CHORE-TIME®

TURBO™ AIR INLET

Installation and Operation Manual

MV915A12-1091

WARRANTY INFORMATION

Chore-Time Equipment warrants each new product manufactured by it to be free from defects in material or workmanship for one year from the date of initial installation by the original purchaser. If such a defect is found by Chore-Time to exist within the one year period, Chore-Time 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.

Additional extended warranties are herewith provided to the original purchaser as follows:

1. RLX Fans, less motors, for three years from date of installation.
2. Poultry feeder pans that become unusable within five years from date of installation. Warranty prorated after three years usage.
* 3. Rotating centerless augers, excluding applications involving High Moisture Corn (exceeding 18%), for ten years from date of installation. Note: MULTIFLO® and applications involving High Moisture Corn are subject to a one year warranty.
4. Chore-Time manufactured roll-formed steel auger tubes for ten years from date of installation.
5. Laying cages that become unusable within ten years. Warranty prorated after three years usage.
* 6. ULTRAFLO® Auger and ULTRAFLO® Feed Trough (except ULTRAFLO® Trough Liners) are warranted for a period of five (5) years from date of original purchase against repeated breakage of the auger or wear-through of the feed trough.

Conditions and limitations:

1. The product must be installed and operated in accordance with instructions published by Chore-Time or warranty will be void.
2. Warranty is void if all components of a system are not supplied by Chore-Time.
3. This product must be purchased from and installed by an authorized Chore-Time dealer 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 this 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.

Chore-Time shall not be liable for any consequential or special damage which any purchaser may suffer or claim to have suffered 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 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 AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Any exceptions to this warranty must be authorized in writing by an officer of the company. Chore-Time reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

*See separate "WARRANTY ADDITION" as to these products

CHORE-TIME EQUIPMENT, A Division of CTB, Inc.
P.O. Box 2000, Milford, Indiana 46542-2000 U. S. A.

SAFETY INFORMATION

CHORE-TIME is concerned about the safety of its customers. Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intacted and easy to read at all times. Replace missing or damaged safety signs.

Safety-Alert Symbol

This is a safety-alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury.

Signal Words

Signal words are used in conjunction with the safety-alert symbol to identify the severity of the warning.

DANGER.....identifies immediate hazards which WILL result in severe personal injury or death.

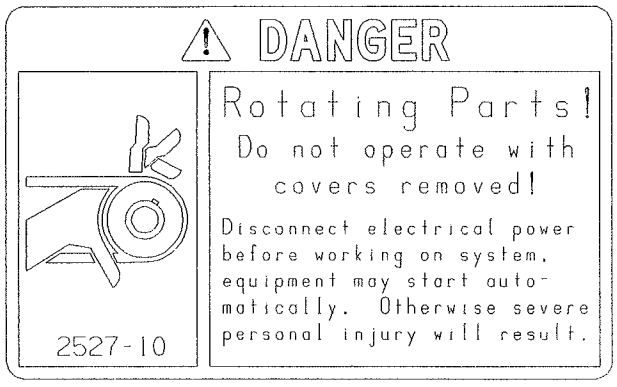
WARNING.....identifies hazards or unsafe practices which COULD result in severe personal injury or death.

CAUTION .....identifies hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

DANGER--ROTATING PARTS

This decal is placed on the Anti-Reverse Switch Bracket of the Winch.

Severe personal injury will result, if the equipment is operated without covers properly installed.



HV841.32 3/90

DANGER--ELECTRICAL HAZARD

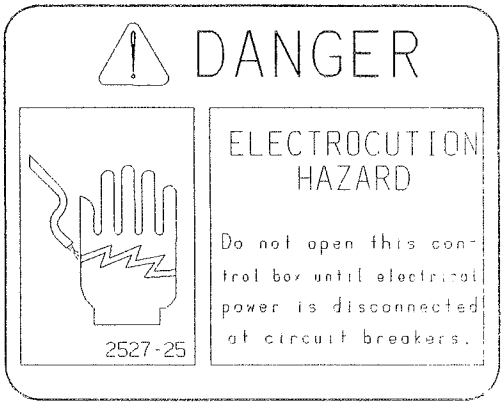
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

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.



MA580.14 12/89

THANK-YOU

The employees of CHORE-TIME would like to thank you for your recent purchase of the TURBO Air Inlet System. We are certain the equipment you have purchased, when properly installed, will provide years of trouble free service. If a problem should arise, your CHORE-TIME distributor can supply the necessary information to get your system running.

Please read the Safety Information on page 3 and the installation instructions in this manual prior to beginning the installation. This manual is designed to give necessary information on the installation of your TURBO Air Inlet System.

Please pay special attention to the electrical wiring notes, they are there for your protection.

Also, notice the ORDERING INFORMATION on this page, it will save confusion and insure timely delivery of repair parts, etc.

This bar denotes changes made to this instruction since the last printing. It will appear in the left or right hand border, near the revised information.

Other Instructions Relating to the TURBO Air Inlet System

--MV858 Light Duty Winch Manual--

--MV841 Heavy Duty Winch Manual--

--MV765 Static Pressure Inlet Control Manual--

--MV806 24715 Six Stage Thermostat Instruction--

ORDERING INFORMATION

1. **All parts should be ordered by PART NUMBER and DESCRIPTION as given in the PARTS LIST.**
2. **Parts are always billed when shipped. If a returned part is defective, and within warranty period, credit will be allowed against billing.**
3. **CHECK SHIPMENT FOR DAMAGES AND SHORTAGES.**
4. **All claims for damages or shortages resulting from shipment must be filed with the carrier.**

CAREFULLY READ THE INSTRUCTIONS PRIOR TO BEGINNING THE INSTALLATION.

