

# OWNER'S MANUAL

**Important: Keep in safe, easy-to-find location.**



# MARSHALL

## Automelt™ Model CM24

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# OWNER'S MANUAL

## MODEL CM24 AUTOMELT™ CHEESEMELTER



### INSTRUCTIONS TO PURCHASER:

1. KEEP THIS MANUAL IN A SAFE PLACE AND RETAIN FOR FUTURE REFERENCE.

#### FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER  
FLAMMABLE VAPORS OR LIQUIDS IN THE  
VICINITY OF THIS OR ANY OTHER APPLIANCE

#### AVERTISSEMENT

**Ne pas entreposer ni utiliser de l'essence ni d'autres vapeurs ou liquids inflammables dans le voisinage de cet appareil, ni de tout autre appareil.**

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

**AVERTISSEMENT: Une installation, un ajustement, une aleration,un service ou un entretien non conforme aux norms peut casuer des dommages a la propriete, de blessures ou la mort. Lisez attentivement les directives d'installation et d'operation et d'entretien avant de faire l'installation ou l'entretien de cet e'quipement**

**Cheesemelter area must be kept free of combustible materials,. Operating personnel must not perform any maintenance or repair functions. Contact your Qualified Service Company.**



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### I. EQUIPMENT INSTALLATION

#### PRE-INSTALLATION

1. After uncrating the Automelt™ Cheesemelter unit, inspect for shipping damage. Check that the controller, switches, and components are intact on the electrical cabinet front. Set the Automelt™ in place and use the plastic bag to protect it from the debris and trash of building construction. Check that sideskins have not been dented or damaged by the carrier. If damaged, notify your freight carrier immediately to file a concealed damage claim, following the instructions attached to the outside of the shipping crate. Your warranty will not cover freight damage.
2. Because this unit is required to be power fan exhausted, it is necessary to provide adequate make up air equal to the amount of air removed. In addition to this, any other exhausts, flues, or air removal systems must be taken into consideration. Examples of this are heat removal fans or hot water heater flues.

#### EQUIPMENT LOCATION

1. Position Automelt™ to properly align with Autobroil™ under hood.
2. The hood/ventilator for the catering equipment should be located in accordance with the National Fire Protection Association Standard #96, "Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment" and any local applicable requirements.
3. For proper installation, the minimum clearance from combustible construction is 6" (152mm) from sides and 6" (152mm) from back.
4. Adequate clearance should be maintained to allow easy access to loading and unloading areas of the machine.
5. For servicing, unit must be moved 2' (610mm) clear from all construction.

#### ELECTRICAL INFORMATION

1. The Electrical Schematic is inside the electrical cabinet, and a copy is also included at the back of this manual. Make certain the supply voltage and number of supply conductors agrees with the Electrical Schematic. The load-carrying conductors should be sized according to the loads shown on the Electrical Schematic per local codes and the National Electrical Code, ANSI/NFPA 70 -Latest Edition. The cheese melter is supplied with a cord, it will be type 10/4 SJTOW 105 DEG C or higher, L1, L2, N, and ground (See electrical schematic for proper cord size). The cord will be approximately 6 feet long.
2. On a new electrical service - **MAKE CERTAIN THAT VOLTAGE IS WITHIN 10% OF THE UNIT'S RATED VOLTAGE.** Appliance should be protected by a properly-sized circuit breaker furnished from the main building circuit panel.
3. There is an Electrical Schematic located in the back of this Owner's Manual and also inside the electrical cabinet of the machine.



