

# MODEL CMA-44

## INSTALLATION & OPERATION MANUAL

REV 2.15 A



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# 1. Specifications

| <b>1.1. CMA-44</b>           |                        |               |             |
|------------------------------|------------------------|---------------|-------------|
|                              | <b>CMA-44</b>          | <b>CMA-44</b> |             |
|                              | <b>L.T.</b>            | <b>H.T.</b>   |             |
| <b>WATER CONSUMPTION</b>     |                        |               |             |
| PER RACK (FINAL RINSE)       | .8 GAL.                | .94 GAL.      |             |
| PER HOUR (FINAL RINSE)       | 192 GAL.               | 192 GAL.      |             |
| <b>CONVEYOR SPEED</b>        |                        |               |             |
| FEET PER MINUTE              | 6.75                   | 5.7           |             |
| <b>OPERATING CAPACITY</b>    |                        |               |             |
| RACKS PER HOUR (NSF rated)   | 242                    | 205           |             |
| <b>OPERATING TEMPERATURE</b> |                        |               |             |
| WASH (MIN)                   | 140° - 150° F          | 150° - 160° F |             |
| FINAL RINSE (MIN)            | 140° - 150° F          | 180° - 195° F |             |
| <b>WATER REQUIREMENTS</b>    |                        |               |             |
| INLET TEMPERATURE (MIN)      | 140° F                 | 180° F        |             |
| WATER INLET SIZE             |                        | 3/4"          |             |
| FINAL RINSE SIZE             |                        | 1/2"          |             |
| DRAIN SIZE                   |                        | 2"            |             |
| FINAL RINSE PRESSURE         |                        | 20 PSI ± 5PSI |             |
| <b>HOLDING TANK CAPACITY</b> | 16 GAL.                |               |             |
| <b>PUMP CAPACITY</b>         |                        |               |             |
| (ALL PUMPS)                  | 52 GPM (each)          |               |             |
| <b>MOTORS</b>                |                        |               |             |
| WASH PUMP (2)                | 1 HP                   |               |             |
| CONVEYOR                     | 1/3 HP                 |               |             |
| <b>DIMENSIONS</b>            |                        |               |             |
| DEPTH                        | 25-1/8"                |               |             |
| WIDTH                        | 44"                    |               |             |
| HEIGHT                       | 55 -1/2"-56-1/2"       |               |             |
| STANDARD TABLE HEIGHT        | 32 1/2" adjusts to 34" |               |             |
| MAX CLEARANCE FOR DISHES     | 19"                    |               |             |
| STRANDARD RACKS              | 19 3/4" x 19 3/4"      |               |             |
| <b>ELECTRICAL RATING</b>     |                        |               |             |
|                              | <b>VOLTS</b>           | <b>PHASE</b>  | <b>AMPS</b> |
|                              | 208                    | 1             | 64          |
|                              | 240                    | 1             | 71          |
|                              | 208                    | 3             | 36          |
|                              | 240                    | 3             | 40          |
| <b>HEATER</b>                |                        |               |             |
|                              | 10 kW                  |               |             |
| <b>SHIPPING WEIGHT</b>       |                        |               |             |
| APPROXIMATE                  | 600#                   |               |             |



## 2. Getting Started

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### 2.1. Introduction to CMA-44

The CMA-44 is designed to give maximum cleaning in 44 inches. It represents the cleaning power of machines twice its length. The curtains incorporated in the machine minimize transfer from tank to tank during the wash and sanitizing procedures.

Energy costs for running the CMA-44 have been greatly reduced by the introduction of stage washing. This design allows the heavy food soil to be removed in the first station, which provides a relatively clean dish before it reaches the wash stage in the center tank.

The supply water to the CMA-44L must be a minimum of 140°F, while the CMA-44H requires two supply lines; one at a minimum water temperature of 180°F (for RINSE), and the other at a minimum temperature of 140° F (for FILL). Either model requires the supply water to be provided at 24-PSI (Pounds per Square Inch) minimum with 6 GPM (Gallons Per Minute) flow rate and 200 GPH (Gallons Per Hour) recovery rate. The pipe supplying the water must be 3/4". The plumbing connection is located at the top back of the machine.

The CMA-44 features a scrap tray that may be emptied on a periodic basis without interruption of the flow of work and the manner in which the tank is filled ensures that the dishes are always rinsed with fresh water instead of re-circulated water. The CMA-44L is designed to deliver 0.8 gallons of fresh rinse water and the CMA-44H is designed to deliver 0.94 gallons of fresh rinse water for each rack. This water flows from the rinse and power wash tank into the pre-wash tank and then overflows into the scrap tray carrying debris with it, thereby providing a much cleaner environment for the wash and rinse cycles.

A single-phase CMA-44 is available for installations where the only power available is 208V-230V/1-PH.

There are also enhancements that can be chosen when desired such as an optional "Auto-Fill" function, optional Vent Hood Adaptors and other machine accessories such as stainless steel dishtables. Call (800) 854-6417 for more information.

This manual is structured to provide a complete reference guide to the CMA-44. It is presented in a manner that all users will be able to comprehend and use as an effective tool in supporting the operation and maintenance of the dishmachine. The first section explains how the machine is packaged and what to look for when receiving the machine.

Instructions are provided in the manual explaining how to unpack the machine and then install and set up the machine for use. Requirements are given for plumbing, wiring, and space considerations. *These attributes of the machine are always taken into consideration by our well-trained sales representatives prior to the order being placed.* In the manual, additional installation guidance is given to ensure the machine can run at optimum conditions.

The Operation Section of the manual may be used for instruction and procedures when required. We make this portion of the manual easy to understand so that all levels of operators may be able to read and comprehend the operation of the machine. The function of the machine itself is mostly automatic and takes little training to put into full operation. The Operation Section also includes diagnostic considerations for the machine when problems occur.

We are committed to providing the best machines and customer service in the food industry and your feedback is welcome.

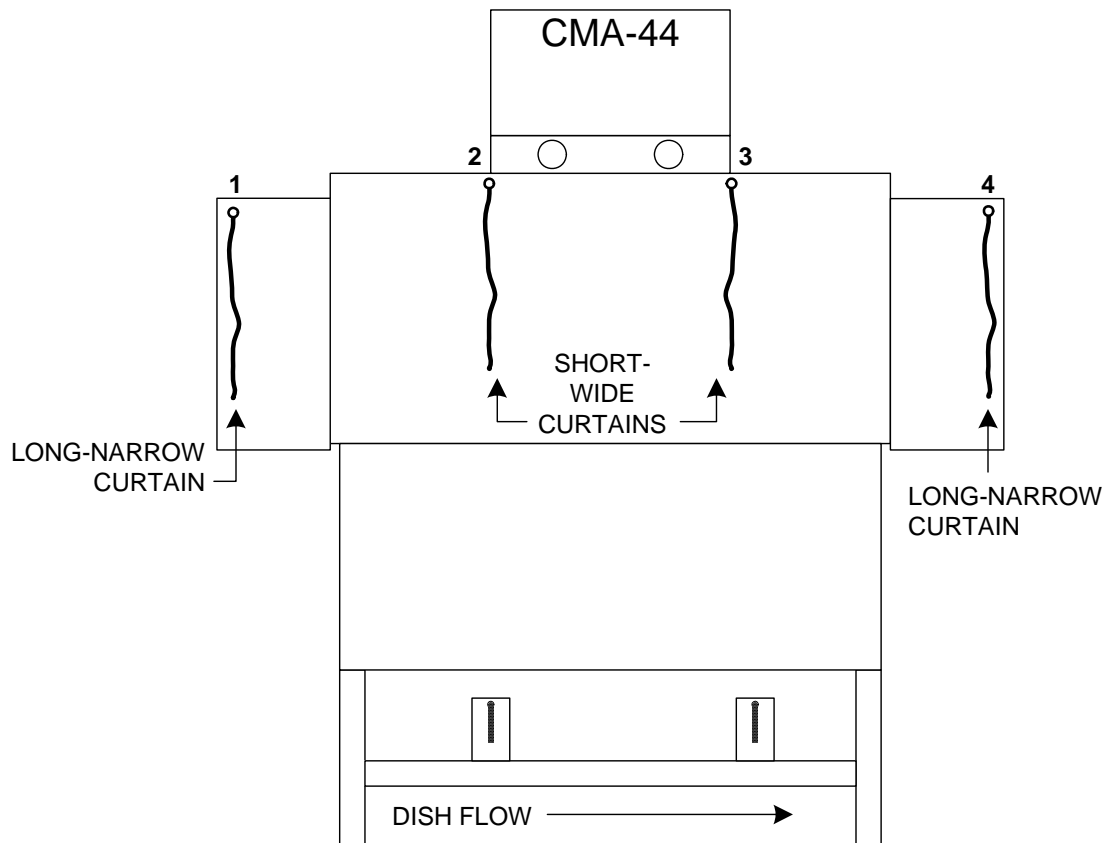
## 2.2. Receiving and Installation

When you receive your new CMA-44, complete the assembly by installing the scrap tray assembly with its overflow chute, the two wrapper shields and the curtain rods, which are shipped inside the machine. After the box has been removed from the machine, remove the left and right stainless steel wrapper shields and bolt them in place with the nuts and bolts provided. The wrapper shield with the extra curtain clamps mounts onto the dirty end of the machine. Next, mount the scrap tray assembly and overflow chute into position (see section 2.3.4 **Scrap Tray Assembly and Overflow Chute Installation**).

