



SAFE CONVEYOR, INC.

**Owners Manual Bi-Directional Slide Gate
With Operating Instructions**



Safe Conveyor Inc. 1658 GAR Hwy Ste 2, Swansea MA 02777
For more information, please visit our website at safeconveyor.com

Revision 081210

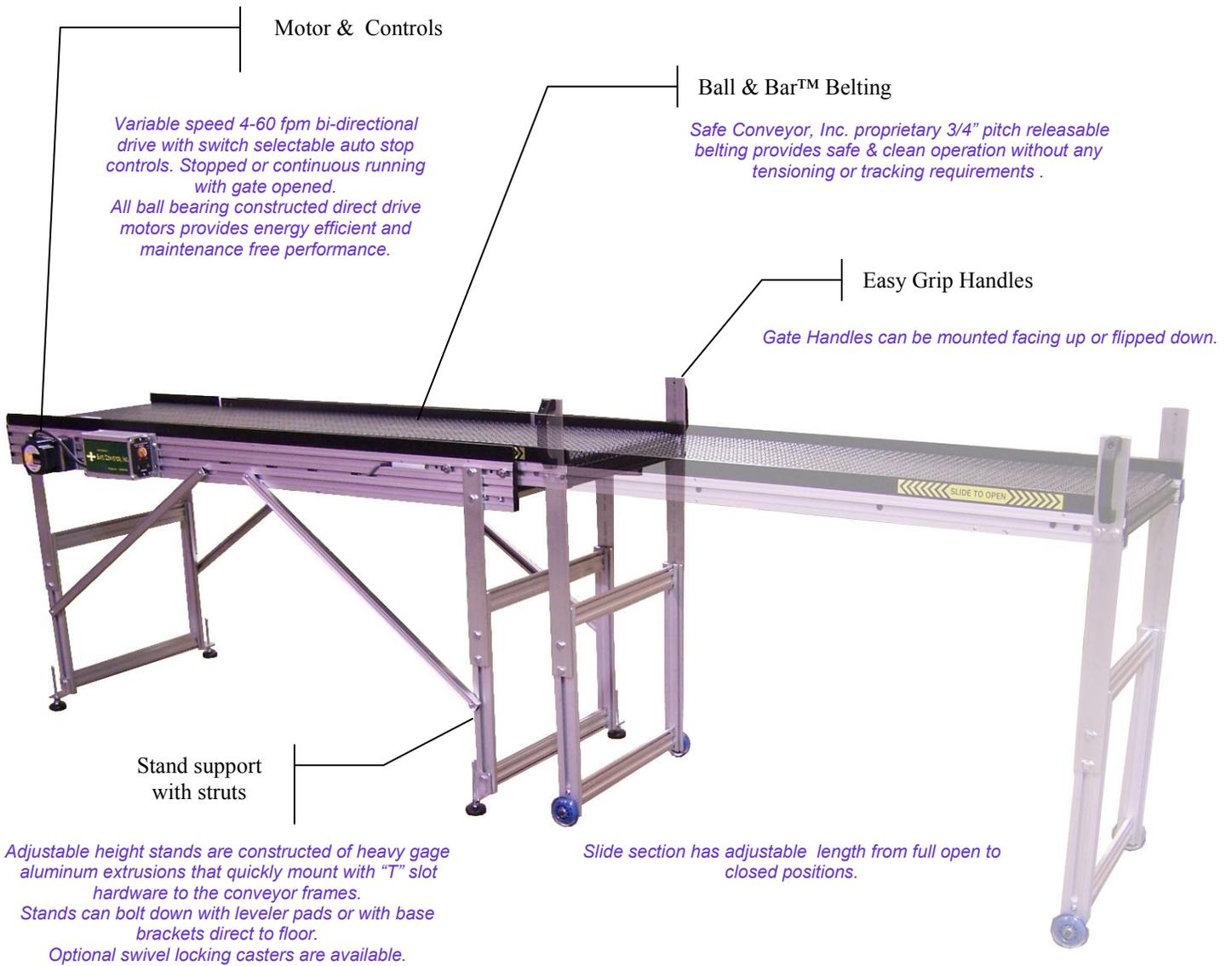


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Bi-directional Slide Gate Conveyor Features



Motor & Controls

*Variable speed 4-60 fpm bi-directional drive with switch selectable auto stop controls. Stopped or continuous running with gate opened.
All ball bearing constructed direct drive motors provides energy efficient and maintenance free performance.*

Ball & Bar™ Belting

Safe Conveyor, Inc. proprietary 3/4" pitch releasable belting provides safe & clean operation without any tensioning or tracking requirements .

