](#) shows decal location for left side of door. Right side of door will be opposite. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

GSI Decals

1004 E. Illinois St.
Assumption, IL. 62510
Phone: 1-217-226-4421

NOTE: Decals are not to scale.

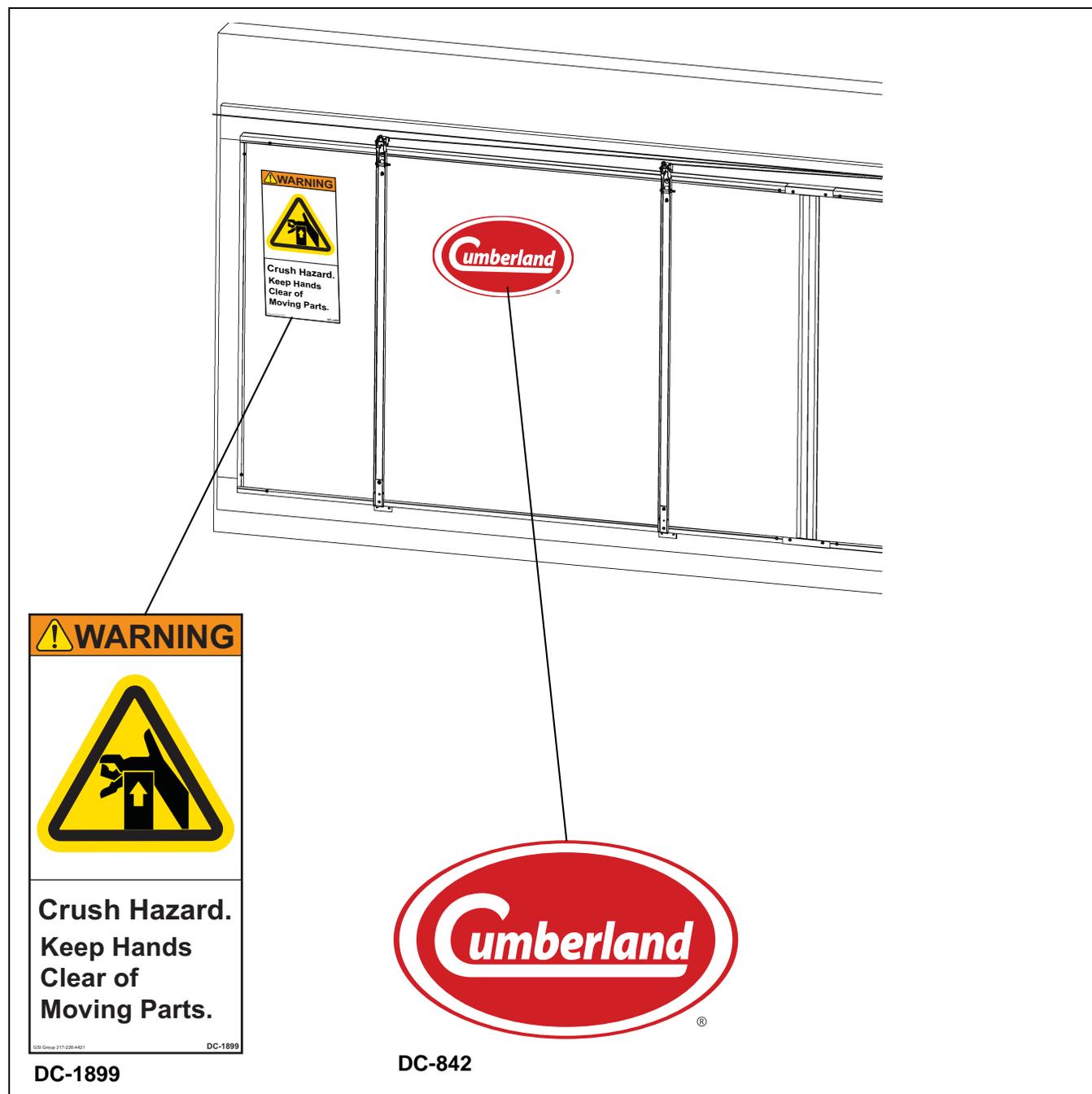


Figure 2A Showing Left Side of Door

3. Installation

Frame Out

1. Add a 2" x 6" frame around the existing evaporative cooling system opening. The framed opening should be height (H) x evaporative cooling system length (L). (See Figure 3A.)

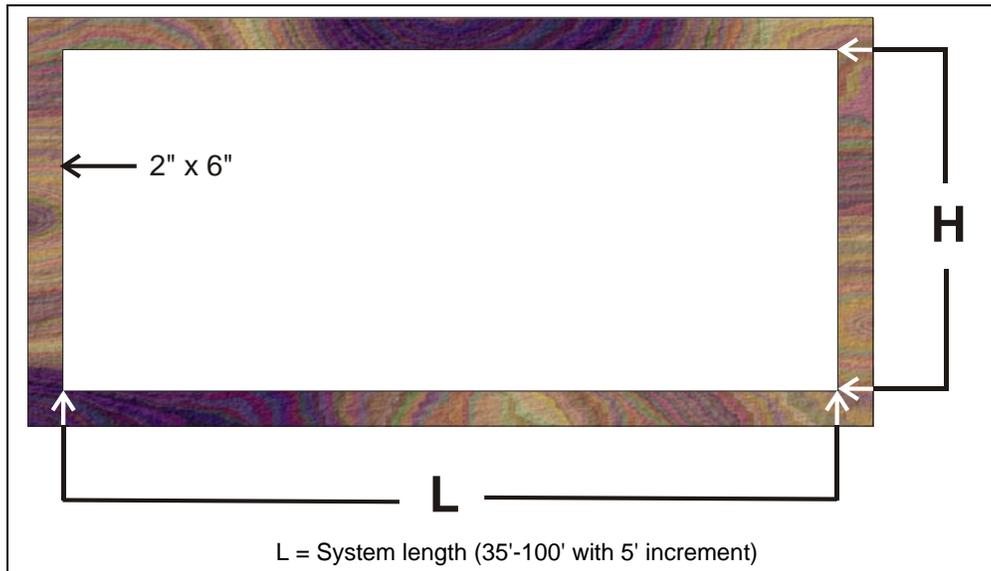


Figure 3A

NOTE: Frame opening height, "H" value varies depending on the system.

4' system H = 45"

5' system H = 57"

6' system H = 69"

NOTE: Frame opening length, "L" value varies depending on the system.

Frame opening should be 3" less than stated overall length of system.

For example: A 45' system frame opening for the length should be 44'-9".

- a. Caulk the frame boards to seal against the existing wall. (See Figure 3B.)
- b. Inspect the 2" x 6" boards and place an edge with a square corner to the inside corner toward the evap opening. (The seal needs a square corner for attachment and proper seal.) (See Figure 3C.)

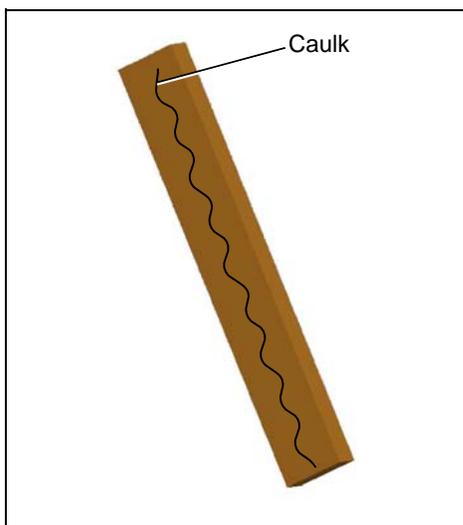


Figure 3B

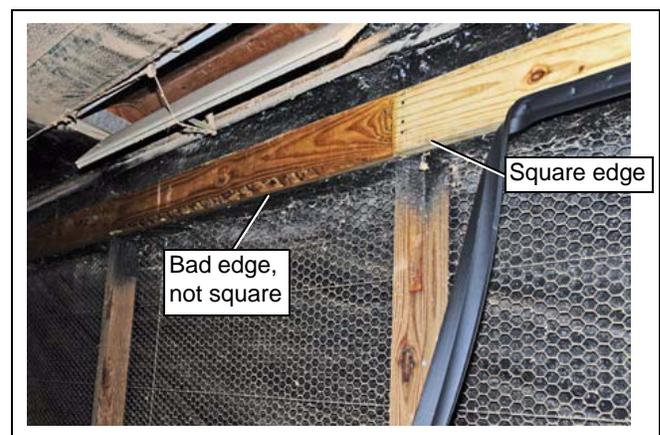


Figure 3C

2. Chalk a line the complete length of the system measuring 3" from the top side of the bottom 2" x 6" frame board. (See Figure 3D.) To align hinges at a later step. Refer to Figure 3M on Page 15.

