



Cleveland Equipment

CE-TRA-37B - Bottomless Side Belt Transfer Conveyor

Operation Manual



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This manual is designed to assist in making the installation, setup, operation and troubleshooting of your equipment as easy and informative as possible.



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SAFETY

To ensure the safety of qualified personnel it is imperative that they understand the dangers, warnings and caution notices. Therefore, it is important to understand the signal words, which will be seen throughout this manual. The safety of equipment and plant facilities should be considered during equipment operation, change of product, and any approved equipment modification. Before attempting to perform any operation, maintenance or inspection of this equipment, it is imperative that all safety precautions and warnings herein be adhered to. If you have any questions or concerns regarding the information in this manual, do not hesitate to contact us. Signal words and symbols that you should become familiar with before continuing:

Lock Out – Tag Out Standard Procedures It is standard procedure that any individual engaging in the maintenance, repair, cleaning, servicing, or adjusting of machinery or equipment, will follow the procedures outlined in this document. These procedures are designed to meet or exceed applicable OSHA standards and SORM guidelines for safe work practices. The primary purpose is to help ensure that all individuals within the facility are protected from injury or death resulting from the accidental or unexpected activation of equipment during maintenance, repairing, cleaning, servicing, or adjustments.

Definitions:

Lock out - The practice of using keyed or combination security devices (“locks”) to prevent the unwanted activation of mechanical or electrical equipment.

Tag out - The practice of using tags in conjunction with locks to increase the visibility and awareness that equipment is not to be energized or activated until such devices are removed. Tags will be non-reusable, attachable by hand, self locking, and not easily removed.

The Safety of personnel, equipment, and plant facilities should be considered with each change of product, and any approved machinery modifications.





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Read and understand Operation and Safety Manual before operating this machine.



Do NOT move without additional personnel or mechanical assistance.



Never operate this machine without all safety guards and covers in their proper positions.



Refer servicing to qualified original manufacturer's service personnel.



Disconnect and lockout all power and air sources prior to any service or maintenance work.



Keep hands and foreign objects away from all moving parts and pinch points.



Do not make any changes or modifications to this machine.



This machine may start automatically or remotely at any time.



Moving parts can crush and cut.



Always wear OSHA approved eye/ear protection when operating this machine.



Cutting hazard - Keep hands clear of all moving belts, chains, sprockets, diving bars/nozzles, pulleys, etc. to avoid personal injury.



Never operate this machine with long hair, jewelry or loose clothing.



Machine design including controls and logic should not be changed or modified since it may result in machinery damage or personal injury.



Never stand or climb on machine or conveyor - use only an OSHA approved stepladder.



Risk of electrical shock - Electrical parts inside are live.



Keep hands and objects clear during operation.



SPECIFICATIONS

The CE-TRA-37B Bottomless Conveyor is used for moving containers a short distance from one working/transportation conveyor to another. Designed to access the bottom side of the container for coding expiration dates, lot numbers, etc. The Gripper Belts are independently adjustable using an easy adjust handle wheel, accommodating containers up to 8 – ½ inches in diameter. The conveyor has variable speeds that will capture a container from one conveyor and transport it to another conveyor using matched frequency gripper belts. The Bottomless Conveyor has a Made in the USA Bodine Motor. This version of the Bottomless Conveyor has tilting capabilities for tapered bottles. Motor transmissions, gears, or pulleys for the drive train are utilized, eliminating almost any maintenance. The Bodine Motors used are frequency controlled, so belt speeds are matched and synchronized, further reducing any maintenance issues and ensuring that all codes are straight and legible.

Key Features:

- Variable Speed
- 1/6 HP Drive Motor
- Stainless Steel Construction
- Available in 110 V or 220 V Power
- Easily Adjustable Height
- User Friendly Control Box
- Thick and forgiving long life gripping belts
- Easy bottle size adjustment with hand wheel
- Height adjustable

Optional Features

- Extended Length Models
- Double Wide Gripper Belts

Specifications:

- Conveyor Height Adjustment: Floor to Belt 35 ½ to 42 inches
- Belt Dimensions: 36" L x 3/4 " W x 1" H
- Machine Dimensions: 37" L x 24.5" W x 44" H
- Weight: Approx 245 lbs
- Drive: Up to 300 ft./min
- Electrical: 115 V



