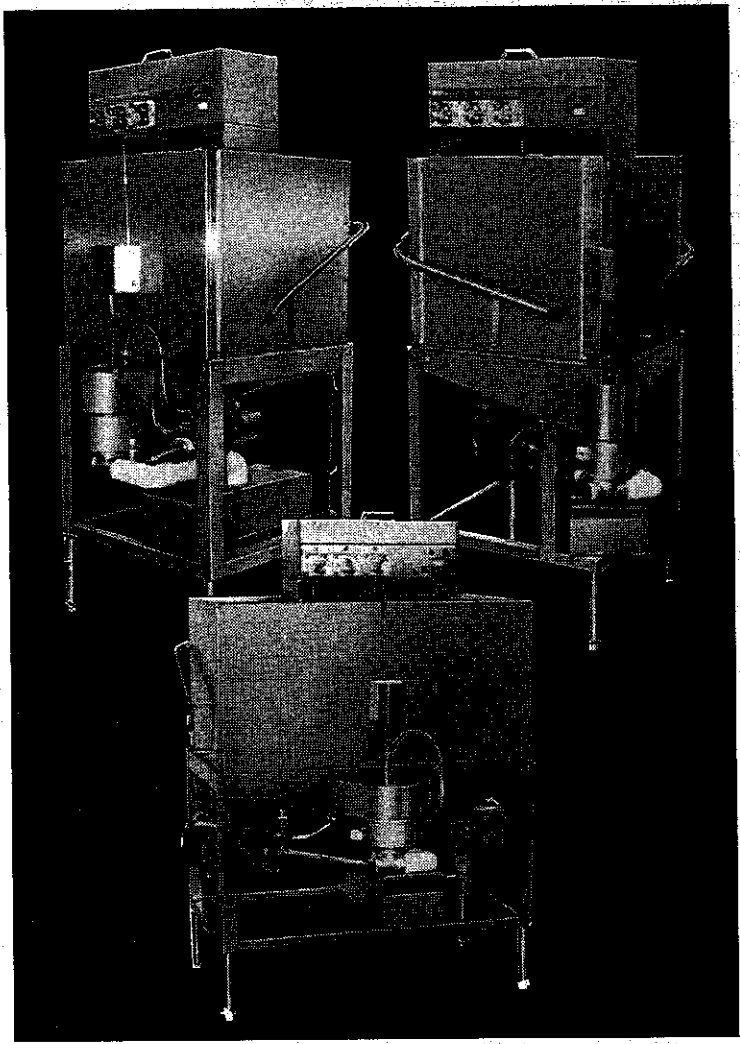


MODEL AH/B/C INSTALLATION & OPERATION



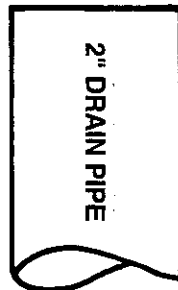
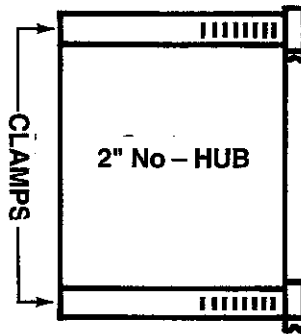
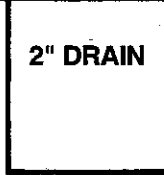
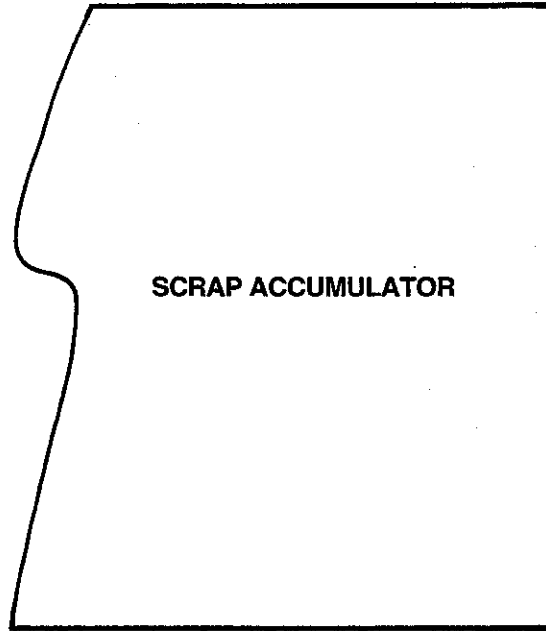
CMA DISHMACHINES
12700 KNOTT AVENUE
GARDEN GROVE, CALIFORNIA 92841

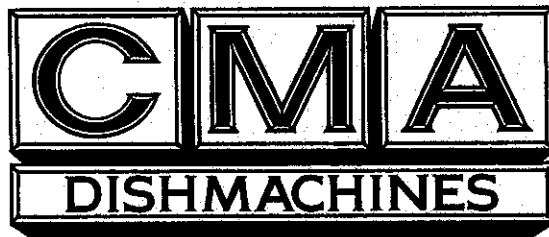
800-854-6417
FAX 714-895-2141

SCRAP ACCUMULATOR DRAIN CONNECTION

THIS DIAGRAM ILLUSTRATES THE DRAIN CONNECTION ON THE
SCRAP ACCUMULATOR.