Easy Grip Handles

Gate Handles can be mounted facing up or flipped down.

Stand support with struts

*Adjustable height stands are constructed of heavy gage aluminum extrusions that quickly mount with "T" slot hardware to the conveyor frames.
Stands can bolt down with leveler pads or with base brackets direct to floor.
Optional swivel locking casters are available.*

Slide section has adjustable length from full open to closed positions.



Getting started

Be safe! Read, understand and follow these precautions.

Use the correct power source.

Safe Conveyors have a three prong plug and must be plugged into a grounded three-hole outlet. The voltage source should be within 10% of what is printed on the control panel.

Do not operate the conveyor in an explosive or wet environment.

Safe Conveyors are designed for indoor operation only.

Remove power before servicing.

Safe Conveyors come with a removable power cord. Lock-out the power by removing the cord before servicing.

Replace damaged components before operating.

If the conveyor becomes damaged, do not operate until the damage is repaired. Continued operation with damage could lead to injuries and/or permanent damage to other conveyor components.

Do not stand or sit on the conveyor.

Standing or sitting on the conveyor is dangerous, especially if it is moving or suddenly starts. To avoid injuries from tipping over the conveyor, bolt the stands leveler mounts to the floor through the holes provided.

Keep hands away from the moving belt or other pinch points.

Safe Conveyor motors are the smallest and safest in the industry, but can still cause injury when hands come in contact with moving parts. The motor, if stalled, will continue to operate for approximately 10 seconds before the safety circuitry shuts it off. To avoid pinch points, keep transfer plates and belt guard rails installed when operating.

Do not overload the conveyor.

Safe Conveyor are rated to hold up to 200 lbs static load between stand supports. Do not exceed this amount.

Inspect your system regularly.

Screws and fasteners can become loose during operation. Regularly inspect and repair any loose or missing fasteners.

Do not over tighten belting.

The plastic chain belting is designed to run with the belt loose and hanging under the frame. Removing links to create a "taught" belt will cause excessive wear to the conveyor and premature belt failure.

Conveyors manufactured by Safe Conveyor Inc. are shipped with this owners manual.

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Installation and site preparation

Installation Tools

1. 9/16" open or closed end wrench
(Note: Using pliers or vise grips on bolts can damage the anti-corrosive plating.)
2. Philips and Flat Blade Screw Drivers
3. Tape Measure
4. Level

Read Before Starting

Each Slide Gate Assembly was shipped fully assembled and packed in the "retracted" position to protect it during shipment. Please **Read** and **Follow** these steps to properly set-up the unit.

Unpacking Instructions

1. The slide unit was stretch wrapped with the stands seated on top. Cut the strapping on the skid and remove the unit to a temporary staging area. (Not necessary if shipped boxed.)
2. Remove the stretch wrap taking care not to cut the conveyor or power cords running from the motor to the control box.
3. Set the unit on saw horses or other suitable flat support. **Note: The unit is flexible until the stands are installed. Avoid excessive twisting of the unit when handling.**

