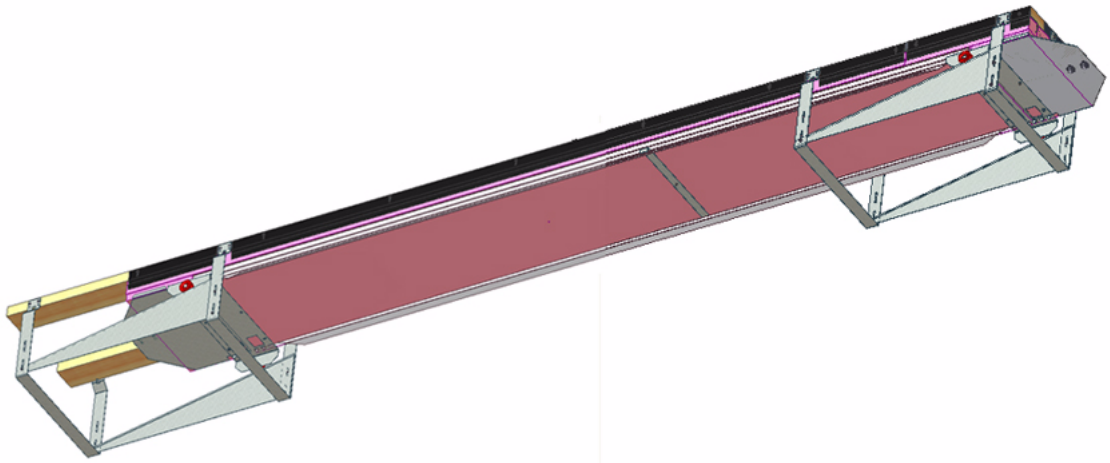
CHORE-TIME®

Turbo-House Air Inlet

Installation & Operator's Instruction Manual



November 2009 MV2308A

Chore-Time Warranty

Chore-Time Equipment ("Chore-Time") warrants each new Chore-Time product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void**.
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer**.
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The **Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. **"Consequential"** or **"Special Damages"** *as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.*

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above. An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

Effective: **November 2009**

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Thank You

The employees of Chore-Time Equipment would like to thank your for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

Contents

* Legend: C = Customer (end user), D = Distributor (sales), I = Installer of equipment

Safety Information

Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

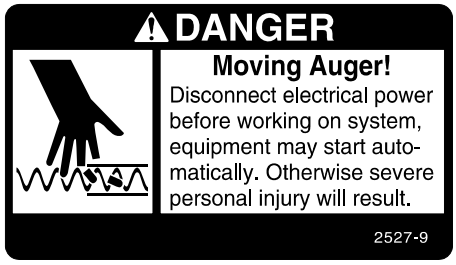
Keep safety signs in good condition. Replace missing or damaged safety signs.

Decal Descriptions

DANGER: Moving Auger

This decal is placed on the Panel Weldment.

Severe personal injury will result, if the electrical power is not disconnected, prior to servicing the equipment.



DANGER: Electrical Hazard

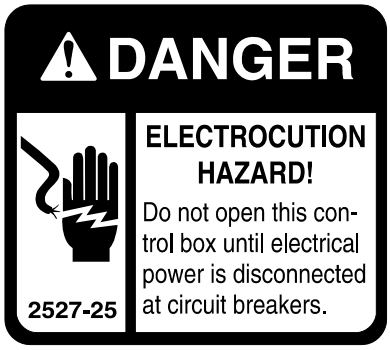
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



Introduction

The Chore-Time TURBO-HOUSE Air Inlet is designed for use in confinement poultry buildings where the attic is used as an intake plenum. The TURBO-HOUSE Air Inlet system allows fresh air to enter through the ceiling for better air quality and temperature distribution.

The TOTAL area of ALL eave and/or ridge openings MUST be equal to or greater than the total area of the slots in the ceiling for the TURBO-HOUSE Inlet. See your building plans or measure the existing dimensions to check this requirement.

UNDERSIZED VENTILATION OPENINGS WILL RESTRICT AIRFLOW AND WILL RESULT IN PRODUCTION LOSSES AND / OR MORTALITY LOSSES.

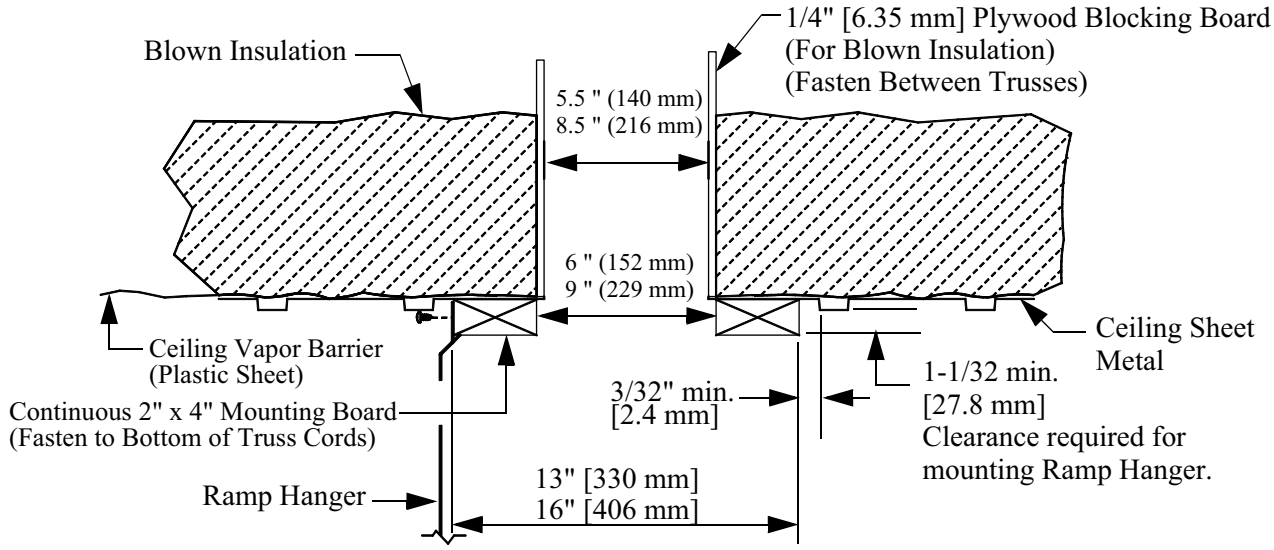
Framing

Chore-Time recommends insulation in BOTH the ceiling and the roof line of the attic for best year-round air system performance and temperature distribution control. **Figure 1 below** shows a cross-section of the TURBO-HOUSE Air Inlet ceiling construction options for blown insulation and rigid styrofoam board insulation.

Ceiling Slot Width

Important! Installation of a mounting board (2 x 4) must allow room to secure ramp hanger **shown in Figure 1** to the outside face of the 2 x 4 [45 x 90 mm] board. Measurements are shown for 6" and 9" systems.

CEILING WITH BLOWN INSULATION



CEILING WITH RIGID INSULATION

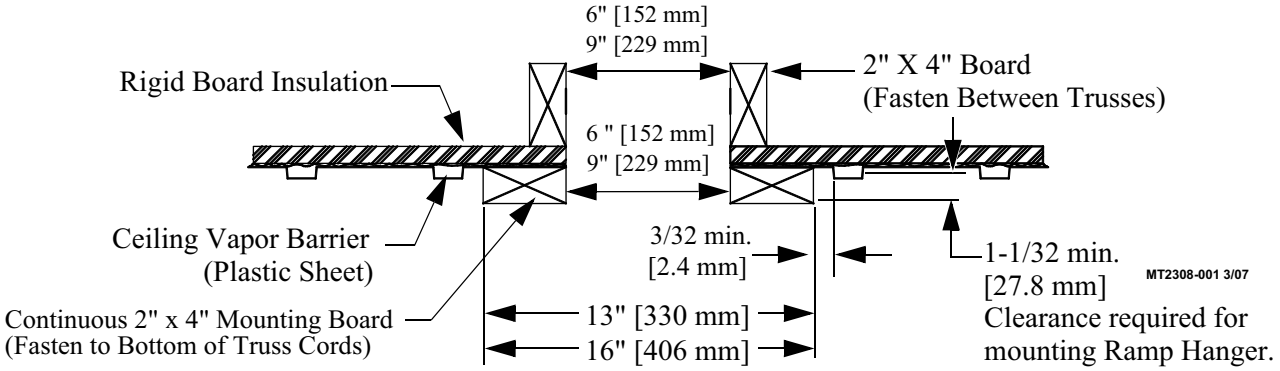
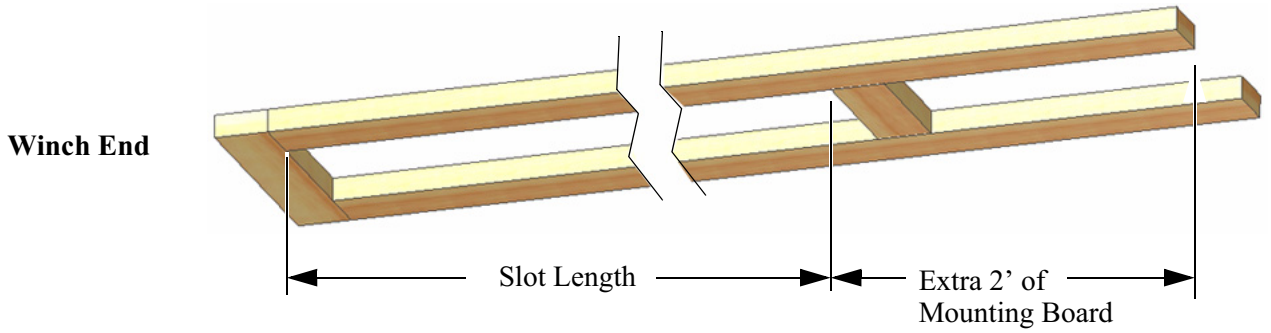


Figure 1. Ceiling Framing

Ceiling Slot and Mounting Board Length

For best results, the **ceiling slot length** should be an even increment of 8 feet [2.43 m]. The 2 x 4 [45 x 90 mm] mounting board should extend an additional 2 feet [610 mm] beyond the ends of the slot to accommodate the last Hanger and Ramp assembly and to avoid trimming 8 foot [2.43 m] parts (Inlet Curtain Assemblies and Side Rails). Therefore, the total length of the 2 x 4 [45 x 90 mm] mounting board should be as follows:

Mounting Board Length = Slot Length + 2 feet [610 mm]. The additional two feet [610 mm] of inlet should extend beyond the cage row at the end **opposite** the Winch.