All of the spray arms should be inserted and in place over the wash tank compartments.

There are a total of four curtains used in the CMA-44; two are long- narrow, two are short- wide. The two long-narrow curtains have shorter rods than the other two curtains. The short rods hold the curtains at the entrance and exit of the machine.

The sketch below lists curtain positions 1 through 4.



**DISHMACHINE FRONT VIEW**

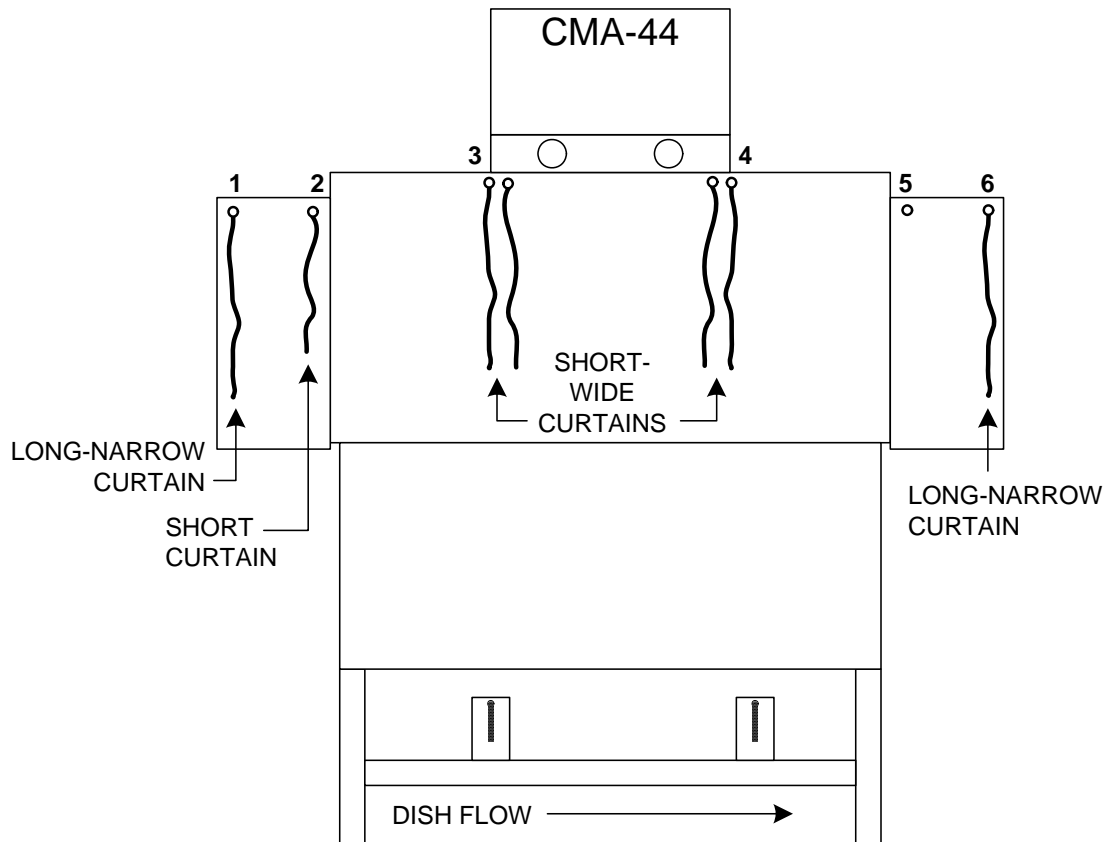
### 2.3. Receiving and Installation (Old Models)

When you receive your new CMA-44, complete the assembly by installing the scrap tray assembly with its overflow chute, the two wrapper shields and the curtain rods, which are shipped inside the machine. After the box has been removed from the machine, remove the left and right stainless steel wrapper shields and bolt them in place with the nuts and bolts provided. The wrapper shield with the extra curtain clamps mounts onto the dirty end of the machine. Next, mount the scrap tray assembly and overflow chute into position (see section 2.3.4 Scrap Tray Assembly and Overflow Chute Installation).

All of the spray arms should be inserted and in place over the wash tank compartments.

There are a total of seven curtains used in the CMA-44; two are long-narrow, four are long-wide and one is short. The two long-narrow curtains and the one short curtain have shorter rods than the other four (long-wide) curtains. The short rods hold the curtains at the entrance and exit of the machine.

The sketch below lists curtain positions 1 through 6. In this case, it represents a flow from left-to-right. Reverse the sequence for right-to-left machines. If the dish flow is from left-to-right, the proper sequence for the placement of the curtains would be: long-narrow curtain in the first position; short curtain in the second position; two short-wide curtains in the third position; two short-wide curtains in the fourth position; and a long-narrow curtain in the sixth position. The only curtain change to reverse the flow of dishes is the short curtain at position #2 is changed to position #5.



## DISHMACHINE FRONT VIEW

## 2.3.1. Electrical\*

A 3-phase 208-240 volt AC, 60 Hz dedicated circuit should be used to supply electrical energy to the CMA-44 dishwasher (see specification sheet page 2). **Connect the wire that has the highest voltage (stinger lead) to the main contactor's power terminal L2.** Power lead wires (L1, L2 and L3) used for the CMA-44 at installation must comply with all local and State electrical codes.

## 2.3.2. Plumbing\*

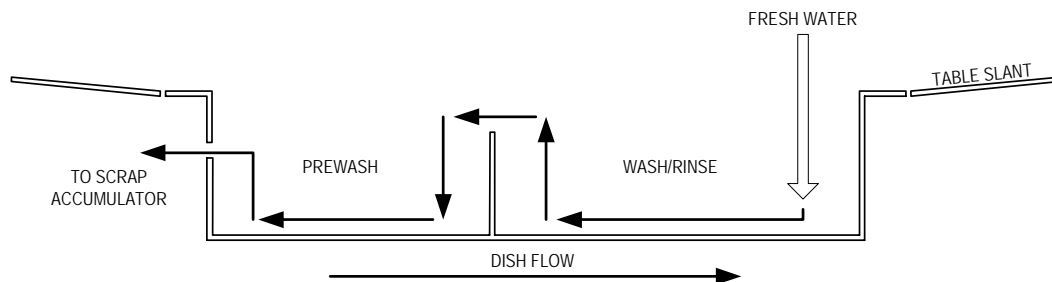
The water supply connection is made with a ½" hot water line to the water supply inlet on the top of the machine. The water supplied to the machine must be a minimum of 140° F for the CMA-44L and a minimum of 180° F for the CMA-44H.

**NOTE:** The High Temp machine (CMA-44H) comes with two water supply line connections. One is for the final rinse at 180° F and the other is to fill the machine—this water will be heated to the appropriate temperature by the wash tank heater. (See specification sheet on page 2).

There are two 2" drain connections to be made. One connection is made at either end of the horizontal drainpipe coming from the wash tank and the other connection is made at the scrap tray drain. (Instructions for installing the scrap tray assembly are provided in section **2.3.4 Scrap Tray Assembly and Overflow Chute Installation.**) One of the ends of the horizontal drainpipe has a cap on it – simply move the cap to the other end if it's currently on the end needed for the drain connection.