Site preparation

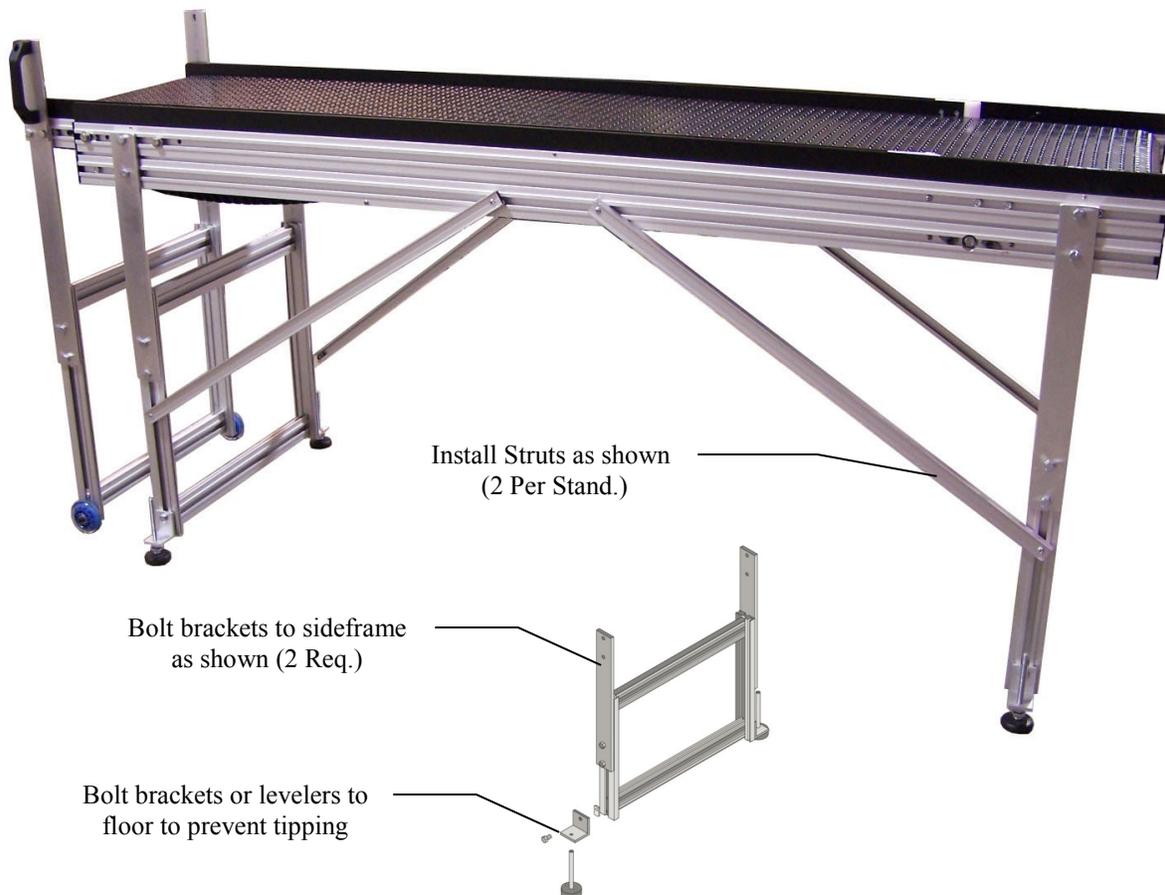
When preparing to assemble or set-up Safe Conveyors, please take into consideration the following:

1. **Location of the power source.** Locate the conveyor drive motor within 8' of the power outlet. Avoid having cables in pathways where someone could trip over the cord.
2. **Belt height settings.** It is easier to set the stands to the correct height before installing them on the conveyor. The stationary section stands will measure 1" lower than the conveyor's Top of Belt height when installed. Set one stand and then duplicate the setting on the other stand to achieve equal conveyor belt heights. (See stand settings.)
3. The stationary section of the slide gate conveyor **should not block emergency or fire exits.** Do not install conveyors on stairways or in stairwells as these may block traffic in an emergency.
4. Although the conveyor belt and framing can handle higher temperatures and humidity, the drive motor should be operated between 32-122 °F and in ambient humidity 85% or less (non-condensing.) Please read the motor owners manual supplied with the conveyor for other motor precautions. (Motor manuals can also be found online at safeconveyor.com)



Installing Stands on Stationary Section

1. Support the conveyor on saw horses or other surface that will allow access to the ends for stand installation.
2. Install Base Brackets to stand positioning the "T" nut with the thread at the top and in the "T" slot above the existing bolt of the lower stand cross bar. (See insert figure below.)
3. Belt height settings. It is easier to set the stands to the correct height before installing them on the conveyor. The stands will measure approximately 1" lower than the conveyor's Top of Belt height when installed. Set one stand height and then duplicate the setting on the other stand to achieve equal conveyor belt heights.
4. Locate stands approximately as shown with one stand between the motor and the control box with the other stand approximately 3" from the end.
5. Install 2 "T" nuts into the conveyor sideframe on each side, one above the other, where you want to install the stand. . Make sure the "T" nuts are correctly seated in the slot so the bolts can be threaded into them.
6. Position the holes in the stand uprights over the "T" nuts inside the frames and install the bolts. Install all 4 bolts of the stand before securing the stand to the sideframe. Insure that the stands are vertical and set to equal heights by using a level on the conveyor belt. Use levelers to adjust for uneven flooring.
7. Install Stand Support Struts approximately as shown.
8. Use 1/4" diameter anchor bolts to secure the stands to the floor through the leveler bases or omit the levelers and bolt the base brackets directly to the floor. (Bolts not included.)