WATCH FOR WARNING AND DANGER DECALS ON THE EQUIPMENT.

REPLACE ANY DAMAGED OR LOST DECALS.

THEY ARE THERE FOR YOUR PROTECTION.

TOOLS NEEDED FOR INSTALLATION

Open End Wrenches (3/8", 7/16")
Side Cutters
Nut Runner (3/8", 7/16")
Standard Socket & Ratchet Set
Electric Drill and Bits
Tape Measure
Regular Screwdriver
Level
Channel Lock Pliers
Hammer
Cable Cutters

CHORE-TIME®

Made to work.

Built to last.

CHORE-TIME®

Use Only Authorized Chore-Time Replacement Parts.

Introduction

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

The TOTAL area in square inches for 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 Inlet. See your building plans or measure the existing dimension to check this requirement.

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

Installation

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** shows cross-section of TURBO Air Inlet ceiling construction options for blown insulation and rigid styrofoam board insulation.

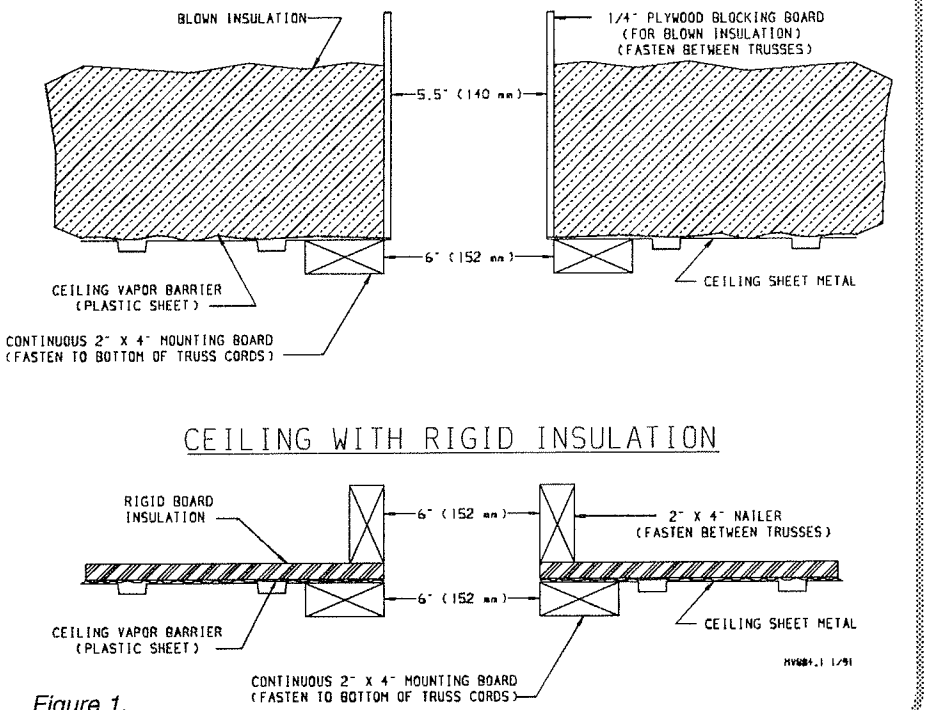


Figure 1.

For best results, the ceiling slot length should be an even increment of 8 feet. The 2" x 4" (50 x 100 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 avoid trimming 6 or 8 foot parts (Inlet Curtain Assemblies and Side Rails). Therefore, the total length of the 2" x 4" (50 x 100 mm) mounting board should be as follows:

Mounting Board Length = Slot Length + 2 feet (610 mm).

Mounting and Assembly of Inlet Components

To install the TURBO Inlet, start with the Ramp Hanger at the end of the slot nearest 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 conduits. Refer to the section titled "Power Unit Hookup" for additional information concerning winch location, cable connections, and electrical hookups.

RAMP HANGERS

Figure 2 shows the location of the Ramp Hangers on the mounting board which are paired in sets of two. The second Ramp Hanger is spaced every **21 1/4"** (54 cm) behind the first. The next set of Hangers is spaced **96"** (2.438 m) on center from the last set of Hangers.

