

VULCAN

**INSTALLATION, SERVICE AND
PARTS MANUAL FOR
TILTING BRAISING PAN
MODELS: G-23-O, G-40-O,
G-23-C, G-40-C
& E-23-O, E-40-O, E-23-C, E-40-C**





IMPORTANT

OPERATING, INSTALLATION AND SERVICE PERSONNEL

Operating information for this equipment has been prepared for use by qualified and/or authorized operating personnel.

All installation and service on this equipment is to be performed by qualified, certified, licensed and/or authorized installation or service personnel, with the exception of any marked with a □ in front of the part number.

Service may be obtained by contacting the Factory Service Department, Factory Representative or Local Service Agency.

DEFINITIONS

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified or authorized operating personnel are those who have carefully read the information in this manual and are familiar with the equipment's functions or have had previous experience with the operation of the equipment covered in this manual.

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are individuals, a firm, corporation or company which either in person or through a representative are engaged in, and are responsible for:

1. The installation of gas piping from the outlet side of the gas meter, or the service regulator when the meter is not provided, and the connection and installation of the gas appliance. Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference in the United States of America - National Fuel Gas code ANSI Z223.1 (Latest Edition). In Canada-Canadian Standard CAN1-B149.1 NAT. GAS (Latest Edition) or CAN1-B149.2 PROPANE (Latest Edition).
2. The installation of electrical wiring from the electric meter, main control box or service outlet to the electric appliance. Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference: In the United States of America-National Electrical Code ANSI NFPA No. 70 (Latest Edition). In Canada-Canadian Electrical Code Part 1 CSA-C22.1 (Latest Edition).

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those who are familiar with Vulcan equipment who have been endorsed by the Vulcan-Hart Corporation. All authorized service personnel are required to be equipped with a complete set of service parts manuals and stock a minimum amount of parts for Vulcan equipment.

SHIPPING DAMAGE CLAIM PROCEDURE

For your protection, please note that equipment in this shipment was carefully inspected and packed by skilled personnel before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of this shipment.

If shipment arrives damaged:

1. **VISIBLE LOSS OR DAMAGE** — Be certain this is noted on freight bill or express receipt and signed by person making delivery.
2. **FILE CLAIM FOR DAMAGES IMMEDIATELY** — Regardless of extent of damage.
3. **CONCEALED LOSS OR DAMAGE** — If damage is unnoticed until merchandise is unpacked, notify transportation company or carrier immediately, and file "concealed damage" claim with them. This should be done within (15) days of date of delivery is made to you. Be sure to retain container for inspection.

We cannot assume responsibility for damage or loss incurred in transit. We will, however, be glad to furnish you with necessary documents to support your claim.

PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE

IMPORTANT NOTES FOR ALL VULCAN APPLIANCES

1. These units are produced with the best possible workmanship and material. Proper installation is vital if best performance and appearance are to be achieved. Installer must follow the installation instructions carefully.
2. Information on the construction and installation of ventilating hoods may be obtained from the "Standard for the installation of equipment for the removal of smoke and grease laden vapors from commercial cooking equipment," NFPA No. 96 (latest edition) available from the National Fire Protection Association, Battery March Park, Quincy MA 02269.
3. For an appliance equipped with a flexible electric supply cord, the cord is equipped with a three prong (grounding) plug. This grounding plug is for your protection against shock hazard and should be plugged directly into a properly grounded three prong receptacle. Do not cut or remove the grounding prong from this plug. If the appliance is not equipped with a grounding plug, and electric supply is needed, ground the appliance by using the ground lug provided (refer to the wiring diagram).

(FOR GAS APPLIANCES ONLY)

4. Do not obstruct the air flow into and around the appliance. This air flow is necessary for proper combustion of gases and for ventilation of the appliance. Provisions for ventilation of incoming air supply for the equipment in the room must be in accordance with National Fuel Gas Code ANSI Z223.1 (latest edition).
5. Do not obstruct the flow of flue gases from the flue duct (when so equipped) located on the rear (or sides) of the appliance. It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.
6. For an appliance equipped with casters, (1) the installation shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 (latest edition), and Addenda, Z21.69a (latest edition), and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 (latest edition), and Addenda, Z21.41a (latest edition) and Z21.41b (latest edition), and (2) adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement.
If disconnection of the restraint is necessary, reconnect this restraint after the appliance has been returned to its originally installed position.
7. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.45 k Pa).
8. The appliance must be isolated from the gas supply system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than ½ psig (3.45 k Pa).

CAUTIONS

FOR YOUR SAFETY

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

1. **KEEP THE APPLIANCE FREE AND CLEAR FROM ALL COMBUSTIBLE SUBSTANCES.**
2. **IN THE EVENT A GAS ODOR IS DETECTED, SHUT UNIT(S) DOWN AT THE MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.**
3. **POST IN A PROMINENT LOCATION, INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION MAY BE OBTAINED FROM A LOCAL GAS SUPPLIER.**

VULCAN BRAISING PANS INSTALLATION, SERVICE AND PARTS MANUAL

INDEX

Vulcan Braising Pans are produced with the best possible workmanship and material. Proper usage and maintenance will result in many years of satisfactory performance.

The manufacturer suggests that you thoroughly read this entire manual and carefully follow all of the instructions provided.

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REVISION (Inside Back Cover)

NOTE: All wiring diagram labels are also attached on the back of one of the front doors of the cabinet of the braising pan.

Fig. 14: Wiring diagram - Gas heat unit - Electric ignition (Thermostatic temperature control)

Fig. 15: Wiring diagram - Gas heat units - Electric ignition (Solid State temperature control)

Also, a rating plate is located on the back of one of the front doors. It states the model and serial numbers, type of gas, manifold pressure, BTU/Hr. total, and watts for gas units. It states the model and serial numbers, voltage, phase and KW rating for electric units.

A. INSTALLATION INSTRUCTIONS

1. Carefully uncrate the unit. Be certain no parts or manuals are discarded with crating material.

2. Set up:

Place the unit in the desired position. Check that there are sufficient clearances to service the controls, for door swings etc., and so that there will be no problem in making the required supply connections. Recommended clearances are 24 inches on sides and back (for servicing), and 36 inches on front. The ceiling should be at least 72 inches from floor.

NOTE: If the walls are made of combustible material, then the unit must be positioned so that there will be 6 inches or more clearance between the wall and back and/or sides.

3. Leveling and Anchoring:

Using a spirit level and with the adjustable feet, level the braising pan table top. Do not attempt to level the braising pan clad plate. The table top level can be changed by rotating the leg adjusting nut. Level the braising pan table top front to back and left to right.

IMPORTANT: After leveling, anchor the unit. Use the holes in the flanges of rear feet for anchor bolts.

4. To reach service and utility connections remove the left side panel. To remove, hold the panel from underneath and lift it up. While holding the panel up, swing out the lower part of the panel until it clears the top flange and remove.

If required, the rear panel and inner side panels (open-frame models only) can also be removed using the same procedure.

5. Gas Connection - Gas Heat Units Only

(See Figure 1)

(a) Be sure gas supply and gas type as shown on the braising pan nameplate, agree. The nameplate is located on the back of one of the front doors.

(b) Connect a ½ inch (nominal) gas supply line to unit. Recommended gas line pressure: 7" W.C. for natural gas and 12" W.C. for propane gas.

(c) Installation of a manual shut-off valve (not supplied with the unit) in supply line is recommended to permit complete shut-down of unit for service.

(d) **CAUTION:** Use only pipe thread sealing compounds which are resistant to the action of liquified petroleum gases.

(e) Check all gas piping for leaks with a soap and water solution before operating the unit.

CAUTION: Do not use an open flame to check for leaks, use soap solution.

(f) Installation must conform with local codes and with the National Fuel Gas Code, ANSI Z223.1 - 1984 (copies may be obtained from American Gas Association 1515 Wilson Blvd., Arlington, Virginia 22209).

(g) Electrical control circuit must be connected per item 7 on page 6.

(h) The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.45 kPa).

(i) The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.4566 kPa).

6. Electric Power Connection - Electric Heat Units Only (See Figure 2)

(a) The voltage and phase of the supply circuit and the rating marked on the nameplate of the unit must be in agreement.

(b) All units are provided with a control box for field wire connection, on lower left side of the unit. Knockout hole is provided for a 1" conduit connection.

(c) Remove control box cover plate. Mount suitable 1" conduit fitting in knockout opening.

(d) Connect field wire to the terminal block as indicated on wiring diagram. Wire must be of the type suitable for 75° C service, and of thickness as indicated on marking next to junction box.

7. **Wiring Diagram Location** - The Wiring Diagram for the unit is located on the inside of the left door on closed base units and on the inside of the center door of open base units.

A. INSTALLATION INSTRUCTIONS (Continued)

| MODEL NO. | NATURAL GAS B.T.U./hr. | PROPANE GAS B.T.U./hr. |
|-----------|---------------------------|---------------------------|
| G-23-C | 90,000 | 90,000 |
| G-40-C | 120,000 | 120,000 |

| DIMENSIONS - INCHES | | | | |
|---------------------|----|-----|----|----|
| Model No. | A | B | C | D |
| G-23-C | 36 | 37½ | 9½ | 64 |
| G-40-C | 48 | 11½ | 66 | |

If 9" (229 mm) deep pan (total capacity 30 gallons) is specified on model G-23-C add 2" (51 mm) to dimensions "B", "C", and "D".

LEGEND

1. Electric connection 120 V 1-phase 50/60 Hz control circuit 300 watts maximum.
2. Gas connection ½" N.P.T.
3. (Optional extra) Hot and cold water connections if spray hose specified. (Connections are ½" N.P.T.)

Incoming gas supply line pressure must be 7" water column or above for natural gas and 12" water column or above for propane gas. (For other gases inquire.)

| DIMENSIONS - MILLIMETERS | | | | |
|--------------------------|------|------|-----|------|
| Model No. | A | B | C | D |
| G-23-C | 914 | 953 | 241 | 1626 |
| G-40-C | 1219 | 1003 | 292 | 1676 |

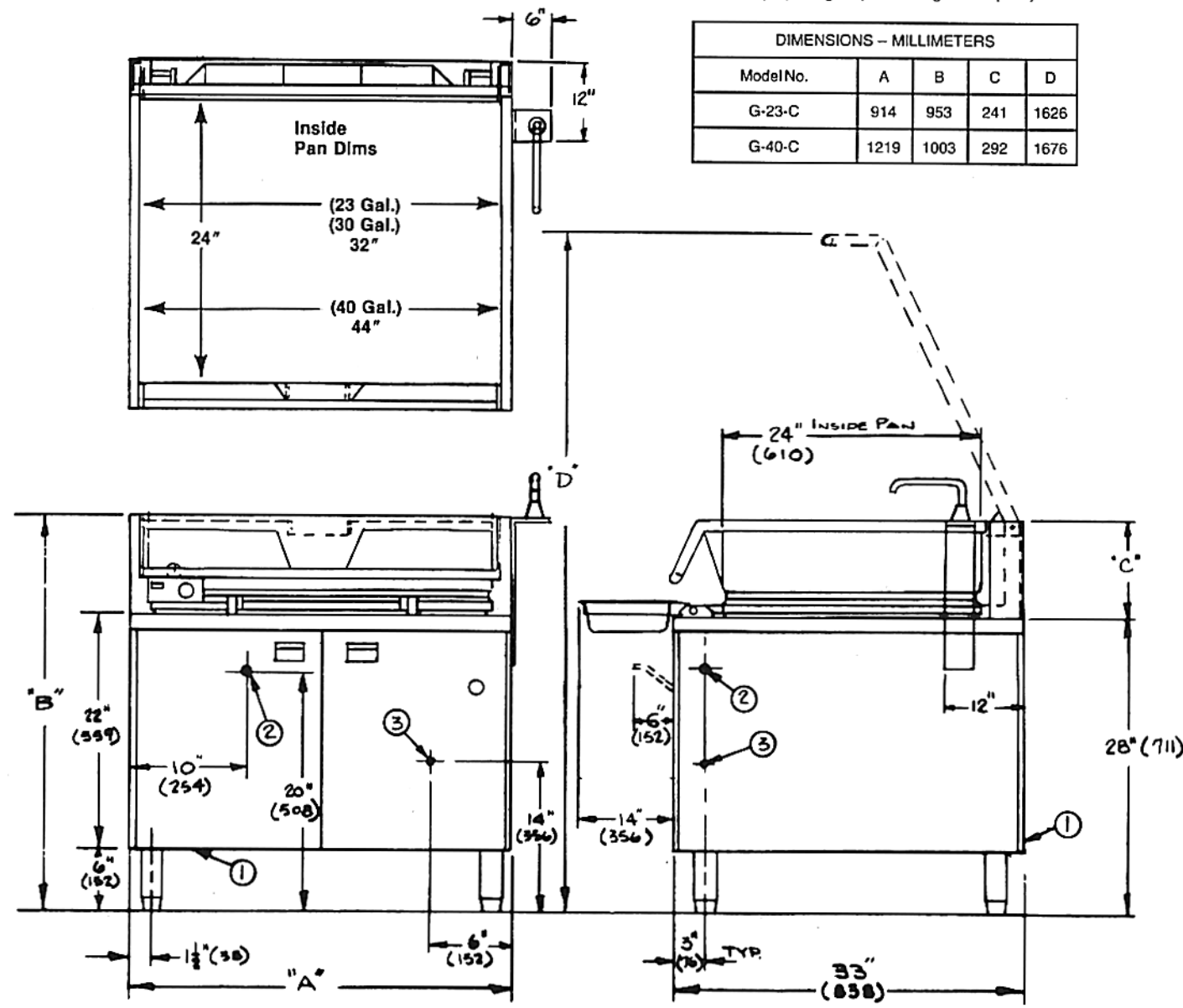


FIGURE 1

SERVICE CONNECTION
GAS HEAT UNITS

A. INSTALLATION INSTRUCTIONS (Continued)

| DIMENSIONS - INCHES | | | | |
|---------------------|----|-----|----|----|
| Model No. | A | B | C | D |
| E-23-C | 36 | 37½ | 9½ | 64 |
| G-40-C | 48 | 11½ | 66 | |

If 9" (229 mm) deep pan (total capacity 30 gallons) is specified on model E-23-C add 2" (51 mm) to dimensions "B", "C", and "D".