Installing Slide Section Rolling Stand

1. With the slide gate section fully retracted, (not extended out), assemble the Rolling Stand to the end of the slide section as shown. Note: The Handles can be mounted facing up or down, whichever is more easy to access based on the overall height of the conveyor. (We recommend that you face the handles down for slide gates that are above 36" tall and up for units under 36".)
2. Tighten the mounting bolts to the slide section with the stand vertical to the floor.
3. Loosen the height adjustment bolts and set the stand height to match the stationary section height. (Both wheels just touching the floor.)
4. Slowly extend the slide section outward and check that the wheels are staying on the floor. Also, check that the front stand is not being lifted off the floor, which will happen if the slide section is moving non-parallel to the floor and being force up as it opens.)
5. If the wheels are coming off the floor, you will need to lower the end stand height to correct.
6. Contrarily, if the front stand is being lifted by the slide gate stand, you will need to raise the stationary end stand height to correct. Note: You do not want the slide section to "fight" with the stationary section during operation as this will increase the force to open and strain the roller bearings in the gate.

See previous page for Slide Section Rolling Stand installed on conveyor

Adjusting Slide Section Length

With the Roller Stand installed, the walk-through section of the conveyor can be adjusted to the required operating range by following these instructions.

1. Bring the gate section all the way out until it is stopped by the internal stop clip. (Factory Setting)
2. With the gate section fully extended, the locking screw can be accessed through a hole in the upper "T" slot approximately 8.5" from the end on the motor sideframe.
3. Use a Phillips head screw driver to loosen the internal stop. (**DO NOT REMOVE**, just turn 1/2 –1 turn to loosen.)
4. Now move the slide gate to a new position that is less than the factory setting.
5. Re-tighten the internal stop when at the desired length.

This is the access hole for setting slide section length. It can only be adjusted when the gate is fully extended.



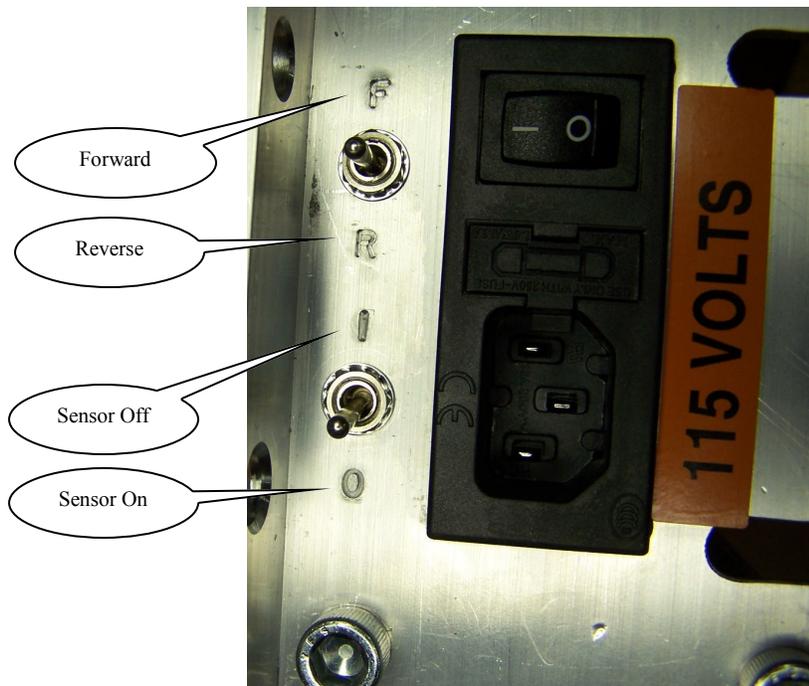


Setting Gate Controls

Belt direction and auto stop can be set as follows:

1. Use the Bottom Selector Switch to activate or de-activate the auto-stop feature. (Belt will stop or continue moving when gate is opened.)
2. Use the Top Selector Switch to set belt direction. (Middle position is for belt stopped.)

We recommend operating the forward direction (Belt moving toward the motor) with both switches facing up and for the reverse direction (Belt moving toward the slide section end) with both switches down.

