# OWNER'S MANUAL

## MODEL HST13 – AUTOTOAST™ VERTICAL TOASTER


| | |
|---|---|
| Supplier Name: | **MARSHALL AIR SYSTEMS, INC.** |
| Address: | 419 Peachtree Drive South<br>Charlotte, NC 28217 |
| Serial#: | _____ |
| Date Received: | _____ |
| Date Installed: | _____ |
| Telephone #: | 704-525-6230 |
| Fax #: | 704-525-6229 |
| Service Referral# | 800-722-3474 |
| Local Service Name: | _____ |
| Local Service #: | _____ |
| Conveyor Speed Setting: | _____ |

### PRODUCT DESCRIPTION

The Marshall High Speed Vertical Toaster produces a grilled effect on the cut side of the sandwich buns. The buns are inserted at the top of the unit and are pressed against a heated platen surface, which is covered by a replaceable toaster platen sheet. The spacing between the heated grill and the conveyor is adjustable to accommodate different thickness of buns. The buns are discharged onto a product slide at the bottom of the unit. Toaster Models CH7, CH7B, have variable speed motor controls. Models CH7C, CH7D have single speed motors. Toast time on the CH7C toaster is 8 seconds heel, and 11 seconds crown. The CH7D toaster has a toast time of 23 seconds on both the crown and heel. The CH7F toaster has a toast time of 9 seconds on both the crown and heel. The CH7F-15 toaster has a toast time of 15 seconds on both the crown and heel. The CH7G toaster has a toast time of 3.5 minutes. The CH7H has a 60 second toast time. Additionally, the heat settings are preset in factory, which eliminates unauthorized tampering. The flexibility of this toaster is unmatched allowing operations to produce the hottest buns in the shortest time.

GENERAL SPECIFICATIONS

| | |
|---|---|
| Height: | 23.250" |
| Width: | 19.875" |
| Depth: | Model CH7B-12", CH7-15.250"<br>Model CH7C-12", CH7D-12", CH7F-12", CH7G-12", CH7H-12" |
| Electrical: | 208V Single Phase 18.5 Amps<br>240V Single Phase 21.0 Amps |
| Power Cord: | 6 ft. 3 wire including ground, with NEMA L6-20Pplug (208V) (CH7C Models L6-30P)(CH7H Models NEMA 6-20P) (Plug furnished by others on International units) (CH7CINTLCE NEMA L6-30P) |
| Weight: | 116 lbs. |
| Listing: | ETL and NSF |

## FOR YOUR SAFETY

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

**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.**

**KEEP THIS MANUAL IN A SAFE PLACE AND RETAIN FOR FUTURE USE.**

135168CH7 RV042910

# OWNER'S MANUAL

## MODEL HST13 – AUTOTOAST™ VERTICAL TOASTER

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### ILLUSTRATIONS




135168CH7 RV031308

## ILLUSTRATIONS (CONTINUED)

# OWNER'S MANUAL

**MODEL HST13 – AUTOTOAST™ VERTICAL TOASTER**

## PRE-INSTALLATION

1. The toaster is packaged to minimize the risk of shipping damage. Immediately upon receipt, make certain to inspect the unit for damage. **FILE ALL CLAIMS WITH THE FREIGHT CARRIER.**

2. Unpack unit and remove all protective paper or plastic from metal parts.
   **FILE ANY CONCEALED DAMAGE CLAIMS WITH THE FREIGHT CARRIER.**

3. This toaster is shipped wired and ready to plug into a grounded NEMA L6-20R amp receptacle. (208 Volt Single Phase, 3 wire including the ground circuit). Check receptacle for proper voltage and phase. Units which are 240V single phase international are shipped with no electrical plug.

## INSTALLATION

1. It is necessary to seal bottom of toaster to the countertop using NSF listed silicone sealant.

2. Check that the two lift off side covers are in place on the toaster **AND THE LEFT COVER IS SECURED WITH A SCREW AT THE BOTTOM.**

3. Check that the toaster platen sheet is installed over the contact platen. The toaster platen sheet is installed from the top of the unit by lightly creasing it at the center, and directly hanging it on the center platen. **USE ONLY MARSHALL APPROVED PLATEN SHEETS OR TOASTER WARRENTY IS VOID.**

4. Install the bun guide assembly on the toaster. (Figure 4)

5. Connect the toaster to the power supply.

6. Turn on the power switch and check for free movement of the two conveyor belts. If unit is equipped with LED control, display will read "Lo."

7. Unit is ready to used in approximately 15 minutes. LED control will display "Rdy."

8. After warm up, drop buns into the toaster at the top of the unit. For proper operation, insert heels on the side of the toaster marked "Heel", and crown on the opposite side. **THE CUT SIDES OF THE HEEL AND CROWN MUST FACE EACH OTHER. DO NOT USE PRE-BUTTERED BUNS WITH THIS TOASTER.**

9. The toasted heel and crown will drop down onto the product slide together. Check the appearance of the toasted buns.

10. Adjust the gap settings using the two levers inside the right panel. (See Figure 8). The levers are labeled "HEEL" gap and "CROWN" gap. To adjust the gap, loosen the black adjustment knob (Figure 8), several turns to disengage the threaded rod from the locator holes. Turn the lever to the desired position and retighten the black knob so that the threaded rod engages in one of the locator holes.

11. The speed control is located behind the left side cover of the CH7, CH7B toasters only. **DISCONNECT (UNPLUG) THE POWER BEFORE OPENING THE SIDE COVER.** The speed control can be adjusted to control the conveyor belt speed to lighten and darken the toasted product. The toaster is shipped with the speed control set for a twelve-second toast. Models

CH7C and CH7D have a single speed motor. CH7C models have a toast time of a 8 seconds heel and 11 seconds crown. CH7D models have a speed of 23 seconds both crown and heel. CH7F has a 9 second toast time both crown and heel. The CH7F-15 has a 15 second toast time. CH7G models have a 3.5 minute toast time both crown and heel.

12. Test at least 3 buns before putting the toaster into service. Uniform surface toasting and bun temperature are achieved when the gap described in step 10 is set correctly.

## OPERATION (UNITS WITH LED CONTROL)

1. The toaster is operated by pressing and releasing the "I/O" Button of the control. "Lo" will be displayed.

2. The display of the control will show "Rdy" once the toaster is up to temperature. (Approximately 15 minutes.)

3. For proper operation, insert heels on the side of the toaster marked "HEEL", and crowns on the opposite side.

4. To turn off, press and hold the "I/O" Button. "Hi" will be displayed which means unit is still too hot to remove any parts. Once the toaster has cooled (approximately 30 minutes), the display will show "Off."

5. The LED Control will indicate important information:

   A. Press and release either the Crown or the Booster Button, the pre-programmed temperature settings will flash. This will display for 5 seconds or until another button is pressed.

   B. Press and hold either the Crown or the Booster Button for 3 seconds, the actual platen temperatures will be displayed. This will display until another button is pressed.

6. Definitions of various displays:

| | |
|---|---|
| "Off" | Unit is off and not operating. |
| "Lo" | Heater platens have not reached programmed set temperature. |
| "Rdy" | Unit has reached programmed set temperature and is ready to toast. |
| "Hi" | Unit is off and too hot to touch most removeable parts. |
| "AL1" | This is an alarm message that indicates the Center Platen Probe is disconnected or defective. |
| "AL2" | This is an alarm message that indicates the Booster Platen Probe is disconnected or defective. |
| "AL3" | This is an alarm message that indicates the Center Platen is too hot. Normally this means the relay has failed. Unit shuts off. |
| "AL4" | This is an alarm message that indicates the Booster Platen is too hot. Normally this means the relay has failed. Unit shuts off. |

## OPERATION (UNITS WITH HEAT SWITCH AND CONVEYOR SWITCH)

1. The toaster is operated by turning on the power switch and then the heat switch.
2. Allow the toaster to warm up for approximately 15 minutes before toasting buns.
3. For proper operation, insert heels on the side of the toaster marked "HEEL", and crowns on the opposite side.
4. Turn unit off at the end of the day.
5. Toaster Platen Sheet General Information:
    A. The toaster is not designed for use with buttered buns.
    B. The life of the Toaster Platen Sheet depends on usage and cleaning.
    C. If the sheet is turning white, the black pigment is fading out of the sheet and does not mandate sheet replacement.
    D. When buns no longer feed through the machine but instead are damaged or torn, the toaster platen sheet should be replaced. Replace ONLY with Marshall toaster platen sheet.
    E. To obtain maximum life, rotate the sheet daily so the "HEEL" side is opposite from the day before.
    F. **USE ONLY MARSHALL APPROVED PLATEN SHEETS OR TOASTER WARRANTY IS VOID.**

**CAUTION: <u>DO NOT REMOVE THE CONTROL PANEL COVER WITHOUT FIRST TURNING OFF THE TOASTER AND UNPLUGGING THE TOASTER.</u>**

## PREVENTIVE MAINTENANCE

### DAILY:

1. Carefully remove the toaster platen sheet (Figure 5), lay it on a flat surface, and wipe with a soft cloth or towel and clean with soap and water. Use ONLY enough water to make the cloth damp. **DO NOT USE ABRAVISES ON THE TOASTER PLATEN SHEET.**
2. Rotate toaster platen sheet so the "HEEL" side is on the "CROWN" side, opposite than the day before.
3. Re-install all parts after drying.

### WEEKLY:

1. Turn toaster off and unplug power cord from wall receptacle.
2. Perform daily maintenance.

3. Remove the front and back covers (Figure 3,4), by lifting these covers off the toaster. Clean these covers with soap and water. Wipe the exposed metal parts with a damp soft cloth or towel.

4. Reconnect the power cord.

5. Clean belts according to the Belt Cleaning Procedures below. Do not scrub belts with abrasive material.

6. Install the front and rear covers.

## WEEKLY BELT CLEANING INSTRUCTIONS

**NOTE: TOASTER BELTS MUST BE CLEANED WHILE TOASTER IS AT OPERATING TEMPERATURE.**

Supplies Needed:

Cleaning Agent: Scotch-Brite™ Quick Clean Griddle Liquid #700-40. Contact a Marshall parts distributor or your restaurant supplies dealer to get these products.

Cleaning Pad: Scotch-Brite™ All Purpose Scouring Pad #9488R. Contact a Marshall parts distributor or your restaurant supplies dealer to get these products

## SEE FIGURE #14 FOR BELT CLEANING INSTRUCTIONS.

## MONTHLY:

1. Perform Daily and Weekly Maintenance.

2. Replace any worn out toaster platen sheets or conveyor belts with Marshall parts. USE ONLY MARSHALL APPROVED PLATEN SHEETS OR TOASTER WARRANTY IS VOID.