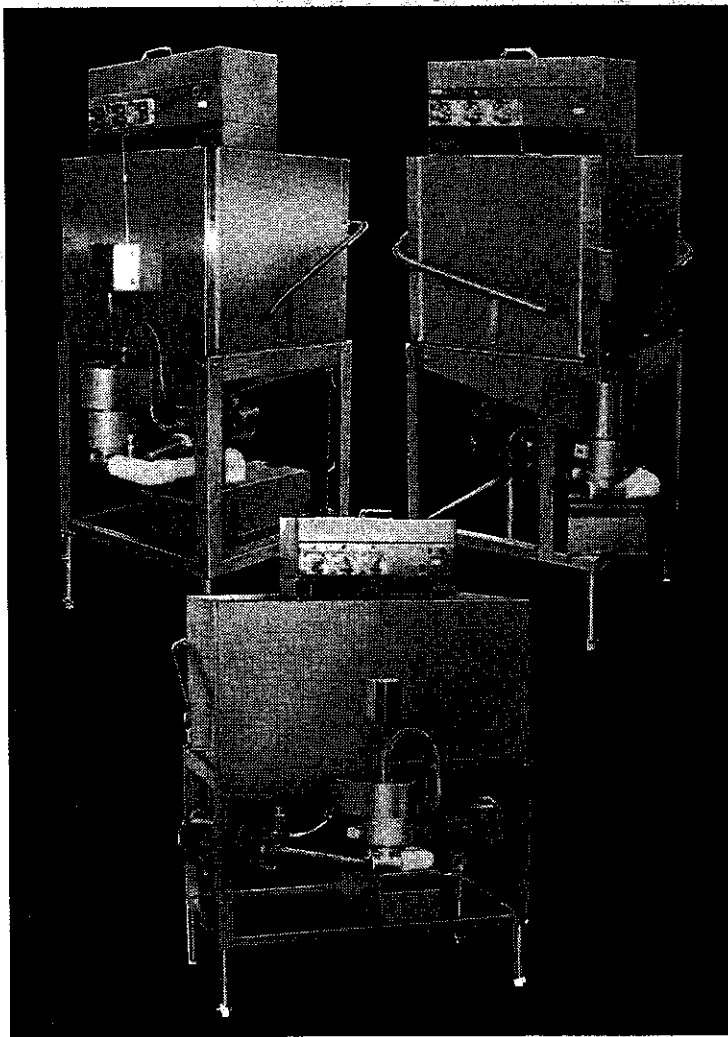
The bottom connection point
extends 9" from the floor .





MODEL AH/B/C

INSTALLATION & OPERATION



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Step 6: WATER SUPPLY:

CMA dishwashers should be fed by a 3/4" hot water line. The time necessary to deliver water to the machine is controlled by the number four cam. This cam provides the serviceman with the opportunity to fine-tune the machine to deliver the proper amount with each cycle. Refer to the service manual for an indepth discussion of this procedure.

Step 7: ACTIVATING MACHINE:

The machines are equipped with prime switches to activate the peristaltic pumps at any time the master switch is "ON".

Following completion of the installation, always fill the machine with water before the machine is started.

- A. Hold the fill button until the water level is approximately 1/2" to 3/4" below the overflow hole in the PVC standpipe. This water level should be approximately even with the bottom edge splash guard in sump area of machine.
- B. Activate the prime switches for the three chemical pumps until the product is discharging into the sump.
- C. To start the machine, close the doors and the machine will cycle automatically.

The amount of product delivered by each cam is controlled by changing the opening in each cam. When the micro switch rides down into the cam, the peristaltic pump motor begins to rotate. It will continue to rotate until it rides up out of the groove. Therefore, to extend the amount of product delivered to the machine, open the groove; to reduce the amount of product delivered to the machine, close the groove. Cams are slip fit. A cam adjustment wrench is provided, but the cam can be adjusted with a small screwdriver or the edge of a table knife.

Technical personnel are available during normal business hours should you, as an installer, have any questions. CMA machines require minimum maintenance and offer prolonged service. We are here to serve you at (800) 854-6417 Located at CMA, Garden Grove, California..