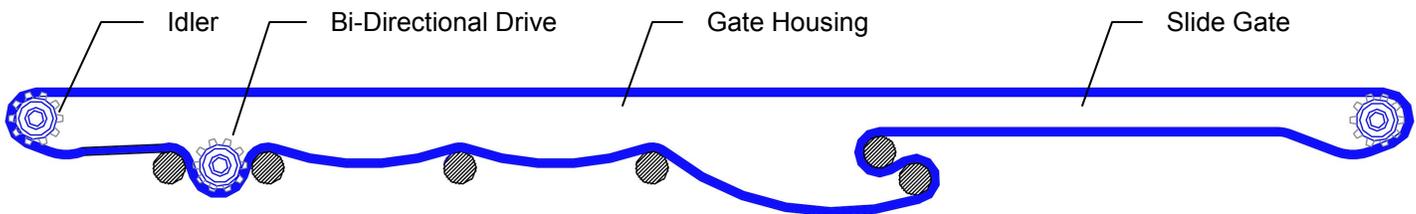




Belt Installation and Removal Instructions.

Systems are shipped with the belt installed. Periodic cleaning or maintenance may require the belt to be removed. Use the diagram below to remove and then re-install the belt.

1. Use the diagram below to familiarize yourself with the path of the belt in the conveyor.
2. To install the belt, start with the gate fully extended open and the motor off.
3. Install the belt starting at the slide gate section top side and feed the belt around the sprockets and under the gate frame making sure it is inside the lower support plates at the sides of the frames. (The belt will need to be aligned to the sprockets of the idler. See Page 10.)
4. Once you reach the end of the gate underside the belt will need to loop over and back around the return bar and then over each support bar* of the Stationary Housing before threading through the drive as shown.
5. Feed the belt over and around the drive sprockets, taking care to align the belt centered on the conveyor frame and properly engaged with the sprockets. See page 10.
6. Bring the two ends of the belt from the bottom and the top until they meet at the front idler. Join the ends keeping in mind that you don't want to join "like" links, but instead, you want to join "offset" links like building a brick wall. Add or remove a row of belt to get the correct joinery.
7. The bi-direction drive system should run with a relaxed belt. **Do not run belt tight!**



BELT PATH DIAGRAM

*Note: Some systems may have more or less support bars than shown.