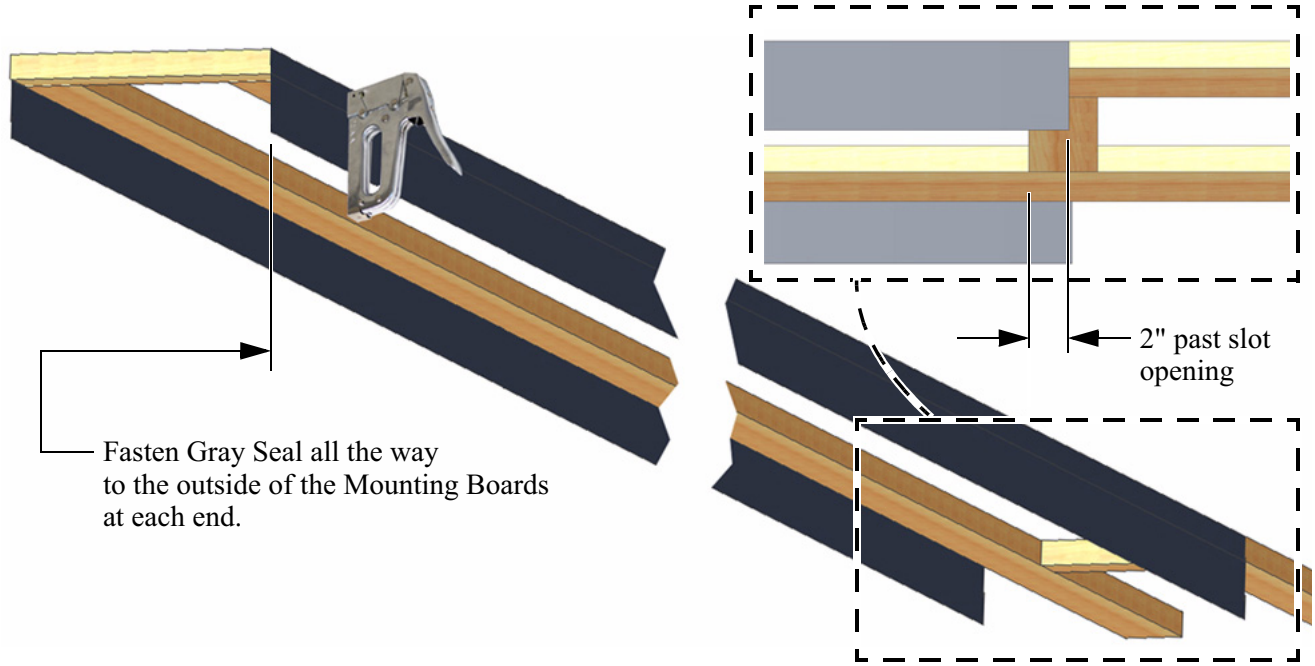


Mounting and Installation of Inlet Components

Install the following Components starting at the end of the inlet towards the system power unit (winch). The power unit may be located on either end wall of the building, but the cables connecting the power unit to the inlet rows MUST NOT interfere with fill system tubes, water pipes, or electrical conduit.

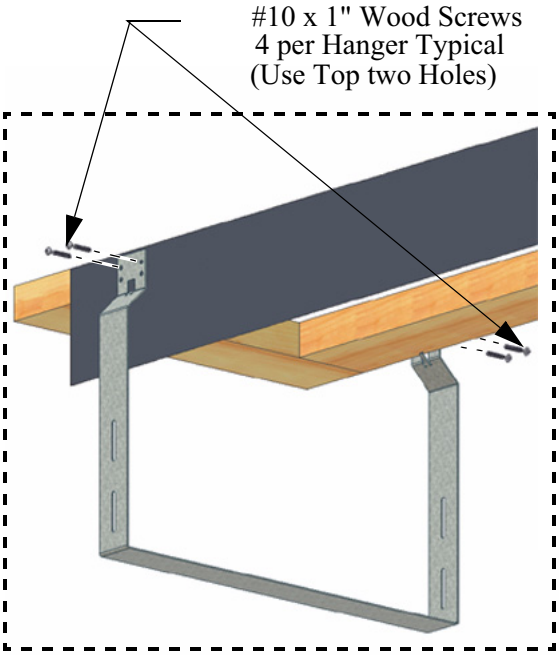
Plastic Seal

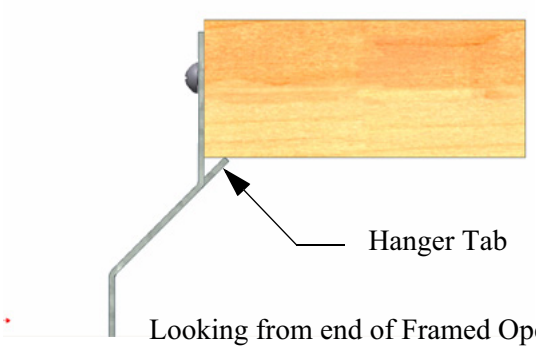
Use staples to attach 10 mil x 5" Gray Seal to the Mounting Board on both sides the entire length of the Inlet opening **(See Figure)**. Start the Seal at the end of the Mounting Boards at the Winch end and extend it a few inches past the Slot at the opposite end.



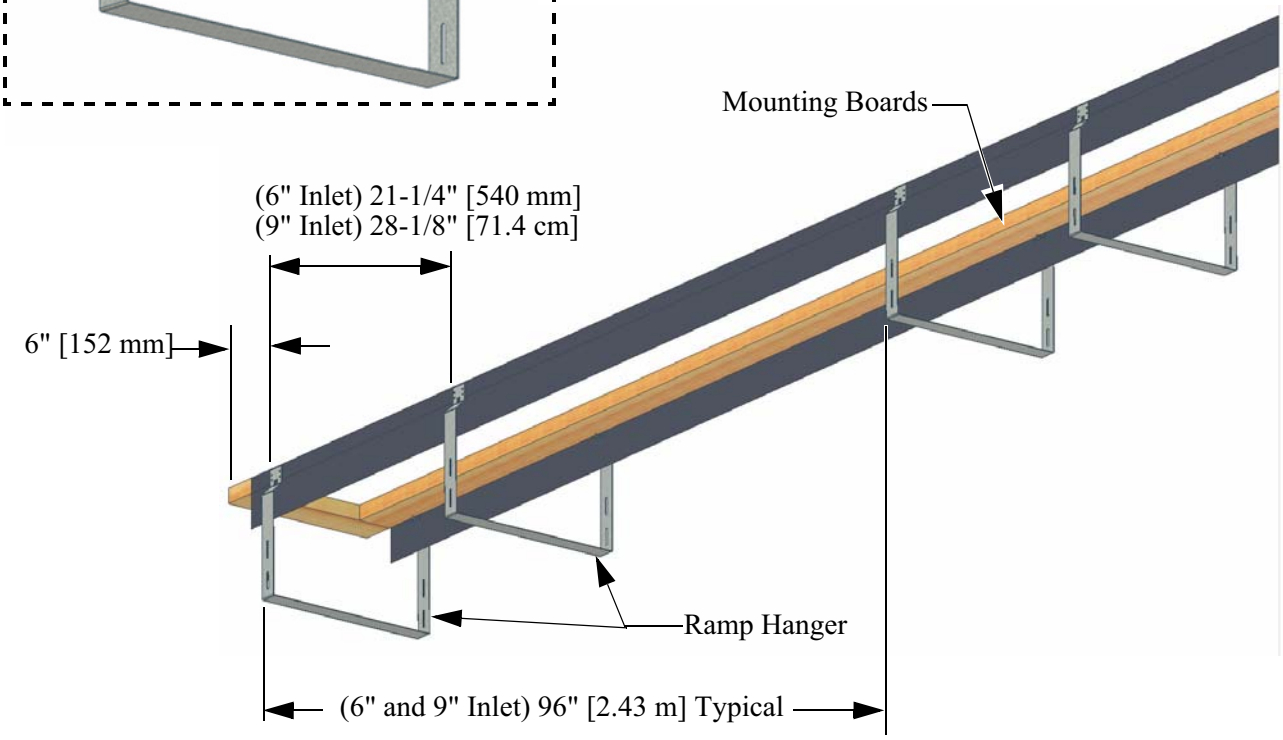
Ramp Hangers

When installing Ramp Hangers start at the end towards the Inlet Power Unit. The Ramp Hangers are attached in pairs. Attach the 1st Ramp Hanger 6 inches [152mm] from the end of the Mounting Boards with #10 x 1" Wood Screws. Use four Screws per Hanger in the top two holes **as shown**. Slide the Ramp Hangers up the Mounting Boards until the Tabs bottom out as **shown**. Attach the second Ramp Hanger 21-1/4" (for 6" Inlet) 28-1/8" [71 cm] (for 9" Inlet) behind the first. Attach the 2nd set of Hangers 96" [2.43 m] on center from the previous set of Hangers **(See Figure)**. Continue attaching Hangers pairs to the end of the Mounting Boards 96" [2.43m] on center.