## QUARTERLY:

1. Inspect motor brushes on variable speed models. If ¼" in length or less, replace with new.

2. Lubricate the drive chain with drops of any grade motor or machine oil.

## TROUBLE SHOOTING GUIDE

**NOTE:** **SERVICE MUST BE PERFORMED BY A <u>QUALIFIED SERVICE COMPANY</u>. THE TERM "QUALIFIED SERVICE COMPANY" MEANS ANY INDIVIDUAL, FIRM, CORPORATION OR COMPANY WHICH IS EITHER ENGAGED IN AND IS RESPONSIBLE FOR THE INSTALLATION OR REPLACEMENT OF ELECTRICAL COMPONENTS, OR THE CONNECTION, INSTALLATION OR REPAIR OF ELECTRICAL APPLIANCES, WHO IS EXPERIENCED IN SUCH WORK, FAMILIAR WITH ALL PRECAUTIONS REQUIRED, AND HAS COMPLIED WITH ALL THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.**

**WARNING:** **INSPECTION, TESTING, AND REPAIR OF ELECTRICAL EQUIPMENT SHOULD BE PERFORMED BY QUALIFIED SERVICE PERSONNEL. THE UNIT SHOULD BE UNPLUGGED WHEN SERVICING, EXCEPT WHEN ELECTRICAL TESTS ARE REQUIRED.**

**DANGER:** **USE EXTREME CARE DURING ELECTRICAL CIRCUIT TESTS. LIVE CIRCUITS WILL BE EXPOSED. WHERE TESTING INDICATES "WITH POWER OFF", BE SURE THAT THE CONVEYOR AND HEAT SWITCHES ARE OFF AND TOASTER IS UNPLUGGED.**

**PROBLEM:**

**1. No heat and conveyor belts do not move.**

**SOLUTION:**

A. Check that toaster is plugged in. Check condition of power cord and plug.
B. Check that conveyor power switch is on.
C. Check circuit breaker in main breaker panel. Reset if necessary.
D. Check that there is power at receptacle. Verify voltage is correct based upon the voltage listed on the toaster nameplate.
E. Verify voltage is flowing through conveyor switch.
F. **WITH UNIT UNPLUGGED,** check connections inside of plug. Remove switch side, side panel and check wiring. Any wires or terminals with burns or discoloration from arcing should be replaced. All wiring, if replaced, should be same or higher rated wire.
G. If equipped with LED control, check for error message. "AL1" message is a defective center platen probe. "AL2" is a defective booster platen probe. "AL3" is high temperature error of the center platen. "AL4" is high temperature error of the booster platens. "AL3" and "AL4" typically means the solid state relay is defective.

**PROBLEM:**

**2. Conveyor belts move but no heat.**

**SOLUTION:**

A. Check that the unit is on.
B. Verify voltage is flowing through heat switch.
C. **TURN OFF SWITCHES AND UNPLUG TOASTER.** Remove left and right side covers. Remove one screw and loosen one screw as shown in Figure 13. Lay unit on the left side (drive chain side). Swivel the bottom of control cabinet open.
D. Check for loose connections at terminal strip and temperature terminals (see schematic).
E. Verify that the heater and sensor wires are connected to the proper controller.
F. Replace all connections or components that have damaged terminals. Replace any damaged wiring with same or higher rated wire.
G. Check the resistance of the sensor(s) (#503630). If sensor is open, replace. If LED, 1.09k ohms at room temperature. If switch, 108k ohms at room temperature.
H. If equipped with LED control, check voltage into solid state relays. The voltage input from module should be approximately 5Vdc. Voltage to heater should be 208Vac.
I. Check the resistance of the heater platens:

Center Platen (#139476): 20 ohms at room temperature
Boost Platens (#503645): 54 ohms at room temperature each

**PROBLEM:**

**3. Heater platens are hot; conveyor belts do not move.**

**SOLUTION:**

A. Check that conveyor switch is on and good.
B. Make sure there are no loose connections at the switch.
C. Check the fuse in the adjustment side panel. Replace with type AGC 1.5 amp fuse if necessary.
D. Check motor to make sure it is connected properly.
E. Check conveyor speed control setting(CH7, CH7B models). Adjust as needed.
F. Check for voltage to speed control board (CH7, CH7B models). Check for voltage to the motor (CH7C, CH7D models).
G. CH7, CH7B models, check for red light on the speed board. If red light is lit, the motor is working too hard or in a stalled state.
H. Some speed boards have a green light (CH7, CH7B models). If green light is lit then power is going to the board.
I. Make sure the input voltage switch(es) of the speed board is set at 230V.
J. CH7C, CH7D check capacitor for proper motor connections.
K. CH7, CH7B check for DC voltage out of board to motor.
L. Check all wiring to motor for loose connectors.
M. Check drive system for loose chain or sprockets. Tighten set screws as needed.
N. Check belts are not slipping on rollers. Check belts for tears and that the spring tension is applying pressure to the upper roller.

**PROBLEM:**

**4. Variable Speed Motor (#500940 90 VDC motor) Not Operating (CH7, CH7B Models)**

**SOLUTION:**

A. Verify correct voltage to unit and motor.
B. Make sure conveyor switch (#501864) has power flowing through it.
C. Check 1.5-amp fuses (#500061).
D. Check for DC voltage to motor out of board (90VDC Motor).
E. If red light on board is on, disconnect load from motor by removing chain. If it goes out, look for conveyor binding. If it stays lit, replace motor –there is probably a gearbox problem.
F. Check DC amp draw to motor by putting meter in series with motor. (Pull wire from A1 on board, put one lead to A1, other to wire pulled from A1.) When red LED on board is on, DC amp reading should be .23 amp approximately.
G. If green LED is on and red is not, make sure that there is varying DC voltage out of board to motor (terminals A1 & A2 on board) as speed control knob is increased or decreased.
H. Check ohm reading at motor cord plug (Range between 50-80 Ohms).
I. Check for oil leaks on motor signifying bad seal or overheating that has taken place. In either case, motor should be replaced.

**PROBLEM:**

**5. Circuit Board (#140158) not working properly. (CH7, CH7B Models)**
**DO NOT ADJUST POTS ON BOARD WITHOUT CONTACTING FACTORY!**

**SOLUTION:**

A. Verify AC voltage to board and DC voltage to motor from board. If there is AC voltage in, but no DC voltage out, replace board.
B. Check all connections on board and terminal strip.
C. Verify that board is wired correctly. (See schematic in Owner's Manual.)
D. Make sure that switch on board is in 230v position.
E. Check motor plug connection for grease or contamination.
F. Check speed control pot with meter.
   a. Two outside terminals should give a full value reading.
   b. Each outside terminal separately with center terminal should give a reading that varies from 0 to full value as speed control knob is turned or full value to 0 according to which outside terminal meter is connected.

**PROBLEM:**

**6. Product is over or under toasted.**

**SOLUTION:**

A. Check toasting speed. Good toasting will occur in 10 to 23 seconds depending on product and preference.
B. Check the gap settings. There must be compression of the bun as it feeds into the toaster. Decreasing the gap will increase bun temperature and darken surface color.
C. Check conditions of toaster platen sheet and belts. Clean both as noted in this manual.
D. Make sure conveyor belts are not binding.
E. Check drive system for loose sprockets or chain.
F. Check that heaters are cycling. Do this by using an amp clamp on either of the wires from the controller to the platen. You are looking for cycling. Also verify that the temperature controllers have power.
G. Check position of temperature control. This is located behind a small panel on bottom of toaster on some units. After changing temperature setting, allow unit 20 minutes to stabilize.

**PROBLEM:**

**7. Buns do not feed properly into toaster.**

**SOLUTION:**

A. Check condition of the toaster platen sheet to be sure buns are not sticking. Clean sheet as described in daily maintenance. Replace if needed. Life of sheet is 1 – 2 months. Sheet should be rotated daily.
B. Belts need cleaning as described under the Weekly Maintenance. **DO NOT USE ABRASIVES TO CLEAN.**
C. Check toaster platen sheet installation. Sheet should be creased in middle so that platen is covered totally on both sides.
D. Toaster gap set too close or too far. See instructions on Page 1, Number 10.

**PROBLEM:**

**8. Outside Bun Toasted, Internal Bun not toasted. (No heat on Center Platen) serial no's 0601TS0670 Through 928.**

**SOLUTION:**

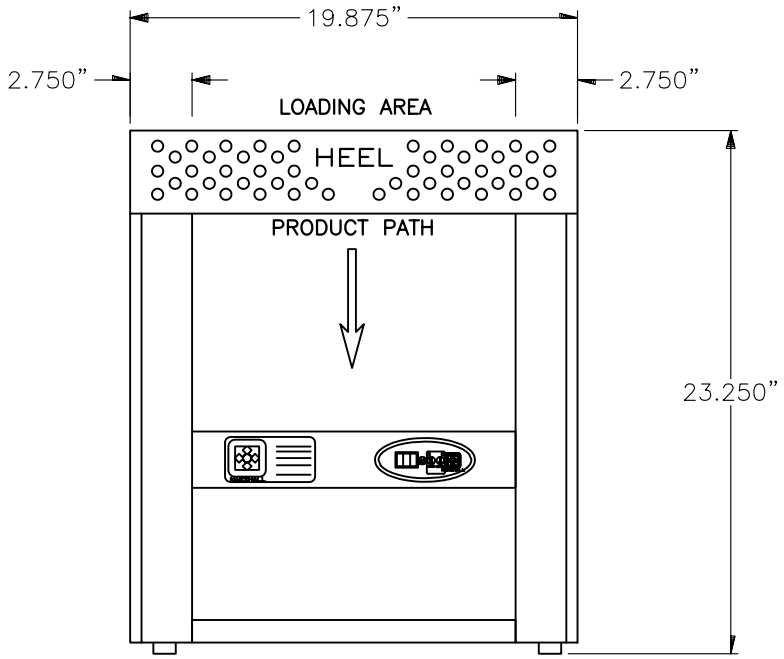
A. High limit switch tripped. Reset switch by depressing "RESET."
B. If limit switch trips again, loosen fasteners holding it and move up.
C. Replace center platen thermostat if any further trips.