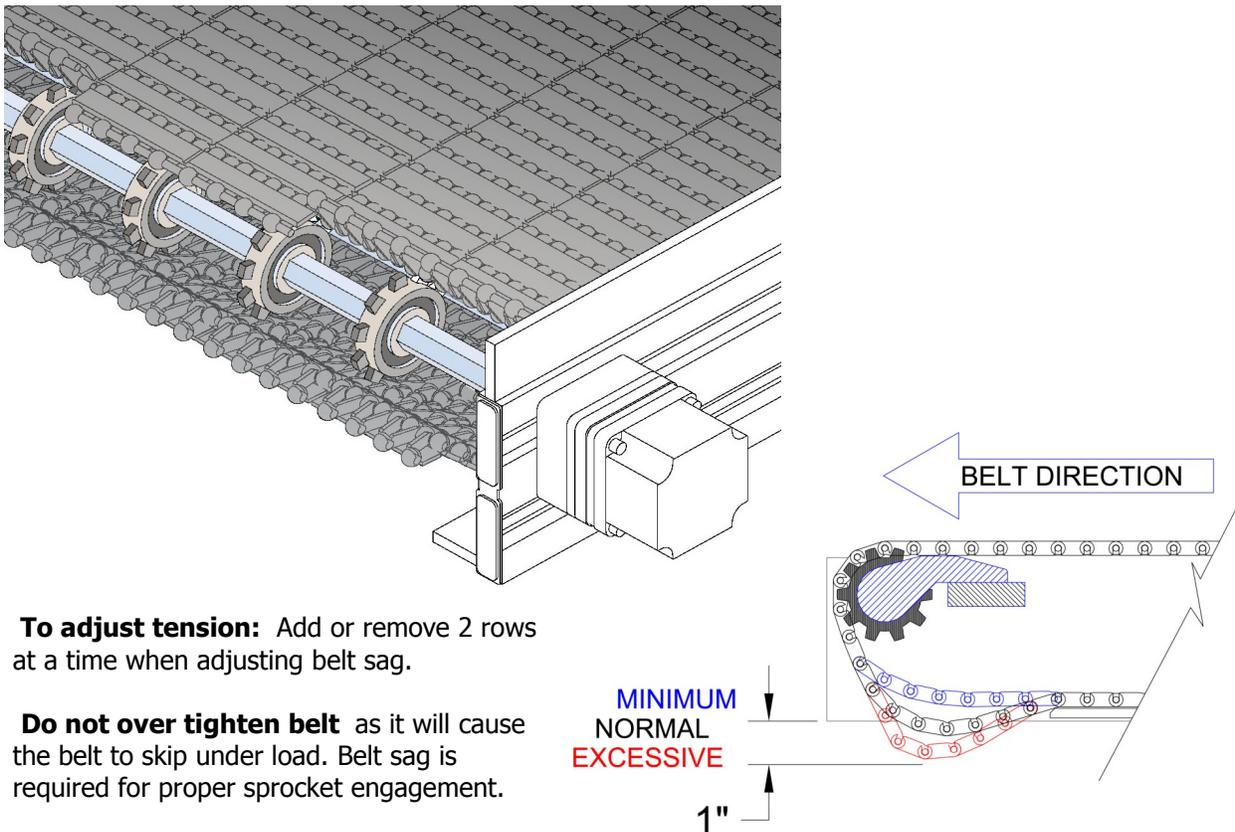
Belt Installation and Removal

Conveyors 8' and smaller are shipped with the belt installed. Multi-section conveyors are shipped with the belt rolled separately. To install or remove belt from the conveyor, please follow these instructions.

1. Orientate the belt to drive with the "Bar" ends first and the "Ball" hook ends trailing like shown in the figure below. Although the belt will run in either direction, it is less likely to be "peeled" open when run as shown.
2. Start at the idler end and thread the belt under the conveyor upside down resting on the lower guide rails.
3. Feed the belt over the top of the conveyor until the bottom and top come together at the drive end.
4. Bring the ends together. The ends should just reach each other without excessive tension. If the belt is very loose, remove rows of belt until the belt is just snug on the conveyor. See below
5. One sprocket is locked for belt location. Adjust the remaining sprocket so they are evenly spaced apart from each other and will engage the underside of the belt as shown. Don't place the sprockets at the joints between belt links. (Use a 1/6 Hex key wrench to adjust the locked sprocket if the belt is not centered on frame after assembly.)
6. Snap the hooks over the bars making sure they are fully engaged with each other. It may help to move the joined connection to the flat part of the conveyor to complete the joining of the hooks.

To remove the belt, pull upward on the leading row as you hold down on the row behind it. The belt will "unzip" as the hooks slip off the bar.

Note: Motor location may be different than view shown.



To adjust tension: Add or remove 2 rows at a time when adjusting belt sag.

Do not over tighten belt as it will cause the belt to skip under load. Belt sag is required for proper sprocket engagement.