## 2.3.3. Installation Notes

1. Tables must slant into the machine for proper drainage (for each 28" of table length a drop of at least ¾" in table height is recommended). See **Figure 2.3.3a.**

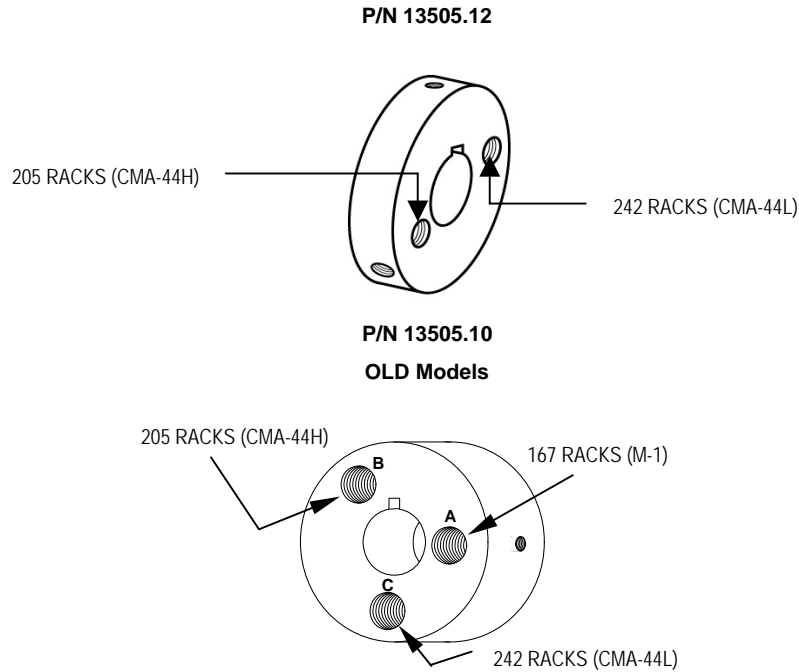


**Figure 2.3.3a**

See also installation instructions on new style CMA-44 conveyor (Section 4. Customer Notice)

2. The scrap tray assembly is placed inside the machine for shipping. Follow the instructions provided in section **2.3.4 Scrap Tray Assembly and Overflow Chute Installation** to properly attach the scrap tray assembly to the dishmachine.
3. **Figure 2.3.3b** shows the different settings available on the conveyor cam.

\* Electrical and plumbing connections must be made by a qualified person who will comply with all available Federal, State, and Local Health, Electrical, Plumbing and Safety codes



**Figure 2.3.3b**

4. On a 3-phase machine the water pump motors are also 3-phase and, depending on which terminal each phase is connected to, the motor can rotate in either direction. Check the direction of rotation by removing the dust cap on the back of the motor. The motors must turn clockwise looking at the shaft from the back of each motor. To change the direction of rotation, switch any two power lead wires at the motor.
5. The machine must be running to set the pressure regulator. While the machine is in the FINAL RINSE CYCLE, adjust the pressure regulator to 20 PSI. See section **3.1.3 Rinse Pressure Regulator** for detailed instructions.



## 2.3.4. Scrap Tray Assembly and Overflow Chute Installation

The scrap tray assembly and overflow chute, which came packaged inside the machine, can easily be installed by executing the following steps: **Figure 2.3.4** below illustrates the assembly as it would appear for a Left-to-Right machine – a Right-to-Left machine would simply be the mirror image.

**Caution:** For proper spacing, the SS flat washer (item 2) must **not** be located between the head of the trusshead bolt and the inside of the machine.

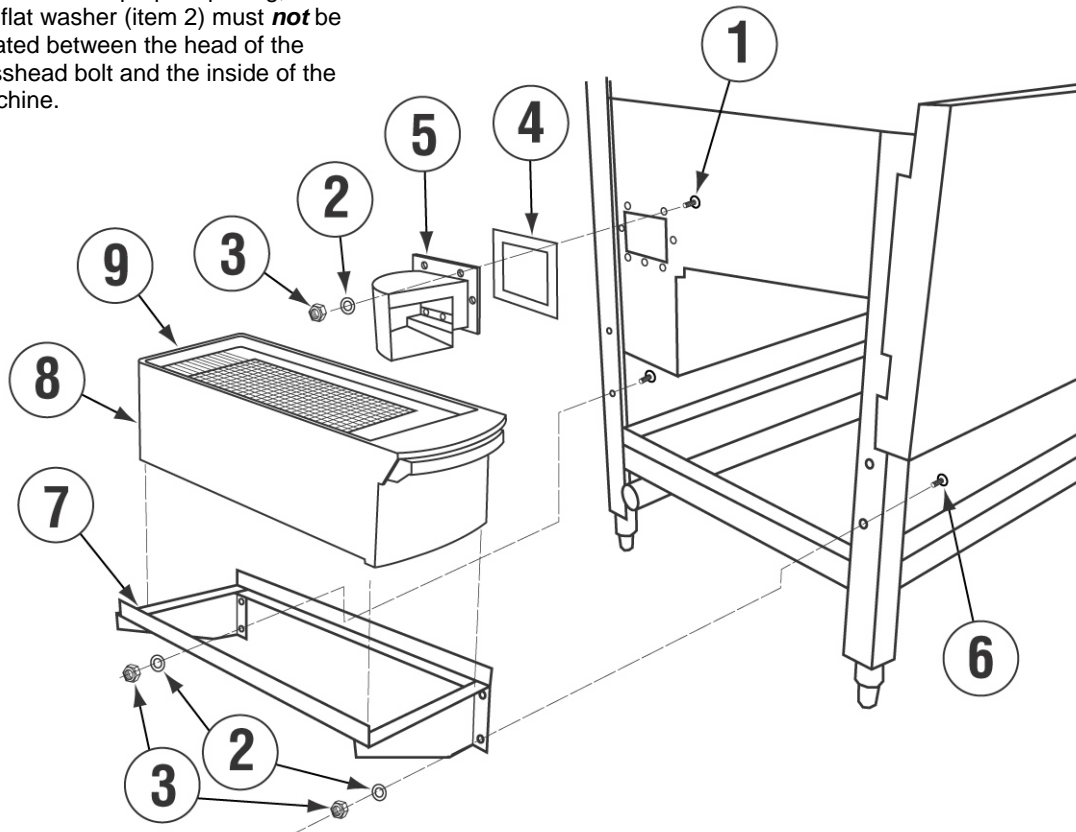


Figure 2.2.4

| ITEM NO. | NO. REQ'D | P/N      | DESCRIPTION                  |
|----------|-----------|----------|------------------------------|
| 1        | 7         | 00905.00 | ¼-20 X ½" Trusshead Bolt     |
| 2        | 11        | 00924.00 | ¼" SS Flat Washer            |
| 3        | 11        | 00912.00 | ¼-20 Nylon Lock Nut          |
| 4        | 1         | 13511.26 | CMA-44P Overflow Gasket      |
| 5        | 1         | 13511.06 | CMA-44P Overflow Chute (L-R) |
|          |           | 13511.16 | CMA-44P Overflow Chute (R-L) |

| ITEM NO. | NO. REQ'D | P/N      | DESCRIPTION              |
|----------|-----------|----------|--------------------------|
| 6        | 4         | 00906.00 | ¼-20 X ½" Hex Head Bolt  |
| 7        | 1         | 17579.00 | Scrap Trap Holder        |
| 8        | 1         | 01577.10 | Scrap Trap Body Molded   |
| 9        | 1         | 01577.20 | Scrap Trap Drawer Molded |

1. Remove the items from their packing and verify that all the pieces are present.
2. Attach the overflow chute with the five ¼-20 X ½" trusshead bolts, ¼" SS Flat Washers, and ¼-20 Nylon Lock Nuts provided.
3. Secure the scrap trap holder to the dishwasher using the four ¼-20 X ½" Hex Head Bolts, ¼" SS Flat Washers, and ¼-20 Nylon Lock Nuts provided.
4. Set the scrap trap body—with the scrap trap drawer inserted—into position on the scrap trap holder.
5. Attach the drain as specified in section 2.3.2 Plumbing.