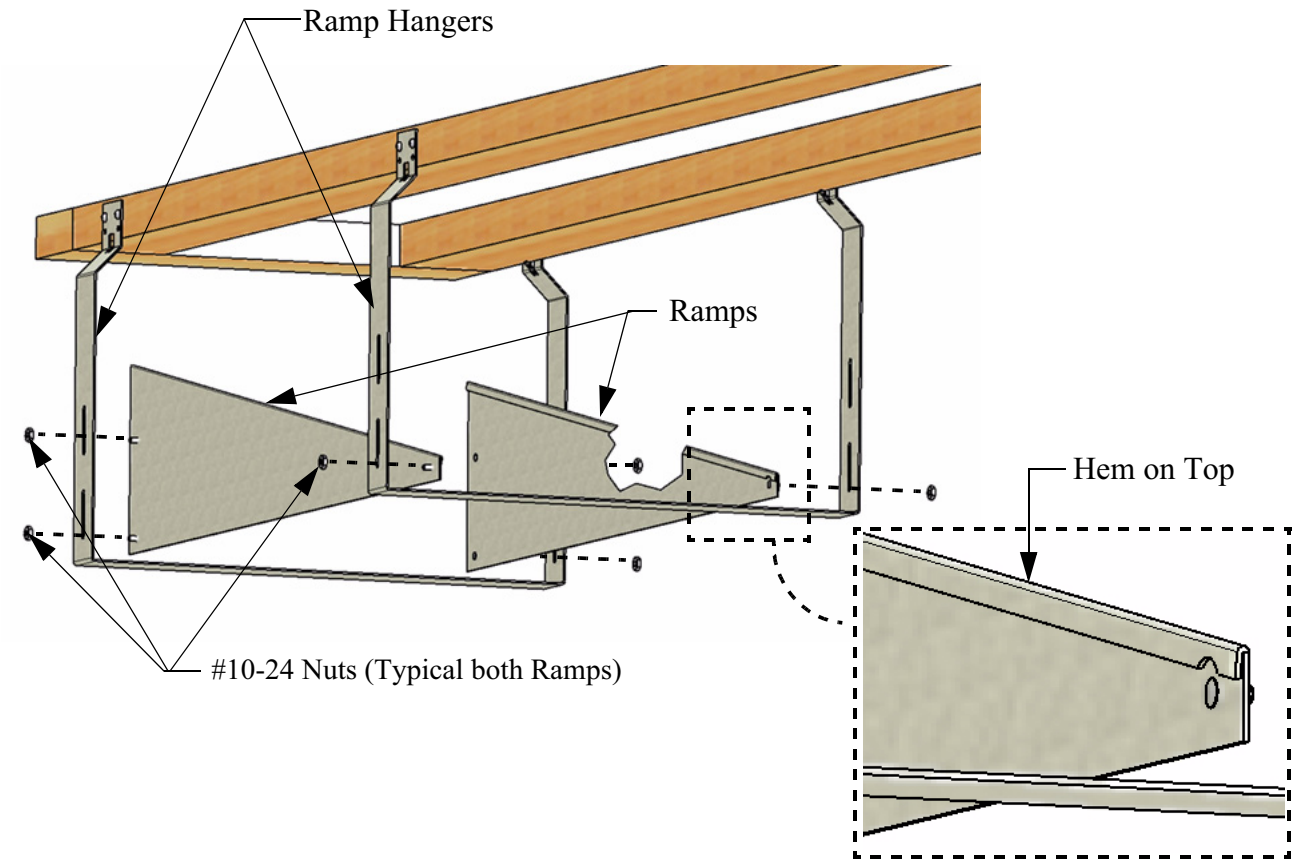


Looking from end of Framed Opening
(Plastic Seal not shown for clarity)



Ramps

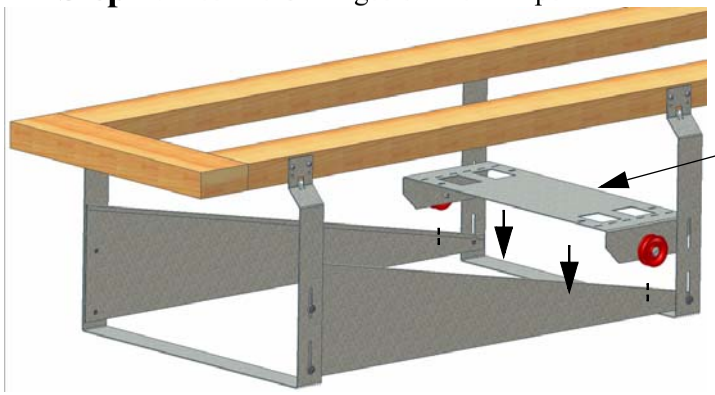
There are two different Ramps (left and right). Install the Ramps with the Hem on top and inside the Ramp Hangers with the Studs outward through the slots **(See Figure)**. Secure with #10-24 Nuts. The Nuts should not be fully tightened at this time to allow for adjustment of the Ramps after the rest of the Inlet is assembled.

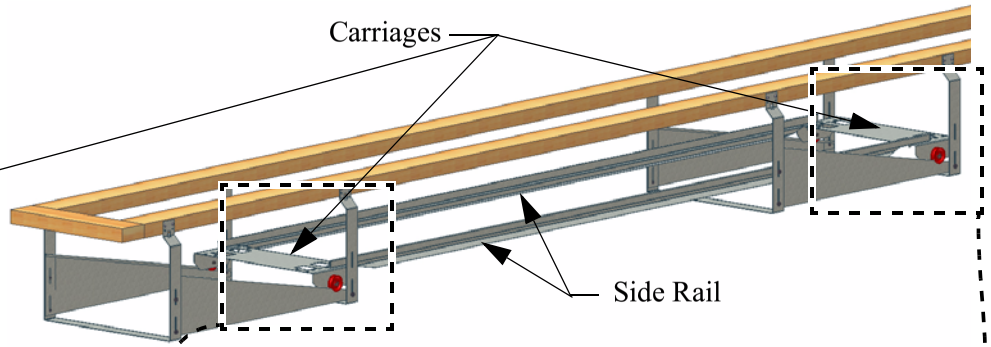


Carriages and Side Rails

Assembly of the Carriages and Rails is easiest with two people. Start with a person at each of the first two pairs of Hangers at the Power unit end of the system.

Step 1. Rest the Carriages on the Ramps

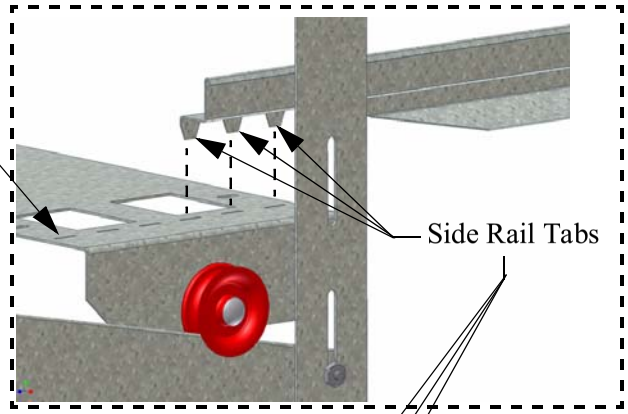


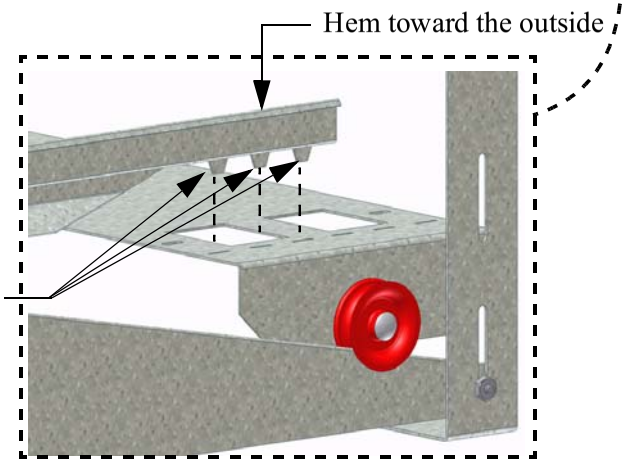


Assembled View of Carriages and Side Rails

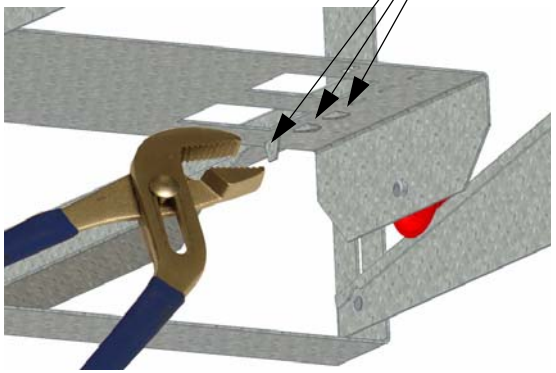
Step 2. Insert the Rail Tabs into the Carriage Slots

Outside three slots are used later in the assembly.