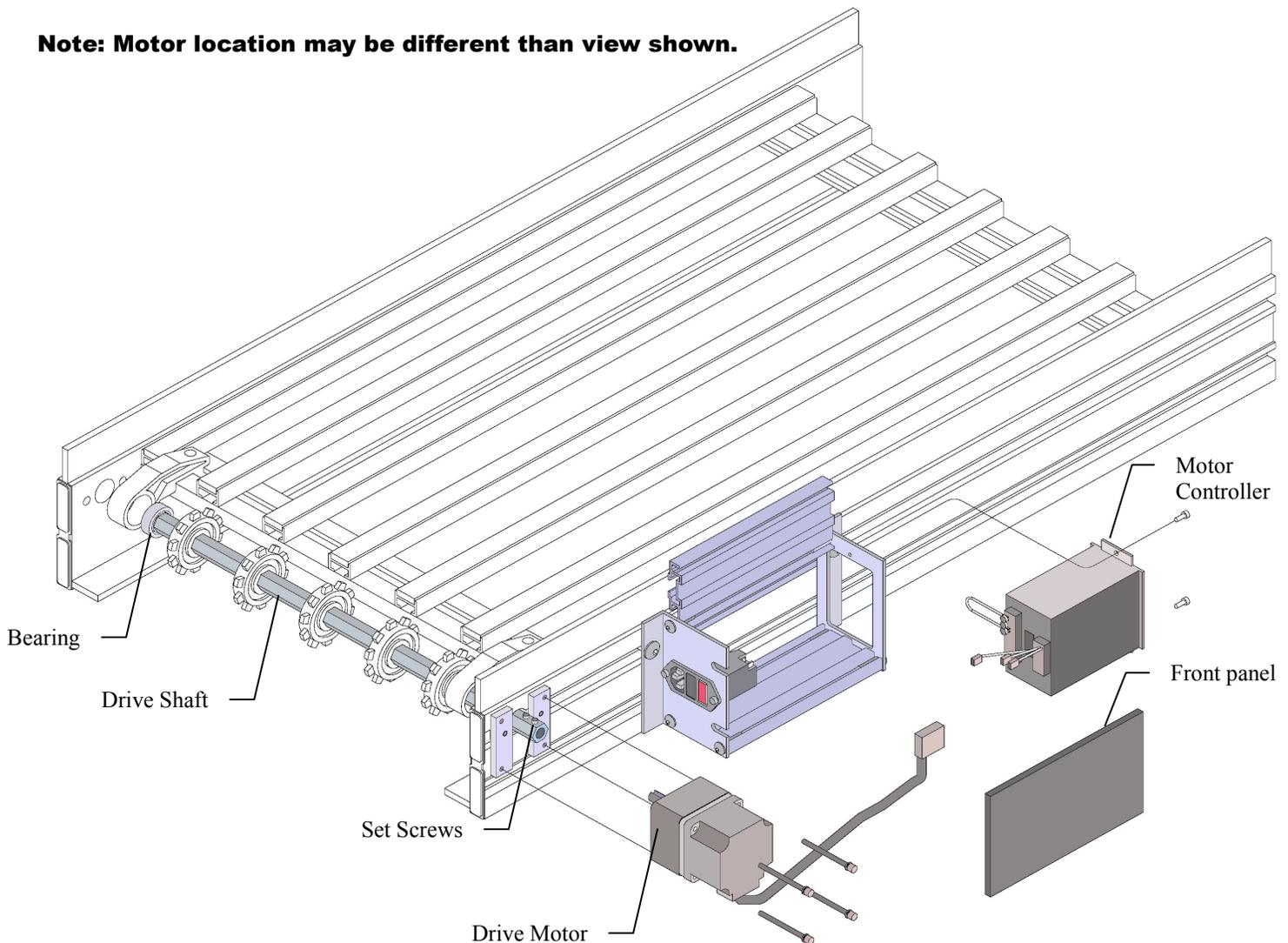
Motor Removal or Relocation

Should you need to remove the motor or switch the location, please follow these instructions.

1. Remove the power cord from the switched outlet on the motor control box.
2. To gain access inside the motor control box, **remove the top screw holding the motor controller.** Rotate the top aluminum panel upward.
3. Disconnect the motor cable from the back of the controller and remove the 3 wires connected to the power outlet and the ground wire connected to the frame. (Not shown). Remove the lower screw on the controller and this will allow you to slide the controller out of the mounting panel.
4. To remove the motor, remove the 4 screws located midway on the motor housing. Grasp the opposite bearing housing and pull the ball bearing and shaft assembly toward the motor. This will allow the shaft to move outward with the motor to expose the 2 set screws holding the drive shaft to the motor. Loosen the set screws on the drive shaft to remove the motor with a 5/64 hex key wrench.
5. Repeat these steps to install a new motor.

To change belt rotation direction, switch the white wire connector to either CCW or CW.

Note: Motor location may be different than view shown.





Operating Instructions.

Once you have completed the assembly of any stands or joined sections and you have installed the belt, it is a good time to test your system to insure that it is working correctly.

Plug in the power cord and activate the on switch. The switch should illuminate when active and a power source is present. The motor controller also has an indicator light that glows green when the power is on.

Note: The controller also has a red light that glows when the motor's safety shut-off has activated the internal alarm. Should this light go on, simply turn off the power and wait until the red light goes out. Restart the conveyor. If the light comes back on, please contact the factory.

With the power on, push the slide switch on the controller to the run position and adjust the orange dial to set the speed. The motor should run and the belt should move smoothly. If there are any noticeable jerking or erratic motion of the belt, make sure the belt is properly installed and that there are no objects obstructing the belt motion inside the conveyor. The sprockets are self-tracking and there is no need for any tensioning adjustments.

To insure safe operation, make sure the power cord is not in harms way. The conveyor stands have levelers with holes for bolting. Secure the conveyor to the floor to keep it from being accidentally tipped over.

Trouble Shooting.

Should the conveyor not operate, please perform the following tests before contacting the factory.