SETUP

1. Position your Bottomless Conveyor where it is needed, typically at the end of another conveyor. 110VAC electricity will be required near the electrical box.
2. Level the machine, making sure that all four feet are firmly on the floor to assure that the machine does not teeter or rock.
3. Adjust the height of the Floor Rails of the Bottomless Conveyor to match the floor height of the conveyor upstream of it, and level the Floor Rail(s). Be careful not to create a bump where containers transfer from one conveyor to the next - the smoother the transition, the fewer the problems downstream.
4. Adjust the gap between the conveyance belts a little wider than your container. Use a container to check that the transition between conveyors is as smooth as you can get it, and then tighten the floor rails down.
5. Adjust the height of the belts - they should engage the containers just above the center of their height, but the geometry of your containers may dictate where the belts engage the containers. You want the belts to be near the center of the containers. Take care to set an equal distance from the frame members to the bottom of the conveyor plates, so the belts remain level and parallel to the machine frame.
6. Now let's adjust the two belts perfectly parallel. To do so, use a straight edge or level between the two belts.
7. Use your straight-edge to check that the top surfaces of the two belt covers are precisely aligned with each other. This is important to belt life and to consistent operation. Adjust one or both if necessary, then gently tighten all the fasteners that hold the belts in place.
8. Set a container at about the middle of the Bottomless Conveyor and use the crank handle to bring the belts in to just lightly touch the sides of the container. Slide it forward and backward; there should be equal resistance throughout the gap between the belts. Make any tiny adjustment necessary.
9. Move the container so it is positioned between the pulleys at the feed end of the conveyor. Adjust the belts inward using the crank handle, so the belts have an adequate hold on the



container- not tight enough to dent in the sides, but firm enough that it would be difficult to pull the container out.

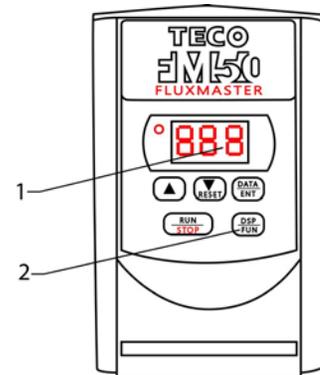


Verify that the feet of the Bottomless Conveyor are firmly positioned and the feet do not rock or teeter, thus eliminating any possibility of movement, which could cause misalignment. Check the gripper belts. Make sure they are firmly grasping your container and that they are parallel, and tension is maintained throughout the length of the conveyor.

Test Run

Turn your Bottomless Conveyor on and let it run for a little while. Now that your Bottomless Conveyor is set up to run your containers, the only variable is belt speed. In most circumstances you will want it to run just a little faster than the machine that feeds it- whether it's a bottle orientator, a filler, or capper. By running a little faster than the machine that feeds it, a gap will be created between containers, rather than having them bunch up at the entrance to this conveyor.

Speed adjustments are easily made during the course of a run, but production supervisors often keep a sheet of notes on machine settings to optimize production rates and reduce set-up times. It is recommended therefore that the machine that feeds this conveyor be turned on, set at its normal production speed, and then the belt speed of the Bottomless Conveyor be set just a little faster, and noted for future set-ups.



1. Speed Display
2. Run / Stop



Belt Tensioning Procedure

Using a wrench, loosen the sprocket. This is a carriage bolt so you will not need to back the screw up with another wrench. On the inside of the rail, carefully place a flat head screwdriver between sprocket and the delrin rail, carefully prying the sprocket away from the rail, and then tighten screw. This belt does have teeth to drive it, so you do not need to over tighten it. This could shorten the life of the belt

Belt Changing Procedure

Using a wrench remove the screw from the sprocket completely. With an Allen wrench remove the 6 screws on top of the motor plate. Lift the motor plate slightly and you will have access to the belt in order to remove it safely from the unit. Place new belt aligned with sprockets. With Allen wrench place 6 screws a top motor plate and with wrench screw sprocket completely.



