

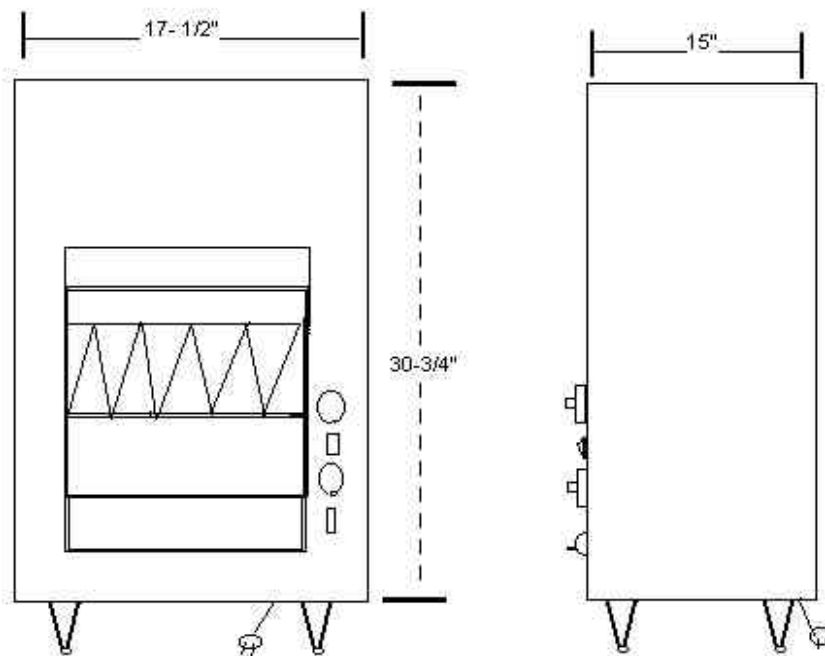
## PARTS & SERVICE MANUAL for C-20VS Vertical Conveyor Toaster



The C-20VS is a high volume, vertical conveyor bread and bun toaster constructed of durable and lustrous stainless steel. This toaster is available in both 208V and 240V models. 120 V Models are available for shipboard use only. Refer to the chart on page 7 for parts that apply exclusively to 120V shipboard toasters.

The C-20VS has a variable conveyor speed control which allows the toasting of not only bread, but English muffins, bagels and buns, with only one pass through the conveyor. Standard features include variable heat, and bun-toast switch for selecting one or two-sided toasting.

The C-20VS is engineered for efficient, dependable service through out the years. Like any piece of fine equipment with moving parts and broad temperature ranges, physical wear takes its toll. When this happens, the information found in this manual will prove very helpful. Although the instructions are easy to follow, all repair procedures should be carried out by a qualified Savory Service Representative.



## CAUTION:

Unplug unit and allow to cool before attempting any service procedures in this manual.

### A On/Off Switch Replacement

1. Remove right side panel. (figures 1 & 2)
2. Remove two retaining screws from front panel.
3. Disconnect wiring harness from switch terminals.
4. Connect wiring harness to new switch and install switch in panel. Refer to wiring diagram.

### B Bun/Toast Switch Replacement

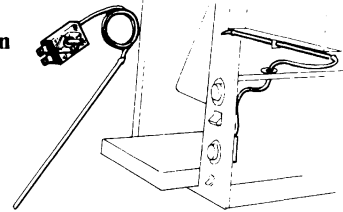
1. Remove right side panel. (Figures 1 & 2)
2. Disconnect wiring harness from switch terminals.
3. Press two spring clips on top of switch and tilt forward.
4. Insert new switch into panel.
5. Connect wiring harness to new switch. Refer to wiring diagram.

### C Thermostat Replacement

1. Remove left and right side panels. (Figures 1 & 2)
2. Remove insulation. NOTE: The wiring harness must be disconnected from the heating elements to remove insulation on the right side. Hold terminals with pliers to prevent bending. (Figure 4)
3. Remove rear heating element assembly. (Section D)
4. Remove wire guard. (Section O)
5. Remove two baskets from conveyor chain, rotate the chain so that this opening is at bottom directly under thermostat bulb.
6. Remove thermostat knob.
7. Remove the two retaining screws from front panel.

8. Remove wires from thermostat.
9. Push as much capillary tube as possible through the plastic grommet located on the upper portion above the shelf and pull thermostat bulb out of hole.
10. Feed capillary tube and bulb through plastic grommet into the lower portion below the shelf and remove.