### 2.3.5. Pump Impeller Note

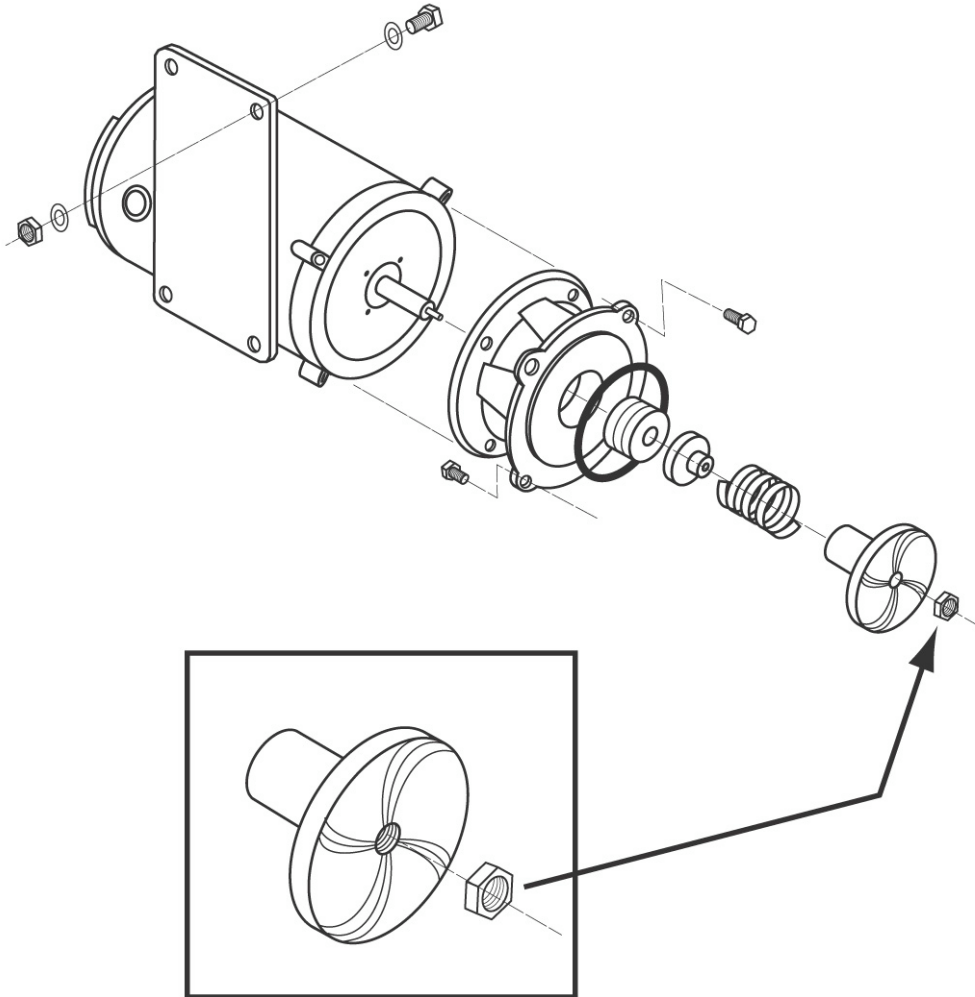


Figure 2.2.5

#### Installation:

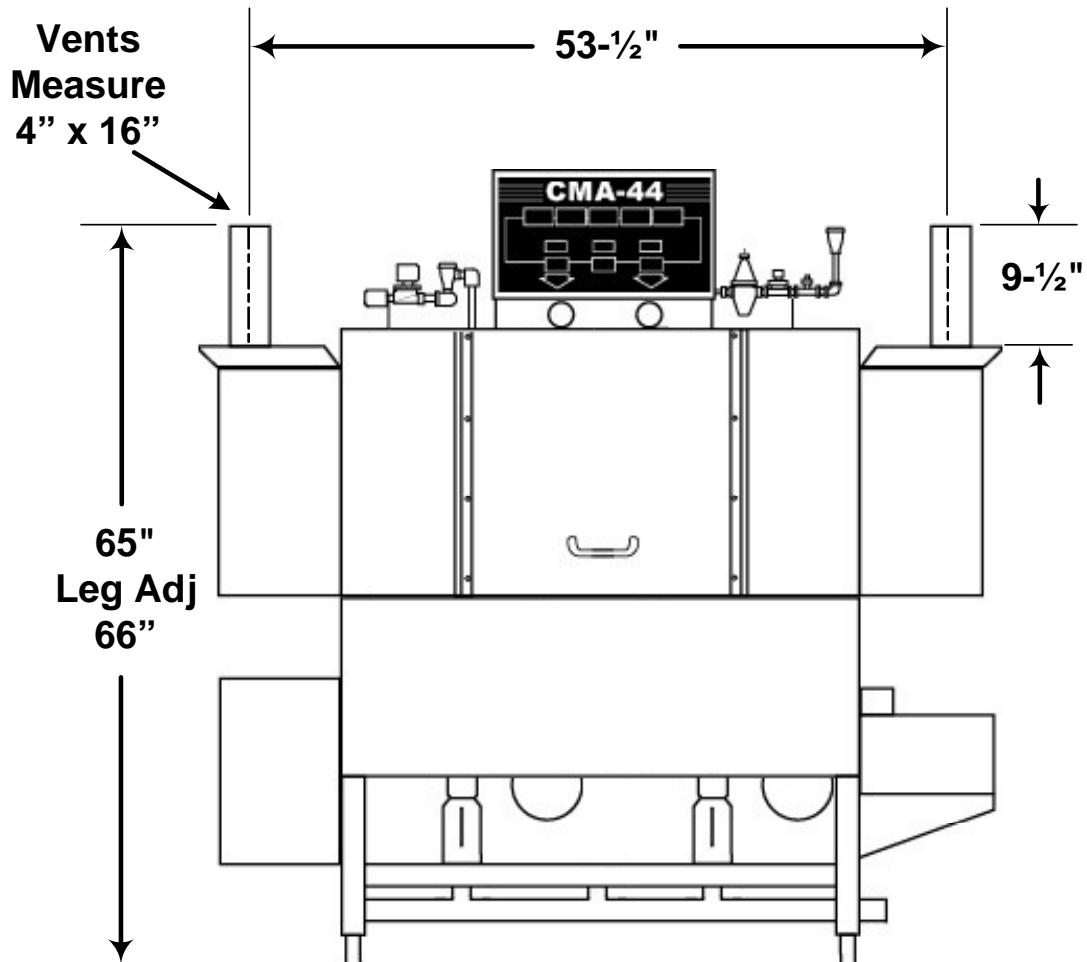
When installing the water pump impeller the **Nylon Lock Nut** indicated by the arrow in **Figure 2.2.5** must be in place to prevent the impeller from spinning off of the shaft and damaging the motor.

#### Removal:

The **Nylon Lock Nut** indicated by the arrow in **Figure 2.2.5** must be removed before attempting to remove the water pump impeller.

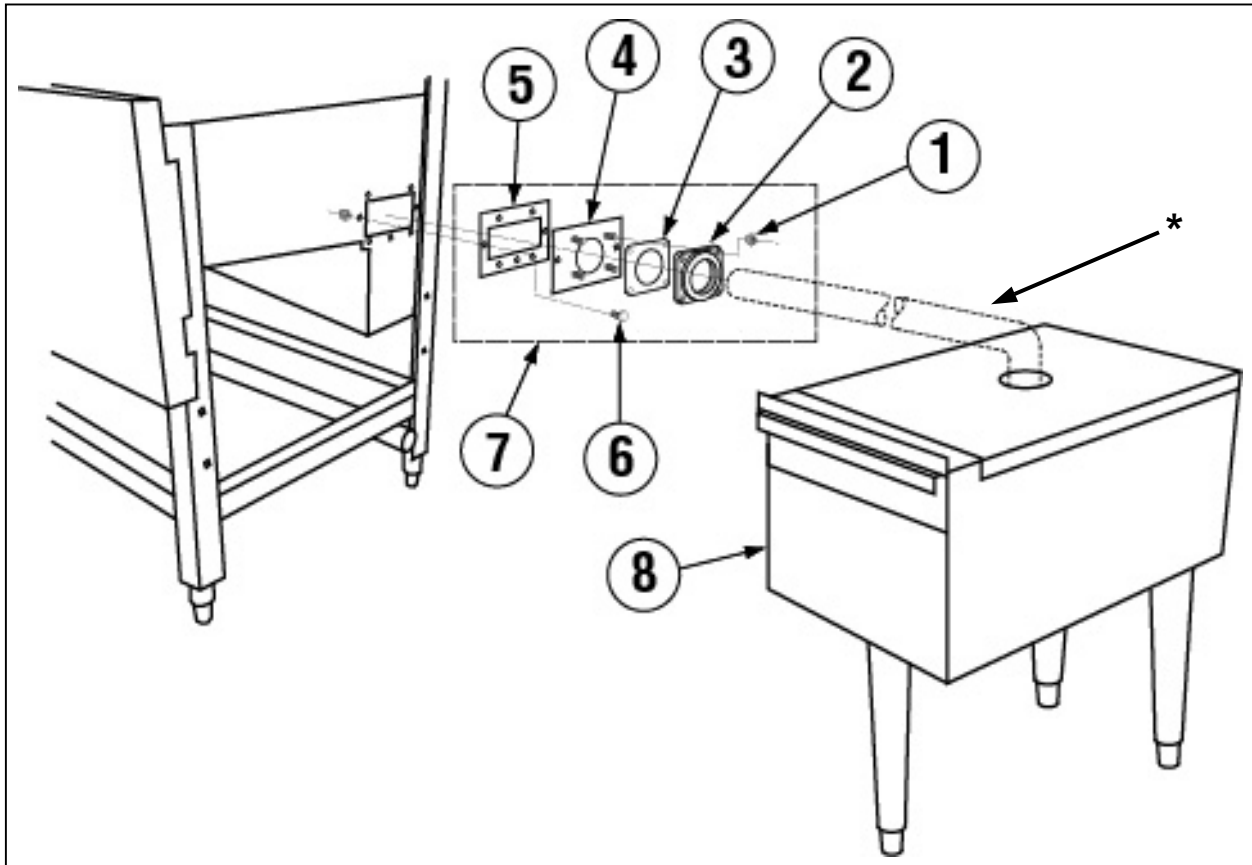
**2.3.6. Optional Hood Adapter (Set of Two)**

An optional Hood Adapter set (P/N 13901.82) is available. The dimensions for proper installation are given below.