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TO THE INSTALLER

The dishwasher is shipped from the factory in a box on a pallet. The guidelines are listed in a step-by-step procedure for your reference.

Step 1: UNWRAP THE MACHINE AND CHECK FOR THE FOLLOWING COMPONENT PARTS:

- A. Scrap accumulator complete with lid and scrap tray. This is normally an integral part of the machine.
- B. Tube stiffeners. Tube stiffeners must be used to prevent the feed tubes from curling inside the chemical pail and sucking air. These are located inside the machine with the chemical tubing already installed into the stiffeners. The ends of the chemical tubing have been flared so that the tubing will not pull out of the stiffener. Red is for detergent, white for sanitizer, and blue for rinse aid.

Step 2: PLUMBING. The machine needs:

- A. 2" pipe for the drain outlet.
- B. 3/4" pipe for the incoming water.
- C. A flex or quick-disconnect union. The water inlet is at the top right corner of the dishwasher.

Step 3: ELECTRIC:

The machine is 110 volt. The master switch is at the top left of the control box.

Step 4: CHEMICAL FEEDERS:

The peristaltic pumps are assembled and included within the machine.

Connect the chemical suction lines to pump. **NOTE:** Right side of pump is discharge; left side of pump is suction. The peristaltic pumps rotate clockwise; therefore, as the rotors roll across the squeeze tube, liquid material is forced through the tube into the injector system. Use nylon ties to fasten the "pickup" and "discharge" lines to the squeeze tube.

STEP 5: HOOKING UP THE SCRAP ACCUMULATOR:

The scrap accumulator is designed to perform two basic functions:

- A. It allows a method to discharge all the heavy solids out of the machine with each wash and rinse cycle.
- B. It provides capacity to drain the contents of one cycle regardless of the ability of the existing drain to accept the discharge rate.
- C. There is a drain connection sleeve (2") on the bottom of the scrap accumulator. See page 7 for drain connection instruction.

CMA standard dishwashers operate on 110 volts; other voltage requirements are available on request. When installing the single rack units, either Model AH or C, it is recommended that a clean 20 amp circuit be provided to the machine. On the two-rack machine (Model B series), it is necessary to provide a clean 30 amp circuit. The machine should be hard wired directly to the circuit breaker.

BE A PRO!

CMA dishwashers have been used worldwide for many years. This manual has been written to help YOU, the operator, in your job. Your job is one of the "most important" in this restaurant. WHY? Your product, the dishes and glasses, is the first thing the customer notices when he sits down. Clean, sparkling dishes and silverware will set the mood for the customer when he observes the table setting.

Customers mean profit and profit means jobs -- yes, your job. The cook, the waiters, and the manager -- you are all a part of a team. The CMA dishwasher is a tool, which you can use, to make your job easier and which will help you deliver clean dishes to the customer.

This manual is divided into three sections. Sections One and Two cover start-up and dish handling, and Section Three covers trouble shooting.

SECTION ONE: STARTING INSTRUCTIONS

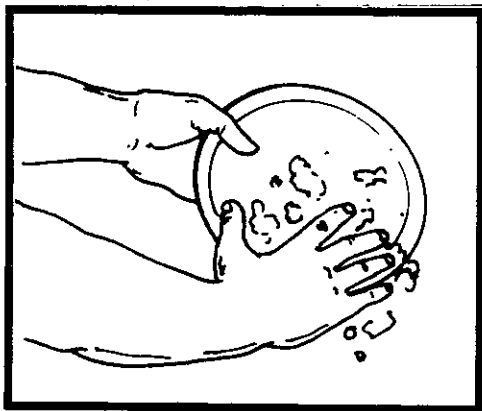
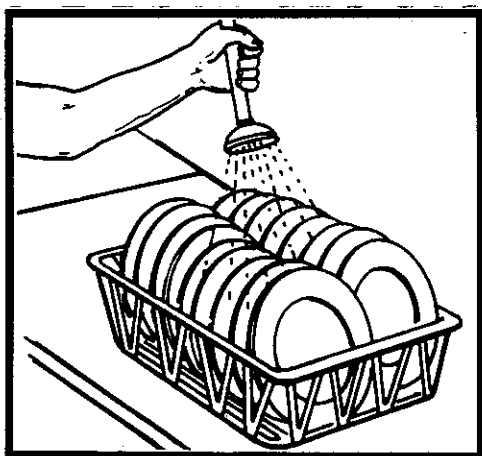
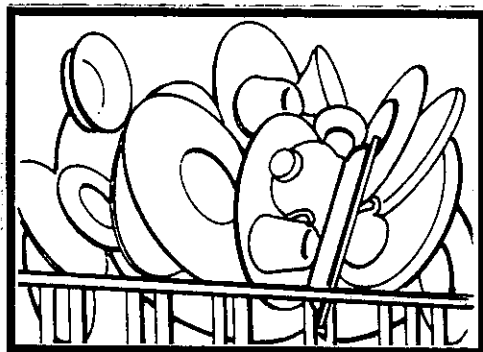
A. Start-up

