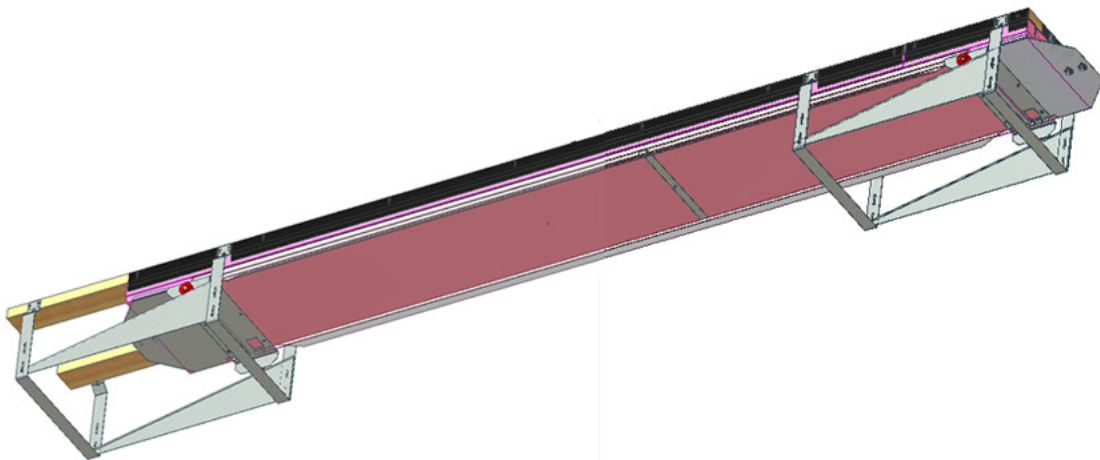


CHORE-TIME[®]

Turbo-House Air Inlet

Installation & Operator's Instruction Manual



Installation and Operators Manual

Installation and Operators Manual

Chore-Time Warranty

Chore-Time Group, a division of CTB, Inc. ("Chore-Time") warrants new CHORE-TIME Turbo-House Air Inlet Components manufactured by Chore-Time to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser ("Warranty"). If such a defect is determined by Chore-Time to exist within the applicable period, Chore-Time will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

CONDITIONS AND LIMITATIONS

THIS WARRANTY CONSTITUTES CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. CHORE-TIME shall not be liable for any direct, indirect, incidental, consequential or special damages 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. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and CHORE-TIME shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- Modifications made to the Product not specifically delineated in the Product manual.
- Product not installed and/or operated in accordance with the instructions published by the CHORE-TIME.
- All components of the Product are not original equipment supplied by CHORE-TIME.
- Product was not purchased from and/or installed by a CHORE-TIME authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of CHORE-TIME. CHORE-TIME shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

Effective: **April, 2014**

Chore-Time Group, A division of CTB, Inc.
PO Box 2000
Milford, Indiana 46542-2000 USA
Phone (574) 658-4101 Fax (877) 730-8825
Email: choretime@choretime.com
Internet: www.choretime.com

Contents

Topic	Page
Chore-Time Warranty	2
Follow Safety Instructions	4
Decal Descriptions	4
DANGER: Moving Parts.	4
DANGER: Electrical Hazard	4
Introduction	5
Airflow Capacity @ .05" Static Pressure.	5
Winch (Pull Force) required per foot [30.48cm]	5
Framing	6
Ceiling Slot Width	6
Ceiling Slot and Mounting Board Length	7
Mounting and Installation of Inlet Components	7
Plastic Seal	7
Ramp Hangers	8
Ramps.	9
Carriages and Side Rails	10
1" Styrofoam Insulation Board (Deflector Board)	11
Adding more Carriages, Rails, and Deflector Board	12
Attaching Deflector Board at Spring Return (6" and 9" Systems)	12
End Connectors	13
Deflector Board at End Connectors	13
Spring Return Installation	14
(6" Spring Return Kit Part No. 39816) (9" Part No. 43134)	14
(18" Spring Return Kit Part No. 56522)	15
Top Seal	16
Cutting Insulation Board	16
Inserting 2" [5.08 cm] Insulation Board in H-Channel	16
Attaching the Top Seal.	17
Power Unit Hookup	19
Attaching the Cable	20
Final Adjustment	20
Controlling the Inlets	20
Part Numbers	21
Inlet Part Numbers	21
Spring Return Kit for 6" and 9" Systems (39816)	22
Spring Return Kit 18 Inch (56522)	23
Row Section Start Kits 6" (39816), 9" (43134), and 18" (52696)	24
8' Inlet Extension Kit 6"(41049), 9" (43133), and 18" (52698)	24
Miscellaneous Parts	24

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 Parts

Disconnect electrical power before working on system, equipment may start automatically. Otherwise personal injury will result.

DANGER: Electrical Hazard

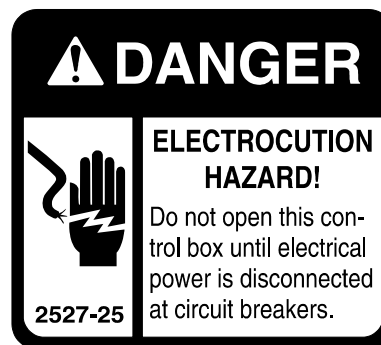
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

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 eve 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.

Airflow Capacity @ .05" Static Pressure

- 6" Inlet = 300 cfm/ft.
- 9" Inlet = 450 cfm/ft.
- 18" Inlet = 900 cfm/ft.

Winch (Pull Force) required per foot [30.48cm]

7 lbs [3.18kg] of pull per 8' [2.44m]

Note: The original, authoritative version of this manual is the [English] version produced by CTB, Inc. or any of its subsidiaries or divisions, (hereafter collectively referred to as "CTB"). Subsequent changes to any manual made by any third party have not been reviewed nor authenticated by CTB. Such changes may include, but are not limited to, translation into languages other than [English], and additions to or deletions from the original content. CTB disclaims responsibility for any and all damages, injuries, warranty claims and/or any other claims associated with such changes, inasmuch as such changes result in content that is different from the authoritative CTB-published [English] version of the manual. For current product installation and operation information, please contact the customer service and/or technical service departments of the appropriate CTB subsidiary or division. Should you observe any questionable content in any manual, please notify CTB immediately in writing to: CTB Legal Department, P.O. Box 2000, Milford, IN 46542-2000 USA.

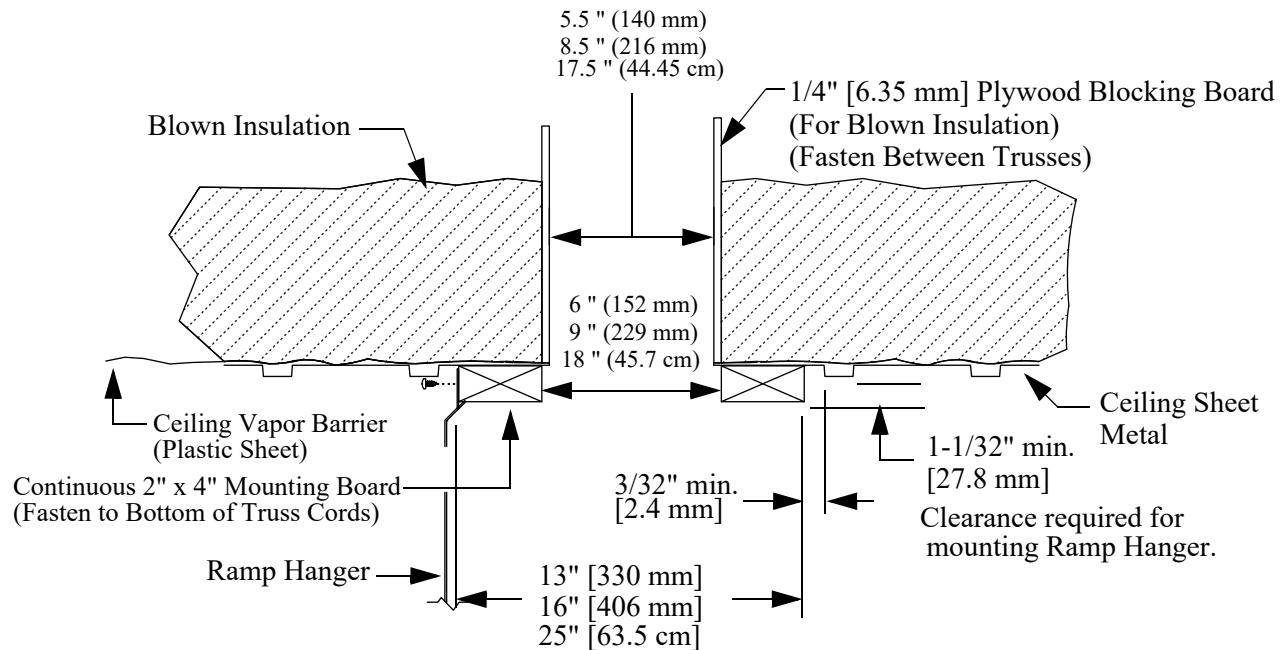
Framing

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. The **Figure below** shows a cross-section of the TURBO-HOUSE Air Inlet ceiling construction options for blown insulation and rigid styrofoam board insulation.

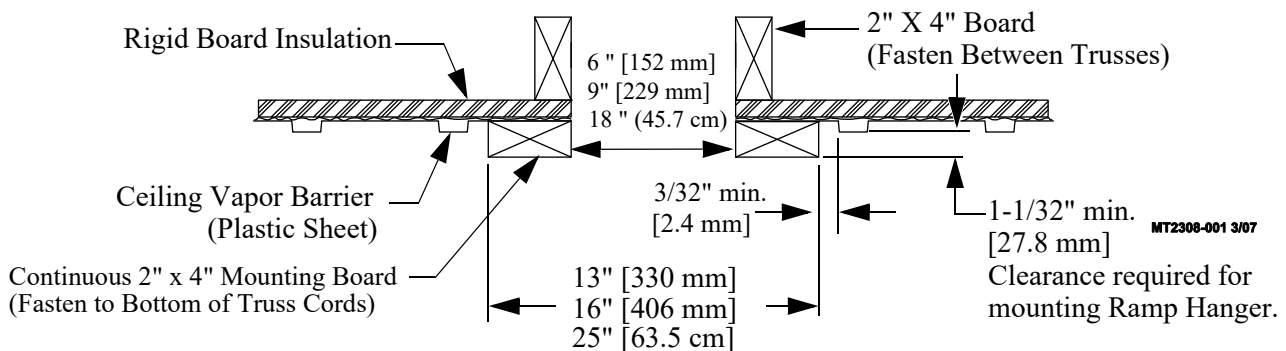
Ceiling Slot Width

Important! Installation of a mounting board (2 x 4) [45 x 90 mm] 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" [15.24cm] and 9" [22.86cm], and 18" [45.72cm] systems.