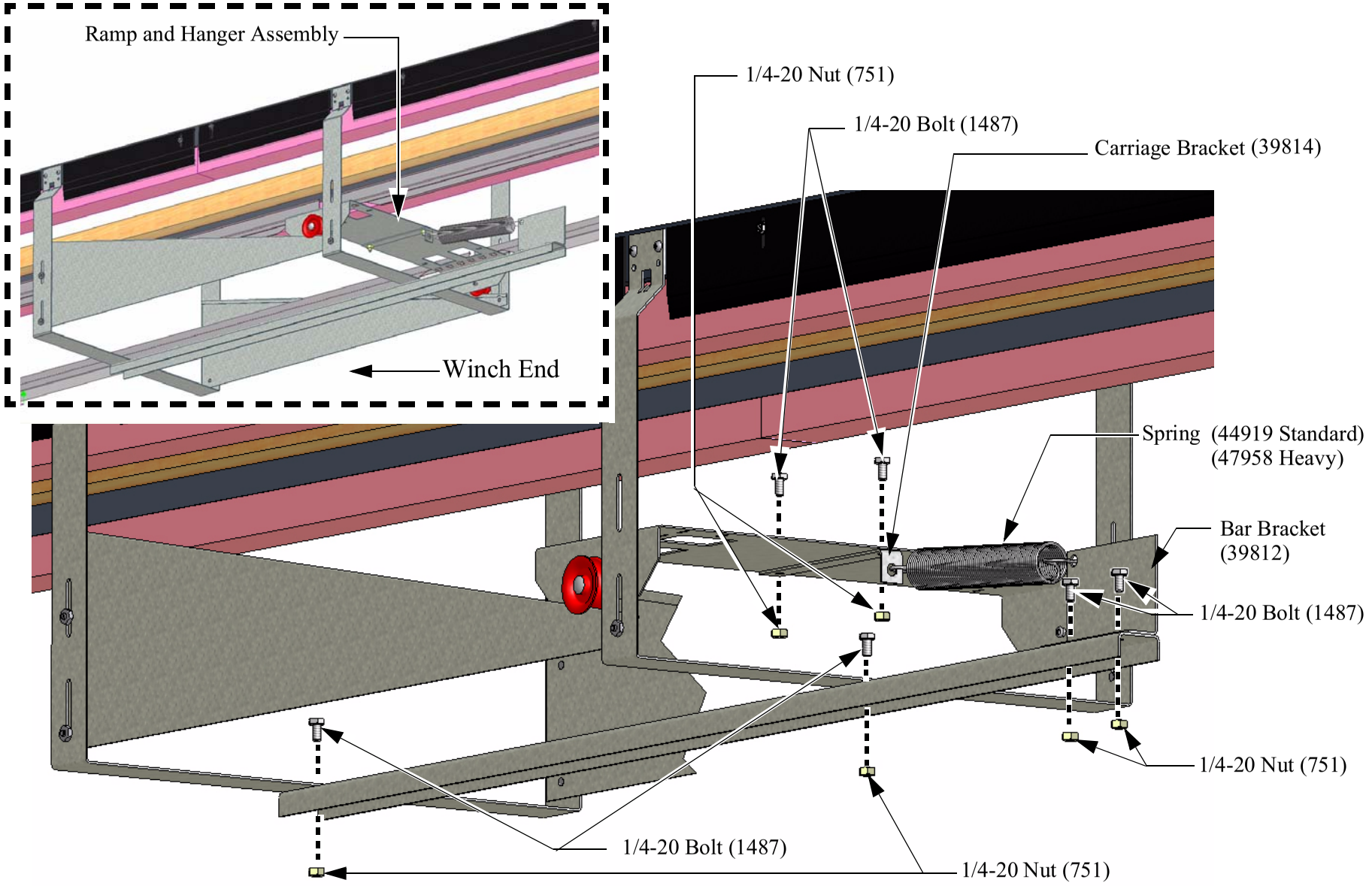


Step 3. Bend over the Tabs to Secure the Rails to the Carriages



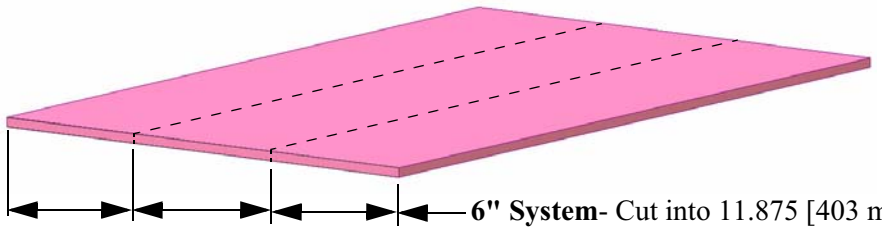
Spring Return Kit (6" Part No. 39816) (9" Part No. 43134)

The Spring Kit can be mounted to any Ramp and Hanger Assembly except **do not** attach at the ends. A Standard (44919) or Heavy (47958) Spring can be used. Trim the Spring end Loops with side cut pliers if necessary.



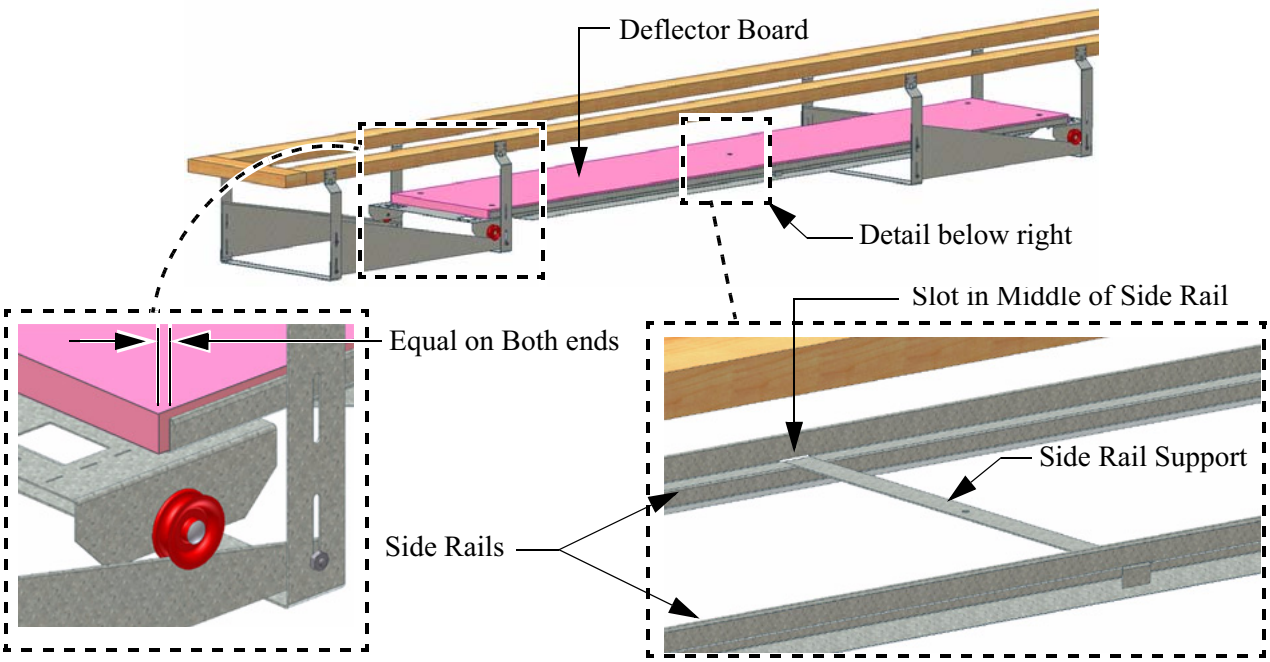
1" Styrofoam Insulation Board (*Deflector Board)*

Step 1. 1" Styrofoam Board must be purchased and cut to width **shown in Step 2** to fit between the Side Rails.

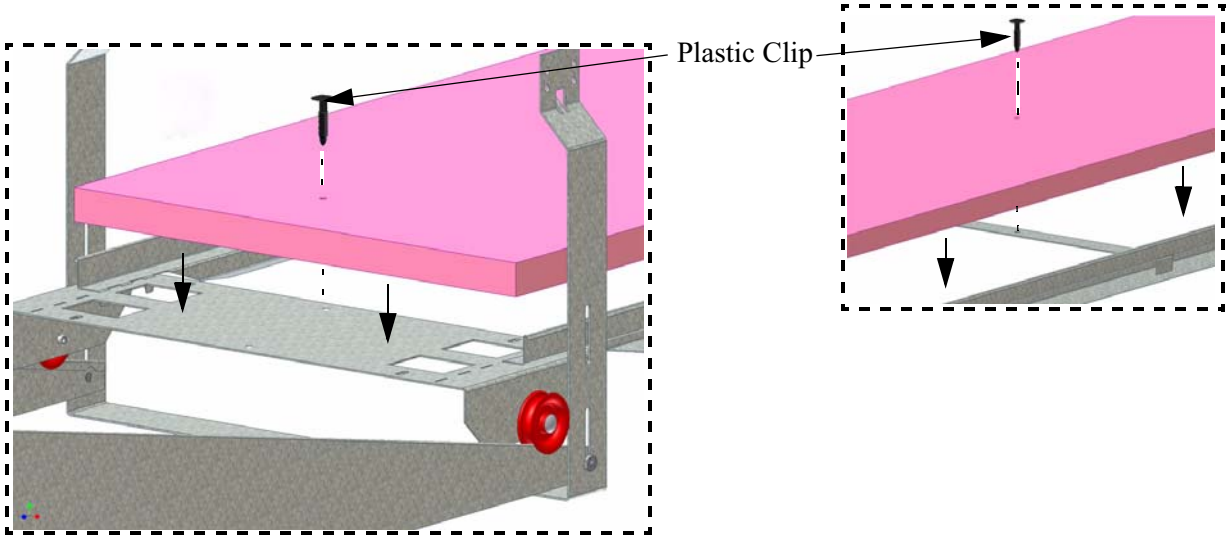


6" System- Cut into 11.875 [403 mm] x 8' pieces
9" System- Cut into 15.875 [302 mm] x 8' pieces

Step 2. Insert Side Rail Supports into the Side Rails and place the cut Styrofoam between the Rails. Center the Deflector Board on the Side Rails so that it extends past the ends equally.

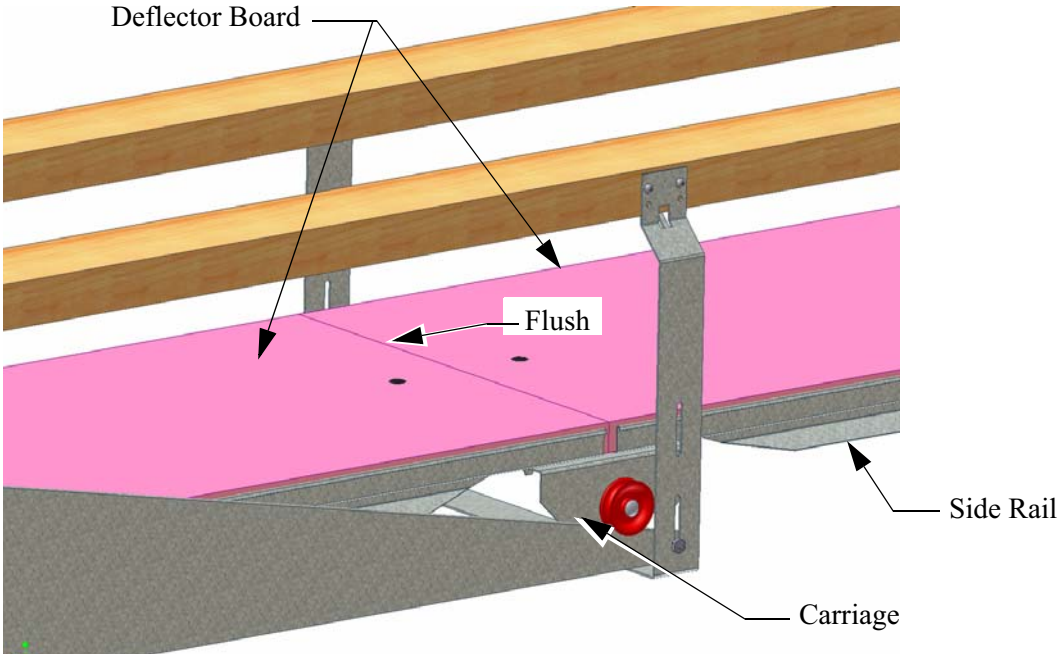


Step 3. Use a small philips screwdriver, nail, etcetera, to poke holes through the Deflector Board using the holes in the Carriages and Side Rail Support as a guide. Insert 3 Plastic Clips per Deflector Board **as shown**.

