

Owner's Manual

MB SERIES TABLETOP CONVEYOR DRYER

(Original Document)



IMPORTANT INSTRUCTIONS

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

This manual covers assembly, start-up, and maintenance.

800-654-4205 – 1100 Jefferson Street – Pacific, MO 63069 USA

www.bbcind.com

WARNINGS

The operator should familiarize themselves with this manual and all the **WARNINGS** before installing or working on this heater to avoid potentially hazardous conditions, severe property damage, personal injury, or death.

1. BBC Industries is interested in the safe operation of its equipment. All wiring to this equipment must be connected to the source in strict accordance with all local codes having jurisdiction.
2. A dedicated electrical (earth) ground is required for proper operation of the equipment.
3. This equipment is meant for the drying/curing of non-flammable Plastisol and water-based screen-printing inks and dies on textiles or the like. Use for any other purpose may cause fire, electric shock, or injury to persons.
4. This heater is for indoor, non-residential use.
5. Install unit in a location with adequate emergency exits.
6. Place unit in an area with adequate spacing and lighting for installation, operation, and maintenance.
7. The dryer has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.
8. Use the dryer in a well-ventilated space. Refer to the Safety Data Sheet (SDS) for any inks or dies that you are curing.
9. The area around this equipment should be designated as a work zone with only trained and authorized personnel allowed in the work zone.
10. Keep the work zone clean and free of debris. A perimeter of at least 18 inches (.5 m) around the equipment is recommended.
11. Do Not use extension cords to power this equipment.
12. Recommended temperature range of 41°F (5°C) to 104°F (40°C) for operation with humidity levels between 40 – 70% to avoid static buildup and discharge.
13. This equipment is hot when in use. To avoid burns, do not touch hot surfaces. Do not set objects on the unit.
14. Check to see that no objects are on the conveyor and the dryer is free from obstructions before operating the dryer.
15. Puncture of the heating element face may result in a shock hazard. Do not operate if heater face is damaged.
16. Do not operate the heater after it malfunctions. Disconnect power at service panel and have the dryer inspected by a qualified technician before reusing.
17. To disconnect the heater, turn off power and unplug the device.
18. Do not insert or allow foreign objects to enter any ventilation opening as this may cause an electric shock or fire, or damage to the dryer.
19. Do not leave the unit unintended while in use.
20. Do not wear loose or dangling clothing while operating this equipment.
21. If a blockage occurs along the conveyor, immediately turn off power to dryer and allow it to cool before removing blockage.
22. This conveyor dryer ships on a pallet in 3 boxes. Be aware of the weights listed later in this manual.
23. Before storing this unit, allow the heater to fully cool and disconnect from the power source. Be aware of the weight of the unit and take precautions while handling these weights.
24. This dryer is designed to withstand all pressures and forces during shipment, assembly, dismantling, and all other reasonably foreseeable actions, so as long as instructions in this manual are followed.
25. This unit does not require lengthy concentration that would lead to discomfort, fatigue, or physical and psychological stress.
26. These units do not produce noise exceeding 70 dB(A).
27. Use this dryer only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
28. Handle unit in a safe manner.

Assembly Instructions

POWER REQUIREMENTS:

WATTS	VOLTS	AMPS	FREQUENCY	PHASE	PLUG
1462	120	12.19	50 / 60 Hz	1	NEMA 5-15P

- Please review all these instructions prior to assembly.
- The *MB Series Tabletop Conveyor* is packaged in 3 boxes for shipment. (BOX1 – 32 lbs. BOX2 – 41 lbs. BOX3 – 25 lbs.)
- Please make sure all pieces have been received before attempting assembly.
- Unpack, identify, and inspect all parts. Report any missing or damaged items.
- **Tools Required:** 1/2-inch wrench, Phillips screwdriver, and needle nose pliers.

What's in the box:

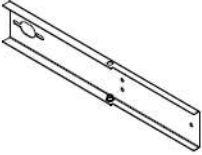
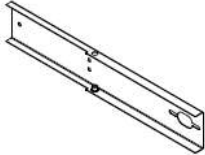
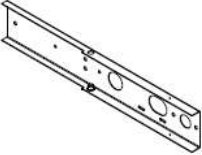
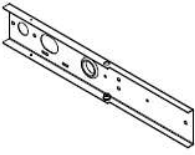
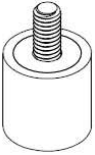
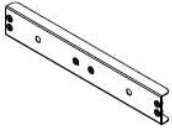
IMAGE	DESCRIPTION	QTY	ITEM #	BOX
	MB21-002 (LEFT) CONVEYOR RAIL - TAKEUP	1	1	1
	MB21-002 (RIGHT) CONVEYOR RAIL - TAKEUP	1	2	1
	MB21-003 (LEFT) CONVEYOR RAIL – TENSIONING	1	3	1
	MB21-003 (RIGHT) CONVEYOR RAIL – DRIVE MOTOR	1	4	1
	22-141 BUMPER / FOOT	4	5	2
	MB21-005 SPLICE CHANNEL	2	6	1

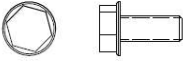
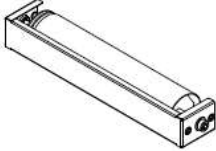
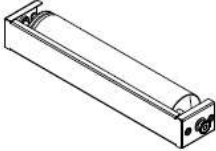
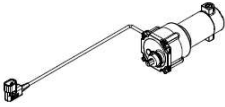


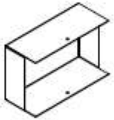

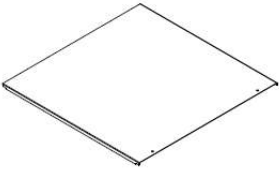


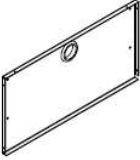
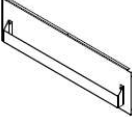
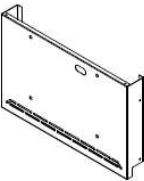
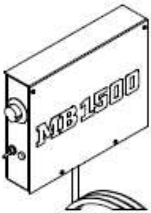
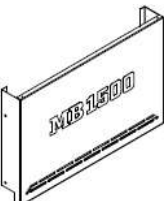
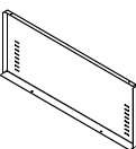
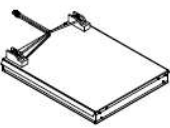
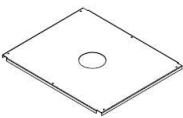

