



# *Altra-Seal*

INSULATED PANEL

## Installation Guide



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# Installation Preparation

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## Items Included

- Altra-Seal Insulated Panel System

## Signal Words

The signal words “Danger”, “Warning” and “Caution” used in this manual indicate the degree of hazard that may be encountered by the user. These words are defined as:

Danger - Indicates death or serious physical injury will result if proper precautions are not taken.

Warning - Indicates death, serious physical injury or property damage can result if proper precautions are not taken.

Caution - Indicates some injury or property damage may result if proper precautions are not taken.

## Qualified Persons

For the purposes of this manual and product labels, a qualified person is one who is familiar with the installation, construction, operation or maintenance of the equipment and the hazards involved. In addition this person has the following qualifications:

(a) is trained and authorized to energize, de-energize, clear, ground and tag circuits and equipment in accordance with established safety practices.

(b) is trained in the proper care and use of protective equipment such as rubber gloves, hard hat, safety glasses or face shields, flash clothing, etc., in accordance with established safety practices.

## Important

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser’s purposes, the matter should be referred to the Sun-North Systems sales office.

## Safety

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### Electrical Safety



**DANGER!** Ignoring the following instructions can cause physical injury or death, or damage to the equipment.



**WARNING!** Only qualified personnel are allowed to install the drive and connections to the motor!

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Never work on the drive, motor cable or motor when input power is applied. After disconnecting the input power, always wait for 5 minutes to let the intermediate circuit capacitors discharge before you start working on the drive, motor or motor cable.

Do not work on the control cables when power is applied to the drive or to the external control circuits. Externally supplied control circuits may carry dangerous voltage even when the input power of the drive is switched off.

## General Safety



**WARNING! TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

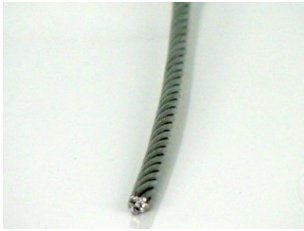
- Installation work and electrical work must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- The installation is to be in accordance with the National Electrical Code, CSA C22.1, ANSI/NFPA 70, and local codes.
- **CAUTION!** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been supervised or instruction concerning use of the appliance by a person responsible for their safety.
- Check drawings and layouts provided to locate where the equipment is to be installed.
- Ensure work area is safe and that all security, policies and procedures for the facility are met.
- Inspect the lift device or mobile platform.
- Each person installing the equipment with a lift device or mobile platform must use a safety harness at all times.
- Other safety requirements may be required for installation.
- All workspace safety requirements, lock out procedures and hoarding of construction zone for the assembly and installation must be met and followed.



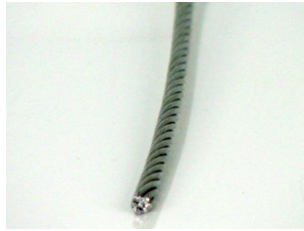
**WARNING!**

- Never remove or disable a machine guard or use a machine that has a missing or disabled guard.
- Never reach around, under, or through a guard.
- Report guards that are missing or not working properly.

# Hardware Included



• SN020X2002 Stainless Steel Cable 3/16" Diameter



• SN020X2004 Stainless Steel Cable 3/32" Diameter



• SN020X2102 Galv. Mall Wire Clips 3/16"



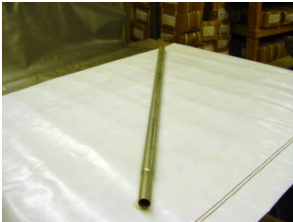
• SN020X2103 Galv. Mall Wire Clips 1/8"



• SN020X9003 Hot Dipped Galv Rod 1/2" x 20ft



• SN020X9103 Copper Joiner 1/2"