## II. OPERATING INSTRUCTIONS

### PRE-OPERATION CHECK (START-UP)

Before operating your Automelt™, make a quick check of critical items as follows:

1. Check that no "binding" and resultant conveyor overloading is present. With the electrical connections complete and with the electrical cabinet door secured shut, set the forward switch "**ON**". Adjust the speed control for mid-point speed. The conveyor should move forward in smooth unaltered motion. Shut down immediately if there is any evidence of "binding" or other mechanical blockage.
2. Proper conveyor operation is when the amperage draw in the white or black motor lead from the circuit board to the motor cord measures .15 DC amps or less. To check amperage the cabinet door will need to be open. **THIS PROCEDURE SHOULD ONLY BE PERFORMED BY A QUALIFIED ELECTRICIAN.**
3. The Automelt™ was tested at the factory before shipping so excessive amperage will indicate conveyor binding caused by shipping damage. Remove the roller chain driving the conveyor in question and move the conveyor by hand. Identify and remove the source of binding.
4. All heater elements should glow red. For trouble shooting problems, see Section V. **CAUTION: NEVER RUN HEAT WITHOUT CONVEYOR ON AS THIS CAN WARP THE CHAIN; IF CHAIN STOPS, TURN UNIT OFF IMMEDIATELY.**

### CHEESEMELTER ADJUSTMENT

The Automelt™ requires 30 minutes to reach stable temperature. After this time lapse, the conveyor speed can be set to properly heat the product.



### III. SCHEDULED MAINTENANCE

#### DAILY CLEANING PROCEDURES

**CAUTION:** Do not touch the cheesemelter immediately after appliance shut-down. The temperature inside enclosures is in excess of 500°F (260°C), which eliminates the need to clean any parts inside the enclosures for sanitary purposes. Any grease that may build up on the exterior of the enclosures should be cleaned off with a damp cloth and a minimum amount of detergent. **Disconnect the power supply to the appliance before cleaning or servicing.**

**CAUTION:** Under no circumstances should oven cleaner be used on this appliance. **CAUSTIC FUMES CAUSE ELECTRICAL COMPONENT DAMAGE, AND WILL CAUSE MANY OTHER PROBLEMS IF USED TO CLEAN THIS CHEESEMELTER.**

**CAUTION:** **KEEP THE APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES.**

1. Turn the unit off and allow to cool
2. Remove all exterior parts except those which are attached with screws. Be careful not to touch any hot internal cheesemelter components.

*	Drip Tray	Figure 2
*	Reflector	Figure 2
*	Product Catch Pan and Insert	Figure 2
<b>* NOTE: these items may be removed during the cool down time.</b>		

3. Scrape deposits from the axles with the axle-scraping tool, furnished with each machine as shown in Figure 3. **\* THIS IS IMPORTANT TO PREVENT GREASE FIRES AT THE REAR OF THE CHEESEMELTER.**
4. Remove grease and meat residue from any part of remaining cheesemelter structure where visible. Use a damp cloth with detergent and a putty knife for best results.
5. Additional cleaning should exhibit good housekeeping and entail a general wiping of all exterior surfaces. **DO NOT GET WATER ON THE ELECTRICAL CABINET OR THE HEATING ELEMENTS. NEVER HOSE THE MACHINE.**
6. After cleaning all removable parts as noted, allow to dry and reassemble.

#### MONTHLY CLEANING PROCEDURES

1. Remove the cheesemelter conveyor chain from the machine and steam clean or soak in detergent solution. The conveyor is removed by taking the conveyor apart at the cutlinks. When the conveyor is removed, check all heating elements and replace elements showing extreme corrosion. Check bearings for excessive wear and order replacements where needed. Make certain conveyors are reinstalled going in the correct direction. **PLACING CHAIN ON BACKWARDS WILL CAUSE SEVERE BINDING PROBLEMS.**

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### QUARTERLY CLEANING PROCEDURES & PREVENTIVE MAINTENANCE

1. If required, remove conveyor and soak in hot soapy water overnight. The chain is removed by lifting axle up to produce slack and separating using cutlink. When replacing chain, make certain the conveyor is installed properly. **PLACING CHAIN ON BACKWARD WILL CAUSE SEVERE BINDING PROBLEMS.**
2. Lubricate the roller (drive) chain with a few drops of any grade motor or machine oil.
3. Remove and inspect all motor brushes and replace if less than 1/4" (6mm) is left.
4. **CAUTION: DISCONNECT POWER BEFORE OPENING PANEL.** Retighten the screw lugs on the main power wires at the main terminal block and solid-state relay (S/N 0605B03430 & 0605B03431) inside the control box. Check that other electrical connections are still tight.