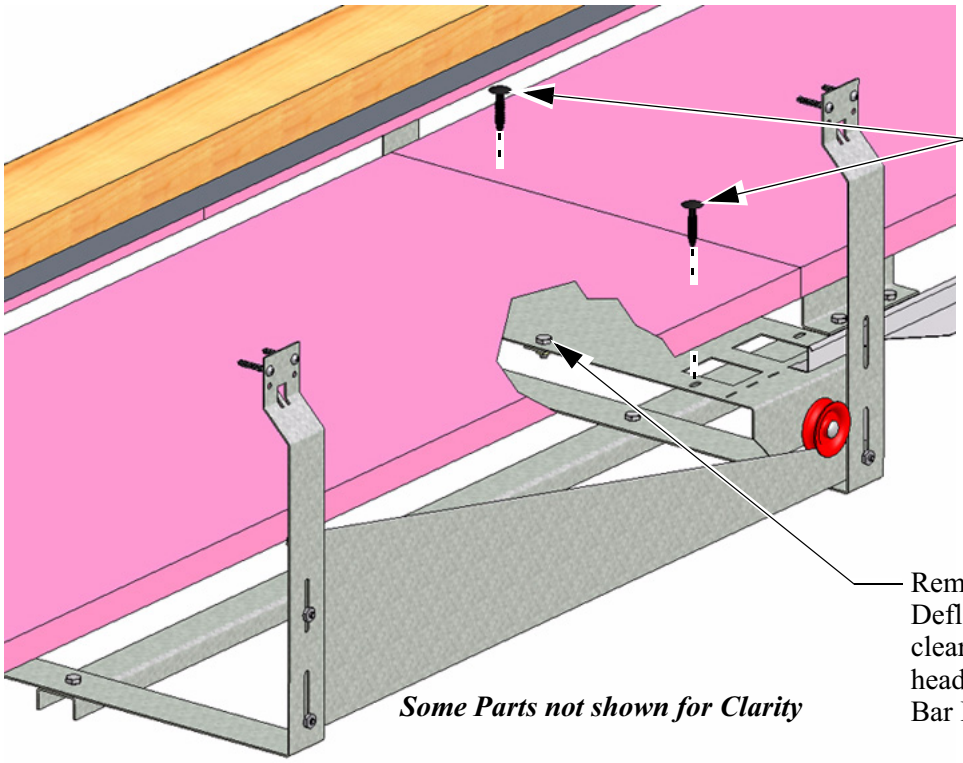


Adding more Carriages, Rails, and Deflector Board

Continue assembling Carriages, Side Rails, and Deflector Boards to the end of the system. Rest the remaining Carriages on the Ramps and attach Rails to them by bending over the Tabs exactly the same as you did in the previous steps. Before fastening the Deflector Boards to the Carriages, make sure that they are approximately centered on the Rails and that they are pushed together tightly. Gaps between Deflector Boards will cause a leaky and in-efficient system.



Attaching Deflector Board at Spring Return



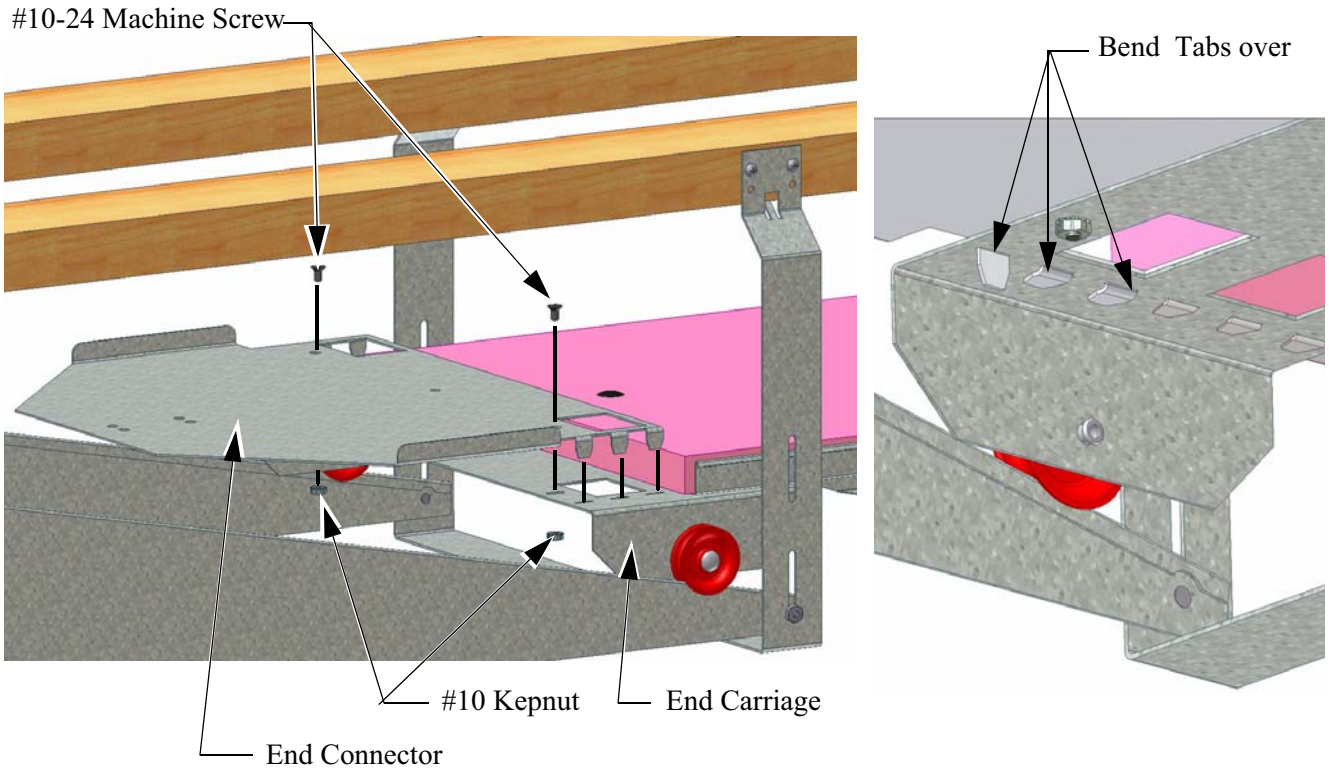
Pre-Drill holes in the Deflector Board using the Obround Holes in the Carriage as guides. Use one Plastic Clip at the end of each Deflector Board.

Remove material from Deflector Board to allow clearance of the two Bolt heads attaching the Spring Bar Bracket.

Some Parts not shown for Clarity

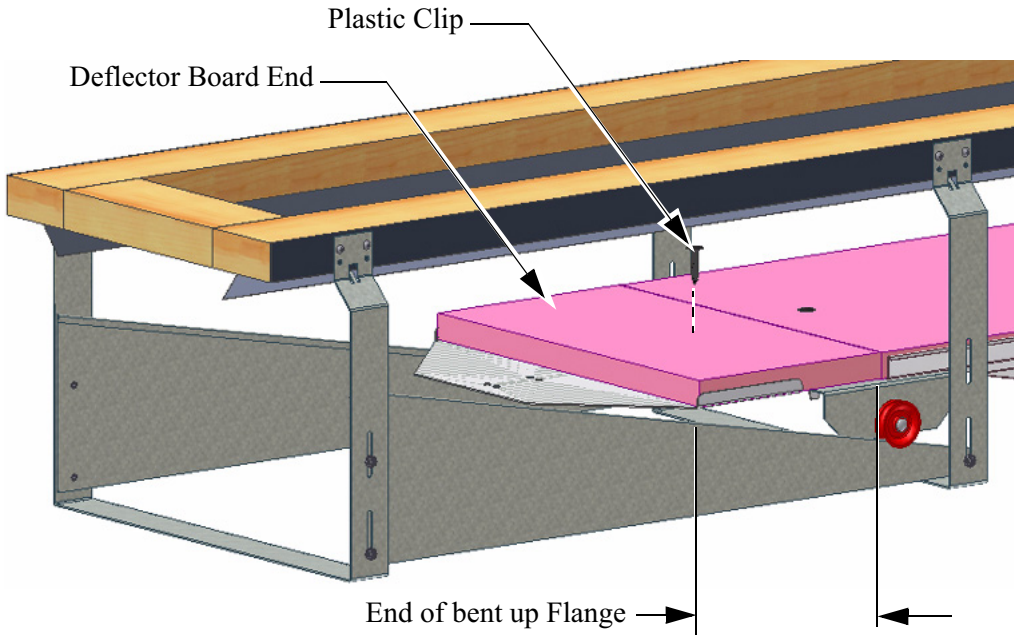
End Connectors

An End Connector is required at each end of the Inlet row. Insert the End Connector Tabs into the slots of the end Carriage . Fasten with two #10-24 Flathead Machine Screws and two #10 Kepnuts**.** Bend the Tabs over **as shown.** Repeat at the other end of the Inlet.



Deflector Board Ends

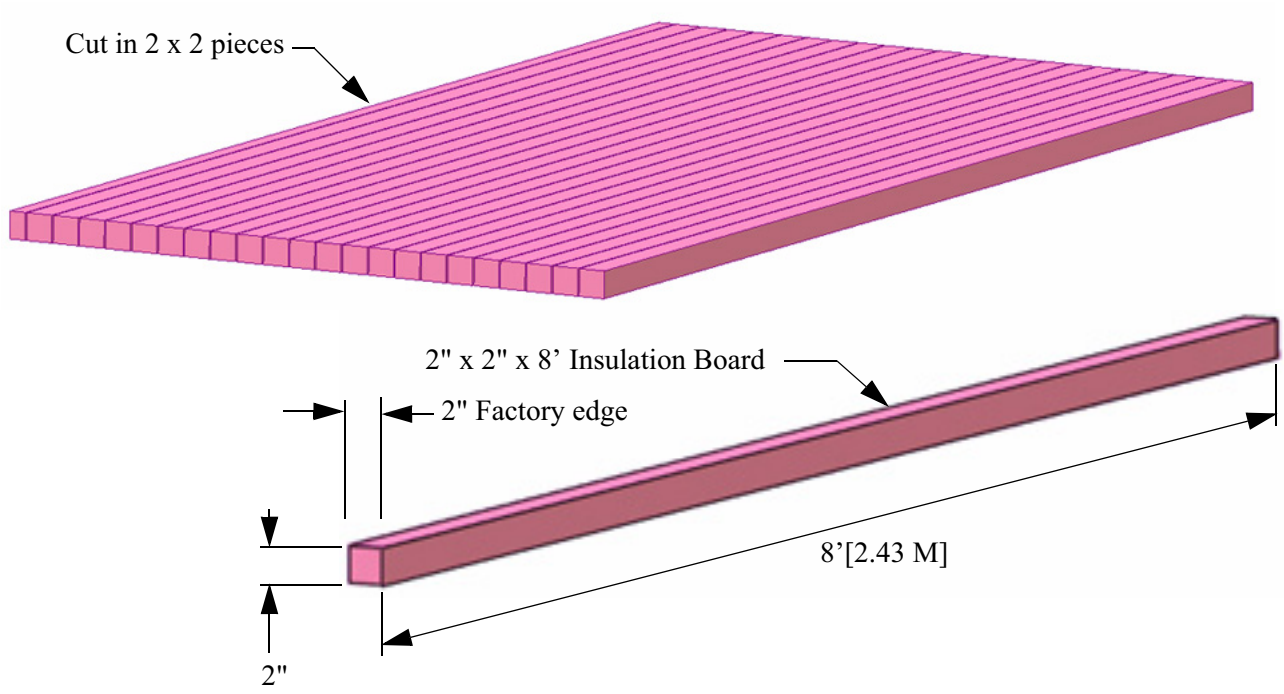
At both ends of the Inlet cut a Deflector Board **(Item 1)** long enough to reach the end of the bent up flange on the End Connector as shown in **Figure 8 below**. Use a small philips driver, nail, etcetera, to poke holes through the Deflector Board using the holes in the End Connector as a guide. Attach it with a Plastic Clip **(Item 2)**.