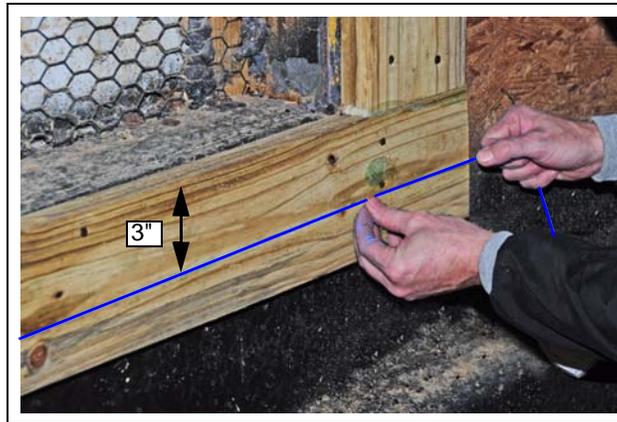


Figure 3D

3. Starting at any corner, miter cut the foam seal at 45° and attach to the framed opening using roofing nails or minimum 1/2" long staple gun. (Cumberland recommends roofing nails.) Place nails/staples at a maximum of 6" apart. Slightly stretch foam. (See Figure 3E.)

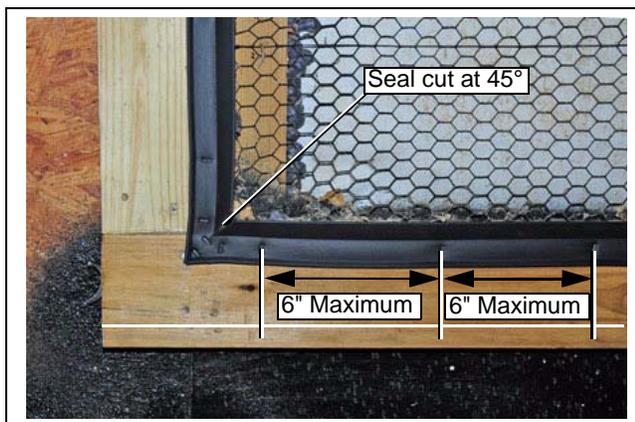


Figure 3E



Figure 3F

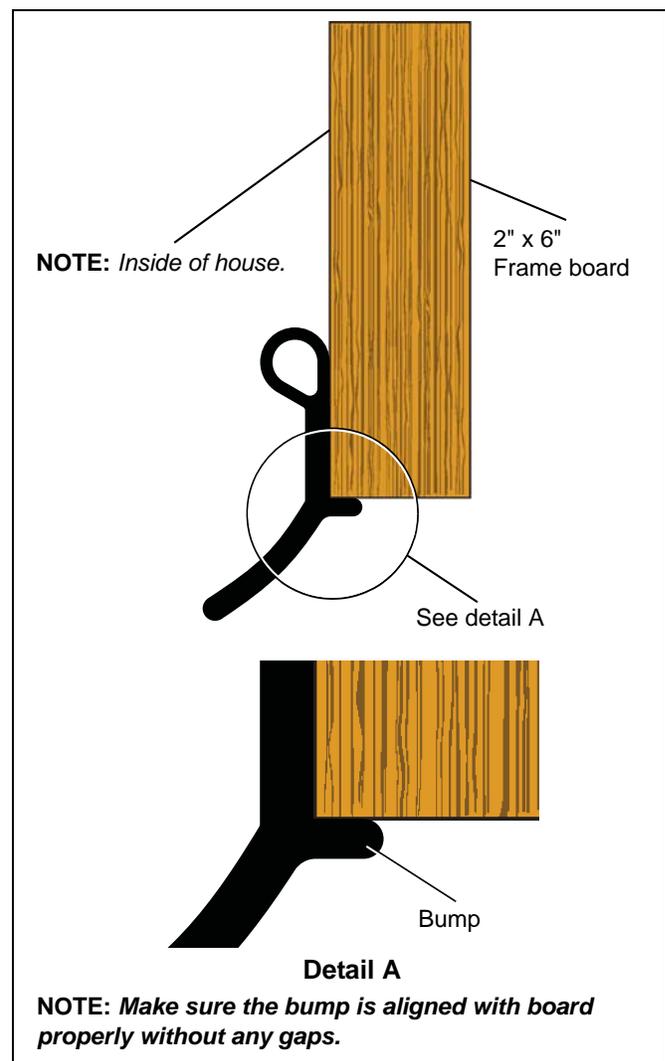


Figure 3G

3. Installation

Safety Chain Installation

1. Starting at the first post; attach one end of the chain to the center 4" down from the top 2" x 6" frame board using the lag screw (S-9027) provided. (See Figure 3H.)

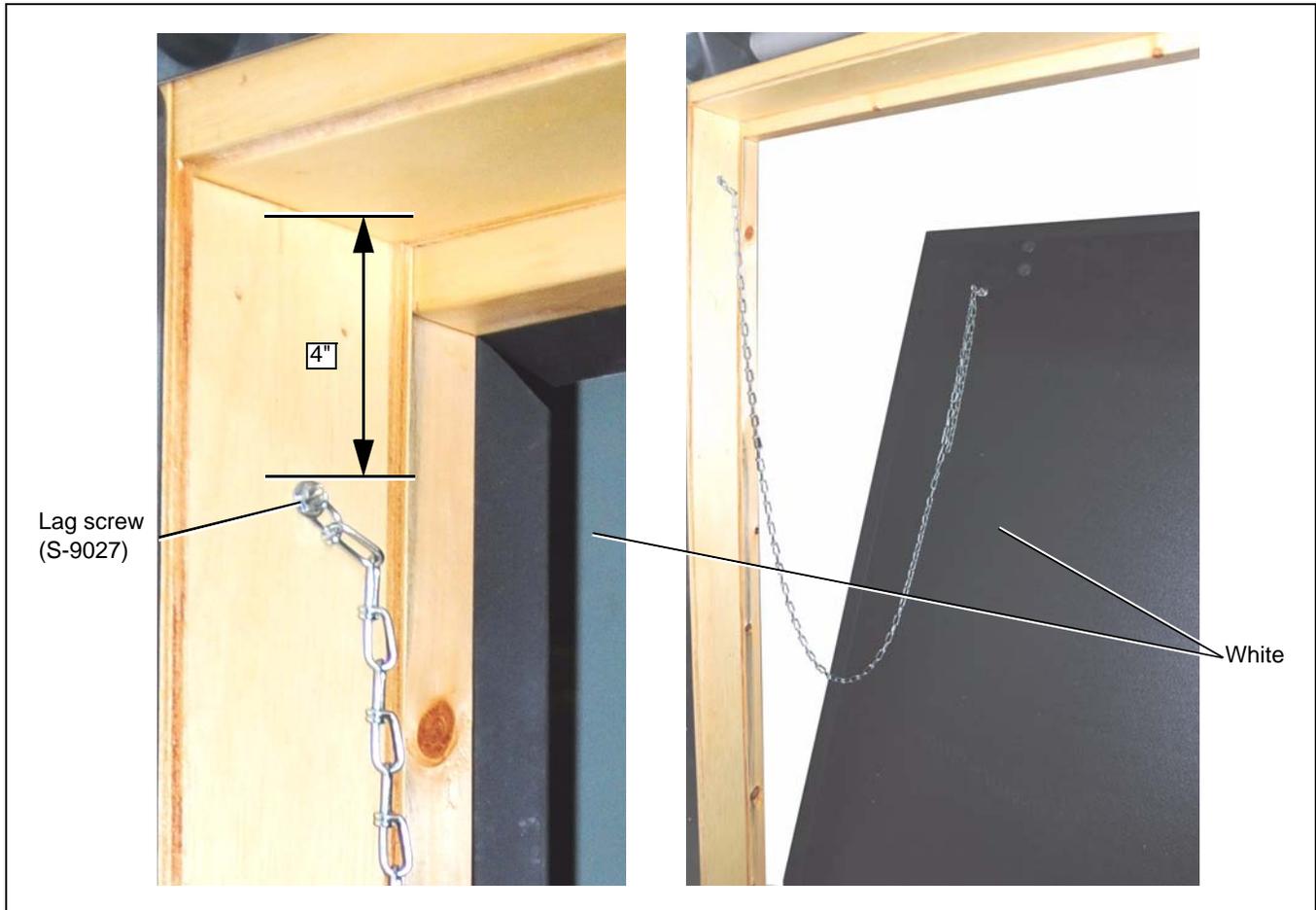


Figure 3H Safety Chain Installation

2. Continue [Step 1](#) on every other tunnel door panel throughout the length of the tunnel door system.

NOTE: [Steps 1 and 2](#) above must be completed prior to the panel installation. [Steps 3-5](#) on [Page 13](#) will be completed after panels are completely installed.

Safety Chain Installation (Continued)

3. Locate the square hole near the top of the support channel and use it as a guide to drill a 5/16" hole through the tunnel door panel. (See Figure 3I.)
4. Place an elevator bolt through the hole from the front side and attach the APCD-313 and secure with the flange nut (S-7215) provided. (See Figure 3J.)