## 2.3.7. Optional Freestanding Scrap Trap and Adaptor Kit

The optional Freestanding Scrap Trap (P/N 01560.00) and Adaptor Kit (P/N 13512.00) are available for installations where the space is insufficient to accommodate the standard side-mounted scrap trap or where drain access is easier by locating the scrap trap some distance away from the Dishmachine.



| ITEM NO. | NO. REQ'D | P/N      | DESCRIPTION               |
|----------|-----------|----------|---------------------------|
| 1        | 11        | 00912.00 | 1/4-20 Nylon Lock Nut     |
| 2        | 1         | 01307.00 | Scrap Trap Flange Nut     |
| 3        | 1         | 01308.00 | Scrap Trap Flange Gasket  |
| 4        | 1         | 13512.10 | Scrap Trap Adaptor Flange |

| ITEM NO. | NO. REQ'D | P/N      | DESCRIPTION                 |
|----------|-----------|----------|-----------------------------|
| 5        | 1         | 13511.26 | Overflow Gasket             |
| 6        | 2         | 00914.00 | 1/4-20 x 3/4" Hex Head Bolt |
| 7        | 1         | 13512.00 | Scrap Trap Adaptor          |
| 8        | 1         | 01560.00 | Scrap Trap, Freestanding    |

\*Not Supplied

## 2.3.8. Field Installed Accessories

Installation of the accessory chemical pumps must be performed by qualified personnel.

### 2.3.8.1. Chemical Dispensers

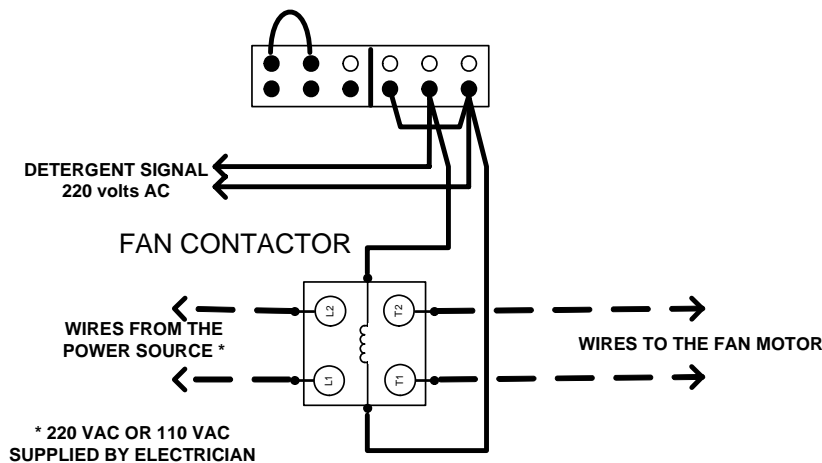
1. Checkvalves should be installed directly at the mixing chamber coupling. There are two 1/8" FPT mounting holes provided, which will position the checkvalves parallel to the machine avoiding any chemicals from dripping onto the stainless steel should a leak develop. Simply remove the plug from the mounting hole and install the checkvalve—be sure to use a proper sealing compound or Teflon tape on the threads\*.

**NOTE:** There are two mounting holes provided on the mixing chamber coupling, one for rinse chemical and one for sanitizer chemical, but only one is needed with the CMA-44H—for rinse chemical only.

2. Connect only to the primary side of the Listed Class 2 Transformer, 208-230 VAC, 60 Hz, 100 VA maximum load.

### 2.3.8.2. Hood Fan Motor

#### TERMINAL BLOCK



## 2.3.9. CMA-44 Heater

The 10kW heater located in the wash/final rinse tank has an independent power switch, which needs to be activated when the machine is ready for operation.

As a safety precaution—if the wash tank is drained while the heater is left on, the thermostat receives a signal to turn off the heater from a float switch located in the rinse end of the tank.

**NOTE:** The heater switch should always be turned off when the machine is not in operation.

\*\* Electrical and plumbing connections must be made by a qualified person who will comply with all available Federal, State, and Local Health, Electrical, Plumbing and Safety codes

### **2.4. Safety Tips for the CMA-44**

- DANGER:** Always turn off the circuit breaker at the wall when working on this dishmachine. Even with the machine's power switch off there is a live connection coming to the switch, so turn off the circuit breaker as well.
- CAUTION:** Do not get in the path of the conveyor rocker arm or the conveyor's moving bar. Do not reach into the rocker arm area without first making sure the dishmachine is turned off at the circuit breaker.
- CAUTION:** Do not open the front door when the machine is in operation.
- CAUTION:** Avoid spraying water on or around the electrical control box on the top of the machine. When cleaning, do not spray water directly on the motors.
- CAUTION:** When removing the final rinse arms for cleaning, exercise caution. The final rinse arms may be filled with chemicals and/or under pressure.

## 3. Operation

### 3.1. Initial Setup

#### 3.1.1. Auto Fill Timer/ Auto Re- Fill Timer

Both timers for the CMA-44 are set at the factory. When the power button is activated, the machine should fill until it begins to overflow into the scrap tray, at which point it should stop filling.

If necessary, adjust the time set on the Auto Fill Timer to allow an appropriate amount of water flow to properly fill the Dishmachine.

After the auto-fill is timed out the refill system is energized which will add water to the wash tank if the water level gets below the float line, and then after sensing water, will fill for a short (adjustable) period of time.

If necessary, adjust the time set on the Auto Re-Fill Timer to allow an appropriate amount of water flow to properly re-fill the Dishmachine.

#### 3.1.2. Auto Fill Timer (Old Models)

When Auto Fill is activated, the machine should fill until it begins to overflow into the scrap tray, at which point it should stop filling.

If necessary, adjust the time set on the Auto Fill Timer to allow an appropriate amount of water flow to properly fill the Dishmachine. See Section **5.2.2 Control Box Assembly Item 3** (**Note:** With the Auto Fill option there are two timers in the control box. The Auto Fill Timer is in the upper-right corner of the control box).

**Users note:** If at any time less than a full Auto Fill cycle is desired, the Auto-Fill can be interrupted (stopped) by turning off the power to the machine. The machine will resume normal operation upon restoring power without continuing the Auto Fill cycle.

#### 3.1.3. Rinse Pressure Regulator

The CMA-44 requires a supply water pressure of 24 PSI minimum. The pressure is then reduced by the supply water regulator. Use the following procedure to adjust the rinse pressure to 20 PSI:

1. Close the door on the machine.
2. Turn the Power switch to the "ON" position.
3. Using a rod or something long to avoid contact with the rinse water, actuate the final rinse trip switch—this activates the water solenoid. With the rinse water flowing adjust the pressure regulator until the gauge reads 20 PSI.

**Adjustment tip:** Always adjust "down" when setting this pressure regulator. In other words—intentionally raise the pressure above the desired set point and then carefully bring it down to the correct pressure.

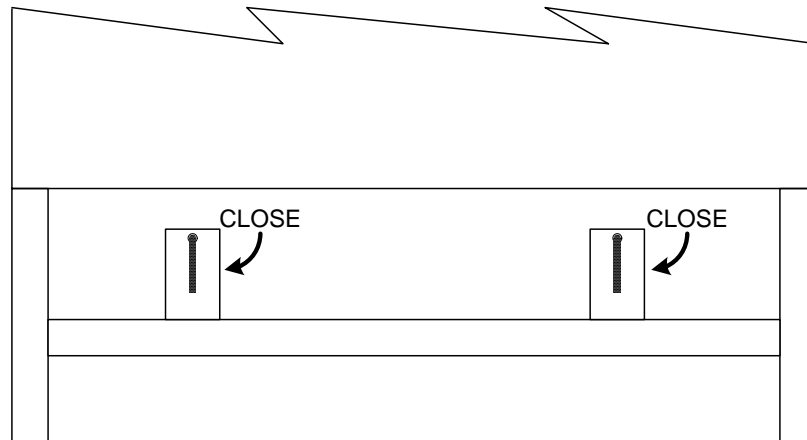
#### 3.1.4. Wash Tank Temperature

The wash tank temperature for the CMA-44 is set at the factory. Should you ever find a need to adjust it—after replacement of the thermostat for example—simply perform steps 1 through 4 in section **3.2 Beginning Operation**.

## 3.2. Beginning Operation

To run the dishmachine, perform the following steps:

1. Close both drains (valve handles in vertical position).

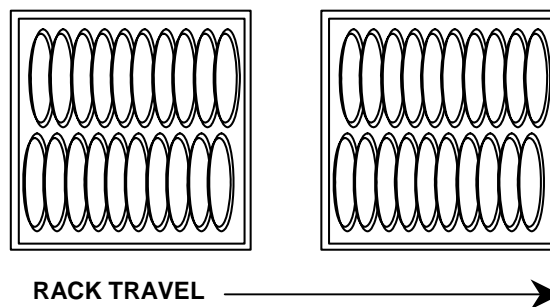


2. Turn on the power to the dishmachine. The machine will begin its (adjustable) timed auto-fill. The float when sensing adequate water level energizes an ice cube relay, which will allow power to go to the heater while the door is closed and the water temperature is below the thermostat setting.
3. The temperature of the water in the tank should be 140°F – 150°F. The Tank heater will maintain a minimum temperature of 140° F if the final rinse is providing 140°F – 150°F at all times (CMA-44L). 150°F minimum will be maintained if the final rinse is 180°F – 195°F (CMA-44H).