LEGEND

1. Electric connection 120 V 1-phase 50/60 Hz control circuit with grounding wire required. (300 watts maximum) not required when step down transformer specified: (Optional extra).
2. Electrical power connection 1½" diameter. (1" conduit)
3. (Optional extra) Hot and cold water connections if spray hose specified. (Connections are ½" N.P.T.)

| DIMENSIONS - MILLIMETERS | | | | |
|--------------------------|------|------|-----|------|
| Model No. | A | B | C | D |
| E-23-C | 914 | 953 | 241 | 1626 |
| E-40-C | 1219 | 1003 | 292 | 1676 |

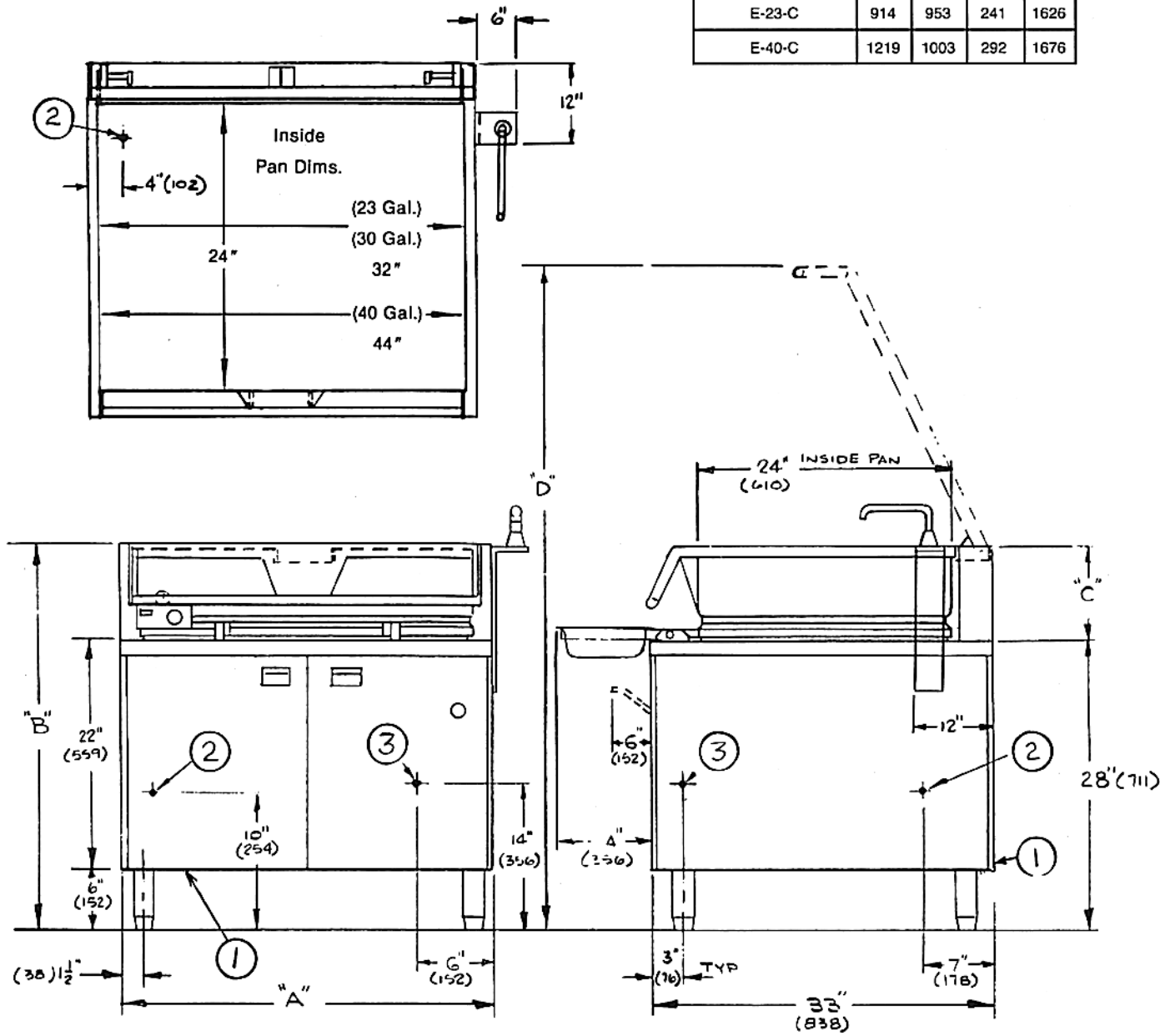


FIGURE 2

SERVICE CONNECTION
GAS HEAT UNITS

A. INSTALLATION INSTRUCTIONS (Continued)

(e) For convenience in testing, rated amperages are listed below:

| VOLTS | PHASE | E-23 C,0, | | E-40 C,C | | | |
|-------|-------|-----------|-----|----------|----|----|----|
| | | K.W. | AMP | K.W. | Ix | Iy | Iz |
| 208 | 1 | 10.2 | 49 | 13.6 | 65 | 65 | — |
| 240 | 1 | 13.5 | 57 | 18.0 | 75 | 75 | — |
| 208 | 3 | 10.2 | 29 | 13.6 | 43 | 43 | 29 |
| 240 | 3 | 13.5 | 33 | 18.0 | 50 | 50 | 33 |
| 480 | 3 | 13.5 | 17 | 18.0 | 25 | 25 | 17 |

NOTE: These values are nominal ratings. Field wire connections must be capable of withstanding anticipated surges.

(f) After making the connections, replace the control box cover plate.

(g) Following precautions must be observed:

(1) Installing personnel should be guided by National Electrical Code NFPA No. 70-1984 and applicable local codes.

(2) The equipment must be grounded, by installing a grounding lead, properly grounded, to ground lug located inside the junction box.

(h) Electrical control circuit must be connected per item 7 below.

7. Control Circuit Power Connection: All units (See Figures 1 and 2). Connect a 120 volt, 50/60 Hz, 1 phase supply to the pigtail leads in the junction box located on rear left of the unit. Use copper wire suitable for 5 amperes, and 75° C temperature. A ground wire must be connected to the ground lug in the junction box.

NOTE: This connection is not required on units equipped with the optional step down transformer.

STEPDOWN TRANSFORMER

If optional extra stepdown transformer is supplied then the 120 volt 50/60 Hz 1 phase connection is eliminated.

B. LIGHTING, ADJUSTING AND SHUT DOWN (GAS HEAT UNITS ONLY)

LIGHTING INSTRUCTIONS—STANDARD UNITS

1. Lighting instructions label is located on the back of one of the front doors. Pull handle to open door to read instructions and to light the pilot.

2. Turn "ON" main gas supply to unit.

3. To light the pilot, or to relight the pilot, turn temperature control knob and knob of combination control valve to "OFF". Wait 5 minutes before relighting.

4. Turn knob of combination control valve to "pilot". Depress this knob and light pilot using a taper. Pilot is located behind the hole identified with label "lighter and observation hole." Keep the knob depressed for about one minute after lighting the pilot.

5. If there is no ignition or if the pilot does not stay lit, then pilot flame may need to be adjustment screw on the combination control valve. Rotate exposed adjusting screw counterclockwise one full turn. Then replace and repeat item (3) above.

6. After pilot is lit, turn the knob of combination control valve to the "ON" position.

7. Turn the red rocker switch to "ON". The "ON" position is indicated by glowing red light on the switch. This "on-off" switch is located on a box on lower left corner of braising pan on standard units with thermostatic temperature control.

NOTE:

(a) Unit with optional solid state temperature control: On these units the "On-Off" rocker switch is on a box located underneath the table top and behind the left front door.

8. Lower the braising pan (see "Operating Instructions" for procedure). Unit will not operate with the pan in the "up" position.

9. Turn the knob of the temperature control to desired cooking temperature.

B. LIGHTING, ADJUSTING, AND SHUTDOWN (Continued)

CAUTION: At start up or after servicing, fill the braising pan with approximately 5 gallons of water before turning the heat "on". This will prevent the stainless steel bottom of braising pan from being discolored.

10. Main Burner Air Supply

For efficient burner operation, it is important that a proper balance of gas volume and primary air supply is maintained, resulting in complete combustion. Insufficient air supply results in a yellow streaming flame. Primary air supply is controlled by the air shutter on the front of the burner venturi.

Loosen the screws on front of the burner, and adjust the air shutter to just eliminate yellow tips of burner flame. Lock the air shutter in place by tightening the screws. Repeat this procedure with all burners.

11. Shutdown (complete)—Standard Units

(a) Turn the manual shut-off valve to "OFF" if one is installed (Refer to installation instructions on page 3 of this manual) or; turn temperature control knob and knob of combination control valve to the "OFF" position. Knob of combination control valve depresses slightly to turn to "OFF" position.

(b) Rotate pilot adjusting screw (item 5 on page 6) clockwise until the pilot goes out.

(c) Turn red rocker switch to "OFF" position.

12. LIGHTING INSTRUCTIONS—Electric Ignition Units

1. If pilot is out, turn pilot switch, temperature control knob of combination control valve to "OFF". **IMPORTANT: WAIT 5 MINUTES BEFORE ATTEMPTING TO RE-LIGHT.**

2. Turn knob of combination control valve to "ON".

3. Move pilot toggle switch to "ON".

4. If no ignition then system is in lockout. Repeat steps 1 through 3 above.

COMPLETE SHUTDOWN INSTRUCTIONS—Electric Ignition

1. Turn pilot switch, temperature control knob and knob of combination control valve to "OFF".

2. Rotate pilot adjusting screw (item 5) clockwise until pilot goes out.

C. CHECKING TEMPERATURE CONTROL CALIBRATION

I. Units With Thermostat (Standard) (See Fig. 3)

1. The braising pan thermostat is carefully calibrated at the factory so that dial settings match actual pan temperature. Field calibration is seldom necessary, unless the unit has been mishandled in transit, or abused. Recalibration should not be resorted to unless considerable experience with cooking results definitely proves that the control is not maintaining the temperature to which the dial is set.

2. To check the pan temperatures when recalibrating, use a precision test instrument, or a good grade mercury thermometer.

3. Clean an approximate $\frac{3}{4}$ " diameter spot (of all cooked on fat build up) in the center of clad plate.

4. Place a couple of drops of oil on the clean spot, and place thermocouple disc flat on the surface.

5. Turn the dial of thermostat being checked, to 350° F mark.

6. After about 10 minutes, check the griddle surface temperature. Continue to check temperature at 5 minute intervals, until two successive readings are within 5 degrees of each other. Thermostat should be recalibrated if temperature reading is not within 10 degrees of the control knob setting (350°F ± 20°F). If recalibration is required, continue with steps 7, 8, 9, and 10.

7. Remove control knob by grasping outer edge and pulling straight out, without twisting or turning.

8. Hold thermostat dial shaft "B" (Figure 3) stationary with pliers, and with a screw driver, turn screw "A" (Figure 3) clockwise to obtain a lower temperature or counter-clockwise for higher temperature. Each turn (90° rotation) of screw "A", represents 35°F.

9. Replace the thermostat control knob.

10. Recheck thermostat as in step (4) and (5) above, if the griddle surface temperature is not within 20 degrees of the dial setting (350°F ± 20°F), it means that the sensing element is inoperative, and the thermostatic control should be replaced.

11. **CAUTION:** Before removing the thermostat, carefully note the capillary routing and the capillary clamp. When installing a new thermostat, fold the capillary in a similar fashion and route it along the front inner edge of braising pan skirt and then through notch on the burner box (for gas heat units) or element cover (for electric heat units). After mounting the new thermostat, lower the braising pan very slowly and make certain that the capillary will not be damaged or crimped when braising pan is fully lowered.