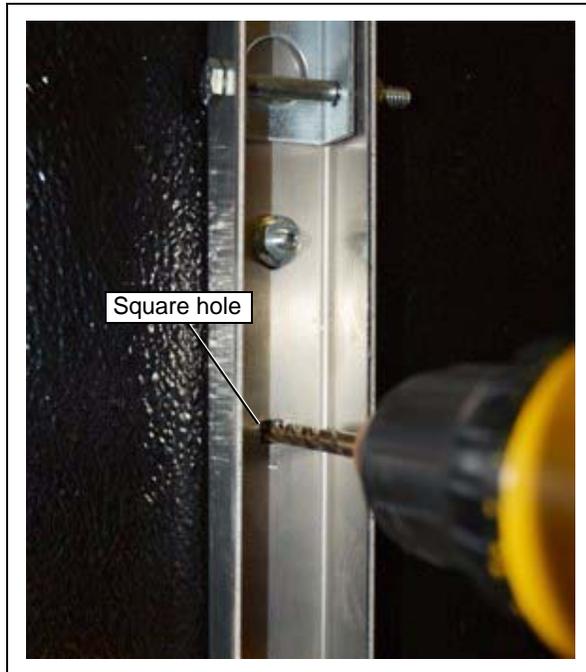


Figure 3I



Figure 3J

NOTE: The APCD-313 must be attached to the panel with the loop opening at the top. (See Figure 3K.)

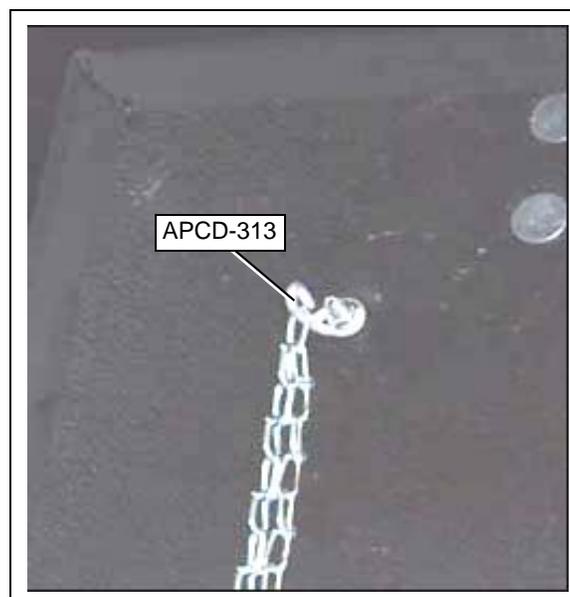


Figure 3K Safety Chain Attached to Door

5. Open the tunnel doors to their maximum operating opening and attach the chain to the APCD-313 wire hook.

3. Installation

Assembling the End Panel

1. Install the end cap to the first panel.
 - a. Place end cap (A) onto the end of the door panel.
 - b. Fasten the end cap to the door panel using two (2) self-drilling screws (S-280) (B).
(See Figure 3L.)

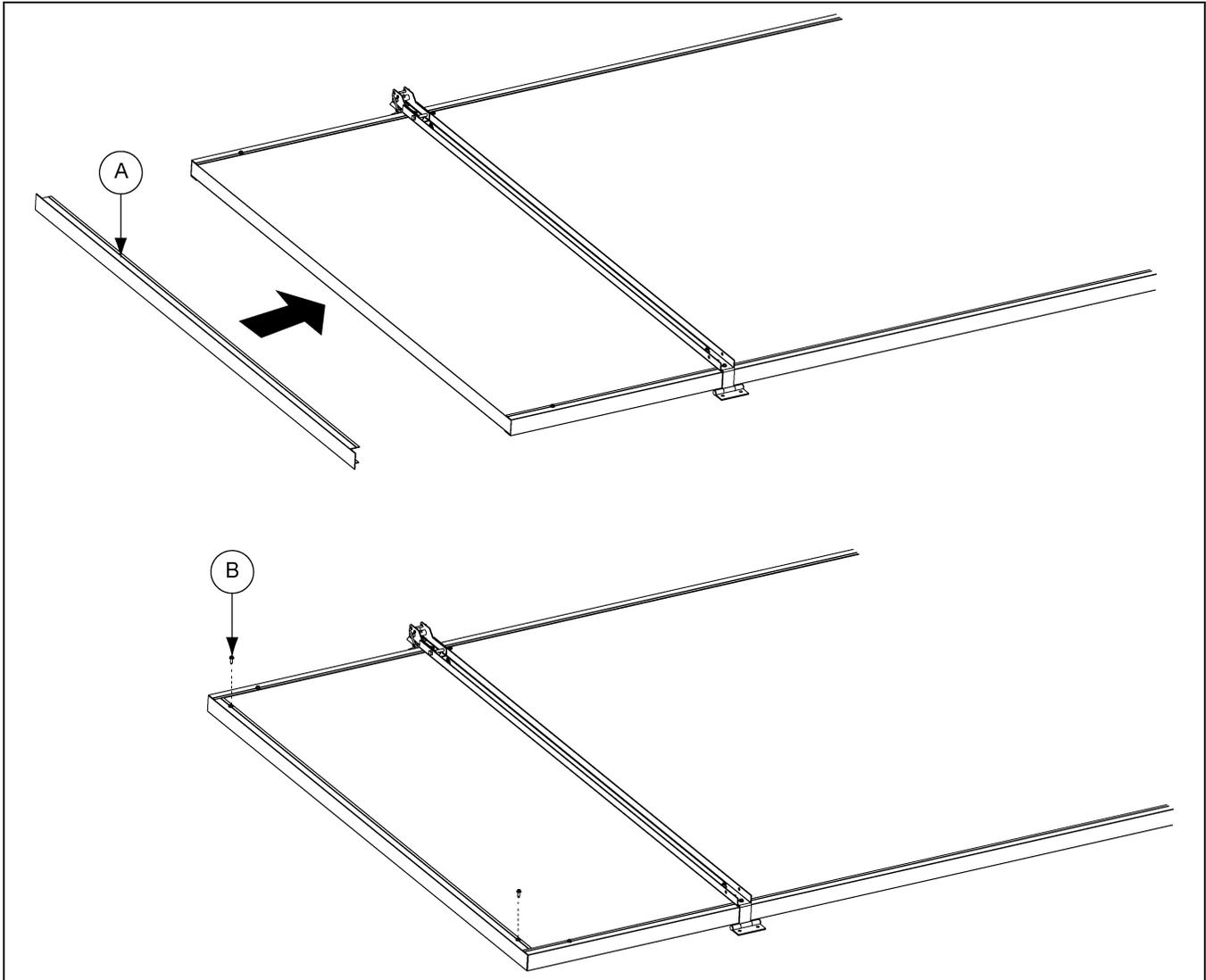


Figure 3L

Ref #	Description
A	End Cap
B	Self-Drilling Screw



Do not add screw to the back side of panels.

Installing the End Panel

1. Align the end of the panel to the outer edge of the seal.
2. Align the bottom edge of the hinge with the chalk line (B) and secure the hinge (A) to the wall with lag screws (S-9027). (See Figure 3M.)