**INVENTORY THE SPARE PARTS KIT (IF APPLICABLE) AND ORDER MISSING PARTS AS NEEDED. KEEP A COMPLETE SET OF PARTS ON HAND AT ALL TIMES.**

### IV. TROUBLE SHOOTING

This section contains a list of possible problems with your Automelt™. By locating the problem in this section, you may be able to make a quick repair. **ALL ELECTRICAL TROUBLE SHOOTING INVOLVING ACCESS INTO THE MOTORS OR ELECTRICAL ENCLOSURES MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN.**

\* **INSTRUCTIONS MARKED WITH ASTERISKS SHOULD BE PERFORMED BY AUTHORIZED SERVICE PERSONNEL.**

#### 1. MACHINE HAS POWER BUT ELEMENTS ARE OUT.

##### POSSIBLE CAUSE

- A) Check to make sure cheesemelter on-off switch is in "**ON**" position and that the correct voltage is coming out of switch (see Electrical Schematic).
- B) Check that power is passing to and through the solid state relays (S/N 0605B03430 & 0605B03431).
- C) Check wiring to individual elements.
- E) Check fuses to each element.
- F) Check elements.

#### 2. CONVEYOR CHAIN WILL NOT MOVE.

##### POSSIBLE CAUSE

- A) Check for object caught in conveyor, causing a jam. **SOLUTION:** Remove object.

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- \* B) Check 1.5 amp fuse on front of the control cabinet. **SOLUTION:** Replace if blown and turn cheesemelter off, and turn cheesemelter on.
- \* C) Check to see if motor shaft is moving. **SOLUTION:** Sprocket needs to be tightened.
- \* D) Check switch to make sure power is flowing through it. **SOLUTION:** Replace switch.
- \* E) Connect motor control leads to an operating motor speed control board. **SOLUTION:** If motor runs, replace motor control board. If motor still does not run, replace motor.

### 3. CONVEYOR RUNS BUT SPEED IS CONSTANT

#### POSSIBLE CAUSE

- \* A) There are four parts to the motor system. They are the motor, the circuit board, the rotary speed control and the fuse mounted on the side of the control cabinet. The most likely problem would be the rotary speed control (potentiometer). **SOLUTION:** Using spare parts, replace one part at a time until the trouble spot is identified.

### 4. REPEATED MECHANICAL BINDING.

#### POSSIBLE CAUSE

- A) Check to see that chain is not on backward. **SOLUTION:** See proper chain installation on Figure 3.
- B) Inspect chain closely for bent or warped links that may be snagging and causing a binding condition. Also check that the chain links are not climbing out of the sprockets as the conveyor rotates. **SOLUTION:** Straighten or replace bad links. Season new links with cloth saturated with shortening before broiler reaches full operating temperature.
- C) Make sure the axle assembly is clean and free of grease and food residue to allow smooth movement of the conveyor. **SOLUTION:** Clean axle.
- D) Check the axle assembly to make certain all set collars, bearings, etc. are properly positioned and secure.
- E) Disassemble conveyor axle assembly and check condition of bushings and bearings for excessive wear. **SOLUTION:** Replace if worn or damaged.
- F) Visually inspect the motor drive chain assembly for smooth rotation of chain. **SOLUTION:** Make certain there are no binding or worn components.
- G) Make sure conveyor is not catching on catch pan insert. See Figure 3 **SOLUTION:** Straighten bent insert.

### 5. CHEESE DOES NOT MELT COMPLETELY.

#### POSSIBLE CAUSE

- A) Check to make sure the heat reflector is installed (Figure 2).