C. CHECKING TEMPERATURE CONTROL CALIBRATION (Continued)

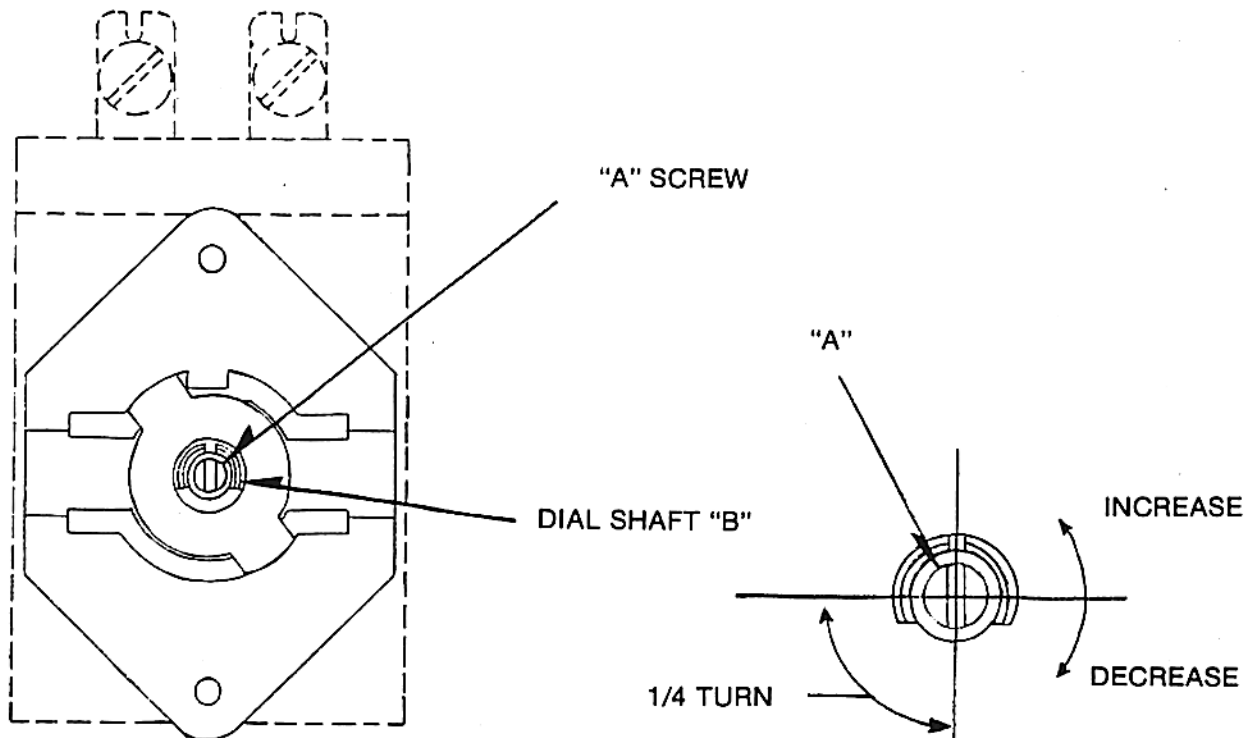


FIGURE 3

THERMOSTAT CALIBRATION

II. Units With Optional Solid State Temperature Control

1. Follow above instructions (1) through (7) for unit with thermostat. The solid state temperature control knob is on a box located underneath the table top and behind the left front door.
2. Loosen (do not remove) the two screws holding the dial scale, so that the dial will rotate.
3. Replace the dial knob.
4. Rotate the dial scale so that the index mark of the knob corresponds to temperature recorded on clad plate.

NOTE: The dial scale should not be rotated more than 10° to 15° in either direction. If greater adjustment is necessary, recheck the clad plate temperature recording instrument or replace the temperature controller.

5 Remove the dial knob.

6. Tighten the two screws to securely hold dial scale. (**Caution:** do not allow the dial scale to rotate when tightening the screws).

7. Replace the control knob.

D. SERVICE

CAUTION: Before undertaking any service, the unit must be disconnected from the electric power supply (two power supplies for electric heat units, if not equipped with a step down transformer).

1. All parts for heating and control systems (both gas and electric) are readily accessible either by raising the braising pan and/or removing side and rear panels (Item 4 of "Installation Instructions" in this manual); and opening the enclosure containing the part to be replaced.

Procedure to replace "Thermostat Conduit Assembly" - flexible conduit from thermostat box to junction box (gas heat unit) or control box (electric heat unit).

(a) Remove the thermostat box cover by loosening two screws one on each side by thermostat box.

(b) Disconnect all wire terminals from the thermostat and the "on-off" rocker switch.

(c) Loosen two screws on clamp holding the thermostat conduit.

(d) Raise the braising pan approximately 30 degrees from horizontal.

(e) Remove rigid end of "Thermostat Conduit Assembly" from underneath the pan weldment.

(f) Disconnect flexible end of assembly from junction box or control box.

(g) Pull out wires from flexible end.

(h) Reverse the procedure for reassembly of new "Thermostat Conduit Assembly." When reconnecting wire terminals to thermostat and to the on-off switch, check wiring diagram to determine that each numbered wire is connected to its correct terminal on the controls.

3. Lid Adjustment - (See Figure 6)

The counterbalanced lid may require adjustment of spring tension for correct counterbalance force. Proceed as follows:

(a) Lower the braising pan and close the lid. There are two spring assemblies to be adjusted. Approach the rear side of the unit.

(b) Loosen the 1/4" set screw located on spring tension lever located on the inner side of lid spring.

(d) Clamp the spring tension lever tightly in an open ended adjustable wrench (8" size)

(e) Loosen the other two 1/4" set screws on the spring tension lever.

CAUTION: Hold adjustable wrench tightly during this procedure and until the set screws are tightened on step (g).

(f) Rotate the spring tension lever toward the front of unit to tighten the spring 1/8 turn maximum. When attempting to rotate the spring tension lever, it may become necessary to hold the lever from the opposite end and release the original hold. In order to do this, use a second open ended adjustable wrench (8" size) to hold tightly the spring tension lever at opposite end. Then release the first adjustable wrench.

(g) After readjusting spring tension, retighten all three 1/4" set screws, and the 1/4" hexagonal head bolt on spring mandrel.

(h) Repeat steps (b) through (g) for adjustment of spring tension at opposite end.

(i) If the springs are already tightened to the extent that further adjustment distorts the spring, then replace the spring. It is recommended that both springs be replaced as a set.

4. Manual Lift (See Figure 7)

(a) The gear reducer oil must be replaced after first year of operation and every two years after that. The procedure is as follows:

1. Locate the gear reducer. It is mounted behind the right door and underneath the table top.

2. Unscrew drain plug on the bottom of the reducer and drain all oil.

3. Close the drain hole by tightening the drain plug in place.

4. Open fill plug located on top of the gear reducer.

5. Fill with SAE 40 weight oil of "Gear Lube" quality approximately 1 pint.

6. Close the fill hole by tightening the fill plug in place.

(b) Once a year, check tension and tightness of the lifting system roller chains. Depending upon the location of slack, one or both roller chain assemblies may require adjustment. The procedure is as follows:

FIG. 4 LIFTING SYSTEM SERVICE

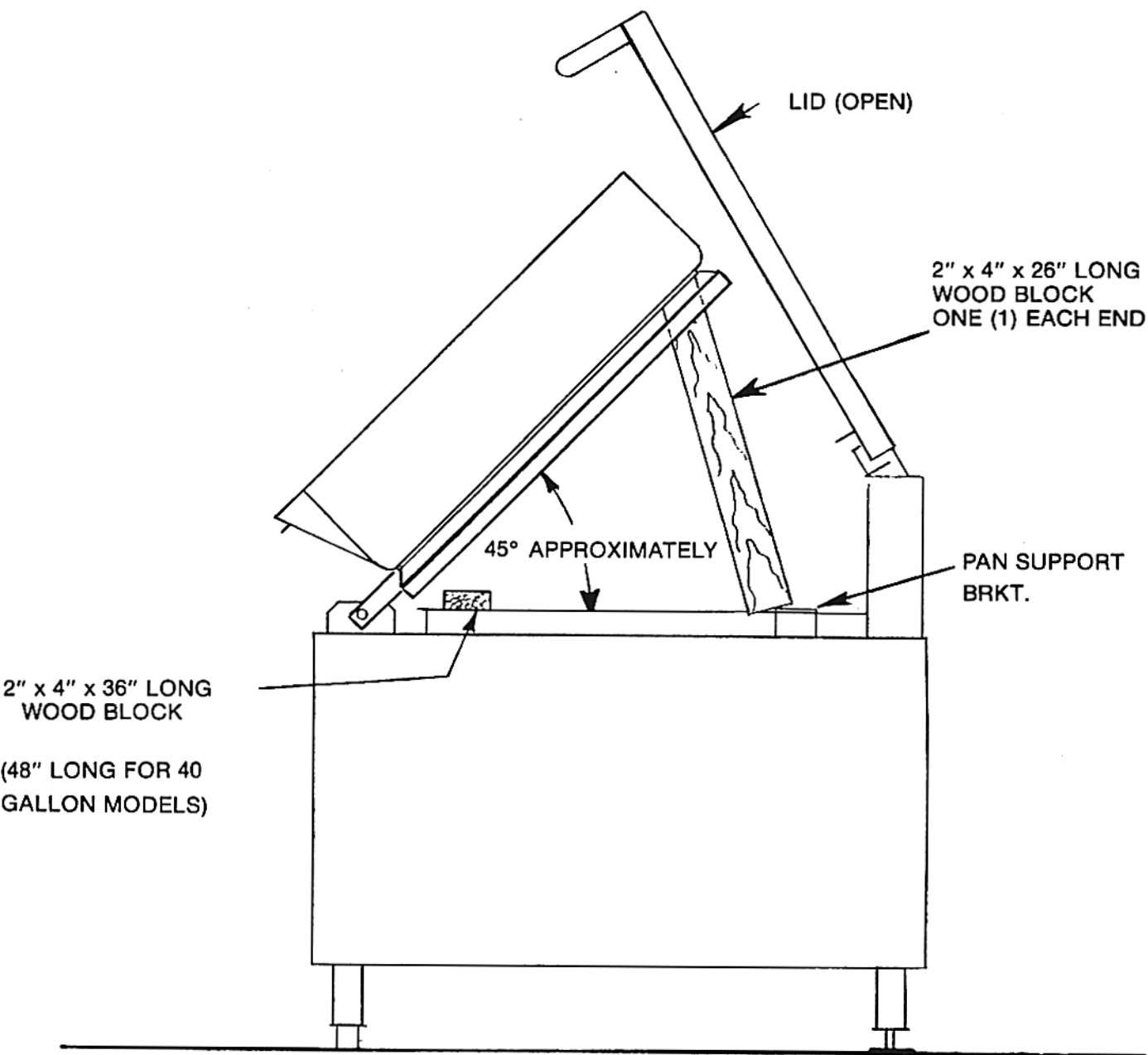


FIGURE 4
METHOD OF SUPPORTING BRAISING
PAN WHEN SERVICING LIFTING SYSTEM

CAUTION: Do not disassemble any parts of the lift system unless the braising pan is supported with two, 26 inch long wood blocks and one 36 inch long wood block (48" for 40 gallon models) (2" x 4" wide as shown on Figure 4). See Items D.4.b (1) and D.4.b (2) for detail procedure.

D. SERVICE (Continued)

1. Raise or lift the braising pan approximately 45° from horizontal.

CAUTION:

Before disconnecting "pan lift pin" (Item 18 Figure 7), block the braising pan with two 26 inch long wood blocks (2" x 4" wide); and one 36 inch long wood block (48 inches long for 40 gallon models) (2" x 4" wide) as shown on Fig. 4. Use two 26 inch long blocks, one on each end.

3. Loosen ¼ inch set screw on "pan lift plate" (Item 35, Figure 7).

4. Remove "pan lift pin" (Item 18, Figure 7)

5. Loosen hex nut (Item 36, Figure7).

6. Turn square headed take-up screw (Item 8, Figure 7) to move take-up bracket and tighten or alscken the roller chain as required.

7. Holding the square headed screw (Item 8, Figure 7), tighten hex nut (Item 29, Figure 7).

8. Loosen the hex lock nut (Item 37, Figure 7).

9. Rotate turn buckle (Item 29, Figure 7) to tighten or slacken the roller chain as required.

10. Tighten the hex lock nut (Item 37, Figure 7) against turn buckle threads (Item 29, Figure 7).

(c) Other parts of the lift system that show signs of wear should be replaced.

CAUTION: Do not disassemble any parts of the lift system unless the braising pan is supported with two 26 inch long wood blocks and one 36" long wood block (48" long for 40 gallon models) (2" x 4" wide) as shown on Figure 4. See Items D.4.b. (1) and D.4.b (2) above for detail procedure.

Refer to Figure 7 for ordering parts and for reassembling the lift system.

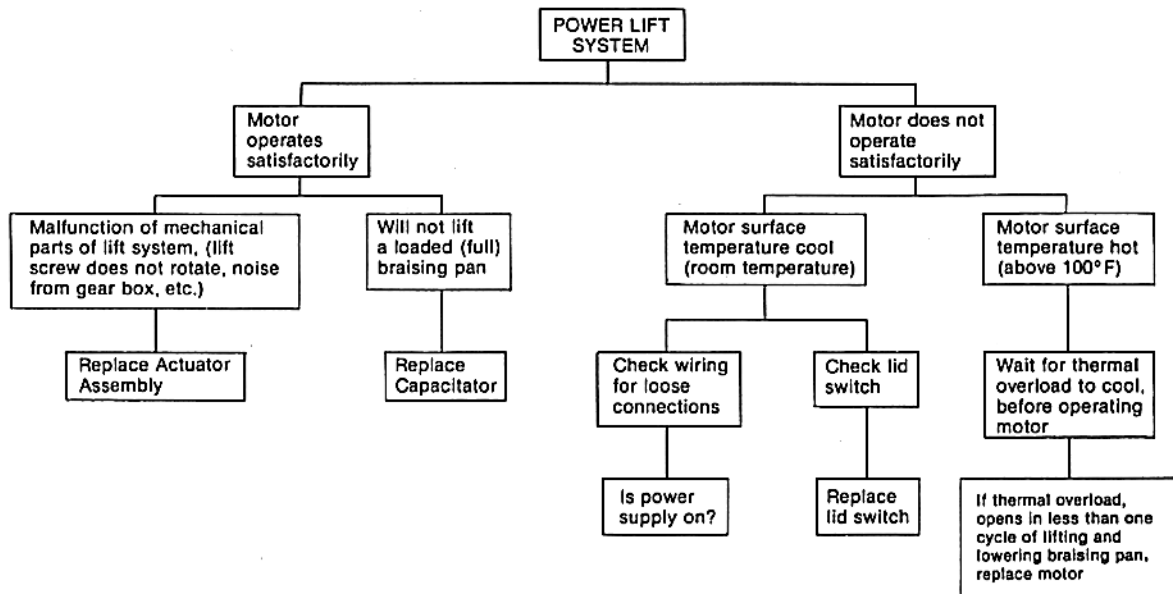
5. Optional Automatic Power Lift: (See Figure 8)

All subsystems of Automatic Power Lift Assembly are lubricated for life; and do not require periodic service. Refer to Figure 8 for ordering parts and for reassembling the lift system.