Top Seal

Cutting Insulation Board

The styrofoam board used in the Inlet must be purchased and cut to fit into the Top Seal Channel Cut the styrofoam board into 2" x 2" x 8' pieces. **(See Figure below)**.



Inserting 2" Insulation Board in H-Channel

It is much easier to insert the 2" Insulation Board into the PVC H-Channel if you spray the H-Channel lightly with silicone lubricant.

Important! Insert the Insulation Board with the 2" factory edge as shown to insure a tight fit.

Spread the H-Channel out at one end and slide it into the H-Channel until there is an equal amount of Insulation Board extending past each end. l

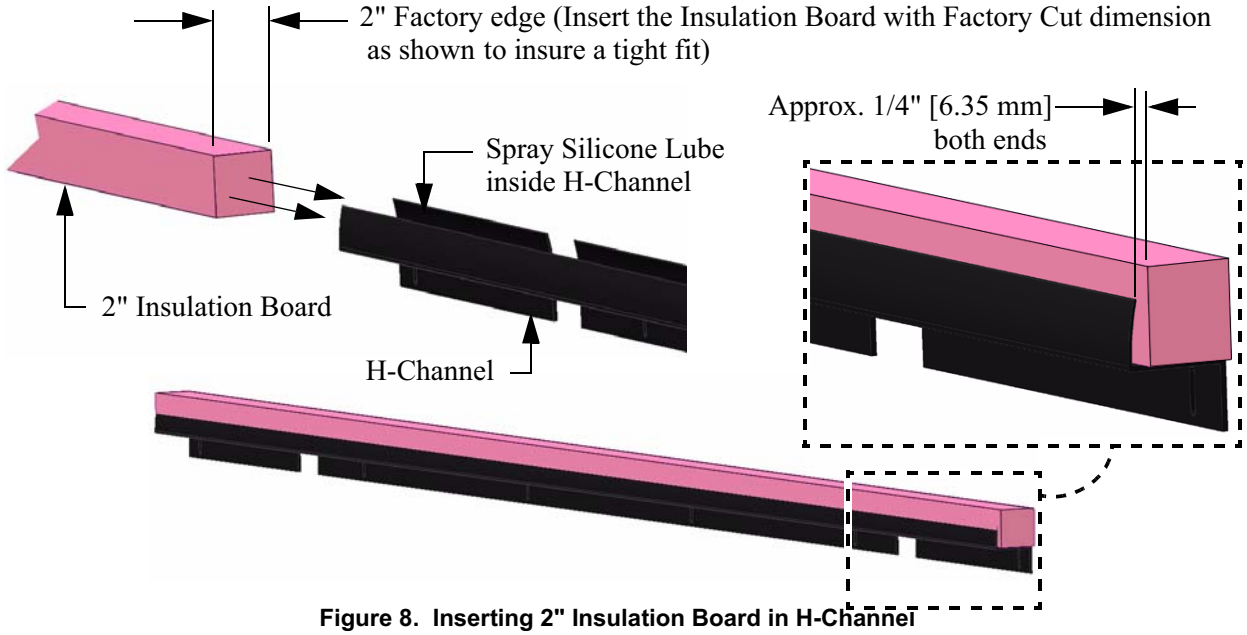
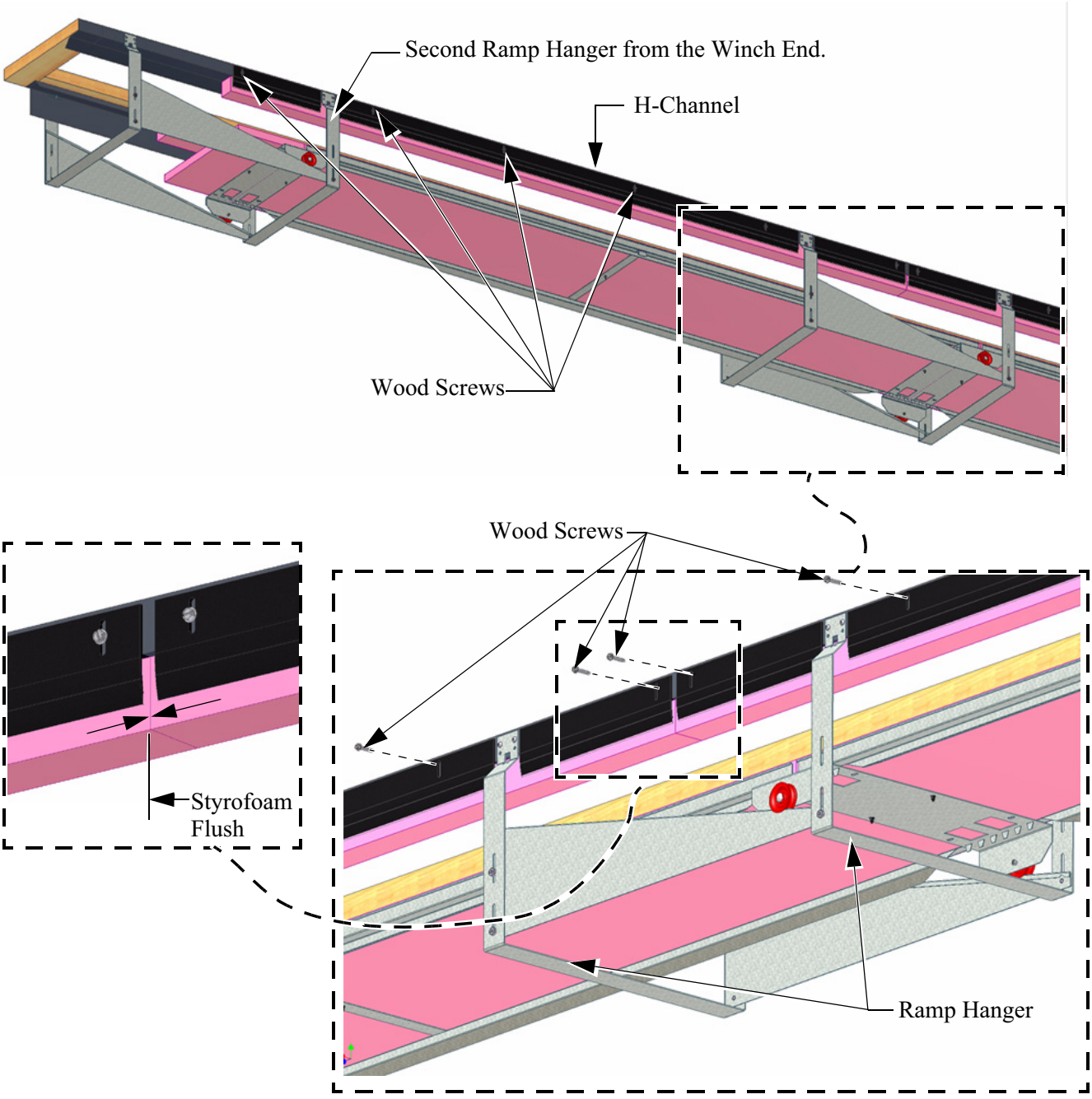


Figure 8. Inserting 2" Insulation Board in H-Channel

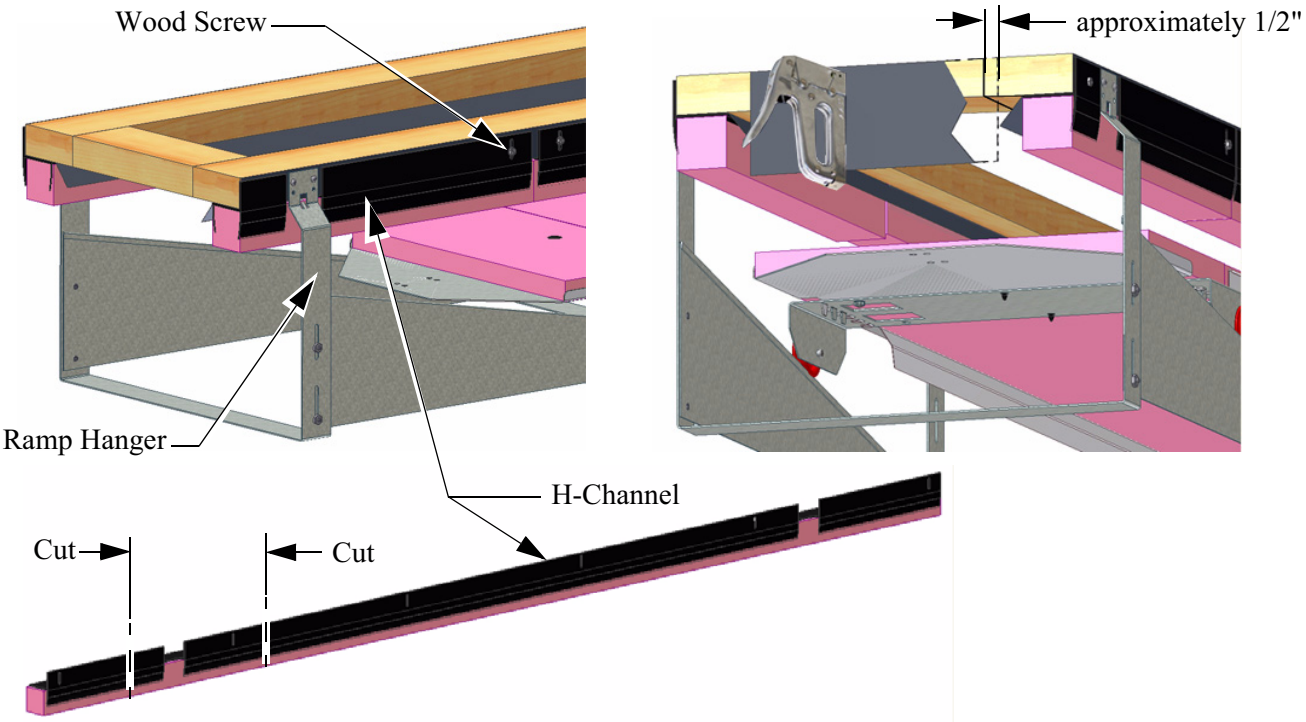
Attaching the Top Seal

Starting at the Winch end of the Inlet, line up the cutouts in the 1st H-Channel with the 2nd Ramp Hanger and attach it to the 2 x 4 Mounting Boards at each obround hole with Wood Screws **as shown**. Continue fastening Top Seal pieces the entire length of the Inlet opening. To maintain an airtight seal, it may be necessary to slide the 2" Styrofoam pieces within the H-Channels to make them Flush. **(See Figure)**. The last H-Channel will end short of the end of the Inlet opening. The next section of the manual explains what to do at both ends of the Inlet opening.