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- B) Check to make sure all elements are working.
- C) Check the speed of the conveyor.

### 6. PRODUCT NOT SLIDING INTO CATCH AREA.

#### POSSIBLE CAUSE

- A) Catch Panel Insert (Figure 2) needs cleaning.

## V. ASSEMBLY & DISASSEMBLY INSTRUCTIONS

1. To Replace the Heating Elements:
  - A. Disconnect power to the cheesemelter.
  - B. Remove the access cover on the left side of the cheesemelter.
  - C. Disconnect the wires to the element to be replaced.
  - D. Remove the screws attaching the access cover on the right side of the cheesemelter.
  - E. Remove element lock over ends of elements in right side of cheesemelter.
  - F. Pull the element out of the broiler through the slot in the side of the broiler.
  - G. Insert a new element, being careful to position the element rods through the central support.
  - H. Reconnect wiring and install covers.
  - I. Connect power and test operation.

**WARNING: THIS APPLIANCE IS NOT CAPABLE OF BEING SAFELY PLACED INTO OPERATION DURING A POWER FAILURE AND NO ATTEMPT TO OPERATE IT SHOULD BE MADE.**

## VI. REPLACEMENT PARTS

When ordering parts, make sure to specify the machine model number, voltage and serial number as shown by the label attached to the right side cover.

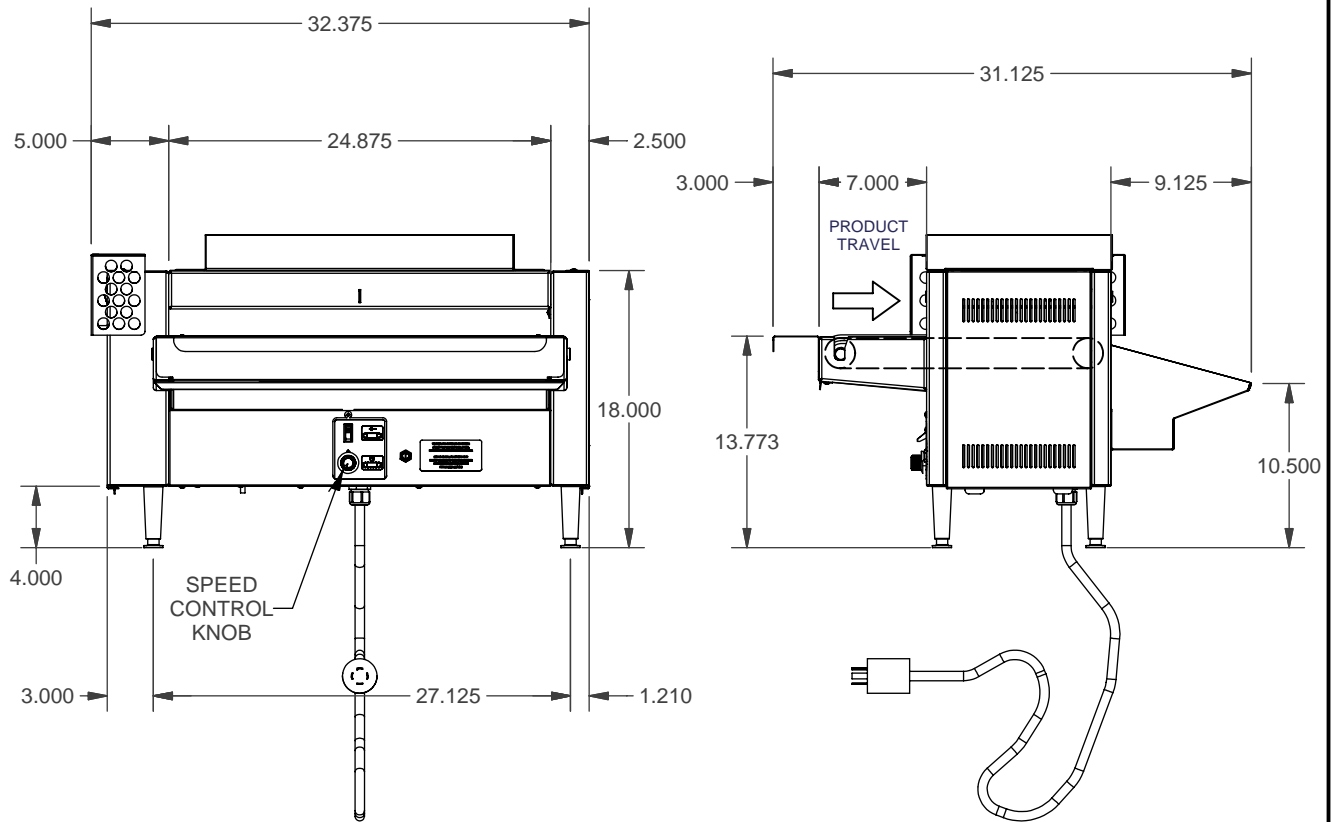
PART #	DESCRIPTION	QUANTITY PER UNIT	FIGURE
145600	Axle Drive	1	N/A
142784	Bearing Assembly (S/N 0605B03431 & Before)	2	N/A
147514	Bearing, 3/4" Shaft (S/N 0905B03451 & After)	2	N/A
148549	Brush, Motor Kit (2 Brushes)	1	N/A
145656	Catch Pan Assembly	1	2
145653	Catch Pan Insert	1	2
138140	Circuit Board, 115V Input, 0605B03432 & After	1	Schematic
140158	Circuit Board, 230V Input, S/N 0605B03430 S/N 0605B03431 ONLY	1	Schematic