CAUTION: Do not disassemble any parts of the lift system unless the braising pan is supported with two 26 inch long wood blocks and one 36" long wood block (48" long for 40 gallon models) (2" x 4" wide) as shown on Figure 4. See Items D.4.b. (1) and D.4.b. (2) above for detail procedure.

Refer to Figure 8 for ordering parts and for reassembling the lift system.

To service Automatic Power Lift System, proceed as follows:



D. SERVICE (Continued)

6. Interlock Switch Adjustment:

The interlock switch is located approximately 14" below the braising pan on the left rear corner of the unit. This switch shuts off the heat (gas or electric) when the braising pan is raised. The angular lift position of the braising pan at which the heat source is shut off, can be adjusted by lowering or raising the interlock switch. Proceed as follows:

- (a) Remove left side panel.
- (b) Loosen the two screws mounting the interlock switch to the frame.
- (c) Raising the micro switch (maximum - $\frac{1}{8}$ ") will keep the heat source "on" when braising pan is raised 5° from the horizontal. Lowering the micro switch will shut off the heat source at a lower position.
- (d) Retighten mounting screws and remount side panel.

7. Solid State Temperature Control (Optional)

The braising pan is equipped with a solid state temperature control board, a thermistor sensor and a remote set point (set) potentiometer (pot).

(a) Thermistor Sensor: Attached to the lower surface of the clad plate by means of a spring loaded bayonet type fitting. The wires from the sensor to the temperature control board are protected by means of a stainless steel flexible conduit. To remove the sensor:

- (1) Raise the braising pan. (2) Remove element cover on electrically heated units. (3) Grasp the lower end of the sensor (just above the flexible conduit). (4) Twist 90° to disengage the bayonet. (5) Pull out thermistor sensing bulb.

(b) Temperature Control Board: The solid state board is mounted inside a control box which is located behind the left door and underneath the top panel. To open the box, remove two screws on the back of the box and slowly open the hinged back panel. Different wire leads to the board are attached to quick-disconnect terminals on the board. Each quick-disconnect terminal has a number adjacent to it. The number designation is as follows:

Nos. 1 & 2—Thermistor Sensor Wire Leads

Nos. 3, 4, & 5—Wire Leads From Remote Set Pot (see sketch)

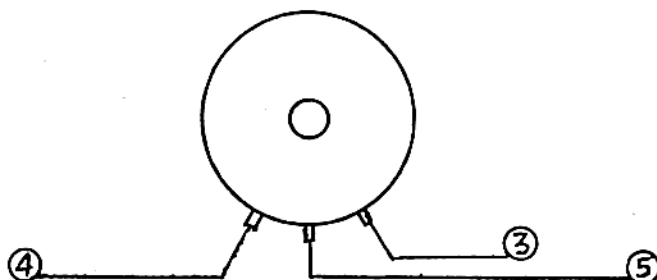
Nos. 8 & 9—120 Volt A.C. Power Supply

No. 10—Normally Open (N.O.) Contact of Output Relay

No. 11—Normally Closed (N.C.) Contact of Output Relay

No. 12—Common (C) Contact of Output Relay

(c) Remote Set Pot: This is mounted on the front of the same control box in which the solid state board is mounted. To remove, firmly grasp the control knob on front of the box and pull to remove. Remove center nut to dismount the pot. The pot is wired to the temperature control board as shown in sketch below.



VIEW LOOKING AT THE REMOTE SET POTENTIOMETER FROM FRONT

The three wires to the remote set pot must be soldered to the pot terminals. The numbers on sketch above designate the marked number of quick-disconnect terminals on the solid state board to which that wire should be connected.

(d) Trouble Shooting Procedure: To determine which of the three components need to be replaced, follow the procedure outlines as follows:

TROUBLE SHOOTING

| TROUBLE | TEST | RESULT | ACTION |
|---|--|--|--|
| (A) Solid State temperatue control board remains "OFF" over entire setpoint adjustment range | 1 Check power input at terminals 8 and 9. Must be 120 volt AC | Input voltage 144 volt or more | Possible damage - replace unit after correcting voltage |
| | | Input voltage 96 volt or less | Correct input voltage |
| | | Correct input voltage. | Go to next step. |
| | 2 Check for proper wiring of all external components to the control board (thermistor sensor, setpoint pot, etc.) | Incorrect Wiring | Correct wiring as required. |
| | | All wiring correct. | Go to next step. |
| | 3 Check for loose or oxidized connections. Disconnect and reconnect all quick-connect terminals | Still inoperative. | Go to next step. |
| | Check thermistor sensor resistance by disconnecting sensor from control board and measuring the total loop resistance of the thermistor sensor and lead wire | Resistance less than 400 ohms at room temperature. | Check for shorted leads or damaged sensor replace as required. |
| | | Resistance greater than 600K ohms at room temperature. | Check for damaged sensor or sensor leads. Replace as required. |
| | | Resistance between 400 and 600K ohms | Go to next step. |

TROUBLE SHOOTING (Continued)

| TROUBLE | TEST | RESULT | ACTION |
|--|---|--|---|
| (A) Continued | 5 Check setpoint potentiometer resistance by disconnecting pot from controller and measuring the resistance between leads marked (3) and (4) on sketch under (c) above. | Incorrect resistance or open element Correct resistance. 950 to 1050 Ohms | Replace pot Go to next step. |
| | 6 Check setpoint potentiometer adjustability. With the ohmmeter connected between leads marked (3) and (5) on sketch under (c) on page 12 (above), a steady linear change in resistance should occur as the pot shaft is rotated from one extreme to the other. | No resistance change or intermittent contact noted | Replace pot |
| changes smoothly | | Replace Controller. | |
| (B) Solid State Temperature Control board remains "ON" over entire setpoint range | 1 Disconnect one thermistor sensor lead. | Unit remains "ON" | Replace controller |
| | | Unit turns "OFF" | Go to next step. |
| | 2 Perform test steps 2,3,5, &6 under Trouble (A) | Trouble not corrected. | Replace controller |
| (C) Solid State Temperature Control Chatters | 1 Check for low input voltage. | Input voltage 96 Volt or less | Boost voltage as required. |
| | | Correct input voltage | Go to next step. |
| | 2 Check for interference - separate thermistor sensor lead wires and remove setpoint pot lead wires from all power and high level signal wires. | Chattering stops. | Reroute, twist, and/or shield the pot and sensor leads as required. |
| | | Still chatters | Replace controller |

TROUBLE SHOOTING (Continued)

| TROUBLE | TEST | RESULT | ACTION |
|---|--|--|--|
| (D) Cannot reach minimum desired setpoint temperature. | 1 Perform tests 2, 5 & 6 under Trouble (A) | No discrepancies found. | Replace controller |
| (E) Cannot reach maximum desired setpoint temperature. | 1 Perform tests 2 thru 6 under Trouble (A). | No discrepancies found | Go to next step. |
| | 2 Check thermistor sensor circuit for OPEN or SHORT CONDITION at or above maximum desired temperature. NOTE: Disconnect controller and measure entire sensor loop resistance including lead wires. | Resistance suddenly increases above or decreases below the normal value as the desired temp is approached. | Check sensor circuit for faulty wiring or connections (especially crimp or pressure connections) Correct or replace faulty component and recalibrate controller |
| | | Resistance correct | Replace controller |

E. REPLACEMENT PARTS LIST

1. Cabinet Parts (See Figure 5A and 5B)

Size of Braising Pan

| Item | Size of Braising Pan | | | Description | Qty. Per Unit |
|------|-----------------------|-----------------------|-----------------------|--|------------------|
| | 23 Gallon Part No. | 30 Gallon Part No. | 40 Gallon Part No. | | |
| 1 | 81536 | 81536 | 81536 | Side Panel | 2 |
| 2 | 81537-11 | 81537-11 | 40326-11 | Rear Panel (Closed Base) Aluminized Steel | 1 |
| 3 | 81537-12 | 81537-12 | 40326-12 | Rear Panel (Closed Base) Stainless Steel | 1 |
| 4 | 40437-001 | 40437-001 | 40344-001 | Left Door Assembly (Closed Base) | 1 |
| 5 | 40191-001 | 40191-001 | 40347-001 | Right Door Assembly (Closed Base) | 1 |
| 6 | 42032-11 | 40232-11 | 40232-11 | Hinge Assembly, Right Door | 1 |
| 7 | 42032-12 | 42032-12 | 42032-12 | Hinge Assembly, Left Door | 1 |
| 8 | 81751 | 81751 | 81751 | Magnet Latch Bracket (Not Shown on Photo) | 2 or 3 |
| 9 | 81761 | 81761 | 81761 | Door Magnet (Not Shown on Photo) | 2 or 3 |
| 10 | 81525 | 81525 | 81525 | Leg, 6" High Bullet Foot | 2 |
| 11 | 81526 | 81526 | 81526 | Leg, 6" High, Flanged Foot | 2 |
| 12 | 40285 | 40285 | 40285 | Panel, Inner Side (Open Base) | 2 |
| 14 | 40200-11 | 40200-11 | 40200-11 | Rear Panel (Open Base) Aluminized Steel | 2 |
| 15 | 40200-12 | 40200-12 | 40403-12 | Rear Panel (Open Base) Stainless Steel | 2 |
| 16 | 40385-001 | 40385-001 | 40409-001 | Left Door Assembly (Open Base) | 1 |
| 17 | 40382-001 | 40382-001 | 40404-001 | Right Door Assembly (Open Base) | 1 |
| 18 | 40381-001 | 40381-001 | 40381-001 | Center Door Assembly (Open Base) | 1 |
| 19 | 40149-001 | 40264-001 | 40332-001 | Shroud Assembly, Gas Heat Units | 1 |
| 20 | 40027 | 40266 | 40334 | Shroud, Electric Heat Units | 1 |
| 23 | 40037-001 | 4037-001 | 40037-001 | Pan Bearing Assembly (Right Hand) (Not Shown on Photo) | 1 |
| 24 | 40037-002 | 40037-002 | 40037-002 | Pan Bearing Assembly (Left Hand) (Not Shown on Phot) | 1 |
| 25 | 40291-001 | 40291-001 | 40375-001 | Pan Rack Assembly (Stationary) | 1 |

E. REPLACEMENT PARTS LIST (Continued)

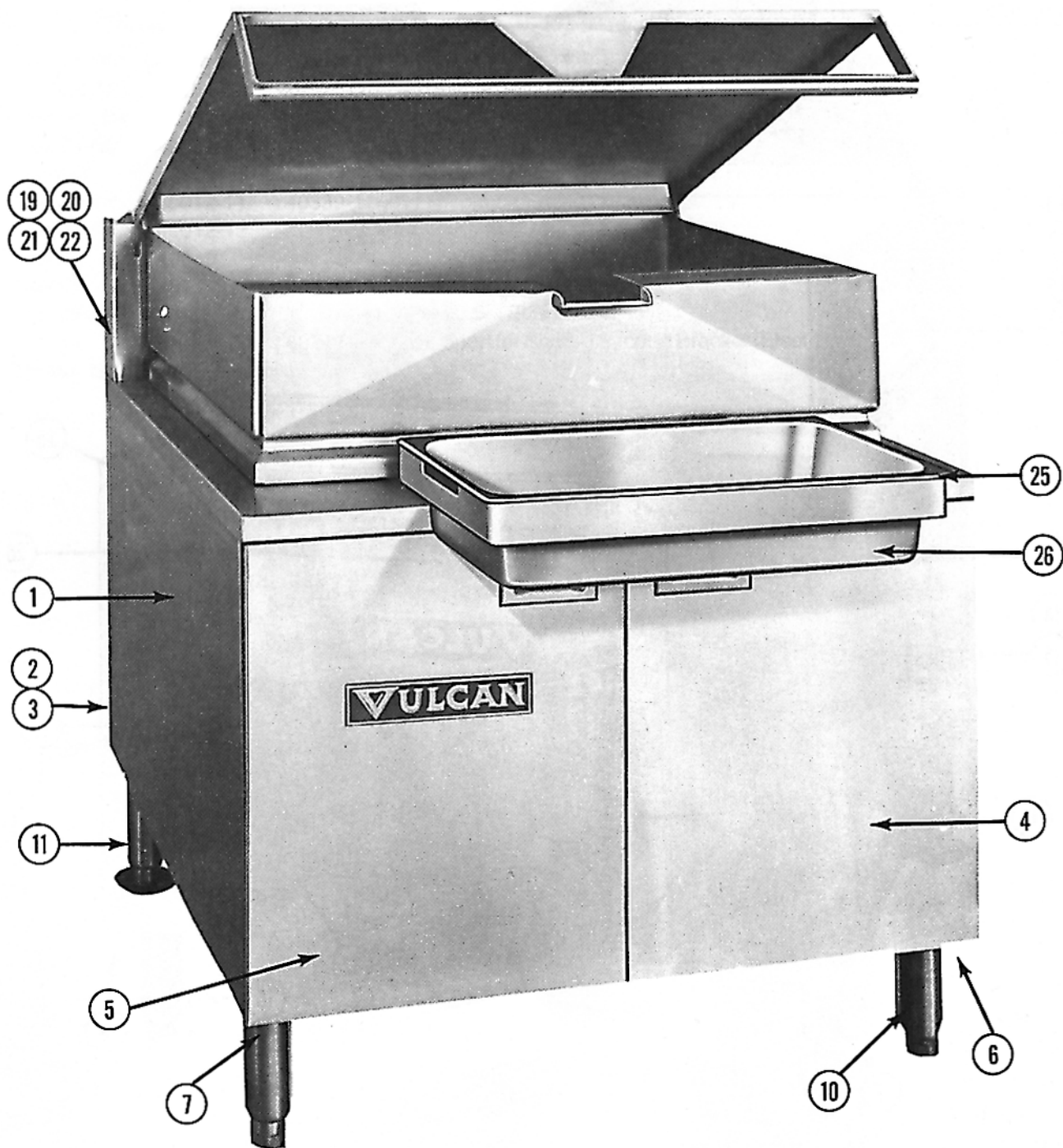


FIGURE 5A (CLOSED BASE)