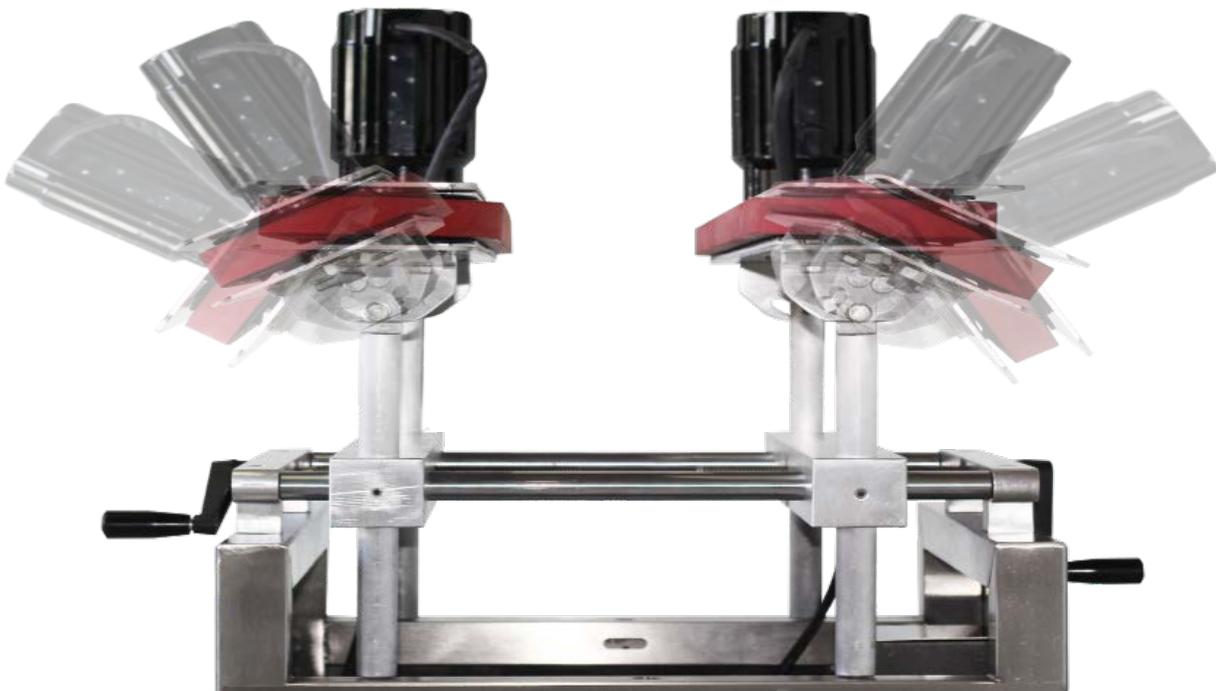
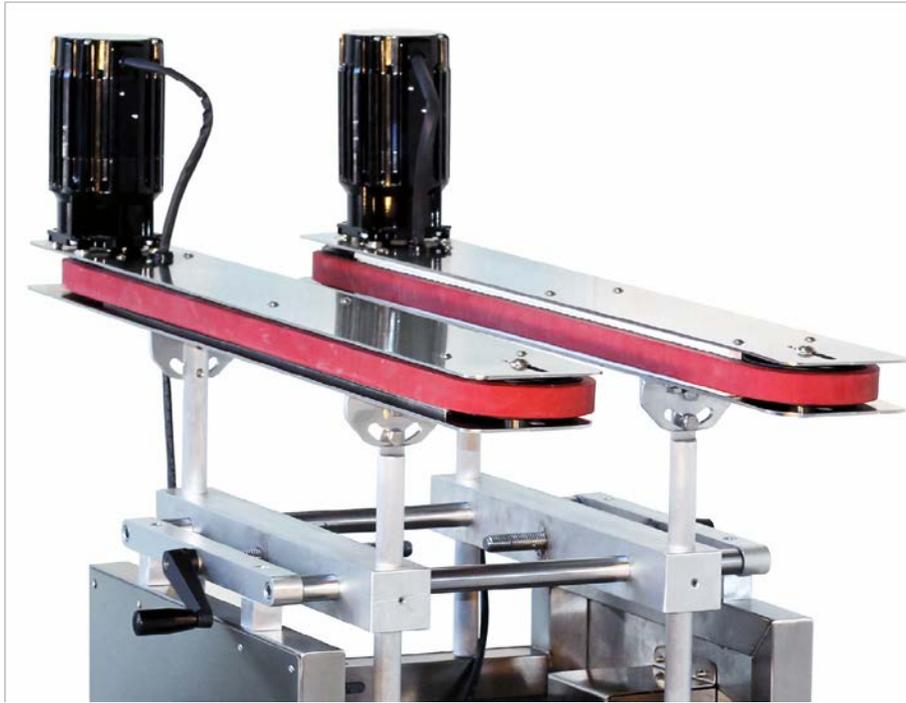
MAINTENANCE

The Bottomless Conveyor system is virtually maintenance free. The motors and bearings are permanently lubricated from the factory. Maintenance is reduced to keeping the machine clean and adjusted. We recommend a thorough weekly cleaning, with a mild detergent, adjusting, and checking that the feet all touch the ground, that the conveyors stay parallel to the machine frame and to each other. Check the belts for damage, and keep spares on hand.