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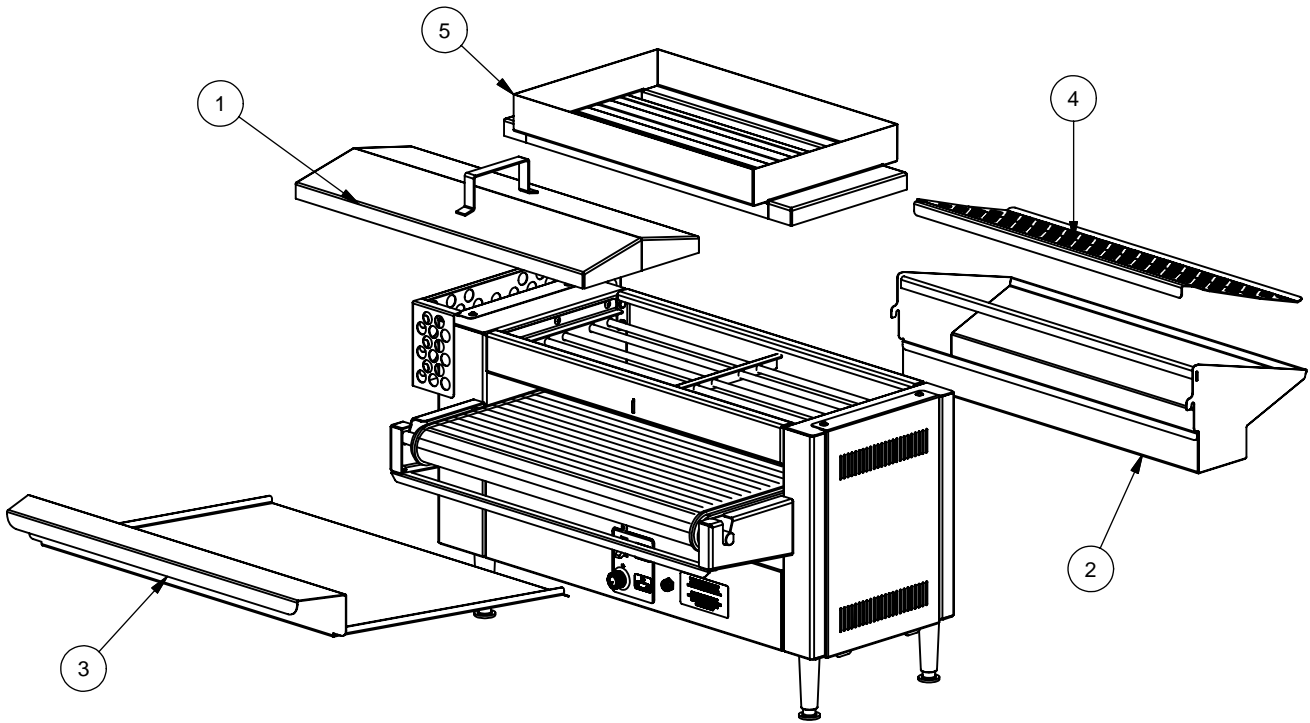
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PART #	DESCRIPTION	QUANTITY PER UNIT	FIGURE
145651	Conveyor Idler Shaft	1	
145659	Drip Tray	1	2
503366	Element, 1350W 208V	3	Schematic
503104	Fan, Cooling	1	Schematic
500061	Fuse, AGC 1.5 AMP	1	Schematic
500068	Fuseholder, Panel Mount, 15A 250V	1	Schematic
145667	Idler Bearing Assembly	2	N/A
145653	Insert, Product Catch Pan	1	2
500088	Knob	1	Schematic
500963	Leg, Adjust 4" Tall, 1.625" OD Stn Stl	4	2
500092	Link, Master #35	1	N/A
500940	Motor, 1/50 HP	1	Schematic
146268	Owner's Manual	1	N/A
145656	Pan, Catch Assembly	1	2
153262	Pan, Sauce and Reflector Asby	1	2
502892	Potentiometer, Rotary	1	Schematic
145597	Reflector, Top Asby - OPTIONAL	1	2
503934	Relay, Solid State, S/N 0605B03430, S/N 0605B03431 ONLY	1	Schematic
500035	Roller Chain		N/A
145671	Side Panel	2	2
134825	Sprocket Assembly	1	N/A
124643	Sprocket, Drive 3512	1	N/A
131331	Sprocket, Motor 3518	1	N/A
118731	Standoff, Bearing (S/N 0905B03451 & After)	2	N/A
501864	Switch, Rocker S/N 0605B03430, S/N 0605B03431 ONLY	1	Schematic
500133	Switch, Toggle, 0605B03432 & After	1	Schematic
500932	Terminal Jumper	1	Schematic