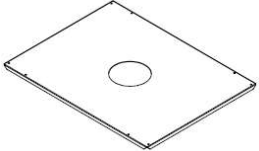
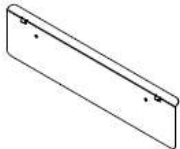

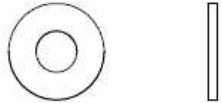
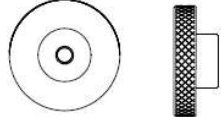
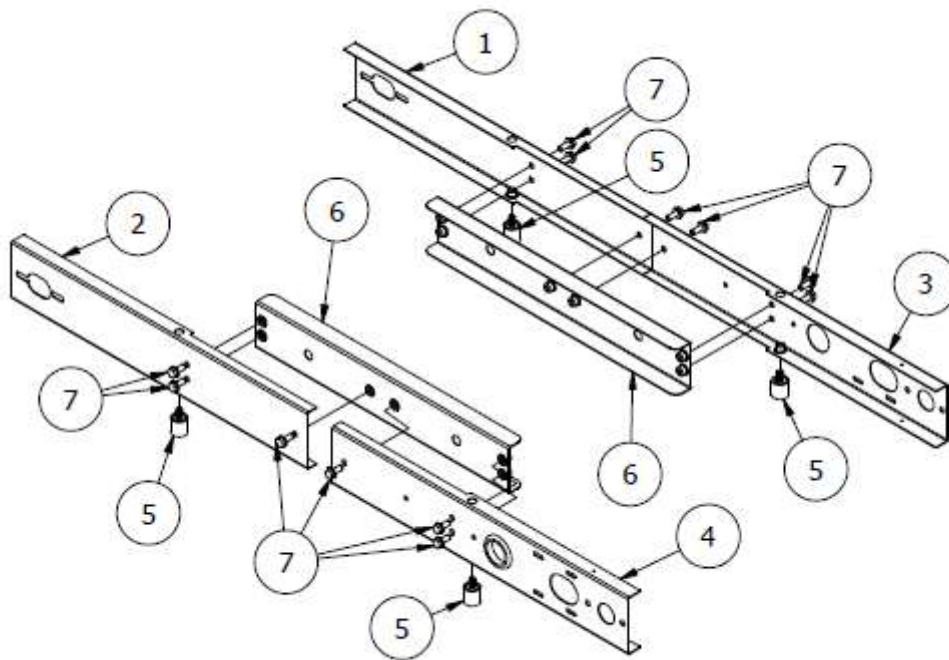
IMAGE	DESCRIPTION	QTY	ITEM #	BOX
	25-025 5/16-18 x 3/4L BOLT	24	7	2
	MB21-022 TENSIONING ROLLER ASSEMBLY	1	8	1
	MB21-023 DRIVE ROLLER ASSEMBLY (SPROCKET)	1	9	1
	08-252-MB GEAR MOTOR	1	10	3
	25-176 #10-32 x 1/2L SCREW	4	11	2
	18-119 DRIVE CHAIN	1	12	2
	AIR-229 CHAIN COVER	1	13	2
	25-001 #6-20 x 3/8L SCREW	36	14	2
	MB21-006 FLOOR PLAN	2	15	2
	1804-300 CONVEYOR BELT	1	16	3

IMAGE	DESCRIPTION	QTY	ITEM #	BOX
	22-057 ROUTING CLIP	2	17	2
	MB21-014 INNER SIDE PANEL	2	18	2
	MB21-015 INNER ENTRY / EXIT	2	19	2
	MB21-018 OUTER SIDE PANEL – CP	1	20	2
	MB21-025 CONTROL PANEL	1	21	3
	MB21-017 OUTER SIDE PANEL	1	22	2
	MB21-020 CHAMBER ENDCAP	2	23	2
	MB21-024 HEATER ASSY	1	24	3
	MB21-016 INNER CHAMBER COVER	1	25	2

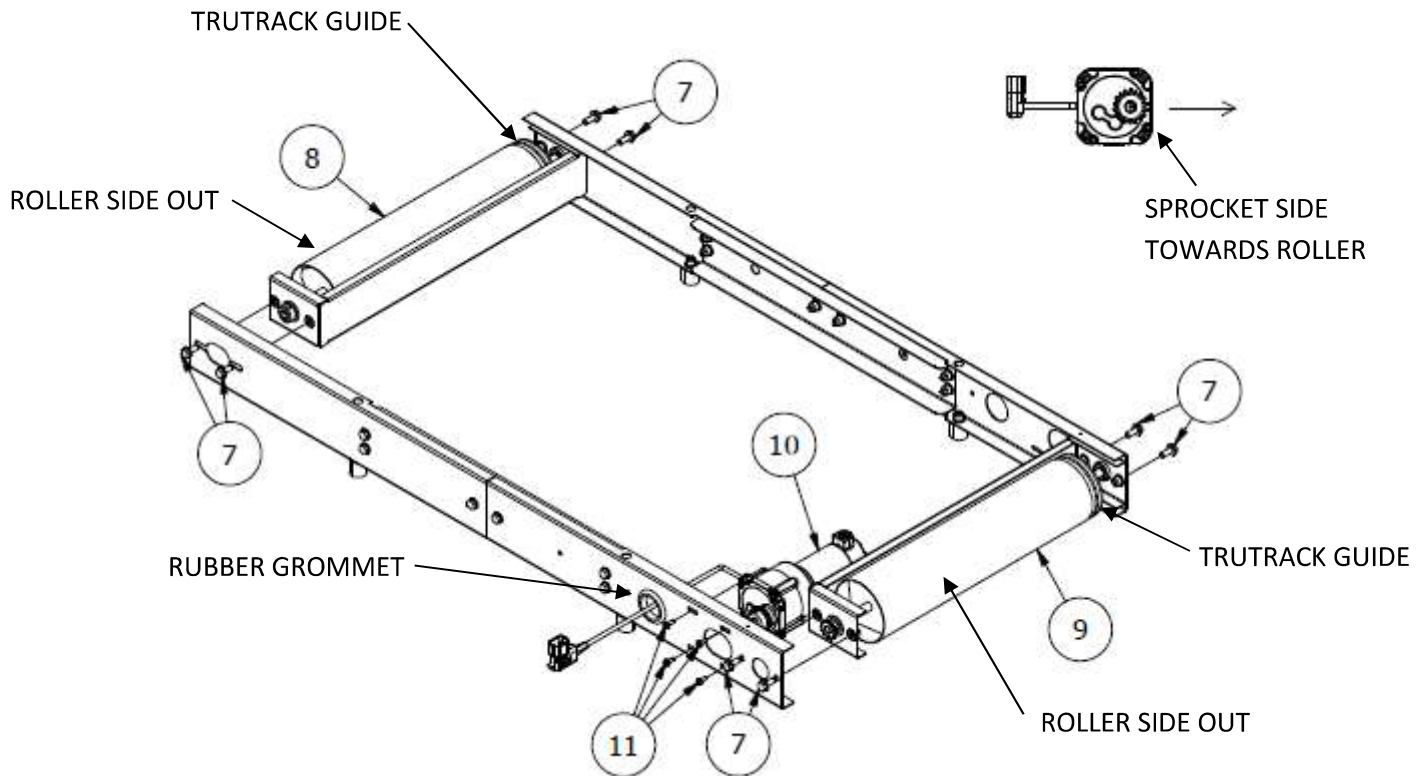
	<p>22-093 DUCT START COLLAR</p>	<p>1</p>	<p>26</p>	<p>2</p>
	<p>MB21-019 CHAMBER COVER</p>	<p>1</p>	<p>27</p>	<p>2</p>
	<p>MB21-021 CHAMBER END SHIELDS</p>	<p>2</p>	<p>28</p>	<p>2</p>
	<p>25-286 1/4 x 1/2L STUD</p>	<p>4</p>	<p>29</p>	<p>2</p>
	<p>23-003 1/4 WASHER</p>	<p>4</p>	<p>30</p>	<p>2</p>
	<p>93-028 KNOB</p>	<p>4</p>	<p>31</p>	<p>2</p>