There are large adjustment screws beneath the conveyor belts - we recommend that they be lubricated (food grade if necessary) periodically. It may be necessary to occasionally adjust the belt tension on the gripper belts. If so, please refer to the belt tensioning procedure given below.

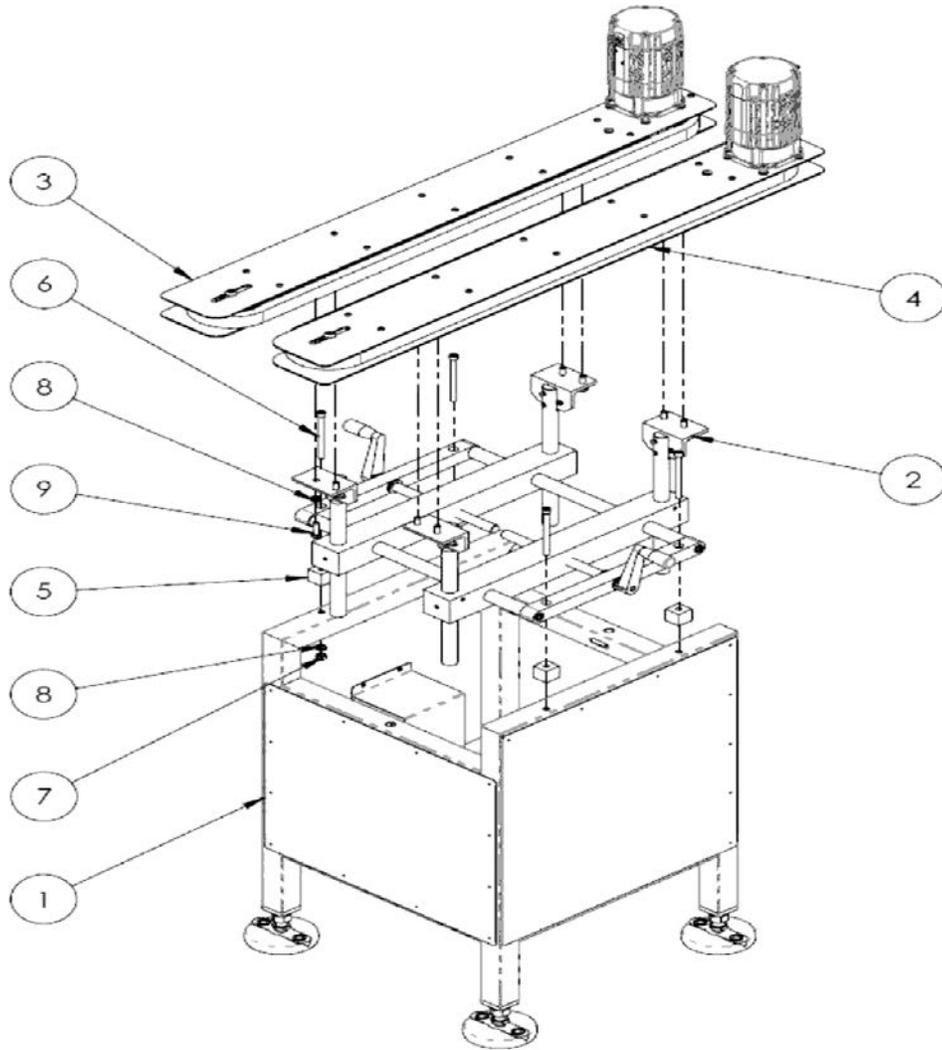


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PARTS

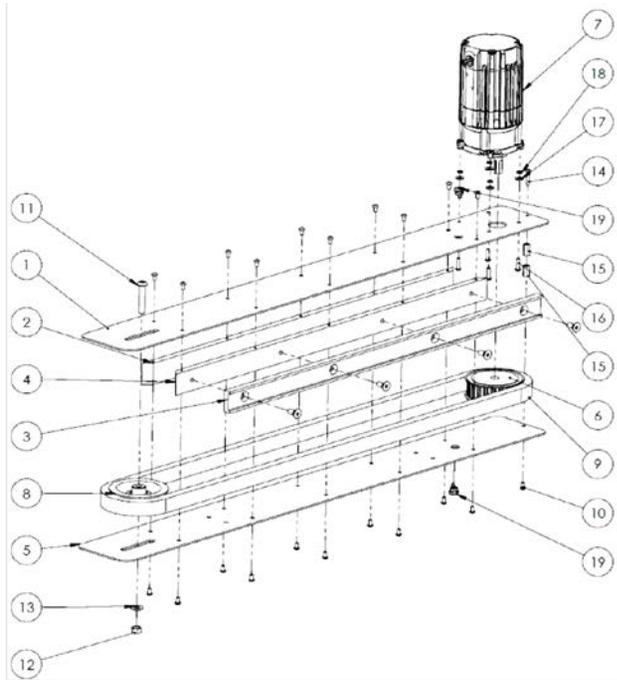


ITEM	QTY	PART NAME	DESCRIPTION
1	1	BASE ASSEMBLY	SEE BELOW
2	4	BC-001-02	ADJUSTING ASSEMBLY
3/4	2	MOTOR MOUNT ASSEMBLY	SEE BELOW
5	4	BC-001-00-05	SPACER
6	4	921A	5/16 -18 SS SCREW
7	4	918A	5/16-18 SS NUTS
8	12	921B	5/16 LOCK WASHER
9	8	922A	5/16-18 SS SCREW

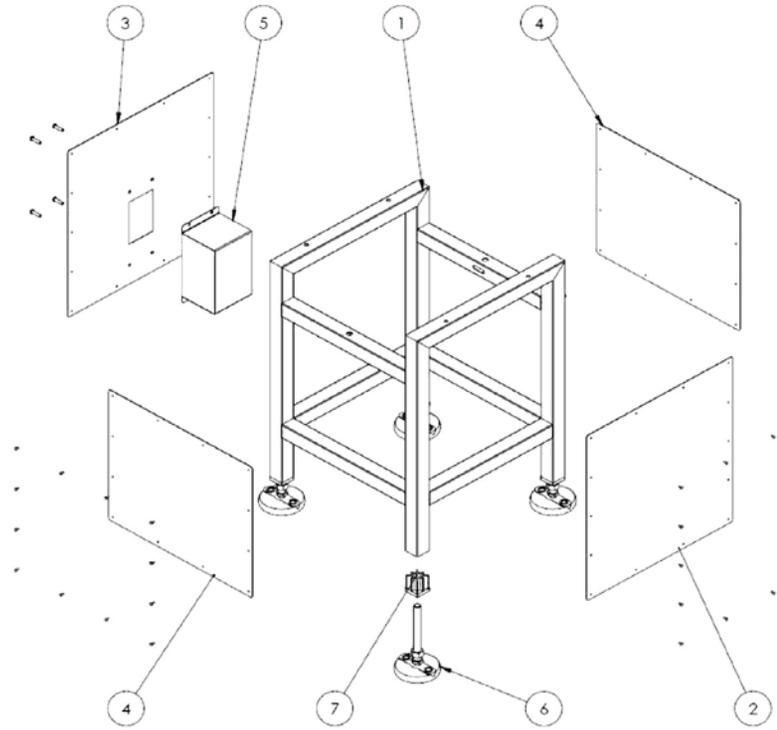


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ITEM	QTY	PART NAME	DESCRIPTION
1	2	GLOBAL05	MOTOR MOUNT TOP PLATE