E. REPLACEMENT PARTS LIST (Continued)

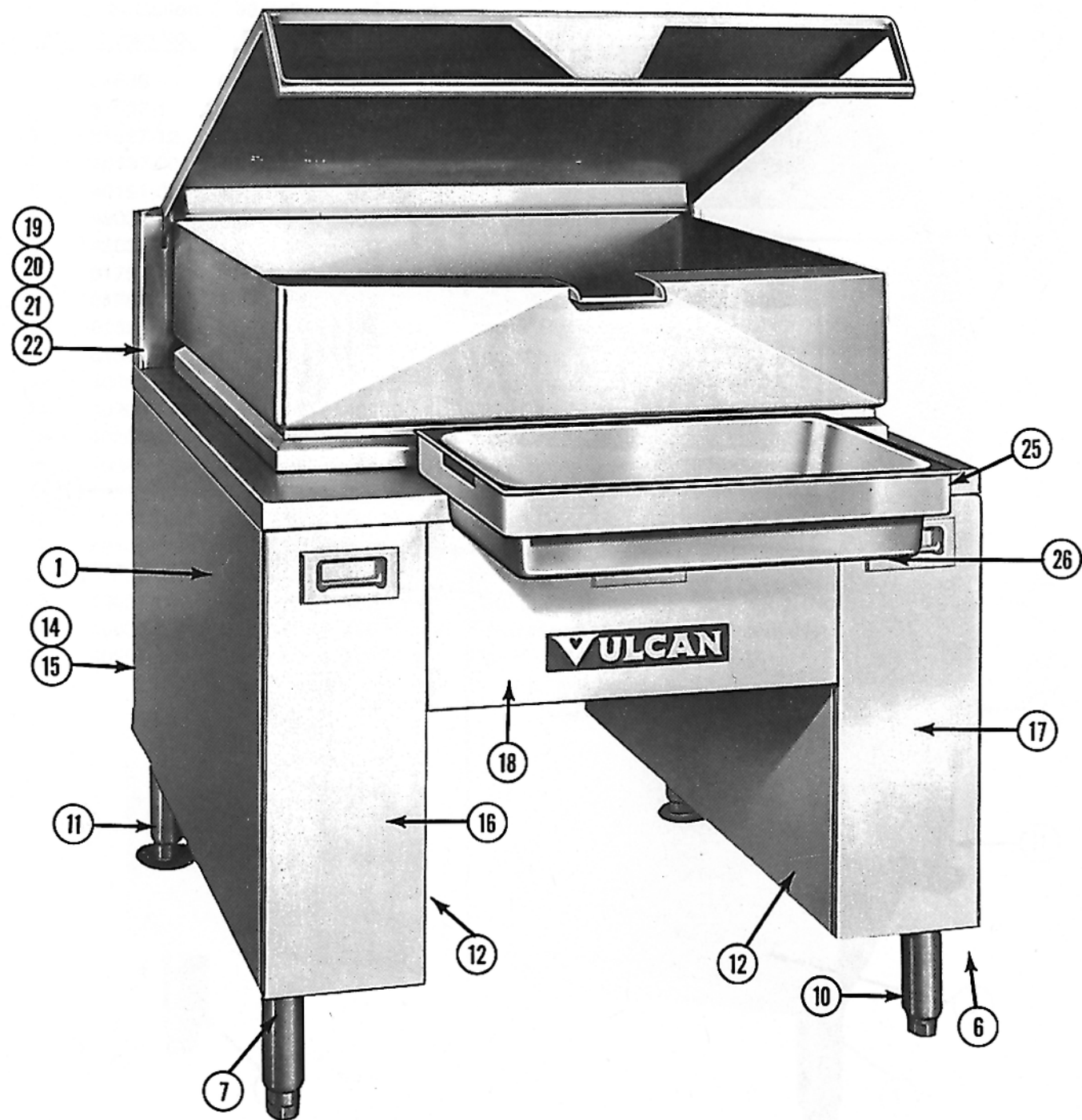


FIGURE 5B (OPEN BASE)

E. REPLACEMENT PARTS LIST (Continued)

2. Lid Parts (See Figure 6)

Size of Braising Pan

| Item | Size of Braising Pan | | | Description | Qty. Per Unit |
|------|----------------------|--------------------|--------------------|---|---------------|
| | 23 Gallon Part No. | 30 Gallon Part No. | 40 Gallon Part No. | | |
| 1 | 40151-001 | 40151-001 | 40350-001 | Lid Assy. (Units with stationary pan support-standard) | 1 |
| 1 | 40428-001 | 40151-001 | 40350-001 | Lid Assy. (Units with articulated pan support-option) | 1 |
| 2 | 40021-001 | 40261-001 | 40261-001 | Lid Support Assembly - Right Hand | 1 |
| 3 | 40021-002 | 40261-002 | 40261-002 | Lid Support Assembly - Left Hand | 1 |
| 6 | 40022 | 40263 | 40263 | Shroud Support Bracket (Electric Heat Only) | 1 |
| 8 | 40012-11 | 40012-11 | 40339-11 | Lid Torsion Spring - Right Hand | 1 |
| 9 | 40012-12 | 40012-12 | 40339-12 | Lid Torsion Spring - Left Hand | 1 |
| 10 | 40013 | 40013 | 40013 | Spring Tension Lever | 2 |
| 11 | 40014 | 40014 | 400340 | Lid Spring Mandrel | 2 |
| 12 | 10-30-041 | 10-30-041 | 10-30-041 | 1/4-20 Set Screw | 6 |
| 13 | — | — | 40247 | Support for Shroud Support Bracket (Electric Heat Only) | 1 |

(Not Shown on Photo)

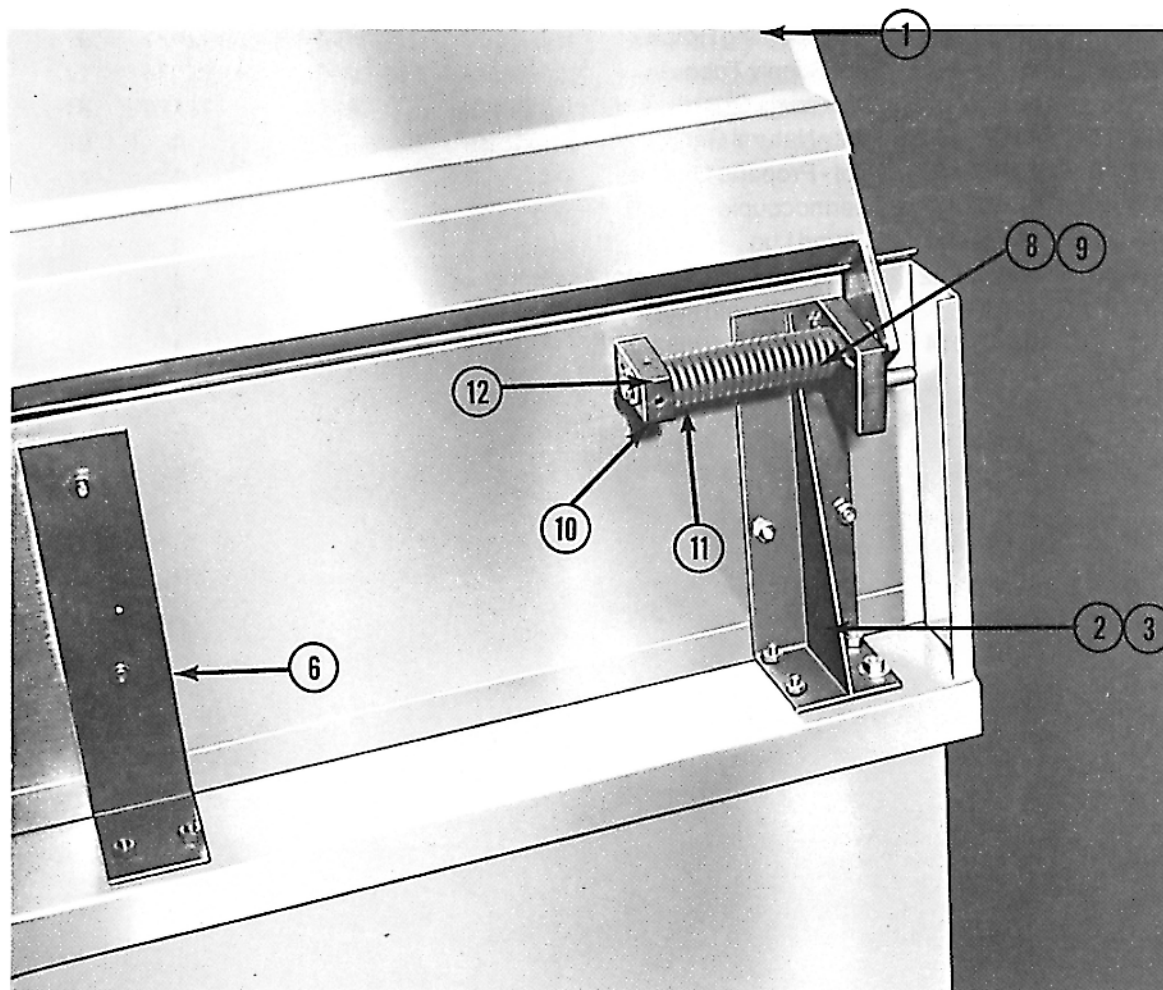


FIGURE 6 LID PARTS

E. REPLACEMENT PARTS LIST (Continued)

3. Gas Heat Parts

Size of Braising Pan

| Item | Size of Braising Pan | | | Description | Qty. Per Unit |
|------|-----------------------|-----------------------|-----------------------|---|------------------|
| | 23 Gallon Part No. | 30 Gallon Part No. | 40 Gallon Part No. | | |
| 1 | 40105-001 | 40105-001 | 40315-001 | Flue Duct Assembly | 1 |
| 2 | 40103 | 40103 | 40317 | Flue Duct Rear | 1 |
| 3 | 40145 | 40145 | 40353 | Secondary Air Baffle | 1 |
| 4 | 40009 | 40009 | 40410 | Heat Shield - Closed Frame Units | 1 |
| 5 | 40283 | 40283 | 40413 | Heat Shield - Open Frame Units | 1 |
| 6 | 40144 | 40144 | 40144 | Burner & Air Shutter Assembly | 3 or 4 |
| 7 | 40096-11 | 40096-11 | 40096-11 | Burner Fitting With Hood - Natural Gas | 3 or 4 |
| 8 | 40096-12 | 40096-12 | 40096-12 | Burner Fitting With Hood - Propane Gas | 3 or 4 |
| 9 | 40343-001 | 40343-001 | 40343-001 | Combination Gas Valve - Natural Gas | 1 |
| 10 | 40343-002 | 40343-002 | 40343-002 | Combination Gas Valve - Propane Gas | 1 |
| 11 | 40098 | 40098 | 40308 | Gas Manifold | 1 |
| 12 | 40095-001 | 40095-001 | 40309-001 | Runner Burner Weldment | 1 |
| 13 | 20186-14 | 20186-14 | 20186-14 | Runner Burner Orifice Fitting - Natural Gas | 1 |
| 14 | 20186-12 | 20186-12 | 20186-12 | Runner Burner Orifice Fitting - Propane Gas | 1 |
| 15 | 40099 | 40099 | 40099 | Runner Burner Supply Tube | 1 |
| 16 | 40125 | 40125 | 40125 | Pilot Mounting Bracket | 1 |
| 17 | 40128 | 40128 | 40128 | Pilot Supply Tube | 1 |
| 18 | 40176 | 40176 | 40176 | Pilot Flame Guard | 1 |
| 19 | 40127-11 | 40127-11 | 40127-11 | Pilot - Natural Gas | 1 |
| 20 | 40127-12 | 40127-12 | 40127-12 | Pilot - Propane Gas | 1 |
| 21 | 20040 | 20040 | 80828 | Thermocouple | 1 |
| 22 | 15-03-001 | 15-03-001 | 15-03-001 | Ground Lug | 1 |
| 23 | 40032-001 | 40032-001 | 40032-002 | Interlock Switch Actuator Assembly | 1 |
| 24 | 97487 | 97487 | 40430 | Interlock Switch (Microswitch) | 1 |
| 25 | - | - | 10-42-014 | Cotte Pin (For 40032-002) | 1 |
| 26 | - | - | 40313 | Support - Flue Collector | 1 |

E. REPLACEMENT PARTS LIST (Continued)

4. Electric Heat Parts

Size of Braising Pan

| Item | Size of Braising Pan | | | Description | Qty. Per Unit |
|------|-----------------------|-----------------------|-----------------------|---------------------------------------|------------------|
| | 23 Gallon Part No. | 30 Gallon Part No. | 40 Gallon Part No. | | |
| 1 | 40033-11 | 40033-11 | 40033-11 | Electric Heating Element 240/208 Volt | 3 or 4 |
| 2 | 40033-12 | 40033-12 | 40033-12 | Electric Heating Element—480/440 Volt | 3 or 4 |
| 3 | 6688 | 6688 | 6688 | Element Clamp | 51 or 68 |
| 4 | 10-24-001 | 10-24-001 | 10-24-001 | Flanged Hex Locknut, 1/8" - 20 | 20 or 245 |
| 5 | 10-24-003 | 10-24-003 | 10-24-003 | Flanged Hex Locknut, 5/16" - 18 | 45 or 60 |
| 6 | 40090 | 40090 | 40329 | Element Insulation | 1 |
| 7 | 40091 | 40091 | 40337 | Wire Channel | 1 |
| 8 | 40092 | 40092 | 40314 | Element Cover | 1 |
| 9 | 40205 | 40205 | 40205 | 3/4" Flexible Conduit | 1 |
| 10 | 40206 | 40206 | 40206 | 90° Connector (For 40205) | 1 |
| 11 | 40207 | 40207 | 40207 | Straight Connector (For 40205) | 1 |
| 12 | 40203 | 40203 | 40203 | Wire Clamp | 3 |
| 13 | 5726 | 5726 | 5726 | Terminal Block | 1 |
| 14 | 40115 | 40115 | 40115 | Magnetic Contactor | 2 or 3 |
| 15 | 15-03-003 | 15-03-003 | 15-03-003 | Ground Lug - 70 Amp. | 1 |
| 16 | 15-03-001 | 15-03-001 | 15-03-001 | Ground Lug - 35 Amp. | 1 |
| 17 | 40032-001 | 40032-001 | 40032-002 | Interlock Switch Actuator Assembly | 1 |
| 18 | 97487 | 97487 | 40430 | Interlock Switch (Microswitch) | 1 |
| 19 | - | - | 10-42-014 | Cotter Pin (For 40032-002) | 1 |