If the thermostat (located behind the stainless steel cover on the final rinse side of the machine) should need adjustment—there is a thermostat adjustment access hole located on the cover.

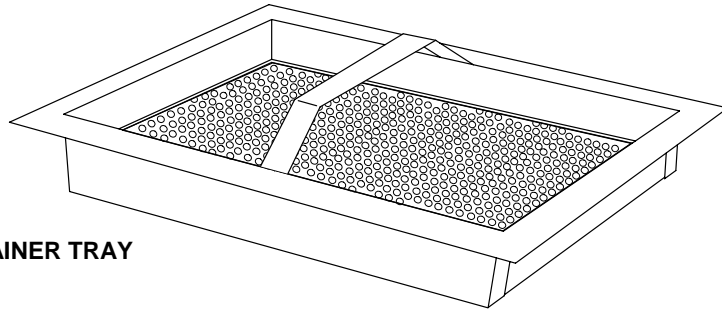
**Tip:** If you are having difficulty maintaining wash tank temperature, minimize the vent hood openings by closing off the dampers.

4. Be sure to place the dishes correctly. If they become dislodged, they could interfere with the trip switch lever and interrupt the operation of the machine.



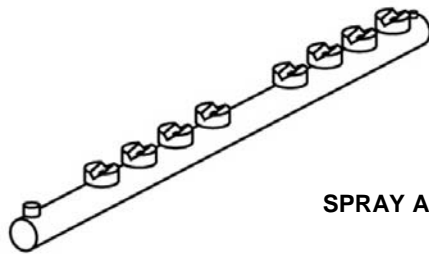


5. At the end of the shift and after heavy periods of accumulation, clean the three strainer trays inside the machine.



**STRAINER TRAY**

Also, at the end of each shift, remove and clean the six spray arms. Then reinstall them into the machine.



**SPRAY ARM**

Also, when water becomes heavily soiled, drain the tanks and refill the machine.

6. Check chemical buckets. Make sure there is an adequate supply of detergent, rinse aid and (CMA-44L only) sanitizer. Also, verify that the pickup line is inserted into the correct bucket.
7. Slide in a dish rack to activate the cycle start trip switch on the pre-wash end of the machine. The 60-second time-delay-off relay will hold the machine in the run mode for 60 seconds after a rack releases the cycle start switch and then shut off. This time-delay relay prevents the machine from continuing to run when a dish rack is not in the machine.

### **3.2.1. Chemical Dispensing**

The rinse and sanitizing agents are not injected during the initial fill stage. They are injected into the final rinse make-up water when the final rinse trip switch is activated in the final rinse tank.

#### **3.2.1.1. Low Temperature Applications**

See dispenser manufacturing operational instructions for sanitizer adjustments for Low Temp applications.

The sanitizing pump operates when the fresh water enters the machine during final rinse. The water is treated at 50 PPM (parts per million). The

pressure regulator is adjusted to 20-PSI. This allows 0.8 (CMA-44L), or 0.94 (CMA-44H) gallons of water to enter the machine each time a rack is washed.

It is recommended that the 5-1/2% chemical solution be standardized to allow uniform dispensing of the sanitizing solution into the flow of rinse water as the machine operates. At this level, maximum shelf life is available.

Inside the control box is a labeled power block for the sanitizer and rinse aid, which is powered when the final rinse trip switch is activated. The detergent power block is also labeled and provides power when the conveyor and pump motors are operational.

### **3.3. Regular Service and Maintenance Checklist**

1. Upon entering the facility, make a preliminary check of the flatware and glasses, especially the stemware. This will give you a quick indication of how the machine is functioning.
2. With the circuit breaker providing power to the machine turned off, open the door and check the interior condition of the machine.
  - a. The stainless steel on the inside of the machine should be clean and shiny, no dull look or buildup of white lime scale.
  - b. Check the condition of the strainer trays for excessive garbage. The machine operator should be cleaning the machine—explain proper cleaning procedures.
  - c. Open the drains and check to make sure they are all working properly.
3. Once the machine has drained, remove both end curtains and remove all the strainer trays from the machine.
  - a. Check all spray arms and jets - clean as necessary. Explain cleaning procedures to the operators.
  - b. Check the drain openings making sure they are free and clear of debris.
4. Close the drains, turn the power on and fill the machine.
  - a. Check the fill vacuum breaker for leaks.
  - b. This is the time to check the water hardness. Check the water at the fill while it is coming into the machine.
  - c. Using a rod or something long to avoid contact with the rinse water, actuate the final rinse trip switch and observe the spray pattern on the final rinse jets. (It is easier to see while the pressure is lower.) If you have any clogged rinse jets, clean them using a paper clip or similar wire.
5. Verify that the heater is working. If the temperature is below 140° check the thermostat setting. Also, check that the heater contactor has activated (toggle the heater switch and listen for the contactor pulling in and dropping out). Check that the float switch is working properly (this will also cause the heater contactor to pull in and drop out when actuated).
6. Replace all the strainer trays into their proper position and fill the machine.

7. Place a rack into the machine and observe the spray pattern of the pre-wash, the wash, and the final rinse.
  - a. Check the titration of the wash tank at this point.
  - b. While the rack is in the final rinse, check for 50 PPM residual chlorine in the final rinse.
  - c. Observe the final rinse vacuum breaker for leaks.
8. Run a stemware or glass rack through the machine and check the results on the glassware.
  - a. Observe the check valves for the rinse and sanitizer. Make sure they are not leaking or building up chlorine crystals. If they are clean, leave them alone.
  - b. Check the condition of the chemical tubing from the peri-pump to the check valves.
  - c. Check the peri-pump squeeze tubes to make sure they are tight, pumping product properly and not leaking within the peri-pump. There should be no moisture within the peri-pump itself.
  - d. Observe the final rinse pressure at 20 PSI. Adjust if necessary.
9. Check the condition of the chemical tubing coming from the detergent rinse and sani buckets, up to the machine.
10. With the machine stopped, check the roller cam bearing on the conveyor. You should be able to move the outer cover of that roller cam bearing with your finger. Also, keep it well greased so that the outer covering does not freeze up.
11. Check the conveyor system. Make sure the complete system is running smoothly.
12. Send two or three racks through the machine. Check the scrap overflow. While the racks are running through the machine, look under the machine for any drips or leaks coming from the machine or pump seals.
13. Send a rack through the machine and check if the 60-second off delay is operating properly. If the relay is working properly the machine will shut off approximately 60 seconds after the cycle start trip switch is de-activated.
14. Send a rack through and check if the cycle start trip switch is operating properly. This trip switch is located on the pre-wash end of the machine and is activated by sliding a dish rack into the machine.
15. Using an all-purpose cleaner or stainless steel polish, clean up the outside of the machine to keep it looking nice.
16. Once this is done, fill out a service report and take it to the manager.

## 3.4. Quick service guide

MODELS: CMA 44/66 CONVEYOR (S)