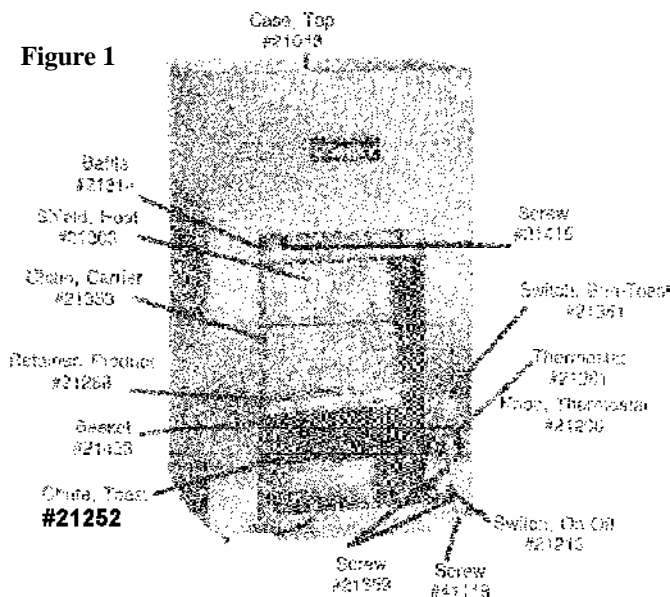
**Figure 3**  
Thermostat Installation



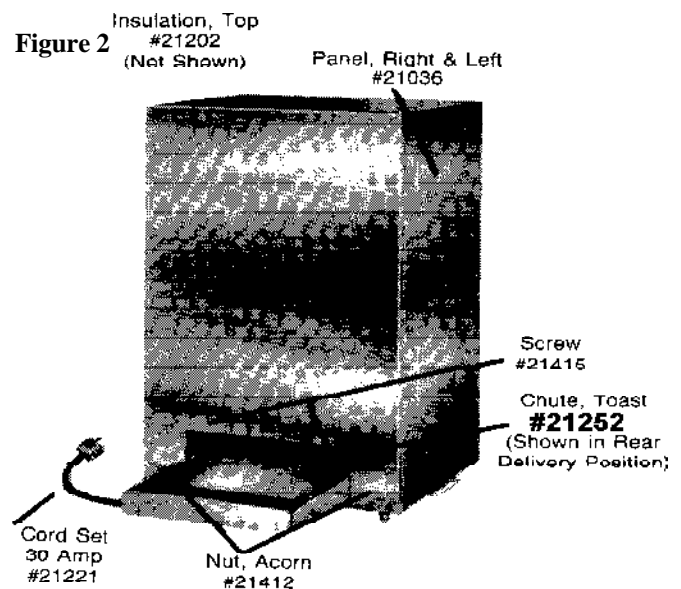
#### To Install New Thermostat:

1. Feed bulb and tube through bottom of plastic grommet. **CAUTION:** Avoid sharp bends or kinks in the capillary Tube as this will create restrictions preventing proper Thermostat operation.
2. Insert bulb into hole and through center guide. The bulb can be seen through the openings for the wire guard and rear heater element.
3. Push bulb through hole in left side inner panel. It can be manually guided by reaching through rear delivery opening and up through opening in conveyor where baskets have been removed. Bulb should extend about 1-1/2" from left inner panel.

**Figure 1**



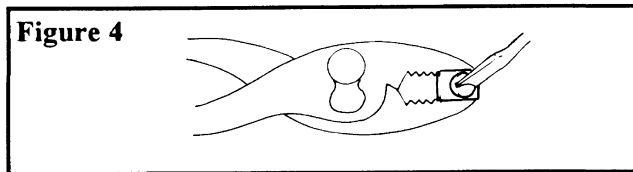
**Figure 2**



14. Attach wires to thermostat. Refer to wiring diagram.
15. Install new thermostat with two screws and replace knob.
16. Position balance of tube so it runs from bottom of thermostat along inside of front panel. Coil excess parallel to and under shelf. Make sure tube is away from all electrical connections.
17. Replace heater element, wire guard, insulation, heater wires, and side panel. Refer to wiring diagram.

## D Heater Unit Assembly Replacement

1. Remove right side panel. (Figure 7)
2. Holding the heater connections with pliers to prevent bending, remove three screws holding wiring harness on heater connections of the unit being replaced. (Figure 4)



3. Remove insulation.
4. Remove the two screws holding heater element to inside panel.
5. Slide heater unit out the side. NOTE: Because of air space required in some heating elements, they may not easily pass through the opening. If element does not slide out completely, remove left side panel, insulation, and wire guard. (Section O). Use a suitable flat tool such as a yardstick or ruler and insert through wire guard opening. Gently pry heating element at curvature so it can clear opening and slide out. (figure 5)
6. Slide new heater unit into place and fasten two screws.
7. Replace insulation.
8. Reconnect wiring harness. Refer to wiring diagram. Hold heater terminals with pliers. Be sure all connections are tight and jumper has been installed between upper heater unit connections.