## REPLACEMENT PARTS

**WARNING: USE OF NON-MARSHALL APPROVED PARTS WILL VOID WARRANTY.**

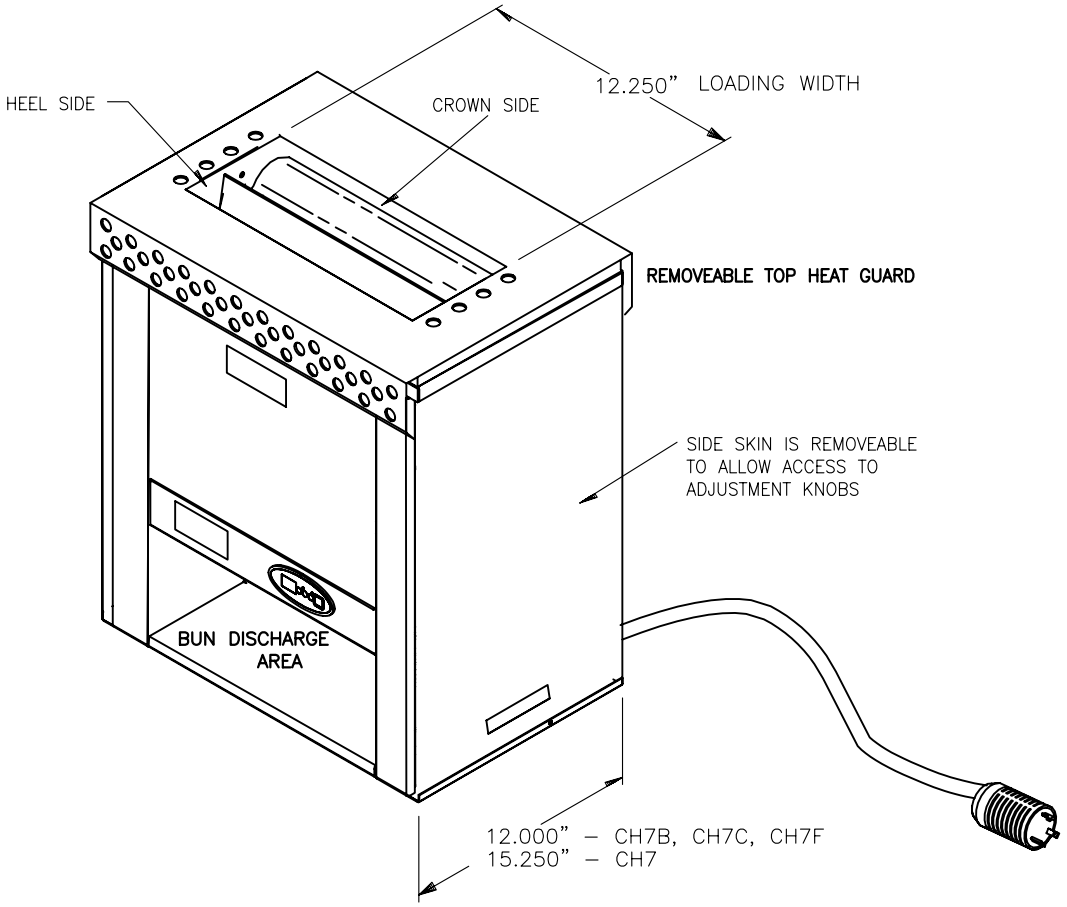
| PART NUMBER | DESCRIPTION | FIGURE |
|---|---|---|
| 502887 | Bearing, Gold | 6 |
| 134739 | Bearing, Teflon | 6 |
| 132728 | Bracket, Bearing | 6 |
| 135165 | Bracket, Bearing Retainer | 6 |
| 503287 | Brush, Motor | Schematic |
| 140001 | Bun Guide Asby (S/N 0400TS0419 and After) | 3, 4, 5 |
| 135120 | Bun Guide Asby (S/N 1298TS0048 thru 0400TS0419) | 3,5 |
| 503910 | Capacitor (Single Speed CH7C, CH7D, CH7F) | Schematic |
| 500035 | Chain, Roller #35 (2.25 ft long) | 7 |
| 140158 | Circuit Board, 230V | Schematic |
| 143852 | Control, 3 Digit (S/N 929 and After) | Schematic |
| 143855 | Control, ECM3 Module 208V (S/N 929 and After) CH7B | Schematic |
| 144563 | Control, ECM3 Module 240V International | Schematic |
| 143858 | Control, ECM3 Module 240V (S/N 929 and After) | Schematic |
| 148644 | Control, ECM3 Module 208V CH7H only | Schematic |
| 148201 | Control, Temperature (S/N 0603TS0928 and Before) | Schematic |
| 503702 | Control, Temperature (S/N 0798TS008 Through 928) | Schematic |
| 504145 | Cord, 12/3 208-240V w/L6-30P Plug (CH7C, CH7CINTLCE) | Schematic |
| 504011 | Cord, 12/3 208-240V w/6-20P Plug (CH7H S/N 5572 and After) | Schematic |
| 135202 | Cover, Back (CH7 only) (S/N 0598 and Before) | 3 |
| 139717 | Cover, Back (S/N 0598 and Before) | 3 |
| 139717 | Cover, Back (S/N 0599 and After) | 4 |
| 132729 | Cover, Front (CH7 Only) (S/N 0598 and Before) | 3 |
| 139715 | Cover, Front (S/N 0598 and Before) | 3 |
| 139715 | Cover, Front (S/N 0599 and After) | 4 |
| 132739 | Cover, Side (CH7 Only) (S/N 0598 and Before) | 3 |
| 139716 | Cover, Side (S/N 0598 and Before) | 3 |
| 141248 | Cover, Side (S/N 0599 and After) | 4 |
| 503575 | Filter, Electrical Noise | Schematic |
| 500061 | Fuse, 1.5 Amp | 8, Schematic |
| 500068 | Fuseholder | 8, Schematic |
| 137605 | Guard, Heat Front (S/N 1298TS0048 thru 0400TS0419) | 3 |
| 140841 | Kit, Belt Conversion (2 Belts) | 3 |
| 140840 | Kit, Belt Conversion (CH7 Only) (2 Belts) | 3 |
| 138599 | Kit, Belt Replacement (Belt Tensioner) (1 Belt) | 3 |

| | | |
|---|---|---|
| 140808 | Kit, Belt Replacement (Spring Tensioner) (1 Belt) | 3 |
| 139476 | Kit, Center Platen Replacement (Template, Drill Bit) | Schematic |
| 151365 | Kit, HST13 Belt Cleaning | 14 |
| 137454 | Kit, Temperature Control (S/N 0798008 and Before) | Schematic |
| 135162 | Knob Asby, Adjustment | 6 |
| 500088 | Knob, Small (CH7, CH7B Only) | 7, Schematic |
| 500092 | Link, Master | 7 |
| 503909 | Motor, Drive AC (Single Speed CH7C, CH7D, CH7F) | Schematic |
| 500940 | Motor, Drive DC (Variable Speed) | Schematic |
| 503645 | Platen, (Outside) | Schematic |
| 502860 | Plug, NEMA L6-20P | Schematic |
| 502321 | Plug, NEMA L6-30P CH7C, CHUCINTLCE (S/N 4468 and after) | Schematic |
| 502892 | Potentiometer, Rotary (CH7, CH7B Only) | 7, Schematic |
| 504023 | Relay, Solid State 25A (S/N 929 and After) | Schematic |
| 138021 | Roller Asby, 2' DIA (CH7 Only) | 7 |
| 141406 | Roller Asby, 2" DIA | 7 |
| 134734 | Roller Asby, 2" DIA (CH7 Only) | 7 |
| 134733 | Roller Asby, 3" DIA (CH7 Only) | 7 |
| 140630 | Roller Chain Tension Asby (Arm Only) | 7 |
| 140629 | Roller Chain Tension Asby (CH7 Only) (Arm Only) | 7 |
| 135403 | Roller Chain Tension Asby Complete (CH7 Only) | 7 |
| 139896 | Roller Chain Tension Asby Complete | 7 |
| 503590 | Sensor, RTD(S/N 929 and After) | Schematic |
| 503630 | Sensor, Thermistor (S/N 928 and Before) | 7, Schematic |
| 503665 | Sheet, Platen (Package of 5) | 5 |
| 137629 | Spacer, .5"OD X .25"ID | 6 |
| 134728 | Spring | 7 |
| 502531 | Spring | 6 |
| 500040 | Sprocket, 3510 X .500" (CH7G Motor) | 7 |
| 124643 | Sprocket, 3512 X .755" (CH7C Heel)(CH7F, CH7F-15 Heel,Crown) | 7 |
| 129209 | Sprocket, 3515 X .755" (CH7, CH7B, CH7H) | 7 |
| 126451 | Sprocket, 3518 X .755" (CH7C Crown, CH7D) | 7 |
| 500042 | Sprocket, 3520 X .500" (CH7, CH7B, CH7C, CH7F Motor) | 7 |
| 145299 | Sprocket, 3520 X .755" (CH7G Heel) | 7 |
| 129210 | Sprocket, 3524 X .755" (CH7G Crown) | 7 |
| 501650 | Sprocket, 3512 X .500" (CH7D CH7H CH7F-15 Motor) | 7 |
| 501864 | Switch, Rocker (S/N 928 and Before) | 5, Schematic |
| 503902 | Thermostat, Hi-Limit Center Platen (S/N 0670 Thru 928) | Schematic |
| 503974 | Thermostat, Hi-Limit Booster Platens (S/N 0649 thru 928) | Schematic |
| 503770 | Washer, Teflon | 6 |