1. Drain water if it is cold by lifting drain ball until all water is out of the machine.
2. Check drain screen and clean.
3. Replace it properly into the sump housing.
4. Check wash arm spray tips. If clogged, clean with toothpick and rinse at sink.
5. Check chemical lines to chemical containers.
 - a. Red - detergent line.
 - b. Blue - rinse agent line.
 - c. Clear/White - sanitizer destainer line.
6. Replace wash arm and drain screen, (For the first wash cycle only) Press fill switch, fill until water is 1/2" lower than overflow on drain ball shaft or to the bottom of splash shield.
7. Hold fill switch in until water level is proper and check temperature (should be approximately 140°F; 60° Celsius).
8. Insert tray of dishes into machine and close doors. Machine will automatically start when doors are closed.
10. After the machine stops, raise doors, remove trays, and allow to dry before stacking.
11. If the doors are lifted during a wash cycle, the machine will automatically shut off.

The CMA dishmachine will complete the wash and rinse cycle and automatically feed the proper chemical and turn itself off.

SECTION TWO: OPERATING INSTRUCTIONS.

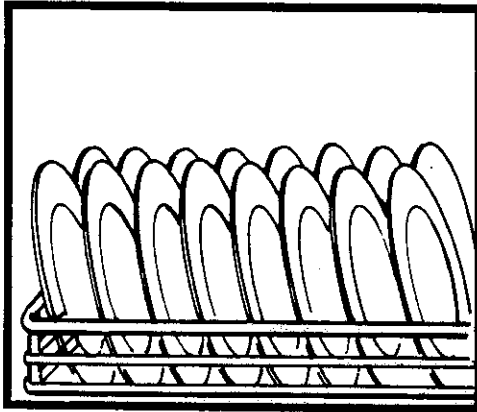
Dishes are expensive. An average plate can cost over \$5. Be very careful when preparing and handling dishes.

**HAND SCRAPING****WET SCRAPING****DON'T PILE DISHES!!**

Scraping: Scraping operations are necessary to remove, mechanically or by hand, remaining food from dishes prior to the dishwashing operation. The purpose is to keep excessive garbage from going into the dishwashing machine. Hand scraping is done with a rubber spatula or by hand.

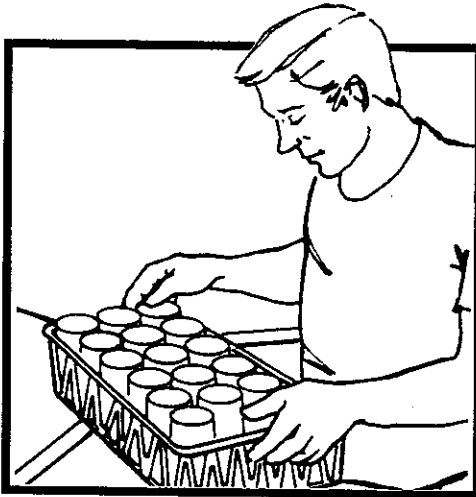
The use of a pre-rinse hose for wet scraping of dishes before they go into the machine is ideal for removing small particles of soil not removed by the hand scraping operation. It also is a labor saver because less time will be required in the full scraping operation if the water scraping method is used. Water scraping can ensure a better job, but if it is not available, a rubber spatula or glove can be provided for you to do a thorough job of hand scraping the dishes.

Racking dishes: Properly placing the dishes in the rack before washing is one of the most important jobs the operator must perform. The entire surface area of a soiled dish must be covered by the spray arm to provide sufficient scrubbing action when the detergent solution is being sprayed on that dish. Stacking dishes won't save you time because the dishes will not be cleaned during the wash cycle and will require sorting and rewashing. Be a PRO; do it right the first time! Be sure to rack all the same sized plates together row by row. The dish rack will hold them just right for proper washing. If you sort and rack properly, it will be easier and save you time.



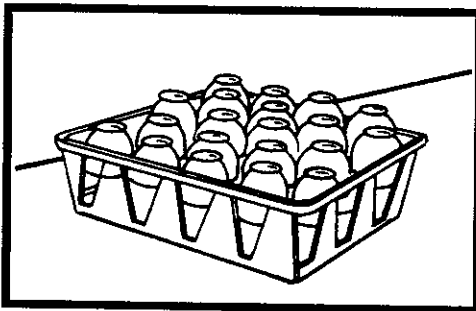
PROPER RACKING

Note in the illustration that the plates are racked without overlapping and that the sprays from the top spray arm will strike the food contact surfaces of the dishes (the face of the dishes).