## E Individual Heater Element Replacement

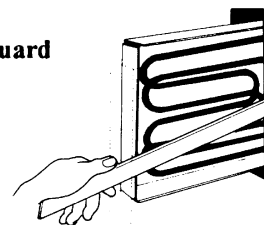
Each heater unit is equipped with two elements. These may be replaced individually as follows:

1. Remove heater unit. (Section D)
2. Place heater unit on a flat surface and remove jumper and two screws, nuts and retainers.
3. Bend holding tabs away from elements and lift out at an angle that will let terminal ends clear holes.
4. When replacing elements, make sure element with "raised bend" on top and "flat" on bottom. There should be air space at points circled in Figure 6. Elements must not touch at these points.

## F Motor Replacement

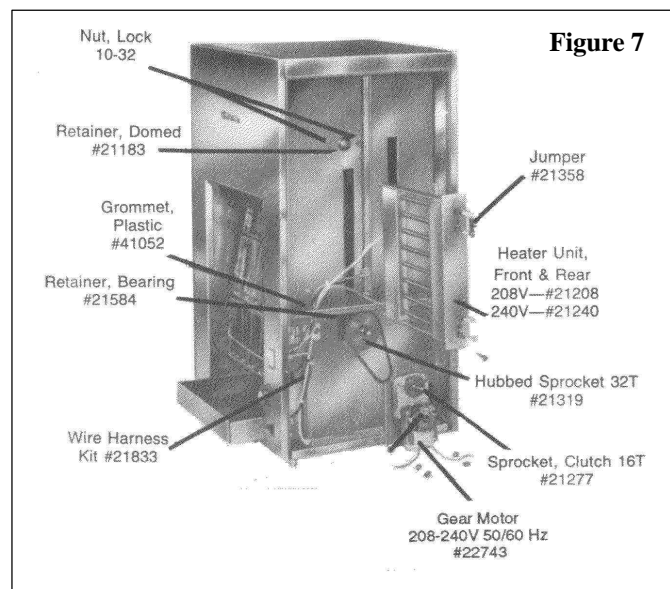
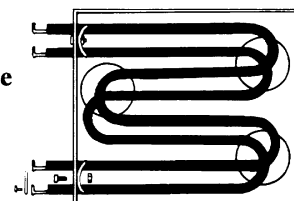
1. Remove right side panel.
2. Disconnect lead wire from terminal block and conveyor speed control (and or P.C. board if contained in your unit).
3. Remove two mounting bolts from under toaster. Slip off drive chain.
4. Lift out motor and bracket assembly and remove four screws holding motor to bracket.
5. Using 1/16" Allen wrench, loosen Allen screws and remove clutch sprocket from motor shaft.
6. Mount clutch sprocket on new motor shaft and mount new on bracket.
7. Install new motor and bracket assembly attaching with the two mounting bolts. Do not tighten bolts.
8. Mount drive chain on sprocket by sliding motor to the left. Slide motor to the right and tighten bolts. (Figure 8)
9. Check sprocket alignment. (Figure 9)
10. Reconnect wire and replace side panel. Refer to wiring diagram.

**Figure 5**  
Left Side Wire Guard Opening



**Figure 6**  
Heating Element Unit.  
There must be air space at circled areas.

**Element Only**  
208V - #21103  
240V - #21105



## G Drive Chain Replacement

1. Remove right side panel.
2. Loosen motor mounting bolts and slide motor to left to loosen chain.
3. Lift off old chain and position new chain over sprockets. Check orientation. (Figure 9)
4. Slide motor to right to remove chain slack and tighten motor mounting bolts.
5. Check chain tension. (Figure 8). Too tight will result in premature wear of chain, sprocket and bearing and may bind drive components. Too loose will result in chain slipping or falling off sprockets.

3. Remove two lock nuts holding bearing retainer and remove retainer.
  4. Remove tension bracket and old bearing.
  5. Install new bearing and seat in opening. (Figure 10)
  6. Replace tension bracket, retainer, lock nuts and spring.
- NOTE:** If tension bracket has two anchor holes for spring, use hole closest to front toaster.