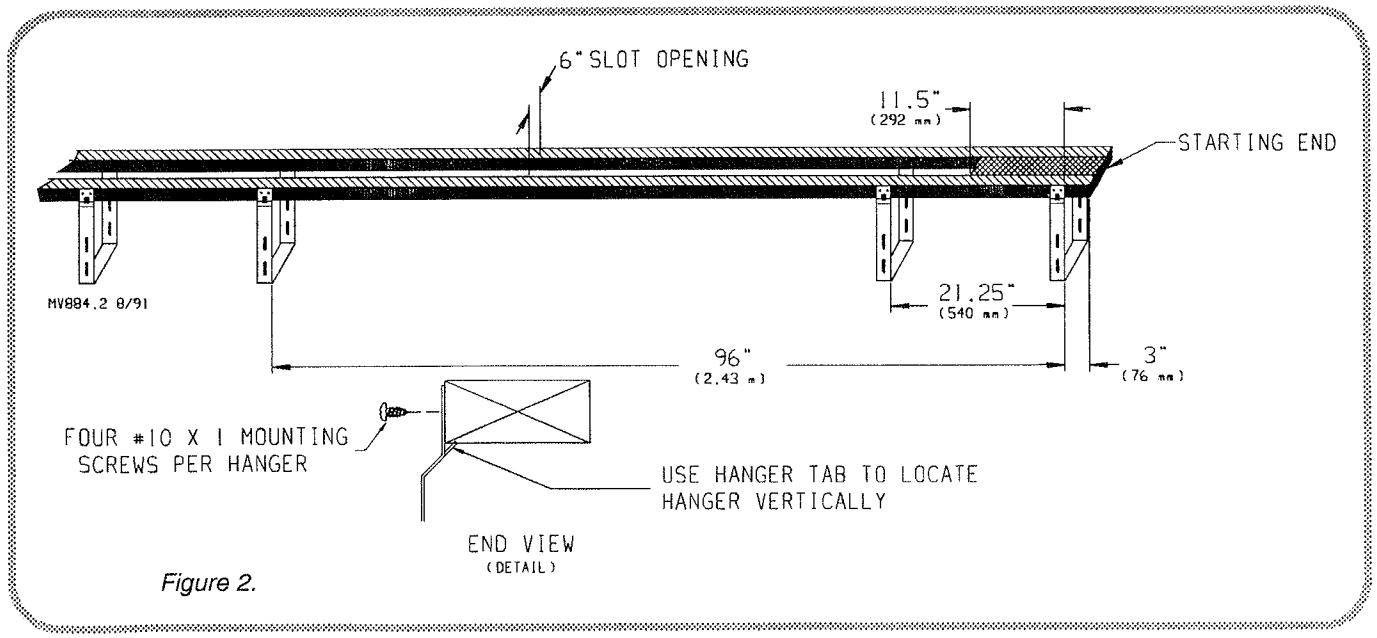


Figure 2.

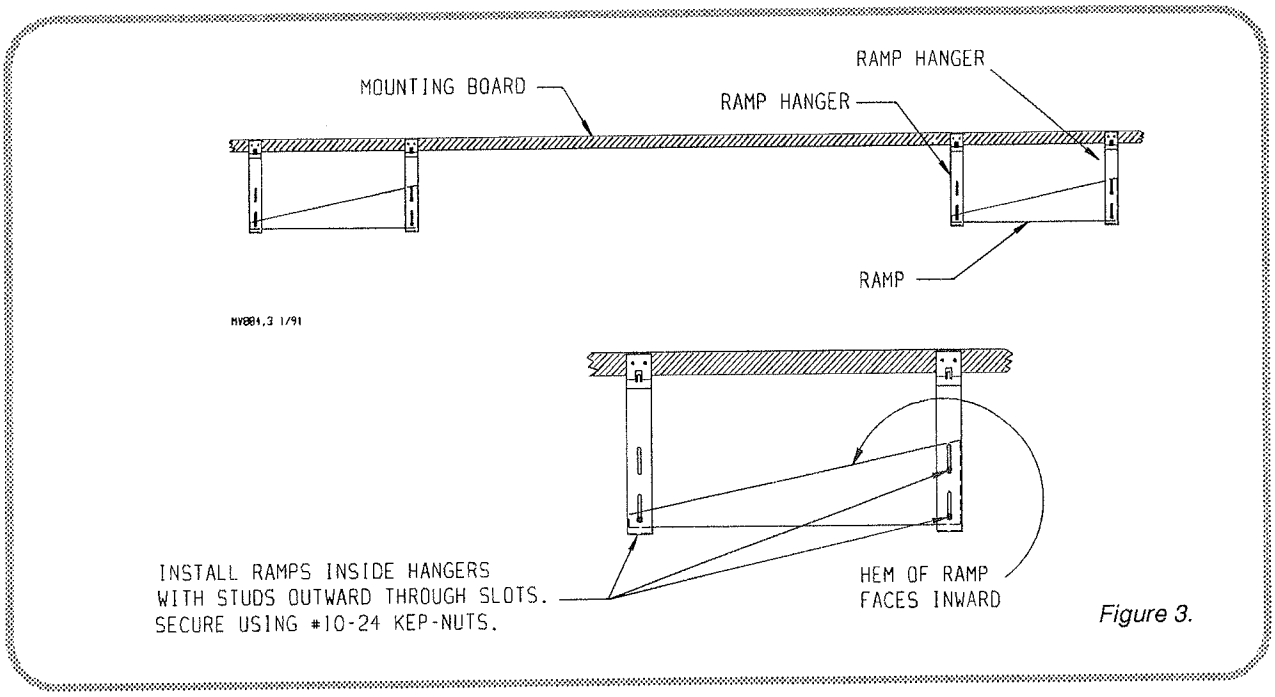


Figure 3.

RAMPS

Figure 3 shows the location of the Ramps. The Ramps are mounted inside of the mounted Hangers with the 3/8" hex head kep-nuts. The kep-nuts on the Ramps should not be fully tightened to allow for adjustment of ramps after the entire Inlet is mounted and the power unit is connected. For more information, see section titled "FINAL ADJUSTMENT."

Curtain Seal Assemblies

Figure 4 shows the location of the Inlet Curtain Seal Assemblies. The curtain assemblies required at the ends of the inlet rows measure 49 1/2" long and are positioned as shown in **Figure 4**. The remaining curtain seals are 72" long and extend 23" equally from each ramp hanger. The gap between the two seals is for regulating winter time ventilation. Fasten a 2x4x26.5" board between the curtain seals as shown in detail "C" of figure 4. The board provides a defined surface opening for regulating air.

IMPORTANT: Install and position #10 x 1 mounting screws in slots of curtain seal assemblies to allow for expansion and contraction of parts. DO NOT OVERTIGHTEN. Allow a 1/4" gap between the 2x4x26.5 block and the plastic curtain mount as shown in Detail "C".