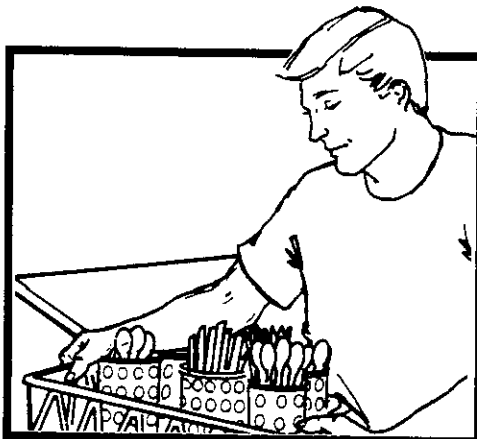
GLASS RACKING

Racking glasses: Glasses, cups, bowls, and other deep dishes must be racked face down so as not to carry out wash water and so the sprays can work on the internal surfaces. Rack glasses and cups in a properly sized compartmentalized glass rack. Allow to air dry. Glass washing is very important. A customer may gain his first impression of an establishment when he is served his glass of water.



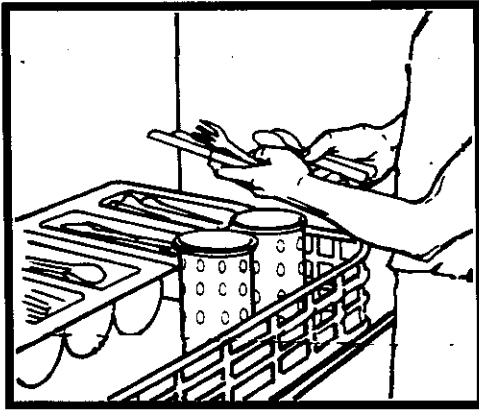
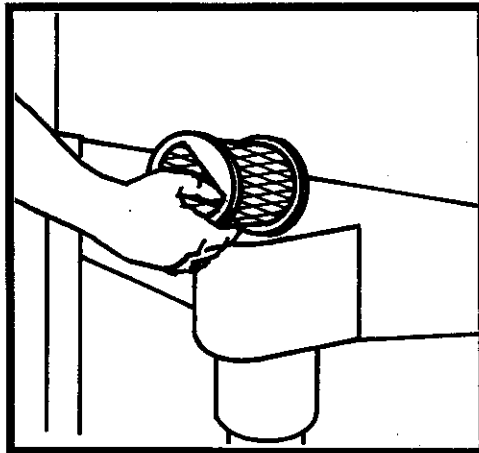
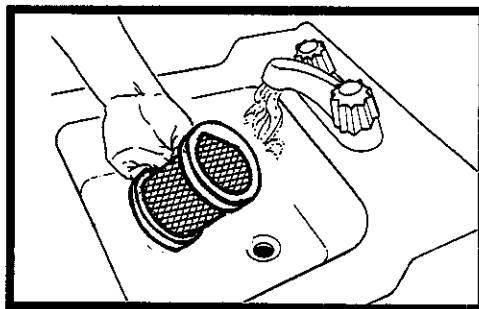
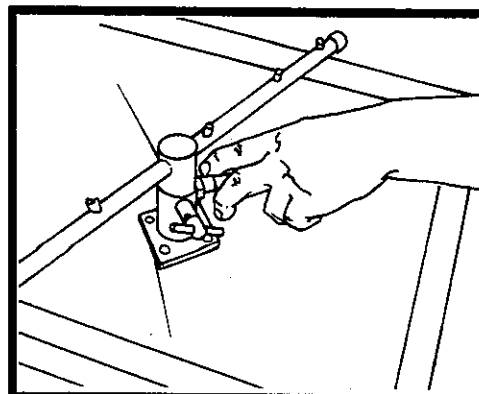
CUP RACKING

They should be placed in the racks upside down in each compartment. The rinse additive is injected into the rinse water to prevent spotting and speed the drying process. (Note: The CMA representative can help you select the proper glass rack for your glasses).



WASH BASKET

Racking flatware: Flatware may be washed in many ways. It is recommended that all flatware be presoaked in a deep pan, generally a bus pan, using a presoak detergent. This will prevent drying or adhering of soil on flatware and reduce tarnishing. A presoak detergent is especially useful for the removal of protein soil such as egg, syrup, etc. It is recommended that 30 minutes be allotted for presoaking, if possible. After presoaking, the flatware is placed in a wash basket with handles down to prevent them from "nesting" which provides maximum exposure to the wash process.