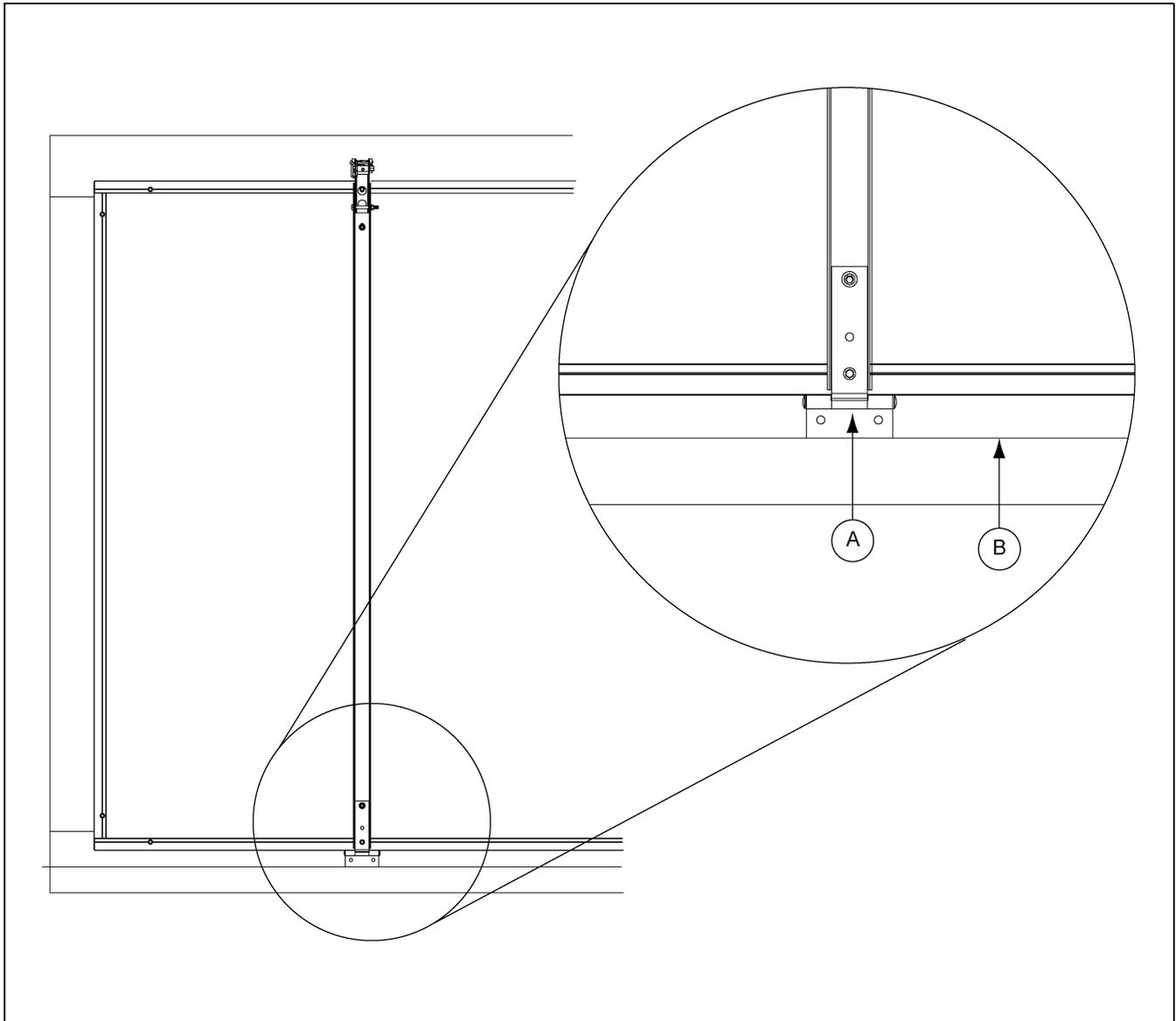


Figure 3M

Ref #	Description
A	Hinge
B	Chalk Line

3. Installation

Connecting Two (2) Tunnel Door Panels

1. Place the pre cut H-channel (A) onto the end of the attached panel.
2. Align both panels (B and C) and slide the next panel into the H-channel (A).
3. Align the hinge with the chalk line and fasten the hinge to the wall using the lag screws (S-9027).
NOTE: *Temporarily attach a cord to the support bracket of every other panel and secure the other end temporarily to the wall.*
4. Attach the splice channels (30-0981) (D) to the top and bottom of the panels (B and C), over the channel.
5. Fasten the splice channels (30-0981) (D) to the panels using two (2) self-drilling screws (S-280).
6. Caulk (E) along the seam of the splice channels.
7. Repeat connecting panels until you reach the end of the framed opening. (See Figure 3N.)

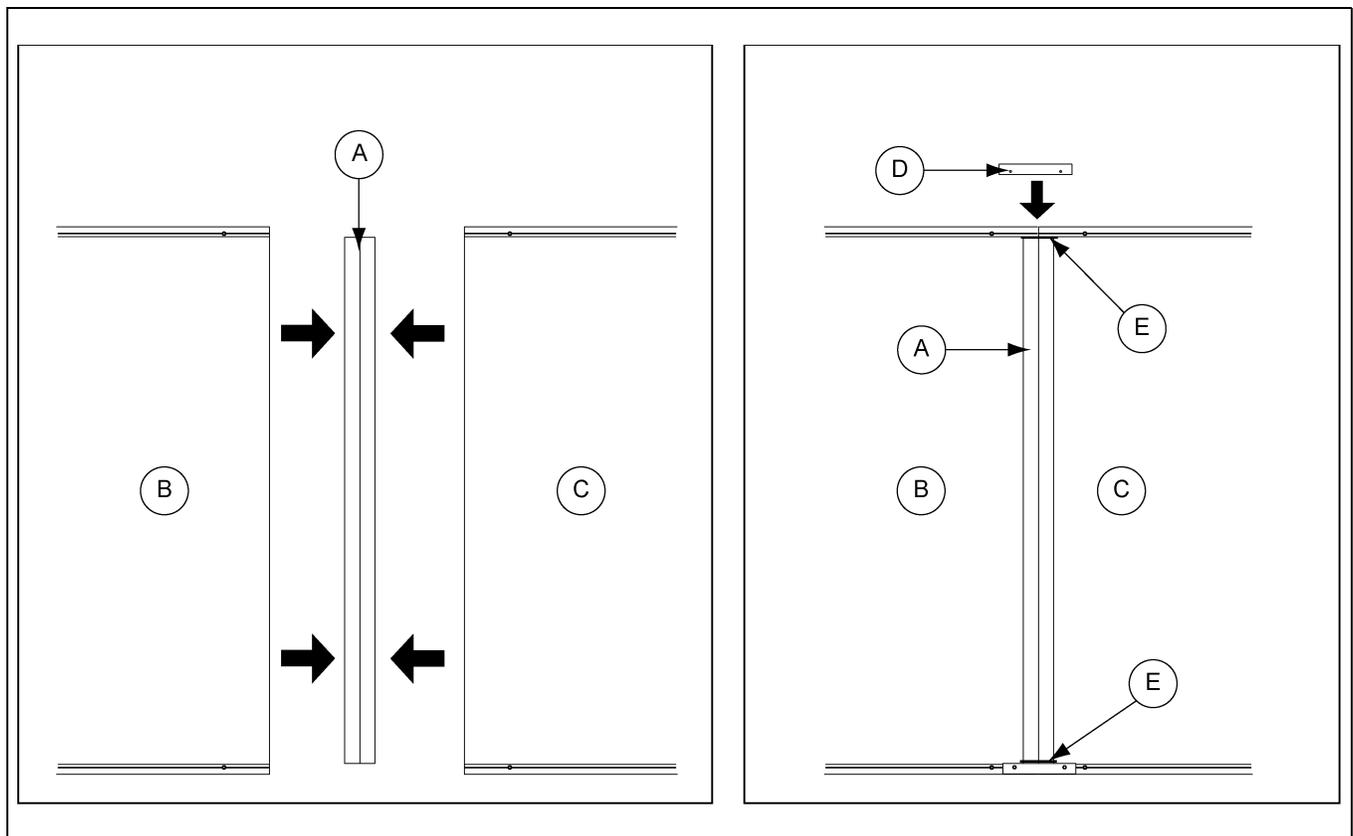


Figure 3N

Ref #	Description
A	H-Channel
B	Panel
C	Panel
D	Splice Channel
E	Caulk

Installing the Last Panel

1. For the last panel, measure the remaining opening. (From the end of the panel to the outer edge of the seal.)
2. Cut the last panel to that measurement.
3. Apply the safety decal and logo (as explained [on Page 9](#)) and complete safety chain installation as [on Page 12](#).

Installing the Pulley and Lag Hook

1. Install 5/16" x 3-3/4" threaded lag hook (1004-1395) (B) approximately 3/4" (A) (opposite the actuator side (E)) from the center of the winch ratchet assembly (30-0681W) and 2" (C) from the top of the tunnel door (D).
2. Slide pulley (CW-2001) (F) onto lag hook (1004-1395) (B).
3. Continue for each winch ratchet assembly (30-0681W). ([See Figure 30.](#))

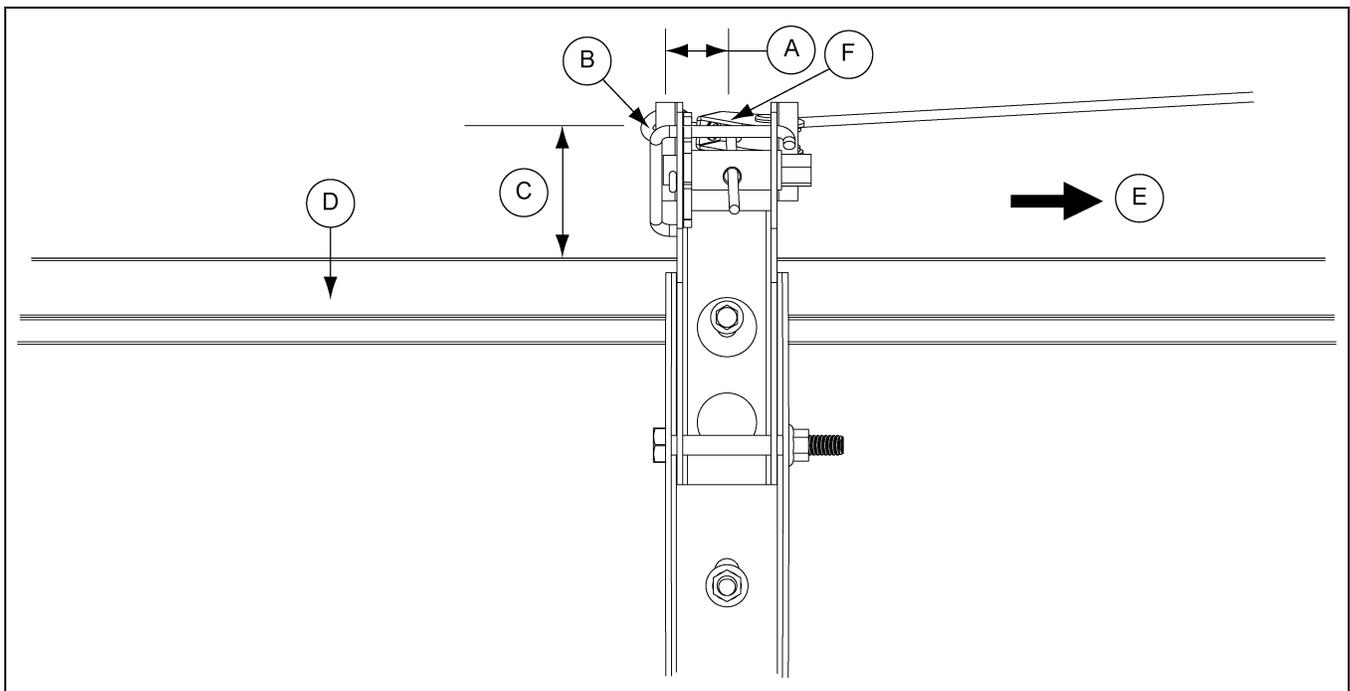


Figure 30

Ref #	Description
A	3/4"
B	Lag Hook (1004-1395)
C	2"
D	Tunnel Door
E	Actuator Side
F	Pulley (CW-2001)