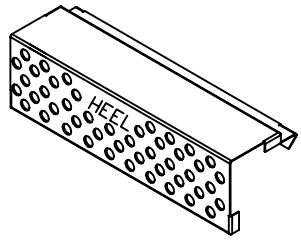

OVERALL DIMENSIONS

FIGURE 1

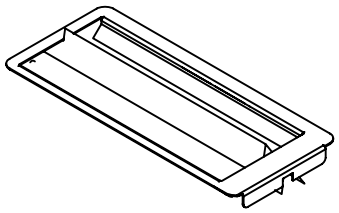



OVERALL DIMENSIONS

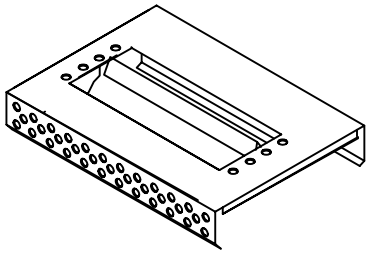
FIGURE 2




SERIAL NUMBERS
12980048 THRU 0400TS0419
GUARD, HEAT FRONT #137605

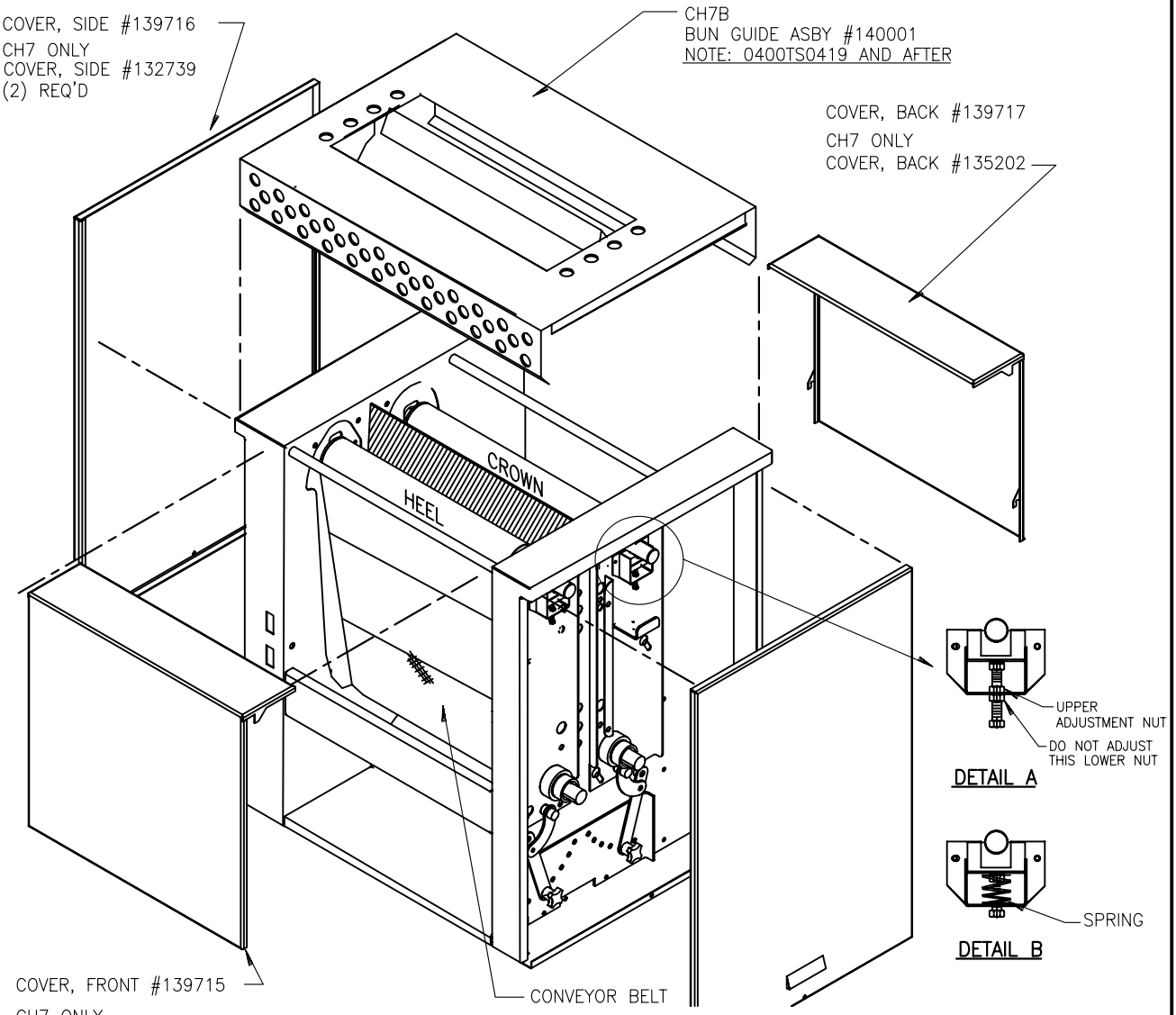


SERIAL NUMBERS
12980048 THRU 0400TS0419
BUN GUIDE ASBY #135120



SERIAL NUMBERS
0400TS0419 AND AFTER
BUN GUIDE ASBY #140001

# HANG-ON PARTS FOR S/N 1100TS00598 AND BEFORE

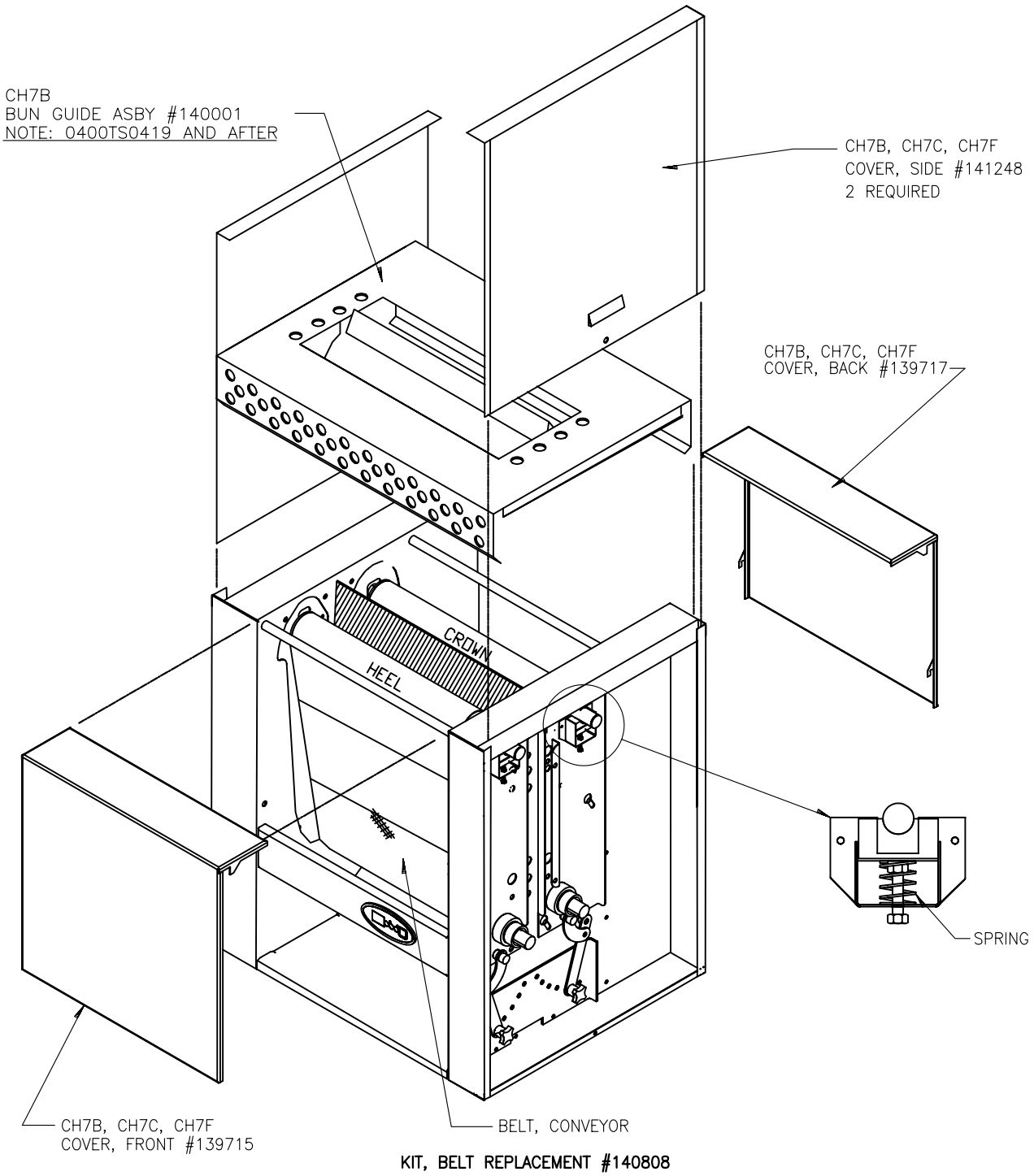



TO ORDER BELT REPLACEMENT KIT, DETERMINE TENSION STYLE BY LOOKING AT DETAIL A AND DETAIL B. IF TOASTER IS DETAIL A (WITH BOLTS), THEN ORDER KIT #138599. IF TOASTER IS DETAIL B (WITH SPRING), THEN ORDER KIT #140808.
A CONVERSION KIT IS AVAILABLE TO CONVERT BOLTS TO SPRINGS WHEN REPLACING BELTS. FOR CH7, ORDER #140840. FOR CH7B, ORDER #140841.