E. REPLACEMENT PARTS LIST (Continued)

5. Thermostat Temperature Control Parts (See Item C.11 of this manual)

| Item | Part No. | Description | Quantity Per Unit |
|------|-----------|---|-------------------------|
| 1 | 40178 | Thermostat Box | 1 |
| 2 | 40182 | Thermostat Box Mounting Bracket | 1 |
| 3 | 40111-001 | Thermostat Box Cover | 1 |
| 4 | 40068-001 | Thermostat Conduit Assembly (Flexible) | 1 |
| 5 | 40041-001 | Thermostat Conduit Clamp Assembly | 1 |
| 6 | 40076 | 3/8" Straight Connector for Flexible Conduit (Gas Heat Units) | 1 |
| 7 | 40228 | 3/8", 90° Connector for Flexible Conduit (Electric Heat Units) | 1 |
| 8 | 6683 | Thermostat Capillary Clamp | 1 |
| 9 | 40259-001 | Timer Box | 1 |
| 10 | 81579 | On-Off Switch | 1 |
| 11 | 80108 | Manual Times | 1 |
| 12 | 10071 | Thermostat | 1 |
| 13 | 40192 | Thermostat Knob | 1 |
| 14 | 10079 | Thermostat Bulb Insulation | 1 |
| 15 | 10039 | Thermostat Bulb Clamp | 1 |

6. Solid State Temperature Control Parts (Option)

| Item | Part No. | Description | Quantity Per Unit |
|------|-----------|--|-------------------------|
| 1 | 40417-001 | Control Box Assembly (Solid State) (See item 11 below) | 1 |
| 2 | 40130 | Control Box Back (Solid State) | 1 |
| 3 | 81809 | Hinge (Solid State Control Box) | 2 |
| 4 | 81579 | Switch (On/Off) | 1 |
| 5 | 10123 | Solid State Controller | 1 |
| 6 | 10124 | Remote Set Pot (Purchase as a set with Item #6) | 1 |
| 7 | 10125 | Thermistor Probe | 1 |
| 8 | 8230 | Baynot Fitting (for mounting thermistor probe) | 1 |
| 9 | 10142 | Solid State Control Dial | 1 |
| 10 | 10070-11 | Control Knob (Solid State) | 1 |
| 11 | 40417-002 | Control Box Assembly (Unit with Solid State Temperature Control and Electric Timer Option). | 1 |
| 12 | 40227 | Cover Plate (On Braising Pan) | 1 |
| 13 | 2100500 | Holding Clip | 4 |

E. REPLACEMENT PARTS LIST (Continued)

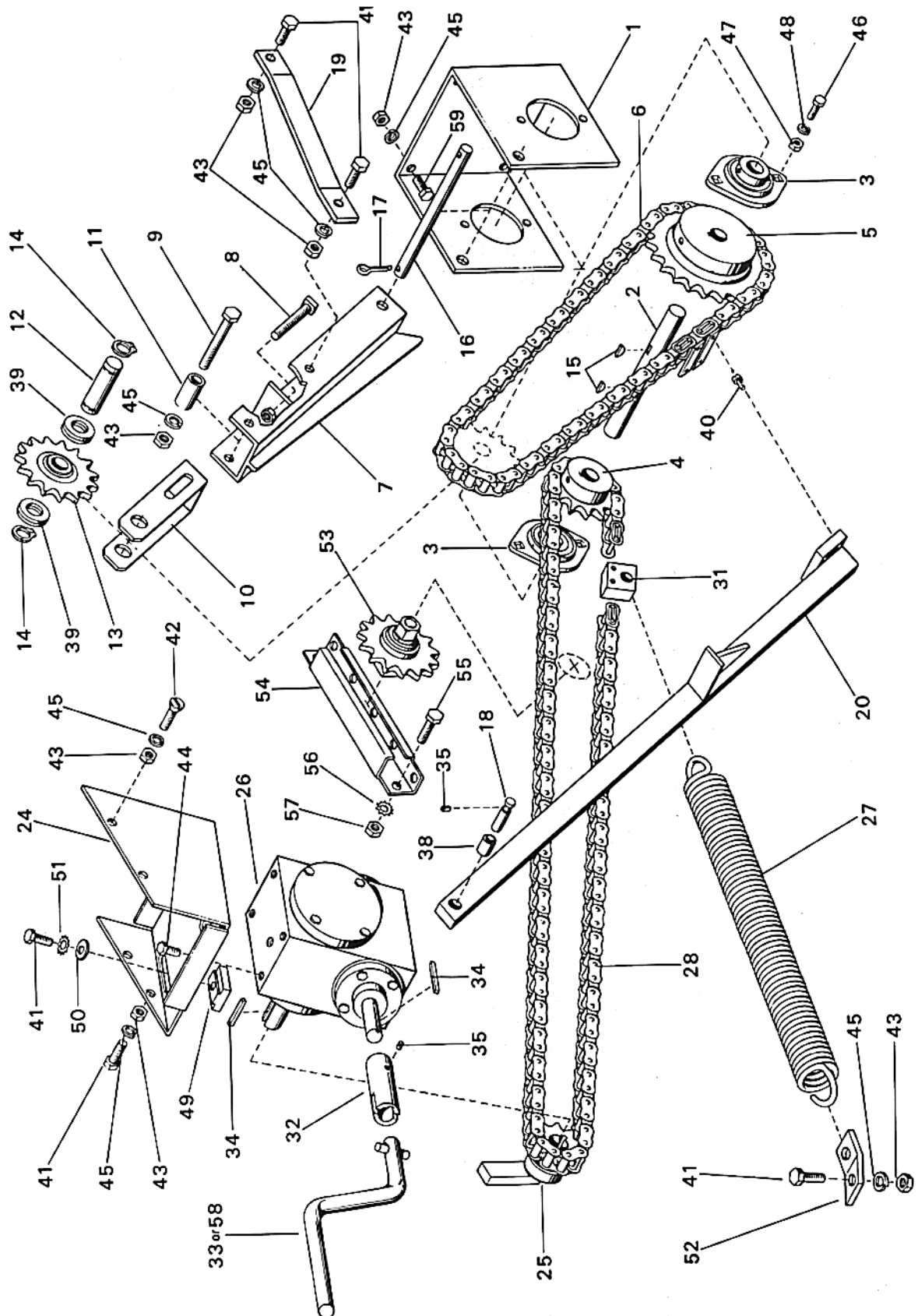


FIGURE 7 MANUAL LIFT SYSTEM

E. REPLACEMENT PARTS LIST (Continued)

7. Manual Lift Parts (See Figure 7)

CAUTION: Do not disassemble any parts of the lift system unless the braising pan is supported with two, 26 inch long wood blocks and one 36" long wood block (48" long for 40 gallon models) (2" x 4" wide) as shown on Figure 4. See Items D.4.b (1) and D.4.b (2) for detail procedure.

| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|---|------------------|
| 1 | 2102300 | Support Bracket - Manual Lift (Includes Motor And Capacitor) | 1 |
| 2 | 40061 | Driver Sprocket Shaft | 1 |
| 3 | 40063 | Lower Bearing | 2 |
| 4 | 40134 | Reducer Sprocket - Driven (13 Teeth) | 1 |
| 5 | 40060 | Left Sprocket - Driver (24 Teeth) | 1 |
| 6 | 40065-001 | Roller Chain Assembly (62 Links) | 1 |
| 7 | 2102200 | Support Weldment | 1 |
| 8 | 10-32-002 | Square Head Set Screw, 2" Long | 1 |
| 9 | 10-01-190 | Hex Head Machine Screw, 2 $\frac{3}{4}$ " Long | 1 |
| 10 | 40432-001 | Take Up Assembly | 1 |
| 11 | 40053 | Take Up Spacer | 1 |
| 12 | 40049 | Driven Sprocket Shaft | 1 |
| 13 | 40046 | Lift Sprocket - Driven (15 Teeht) | 1 |
| 14 | 40050 | Take-up Retaining Ring | 2 |
| 15 | 10-50-010 | Woodruff Key # 606 | 2 |
| 16 | 2102500 | Support Bar | 1 |
| 17 | 10-42-044 | Cotter Pin | 2 |
| 18 | 40045 | Pan Lift Pin | 2 |
| 19 | 40058 | Tie Bar | 1 |
| 20 | 40210-001 | Lift Asist Bar Assembly | 2 |
| 24 | 40074 | Reducer Support Bracket | 1 |
| 25 | 2101900 | Sprocket Stop Assembly | 1 |
| 26 | 40075 | Gear Reducer | 1 |
| 27 | 40064 | Extension Spring | 1 |
| 28 | 2100100 | Roller Chain Assembly | 1 |
| 31 | 40177 | Spring Connector | 1 |
| 32 | 40141 | Reducer Coupling (Handle) | 1 |
| 33 | 40140-001 | Crank Handle Assembly (Models G-40 or E-40 only) | 1 |
| 34 | 10-48-005 | Square Key (40141) & (40059) | |
| 35 | 10-30-041 | $\frac{1}{4}$ " -20 x $\frac{1}{4}$ " Lg., Set Scrw (400945 & 40141) | 2 |
| 38 | 40279 | Bearing Lift Assist Bar | 1 |
| 39 | 40051 | Driven Sprocket Spacer | 4 |
| 40 | 10-11-047 | #24 x $\frac{3}{8}$ " Lg. Cap Screw (40070) | 4 |
| 41 | 10-01-178 | $\frac{3}{8}$ -16 Hex Hd. Machine Screw, $\frac{7}{8}$ " Lg. | 5 |
| 42 | 10-07-178 | $\frac{3}{8}$ -16 Flat Hd. Machine Screw, $\frac{7}{8}$ " Lg. | 2 |
| 43 | 10-21-030 | $\frac{3}{8}$ -16 Hex Nut | 11 |
| 44 | 10-02-175 | $\frac{3}{8}$ -16 Stainless Stl. Hex Hd. Machine Screw, $\frac{1}{2}$ " Lg. | 4 |
| 45 | 10-26-048 | $\frac{3}{8}$ " Lockwasher | 11 |
| 46 | 10-01-081 | $\frac{1}{4}$ -20 Hex Hd. Machine Screw, $\frac{3}{4}$ " Lg. | 4 |
| 47 | 10-21-026 | $\frac{1}{4}$ -20 Hex Nut | 4 |
| 48 | 10-26-046 | $\frac{1}{4}$ " Lockwasher | 4 |
| 49 | 2100402 | Strike, Gear Reducer Stop | 1 |
| 50 | 10-26-008 | $\frac{3}{8}$ " Steel Flat Washer | 2 |
| 51 | 10-26-049 | $\frac{1}{2}$ " Steel External Shakeproof Washer | 1 |
| 52 | 2102600 | Retainer, Extension Spring | 1 |
| 53 | 2100200 | Chain Tightener Sprocket | 1 |

E. REPLACEMENT PARTS LIST (Continued)

| | | | |
|----|-----------|---|---|
| 54 | 2100300 | Chain Tightener Bracket | 1 |
| 55 | 10-02-127 | 5/16" -18 Stainless Steel Hex. Hd. Machine Screw, 7/8" | 1 |
| 56 | 10-27-047 | 5/16" -18 External Star Lock Washer | 2 |
| 57 | 10-22-028 | 5/16" External Star Lock Washer | 2 |
| 58 | 2102800 | 5/16" Crank Handle Assembly (Model G or E -23 o 30) | 1 |
| 59 | 10-01-177 | 3/8" -16 Hex. Hd. Machine Screw 8 3/4" Lg. | 4 |

8. Electric Timer Parts (Optional)

| Item | Part No. | Description | Unit |
|------|-----------|--|------|
| 1 | 40417-003 | Box Assembly (Electric Timer) (See item 7 bellow) | 1 |
| 2 | 40181 | Box Back (Electric Timer) | 1 |
| 3 | 40181 | Box Back (Electric Timer) | 1 |
| 4 | 81669-10 | Knob - Timer | 1 |
| 5 | 20631 | Push Button Switch | 1 |
| 6 | 80009 | Buzzer, Electric | 1 |
| 7 | 40417-002 | Box Assembly (Unit with Electric Timer and Solid State temperature Control Options) | 1 |

E. REPLACEMENT PARTS LIST (Continued)

9. Manual Lift Parts (See Figure 8)

CAUTION: Do not disassemble any parts of the lift system unless the braising pan is supported with two, 26 inch long wood blocks and one 36" long wood block (48" long for 40 gallon models) (2" x 4" wide) as shown on Figure 4. See Items D.4.b (1) and D.4.b (2) for detail procedure.

| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|--|---------------|
| 1 | 40078-001 | Power Lift Actuator Assembly (Includes Motor And Capacitor) | 1 |
| 2 | 40078-11 | Power Lift Actuator Motor | 1 |
| 3 | 40078-12 | Power Lift Actuator Capacitor | 1 |
| 4 | 40279 | Bearing (Bronze) | 1 |
| 5 | 40045 | Pan Lift Pin | 1 |
| 6 | 40086 | Actuator Pin | 1 |
| 7 | 40087 | Actuator Retaining Ring | 1 |
| 8 | 40100-001 | Actuator Mounting Assembly | 1 |
| 9 | 40083-001 | Actuator Support Assembly | 1 |
| 10 | 40114 | Power Lift Switch (UP/DN) | 1 |
| 11 | 60852 | Microswitch (lid) | 1 |
| 12 | 40193 | Lid Switch Bracket | 1 |
| 13 | 40195 | Lid Switch Sleeve (Fiberglass) | 1 |
| 14 | 40196 | Lid Switch Enclosure | 1 |
| 15 | 10-30-041 | 1/4-20 x 1/4" LongSet Screw (40045) | 1 |
| 16 | 2104200 | Capacitor Box Assembly | 1 |
| 18 | 40438 | Capacitor Hold Down Strap | 2 |
| 19 | 40439 | Capacitor Box Cover | 1 |

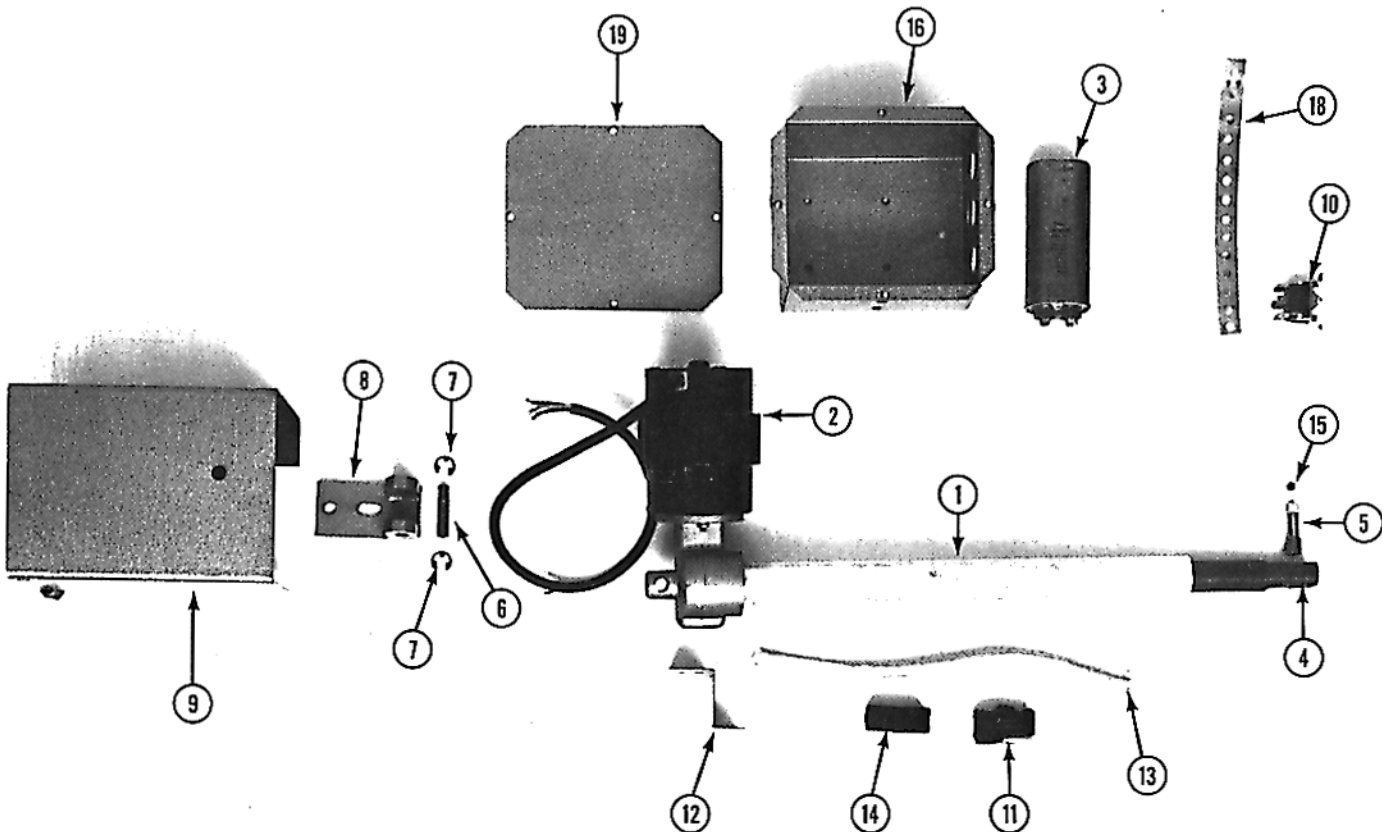


FIGURE 8 POWER LIFT PARTS

E. REPLACEMENT PARTS LIST (Continued)

10 Auxilliary Left System Parts (See Figure 9)

(This system not provided on 23 & 30 Gallon Models)

| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|--|---------------|
| 1 | 40363 | Assist Mounting Plate | 1 |
| 2 | 40100-001 | Actuator Mounting Assembly | 1 |
| 3 | 10-01-178 | 3/8-16 x 7/8" Long Hex Hd. Machine Screw | 5 |
| 4 | 10-21-030 | 3/8-16 Hex Nut | 5 |
| 5 | 40364-001 | Assist Tube Assembly | 1 |
| 6 | 40086 | Actuator Pin | 1 |
| 7 | 40087 | Actuator Retaining Ring | 2 |
| 8 | 40367-001 | Assist Lever Assembly | 1 |
| 9 | 40045 | Pan Lift Pin | 1 |
| 10 | 10-30-041 | 1/4-20 x 1/4" Lg., Socket Head Set Screw | 1 |
| 11 | 40368-11 | Spring - 10" Long | 1 |
| 12 | 40368-12 | Spring - 12" Long | 1 |

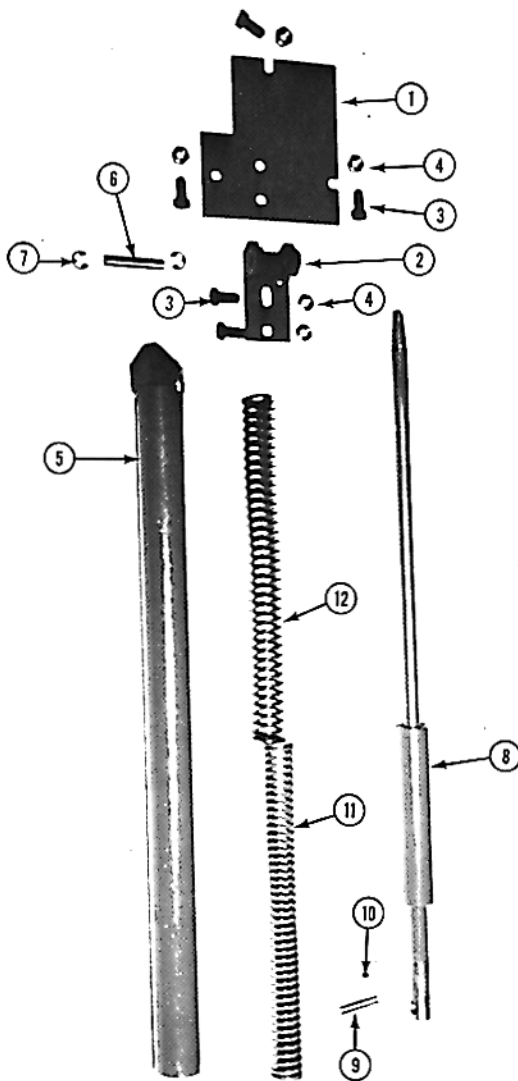


FIGURE 9 AUZILIARY LIFT SYSTEM PARTS

E. REPLACEMENT PARTS LIST (Continued)

11. Spray Hose With Faucet Parts (Option)

| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|---|---------------|
| 1 | 40203-001 | Spray Hose Assy. with Faucet | 1 |
| 2 | 11-87-004 | Spray Head With Flexible Stainless Steel Hose 72" Long | 2 |
| 3 | 11-87-003 | Hot/Cold Mixing Faucet | 1 |
| 4 | 40356 | Mounting Bracket-Faucet-23/30 Gallon, Closed Frame | 1 |
| 5 | 40378 | Mounting Bracket-Faucet-23/30 Gallon Open Frame | 1 |
| 6 | 40009 | Heat Shield (Used as storage pan for spray hose) -23/30 Gallon, Closed Frame, Electric Heat | 1 |
| 7 | 40402 | Mounting Bracket-Faucet-40 Gallon, Closed Frame | 1 |
| 8 | 40378 | Mounting Bracket-Faucet-40 Gallon, Open Frame | 1 |
| 9 | 40410 | Heat Shield (Used as storage pan for spray hose) -40 Gallon, Closed Frame, Electric Heat | 1 |

12. Articulated Pan Holder Parts (Option)

| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|--|---------------|
| 1 | 40212-001 | Top Pivot Weldment | 1 |
| 2 | 40215-001 | Pan Holding Frame Weldment | 1 |
| 3 | 40219-001 | Frame Fulcrum Bracket Weldment -23/30 Gallon Units | 1 |
| 4 | 40420-001 | Frame Fulcrum Bracket Weldment -40 Gallon Units | 1 |
| 5 | 40223 | Fulcrum Link | 1 |
| 6 | 40224 | Pivot Spacer | 4 |
| 7 | 40287 | Gasket | 1 |
| 8 | 10-22-070 | 3/8-16 Elastic Hex Nut | 4 |
| 9 | 10-22-124 | #10-24 Acorn Nut | 4 |

E. REPLACEMENT PARTS LIST (Continued)

13. Other Optional Parts

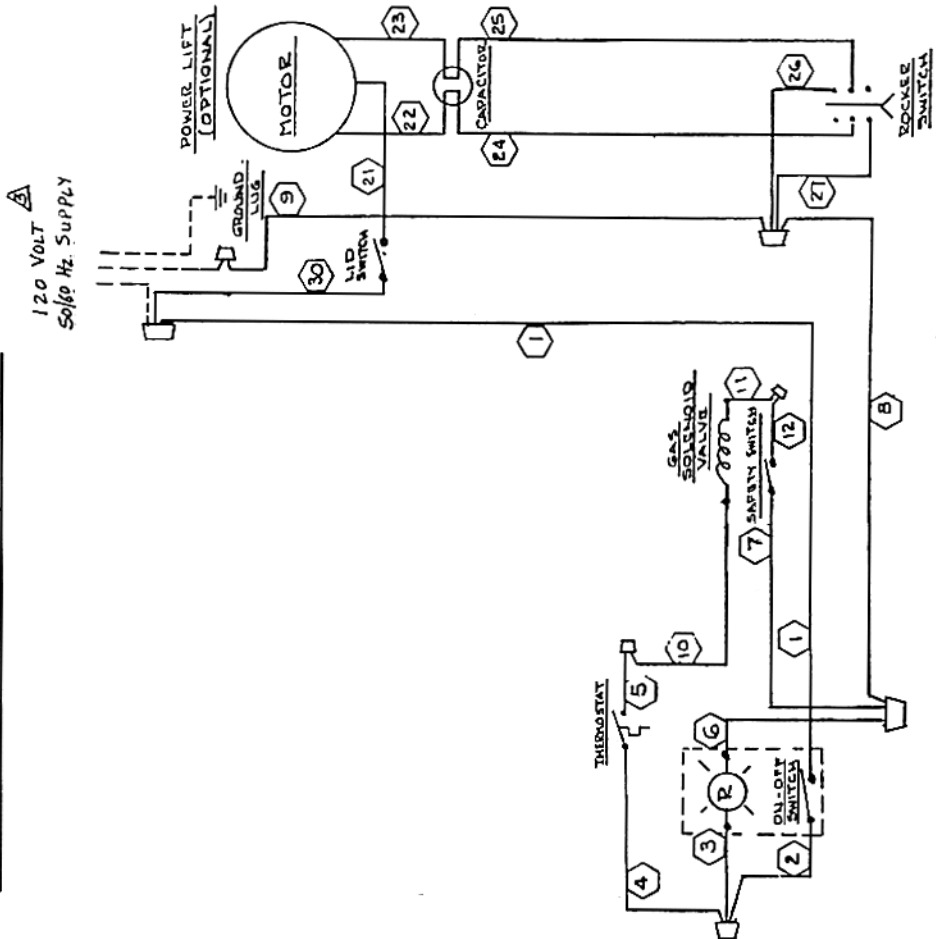
| Item | Part No. | Description | Qty. Per Unit |
|------|-----------|--|---------------|
| 1 | 40414-001 | Caster Leg Assembly | 4 |
| 2 | 4556 | Caster, Locking | 4 |
| 3 | 40427-001 | Steaming Rack Assembly | 3 or 4 |
| 4 | 107791 | Transformer 50 VA (Electric Heat Units Without Power Left) | 1 |
| 5 | 80314 | Transformer 350 VA (Electric Heat Unit With Power Left) | 1 |
| 6 | 40252 | Terminal Block for Neutral Wire | 1 |
| 7 | 11-87-002 | Single Faucet With 12" Swing Spout | 1 |
| 8 | 11-87-003 | Double Faucet With 12" Swing Spout | 1 |
| 9 | 36760 | Mounting Bracket (For Faucet With Swing Spout) | 1 |
| 10 | 10-22-066 | 1/4-20, Elastic Hex Nut (For 36760) | 1 |

FIG. 10 WIRING DIAGRAM - GAS HEAT UNITS (THERMOSTATIC TEMPERATURE CONTROL)