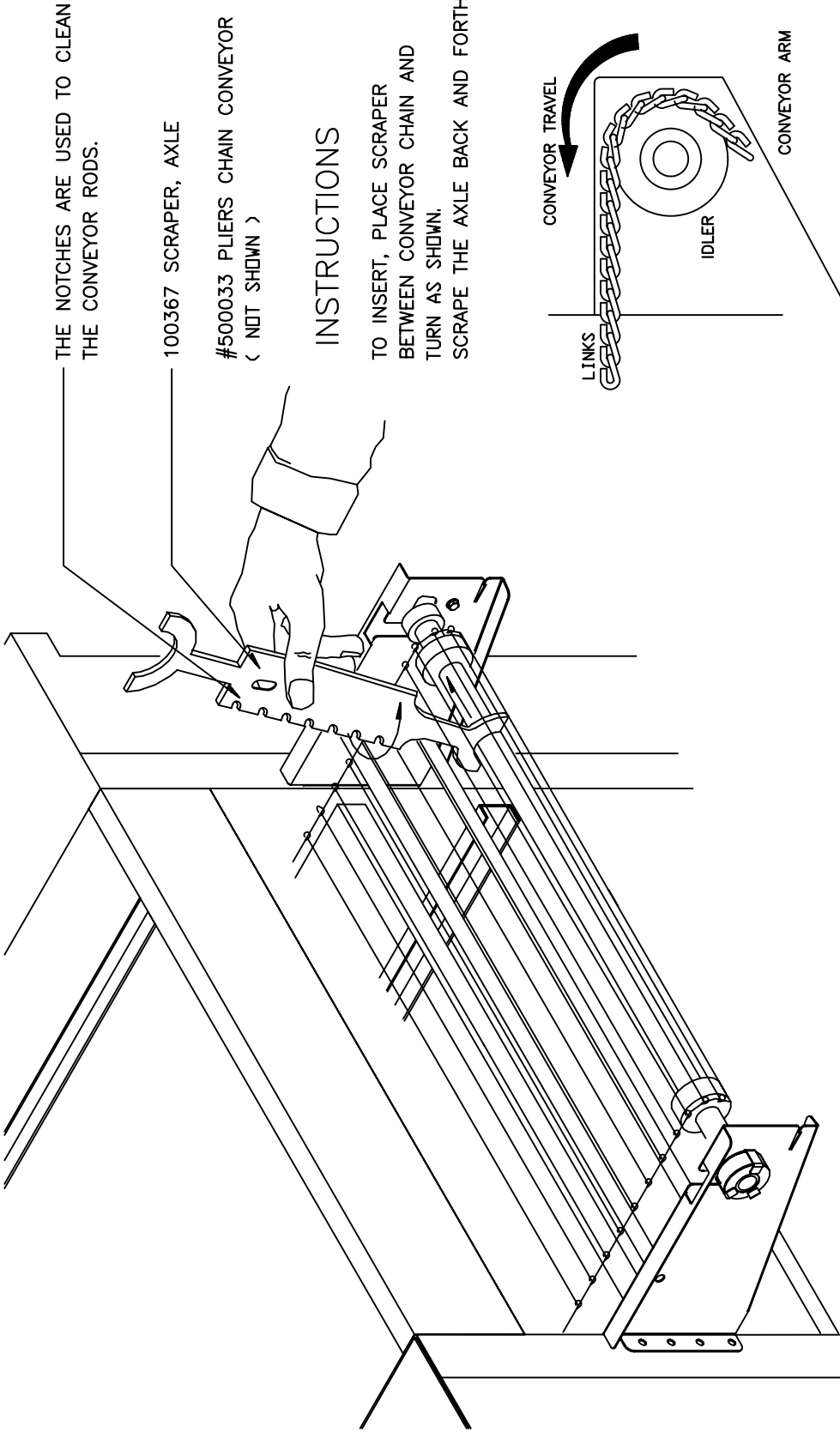
DIMENSION DRAWING  
 FIGURE 1



Parts List		
ITEM	PART NO.	DESCRIPTION
1	145597	REFLECTOR, TOP ASBY - OPTIONAL
2	145656	PAN, CATCH ASBY
3	145659	TRAY, DRIP
4	145653	INSERT, PRODUCT CATCH PAN
5	153262	PAN, SAUCE AND REFLECTOR ASBY

## EXTERNAL REMOVEABLE PARTS

# FIGURE 2



THE NOTCHES ARE USED TO CLEAN THE CONVEYOR RODS.

100367 SCRAPER, AXLE

#500033 PLIERS CHAIN CONVEYOR  
( NOT SHOWN )

**INSTRUCTIONS**

TO INSERT, PLACE SCRAPER BETWEEN CONVEYOR CHAIN AND TURN AS SHOWN. SCRAPE THE AXLE BACK AND FORTH.

NOTE: THE CHAIN PLIERS CAN OPEN ANY LINK TO UNHOOK THE CONVEYOR IF NEEDED. THE LINK MUST BE CLOSED BEFORE OPERATING THE CONVEYOR, USING THE CHAIN PLIERS.

AXLE SCRAPER  
**FIGURE 3**