• SN020X9102 Galvalume Tube 1" O.D x 20ft One End Swaged



• SN022X0200 NC GR2 Carr. Bolts Z 1/4 x 1-1/4



• SN022X0403 Pan Soc Tek Screw Z 10 X 1/2



• SN022X0521 NC Nylock Locknut Z 1/4 20



• SN022X0721 Fenderwashers Zinc 1/4 x 1-1/4



• SN022X2050 Hex Hd Tapcon Screw 1/4 x 1-1/4



• SN022X4002 Hex Lag Screws Z 1/4 X 2



• SN022X4100 Flat Soc Woodscrews Z 8 X 1-1/4



• SN022X4102 Flat Soc Woodscrews Z 8 X 1-3/4



• SN022X4105 Flat Soc Woodscrews Z 10 X 3



• SN022X4120 White 1" Woodgrips



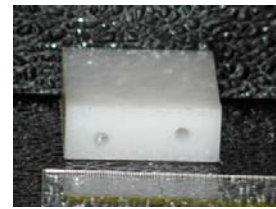
• SN026X0000 Round Gasket 2" Dia X 6ft



• SN026X0001 Top Bracket Assembled with Wheel



• SN026X0002 Bottom Bracket



• SN026X0004 UHMW Block (Long) 46"



• SN126X1005 Black/Silver 46" Altra-Seal Fabric Bag



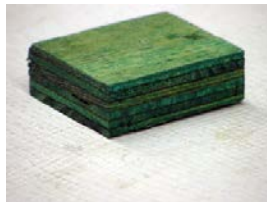
• SN126X2005 Altra-Seal 46" Styrofoam Core 8' Long



• SN126X3005 Altra-Seal 46" Front Slider Track



• SN126X4005 46" Altra-Seal Back Slider Track



• SN126X5001 Green Wood Blocks



• SN020X2232 Nylon Yolk Pulley 2" Swivel Eye



- SN020X2251 46" Tarp Clip for 1 Tubing



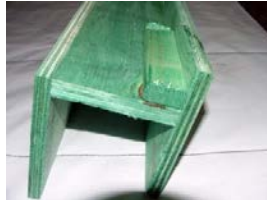
- SN022X4004 Hex Lag Screws Z ¼ X 3



- SN022X4121 White 1-1/2" Wood Grips



- SN022X8020 Gear Type Hose Clamp 5/16



- SN026X9003 Wood Boot 7'6" Long



- SN026X9103 Steel Boot Cover 7'6" Long

## Tools Required

- Tape Measure
- Hammer
- Cordless Impact Driver
- Hammer Drill
- 1/4" Nut Driver
- 5/16" Socket & Adapter for Impact
- 7/16" Socket & Adapter for Impact
- Utility Knife
- Cable Cutters
- Hacksaw or Saws-All with Metal Blade / Wood Blade
- Stapler
- ½" Socket & Adapter for Wrench
- 9/16" Socket
- Cable Poker
- Drill Bits ½" Through Wall
- Level

**NOTE:** Illustrations/images may be changed without notice. All dimensions and specifications are approximate and drawings are not to scale.



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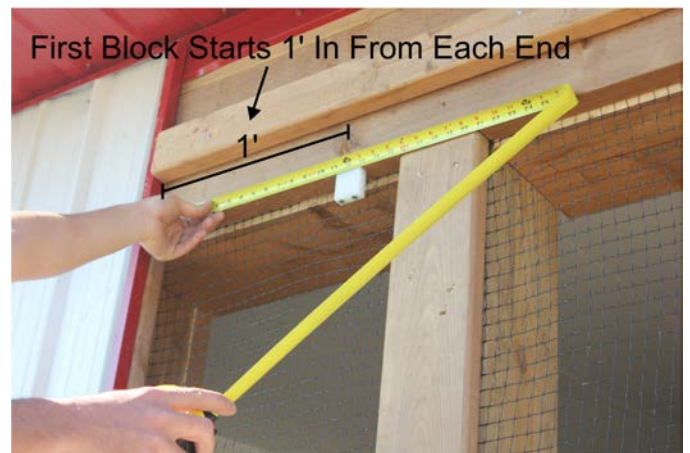
# Procedure

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1. To begin you will need to layout the proper track spacing for your barn. You're not installing the track at this point however you need to know where your tracks are going to be located before proceeding. You must make sure that the track spacing is larger than that of your opening to ensure full panel operation. In most cases the track spacing is 8' O.C. Please note that the first and last track always start 1' into the opening.