4. Install another lag hook (1004-1395) (B) at a minimum of 5' (to the actuator side) from the center of the winch ratchet assembly (30-0681W) and 1/2" down from the top of the frame board.

3. Installation

Installing the Winch Ratchet Assembly

1. Align the winch ratchet assembly (30-0681W) (A) with the top holes in the support channel (B).
2. Fasten winch ratchet assembly (30-0681W) (A) to the support channel (B) with 1/4" x 2" bolt (C) and nut (D). (See Figure 3P.)

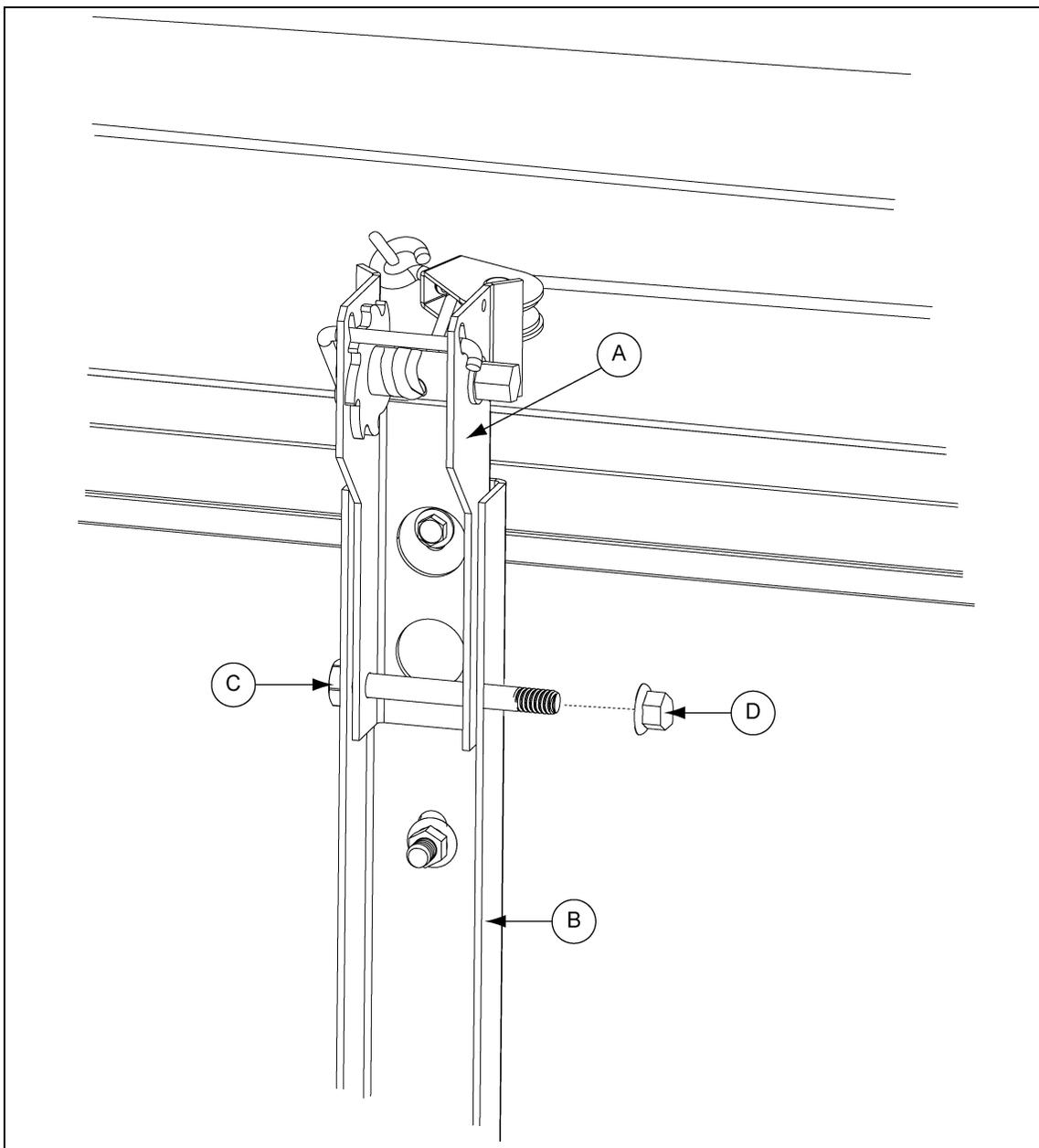


Figure 3P

Ref #	Description
A	Ratchet Assembly
B	Support Channel
C	1/4" x 2" Bolt
D	1/4" Nut

Installing the Winch Ratchet Assembly (Continued)

3. Thread the nylon cord through the pulley then through the hole in the winch assembly shaft. Tie a knot at the end of the nylon cord so that it will not slip back through the hole. (See [Figure 3Q.](#))

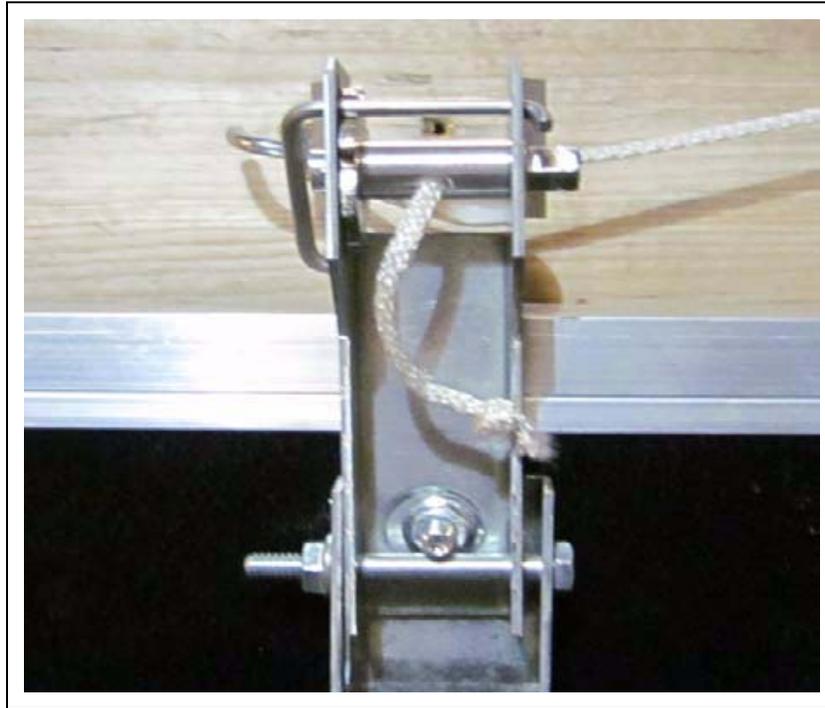


Figure 3Q

4. Pull the nylon cord back so that the knot is tight against the winch shaft.
5. Using a 3/8" hex socket or wrench, turn the winch in a clockwise direction until desired tension is reached.
6. **Ensure the latching rod is not obstructed-free to slide up and down.** (See [Figure 3R.](#))