## H Clutch Sprocket Replacements

1. Remove right side panel.
2. Loosen motor mounting bolts and slide motor to left. Remove drive chain.
3. Loosen Allen screws on clutch sprocket and remove sprocket from motor shaft.
4. Install new sprocket on motor shaft and tighten screws. Check sprocket alignment. (Figure 9)
5. Position chain on sprocket and slide motor to right to remove slack. Tighten mounting bolts. Check chain orientation, and tension. (Figures 8 & 9). Replace right side panel.

## I Hubbed Sprocket Replacement

1. Remove right side panel.
2. Loosen motor mounting bolts and slide motor to left.
3. Remove drive chain and loosen Allen screws on hub of sprocket and slide off shaft.
4. Install new sprocket and align set screws with indents in transmission shaft.
5. Replace drive chain and slide motor to right and tighten. (Figure 8). Replace side panel.

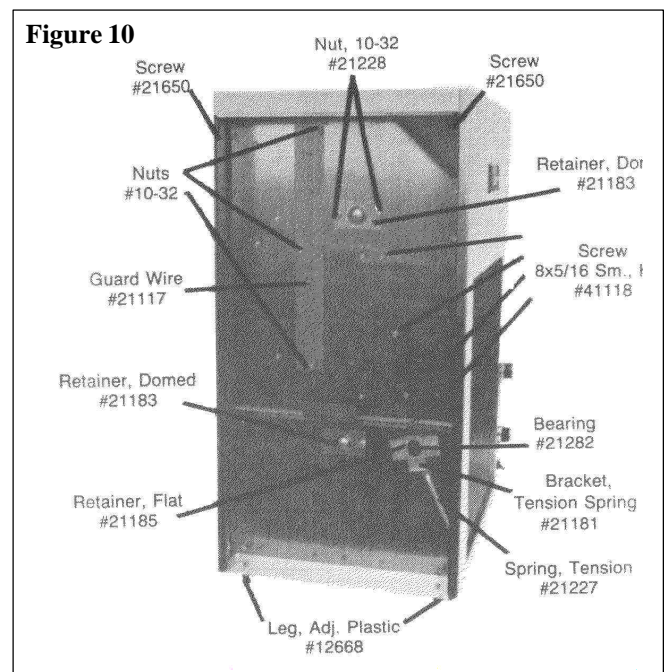
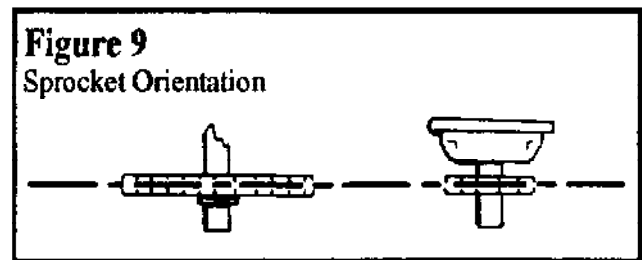
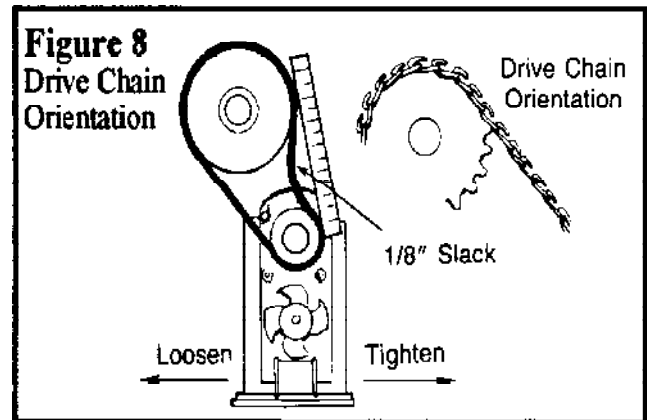
## J Bearing Replacement

### *Coupling Bearing (Right Side)*

1. See Section D, follow steps 1,2 and 3.
2. Remove two lock nuts holding bearing retainer and remove retainer.
3. Remove old bearing.
4. Install new bearing and seat in opening.
5. Replace retainer, nuts, insulation and heater wiring.

### *Coupling Bearing (Left Side)*

1. Remove left side panel and insulation.
  2. Remove two lock nuts holding bearing retainer and remove retainer.
  3. Remove old bearing.
  4. Install new bearing and seat in opening.
  5. Replace retainer and lock nuts.
- Tension Assembly Bearing (Right or Left)**
1. Remove right side panel.
  2. Remove one end of tension spring from tension bracket.