STEP 1:



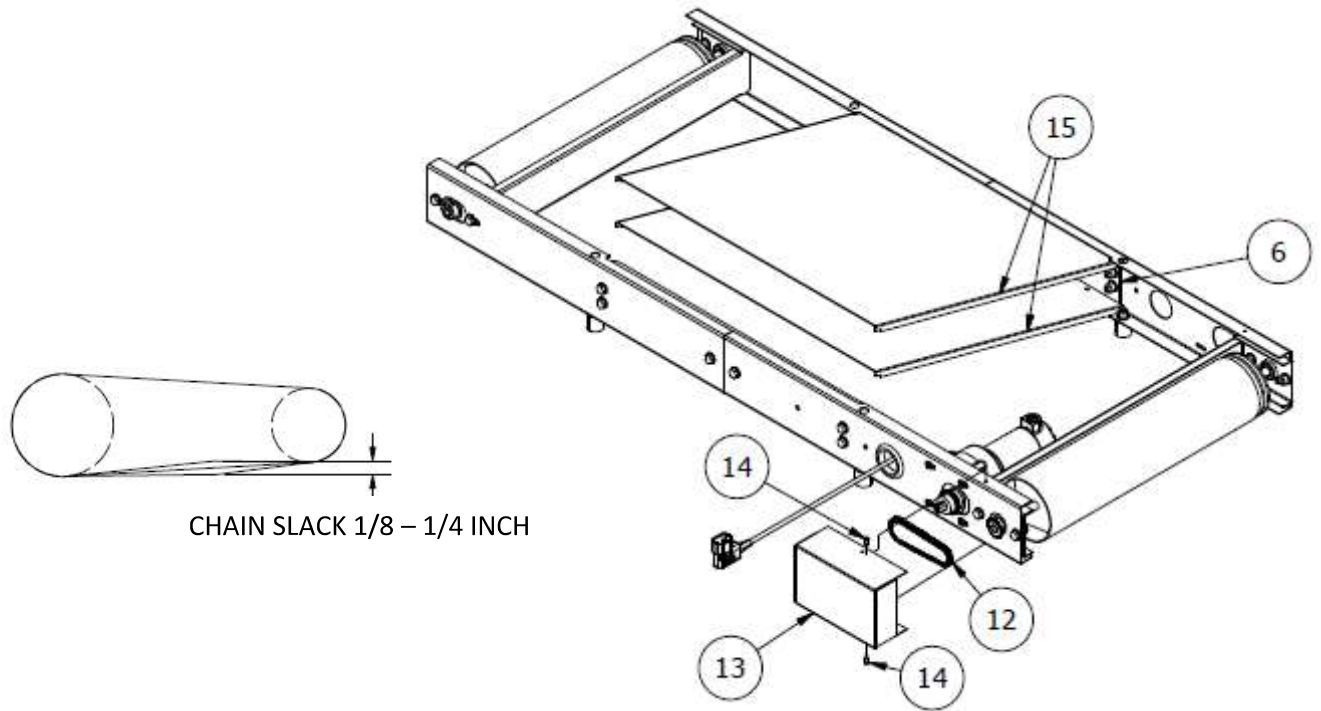
1. Locate the four painted **CONVEYOR RAILS** [1, 2, 3, & 4] from BOX 1 and the four rubber **BUMPER/FEET** [5] from BOX 2.
2. Thread each **FOOT** into the threaded insert in each of the **RAILS**.
3. Locate the two unpainted **SPLICE CHANNELS** [6] from BOX 1.
4. Using twelve of the **5/16 x 3/4L BOLTS** [7] from BOX 2, assemble the two **CONVEYOR RAIL** assemblies by attaching the **CONVEYOR RAIL** segments [1, 2, 3, & 4] with the **SPLICE CHANNEL** [6], so that the **FEET** face the same direction on each rail assembly.

STEP 2:



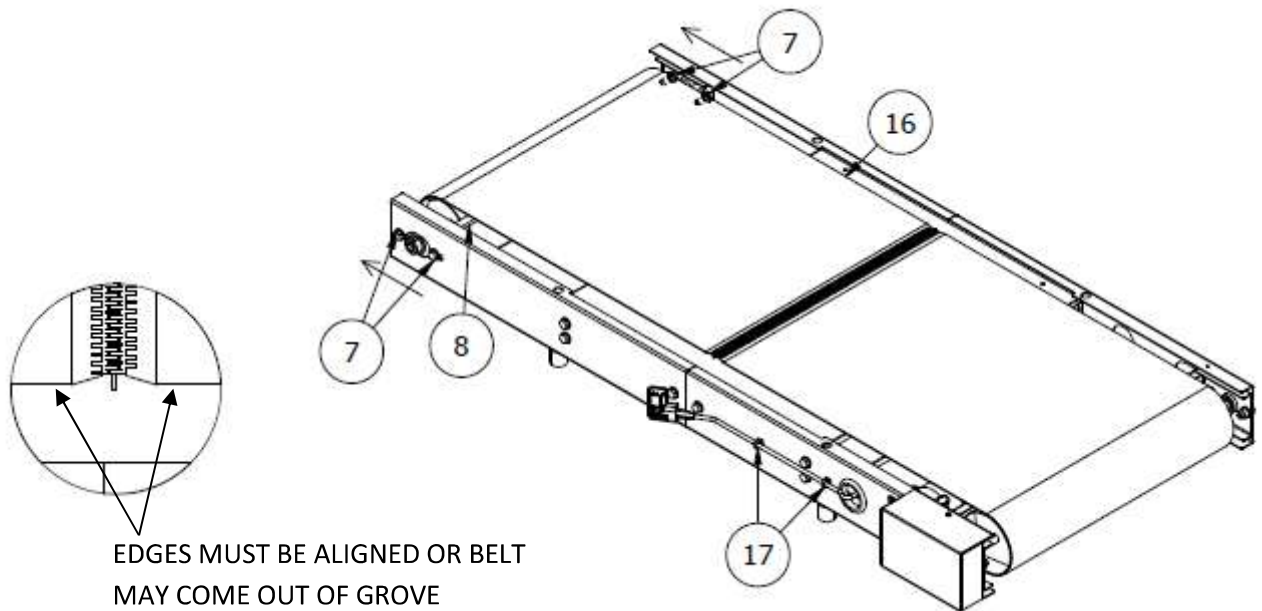
5. Locate the **DRIVE ROLLER ASSY [9]** from BOX 1. The **DRIVE ROLLER ASSY** has the sprocket attached.
6. Using four **5/16 x 3/4L BOLTS [7]**, attach the **DRIVE ROLLER ASSY** to the **CONVEYOR RAIL** assemblies on the end with the motor mounting cutouts. Attach the sprocket side to the **RAIL** with the **RUBBER GROMMET** installed. **ROLLER SIDE OUT**.
7. Locate the **TENSIONING ROLLER ASSY [8]** in BOX 1.
8. Using four **5/16 x 3/4L BOLTS [7]**, attach the **TENSIONING ROLLER ASSY** to assembled **CONVEYOR RAIL** aligning its TruTrack™ Belt Guide with the Guide on the **DRIVE ROLLER ASSY**. **ROLLER SIDE OUT**. Tighten the **BOLTS** only finger tight. (The position of this roller will be adjusted later in these instructions).
9. Locate the **DRIVE GEARMOTOR [10]** from BOX 3 and the four **#10-32 x 1/2L SCREWS [11]** from BOX 2.
10. Mount the **GEARMOTOR** through the mounting slots on the **CONVEYOR DRIVE RAIL** with the **SPROCKET** side toward the **ROLLER ASSY**, as shown in the figure.
11. Thread the four **#10-32 x 1/2L SCREWS [11]** into the threaded bosses in the **GEARMOTOR**. Do not fully tighten.
12. Insert the cord of the **GEARMOTOR** through the **GROMMET** in the **CONVEYOR RAIL**.

STEP 3:



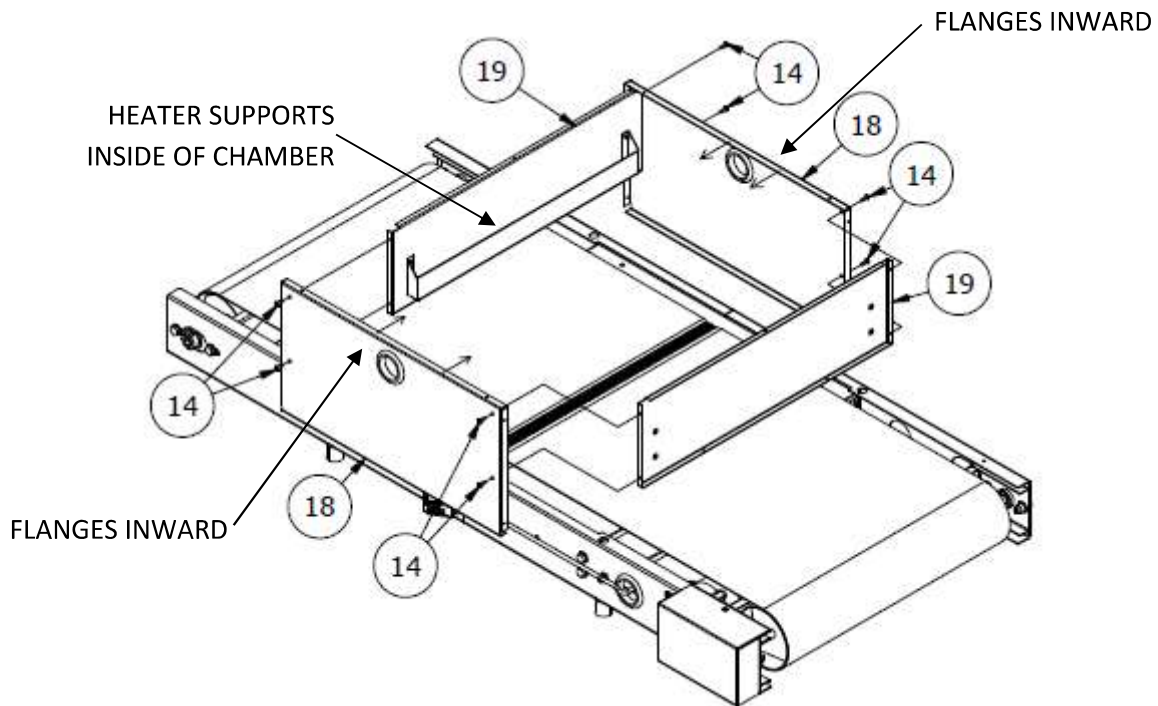
13. Locate the **ROLLER CHAIN [12]** from BOX 2.
14. Slide the **GEARMOTOR** in the slots towards the **CONVEYOR DRIVE ROLLER**.
15. Place the **CHAIN** around both SPROCKETS. Slide the **GEARMOTOR** to remove most of the slack from the **CHAIN**. Allow a small amount of slack in the **CHAIN** per the figure. A tight chain will have a reduced life.
16. Tighten the four **#10-32 x 1/2L SCREWS** attaching the **GEARMOTOR**.
17. Locate the **CHAIN COVER [13]** and two **#6 x 3/8L SCREWS [14]** from BOX 2.
18. Fit the **CHAIN COVER** over the SPROCKETS and **CHAIN**. Secure with the two **#6 x 3/8L SCREWS** into the pilot holes in the top and bottom of the **CONVEYOR RAIL**.
19. Locate the two **FLOOR PANS [15]** from BOX 2.
20. Place the first **FLOOR PAN** with the flanges down and towards the **CONVEYOR ROLLERS** onto the lower flanges of the **SPLICE CHANNEL [6]** of the **CONVEYOR RAIL** assembly.
21. Center the **FLOOR PAN** between the **CONVEYOR RAILS**.
22. Insert the second **FLOOR PAN** (flanges down) between the upper flange of the **SPLICE CHANNEL** and the flange of the **CONVEYOR RAIL** assembly.
23. Center the **FLOOR PAN** between the **CONVEYOR RAILS**.