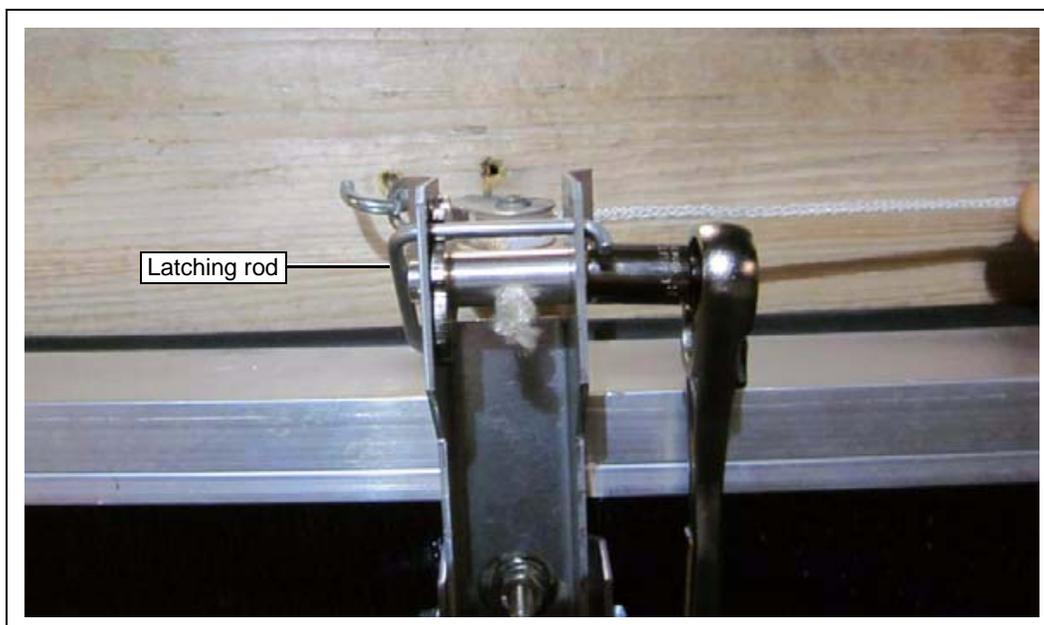


Figure 3R

Installing the Winch Ratchet Assembly (Continued)

IMPORTANT: *Ensure that the cord does not drag either side of the winch bracket. If cord is not centered to the winch, the pulley must be moved to re-align. (See Figure 3S and Figure 3T.)*

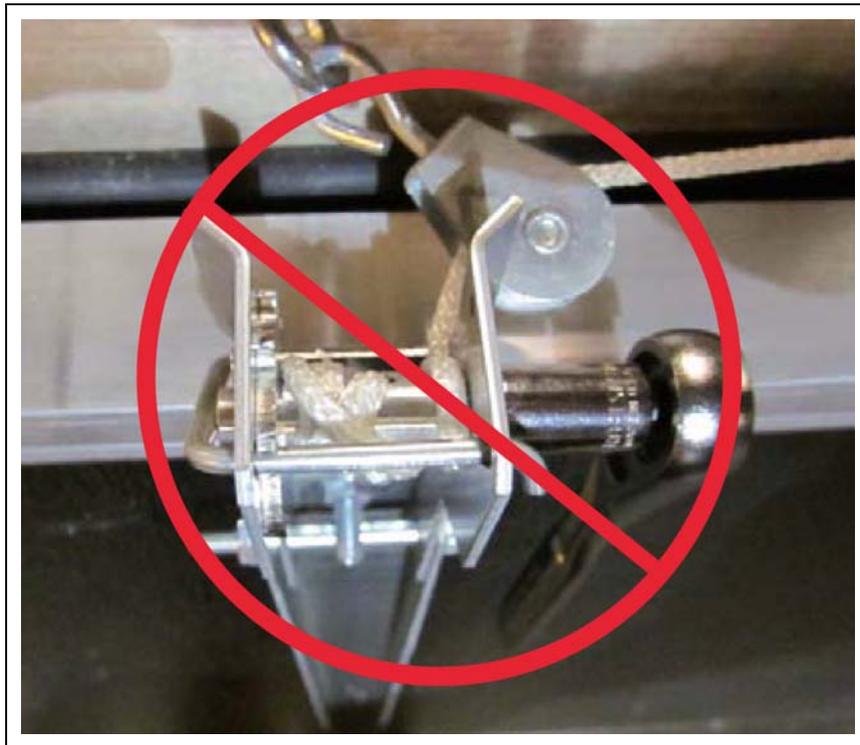


Figure 3S



Figure 3T

Installing Threaded Lag Hook Supports for Actuation Rod

1. Install a 5/16" x 3-3/4" threaded lag hook (1004-1395) 1/2" down from the top of the 2" x 6" frame at the center of each panel.
2. Run the actuation rod from the actuator through the 1004-1395 (eye hooks) and securely fasten the end to a weight.

Installing and Adjusting the Nylon Cord

1. Attach all pulleys, starting at the first winch ratchet assembly (30-0681W) from controller.
2. Run one end of the cord through the pulley, then continue through the winch ratchet assembly (30-0681W) from the back side.
3. Tie a knot at the end of the cord.
4. Insert the opposite end of the nylon cord through the next pulley.
5. Then insert the cord through the winch ratchet assembly (30-0681W) from the back side and tie a knot in the cord.
6. Pull the nylon cord (A) tight and attach it to the actuation rod (D) using a cable clamp (B). Leave a 2" loop (C) at the end of the cord. (See Figure 3U.)