### Transmission Bearing (Right Side)

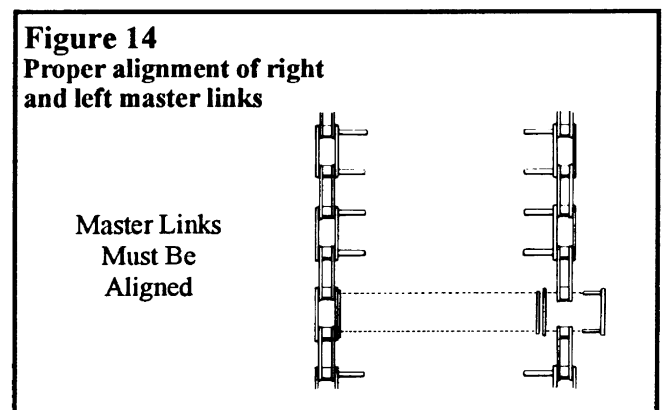
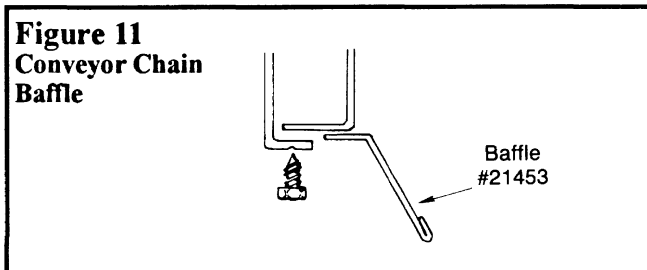
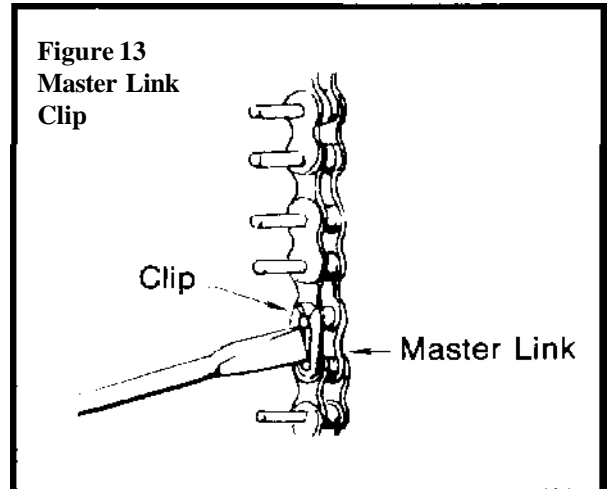
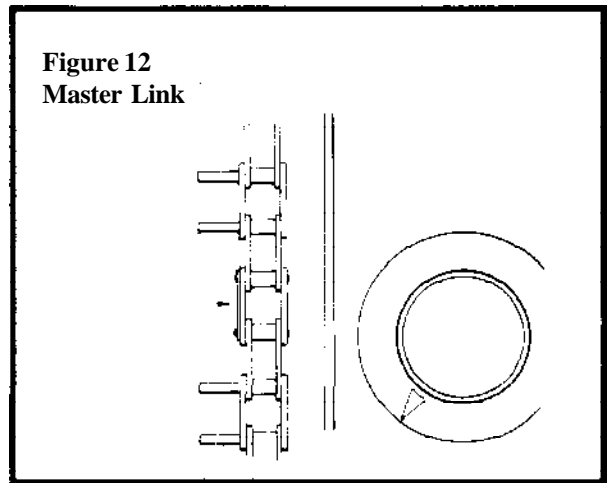
1. See Section I. Follow steps 1,2 and 3.
2. Remove two lock nuts holding bearing retainer and remove retainer.
3. Remove old bearing.
4. Install new bearing and seat in opening.
5. Replace retainer and lock nuts.
6. See Section I Follow steps 4,5 and 6.

### Transmission Bearing (Left side)

1. Remove left side panel.
2. Remove the two lock nuts holding bearing retainer and remove retainer.
3. Remove old bearing.
4. Install new bearing and seat in opening.
5. Replace retainer, nuts and side panel.

### K Conveyor Chain Replacement

1. Remove toast receiving tray, delivery chute, left and right side panels.
  2. Remove the two screws in upper edge of front opening that hold the front baffle. Slide baffle toward back of machine to remove. (Figure 11)
  3. Remove baskets by slightly spreading chains, sliding basket to one side and lifting out.
  4. Release the tension spring from spring bracket on both sides of tension bracket on both sides of tension assembly.
  5. Locate master link (link without extended pins - (Figure 12). Remove clips on master link (figure 13) and remove. Pull chain from bottom.
  6. With extended pins facing inward, drape new chain over top of the coupling assembly. Make sure links of chain are meshed over sprocket teeth. Drop remainder of chain behind sprocket and from bottom opening, lift it across transmission assembly and tension assembly sprockets. Visually check for fit over sprocket teeth and bring two ends of chain together. Install master link and clips. Repeat procedure for other chain.
- IMPORTANT:** Align right and left side master links to insure proper alignment of baskets. (Figure 14)
7. Replace baskets, spring on tension brackets, front baffle, receiving tray, delivery chute and left and right side panels.