HANG-ON PARTS

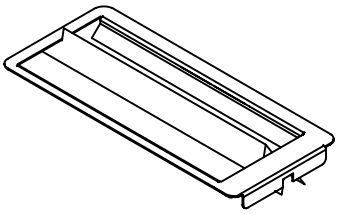
FIGURE 3

# HANG–ON PARTS FOR S/N 0201TS00599 AND AFTER

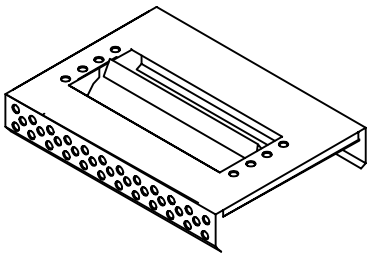



HANG–ON PARTS

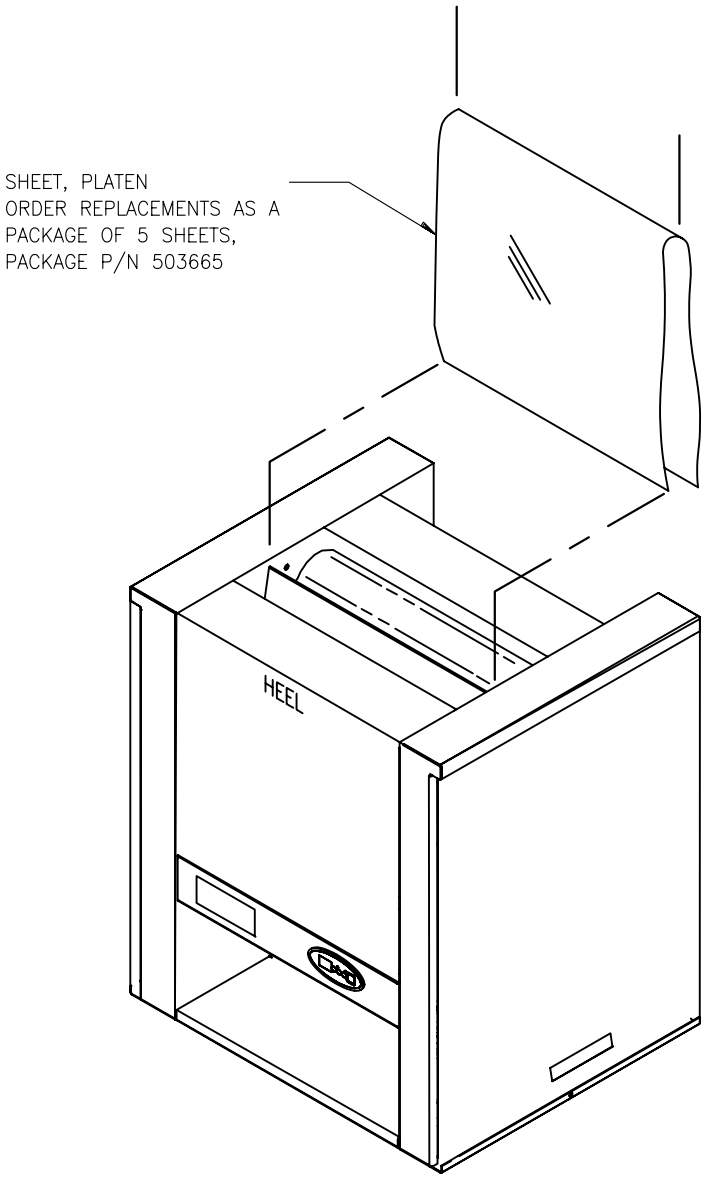
FIGURE 4



SERIAL NUMBERS
12980048 THRU 0400TS0419
BUN GUIDE ASBY #135120
CH7

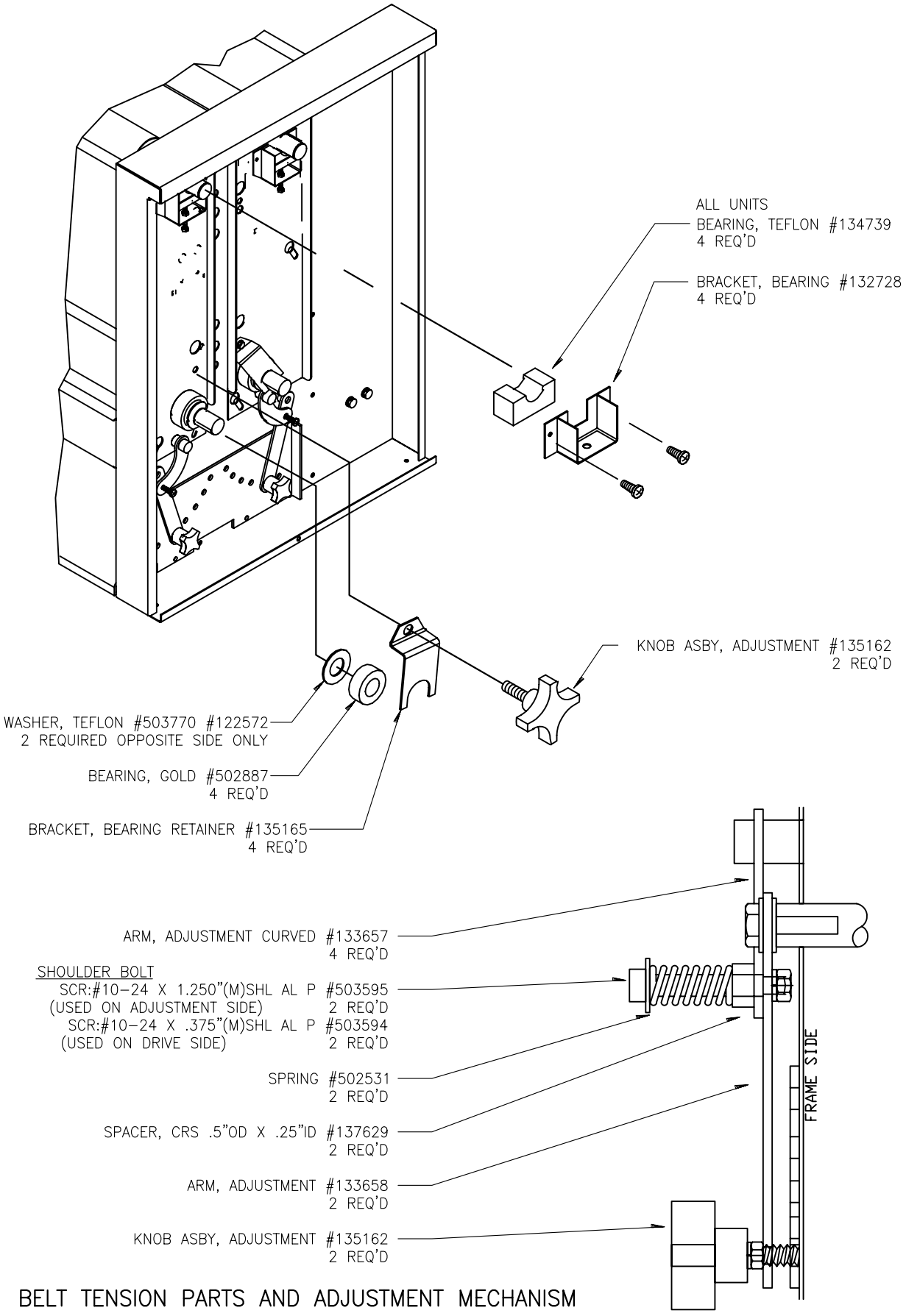


SERIAL NUMBERS
0400TS0419 AND AFTER
BUN GUIDE ASBY #140001
CH7B, CH7C, CH7F




SWITCHES AND TOASTER PLATEN SHEET

FIGURE 5




BELT TENSION PARTS AND ADJUSTMENT MECHANISM

FIGURE 6

135168FIG6 RV040804

ROLLER ASBY, TOP CROWN

#134733
ROLLER ASBY, 3" DIA
CH7

#141406
ROLLER ASBY, 2" DIA
CH7B CH7C CH7D CH7F CH7F-15

#503630
SENSOR, THERMISTOR
2 REQ'D

SPROCKET ASBY (ROLLER)

#129209
SPROCKET, 3515 X .755"
CH7 CH7B CH7H

#126451
SPROCKET, 3518 X .755"
CH7C CH7D

#124643
SPROCKET, 3512 X .755"
CH7F CH7F-15

#129210
SPROCKET, 3524 X .755"
CH7G

ROLLER ASBY, BOTTOM HEEL

#138021
ROLLER ASBY, 2" DIA
CH7

#141406
ROLLER ASBY, 2" DIA
CH7B CH7C CH7D
CH7F CH7F-15

SPROCKET (MOTOR)

#500042
SPROCKET, 3520 X .500"
CH7 CH7B CH7C CH7F

#501650
SPROCKET, 3512 X .500"
CH7D CH7H CH7F-15

#500040
SPROCKET, 3510 X .500"
CH7G

#502892
POTENTIOMETER, ROTARY
1 REQ'D

#500088
KNOB, SMALL
1 REQ'D
CH7 CH7B ONLY

ROLLER ASBY, TOP HEEL

#134734
ROLLER ASBY, 2" DIA
CH7

#141406
ROLLER ASBY, 2" DIA
CH7B CH7C CH7D
CH7F CH7F-15

SPRING TENSION ASBY

SPROCKET ASBY (ROLLER)

#129209
SPROCKET, 3515 X .755"
CH7 CH7B CH7H

#124643
SPROCKET, 3512 X .755"
CH7C CH7F CH7F-15

#126451
SPROCKET, 3518 X .755"
CH7D

#145299
SPROCKET, 3520 X .755"
CH7G

ROLLER ASBY, BOTTOM HEEL

#138021
ROLLER ASBY, 2" DIA
CH7

#141406
ROLLER ASBY, 2" DIA
CH7B CH7C CH7D
CH7F CH7F-15

#500035
CHAIN, ROLLER #35
2.25 FEET LONG

#500092
LINK, MASTER
1 REQ'D

#134728
SPRING
1 REQ'D

#139896
TENSION ARM COMPLETE ASBY
ALL MODELS EXCEPT CH7

#140630
TENSION ARM ONLY
ALL MODELS EXCEPT CH7

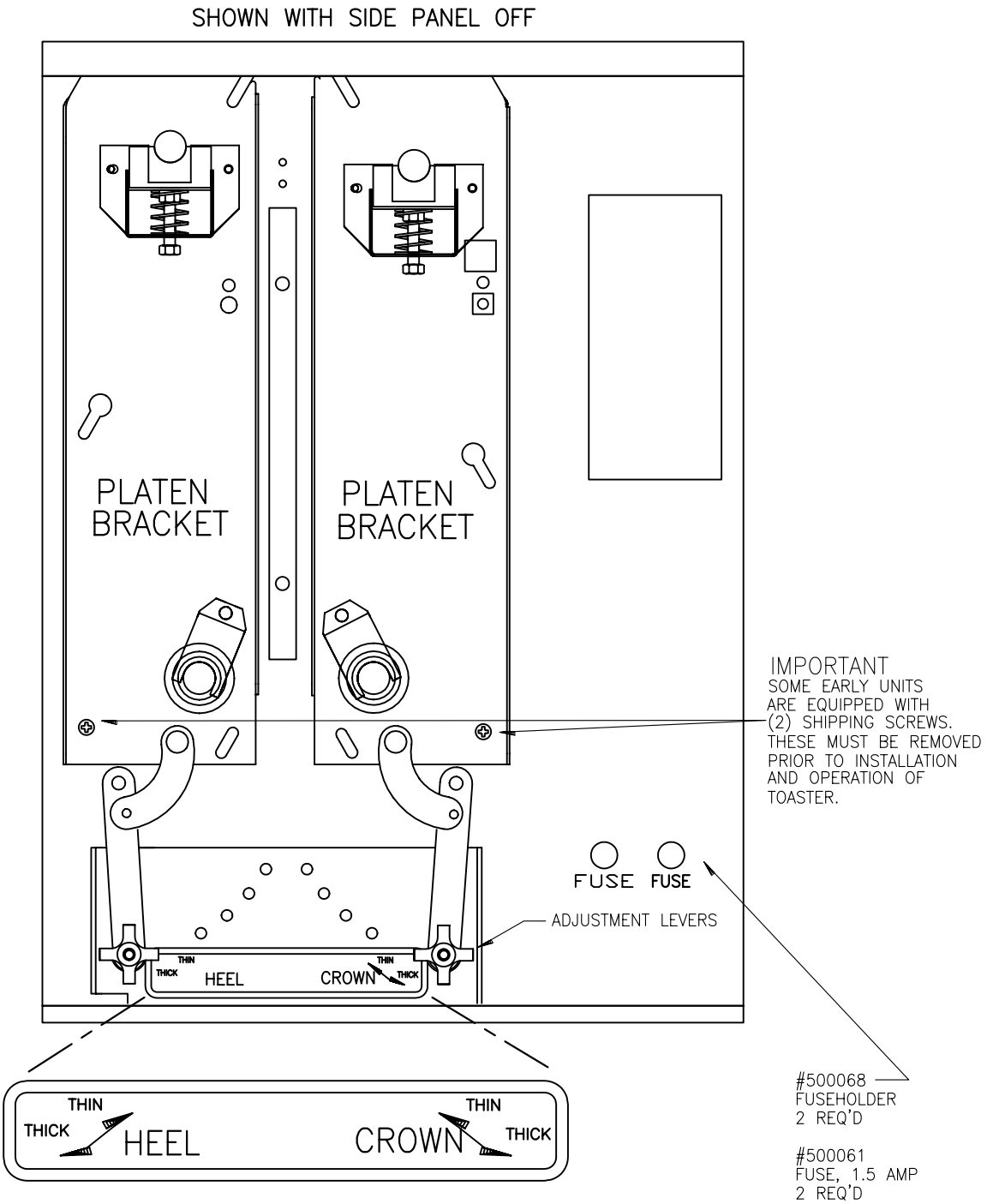
#135403
TENSION ARM COMPLETE ASBY
CH7 ONLY

#140629
TENSION ARM ONLY
CH7 ONLY

DRIVE SIDE W/ COVER REMOVED

INTERNAL PARTS AND DRIVE COMPONENTS

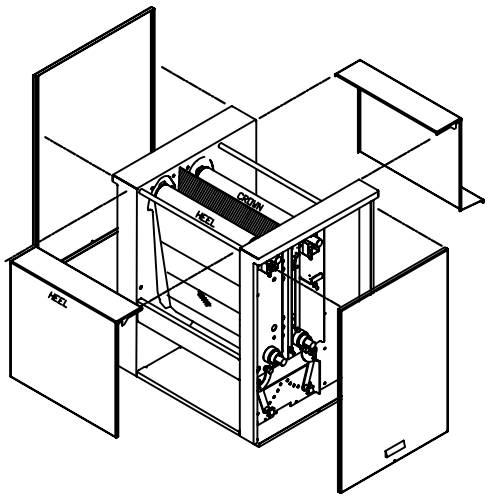
FIGURE 7



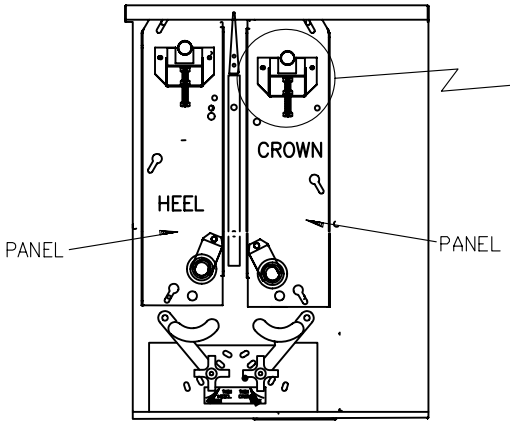

## ADJUSTABLE GAP SETTING

ADJUSTMENT LEVER OPERATION

FIGURE 8




STEP 1. UNPLUG POWER TO TOASTER. REMOVE FRONT, BACK, AND SIDE COVERS. NOTE AT THIS TIME IF BELT HAS A STITCHED DIAGONAL SEAM. IF SO, CONTACT MARSHALL AIR CUSTOMER SERVICE.