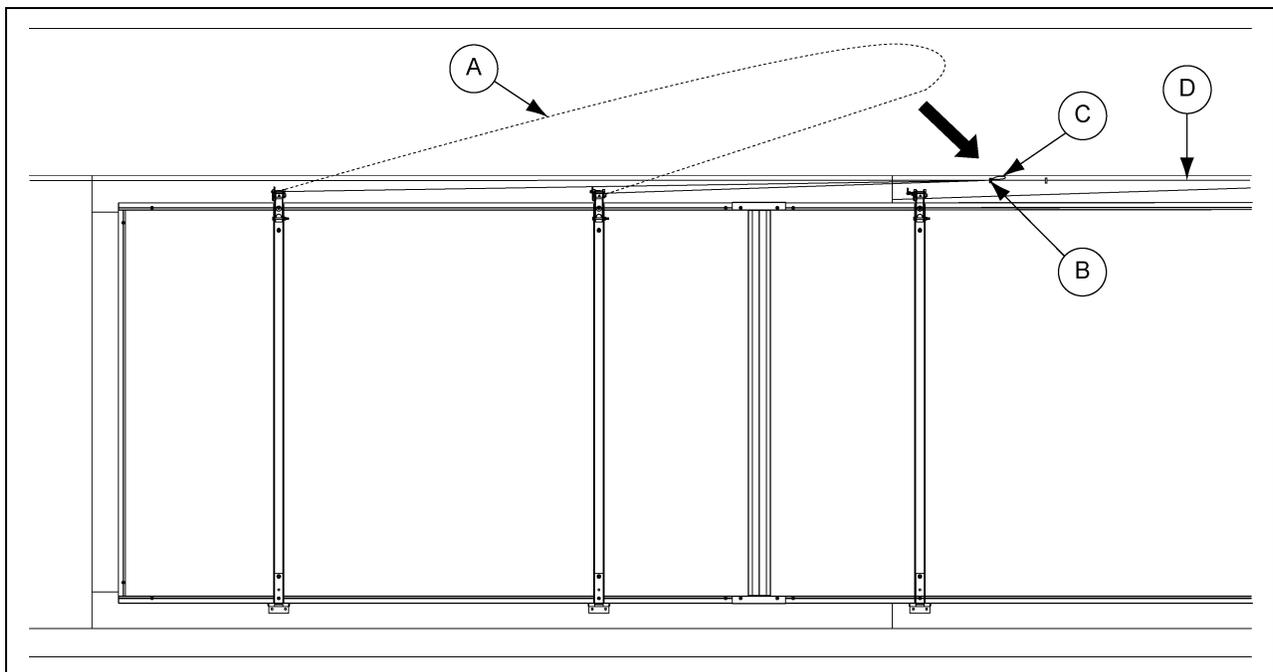


Figure 3U

Ref #	Description
A	Nylon Cord
B	Cable Clamp

Ref #	Description
C	2" Loop
D	Actuation Rod

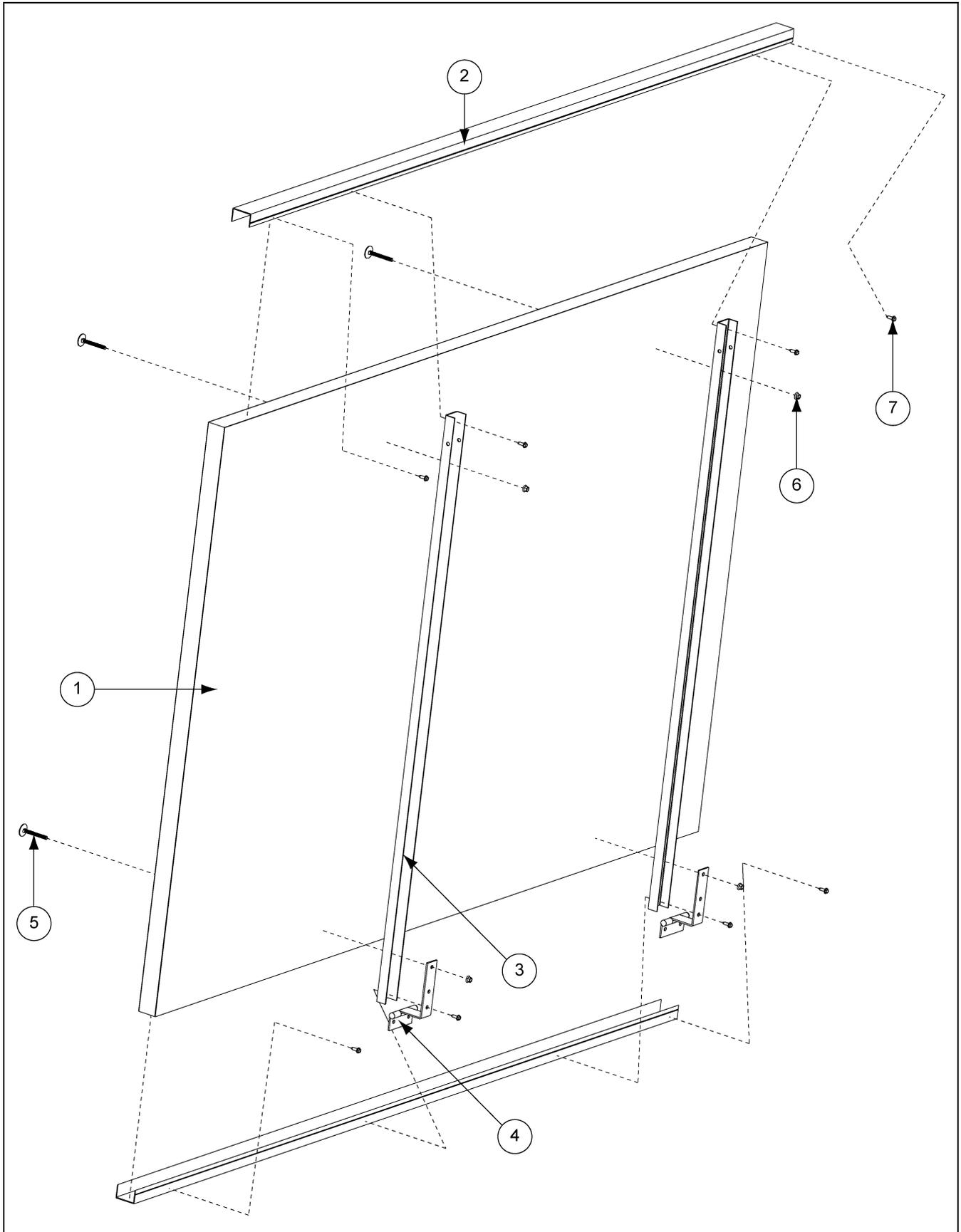
7. Repeat [Steps 2-6](#) until all winch ratchet assembly (30-0681W) are supported and attached to the actuator rod (D).

NOTE: Make sure tension rod is fully tensioned and the cord is as tight as possible when clamping it to the tension rod.

NOTES

1. Tunnel Door Panel Assembly 4' System (30-0858) - Black on Black ([See Pages 24-25.](#))
2. Tunnel Door Panel Assembly 4' System (30-0869) - White on White ([See Pages 25.](#))
3. Tunnel Door Panel Assembly 5' System (30-0857) - Black on Black ([See Pages 26-27.](#))
4. Tunnel Door Panel Assembly 5' System (30-0868) - White on White ([See Pages 27.](#))
5. Tunnel Door Panel Assembly 6' System (30-0859) - Black on Black ([See Pages 28-29.](#))
6. Tunnel Door Panel Assembly 6' System (30-0870) - White on White ([See Pages 29.](#))
7. Winch Hardware Package ([See Pages 30.](#))
8. Safety Chain Package Tunnel Door ([See Pages 31.](#))

Tunnel Door Panel Assembly 4' System (30-0858) - Black on Black



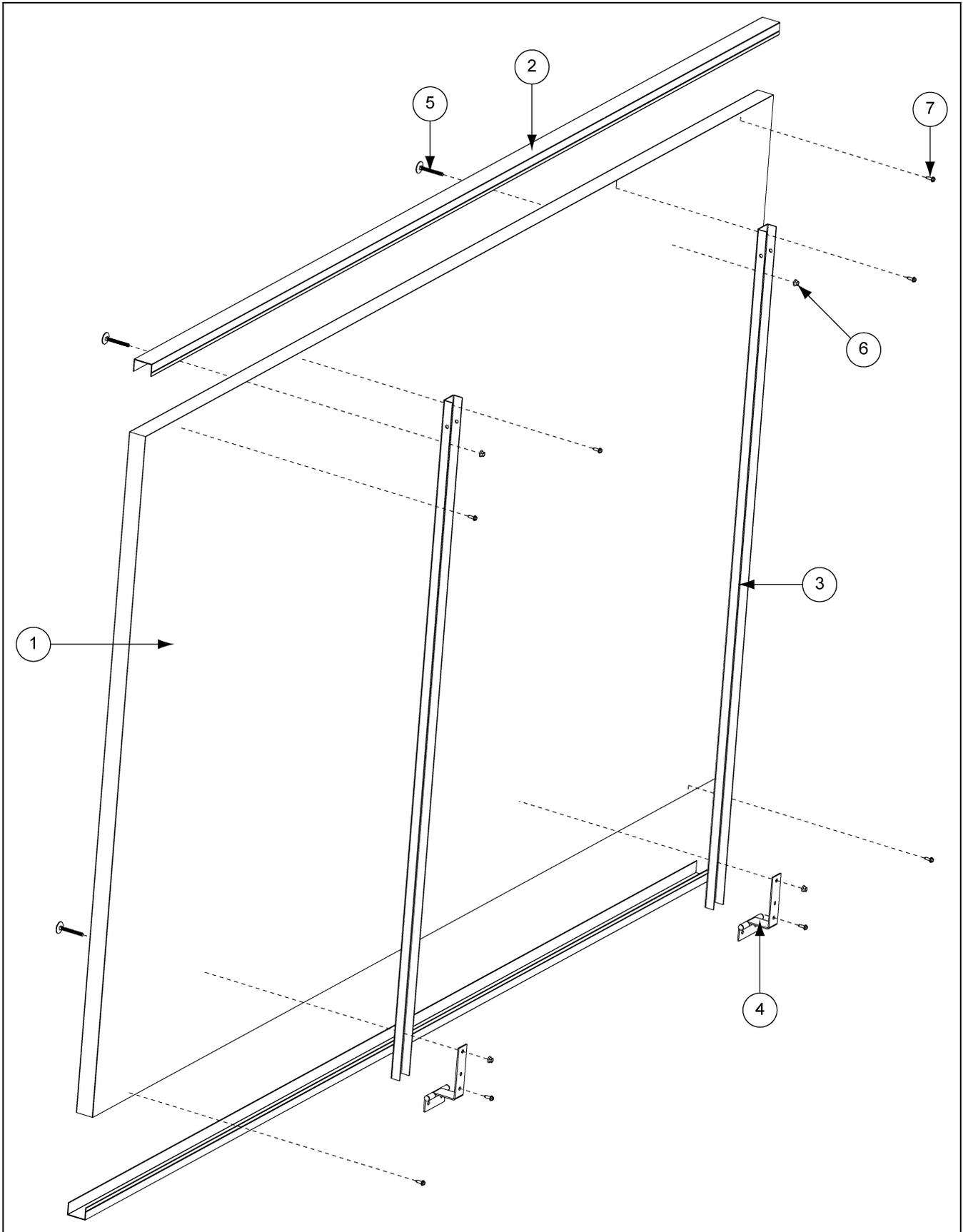
Tunnel Door Panel Assembly 4' System (30-0858) - Black on Black Parts List

Ref #	Part #	Description	Qty
1	30-0851EP	Panel, EPS, 4' x 6' - Black and Black FRP Laminated	1
2	30-0988	U-Channel, Aluminum, 72" Long	2
3	30-0991-48	Tunnel Door - Actuation Bracket - 4' System	2
4	30-0489	Hinge, Tunnel Door System	2
5	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
6	S-7215	Flange Nut 1/4"-20 Zinc	4
7	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

Tunnel Door Panel Assembly 4' System (30-0869) - White on White

Ref #	Part #	Description	Qty
1	30-0862EP	Panel, EPS, 4' x 6' - White and White FRP Laminated	1
2	30-0988	U-Channel, Aluminum, 72" Long	2
3	30-0991-48	Tunnel Door - Actuation Bracket - 4' System	2
4	30-0489	Hinge, Tunnel Door System	2
5	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
6	S-7215	Flange Nut 1/4"-20 Zinc	4
7	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