## L Transmission Assembly Replacement

1. See Section K. Follow steps 1 through 5.
2. Remove drive chain, hubbed sprocket, bearing retainers and bearings. (Section I and J)
3. Slide assembly shaft to right side and lift left end of shaft out of bearing hole and remove shaft.  
NOTE: Free-wheeling (left) sprocket is mounted with hub side inward.
4. Inspect shaft bearing for wear or binding. Replace if necessary.
5. Replace new assembly in reverse order of above.
6. Check conveyor chain line-up. (section K)
7. Check drive chain tension. (Section G)

## M Tension Assembly Replacement

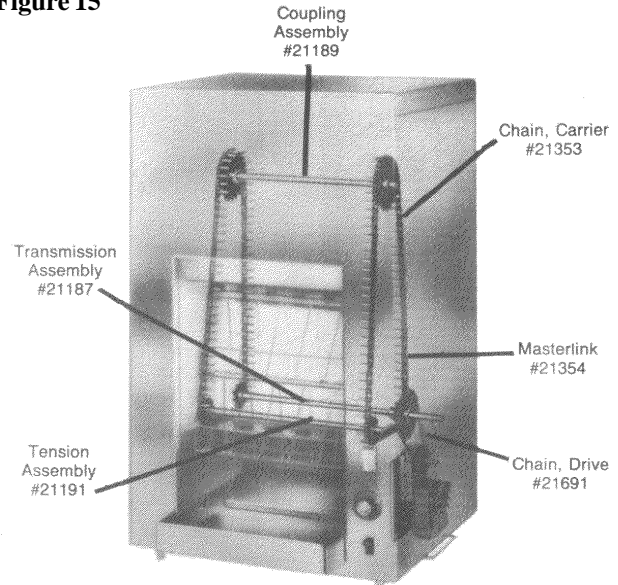
1. Remove receiving tray, delivery chute, left and right side panels.
2. Remove all baskets and both conveyor chains. (Section K)
3. Unhook tension springs from brackets. (Figure 10)
4. Remove bearing retainers and bearings.
5. Lift one end of assembly shaft and remove carrier chain from sprocket. Move chain to one side; repeat for opposite end of shaft.
6. Slide shaft to one side and lift opposite end out of bearing hole. Lift assembly out and under to clear carrier chains.
7. Reverse above procedure to install new assembly. NOTE: Free-wheeling (left) sprocket is mounted with hubside inward.
8. Inspect bearing for wear or binding. Replace if necessary.
9. Install bearing, spring brackets and retainers. Attach springs to bracket.
10. Check for chain alignment. (Figure 14)
11. Install baskets, left and right side panels.

## N Coupling Assembly Replacement

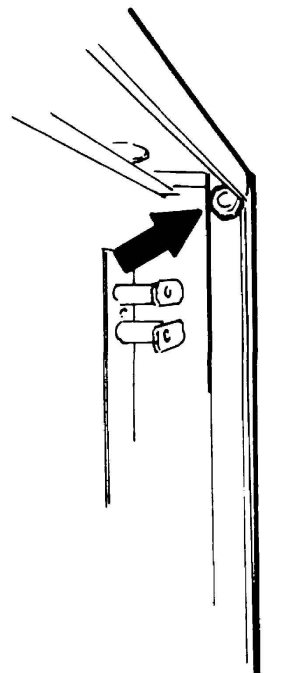
1. See Section K. Follow steps 1 through 5.
2. Remove insulation. (Section D)
3. Remove wire guard. (Section O)
4. Locate the four screws on the upper inside corners of the sides that hold the case top in place. (Figure 16). Loosen screws and top. A rubber mallet or similar "soft" tool may be helpful with a tight fitting top. (Figure 17)
5. Remove insulation.
6. Remove the twelve screws holding the inner top panel assembly in place and lift off. (Figure 17)
7. Remove coupling assembly bearing from both sides. (Section J)
8. Remove the three screws from the left inside panel that attach to the front reflector. (Circled in Figure 17)
9. Standing at right side of machine, gently push on left inner wall to expand toasting chamber. (Figure 18). This will allow enough clearance for coupling assembly to be lifted from toaster.
10. To install new assembly, spread inner walls as in Step 9 for clearance.
11. Check bearing for wear or binding. Replace if necessary.