2. Layout the SN026X2001 top brackets for the upper track along the barn opening at the spacing determined in step 1 and run your main cable at this time. After you have installed the Top Brackets flush to the bottom of the 2x4 on the header framing you will then install the SN026X0004 inside track spacing blocks with SN022X4105 flat soc woodscrews Z 10 X 3 plumb/level with the centre of the slot on the upper track bracket. Note that the SN022X4002 hex lag screw 1/4" X 1 1/2" requires a SN022X0721 fender washer.





**3.** After all of the SN026X0004 inner track blocks are installed you then must plumb down to the sill framing and cut out a notch spacing for each inner track as shown.



**4.** Before you can install the SN126X4005 back slider track you must fasten the SN026X0002 bottom track bracket to the base of the inner track for assembly using a SN022X4120 1" wood grip. The bottom bracket must be attached as shown.



**5.** The SN126X4005 back slider track can now be installed. Screw the mid section of the inner track into the notch cut out of the sill using a SN022X4102 flat soc woodscrew Z 8 X 1 3/4". A SN126X5001 wood stop block is now installed behind the inner track under the extended sill as shown below using a SN022X4100 flat soc woodscrew Z 8 X 1 1/4". Run your finger over screws to remove any plastic birrs that may have been created when screwing through the track.





**6.** Note that the inner track should have the bottom bracket pre-installed to the bottom of the track as in step 4. Drill pilot holes into the foundation/wall and fasten as required. A SN022X2050 hex hd tapcon screw  $\frac{1}{4}$ " X  $1 \frac{1}{4}$ " and a  $\frac{3}{4}$ " black spacer is installed at each bottom hole location of the bottom bracket. The black spacer is optional as it is used to provide extra room for the bottom rod to move freely against the foundation wall as most foundation walls are not 100% smooth and plumb. Please note that for this install a black spacer was not required.



**7.** Temporarily hang the SN126X1005 Altra-Seal fabric bag using the top flap (note that the Altra-Seal bag has 2 large flaps at the top, you will use the inner flap closest to the barn to pre-hang the bag) using a wood grip at every track. Hang it 10" out from the opening from the side and up 6" from the sill as shown in the details below.





**8.** The SN126X2005 46" styrofoam core is now slid into the Altra-Seal bag. Be sure to take the edge off the corners of the styrofoam as you do not want to tear the bag with the edges of the rigid panels. Be sure not to push the insulation too fast.



**9.** The SN126X3005 front slider track can now be installed. The upper end of the front slider track is pre-installed with a SN022X0403 pan soc tek screw Z 10 X 1/2". Hook the lower bolt into the gap in the top bracket. This bolt will be tightened in step 15.



**10.** A SN022X0200 carriage bolt Z 1/4" X 1-1/4" is used to mount the bottom of the track to the bottom track bracket. The bolt is installed from the back face of the track and a SN022X0521 nylock locknut Z 1/4" is used to fasten from the front.



**11.** Before proceeding, pull the top hem forward and line up with the top front corner of the insulation panel. Pull the fabric taught at the bottom creating a crease free front and tuck the bottom hem under the insulation panel.



**12.** Remove the woodscrews that were used to temporarily hang the bag in step 7. The SN026X0000 round gasket 2" dia x 6' can now be installed into the top loop keeping the end gasket flush to the end face of the insulation panel below.



**13.** The SN020X9102 galvalume tube can now be installed into the front loop. It must be installed so that the insulated panel is longer by 1" at each end of the finished panel length. When sliding pipe into the loop, attach each section together using a screw. Install SN020X2251 tarp clips over the top of the SN020X9102 galvalume tube.



**14.** Run the main SN20X2002 stainless steel cable 3/16" through the main eye screw. At the last eye screw (at the end of the opening) of the last outer track the cable must be clamped off temporarily using a cable clamp so that it will not pull through the last eye screw.