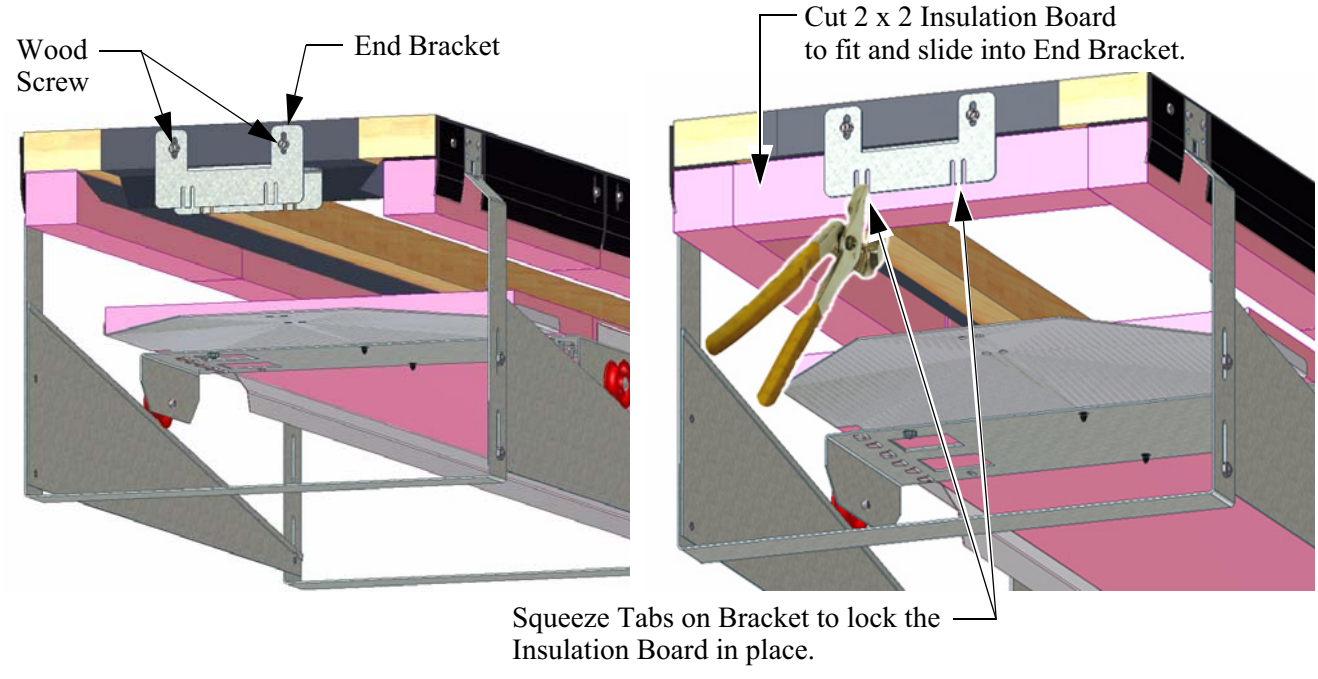


Top Seal Ends

At the Winch end of the Inlet, line up the cutout in an H-Channel with the last Ramp Hanger and cut to fit the remaining Deflector Board as **shown below**. Cut 2" Foam to fit the H-Channel and slide it in place. Make sure the 2" Foam pieces are flush at the joints **(See Figure)**. Fasten the H-Channel with one wood screw at the obround hole only at this time. Once the inlet has been finally adjusted at completion, another Wood Screw should be added to secure it in place. Repeat on both sides. Use staples to attach 10 mil x 5" Gray Seal to the Mounting Board at both ends of the Inlet. Extend the Seal approximately 1/2" past the ends of the end 2x4 **as shown**.



Center an End Bracket on the Mounting Board and attach with Wood Screws.Cut a piece of 2" Insulation Board to length and slide it into the End Bracket. Squeeze the Bracket to lock the Insulation Board in place **as shown**.



Power Unit Hookup

When properly installed, the TURBO-HOUSE Inlet requires approximately **7 lbs (3.17 kg) per 8 foot section** of pull to close the inlet completely against the seal. The power unit must match the load requirements of the Inlet system. Two Chore-Time power units are available for use with the TURBO-HOUSE Inlet: the Light Duty Winch and the Heavy Duty Winch.

See the **Figure below** for the recommended layout of the inlet and power unit cable system.

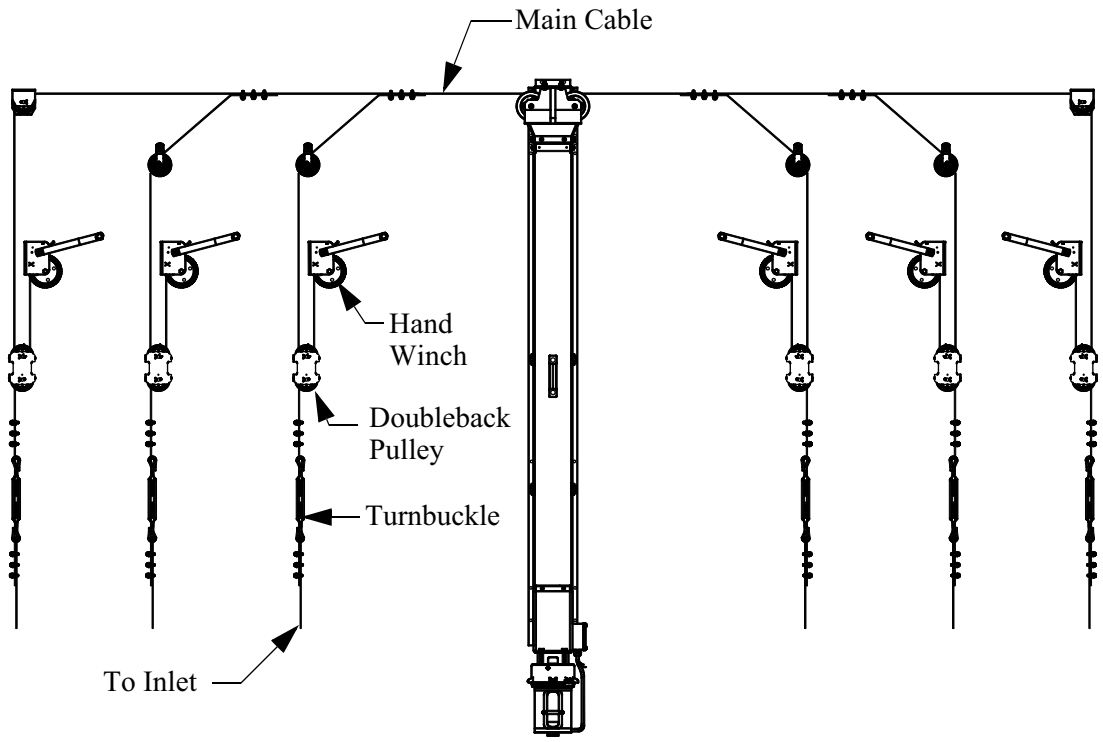
Refer to this formula to determine the proper size of power unit.

System load = **number of 8 foot sections** X **7** (lbs required to pull each section) **[3]÷ 2** (reduced load through turnback pulley).

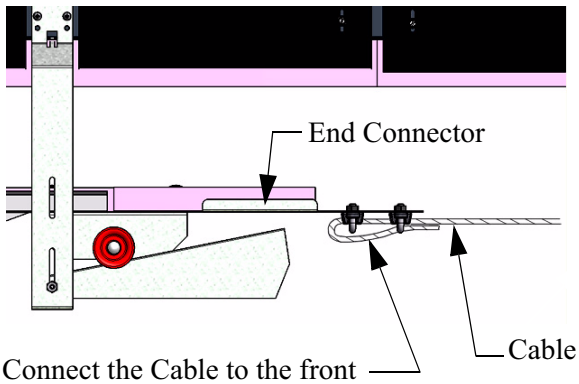
Example: System using (400) 8’ sections.

400 X 7 ÷ 2 = 1,400 lbs (635 kg) of pull.

Chore-Time Linear Lift weight Capacity is 2,000 lbs. (907 kg)



Attaching the Cable



Connect the Cable to the front of the End Connector with Cable Clamps as shown.

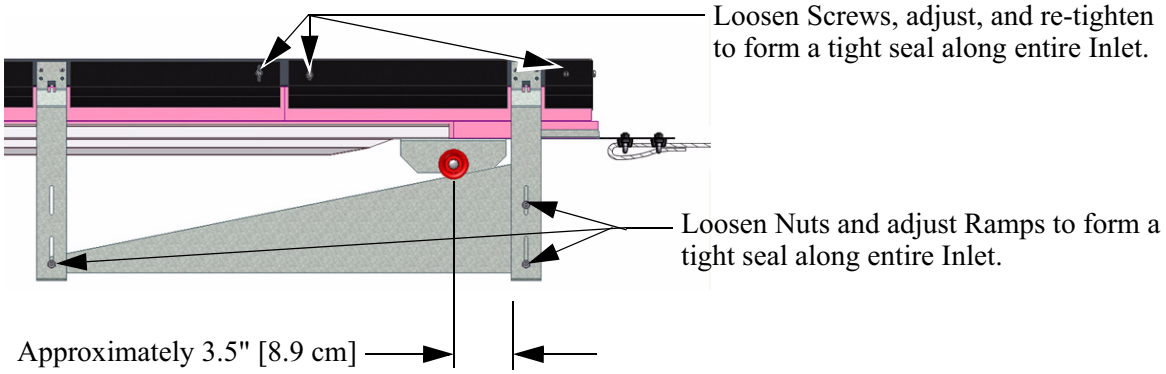
Final Adjustment

ROW ALIGNMENT: After the inlet rows are all connected to the power unit, adjust the turnbuckle(s) so that all of the inlet rows reach the fully open position and the fully closed position at the same point. The following description defines the open and closed position of the carriage wheels on the ramps.