12. Install bearings, retainers and lock nuts.
13. Replace three screws into front reflector.
14. Replace conveyor chains, springs to tension brackets, front baffle, inner top assembly, insulation and case top. Be sure case top is seated properly in retaining channels.
15. Replace side insulation, wiring, side panels and baskets.

**Figure 15**



**Figure 16**  
**Upper inside**  
**corner of toaster**



## 0 Wire Guard Replacement

1. Remove left side panel and insulation.
2. Remove the three nuts holding end plate and remove plate. (Figure 19)
3. Slide out wire guard.
4. Insert new guard into track.  
NOTE: Use rear track for toasting buns or bread. Use forward track for toasting bread only.
5. Replace end plate, nuts, insulation and side panel.

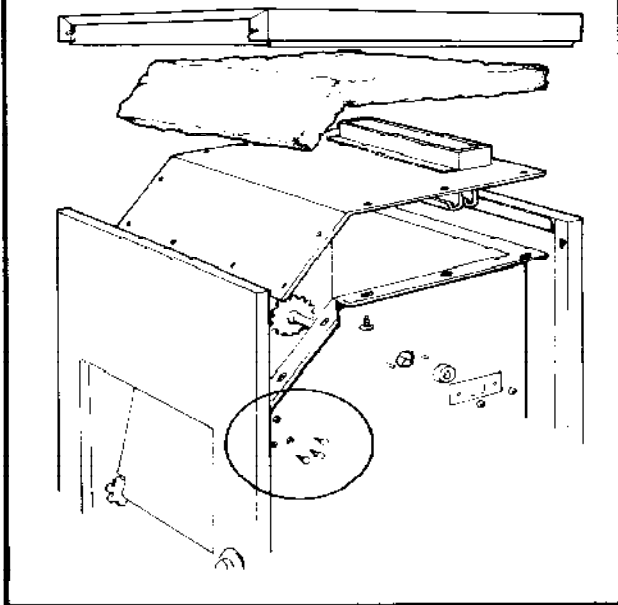
## P P.C. Board Assembly Replacement:

(Refer to Figure 20)

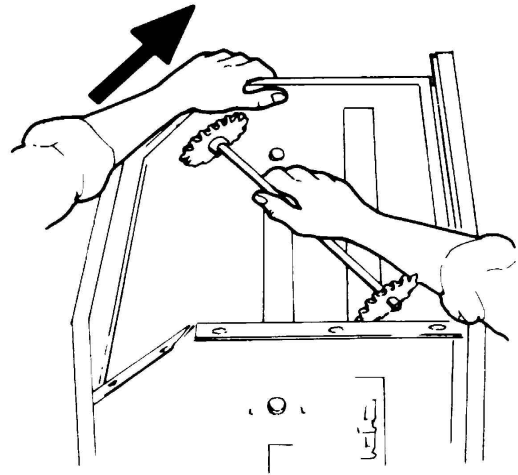
NOTICE: PROCEED WITH THE BELOW LISTED STEPS, ONLY, IF YOUR UNIT CONTAINS THE P.C. BOARD ASSEMBLY.

1. Remove right side panel.
2. Loosen set screw and remove speed control knob.
3. Remove nut securing potentiometer.
4. Disconnect wires from P.C. Board and remove screws, nuts and washers holding guard to toaster frame.
5. Remove board and potentiometer.
6. Install new board assembly reversing above procedure.

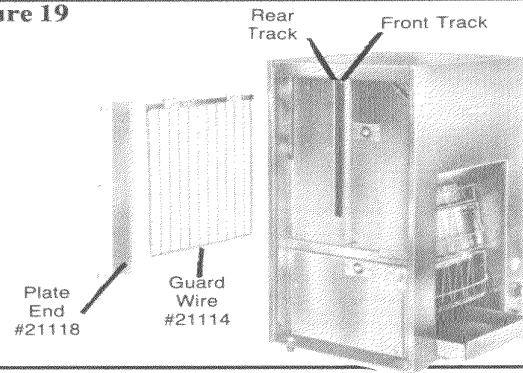
**Figure 17**  
Exploded view of  
upper toaster



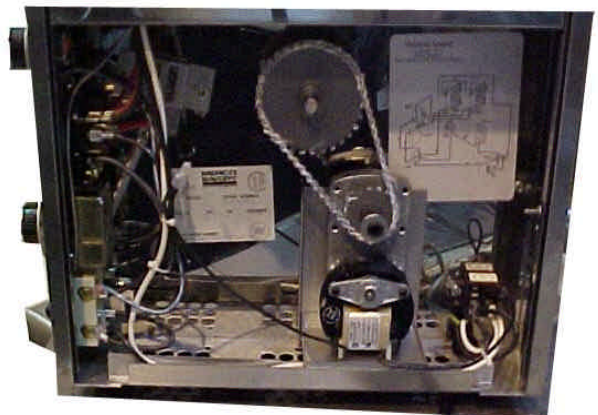
**Figure 18**  
Removal of coupling  
assembly