| TECHNICAL ISSUE                       | CAUSE  | SOLUTION  |
|---------------------------------------|--|---|
| Continuously cycles                   | Manual/auto switch in <i>MANUAL mode</i> or faulty                               | Turn switch to <i>AUTO</i> position or replace  |
|                                       | Conveyer timer faulty  | Replace timer, P/N 13418.85   |
| Final rinse does not come on          | Faulty tilt micro switch   | Replace micro switch, P/N 00411.00  |
|                                       | Micro switch cam out of adjustment   | Adjust cam  |
|                                       | Faulty rinse solenoid valve  | Replace diaphragm or coil, P/N 00738.15   |
| Does not run                          | Power disrupted  | Check wall breaker switch   |
|                                       | Faulty table limit switch  | Check and replace, P/N 13827.10   |
|                                       | Faulty door reed switch  | Check and replace, P/N 00557.30   |
|                                       | Burnt internal glass fuse  | Check and replace, P/N 13403.26   |
|                                       | Faulty power shut off switch   | Check and replace, P/N 00421.83   |
|                                       | Faulty main contactor  | Check and replace, P/N 13003.50   |
| Losing water                          | Machine is not level   | Level machine using leg adjustments   |
|                                       | Dish table slants away from dish machine, losing water down quick-drain on table | Slant table to carry excess water towards machine tank/plumb quick-drain back to machine above water line |
| Oil coming out of conveyor motor      | Broken shaft seal in gear box  | Replace gear box, P/N 13504.00 OR .12   |
| Conveyor cam bearing destroyed        | Wrong conveyor motor rotation  | Replace bearing, check and correct conveyor motor rotation, P/N 13507.50                                  |
| Machine only runs in manual mode      | Faulty reed switch at the dish machine entrance                                  | Check and replace, P/N 00557.56   |
|                                       | Faulty conveyor timer  | Check and replace, P/N 13418.85   |
|                                       | Faulty manual/auto toggle switch   | Check and replace, P/N 13003.70   |
| Heater does not work                  | Faulty heater switch   | Check and replace, P/N 00421.87   |
|                                       | Faulty heater thermostat   | Check and replace, P/N 13417.85   |
|                                       | Faulty heater float switch   | Check and replace, P/N 13463.10   |
|                                       | Faulty heater contactor  | Check and replace, P/N 13003.50   |
|                                       | Faulty heater  | Check and replace, P/N 13417.77   |
| Low or no pressure at final rinse arm | Not adjusted or faulty pressure regulator  | Adjust (20psi) or replace regulator, P/N 13602.45   |
|                                       | Clogged rinse arm jets   | Clean rinse arm jets  |
|                                       | Faulty water solenoid  | Check and replace solenoid, P/N 00738.15  |
| No pressure at wash arms              | Clogged manifold system  | Check and clean   |
|                                       | Clogged spray jets   | Check and clean   |
|                                       | Motor rotation, wrong direction  | See wiring instruction on motor for proper rotation   |
|                                       | Debris stuck in pump cover/damaged impeller                                      | Check and clean/replace impeller, P/N 03222.85  |

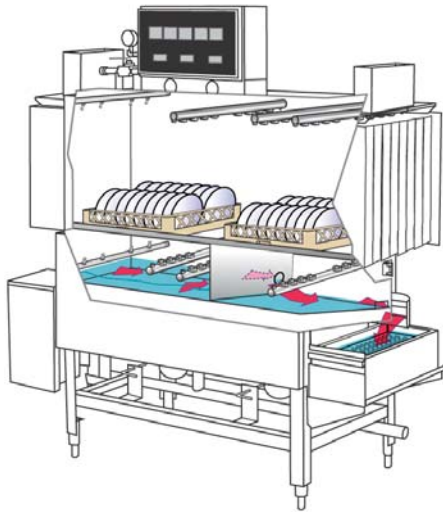
### 3.5. Trouble Shooting

| <b>PROBLEM</b>                        | <b>LIKELY CAUSE</b>  | <b>SOLUTION</b>   |
|---------------------------------------|--|---|
| Pre-wash/power wash motor inoperative | <i>Bad motor or capacitor</i><br><i>Faulty contactor</i>                       | <i>Replace defective motor</i><br><i>Replace contactor</i>        |
| Machine inoperative                   | <i>Fuse is burned out</i>  | <i>Replace fuse</i>   |
|                                       | <i>Table limit switch</i>  | <i>Remove dish rack at switch</i>                                 |
|                                       | <i>Defective door reed switch</i>  | <i>Replace reed switch</i>  |
|                                       | <i>Defective start reed switch</i>   | <i>Replace reed switch</i>  |
|                                       | <i>Defective auto/manual switch</i>  | <i>Replace switch</i>   |
|                                       | <i>Defective 60 Sec. Timer</i>   | <i>Replace timer</i>  |
| Machine runs continuously             | <i>Defective 60 Sec. Timer or settings</i>                                     | <i>Replace timer or change settings</i>                           |
|                                       | <i>Contactor stuck</i>   | <i>Replace contactor</i>  |
| Heater (no heat)                      | <i>Float switch</i>  | <i>Check movement-replace it</i>                                  |
|                                       | <i>Defective thermostat or setting</i>   | <i>Replace thermostat or adjust</i>                               |
|                                       | <i>Defective heater contactor</i>  | <i>Replace heater contactor</i>                                   |
|                                       | <i>Defective heater</i>  | <i>Replace heater</i>   |
|                                       | <i>Defective heater switch</i>   | <i>Replace switch</i>   |
|                                       | <i>Wire connections</i>  | <i>Check and correct</i>  |
| Racks stuck                           | <i>Broken rack</i>   | <i>Replace rack</i>   |
|                                       | <i>Tray track alignment</i>  | <i>Adjust properly</i>  |
| Low wash tank temperature             | <i>Low incoming water supply</i><br><i>(150°F-low temp, 180 °F- high temp)</i> | <i>Check hot water supply</i>                                     |
|                                       | <i>Thermostat setting</i>  | <i>Adjust thermostat</i>  |
|                                       | <i>Vent hoods</i>  | <i>Close vents as much as possible</i>                            |
|                                       | <i>Defective heater</i>  | <i>Replace heater</i>   |
| Low rinse water pressure or no rinse  | <i>Plugged rinse jets</i>  | <i>Remove and clean</i>   |
|                                       | <i>Pressure regulator out of adjustment</i>                                    | <i>Adjust pressure regulator</i>                                  |
|                                       | <i>Water sol. valve coil or diaphragm</i>                                      | <i>Replace or clean</i>   |
|                                       | <i>Dirty rinse jets</i>  | <i>Remove and clean jets</i>                                      |
|                                       | <i>Defective rinse reed switch</i>   | <i>Replace reed switch</i>  |
| Chemicals                             | <i>Dispenser or settings</i>   | <i>Check dispenser troubleshooting guide</i>                      |
|                                       | <i>Rinse pressure</i>  | <i>Set 20 psi.</i>  |
| Machine loosing water                 | <i>Quick drain on pre-wash end</i>   | <i>Plumb quick drain back into pre-wash tank above water line</i> |
|                                       | <i>Sheet pans</i>  | <i>Use CMA sheet pan rack</i>                                     |
|                                       | <i>Drain valves open</i>   | <i>Close completely</i>   |
| Low spray arm pressure                | <i>Tank water level low</i>  | <i>Check rinse pressure, drain valve open</i>                     |
|                                       | <i>Clogged jets</i>  | <i>Clean jets</i>   |
|                                       | <i>Motors connected wrong</i>  | <i>Connect motors to reverse impeller direction</i>               |

## 4. CMA-44 Customer Notice

### **IMPORTANT NOTICE** **INSTALLATION INSTRUCTIONS** **ON NEW STYLE CMA-44 and CMA-66 Conveyors**

**SOIL PURGING SYSTEM:** The CMA-44 and CMA-66 conveyors are multi-tank dishmachines. These conveyors use very little rinse water, less than one gallon per rack of dishes. The rinse water enters the wash and overflows into the pre-wash tank. As water rises in the pre-wash tank it will overflow from the conveyor (carrying soil) to be discharged into the scrap accumulator. *For optimum performance of equipment, it is critical that these installation and set-up instructions be followed precisely.*

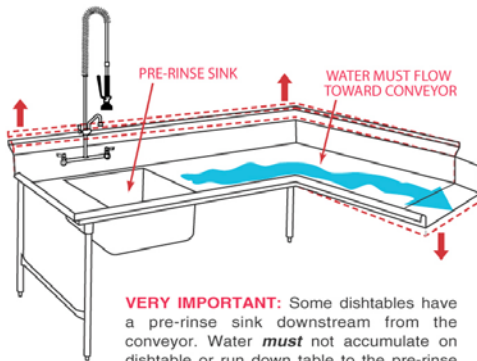


### **DISHTABLES WITH SCRAP TROUGHS**

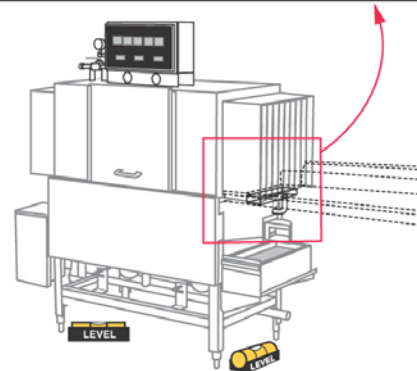
**VERY IMPORTANT:** Some dishtables have scrap troughs just prior to entering or exiting conveyor.

Please call "CMA Customer Service" at 800-854-6417 for important installation instruction relating to table scrap troughs or see Customer Notice Section 4 in Installation & Operation Manual.