CEILING WITH BLOWN INSULATION



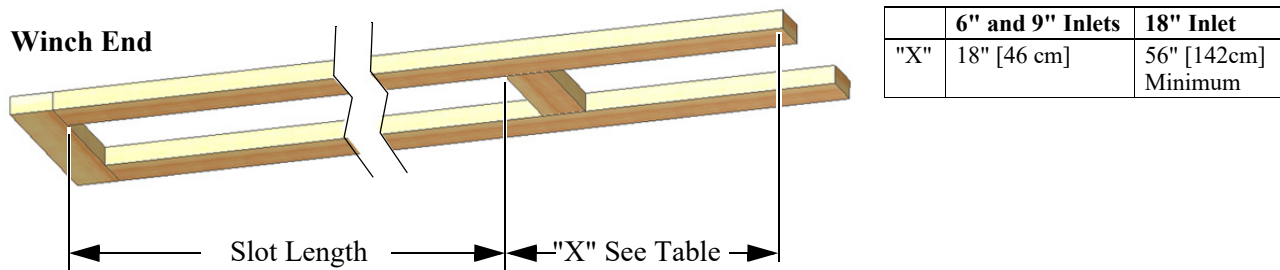
CEILING WITH RIGID INSULATION



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 distance (X) 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 + "X" The Additional Mounting Board (X), should extend beyond the cage row at the end **opposite** the Winch as shown.

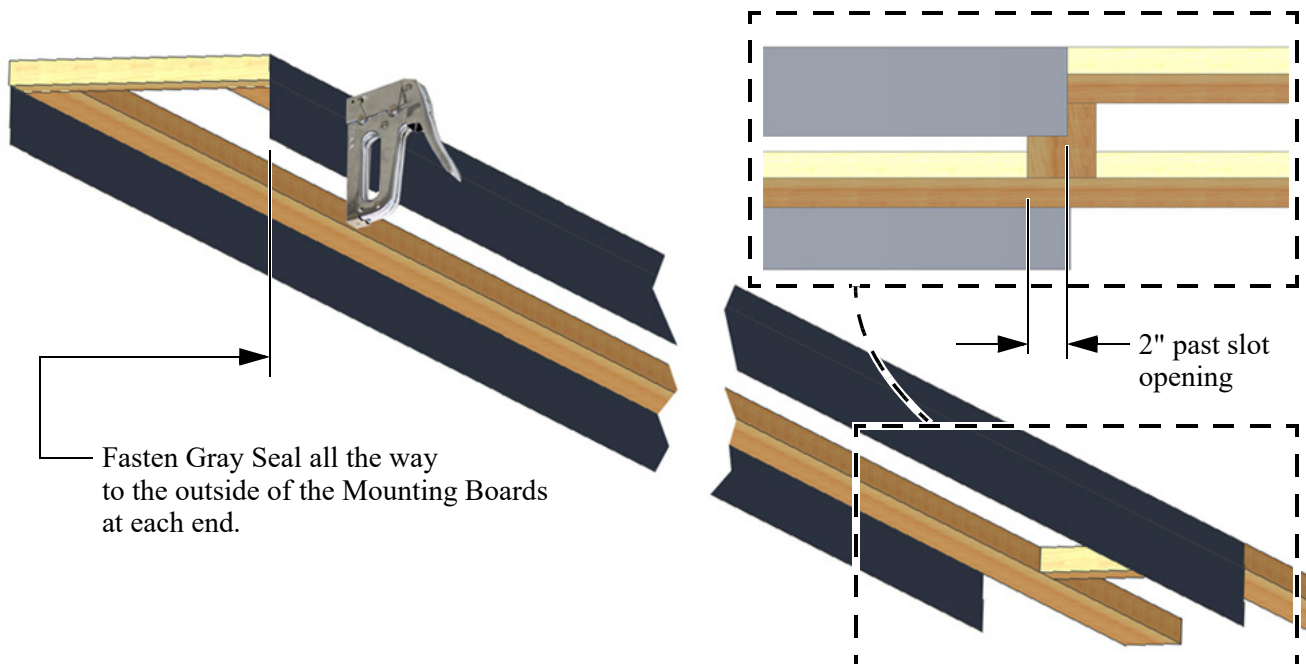


Mounting and Installation of Inlet Components

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 below**). 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.

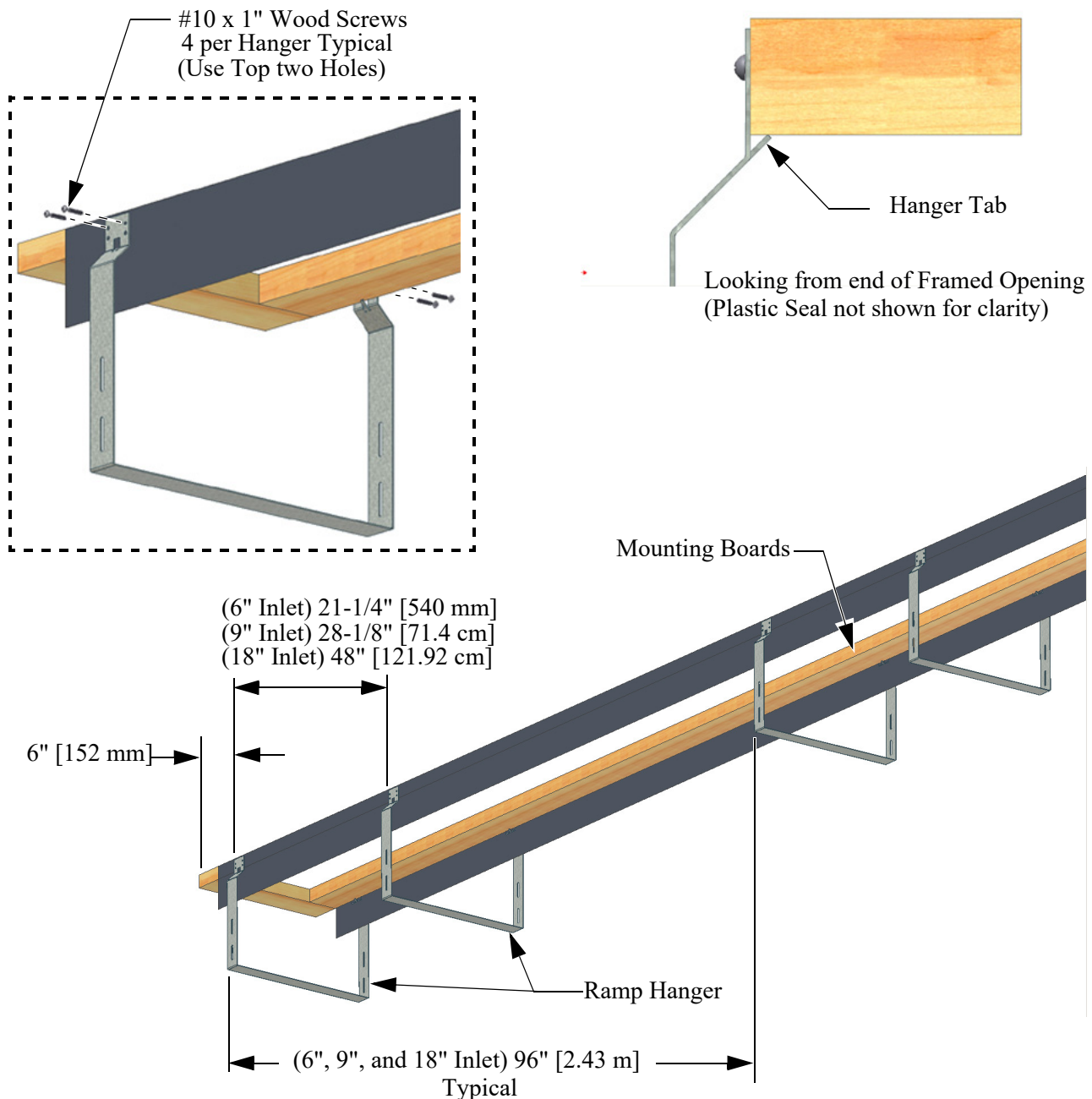


Ramp Hangers

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 using the dimension shown for each size respectively. Attach the 2nd set of Hangers 96" [2.43 m] on center from the previous set of Hangers (**See Figure below**). Continue attaching Hanger pairs to the end of the Mounting Boards 96" [2.43m] on center.

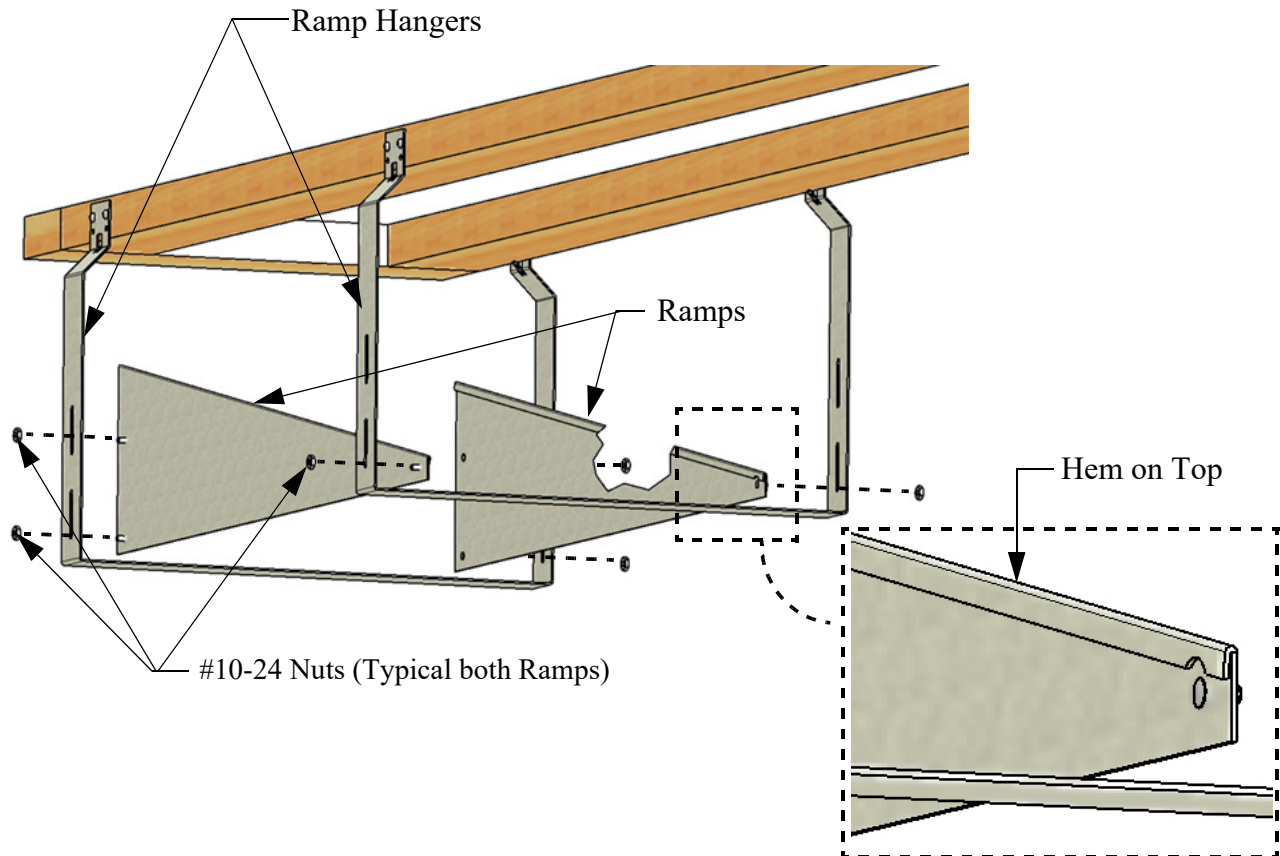
Note:

If installing a Spring at the end, the last two Ramp Hangers are different. See **(18" Spring Return Kit Part No. 56522) on page 15.**



Ramps

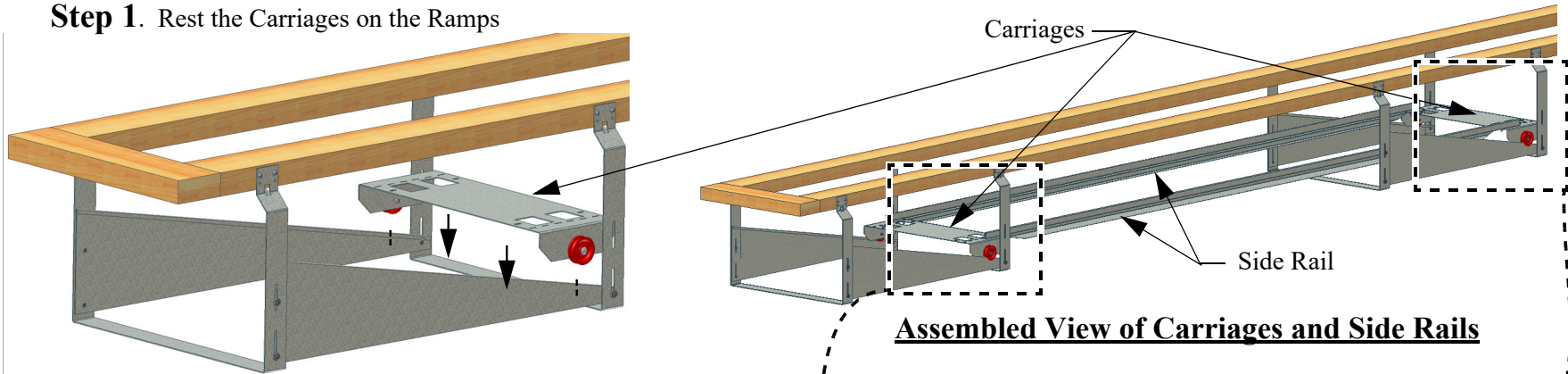
There are two different Ramps (left and right). Install the Ramps with the Hem on top and inside the Ramp Hangers with the Studs outward through the slots (**See Figure below**). Secure with #10-24 Nuts. The Nuts should not be fully tightened at this time to allow for adjustment of the Ramps after the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



Carriages and Side Rails

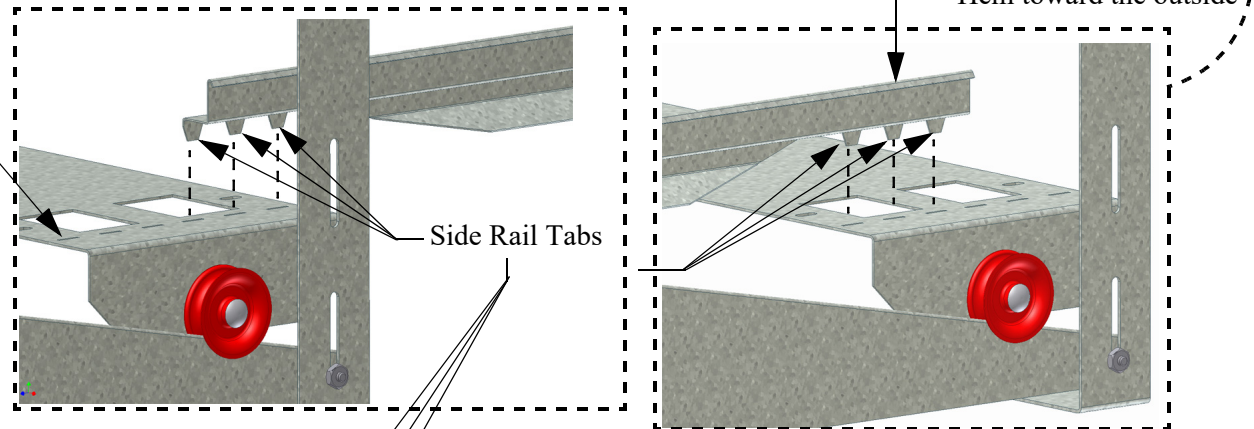
Assembly of the Carriages and Rails is easiest with two people. Start with a person at each of the first two pairs of Hangers at the Power unit end of the system.

Step 1. Rest the Carriages on the Ramps

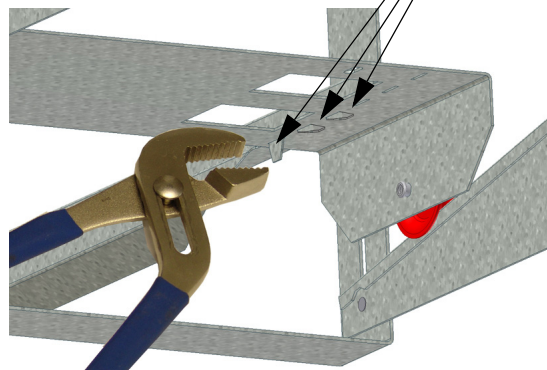


Step 2. Insert the Rail Tabs into the Carriage Slots

Outside three slots are used later in the assembly.

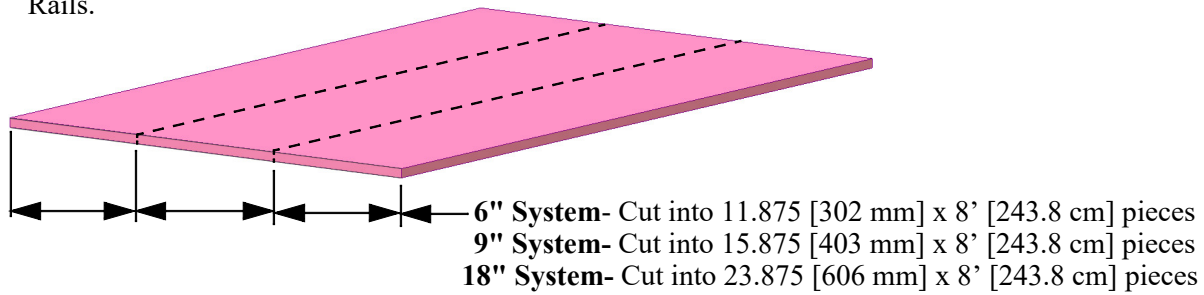


Step 3. Bend over the Tabs to Secure the Rails to the Carriages

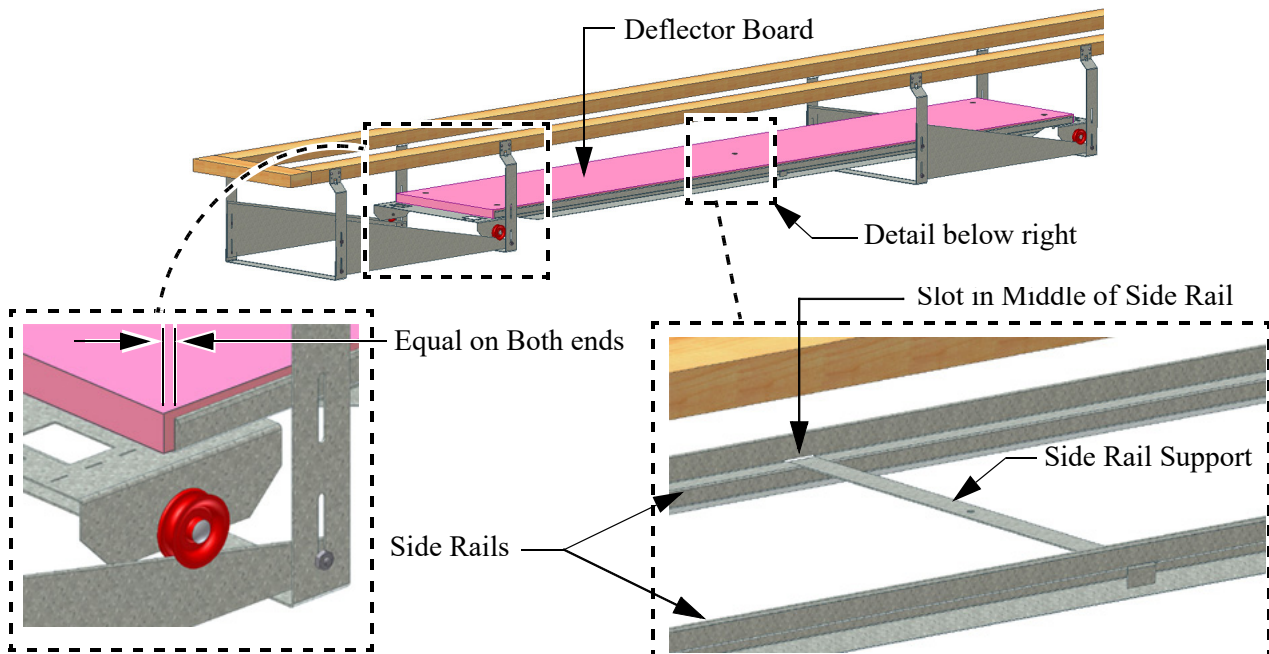


1" Styrofoam Insulation Board (*Deflector Board*)

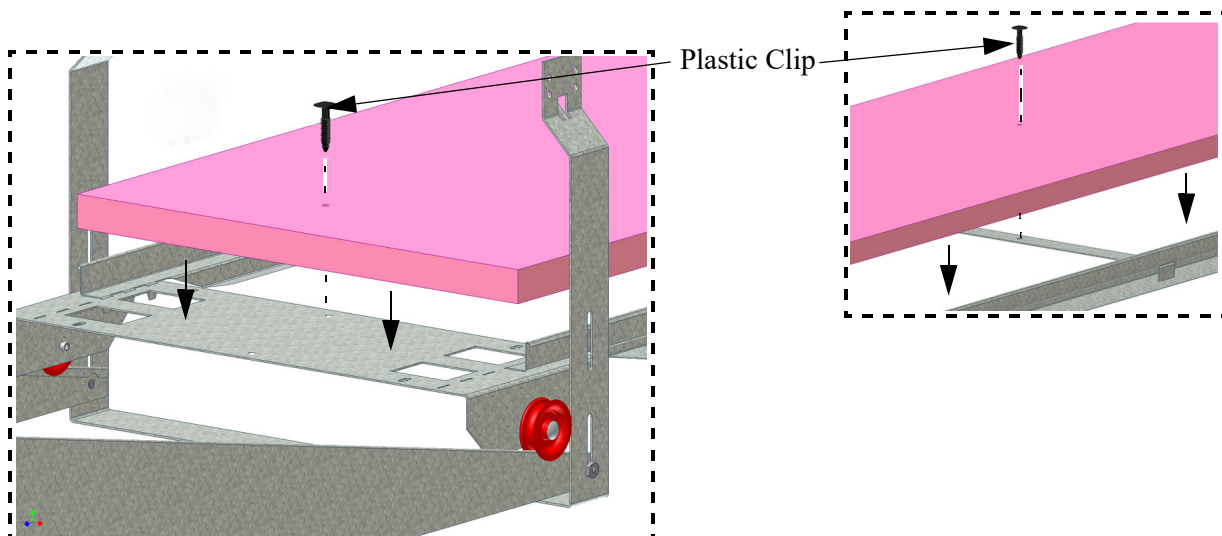
Step 1. 1" Styrofoam Board must be purchased and cut to width **shown in Step 2** to fit between the Side Rails.