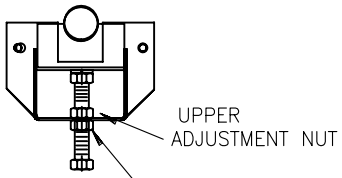




FIG 1

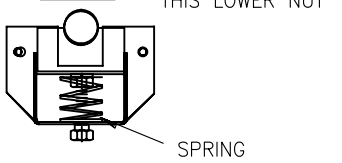
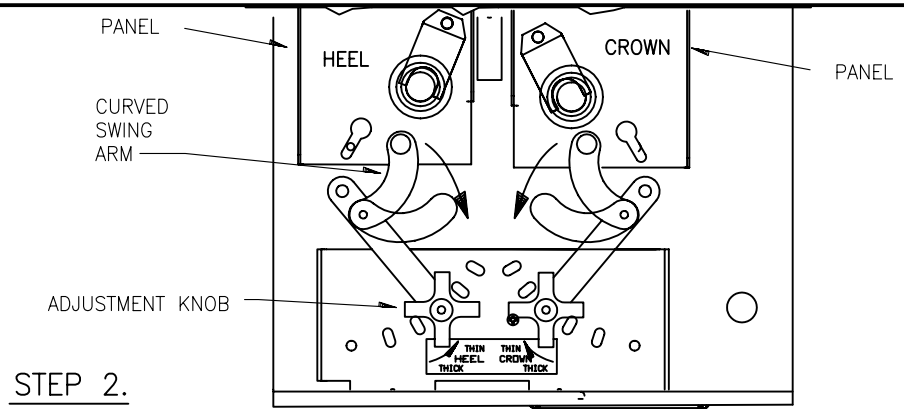
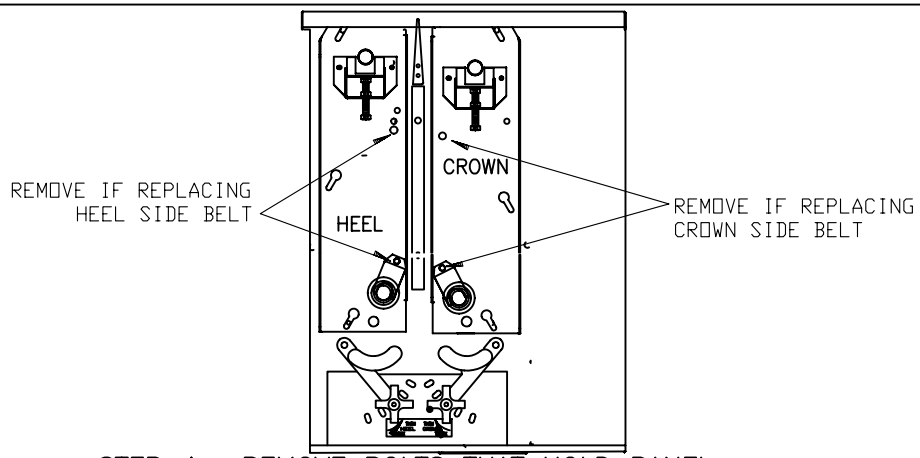



FIG 2

STEP 3. DETERMINE TENSION TYPE IF FIG 1 CONTINUE. IF FIG. 2 WITH SPRING GO DIRECTLY TO STEP 10. LOOSEN UPPER ADJUSTMENT NUT ONLY. DO NOT LOOSEN LOWER NUT. MAKE SURE TO LOOSEN UPPER NUT ENOUGH TO REMOVE PANEL FROM UNIT.




STEP 2. NOTE AND MARK THE ADJUSTMENT KNOB POSITION. PULL UP ON THE CURVED SWING ARM SO THAT IT COMES LOOSE FROM ROUND PIN ON THE PANEL. IT IS NOT NECESSARY TO REMOVE BOTH CROWN AND HEEL ARMS UNLESS BOTH BELTS ARE BEING REPLACED.



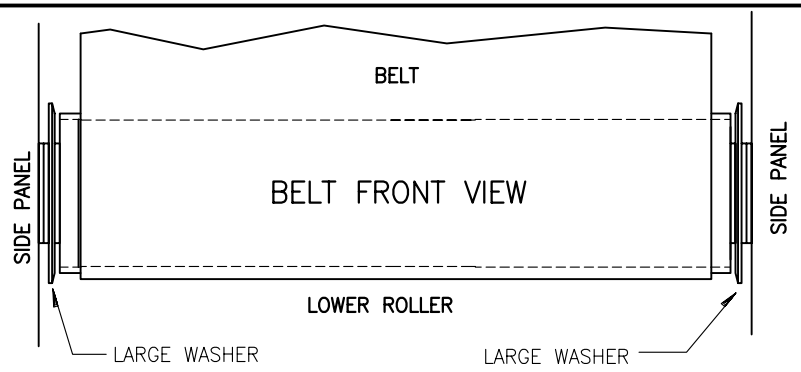

STEP 4. REMOVE BOLTS THAT HOLD PANEL IN PLACE. REMOVE PANEL BY LIFTING PANEL OVER RIVET HEADS. THIS ALLOWS BELT TO BE SLID OUT THROUGH OPENING. REMOVE LARGE WASHER ON END OF BOTTOM ROLLER TO EASE REMOVAL. REMOVE OLD BELTS FROM TOASTER.

TOOLS NEEDED: 1/2" WRENCH
7/16" SOCKET WRENCH
MARSHALL SHAFT JIG #138600

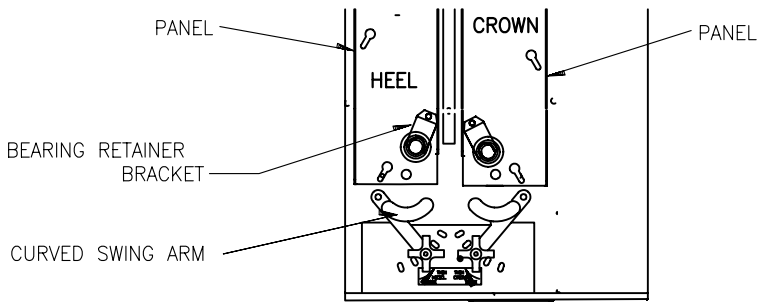
BELT REMOVAL INSTRUCTIONS
FIGURE 9

SEE FIGURE 10, 11 FOR INSTALLATION

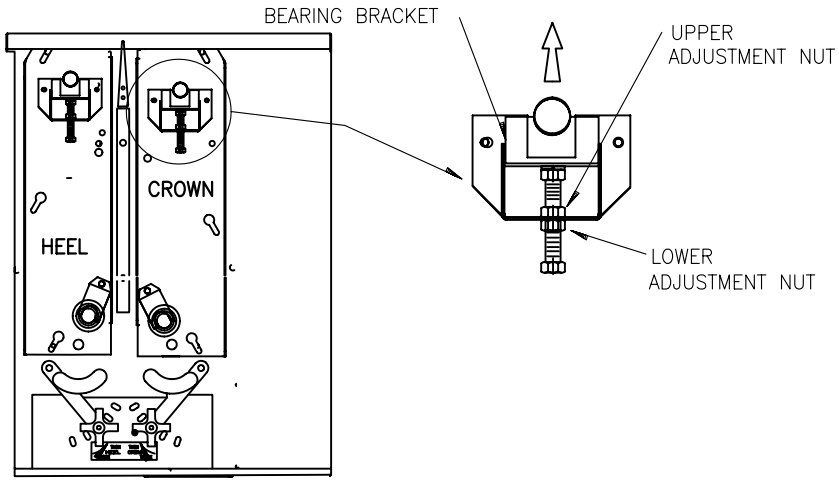
135168FIG9 RV040804



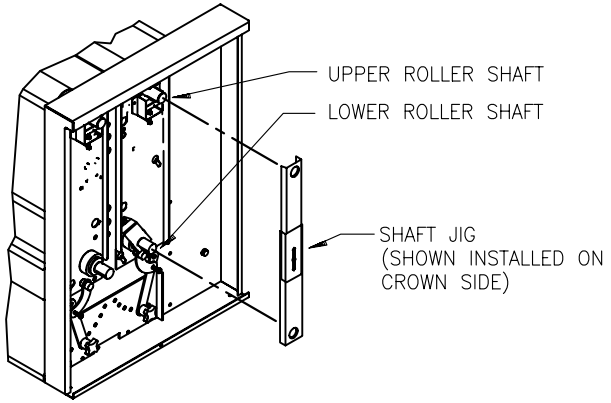

STEP 5. INSTALL NEW BELT THROUGH OPENING AND ONTO LOWER AND UPPER ROLLERS. MAKE SURE BELT IS BETWEEN LARGE WASHERS ON LOWER ROLLER AS SHOWN ABOVE.




STEP 6. INSTALL PANEL AND BOLTS BACK ONTO TOASTER. MAKE SURE TO PUT BEARING RETAINER BRACKET AND CURVED SWING ARM BACK IN PLACE ALSO MAKE CERTAIN ADJUSTMENT KNOB IS IN SAME POSITION AS IN STEP 2.




STEP 7.USING YOUR HAND, PULL UP ON THE BEARING BRACKET UNTIL ROLLER HAS TIGHTENED BELT. AT THIS TIME, FINGER TIGHTEN UPPER ADJUSTMENT NUT.




SHAFTS MUST BE PARALLEL AS FIRST STEP TO OBTAINING CORRECT BELT TRACKING.