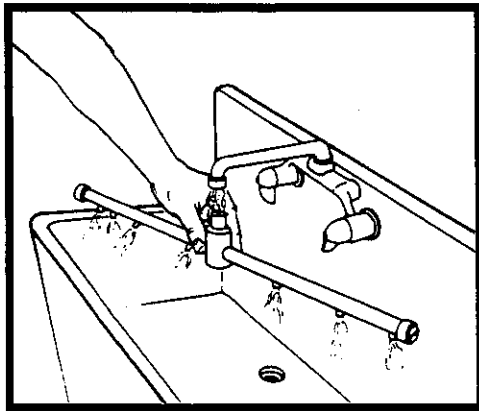
**SORTING FLATWARE****REMOVE SCREEN****CLEAN SCREEN****REMOVE WASH ARM**

Stacking and storage: Stacking and storage of dishes being washed and sanitized is very important. A dish may be perfectly washed but be completely contaminated from the handling after washing. Avoid storing dishes where they may be soiled. Handling dishes with the hand on the food contact surfaces should be reduced to a minimum (towel drying is an incorrect procedure). Do not stack plates and dishes higher than 12 inches. Their combined weight can destroy the porcelain surface on the bottom plates.

Cleaning the CMA dishwasher: Certain times of the day should be allotted to cleaning the CMA dishwashing machine. Following the cleaning and inspection procedures listed below.

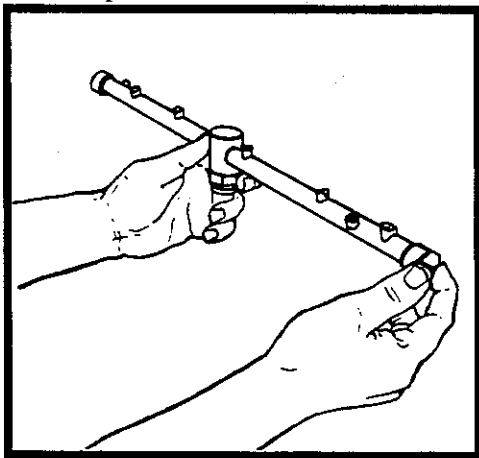
Cleaning the drain screen: Remove drain screen (see illustration) and thoroughly clean all foreign material from screen as shown in the illustration. **DO NOT BANG THE SCREEN ON THE TABLE TO JAR FOOD LOOSE.** Use the faucet or prerinse hose. Re-install drain screen and ensure that it is in proper position.

Cleaning the wash arms: Inspect the upper and lower spray arms to ensure they are not clogged with food scraps. Otherwise, full and uniform spray pressures will not be delivered to the soiled dishes.



CLEAN WASH ARM

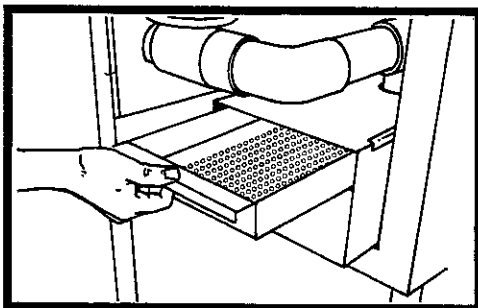
If there is any question as to the spray arm nozzles being clean or food scraps, the spray arms should be removed and cleaned. Note that water will blow from all jets if they are open. Use toothpick to open clogged jets and flush to ensure food scraps are out of the arm. If necessary, the stainless plug in the end of the arm can be unscrewed and removed to clean the inside of the arm tube at the sink.



RE-INSTALL WASH ARM

After the arm has been thoroughly cleaned, re-install by threading counter-clockwise back into the base. Finger tighten only.

Check operation: Operate the machine for one cycle with the doors open (motor will not operate). Watch detergent, sanitizer, and rinse additive "delivery tubes" at the point where they inject chemical into machine. Remember: red tube - detergent; blue tube - rinse; and clear/white tube - sanitizer. Check temperature at the end of the cycle for 140°F (60° Celsius).



EMPTY SCRAP TRAY

Cleanup: Wipe down the machine and check the chemical level in the containers. Also inspect machine for leaks or other items that might cause trouble during a rush period. You are now ready to wash dishes.

Remember: The chemical containers should be saved for pickup by the serviceman during his regular call. Don't throw them in the trash bin.

Empty the Scrap Tray: Remove scrap tray drawer "and thoroughly rinse out". Clean tray after each meal, or once each hour, if very busy.