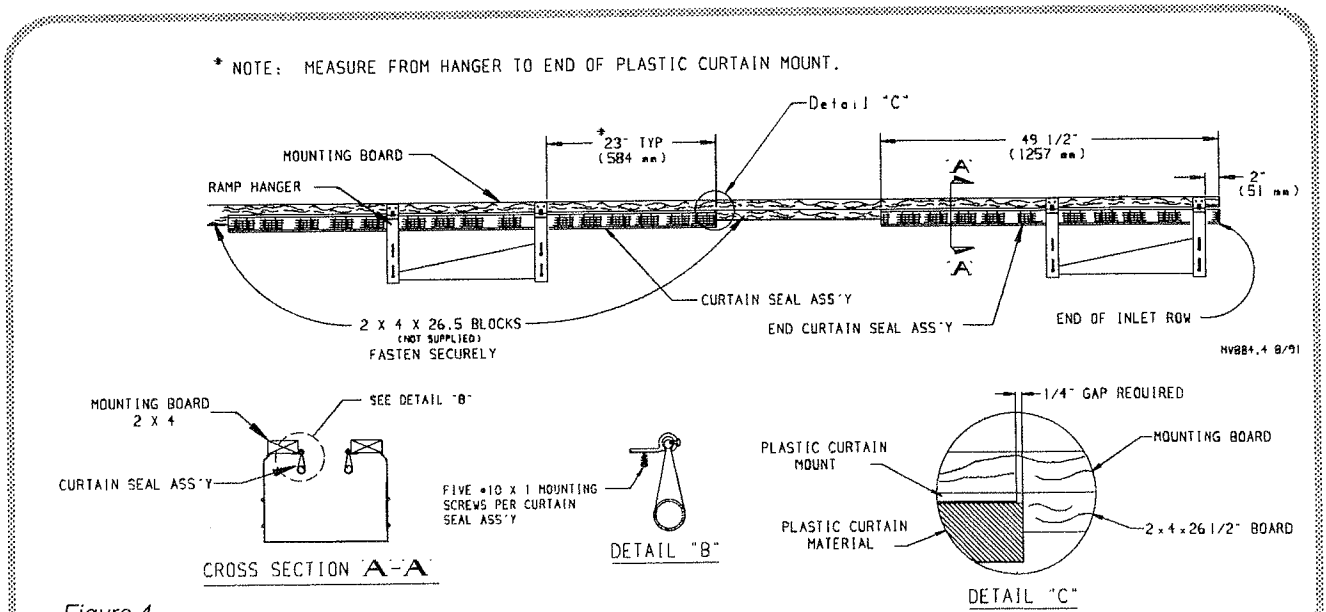


Figure 4.

CARRIAGES AND SIDE RAILS

Figure 5 shows the placement of the Carriages and the Side Rails. The Side Rails will be locked onto the Carriage by closing the tabs. Use channel lock pliers through the large square holes in the carriage to bend tabs. These tabs should be bent to limit motion between the Side Rails and the Carriage.

CONNECTOR BARS & END CONNECTORS

Figure 5 shows the placement of the Connector Bars and End Connectors. Place the studs on the Connector Bar through the holes in the ends of the Side Rails and fasten with Kep-nuts, as shown in Detail "B". An End Connector is required at both ends of the Inlet row and fastens to the end carriage with two tabs, two #10-24 x 3/8 countersunk machine screws, two #10-24 Kep-nuts, and two Connector Bars, as shown in Detail "A".

CENTER ADJUSTMENT ASSEMBLY

Position one center adjustment assembly per 8' section in the mid span of the side rail in the allocated slots. Refer to the final adjustment section for adjustments. See detail "C".

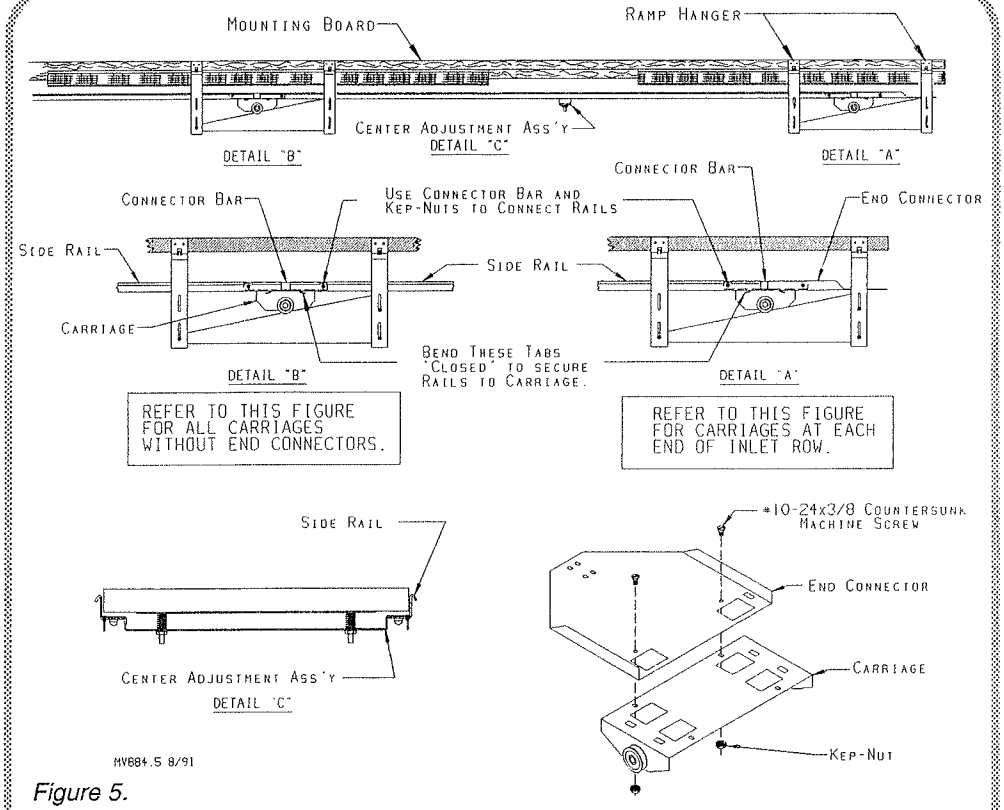


Figure 5.