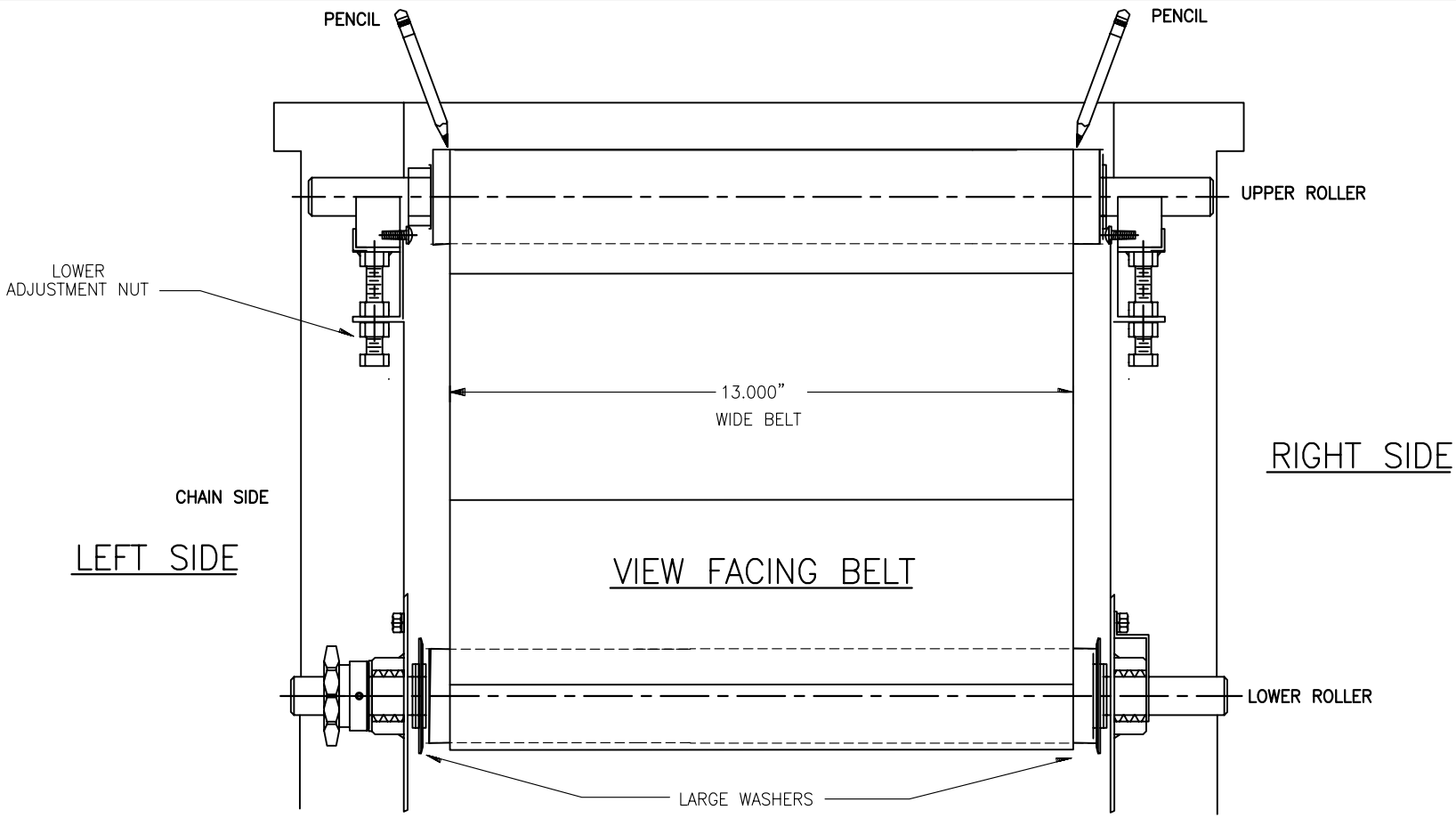
STEP 8. ON OPPOSITE SIDE (DRIVE CHAIN SIDE) OF TOASTER, LOOSEN SCREW OF SHAFT JIG, AND INSERT UPPER AND LOWER SHAFTS THROUGH HOLES. TIGHTEN SCREW AND REMOVE JIG FROM SHAFTS. PLACE JIG ON UPPER ROLLER SHAFT ON SIDE OF TOASTER SHOWN ABOVE. TIGHTEN OR LOOSEN ADJUSTMENT NUT AS NEEDED SO THAT LOWER ROLLER SHAFT FITS THROUGH LOWER HOLE.

TOOLS NEEDED: 1/2" WRENCH
7/16" SOCKET WRENCH
MARSHALL SHAFT JIG #138600

# NON-GUIDED BELT INSTALLATION INSTRUCTIONS

FIGURE 10

SEE FIGURE 9 FOR BELT REMOVAL INSTRUCTIONS
SEE FIGURE 11 FOR FURTHER INSTALLATION INSTRUCTIONS



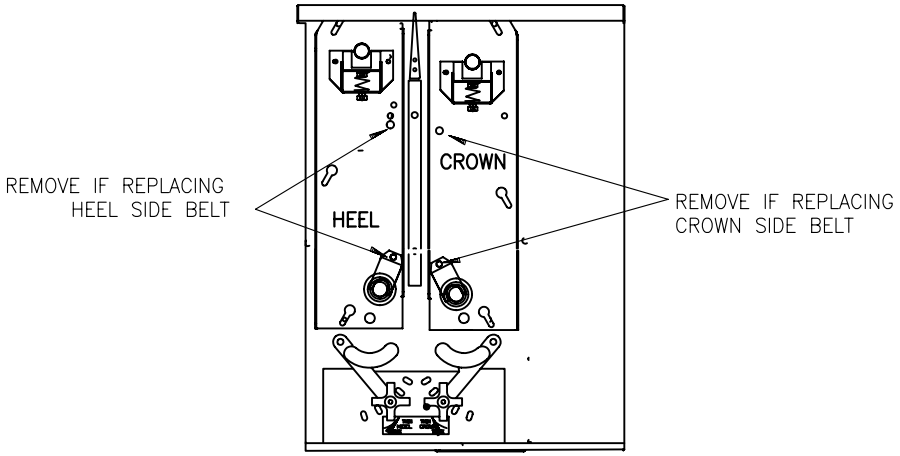

STEP 9. POSITION BELT ON ROLLERS AS SHOWN AND RUN CONVEYOR FOR A FEW MINUTES. THIS ALLOWS BELT TO ESTABLISH A TRACK. WITH UNIT TURNED OFF, PLACE A PENCIL MARK ON ROLLER, ON EACH SIDE OF THE BELT. TURN TOASTER CONVEYOR ON HIGH SPEED AND WATCH FOR MOVEMENT LEFT OR RIGHT BY WATCHING WHICH PENCIL MARK IS COVERED. BELT USUALLY MOVES LEFT SO LOOSEN ADJUSTMENT NUT 1.5 OR MORE TURNS AS NEEDED ON THE SIDE OPPOSITE FROM THE SIDE TO WHICH IT MOVES. IT MAY TAKE REPEATED PENCIL MARKS AND NUT ADJUSTMENTS BEFORE BELT STOPS MOVING TOWARD SIDE OF TOASTER.

TOOLS NEEDED: 1/2" WRENCH
7/16" SOCKET WRENCH
MARSHALL SHAFT JIG #138600

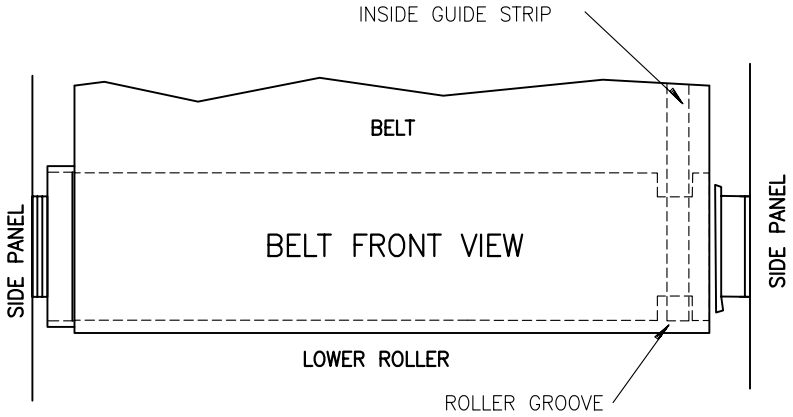
NON-GUIDED BELT INSTALLATION INSTRUCTIONS

FIGURE 11

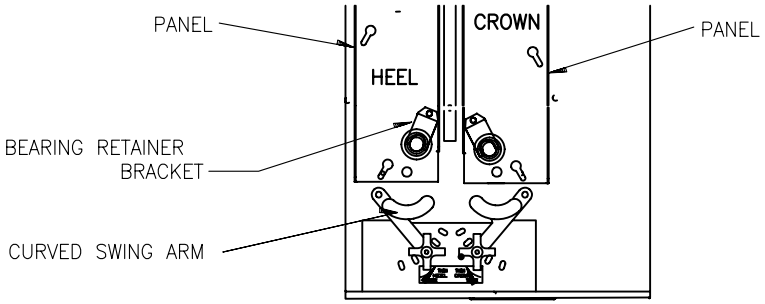
SEE FIGURE 10 FOR BELT REMOVAL INSTRUCTIONS
SEE FIGURE 12 FOR FURTHER INSTALLATION INSTRUCTIONS




STEP 10. REMOVE HAND KNOBS THAT HOLD PANEL IN PLACE. REMOVE PANEL BY LIFTING PANEL OVER RIVET HEADS. THIS ALLOWS BELT TO BE SLID OUT THROUGH OPENING. NOTE POSITION AND ORDER OF SPACERS.




STEP 11. INSTALL NEW BELT THROUGH OPENING AND ONTO LOWER AND UPPER ROLLERS. MAKE SURE THE GUIDE END OF THE BELT IS ON THE END CLOSEST TO YOU AND IN THE GROOVE CREATED BY THE END OF THE ROLLER AND SPACERS. BE SURE TO INSTALL THE SPACERS AS THEY WERE.



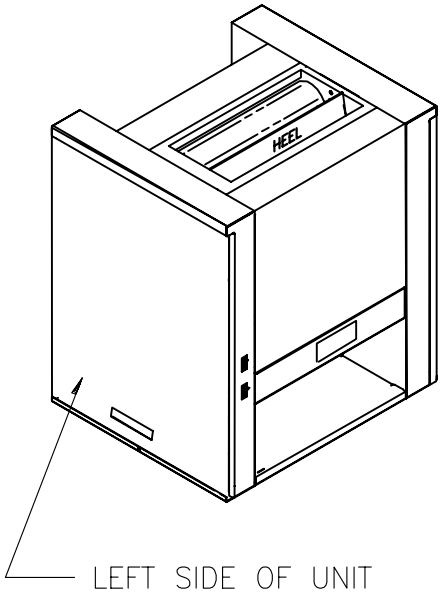

STEP 12. INSTALL PANEL. ALIGN PIN INTO SLOTS AND PUT KNOBS BACK ONTO THE TOASTER. MAKE SURE TO PUT BEARING RETAINER BRACKET AND CURVED SWING ARM BACK IN PLACE ALSO MAKE CERTAIN ADJUSTMENT KNOB IS IN SAME POSITION AS IN STEP 2.

STEP 13. INSTALL SIDE COVERS ONLY AND RUN UNIT. MAKE SURE BELT IS MOVING CORRECTLY AND GUIDE IS IN ROLLER GROOVES. PLACE ALL COVERS BACK ON UNIT.