FULLY OPEN: Carriage wheels resting against the Ramp Support Hanger. At this point the bottom limit switch on the Tower Switch(es) should be activated.

FULLY CLOSED: The center of the carriage wheels are 3.5 inches (8.9 cm) from the edge of the Ramp Hanger as shown above. At this point the top limit switch on the Tower Limit Switch should be activated.

RAMP ADJUSTMENT: Use the winch to pull the system up until the carriage wheels are in the 'closed' position on the ramps. The ramps should be adjusted so that the seals just touch the deflector boards all along the inlet row. If necessary loosen the screws holding on the H-Channels and adjust to form a tight seal along the entire Inlet.



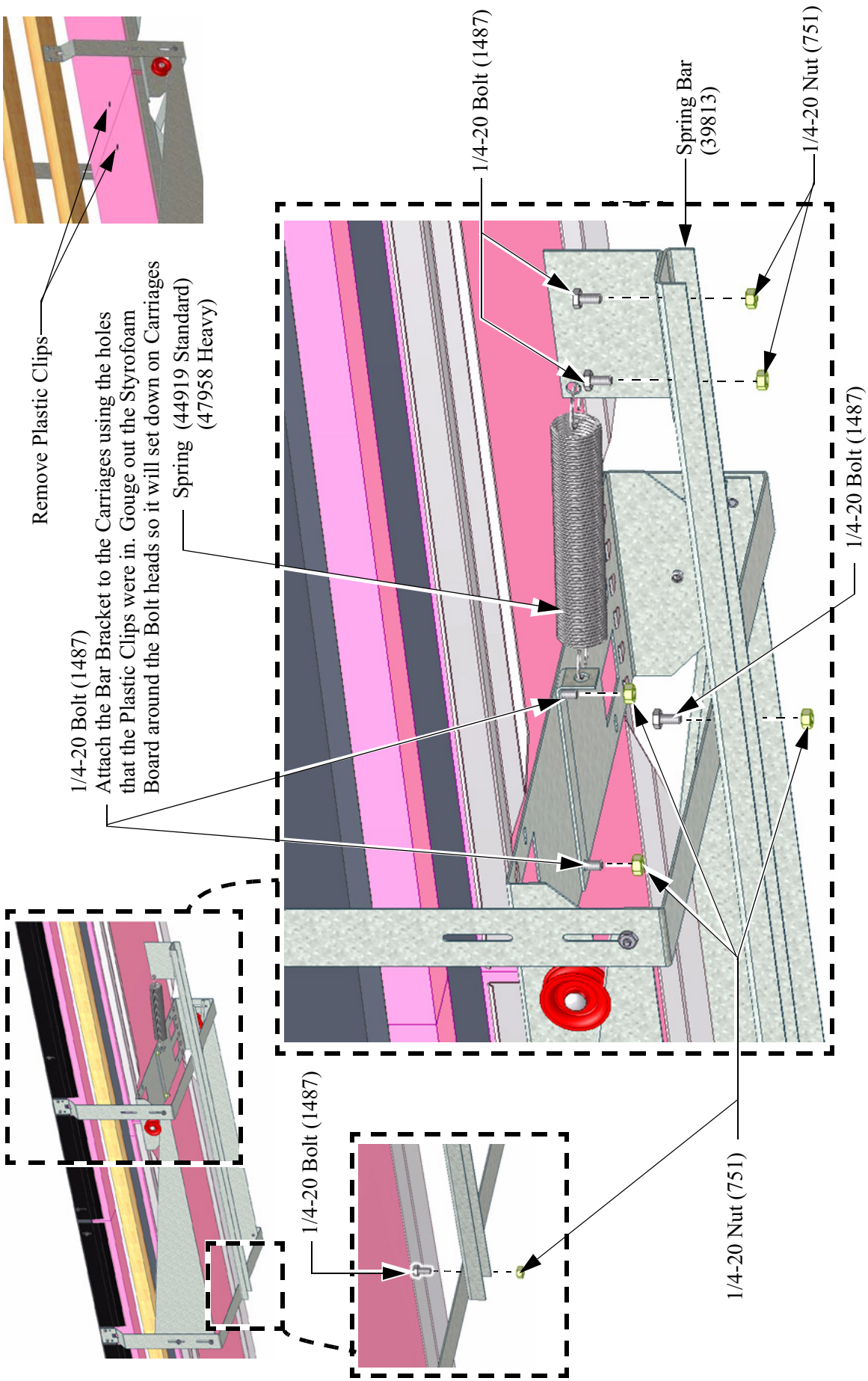
Controlling the Inlets

The TURBO-HOUSE Inlets may be controlled by the Chore-Time Automatic Static Pressure Inlet Control. The pressure setting on the Inlet Control should be set to operate at 0.05" static pressure. The pressure sensor bottle(s) for the Inlet Control should be located so that the control senses the pressure drop across the inlet ONLY. The bottle(s) should be located in the bird area and the attic area (inside the building) to measure the required pressure drop.

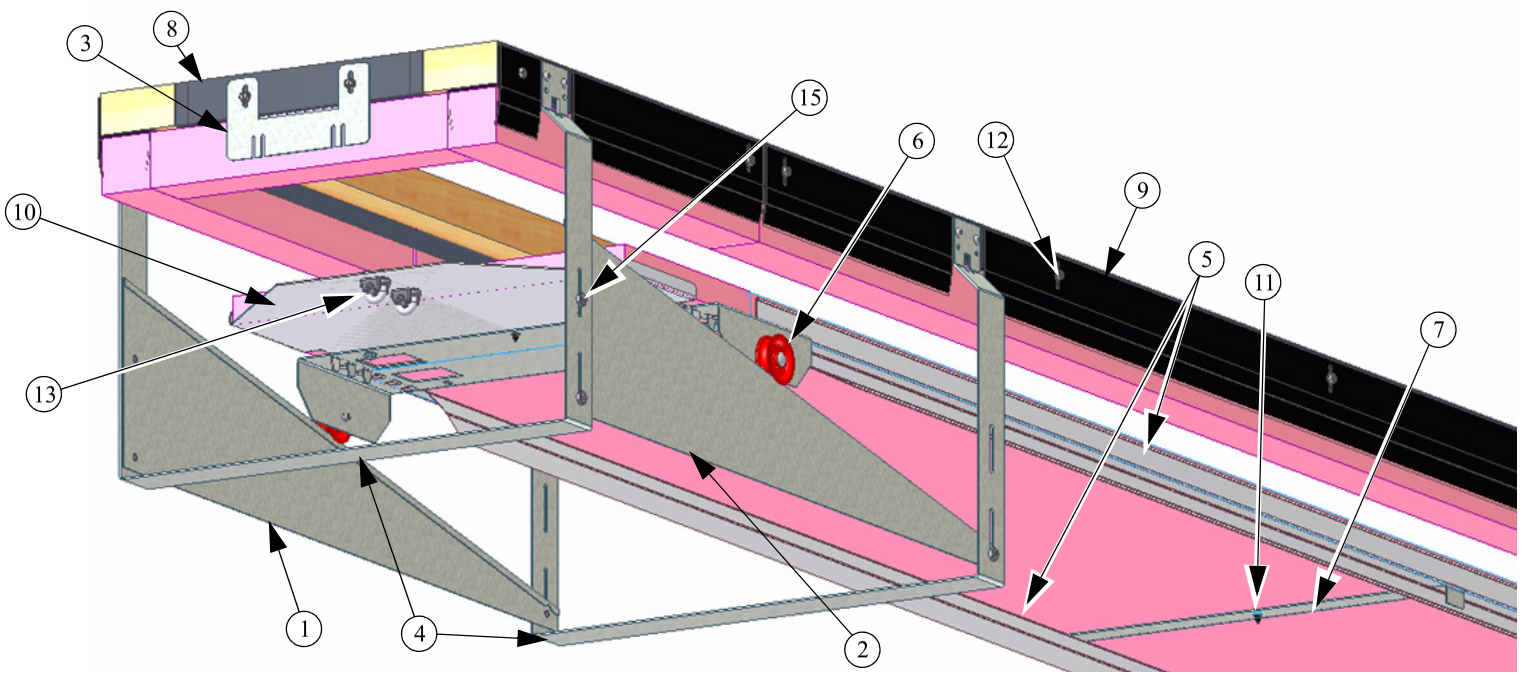
Note: The fans will operate at a higher static pressure that the Inlet Control will read. The Inlet Control must measure the pressure differential across the inlet ONLY.

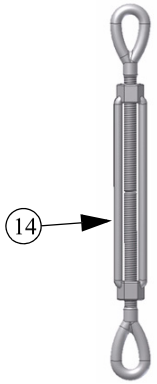
Wire the system according to the wiring diagrams in the Control instructions and the Linear Lift™ Instructions.

Spring Return



Part Numbers





Item	Description	Part No.
1	Left Side Ramp 6"	27069-1
	Left Side Ramp 9"	42753-1
2	Right Side Ramp 6"	27069-2
	Right Side Ramp 9"	42753-2
3	Top Seal End Bracket	52688
4	Ramp Hanger 6"	28789
	Ramp Hanger 9"	42752
5	Side Rail 6"	30123
6	Carriage Assembly 6"	30125
	Carriage Assembly 9"	42754
7	Side Rail Support 6"	45545
	Side Rail Support 9"	42756
8	Plastic Seal 10 Mil. x 5" x 500'	49199

Item	Description	Part No.
9	Top Seal Channel (Short)	48364
	Top Seal Channel	48656
10	End Connector (6")	49548
	End Connector (9")	42758
11	Foam Clip	47665
12	#10-16 x 1 Screw	28199
13	Cable Clamp 3/16"	732
14	5/16" Turnbuckle	27389
15	#10-24 Kepnut	27725
16	3/16" 7 x 19 Aircraft Cable (not shown)	13976
17*	6"Spring Return Kit	39816
	9" Spring Return Kit	43134
*Parts Shown on previous page		

Made to work.
Built to last.

Revisions to this Manual

Page No.	Description of Change
	New Manual

Contact your nearby Chore-Time distributor or representative for additional parts and information.

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