DEFLECTOR BOARDS

The styrofoam board used in the TURBO Inlet must be purchased (and cut to width, if necessary) by the customer. Figure 6 gives the critical dimensions for the board. The boards can be added as the row is built or after the whole row is installed.

The board should be placed such that the ends butt against each other above the carriages.

Chore-Time recommends 1" thick styrofoam board with double sided aluminum foil backing for best results.

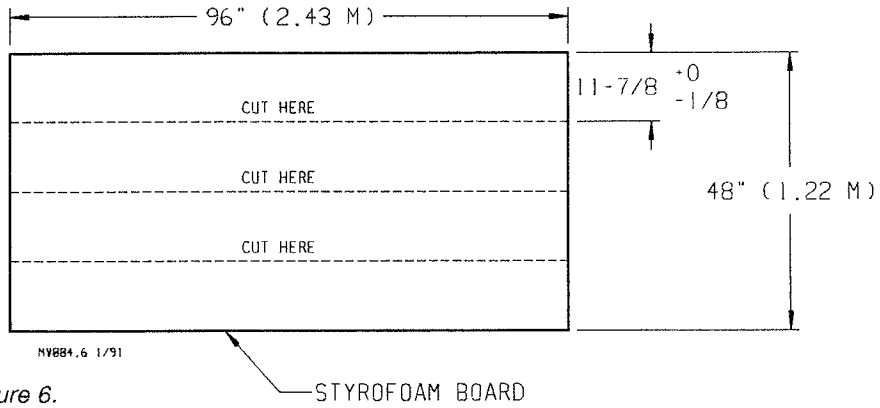


Figure 6.

SECURING DEFLECTOR BOARDS

The 8'x 11 7/8" boards should be secured to the carriages with two Christmas Tree Clips as shown in Figure 6A. To install, poke a hole through the board using the 1/4" hole in the carriages as a guide. After location of hole is made, depress Christmas Tree Clip down through the styrofoam board and into the carriage to fasten.

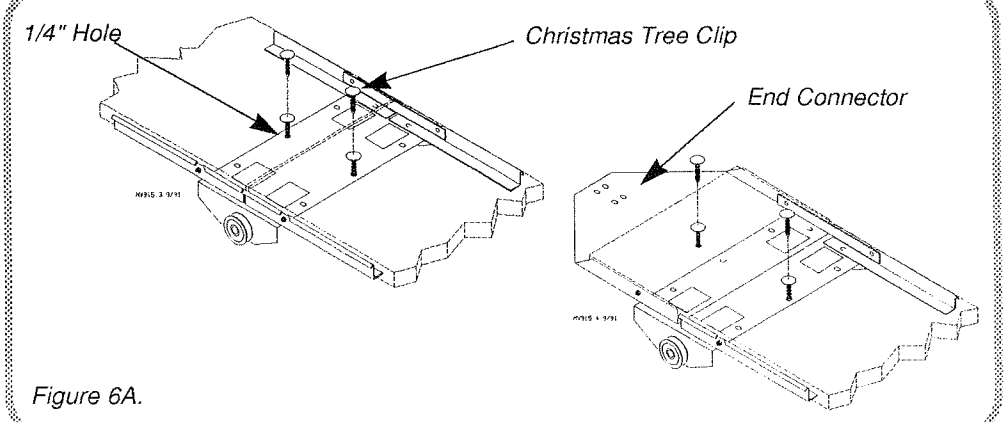


Figure 6A.

Power Unit Hook-Up

When properly installed, the TURBO Inlet requires approximately 4-1/2 pounds per 8 foot section of pull to close the inlet. Therefore, the power unit must match the load requirements of the Inlet system. Two Chore-Time power units are available for TURBO Inlet operation. The Light Duty Winch and the Heavy Duty Winch are both available and designed to operate single ended load systems that use gravity to open.

CHORE-TIME RECOMMENDS INCLUDING HAND WINCHES IN THE POWER UNIT CABLE SYSTEM FOR MANUAL OPERATION.

See Figure 7 for a 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 **4-1/2** (pounds required to pull each section) ÷ **2** (reduced load through turn back pulley).

Example: System using (400) 8' sections.

400 X 4.5 ÷ 2 = 900 lbs of pull

Power Unit Capacities

Light Duty Winch..... 500 lbs.

Heavy Duty Winch ..... 2,000 lbs.

If the load requirement is less than 500 lbs., the Light Duty Winch is adequate. For load requirements over 500 lbs., use the Heavy Duty Winch. NOTE: For systems using over 6 rows of inlets, multiple power units may be necessary to avoid clearance problems with overhead doors, electrical panels, etc.

Mount the power unit high enough on the end wall so that the winch drum is even with the inlets. If the inlet cable system will be connected to both sides of the winch, the power unit should be mounted as close to the center of the end wall as possible. If possible, the load should be balanced off both sides of the winch.

Mount the hand winch(s) close to the power unit on the end wall, as shown in Figure 7. The hand winches should be easy to reach but out of the way of bird transport buggies, feed carts, etc. If the Heavy Duty Winch is required, use the cable supplied with the winch to form the turn back loop, as shown in Figure 7. The winch drum should be out of cable when the inlets are completely open.

IMPORTANT: DO NOT PRE-WRAP THE CABLE ON THE DRUM.

To reduce the load to each hand winch wrap 5' of cable on drum of hand winch then route cable through turn back pulley to a securely anchored point.

NOTE: Point of anchor must secure 1/4 of load from main cable.

Mount the end pulleys on the end wall directly in line with the inlets.