1. **Verify that the power source is active.** The light on the switch should glow when on. If the light on the switch will not go on, remove the middle panel on the switch with a small screw driver. Inside will be the fuse and a replacement fuse. If the fuse is blown, replace it with the spare fuse. Reinstall and turn on the power. If the fuse blows a second time, the motor and controller should be replaced. Please call with the serial number of the motor for warranty and replacement information.
2. **Check the drive shaft set screws.** If the motor is rotating, but the belt is not being driven by the drive shaft, check the set screws on the drive shaft for tightness. If missing, replace with 10-32 x 1/4" long set screws with a 3/32 hex key wrench.
3. **Check the alarm light.** If the red light of the motor controller is on, this indicates the motor was overloaded and stopped. Once overloaded for more than 10 second, the motor is shut off and the alarm light is activated. To reset the system, turn off the power switch and wait for the light to go off before restarting.

Maintenance

- Periodically clean the inside and outside of the conveyor with standard household cleaners recommended for kitchen counter application. Remove the belt and shake out any loose debris. Remove any material accumulated or "wound-up" on the drive as part of the interior cleaning.
- Check for loose or missing hardware and replace as required.



Warranty and Liability

Safe Conveyor, Inc. (the Company) warrants to the first end user Buyer that the Products and Parts thereof, when shipped, will be free from defects in materials comprising the same and in the Company's workmanship for a period of 2 years from date of shipment. If any such defects exist or later appear, the Company shall undertake, at its sole expense, prompt remedial action as stated herein to correct the same; provided however, that the Company shall have no obligation or liability under this Warranty unless it shall have received written notice specifying such defect no later than two (2) years from the date of shipment. Remedial action under this Warranty shall require only that the Company, at its option, repair or modify the Products or Parts thereof, replace the same F.O.B. Swansea, MA, or accept the return of the Products or Parts thereof by Buyer and refund the purchase price.

Products, or Parts thereof, manufactured by others are warranted hereunder only to the extent of such manufacturer's warranty to the Company.

Since after shipment, the Products and Parts thereof are under the sole control of Buyer, this Warranty is subject to, and shall be applicable only if, the following conditions are met:

- A. The Company's instructions as to installation, operation and maintenance have been followed;
- B. The Products and Parts thereof have been used under normal operating conditions or under such conditions as hereinbefore specified by the Company, or specified by the Buyer and agreed to in writing by the Company;
- C. The Products and Parts thereof have been properly erected, installed, operated and maintained and have not been affected by misuse, neglect or accident;
- D. The Buyer has not attempted or performed corrective work or change on the Products and/or Parts thereof without the Company's prior written consent as to the nature and expense thereof;
- E. The company shall have received notice of any defect no later than thirty (30) days after the Buyer first had knowledge of the same; and
- F. Within the Warranty period and after prior authorization from the Company, the Products and/or Parts are shipped freight prepaid to the Company at 1658 GAR Hwy Ste 2, Swansea, MA 02777.

THE FOREGOING WARRANTY IS IN SUBSTITUTION FOR, AND IN LIEU OF, ANY AND ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

LIMITATION OF LIABILITY

THE COMPANY SHALL HAVE NO LIABILITY WHATSOEVER IN ANY EVENT FOR PAYMENT OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR INJURY TO ANY PERSON OR PROPERTY. BY ACCEPTING THE PRODUCTS AND/OR PARTS THEREOF, THE FIRST END USER BUYER OR SUBSEQUENT USER AGREES THAT THE COMPANY SHALL NOT BE LIABLE FOR INDEMNIFICATION OR CONTRIBUTION (IN WHOLE OR IN PART) EITHER EXPRESSLY OR BY IMPLICATION.

IF FOR ANY REASON ANY OF THE FOREGOING PROVISIONS SHALL BE INEFFECTIVE, THE COMPANY'S LIABILITY FOR DAMAGES ARISING OUT OF ITS MANUFACTURE OR SALE OF ITS PRODUCTS OR PARTS, OR USE THEREOF, WHETHER SUCH LIABILITY IS BASED ON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL NOT IN ANY EVENT EXCEED THE FULL PURCHASE PRICE OF SUCH PRODUCTS AND PARTS THEREOF.

Any action against the Company based upon any liability or obligation arising hereunder or under any law applicable to the sale or its Products or Parts thereof, or the use thereof, must be commenced within one (1) year after the cause of such action arises.