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.

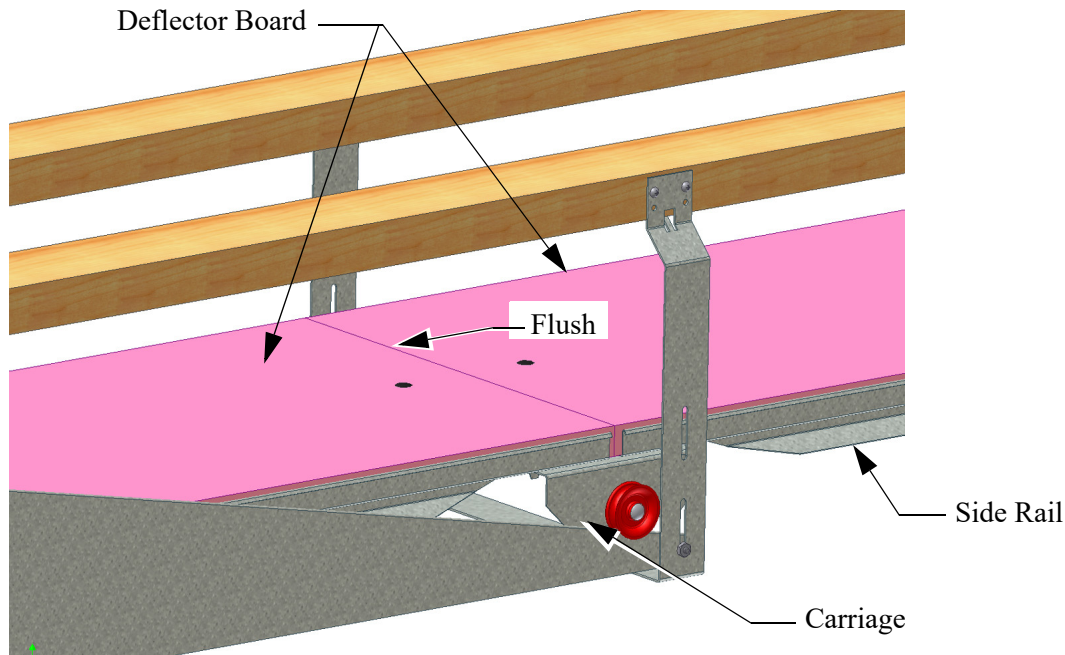


Step 3. Use a small philips screwdriver, nail, etcetera, to poke holes through the Deflector Board using the holes in the Carriages and Side Rail Support as a guide. Insert 3 Plastic Clips per Deflector Board **as shown**.

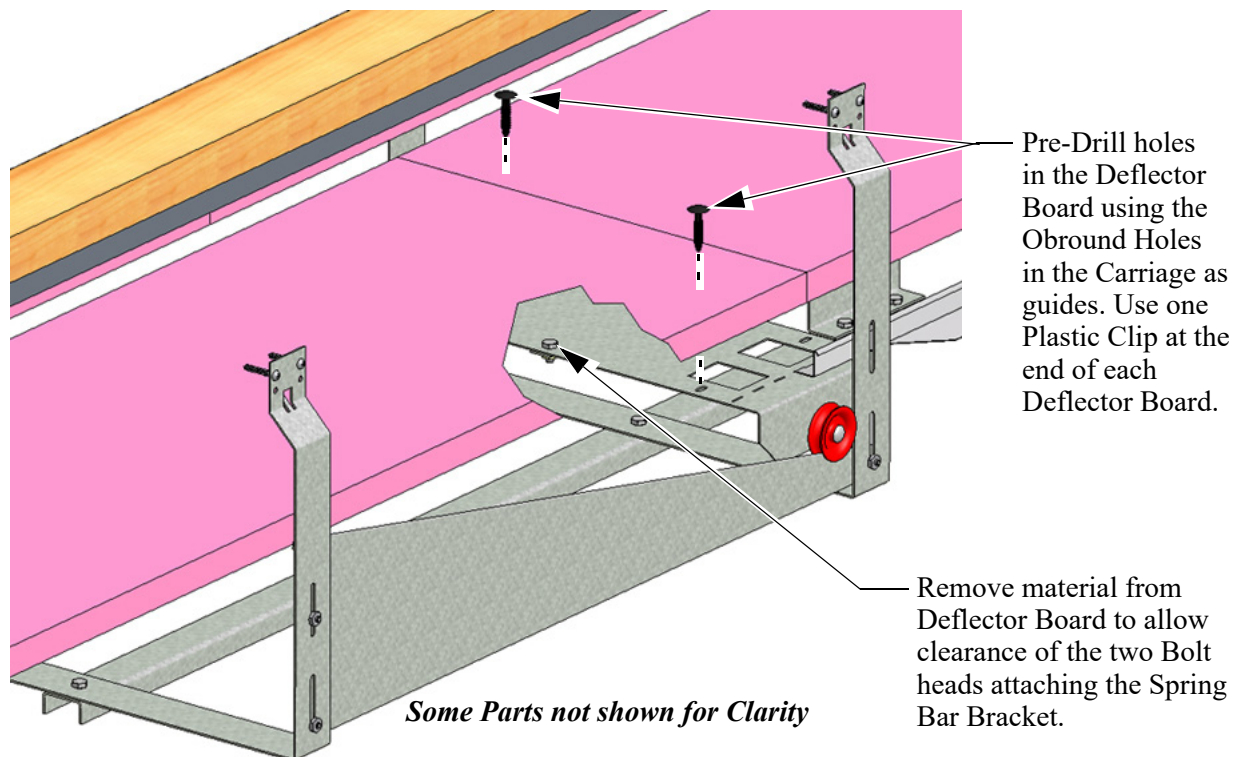


Adding more Carriages, Rails, and Deflector Board

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 (6" and 9" Systems)

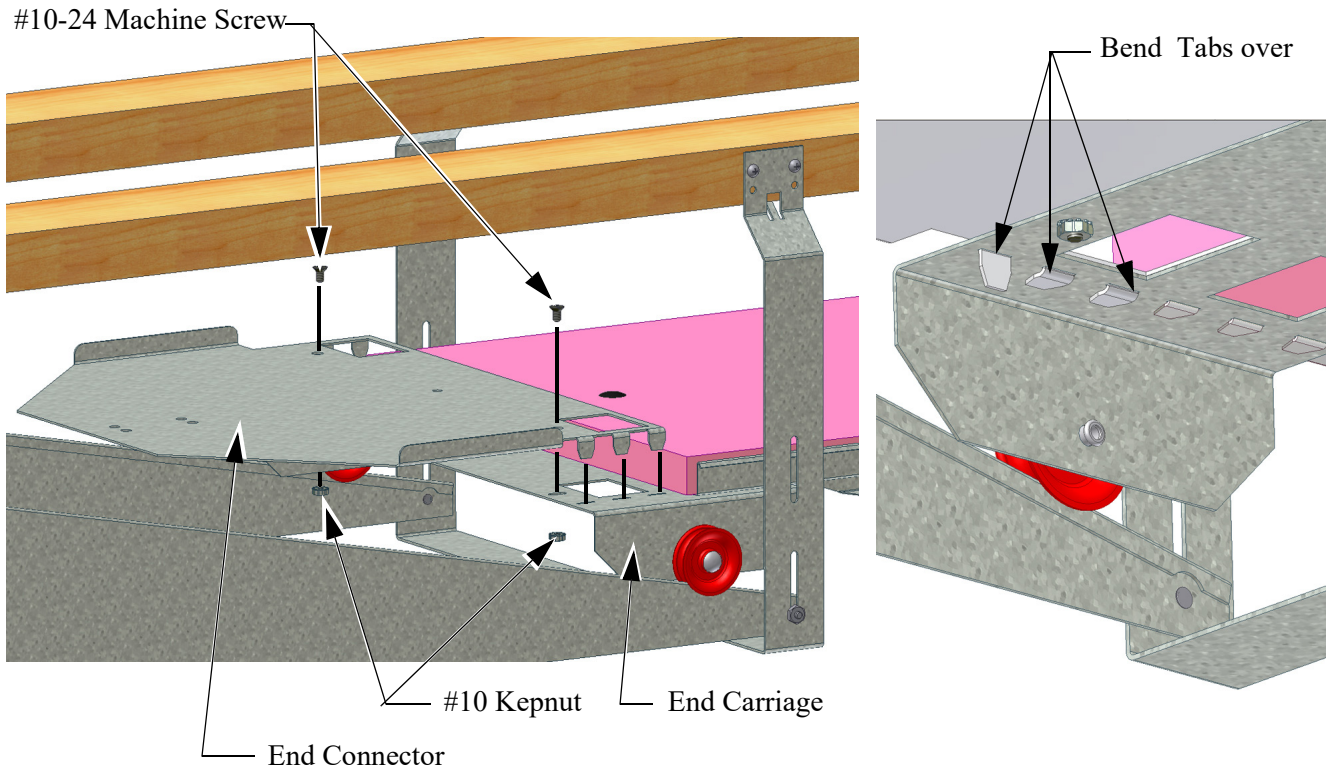


End Connectors

Attach End Connectors at both ends if installing a 6" or 9" System.

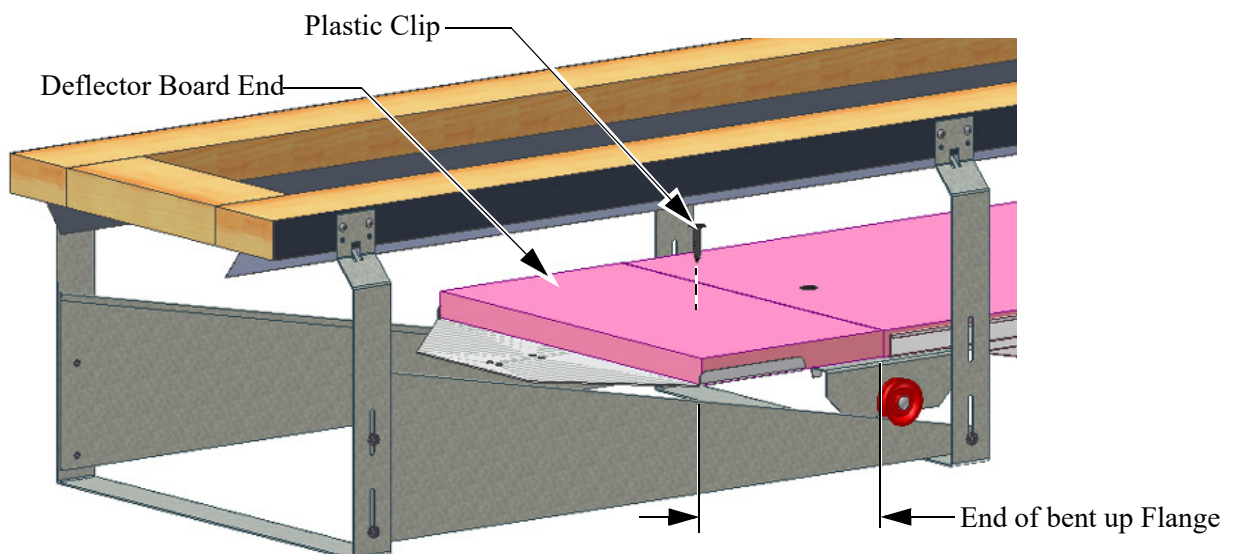
If installing an 18" System, Only install an End Connector at the Pull end of the Inlet. An End connector is not required at the Spring end of the 18" System. See **(18" Spring Return Kit Part No. 56522)** on page 15.