SECTION THREE: TROUBLESHOOTING THE OPTIMIZER.**A. Won't Start:**

1. Check master switch on the control box to make sure that it is "ON".
2. Check circuit breaker which services the dishwasher. Make sure it is "ON".
3. After (ONLY after) checking steps 1 and 2, call the CMA service technicians.

B. Out of Chemicals:

Check backup supply of chemicals. REMEMBER! Red product label to red tube, blue product label to blue tube, and clear/ white product label to clear/ white tube. Note that sometimes extra product is left in storage area, at the direction of the restaurant manager; Before calling the CMA service technicians, check with the manager for backup supplies.

C. Dishes/Glasses are Not Clean

1. Before you call the CMA service technicians, check your temperature gauge on the machine. Check to insure water temperature is at least 120°F. The CMA dishwasher must have hot water delivered from the primary heater at 120° to 140°. If temperature is OK, then...
2. Check that your water softener contain salt and is operating properly. Your service agreement from CMA calls for hot/soft water.
3. Check that dishes are racked properly. Check the screen and wash arm tips; if they are clear, call us, the CMA service technicians.

D. Machine Won't Hold Water

Check the drain actuator for a knife, spoon, fork, or foreign material; then remove.

E. Water Running on the Floor

If it is running from the scrap accumulator, the scrap drawer may need to be cleaned. If not, call your plumber; the drain is clogged.

F. Water Won't Drain From The Machine

Check the drain sump for obvious clogging. If not, call the CMA service technicians.

G. Water Coming Out of the Door (going all over)

Someone didn't replace the end plugs on the wash arm or didn't tighten them. Check inside the scrap accumulator drawer. If the end plug came off during operation, it will be inside the scrap tray next to the machine. Simply replace ; if it is lost, call us, the service technicians people.

H. Machine Won't Shut Off

You can turn off the machine in an emergency by turning off the master switch located on the back of the control box. After turning off master switch, call the CMA service technicians.

I. Machine Won't Fill

Check fill valve on the top of the machine. Make sure "handle" is turned on; if it is , call us, the CMA service technicians.

"All food dispensing establishments using chlorine or other approved chemical sanitizers shall, at all times, maintain an adequate testing device."

"Dishes and other eating and drinking utensils to be washed in a dishwashing machine shall be properly scraped and pre-rinsed and shall be stacked in racks or trays so as to avoid overcrowding, and so as to permit the wash and rinse waters to reach all surfaces of each utensil."

"In machine washing, multi-use eating and drinking utensils shall be washed in water containing a suitable detergent at a temperature from 120 degrees F. to 140 degrees F. or other method approved by the Department of Health."

"The water in the wash tank shall be changed during operation as often as is necessary to keep it reasonably clean. An effective concentration of detergent in the wash water shall be maintained at all times."

"Bactericidal treatment shall consist of exposure of all surfaces of dishes and utensils being washed to a rinse of clean water, at a temperature of not less than 180 degrees F. or other method approved by the Department of Health."

"All dishwashing machines shall maintain a flow pressure not less than 15 or more than 25 pounds per square inch on the fresh water line at the machine and not less than 10 pounds per square inch at the rinse nozzles. A suitable gauge cock shall be provided immediately upstream from the final rinse sprays to permit checking the flow of the final rinse water. An easily readable thermometer accurate to ± 2 degrees F. shall be provided on both the wash and rinse water lines of the dishwashing machine which will indicate the temperature of the water solution therein."

"Dishwashing machines shall be thoroughly cleaned at least once each day. The pumps and the wash and rinse sprays or jets shall be so designed that a forceful stream of water will reach all surfaces of the utensils when they are properly racked. These parts shall be thoroughly cleaned at least once each day. The pumps and the wash and rinse sprays or jet shall be so designed that a forceful stream of water will reach all surfaces of the utensils when they are properly racked. These parts shall be readily accessible for inspection and cleaning."

"After bactericidal treatment, utensils and containers shall be stored at a sufficient height above the floor in a clean, dry place, protected from flies, splash, dust, overhead leakage and condensation, and other contamination. Containers and utensils shall be inverted, covered, or otherwise protected from contamination until used for serving."

Drain racks, trays, and shelves shall be made of non-corrodible material and shall be kept clean.

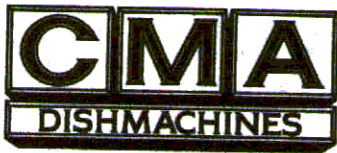
In handling containers and utensils the surfaces thereof which come in contact with food or drink shall not be touched by the hands, except during the process of washing.

Tables for clean and dirty dishes and food shall be so arranged that the dirty dishes will be as far removed from the food and clean dishes as may be possible.