Tunnel Door Panel Assembly 5' System (30-0857) - Black on Black



Tunnel Door Panel Assembly 5' System (30-0857) - Black on Black Parts List

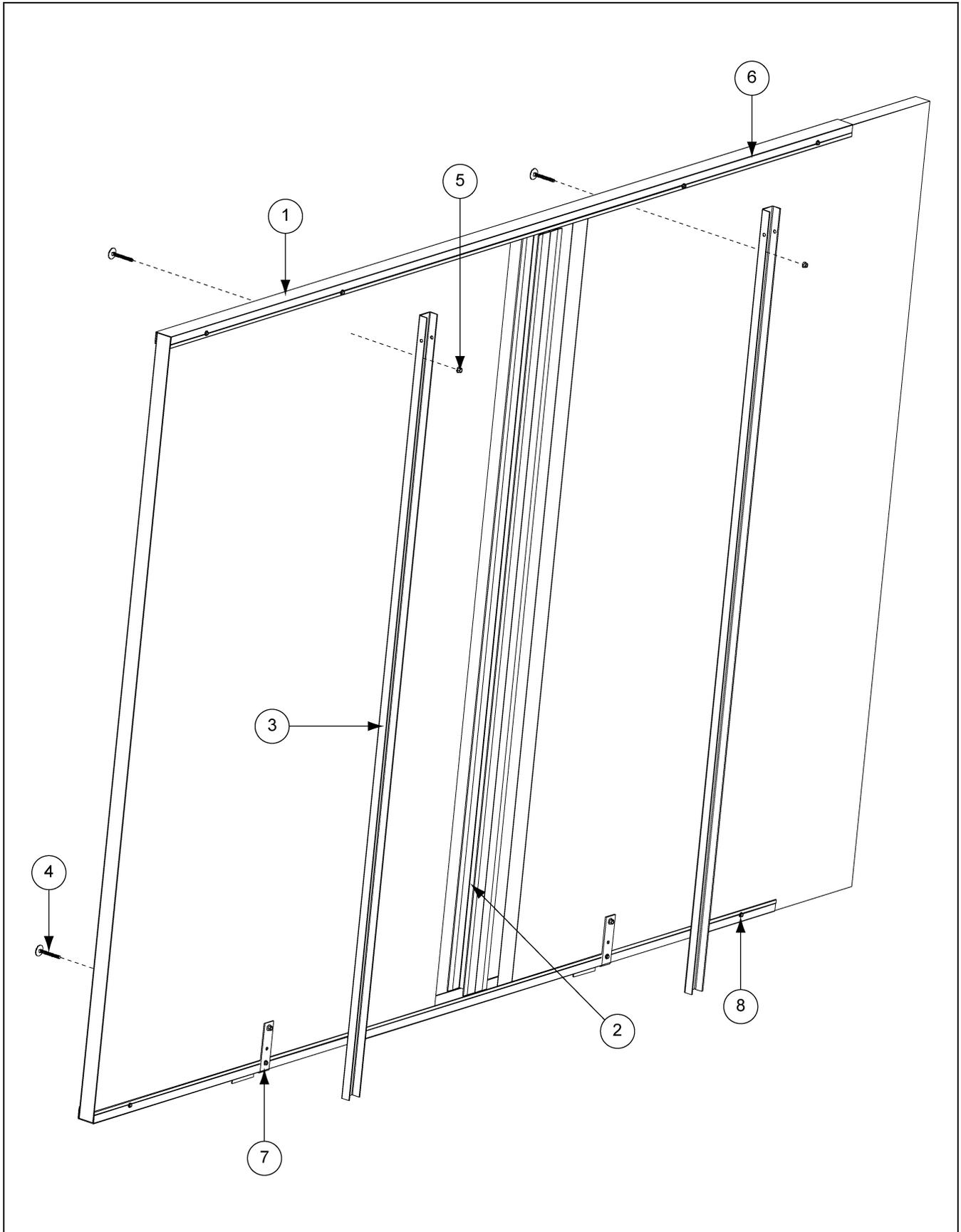
Ref #	Part #	Description	Qty
1	30-0850EP	Panel, EPS, 5' x 8' - Black and Black FRP Laminated	1
1	30-0852EP	Panel, EPS, 5' x 114-1/2' - Black and Black FRP Laminated	1
2	30-0980	U-Channel, Aluminum, 96" Long	2
3	30-0991-60	Tunnel Door - Panel Support Channel - 5' System	2
4	30-0489	Hinge, Tunnel Door System	2
5	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
6	S-7215	Flange Nut 1/4"-20 ZN	4
7	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

Tunnel Door Panel Assembly 5' System (30-0868) - White on White

Ref #	Part #	Description	Qty
1	30-0861EP	Panel, EPS, 5 x 8' - White and White FRP Laminated	1
2	30-0980	U-Channel, Aluminum, 96" Long	2
3	30-0991-60	Tunnel Door - Panel Support Channel - 5' System	2
4	30-0489	Hinge, Tunnel Door System	2
5	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
6	S-7215	Flange Nut 1/4"-20 ZN	4
7	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

4. Parts List

Tunnel Door Panel Assembly 6' System (30-0859) - Black on Black



Tunnel Door Panel Assembly 6' System (30-0859) - Black on Black Parts List

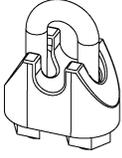
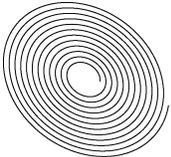
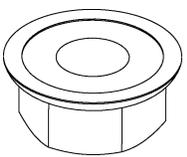
Ref #	Part #	Description	Qty
1	30-0851EP	Panel, EPS, 4' x 6' - Black and Black FRP Laminated	2
2	30-0680-72	H-Channel, 6' Tunnel Door Splice	1
3	30-0991-72	Tunnel Door - Actuation Bracket - 6' System	2
4	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
5	S-7215	Flange Nut 1/4"-20 Zinc	4
6	30-0980	U-Channel, Aluminum	2
7	30-0489	Hinge, Tunnel Door System	2
8	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

Tunnel Door Panel Assembly 6' System (30-0870) - White on White

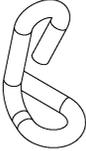
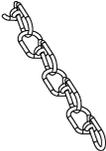
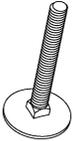
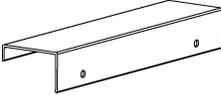
Ref #	Part #	Description	Qty
1	30-0862EP	Panel, EPS, 4' x 6' - White and White FRP Laminated	2
2	30-0680-72	H-Channel, 6' Tunnel Door Splice	1
3	30-0991-72	Tunnel Door - Actuation Bracket - 6' System	2
4	S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2	4
5	S-7215	Flange Nut 1/4"-20 Zinc	4
6	30-0980	U-Channel, Aluminum	2
7	30-0489	Hinge, Tunnel Door System	2
8	S-280	Screw, SDS #10-16 x 5/8" HWH ZN	8

4. Parts List

Winch Hardware Package

Ref #	Figure	Part #	Description
1		CW-2001	Pulley, 7/8" Nylon with Closed Hook
2		1004-1395	Hook, 5/16" x 3-3/4" Threaded Lag Zinc
3		30-0681W	Winch Ratchet Assembly
4		S-8946	Clamp, 1/8" Cable Zinc Plated
5		30-0698	Cord, #5, 192" Long
6		S-8966	Bolt, HHCS 1/4"-20 x 2-1/4" ZN Grade 5
7		S-7215	Flange Nut 1/4"-20 Zinc
8		S-280	Screw, SDS #10-16 x 5/8" HWH ZN
9		30-0934	Seal, Foam Rubber, with Bulb, Closed Cell

Safety Chain Package Tunnel Door

Ref #	Figure	Part #	Description
1		APCD-313	Loop Chain Disk Corner Suspension
2		30-0697	Chain #2 Weldless
3		S-9462	Elevator Bolt 1/4"-20 x 2-1/4" ZN Grade 2
4		S-9027	Screw, SMSAB #14 x 1-1/2" HHS ZN
5		S-7215	Flange Nut 1/4"-20 Zinc
6		30-0703	Silicon 732 Multi Purpose Black, Tube, 90 ML
		30-0877	Silicon 732 Multi Purpose White, Tube, 90 ML
7		30-0981	Splice Channel Bracket
8		30-0985	U-Channel, Aluminum, 72" End Cap
		30-0986	U-Channel, Aluminum, 60" End Cap
		30-0987	U-Channel, Aluminum, 48" End Cap

NOTES

Limited Warranty - Protein Products

The GSI Group, LLC. ("GSI") warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of purchase (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI's sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements:

The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period.

	Product	Warranty Period	
AP® Fans	Performer Series Direct Drive Fan Motor	3 Years	* Warranty prorated from material list price: 0 to 3 years - no material cost to end user 3 to 5 years - end user pays 25% 5 to 7 years - end user pays 50% 7 to 10 years - end user pays 75%
AP® and Cumberland®	Flex-Flo/Pan Feeding System Motors	2 Years	
Electronic Controls	All Protein controls manufactured by GSI	24 Months from date code on part	
Cumberland® Feeding and Watering Systems	Feeder System Pan Assemblies	5 Years, Prorated **	** Warranty prorated from material list price: 0 to 3 years - no material cost to end user 3 to 5 years - end user pays 75%
	Feed Tubes (1.75" and 2.00")	10 Years, Prorated *	
	Centerless Augers	10 Years, Prorated *	
	Watering Nipples	10 Years, Prorated *	

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase, unless specified in Enhancements above. Parts not manufactured by GSI will carry the Manufacturer's Warranty.

(Protein Limited Warranty_REV01_06 November 2018)

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



**1004 E. Illinois St.
Assumption, IL 62510-0020
Phone: 1-217-226-4421
Fax: 1-217-226-4420
www.cumberlandpoultry.com**