2	2	BC-001-03-02	SPACER BAR
3	2	BC-001-03-03	WEAR PLATE
4	2	BC-001-03-04	OUTSIDE SPACER
5	2	BOTTOMLESS1212-37	BOTTOM PLATE
6	2	TIMING PULLEY	TIMING PULLEY
7	2	N2227	BOTTOMLESS MOTOR
8	2	IDLER	IDLER
9	2	TIMING BELT	TIMING BELT
10	21	929A	10-32 X 3/8" SCREWS SS
11	1	929B	3/8-16 X 2" SCREWS SS
12	1	926A	3/8-16 HEX NUT SS
13	1	966A	3/8 FLAT WASHER SS
14	1	929C	10-32 X 1" SCREW SS
15	2	902A	10-32 HEX NUT SS
16	4	929D	10-32 X 1/4" SCREW SS
17	4	966B	#10 FLAT WASHER SS
18	4	921C	#10 LOCK WASHER SS
19	2	1150	STRAIN RELIEF GROMMET
20	4	922B	5/16-18 X 3/4" SCREW SS



ITEM	QTY	PART NAME	DESCRIPTION
1/2/3/4	1	SET BOTTOMLESS SKIRT	SIDE PANELS OF FRAME
5	1	CONTROL COVER	SPEED CONTROL COVER
6	4	LEVELING FEET	LEVELING FEET
7	4	SQR TB END	5/8 SQUARE TUBE END INSERT
8	53	975A	1/8 RIVET NUTS
9	4	929A	1/4-20 X 1" SCREW SS
10	1	SPEED CONTROL	VARIABLE SPEED CONTROL (NOT IN IMAGE)