**Figure 19**



**Figure 20**

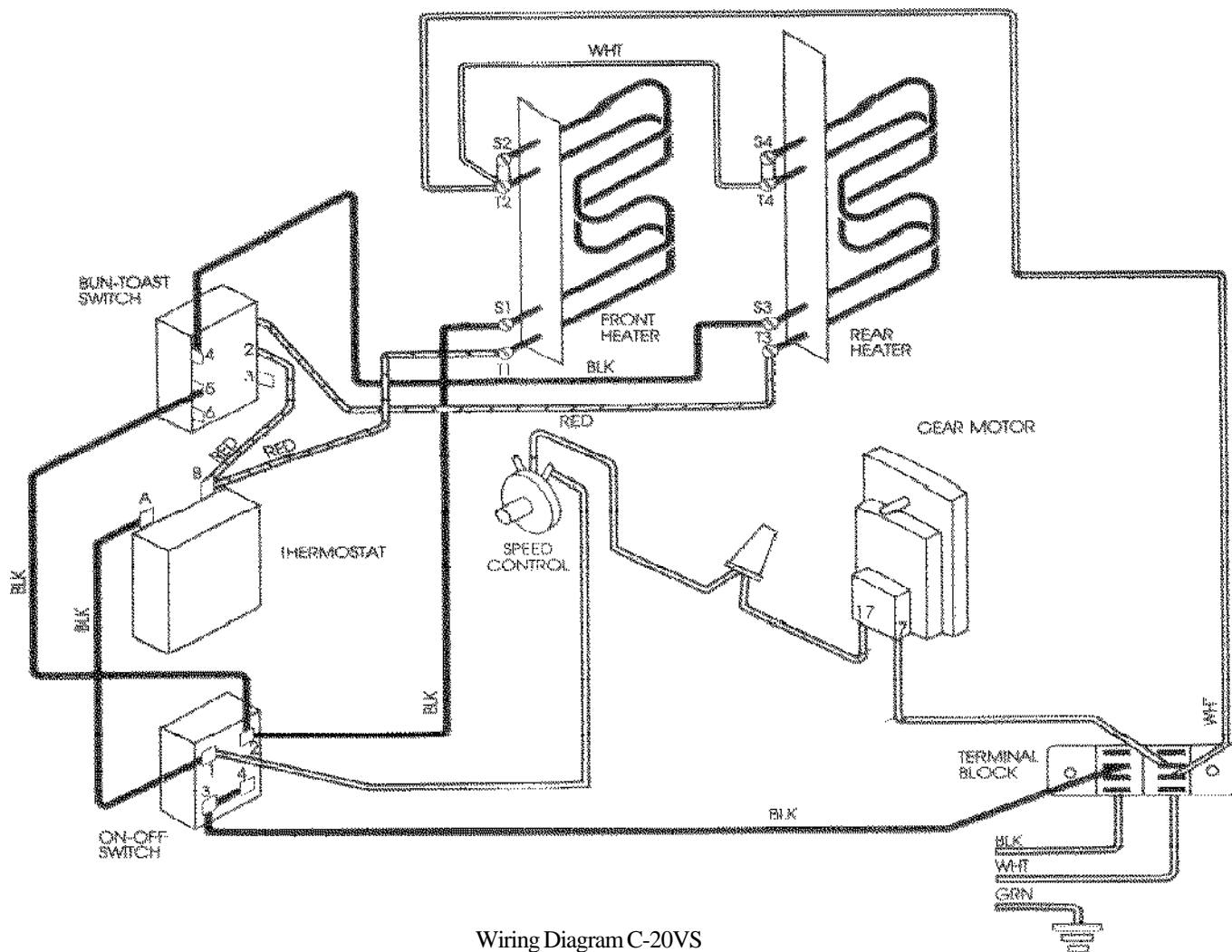




# PARTS FOR C-20VS, 120V MODELS

(For Shipboard Use ONLY)

DESCRIPTION	PART #
Heater Unit, Front & Back	21120
Heater Element Only	21101
P.C. Board Assembly	12464
Cordset	21231
Gear Motor	22742
Leg, 4" Metal Adjustable	41142



Wiring Diagram C-20VS

  
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