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**.



Deflector Board at End Connectors

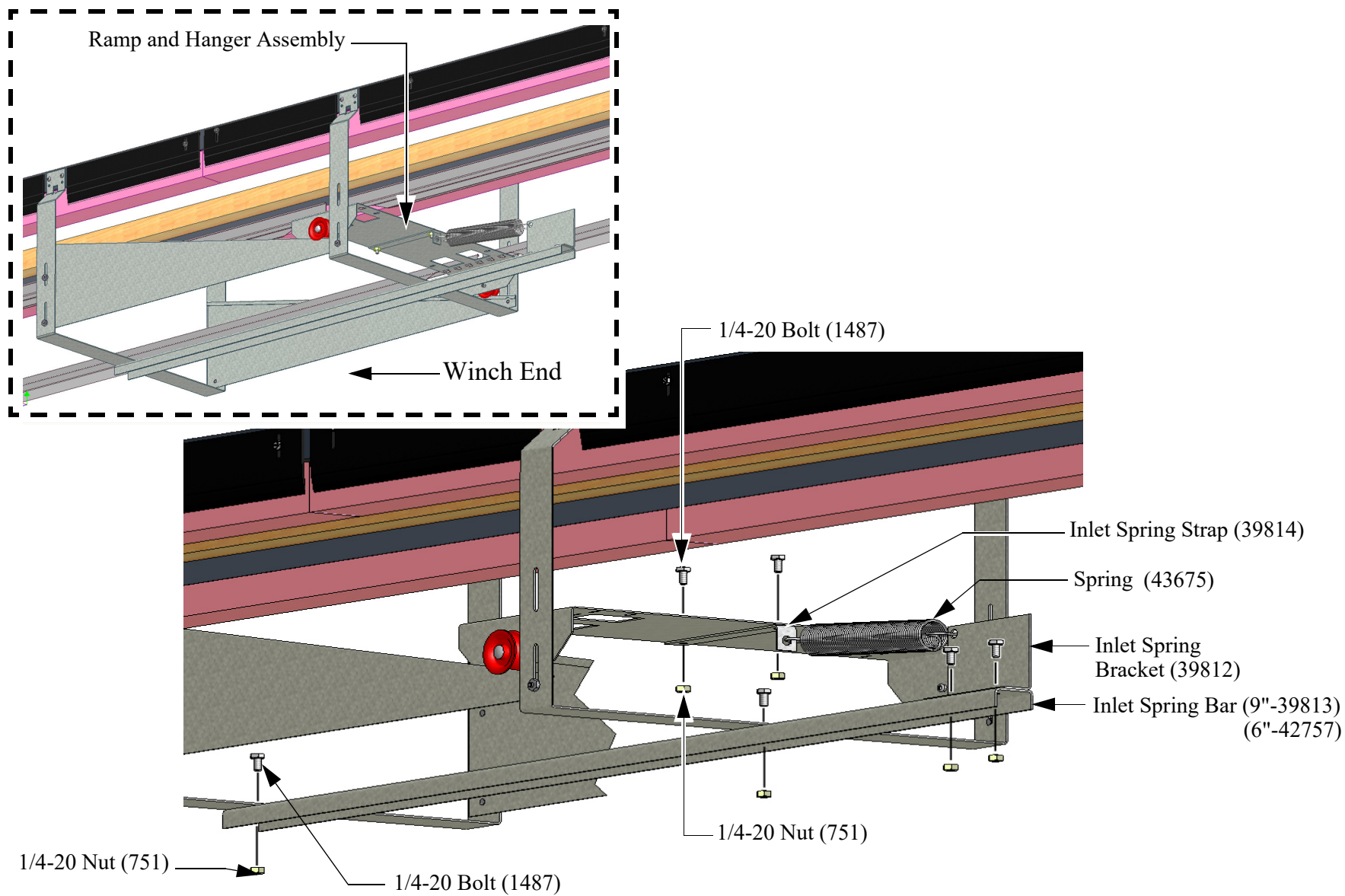
Cut a Deflector Board (Item 1) long enough to reach the end of the bent up flange on the End Connector as shown in **Figure 8 below**. Use a small philips driver, nail, etcetera, to poke holes through the Deflector Board using the holes in the End Connector as a guide. Attach it with a Plastic Clip (Item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



Spring Return Installation

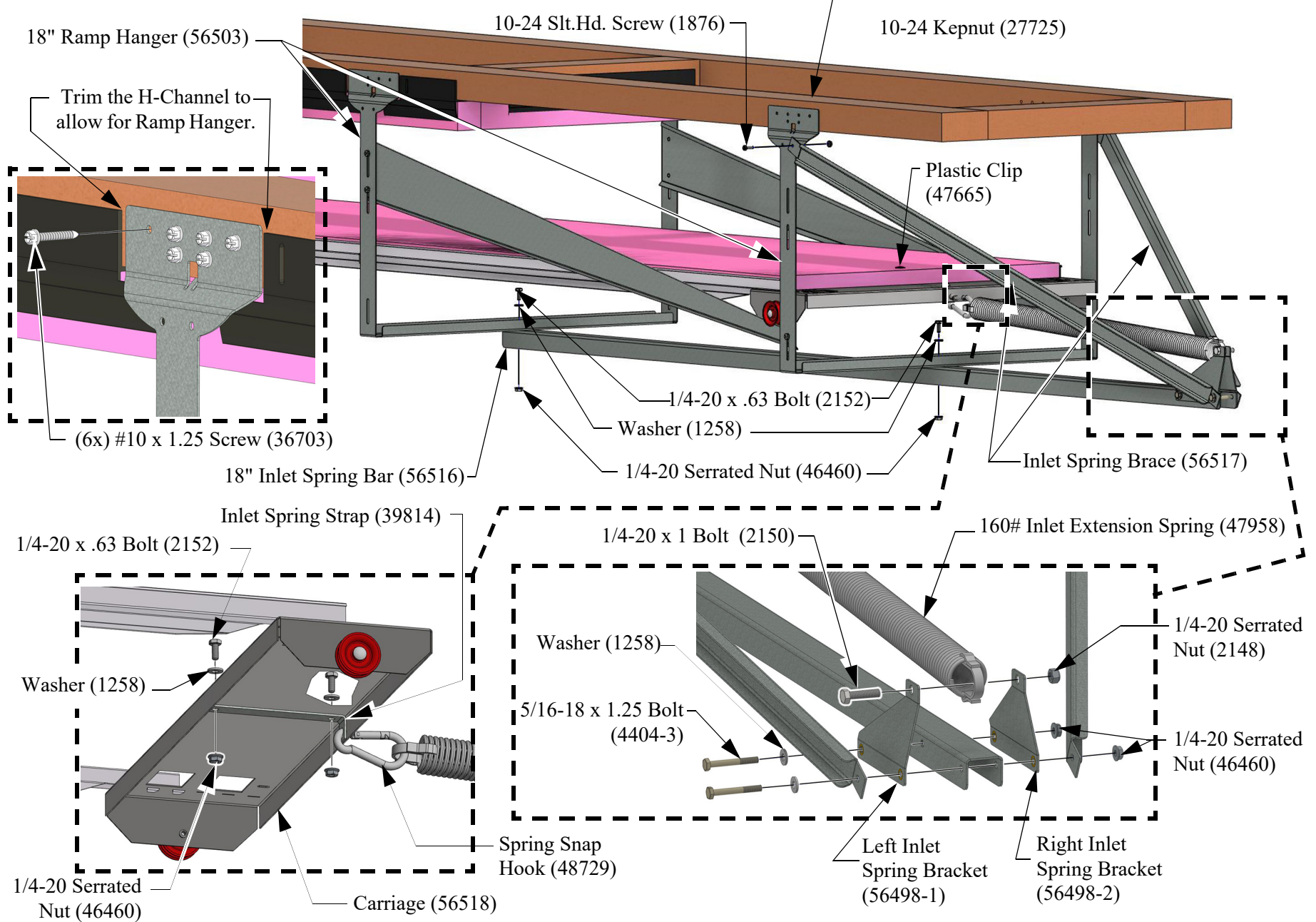
(6" Spring Return Kit Part No. 39816) (9" Part No. 43134)

Note: Do not install the Spring at the end of the system. The Spring is **not** to be attached to the End Connector shown on the previous page.



(18" Spring Return Kit Part No. 56522)

Note: Leave Hardware loose until completely assembled. Tighten when completely assembled. Do not over tighten the **(2148)** Nut so Spring can move freely.

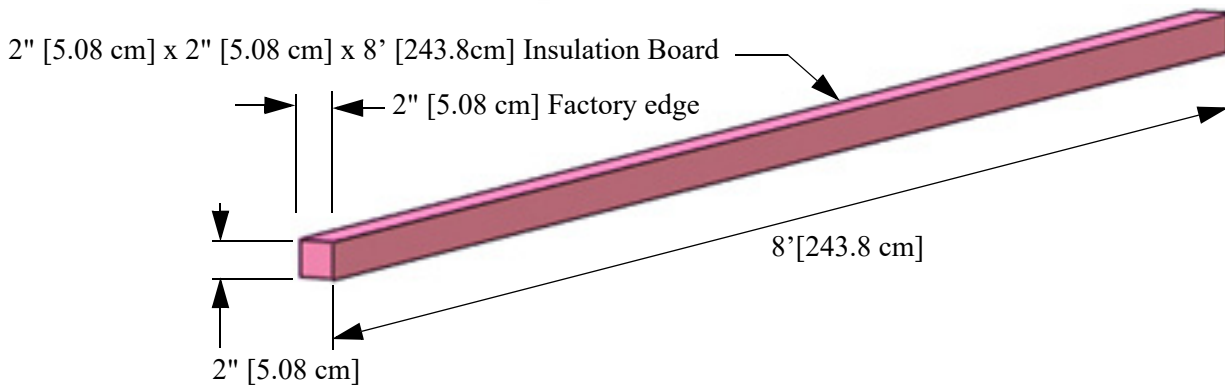
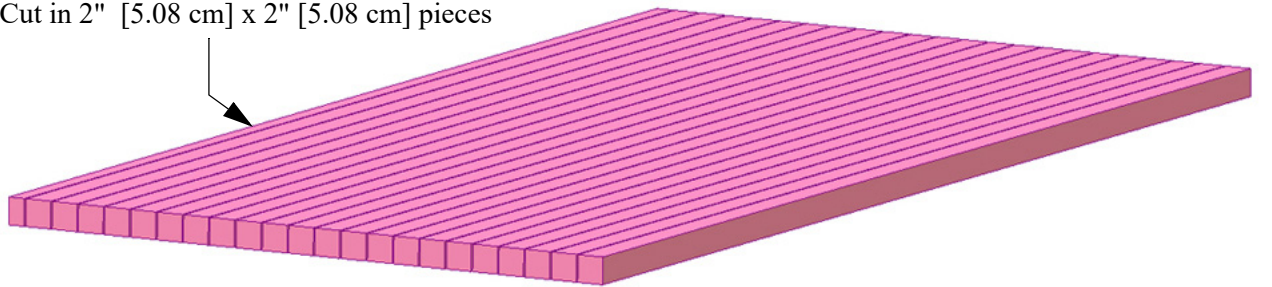


Top Seal

Cutting Insulation Board

The styrofoam board used in the Inlet must be purchased and cut to fit inside the Top Seal Channel. Cut the styrofoam board into 2" [5.08 cm] x 2" [5.08 cm] x 8' [243.8 cm] pieces. (See Figure below).