STEP 4:



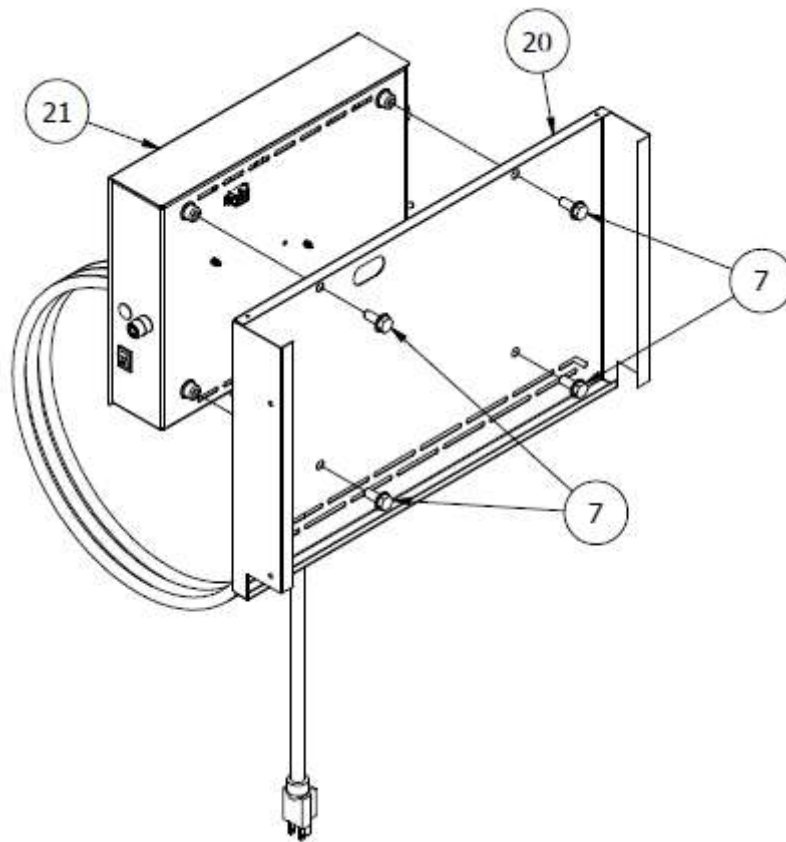
24. Locate the **CONVEYOR BELT [16]** from BOX 3.
25. Remove the pin from the teeth at one end of the **CONVEYOR BELT**. Do not discard or bend the pin.
26. Route the **CONVEYOR BELT** around both **CONVEYOR ROLLERS** and atop both **FLOOR PANS**.
27. Fit the rubber Trutrak™ Edge Guide of the **CONVEYOR BELT** into the Guide slots of the **ROLLERS**.
28. Mesh the teeth of the alligator splice aligning the edges of the **BELT**, then reinsert the pin. A pair of pliers may be needed to fully reinsert the pin.
29. Remove some slack from the **CONVEYOR BELT** by pulling the **TENSIONING ROLLER ASSY [8]** by hand, then tighten the **5/16-18 x 3/4L BOLTS [7]**. The **CONVEYOR BELT** only needs to be tight enough so as not to slip while in use. Over tightening the **CONVEYOR BELT** may lead to reduced life.
30. Locate the two **ROUTING CLIPS [17]** from BOX 2.
31. Wrap the **CLIPS** around the cord of the **GEARMOTOR** and insert each **CLIP** into the holes in the **CONVEYOR DRIVE RAIL**.

STEP 5:



32. Locate the unpainted **INNER ENTRY/EXIT** and **INNER SIDE PANELS [18 & 19]** from BOX 2.
33. Using eight **#6 x 3/8L SCREWS [14]** from BOX 2, attach the two **ENTRY/EXIT PANELS [19]** to one of the **INNER SIDE PANELS [18]**. Note the direction of HEATER SUPPORTS and part flanges of the **SIDE PANEL** per figure.
34. Attach the remaining **INNER SIDE PANEL [18]** to the other side of the **ENTRY/EXIT PANELS [19]** using eight additional **#6 x 3/8L SCREWS [14]**.
35. Note that the **DRYER CHAMBER** is not fastened to the **CONVEYOR**.

STEP 6:

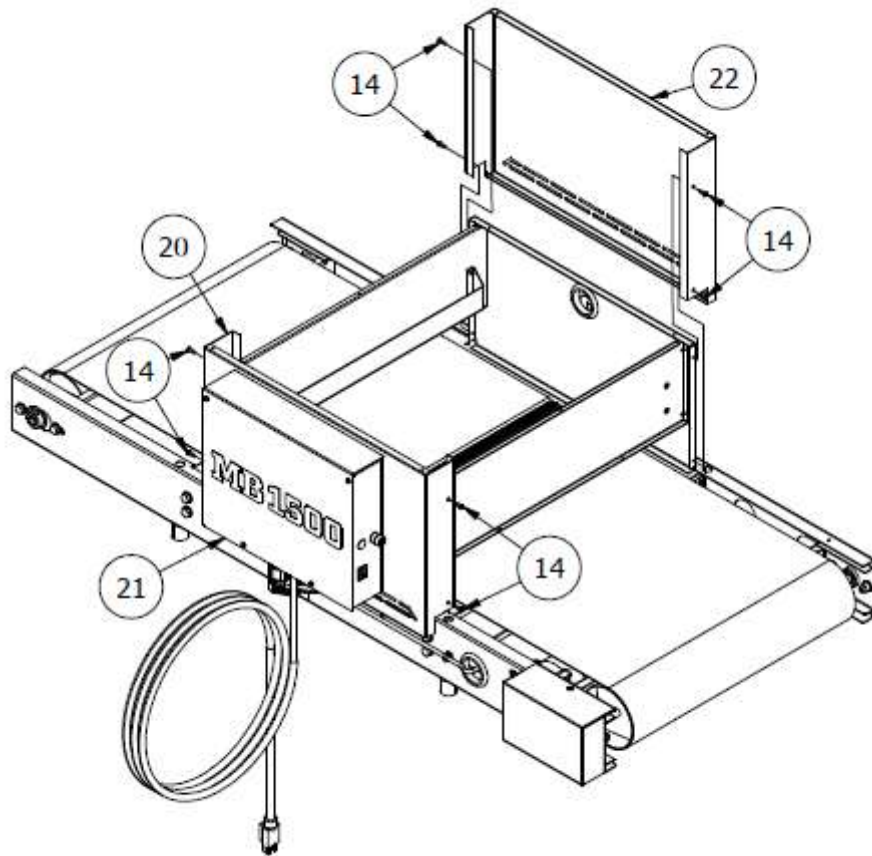


36. Locate the **OUTER SIDE PANEL [20]** In BOX 2. This part is without a label.

37. Locate the **CONTROL PANEL ASSY [21]** from BOX 3.

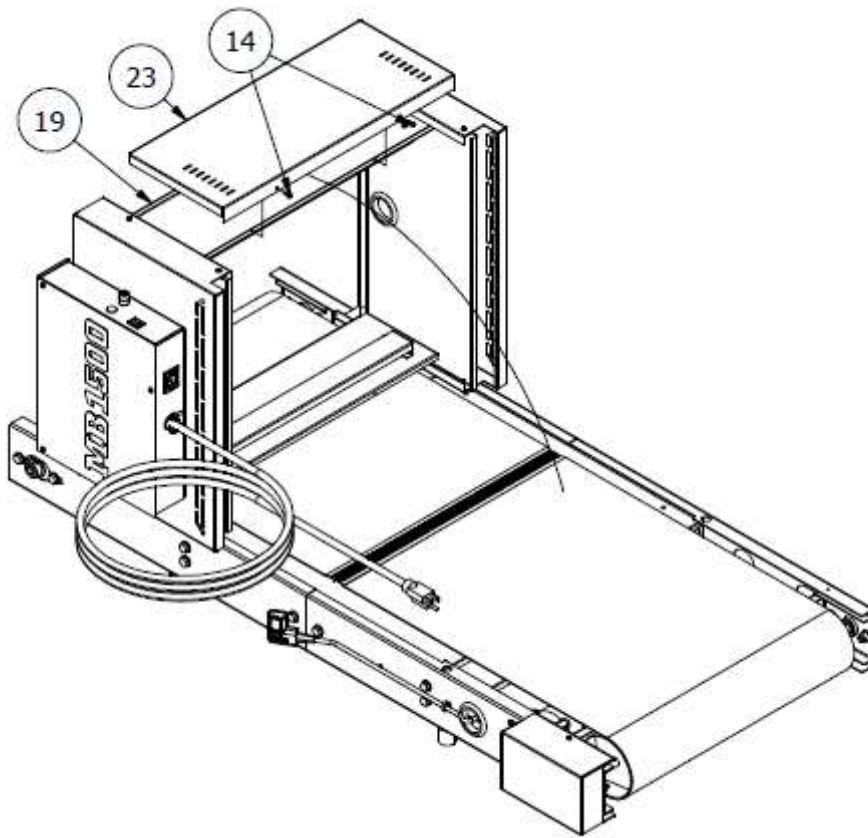
38. Using four **5/16 x 3/4L BOLTS [7]** attach the **CONTROL PANEL** to the **SIDE PANEL**.

STEP 7:



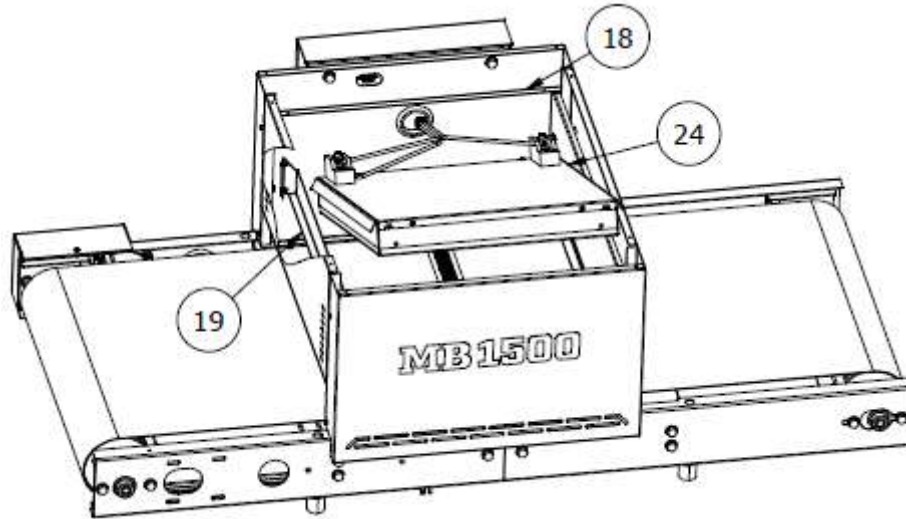
39. Install the **CONTROL PANEL/SIDE PANEL [20 & 21]** assembled from the previous step to the **INNER CHAMBER** assembly by sliding it over **INNER SIDE PANEL** from above on the **GEARMOTOR** side of the **CONVEYOR**.
40. Locate the **OUTER SIDE PANEL [22]** with the Label from **BOX 2**.
41. Slide **OUTER PANEL** over other **INNER SIDE PANEL**.
42. Attach the **SIDE PANELS** using eight **#6 x 3/8L SCREWS [14]**.