IMPORTANT:

ALL HAND WINCHES, TURNBACK PULLEYS, AND ROW PULLEYS MUST ALIGN WITH EACH OTHER AND THE FRONT OF THE POWER UNIT WINCH DRUM:

HEAVY DUTY WINCH: 8" STANDOFF BRACKET REQUIRED.

LIGHT DUTY WINCH: 7" STANDOFF BRACKET REQUIRED.

ANY MISALIGNMENT WILL CAUSE ADDITIONAL PULL FORCE, PULLEY FAILURE, AND SYSTEM DISFUNCTION.

IF HAND WINCHES ARE USED TO OPERATE DURING POWER OUTAGE, HAND WINCHES MUST BE RETURNED TO THEIR ORIGINAL POSITION FOR THE POWER UNIT TO OPERATE PROPERLY.

Connect cable to Inlet End Connectors, turnbuckles, and to the backside of the turn back pulley shown in Figures 7 and 8.

IMPORTANT:

USE THREE CABLE CLAMPS ON ALL CABLE SPLICE CONNECTIONS TO INSURE NO CABLE SLIPPAGE WILL OCCUR.

Tower Switch Installation

The tower switch installation procedure is covered in the Light and Heavy Duty Winch Manuals (shipped with the winch).

Mount the short Tower Switch so that the top of the tower is even with the inlets. One Tower Switch is needed for each hand winch. The Tower Switch can be mounted in a corner of the building out of the way of bird transport buggies, feed carts, etc.

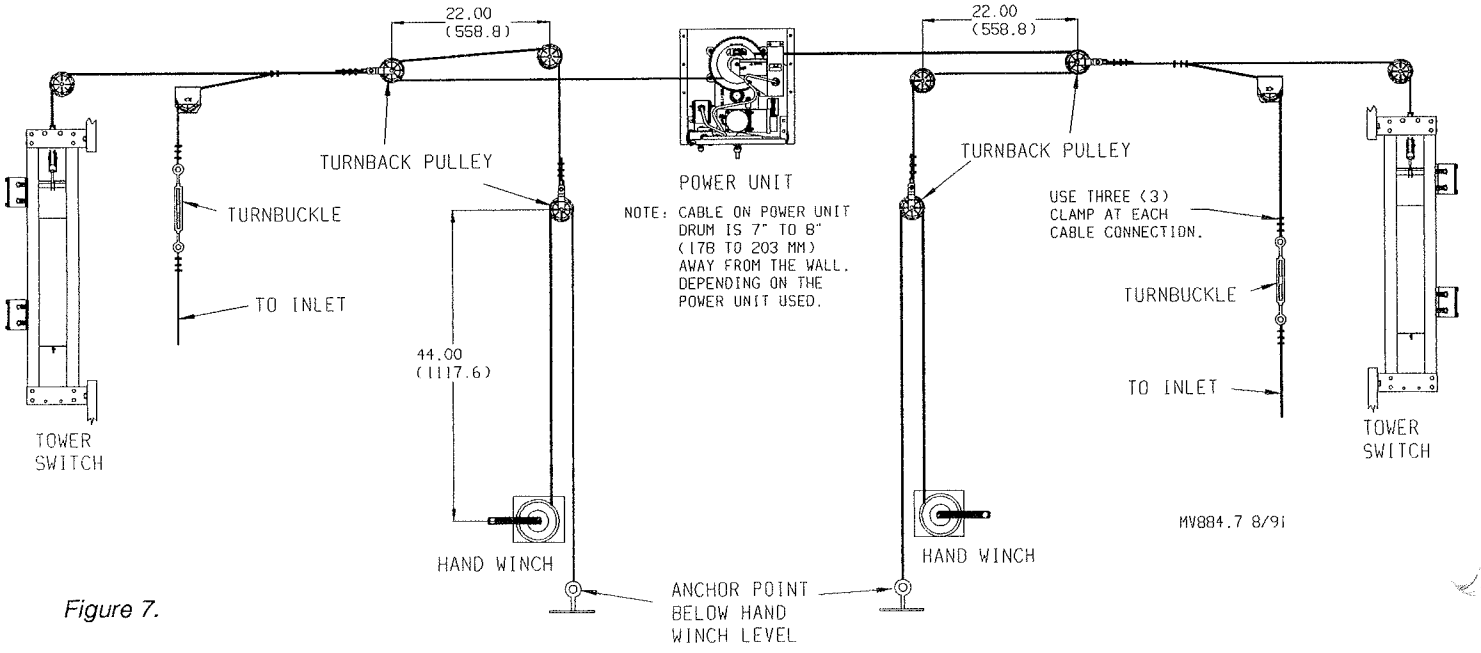


Figure 7.

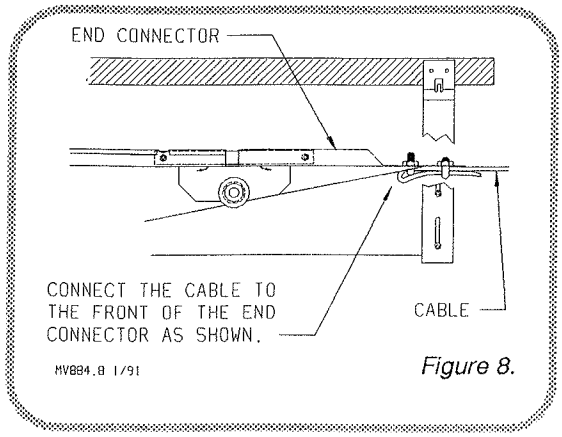


Figure 8.