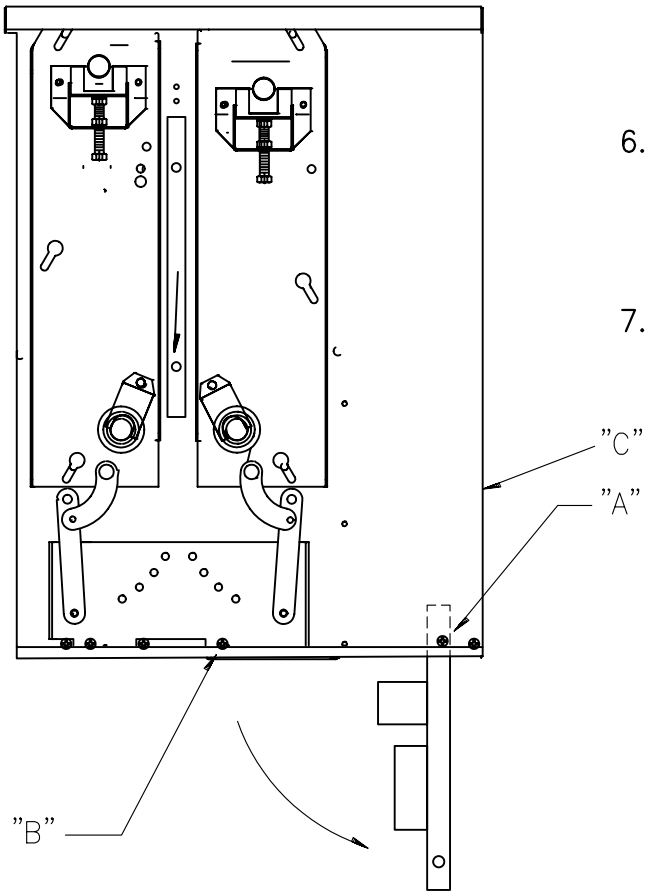
TOOLS NEEDED: 1/2" WRENCH
7/16" SOCKET WRENCH
MARSHALL SHAFT JIG #138600

GUIDED BELT REMOVAL AND INSTALLATION INSTRUCTIONS

FIGURE 12




1. TURN UNIT OFF AND UNPLUG
2. REMOVE BOTH SIDE COVERS
3. LOOSEN SCREW "A" ON BOTH SIDES OF TOASTER.
4. REMOVE SCREW "B" ON BOTH SIDES OF TOASTER.
5. LAY UNIT ON LEFT SIDE TO ALLOW BOTTOM PANEL TO SWING OPEN
6. BOTTOM OF CONTROL CABINET SWINGS DOWN GIVING ACCESS TO CONTROLS
7. REAR OF CABINET IS CAULKED. ALONG LINE AT "C". DO NOT BREAK THESE SEALS




CONTROL CABINET ACCESS INSTRUCTIONS

FIGURE 13

# WEEKLY BELT CLEANING INSTRUCTIONS

## AUTOTOAST™ MODEL HST13, HST13S

### 1. Supplies

Scotch-Brite™ Quick Clean Griddle Liquid #700-40
Scotch-Brite™ All Purpose Scouring Pad #9488R
Heat Resistant Gloves (Restaurant provided)
Clean Towel (Restaurant provided)

### 2. Turn Unit OFF


Turn power OFF (display should read “Hi”).
**PUT ON HEAT RESISTANT GLOVES.**
Belts are to be cleaned “in place” while toaster is still at operating temperature.

### 3. Bun Guide and Covers USE GLOVES

Remove Bun Guide, Front and Rear Covers.

### 3. Apply Cleaner to Pad USE GLOVES


Apply Scotch-Brite™ Quick Clean Griddle Liquid to the Scotch-Brite™ All Purpose Scouring Pad
**DO NOT POUR CLEANER ONTO BELT.**

### 4. Clean Belt USE GLOVES

Lightly rub width of the exposed belt in circular motion.

### 5. Rotate Belt USE GLOVES


Pressing the ON/OFF button to start and stop the belt, rotate the belt and clean the next section. Repeat for both belts.
“Lo” will move belt.
“Hi” will stop belt.

### 6. Rinse Belt USE GLOVES

Rinse belt by wiping with a clean, damp, sanitized towel. Frequently rinse towel to remove accumulated soil and cleaner residue.

### 7. Platen Sheet USE GLOVES

Remove Platen Sheet. Clean using current procedures as described in the owner’s manual. Reinstall when clean. If sheet has cuts, holes or cannot be cleaned, replace with a new sheet.

### 8. Bun Guide and Covers USE GLOVES

After cleaning, reinstall Front and Rear Covers and Bun Guide. Clean and save the All Purpose Scouring Pad for the next belt cleaning.

To reorder weekly belt cleaning supplies, contact a Marshall Parts Distributor.

150986 RV032708


FIGURE 14

# INSTRUCCIONES DE LIMPIEZA SEMANAL

**AUTOTOAST™ MODEL HST13, HST13S**

### 1. Suplementos

Scotch-Brite™ liquido para limpieza rapida de planchas de cocina #700-40
Scotch-Brite™ estropajo para todo proposito #9488R
Guantes de resistencia caliente(restaurante provee)
Toalla de limpieza (restaurante provee)

### 2. Apagar la unidad


Apagar la unidad (en la pantalla se lee “Hi”alto). Pongase los guantes de resistencia caliente. Las bandas para su limpieza tienen que estar “en su lugar” Mientras la tostadora suigue en su temperature de operacion.

### 3. Guia de panes y covertores **USE GUANTES**

Remover la guia de panes,los covertores de la parte trasera y delantera.

### 3.Aplicar el limpiador al estropajo

USE GUANT


Aplique Scotch-Brite™ liquido de limpieza rapida de planchas de cocina al, Scotch-Brite™ estropajo para todo proposito **No echar el liquido de limpieza en la banda.**

### 4. Limpiar Bandas **USE GUANTES**

Estregar despacio la anchura de la banda sin que quede descubierta haciendo movimiento circular.

### 5. Rotar Las Bandas **USE GUANTES**


Presionando el boton de ON/OFF de empezar y parar bandas, rote las bandas y limpie la proxima seccion. Repitiendo el mismo paso a las mismas bandas.
“LO” va a mover bandas.
“HI” va a parar bandas.

### 6. Enjuagar Bandas **USE GUANTES**

Enjuage bandas pasando un trapo limpio,humedo, tolla sanitada. Enjuage la toalla Frecuentemente para remover la suciedad acomulada y residuo de limpieza.

### 7. Hoja De Cristal **USE GUANTES**

Remover la hoja de cristal. Usando los procedimientos descrito en el manual del comprador, re-instale cuando este limpia ,si la hoja de cristal tiene algun corte,hueco o no se puede limpiar, remplace con una hoja de cristal nueva.

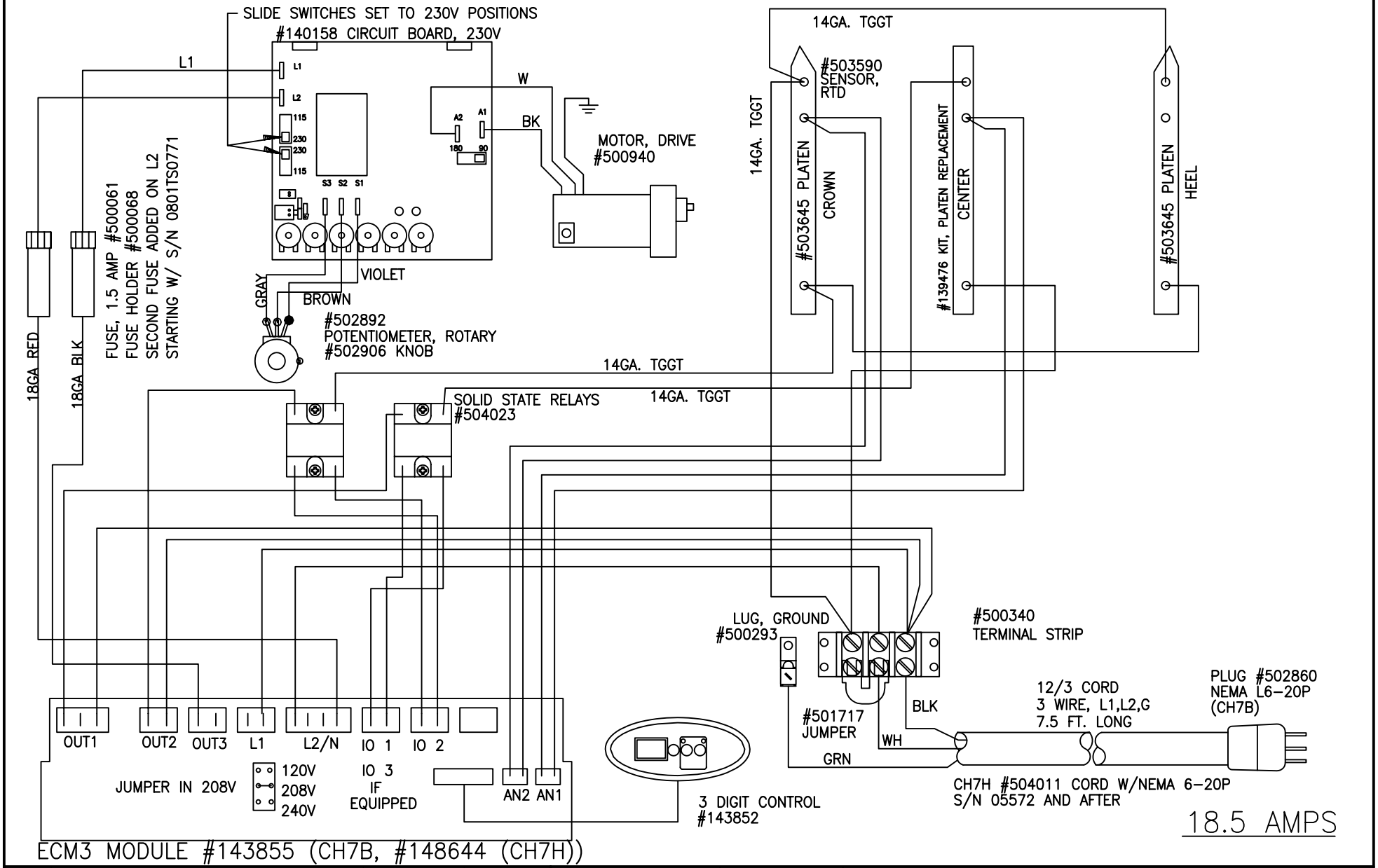
### 8.Guia de panes y covertores **USE GUANTES**

Despues de la limpieza, re-instale los covertores de la parte trasera y delantera y la guia de panes. Limpie y guarde todo los suplementos para la proxima limpieza..

Para ordenar suplementos semanal de limpieza para bandas contactar a su distribuidor de partes Marshall.

150986 RV032708

143851




| REV | DESCRIPTION | DATE | REV. BY |
|---|---|---|---|
| 1 | CHG CTR PLATEN TO IO 1 | 21-AUG-2003 | PW |
| 2 | ADDED RELAY 504023 | 07-SEP-2004 | PW |
| 3 | ADDED CH7H | 30-JUN-2006 | PW |
| 4 | REMOVED 502551 SSR | 11-MAR-2009 | PW |
| 5 | ADDED CH7H CORD S/N | 23-APR-2010 | J.L. |

DRAWN BY: P.W. DATE: 09-JUN-2003 | REV DATE:

GENERIC NAME: SCHEMATIC

PRODUCT LINE: FAB | PRODUCT CLASS: TST

REFERENCE

__.___ X __.___

# MARSHALL AIR SYSTEMS, INC.

## SCHEMATIC, HST13 208V 1PH W/ LED CONTROL, VARIABLE SPEED

SIZE: A | ROUTE.: ELECT | DWG. NO.: 143851 | REV.: 5

SCALE: 1:1 IMAGE MAY BE REDUCED NTS | CODE: CH7B CH7H