Cut in 2" [5.08 cm] x 2" [5.08 cm] pieces



Inserting 2" [5.08 cm] Insulation Board in H-Channel

It is much easier to insert the 2" [5.08 cm] 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" [5.08 cm] 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.

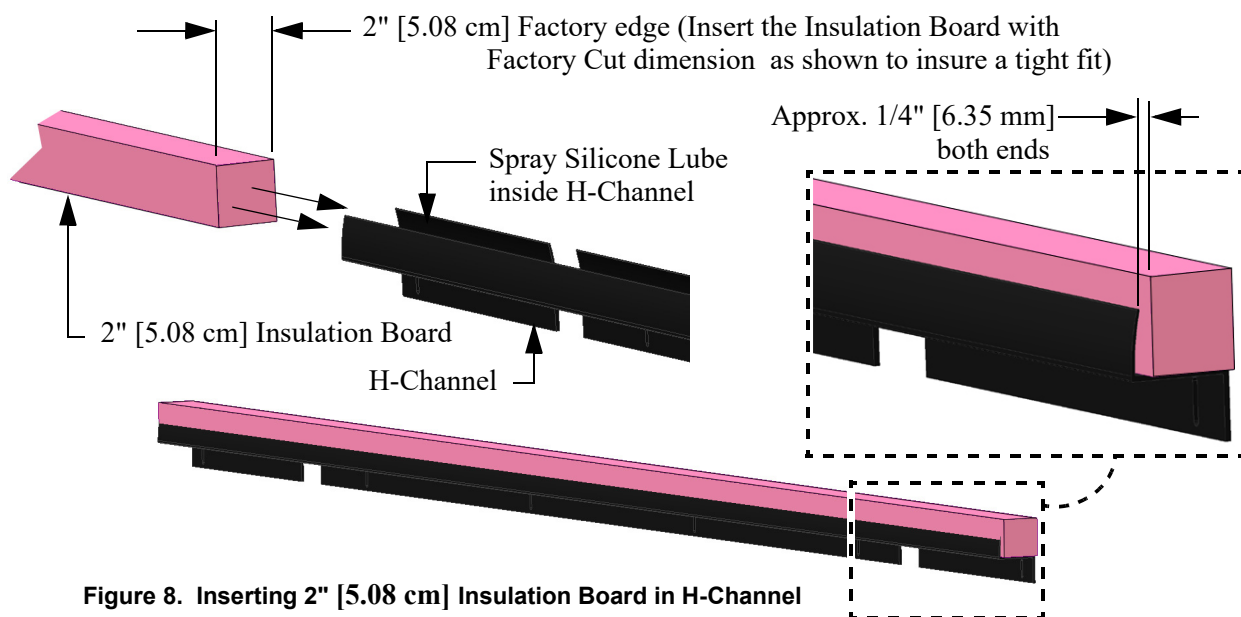
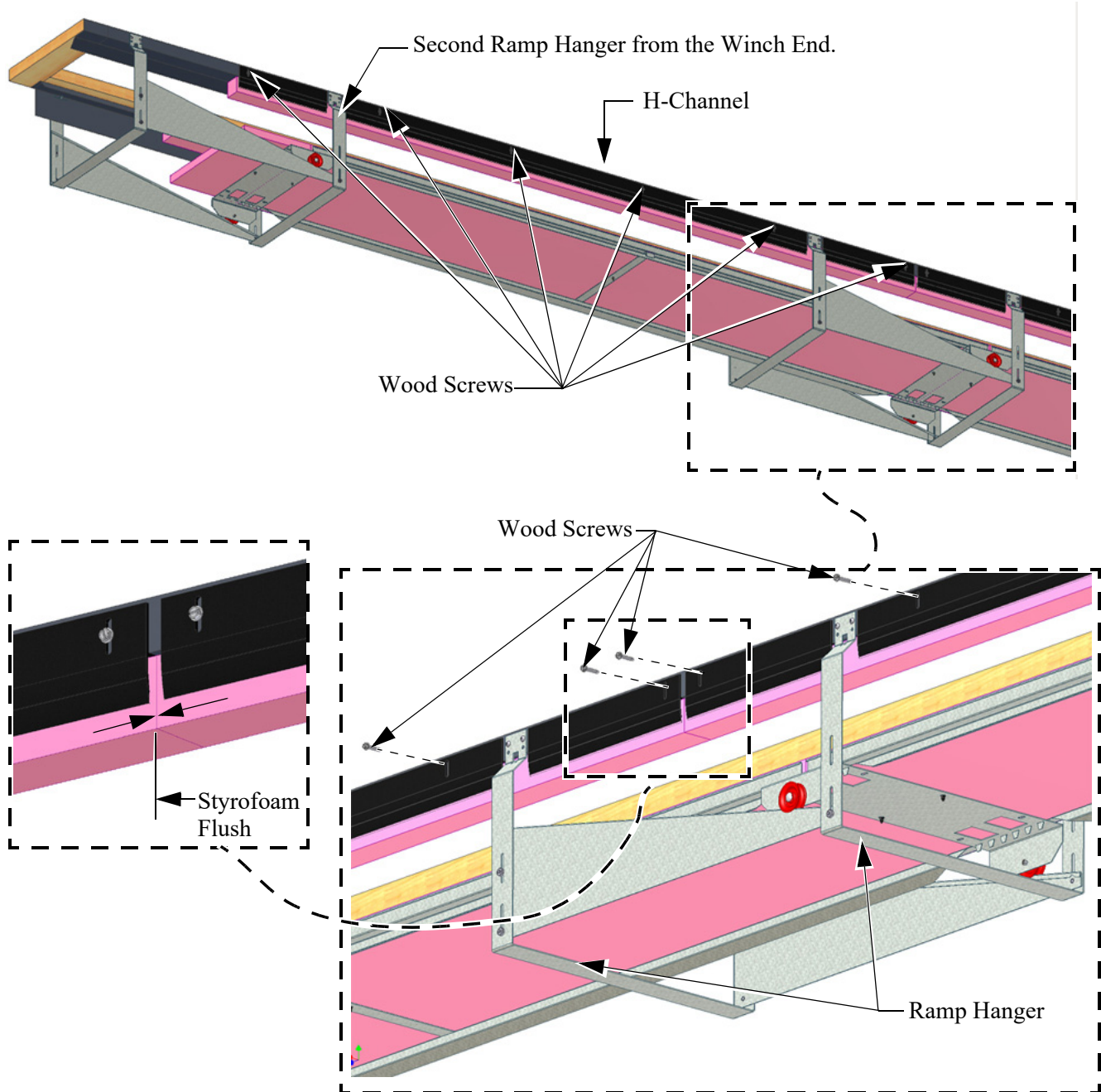


Figure 8. Inserting 2" [5.08 cm] Insulation Board in H-Channel

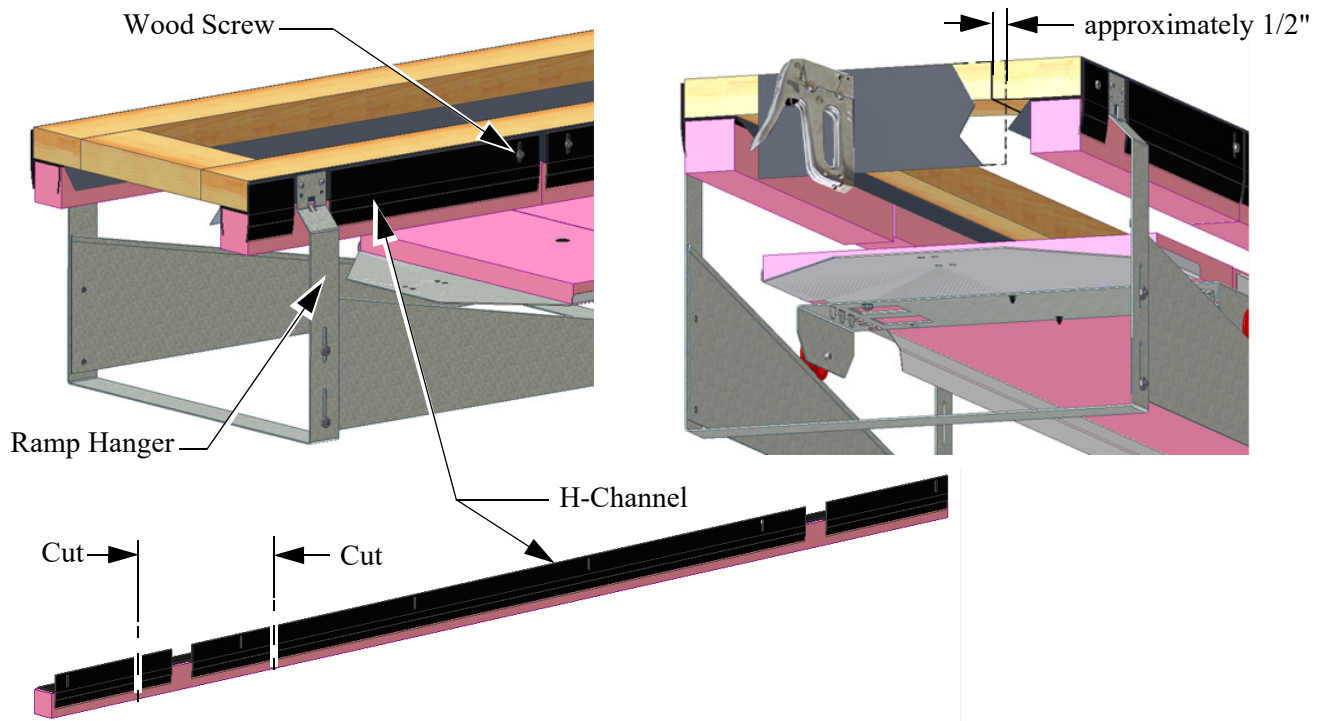
Attaching the Top Seal

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.