All single-service articles and utensils shall be purchased in sanitary cartons and stored therein in a clean, dry place until used, and after removal from the cartons, these articles shall be handled in such a manner as to prevent contamination.

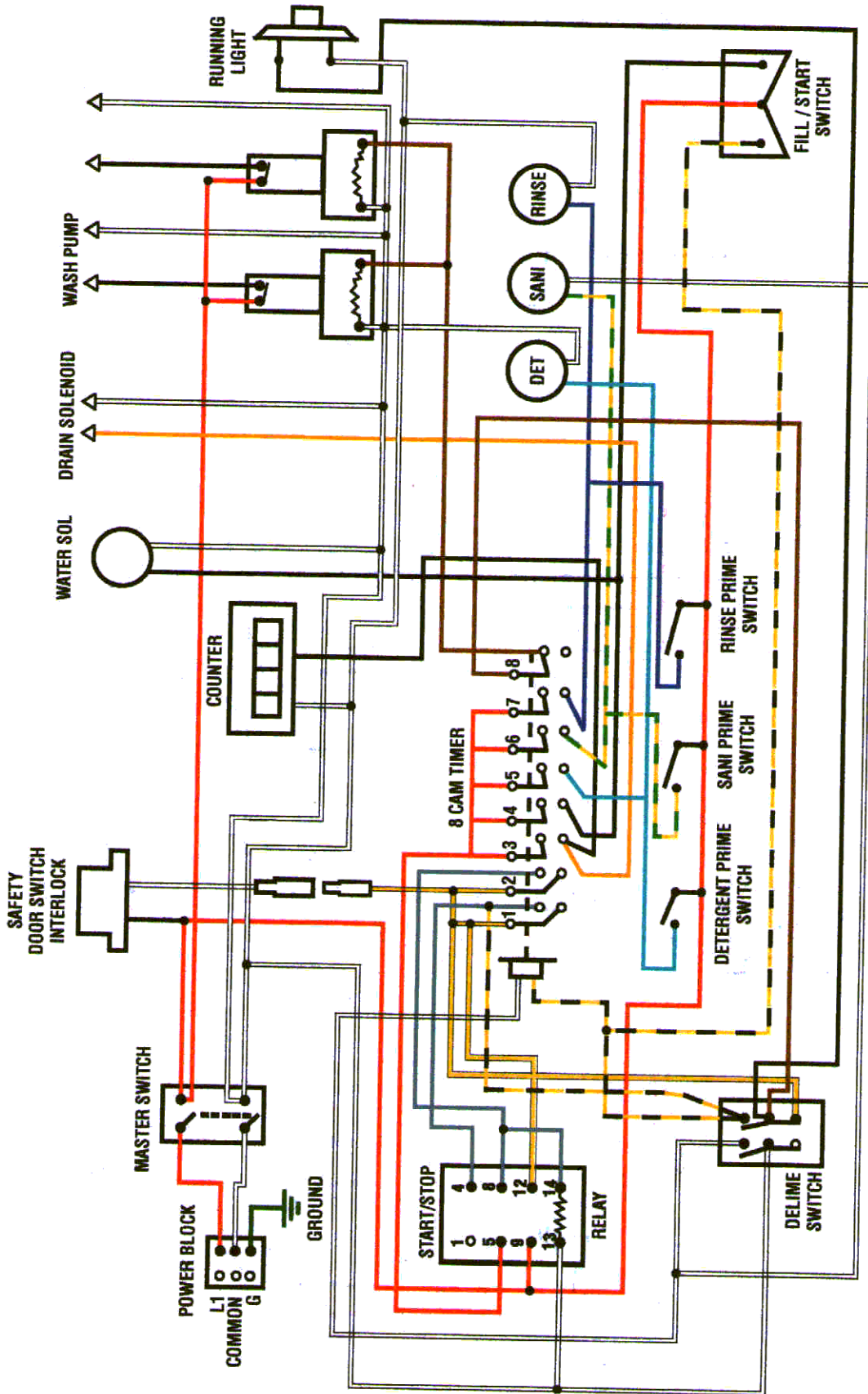
Please note the following procedures must be followed for City of Chicago Approval:

- 1. All low energy models must have low level sani alarms, both visual and audio.**
- 2. All models must have a City of Chicago approval data label affixed to the machine.**
- 3. Chlorine sanitizer must be a minimum of 100 PPM.**



12700 KNOTT AVENUE
GARDEN GROVE, CA 92841

DISHMACHINE WIRE DIAGRAM FOR MODEL: B 115V./60 HZ





12700 KNOTT AVENUE
GARDEN GROVE, CA 92841

DISHMACHINE WIRE DIAGRAM FOR MODELS: AH, A, C 115V./60 HZ