STEP 8:



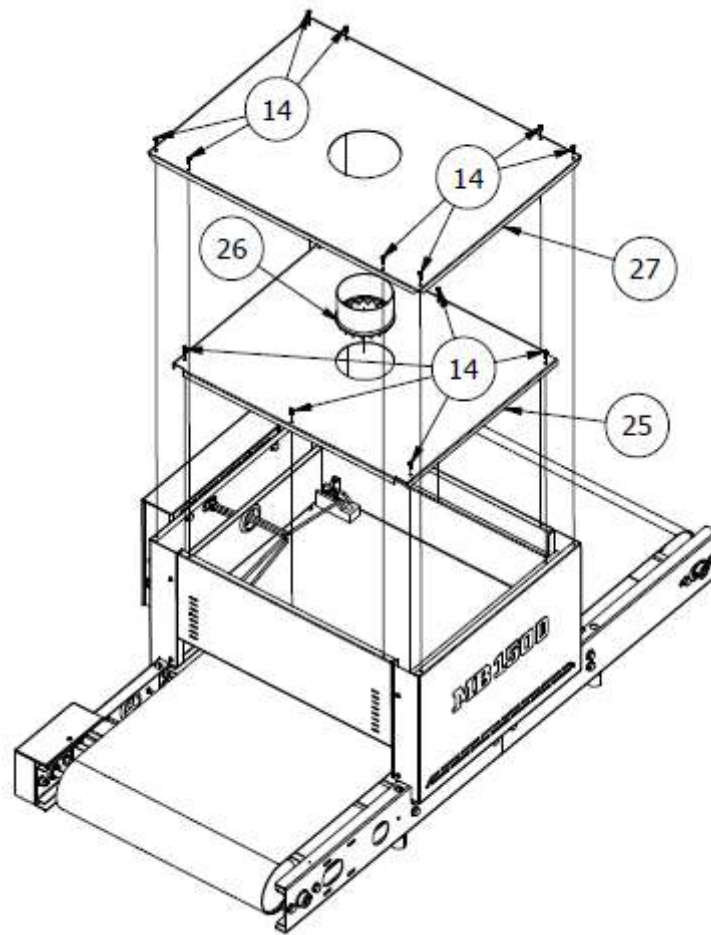
43. Locate the two **CHAMBER END CAPS [23]** from BOX 2.
44. Rotate the partially assembled CHAMBER onto its end as shown in the figure.
45. Insert one of the **ENDCAPS** between the two **SIDE PANELS** with the longest flange to the underside of the CHAMBER.
46. Align the holes with the **INNER ENTRY/EXIT [19]** and attach the **ENDCAP** using two **#6 x 3/8L SCREWS [14]**.
47. Repeat this assembly procedure with the remaining **ENDCAP** on the reverse side of the CHAMBER.

STEP 9:



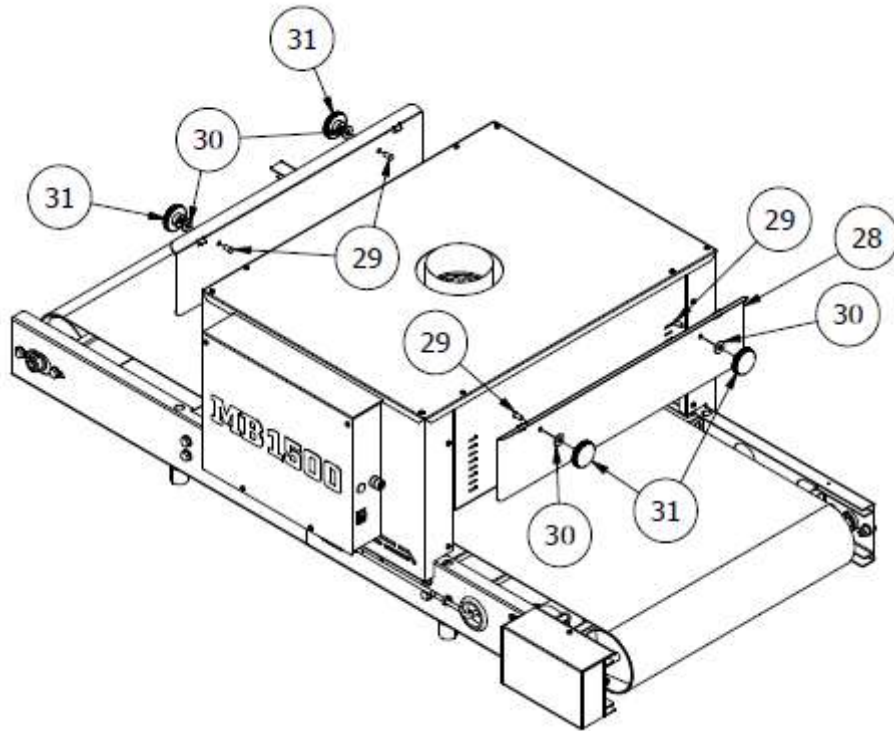
48. Locate the **HEATER ASSY [24]** from BOX 3.
49. Insert the **HEATER ASSY** into the CHAMBER fitting its angled flanges over the HEATER SUPPORT BRACKETS of the **INNER ENTRY/EXIT** panels. The terminal blocks need to be on the **CONTROL PANEL** side of the CHAMBER.
50. The fit may be tight. Insert with the leading end of **HEATER ASSY**.
51. Insert the plug connector of the **HEATER ASSY** through the grommet in the **INNER SIDE PANEL [18]**.
52. Insert the **HEATER ASSY** plug through the **OUTER SIDE PANEL** and into the receptacle connector on the **CONTROL PANEL**.

STEP 10:



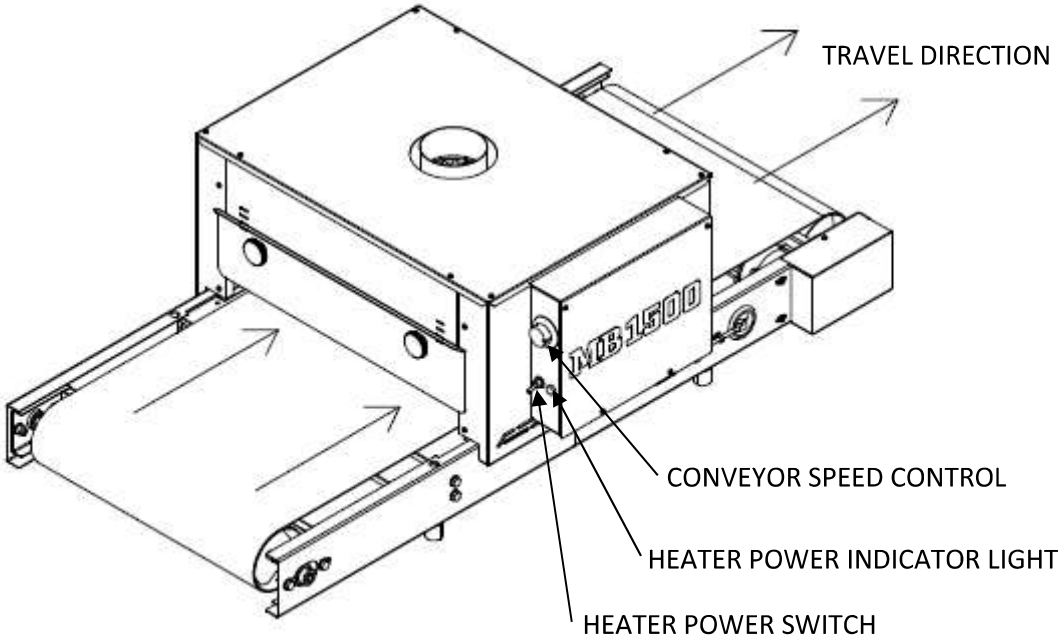
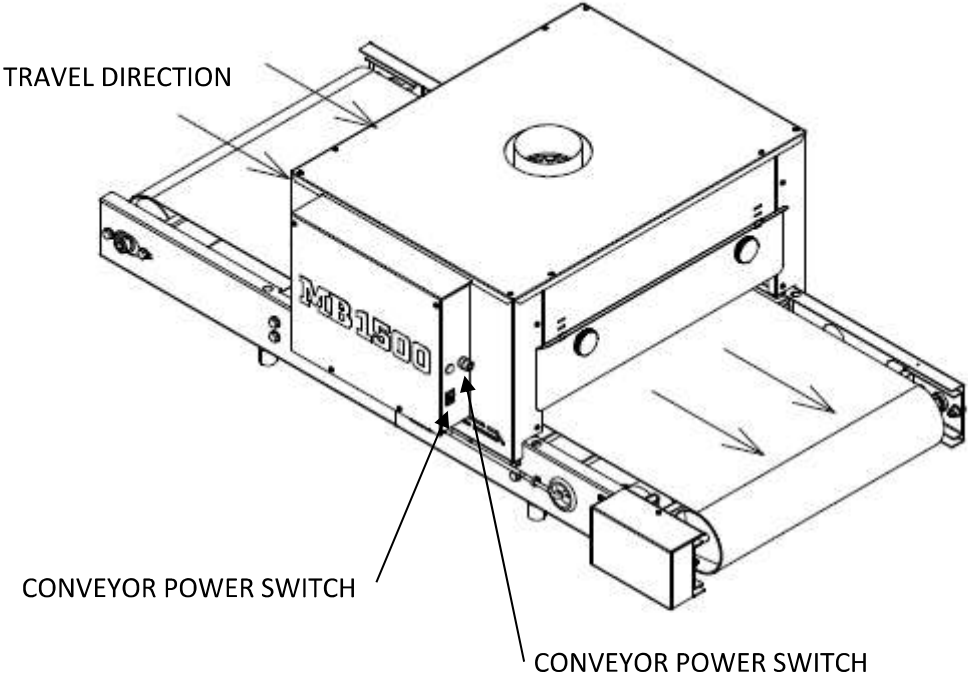
53. Locate the **INNER CHAMBER COVER [25]** from BOX 2.
54. Using six **#6 x 3/8L SCREWS [14]**, attach the **INNER COVER** over the assembled INNER CHAMBER.
55. Locate the **DUCT START COLLAR [26]** from BOX 2.
56. Insert the tabs of the **START COLLAR** into the hole in the **INNER CHAMBER COVER** and bend tabs to secure.
57. Locate the **CHAMBER COVER [27]** from BOX 2.
58. Using eight **#6 x 3/8L SCREWS [14]**, attach the COVER.

STEP 11:



59. Locate the two **CHAMBER END SHIELDS** [28], **1/4 x1/2L STUDS** [29], **1/4 WASHERS** [30], and **KNOBS** [31].
60. Insert each **STUD** [29] through each hole in the **END SHIELDS** [28], and secure them with the **WASHERS** [30] and **KNOBS** [31].
61. Mount the **END SHIELD** assemblies on the Entry and Exit of the **HEATING CHAMBER** at the desired heights.

CONTROLS OVERVIEW



RECOMMENDED INITIAL START-UP PROCEDURE:

1. Plug the Control Panel into a suitable power source.
2. Turn Belt Speed to **5**. Flip the rocker switch for Conveyor Speed to the ON position to start the conveyor. Listen for any unusual noises. Check to see if the rubber edge guide is riding in the roller drum grooves.
3. Turn the Heater Chamber Power Switch to the ON position. The green indicator light will illuminate.

Note: These are not production settings. They are intended for initial startup only.

CAUTION:

DO NOT operate Heating Chamber unless the belt is moving. Heat will damage an idle belt.

4. Verify that the heating element functions. After about a minute of operation, briefly feel just inside both the entrance and exit ends of the chamber. The area should be warm.

CAUTION:

The heating element is exposed inside the chamber and is operating at very high temperatures. Keep your hand close to the moving belt (without touching it).

Note: Some smoke/vapor and odor may be noticed during initial start-up due to residual material from the manufacturing process burning off the elements.

5. Working temperature will be reached after a ten-minute warm-up.

Conveyor speed can be determined by placing a small item, like a coin, on the conveyor belt and recording the time it takes to travel through the chamber. (For curing plastisol inks on t-shirts, 30 seconds through the Heater Chamber is a good initial speed to begin your evaluation.)

Note: The speed and temperature of the unit may vary slightly with fluctuations in power/voltage servicing the equipment.

Process an item through the dryer. Evaluate the completed article according to your quality standards. If the equipment is being used for curing ink on garments, it is recommended to wash the processed garment as the definitive test.

The conveyor dryer is now ready for normal use and operation.

CONTROL PANEL MAINTENANCE:

Performed at initial installation, 30 days after initial installation, and 120 days after initial installation.

1. Turn **OFF** the power to both the Heater Chamber and Conveyor. Unplug the dryer from its power source.
2. After double-checking that the power is off, confirm that all electrical terminations inside of the main control panel are secure by checking the “tightness” of each termination screw (or wire nut as may be applicable) and then “tugging” on each conductor.

Routine Maintenance: Performed after the first week and every 100 hours of operation.

1. The belt should be replaced if it has any tears, voids, separations, fraying, or no longer rides in the roller drum groove due to excessive wear.
2. Belt tension: the belt will relax over time and tension may have to be adjusted by the instructions above.

Please contact the service department at *BBC Industries* (800-654-4205) or service@bbcind.com with any questions regarding these instructions.