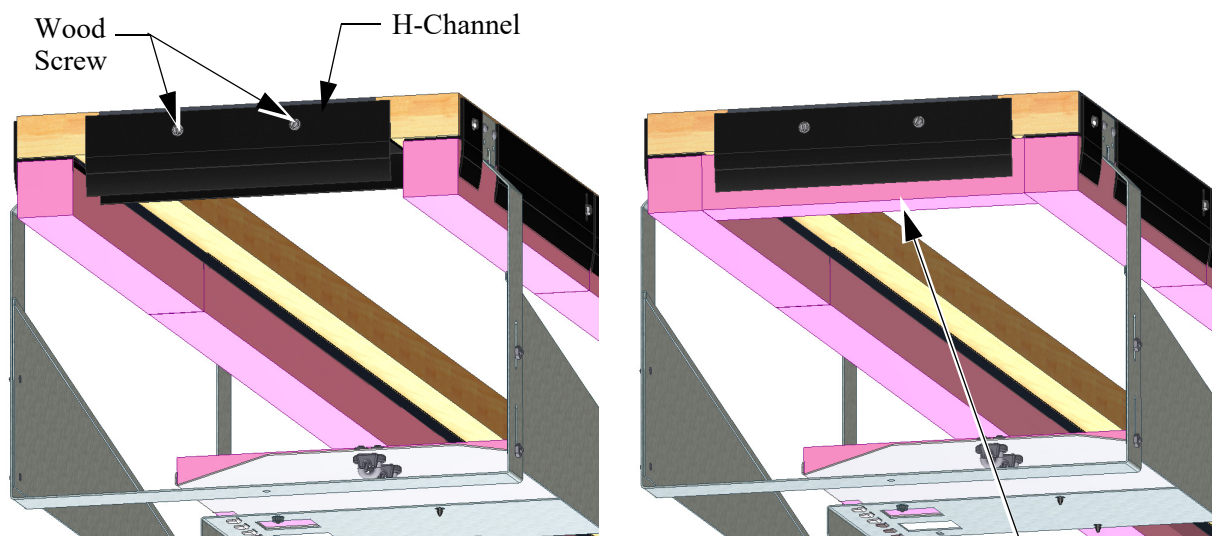


Top Seal Ends

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" [5.08cm] Foam to fit the H-Channel and slide it in place. Make sure the 2" [5.08cm] 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" [12.7 cm] Gray Seal to the Mounting Board at both ends of the Inlet. Extend the Seal approximately 1/2" [12.7mm] past the ends of the end as **shown**.



Cut a piece of H-Channel as **shown below** and attach with Wood Screws. Cut a piece of 2" [5.08cm] Insulation Board to length and slide it into the End H-Channel as **shown**.



Cut 2 x 2 [5.08 x 5.08] Insulation Board to fit and slide into H-Channel.

Power Unit Hookup

When properly installed, the TURBO-HOUSE Inlet requires approximately **7 lbs [3.17 kg] per 8 foot [243.8cm] section** of pull to close the inlet completely against the seal. The power unit must match the load requirements of the Inlet system.

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

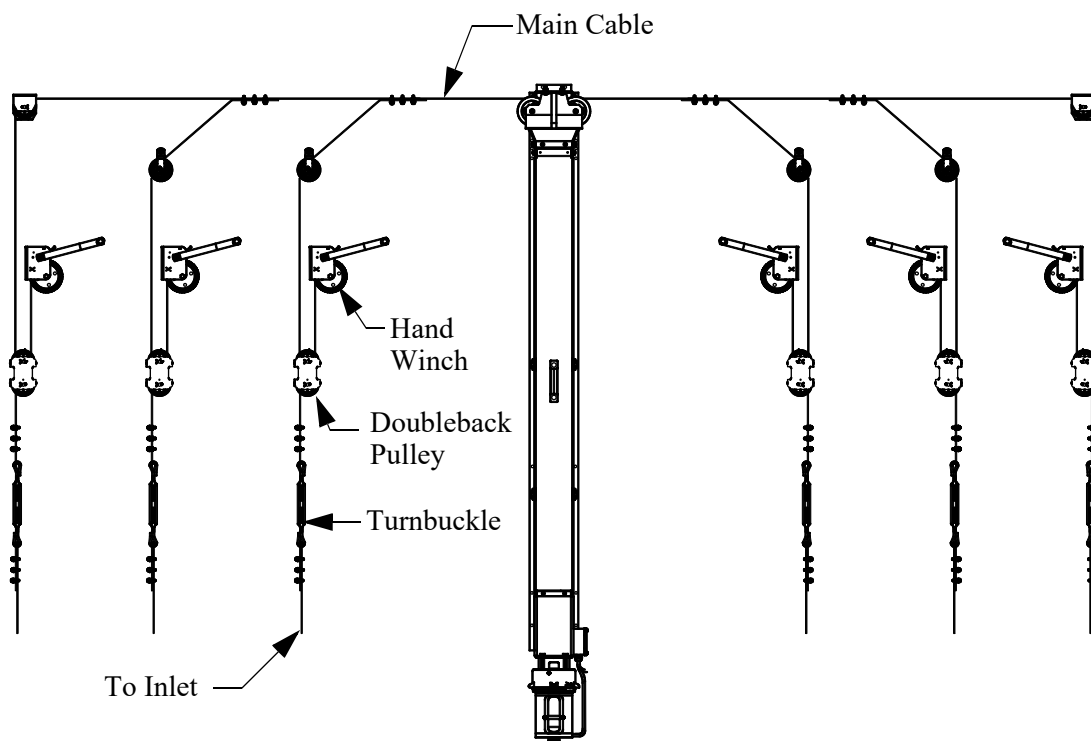
Refer to this formula to determine the proper size of power unit.

System load = number of 8 foot [243.8cm] sections X 7 (lbs required to pull each section) ÷ 2 (reduced load through turnback pulley).

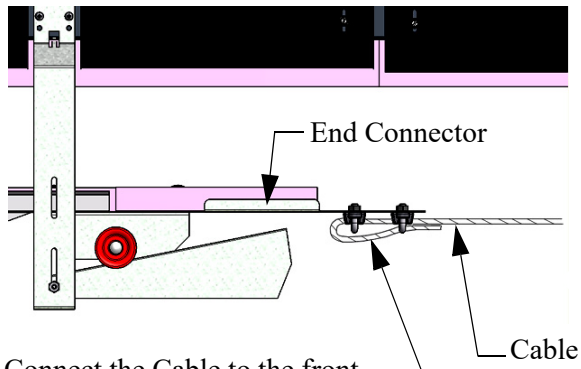
Example: System using (400) 8' [243.8cm] sections.

$400 \times 7 \div 2 = 1,400 \text{ lbs (635 kg) of pull.}$

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.

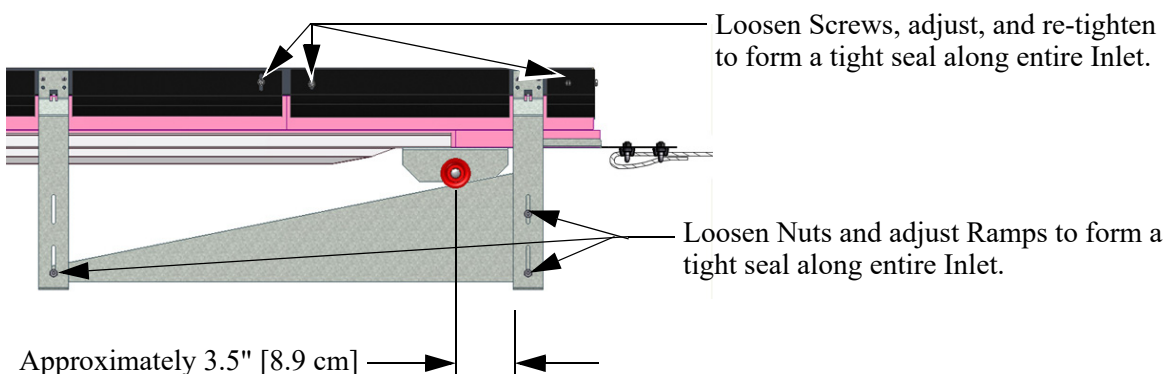
Final Adjustment

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

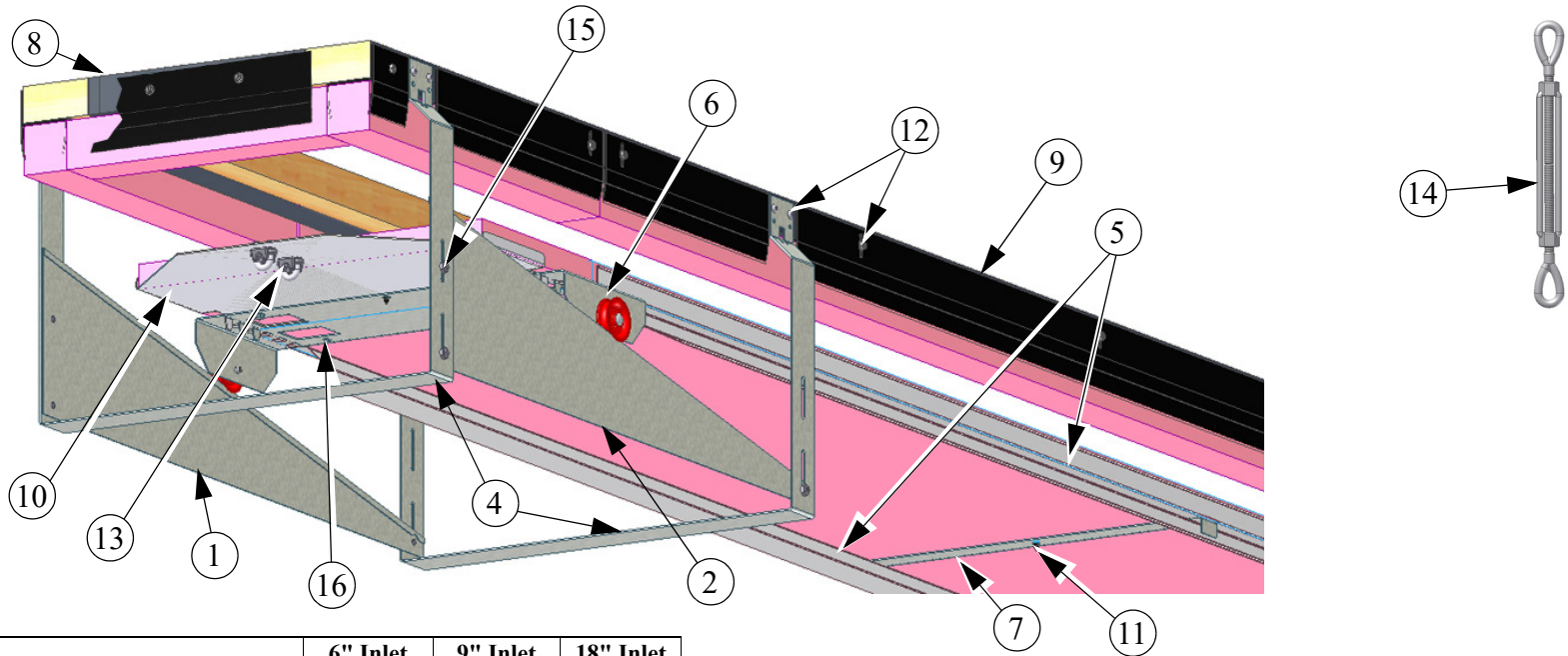
The TURBO-HOUSE Inlets may be controlled by the Chore-Time Automatic Static Pressure Inlet Control. The pressure setting on the Inlet Control should be set to operate at 0.05" static pressure. The pressure sensor bottle(s) for the Inlet Control should be located so that the control senses the pressure 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.