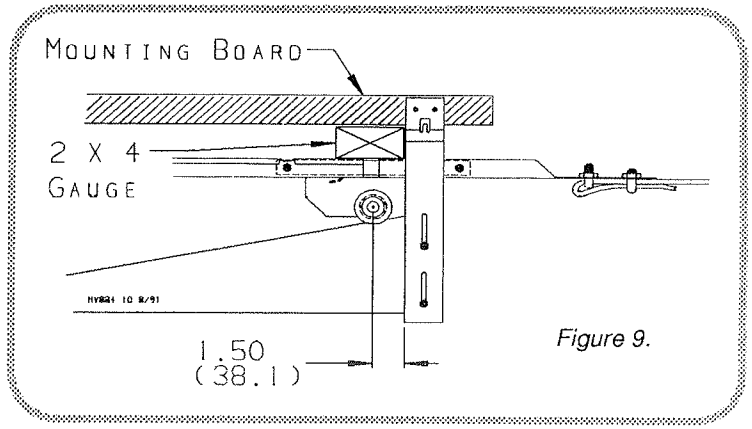


Figure 9.

Final Adjustment

ROW ALIGNMENT: Once the inlet rows are all connected to the power unit and hand winch(s), adjust the turnbuckle(s) so that all of the inlet rows connected to one hand winch reach fully open and fully closed 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(s) should click off.

FULLY CLOSED: The center of the carriage wheels are 1.5 inches (38 mm) from the edge of the Ramp Hanger, as shown in Figure 9. At this point the top limit switch on the Tower Limit Switch should click off.

RAMP ADJUSTMENT: Use the hand winches to pull the system up until the carriage wheels are in the 'closed' position on the ramps. Place a short 2 x 4 adjustment gauge on top of the Carriage Ass'y across the styrofoam board (see Figure 9). Slide the ramps upward in the slots until the 2 x 4 touches the mounting board. Tighten the 10-24 Kep-nuts and remove the gauge.

NOTE: Inlet curtain must be held clear during adjustment.

CENTER ADJUSTMENT ASS'Y: With the carriage wheels at the "CLOSE" position, insert the 2 x 4 gauge above the center adjustment bracket and styrofoam board. Next, loosen the two #10-32 Kep-Nuts evenly until the 2 x 4 gauge touches the Mounting Board. After adjustment remove the gauge, and return the inlets to the "open" position using the hand winches.

Controlling the Inlets

The TURBO Inlets may be controlled by the Chore-Time Six Stage Thermostat or the Chore-Time Automatic Inlet Control.

Refer to the applicable Installation and Operator's Manual for proper installation of the control.

Wire the system according to the wiring diagrams in the Control instructions and the Heavy or Light Duty Winch Instructions.

Instruction manuals for Chore-Time components related to the TURBO Inlet System are listed on page 4 of this manual.

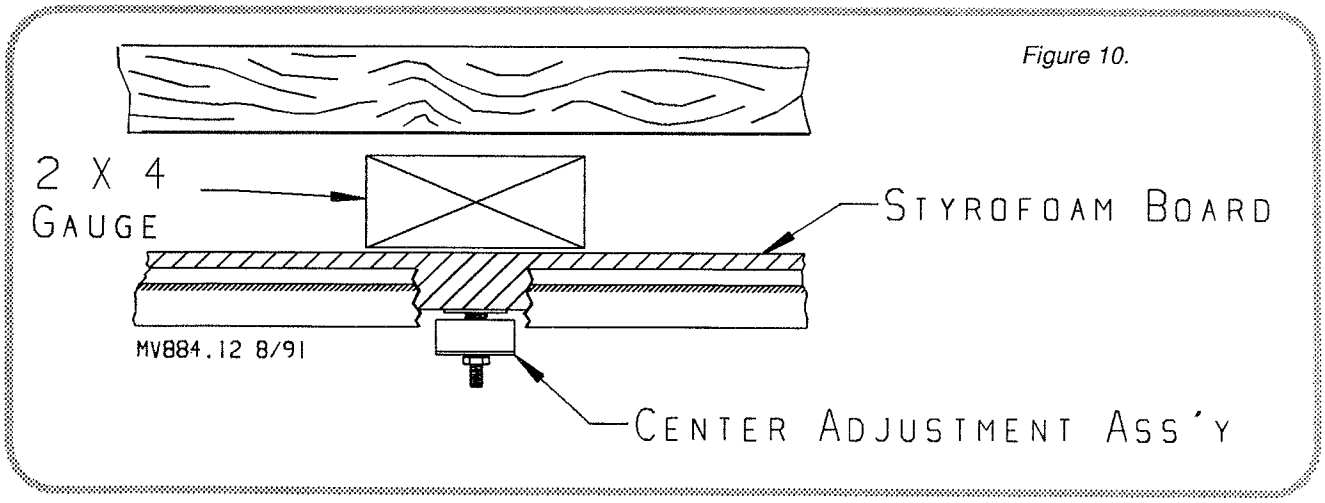
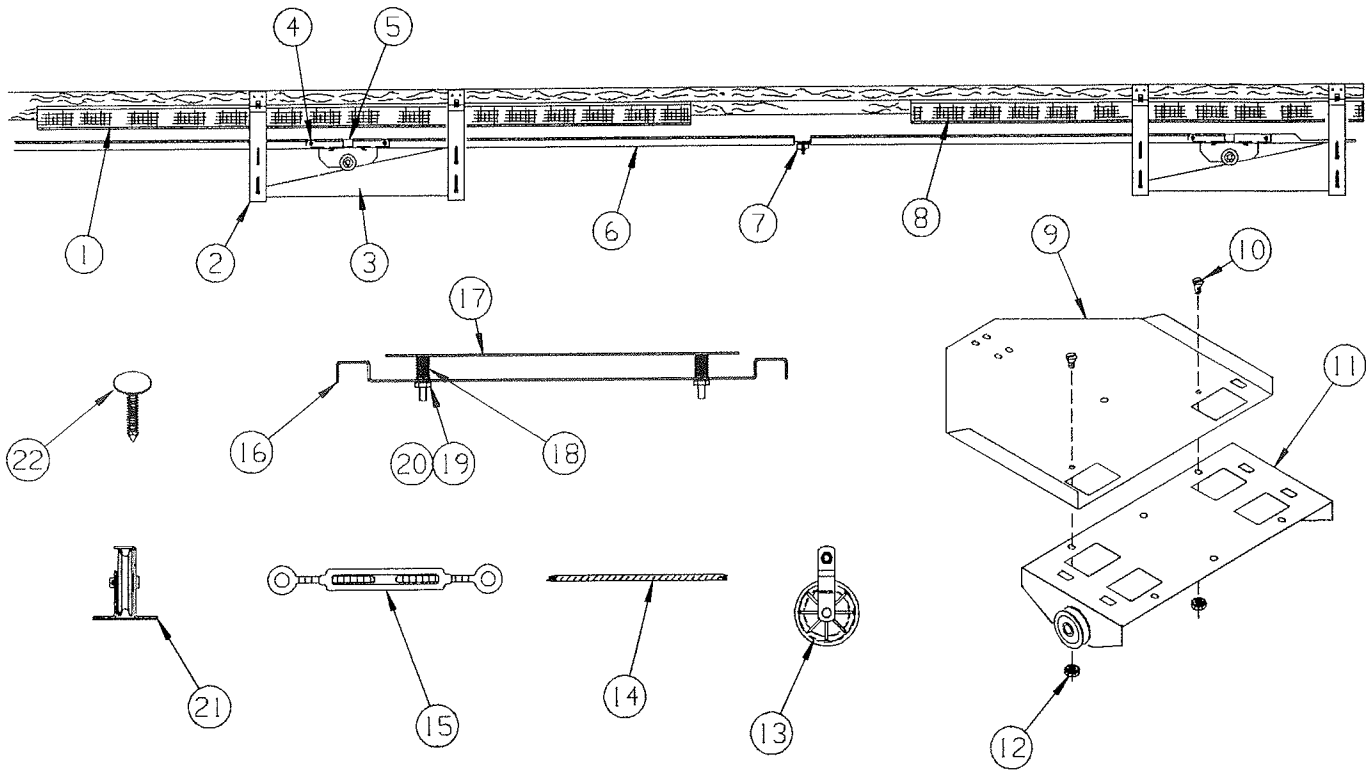