#### DISHTABLES



**VERY IMPORTANT:** Some dishtables have a pre-rinse sink downstream from the conveyor. Water *must* not accumulate on dishtable or run down table to the pre-rinse sink; otherwise conveyor tanks *will drain*. *The dishtable must slant toward the conveyor to prevent loss of water.*



**VERY IMPORTANT:** These units *must* be installed *level* to the floor, and all the rinse water must be processed through the conveyor and exit the scrap accumulator via the *overflow*. If *any water* is allowed to discharge by other means, the conveyor tanks *will drain*. *If the tanks drain, there will be substantial loss in spray arm pressure, and dishes and utensils will not be cleaned and sanitized properly.*

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### TIPS TO SAVE A SERVICE CHARGE

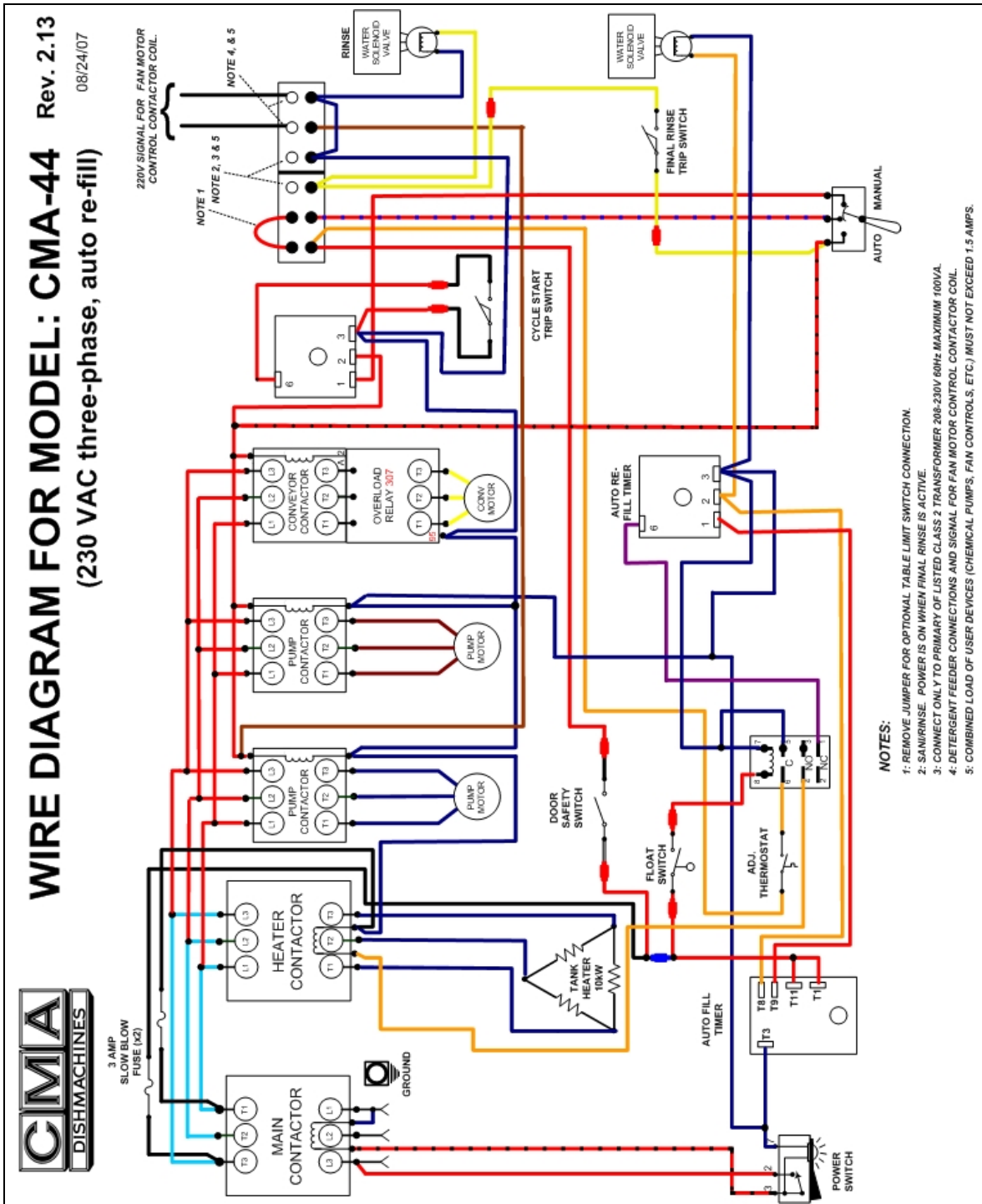
If the Lessee of this equipment initiates a service call and it is subsequently determined that the problem does not relate to part failure or out of chemicals, there will be a minimum service charge for a service person to respond.

It is recommended that you check the following items before initiating a service call:

- Circuit breaker position. Should be "ON".
- Clogged drains (at any point in drain line).
- Lack of soft water (check salt level in brine tank).
- Lack of hot water due to valves shut off or incorrect thermostat settings.
- Failure of equipment unrelated to the machine.
- Abuse to equipment or failure to perform minimum cleaning requirements as outlined at time of installation.
  - a. Rinse and wash arm tips clean and free of debris.
  - b. Strainer trays clean and free of debris.
  - c. Water tank drains clean and free of debris.
- Trip switch blocked or held from free movement due to a lodged utensil or dish.
- Lines to chemical buckets found in wrong containers or empty. (Lines to the buckets are color-coded.)

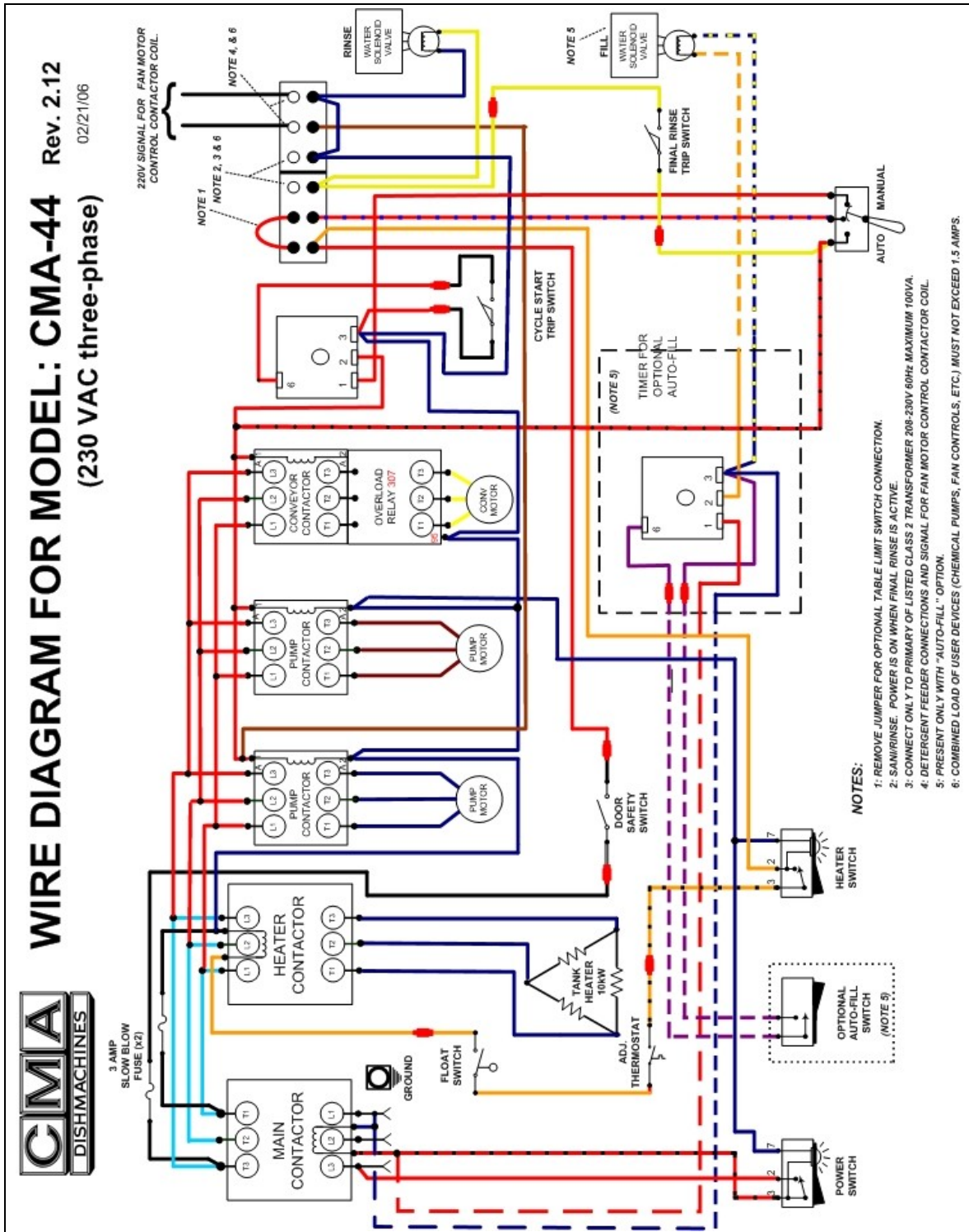
Lessee's service responsibility shall be limited to its initial orientation, delivery of chemicals, adjustment of chemical injection system, and replacement of parts found to be worn or defective.

## 5. Electrical Diagram





## 6. Electrical Diagram (Old Models)



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