Part Numbers

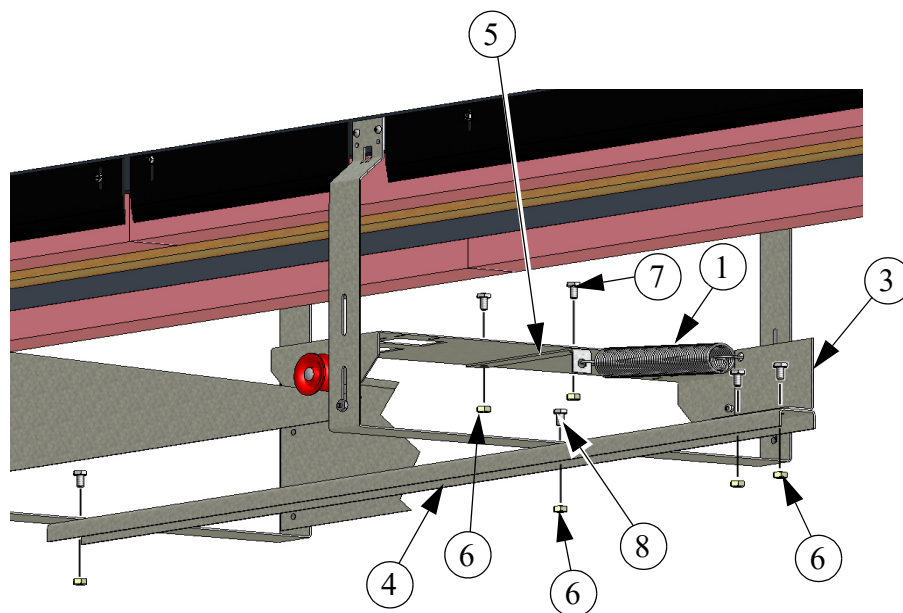
Inlet Part Numbers



Item	Description	6" Inlet	9" Inlet	18" Inlet
		Part No.		
1	Left Side Ramp	27069-1	42753-1	52695-1
2	Right Side Ramp	27069-2	42753-2	52695-2
3	3/16" 7 x 19 Aircraft Cable (not shown)	13976	13976	13976
4	Ramp Hanger (Standard Side Mount 12")	28789	42752	52692
	Ramp Hanger (Under Board Mount 12")	29678	--	--
	Ramp Hanger (Standard Side Mount 9")	41347	--	--
	Ramp Hanger (Under Board Mount 9")	30600	--	--
5	Side Rail	30123	30123	30123
6	Carriage Assembly	30125	42754	52697
7	Side Rail Support	45545	42756	52699
8	Plastic Seal 10 Mil. x 5" x 500'	49199	49199	49199
9	Top Seal Channel	48656	49438	52694
10	End Connector	49548	49549	52727

Item	Description	6" Inlet	9" Inlet	18" Inlet
		Part No.		
11	Foam Clip	47665	47665	47665
12	#10-16 x 1 Screw	28199	28199	28199
13	Cable Clamp 3/16"	732	732	732
14	5/16" Turnbuckle	27389	27389	27389
15	#10-24 Kepnut	27725	27725	27725
16	10-24 x .38 Machine Screw	8636-2	8636-2	8636-2

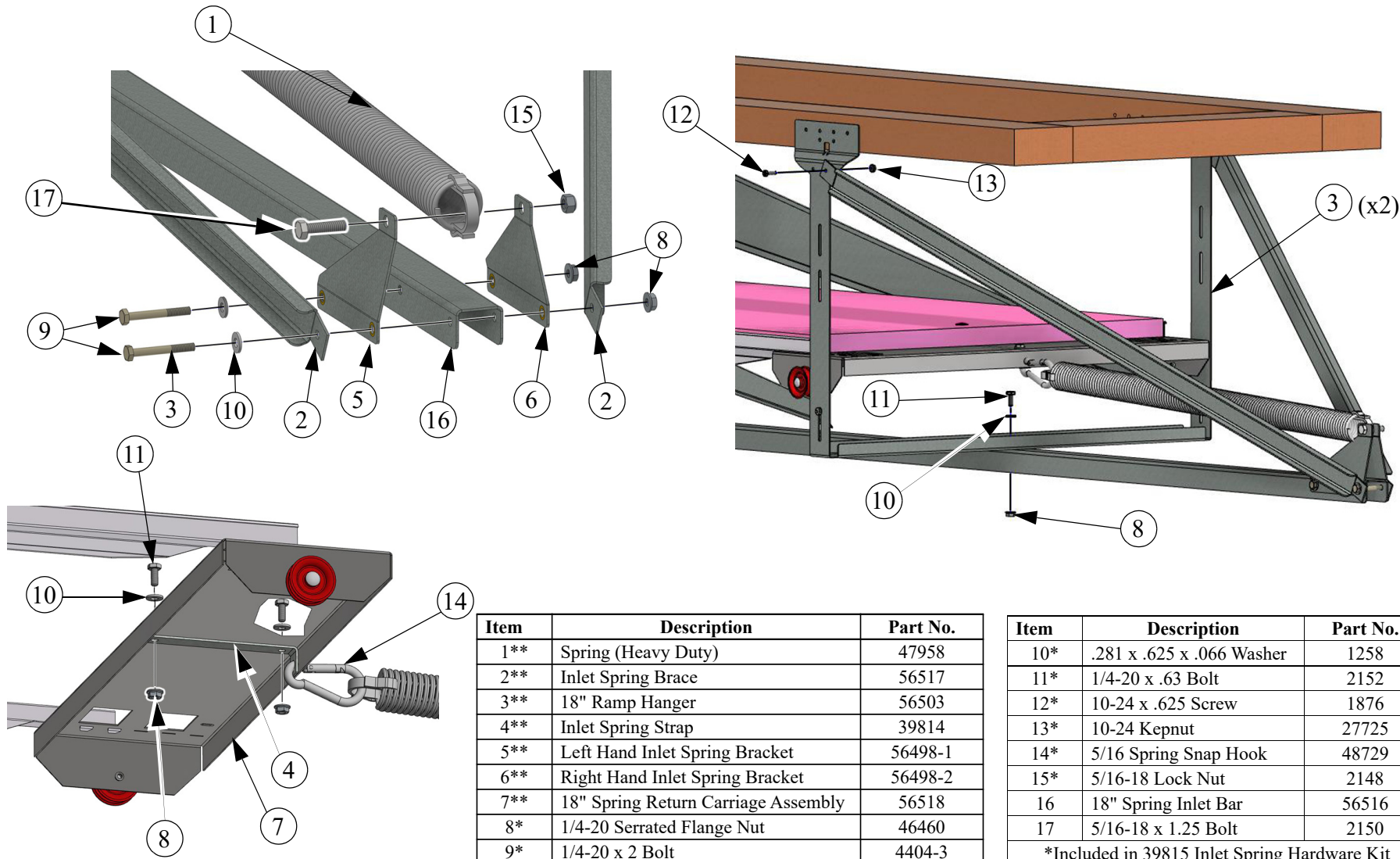
Spring Return Kit for 6" and 9" Systems (39816)



Item	Description	Part No.
1	Spring, 1.75 x 7.625	43675
2**	Spring (Heavy Duty)	47958
3	Inlet Spring Bracket	39812
4	Inlet Spring Bar	39813
5	Inlet Spring Strap	39814
6	1/4-20 Serrated Flange Nut	46460
7	1/4-20 x .63 Bolt	2152
8**	1/4-20 x 2 Bolt	4404-3

Item	Description	Part No.
9**	.281 x .625 x .066 Washer	1258
10**	10-24 x .625 Screw	1876
11**	10-24 Kepnut	27725
12**	5/16-18 Lock Nut	2148
13**	5/16-18 x 1.25 Bolt	2150
*Included in 39815 Inlet Spring Hardware Kit		
**Included in 39815, but Not Used on 6" or 9" System.		

Spring Return Kit 18 Inch (56522)



Item	Description	Part No.
1**	Spring (Heavy Duty)	47958
2**	Inlet Spring Brace	56517
3**	18" Ramp Hanger	56503
4**	Inlet Spring Strap	39814
5**	Left Hand Inlet Spring Bracket	56498-1
6**	Right Hand Inlet Spring Bracket	56498-2
7**	18" Spring Return Carriage Assembly	56518
8*	1/4-20 Serrated Flange Nut	46460
9*	1/4-20 x 2 Bolt	4404-3

Item	Description	Part No.
10*	.281 x .625 x .066 Washer	1258
11*	1/4-20 x .63 Bolt	2152
12*	10-24 x .625 Screw	1876
13*	10-24 Kepnut	27725
14*	5/16 Spring Snap Hook	48729
15*	5/16-18 Lock Nut	2148
16	18" Spring Inlet Bar	56516
17	5/16-18 x 1.25 Bolt	2150
*Included in 39815 Inlet Spring Hardware Kit		
**Included in 52696 Inlet Spring Return Kit		

Row Section Start Kits 6" (39816), 9" (43134), and 18" (52696)

		41050 6" Inlet	43135 9" Inlet	52693 18" Inlet
Item	Description	Part No.		
1	Carriage, Assy	30125	42754	52697
2	Turbo Inlet (Left Side) Ramp	27069-1	42753-1	52695-1
3	Turbo Inlet (Right Side) Ramp	27069-2	42753-2	52695-2
4	Kepnut, #10-24	--	--	27725
5	Side Rail	30123	30123	30123
6	10-24 x .38 Machine Screw	8636-2	8636-2	8636-2
7	Foam Clip	47665	47665	47665
8	5/16" Turnbuckle	27389	27389	27389
9	10-16 x 1 HH SHML Screw	28199	28199	28199
10	Side Rail Support	45545	42756	52699
11	Turbo End Connector	49548	49549	52727
12	3/16" Cable Clamp	--	--	732

8' Inlet Extension Kit 6"(41049), 9" (43133), and 18" (52698)

		41049 6" Inlet	43133 9" Inlet	52698 18" Inlet
Item	Description	Part No.		
1	Carriage, Assy	30125	42754	52697
2	Turbo Inlet (Left Side) Ramp	27069-1	42753-1	52695-1
3	Turbo Inlet (Right Side) Ramp	27069-2	42753-2	52695-2
4	Kepnut, #10-24	27725	27725	27725
5	Side Rail	30123	30123	30123
6	Foam Clip	47665	47665	47665
7	10-16 x 1 HH SHML Screw	28199	28199	28199
8	Side Rail Support	45545	42756	52699

Miscellaneous Parts

		6" Inlet	9" Inlet	18" Inlet
Item	Description	Part No.		
1	7 Ga. Galv. Round Wire	E1401	E1401	E1401
2	Baffle Ventilation Curtain	P4100	P4100	P4100
3	Curtain Baffle Tack Strip	50333	50333	50333
4	Short Top Seal Channel	48364	48364	--
5	Center Adjustment Assembly	28992	--	--
6	Connector Bar	27596	--	--
7	Side Rail	28790	--	--
8	End Connector	28791	--	--

This page left blank intentionally.....



**Made to work.
Built to last.**

Revisions to this Manual

Page No.	Description of Change	ECO
Various	Added 18" Inlet and Spring Return Information Revisions B and C were never processed.	34425
5	Added Airflow Capacity and Winch Pull Information	
24	Added Kits	
7	Changed Mounting Board Length "X" for 6" & 9" Systems	
22,23	Separated Spring Return bom's	

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

**CTB Inc.
P.O. Box 2000 • Milford, Indiana 46542-2000 • U.S.A.
Phone (574) 658-4101 • Fax (877) 730-8826
E-Mail: ctb@ctbinc.com • Internet: <http://www.ctbinc.com>**