**15.** The SN126X3005 front slider track can now be secured to the top bracket of each track by tightening the nylock nut to the back of the bolt that was hung in the gap in step 9. Make sure the front slider track is now secure to each top bracket.

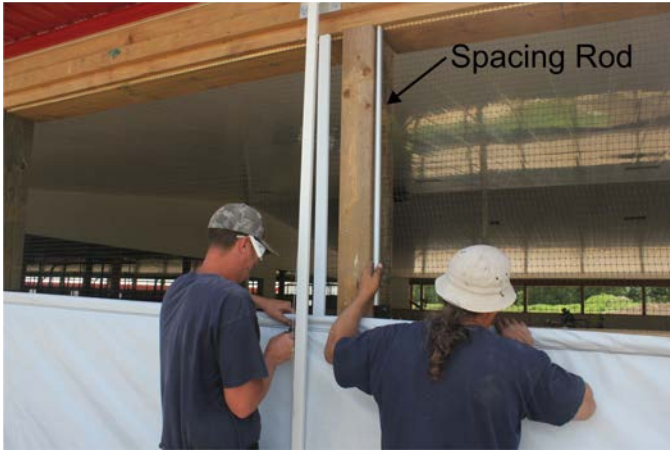


**16.** The main SN20X2002 stainless steel cable 3/16" can now be put under tension with the winch/actuator being sure not to over tighten the cable link. The secondary SN20X2004 stainless steel cable 3/32" can now be installed to the main cable and follow up over the pulley wheel on the SN026X2001 top brackets and left to hang for hook up in step 17.



**17.** When hooking up the secondary cables, use a spacer rod to ensure the opening space will be even along the barn. This will ensure that the Altra-Seal panel will close along the upper header at an even plane. When starting to install the secondary cables you must start at the pull end (winch or actuator) of the barn. Pull down on the secondary cable to locate the position that the cable has to punch through the curtain. Remember to keep the cable vertically level with the track. Punch the cable through both faces of the sleeve under the bottom edge of the retainer pipe. To ensure that each secondary cable is at the same length to the header in each location, a spacing rod is used.





**18.** When all secondary cables are installed be sure to remove the cable clamp that is holding the main cable under tension. This is done after your last secondary cable is located at this same location. Trim the excess cable.





**19.** You may now run your panel up to a workable height to enable the stapling of the sides of the bag and the installation of the SN020X9003 galvanized rod into the lower hem of the Altra-Seal panel. By running the panel up before stapling it allows any creases in the bag to fall and makes for a smoother panel surface.



**20.** The ends of the Altra-Seal bag can now be neatly folded and stapled shut. This includes the backer rod hem and the curtain pipe hem. Any extra can now be cut off leaving a 1" seam. Do not staple the bottom hem shut.



**21.** You must now install the SN020X9003 galvanized rod in the lower hem of the panel. Before you install the bottom rod you will have to cut the lower hem approximately 3" to each side of every inner track as shown. Make sure you do not cut the stitching of the bottom hem as this will void the warranty. Be sure that the bottom rod is installed behind the inner track as shown in the image. Slide the rod in the bottom hem.



**22.** You must keep the bottom rod from interfering with the end boots. To do this you must run the bottom rod 5" into the hem at both ends. A slit is cut through the bag and a SN022X8020 gear-type hose clamp is used to secure the rod at this location. To extend the length of the bottom rod or to make a continuous connection a SN020X9013 1/2" copper joiner is used at each joint.







**23.** The end boots may now be installed. The SN026X9003 wood boot is installed first and screwed to the sidewall of the building with SN022X4121 white 1 ½" wood grips. The top of the wood boot must be level/flush with the top of the 2x4 on the header. The pre-finished SN026X9103 steel boot cover is then installed and screwed over top of the plywood as shown in the images below. SN022X4120 white 1" wood grips are used to fasten the pre-finished cover to the wood boot.



**24.** The installation is now complete. You must run your panel up and down to ensure smooth operation of the system and that it seals properly. If you have installed actuators, you must also set your limit switches as required for maximum opening and closed positions.