Figure 10.

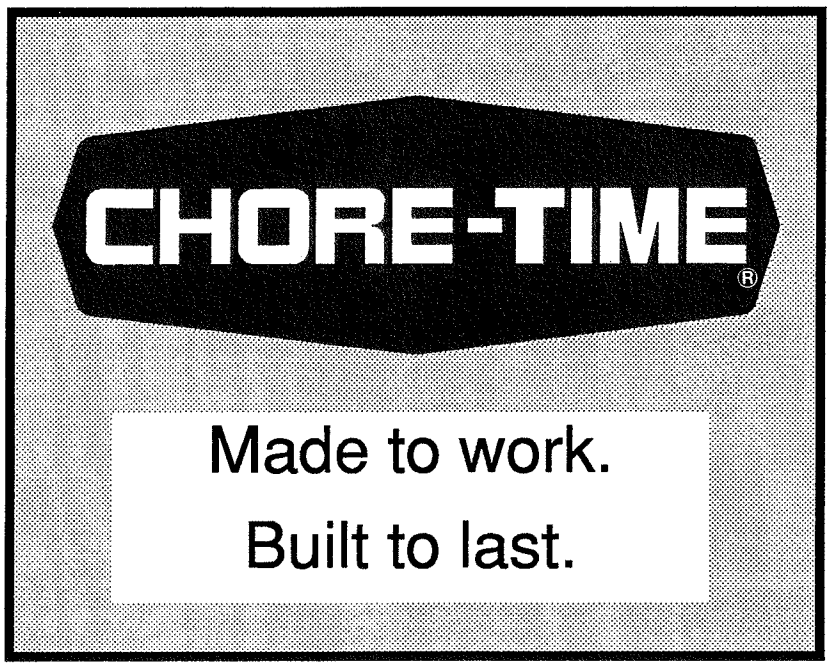
TURBO Air Inlet Components



Item	Description	Part No.
1	Curtain Inlet Ass'y	28698
2	Ramp Hanger	28789
3	Ramp (studs on left)	27069-1
	Ramp (studs on right)	27069-2
4	10-24 Kep-Nut	27725
5	Connector Bar	27596
6	Side Rail	28790
7	Center Adjustment Ass'y	28782
8	End Curtain Inlet Ass'y	28774
9	End Connector	28791
10	10-24 x 3/8 Countersank Screw	8636-2
11	Carriage Ass'y	28787
12	Kep-Nut	27725
13	Pulley	2500
14	3/16"-7x19 Aircraft Cable	13976
15	Turnbuckle	27389
16	Spring Adjustment Bar	28785
17	Spring Bar	28783
18	Spring	28786
19	Nut, 10-32	4297
20	Washer	305
21	Pulley	27301
22	Christmas Tree Clip	28671
Not Shown	Hand Winch	1212
Not Shown	Hand Winch Mounting Bracket	1193

* Items 1-7 & 11 may be ordered as a kit under part No. 28780

NOTES



Contact your nearby Chore-Time distributor or representative for additional parts and information.
Chore-Time Equipment, A Division of CTB, Inc.
P.O. Box 2000, Milford, Indiana 46542-2000 U.S.A.

Printed in the U.S.A.