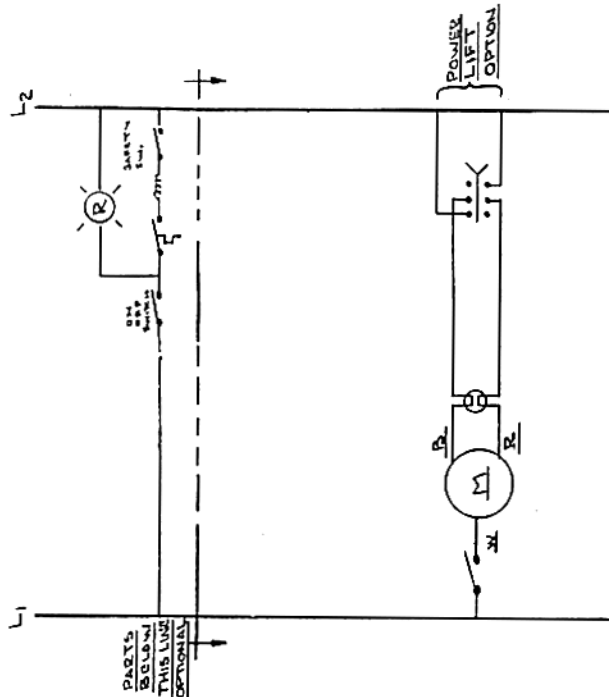
NOTES:

1. Parts Marked Are Optionals
2. Follow Only The Heating Circuit That Is The Same As Incoming Power Supply.
3. Wire Type To Be Per Table.

| OPTIONAL | Min. 18 Ga. Appliance wire Rated For 450°C | Min. 18 Ga. Appliance wire Rated For 90° C |
|---------------|--|--|
| Standard Unit | 1 Thru 6 | 7 Thru 12 |
| Power Lift | | 21 Thru 30 |



CONNECTION WIRING DIAGRAM

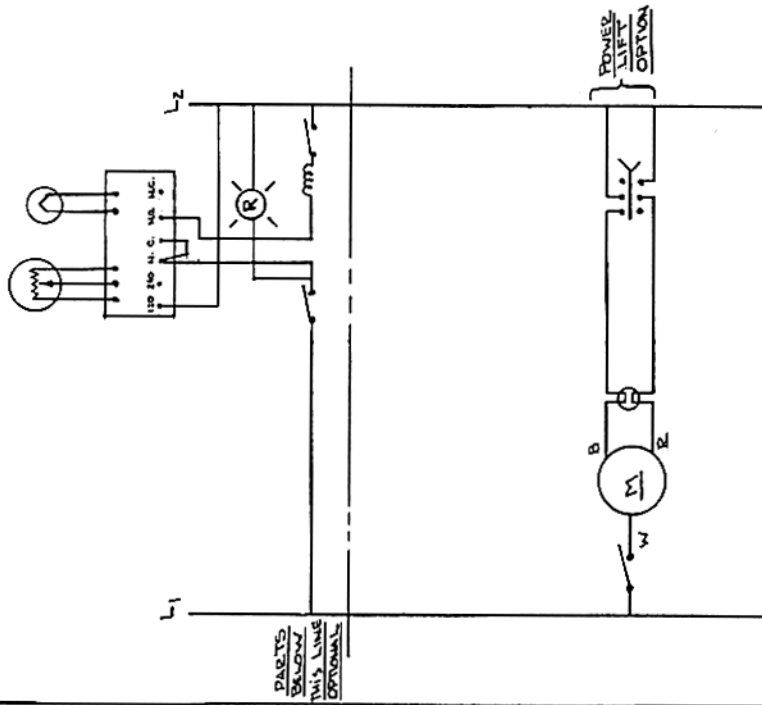


SCHEMATIC WIRING DIAGRAM

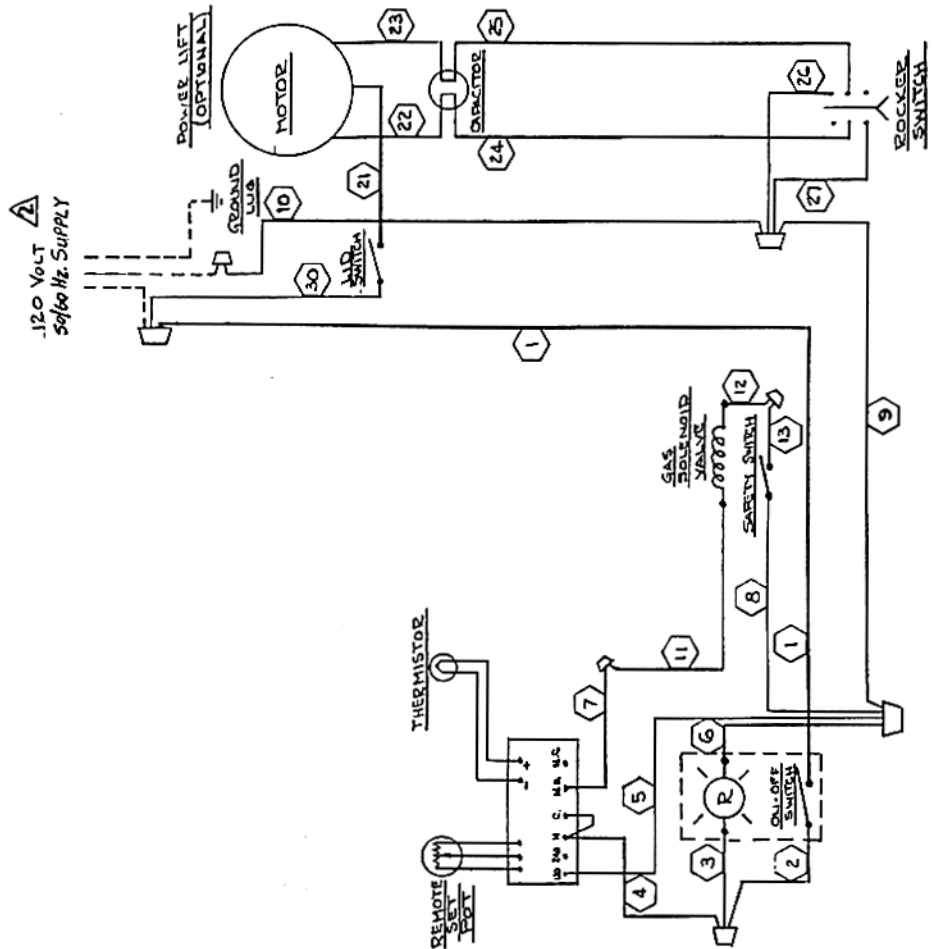
FIG. 12 WIRING DIAGRAM – GAS HEAT UNITS (SOLID STATE TEMPERATURE CONTROL)

NOTES:

ALL WIRES TO BE MINIMUM 18 GA.
APPLIANCE WIRE RATED FOR 90°C



SCHEMATIC WIRING DIAGRAM



CONNECTION WIRING DIAGRAM

FIG. 13 WIRING DIAGRAM – ELECTRIC HEAT UNITS (SOLID STATE TEMPERATURE CONTROL)

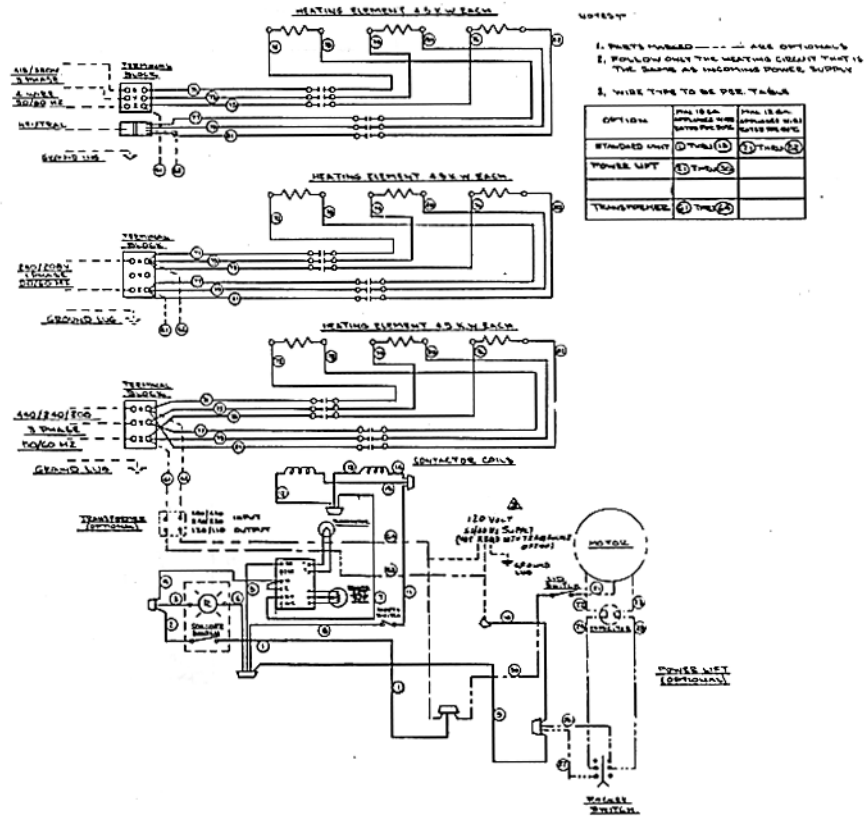
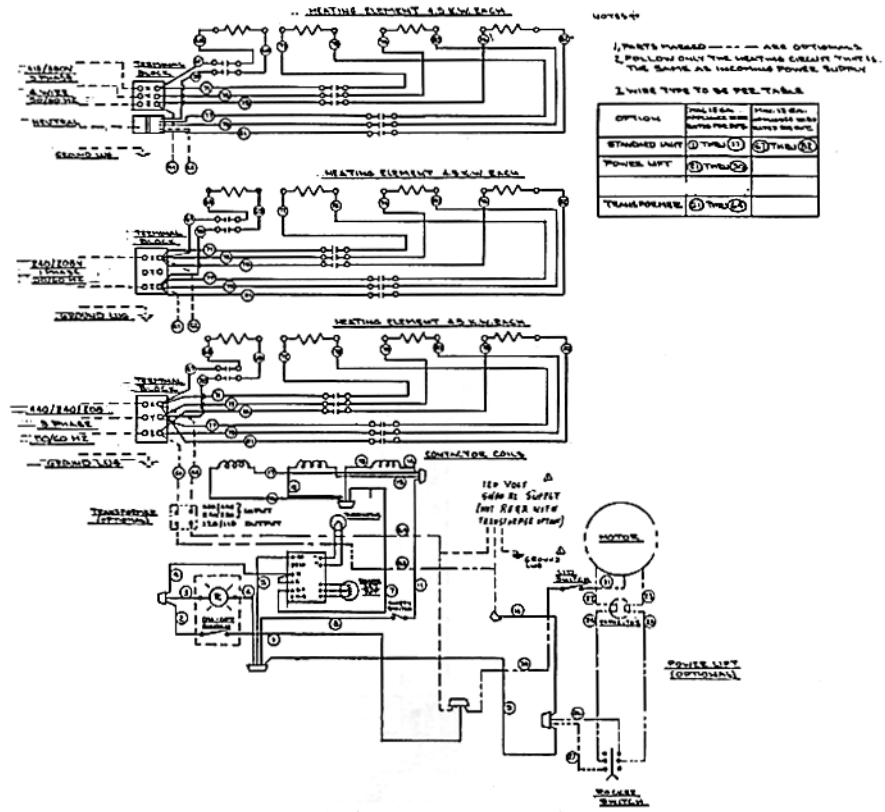
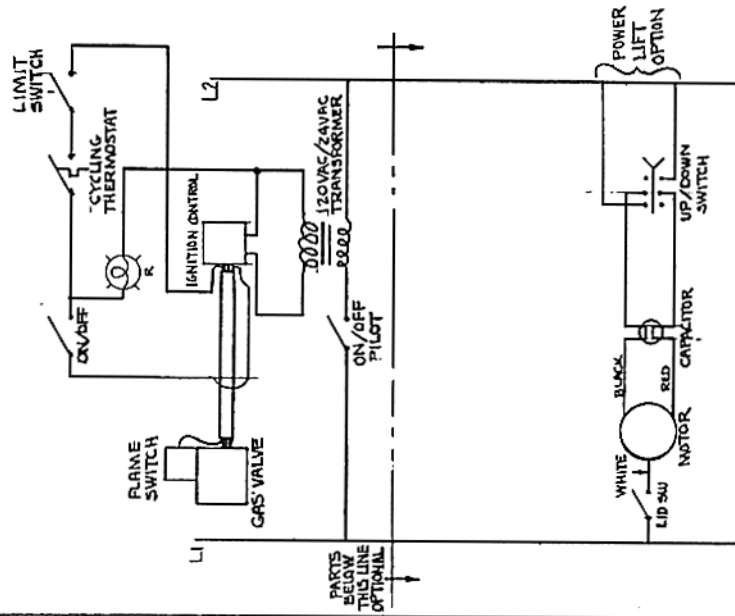


FIG. 14 WIRING DIAGRAM - GAS - HEAT UNITS ELECTRIC IGNITION (THERMOSTATIC TEMPERATURE CONTROL)

LADDER DIAGRAM



| SYMBOL | DESCRIPTION |
|--------|---------------------------|
| ○ | WIRE NO. |
| △ | TERMINAL NO. ON COMPONENT |
| □ | MALE SPLICE CONNECTOR |
| □ | PART NO. 15-02-017 |
| □ | YELLOW WIRE NUT |
| □ | PART NO. 15-01-004 |

CONNECTION DIAGRAM

NOTES:

1.) WIRE TYPE TO BE PER TABLE

| OPTION | MINIMUM 18 GA APPLIANCE WIRE RATED FOR 90°C | MINIMUM 18 GA APPLIANCE WIRE RATED FOR 90°C |
|---------------|---|---|
| STANDARD UNIT | ⑥ THRU ⑪ | ① THRU ⑤ (②)(③) |
| POWER LIFT | ② THRU ⑥ | ② THRU ⑥ |

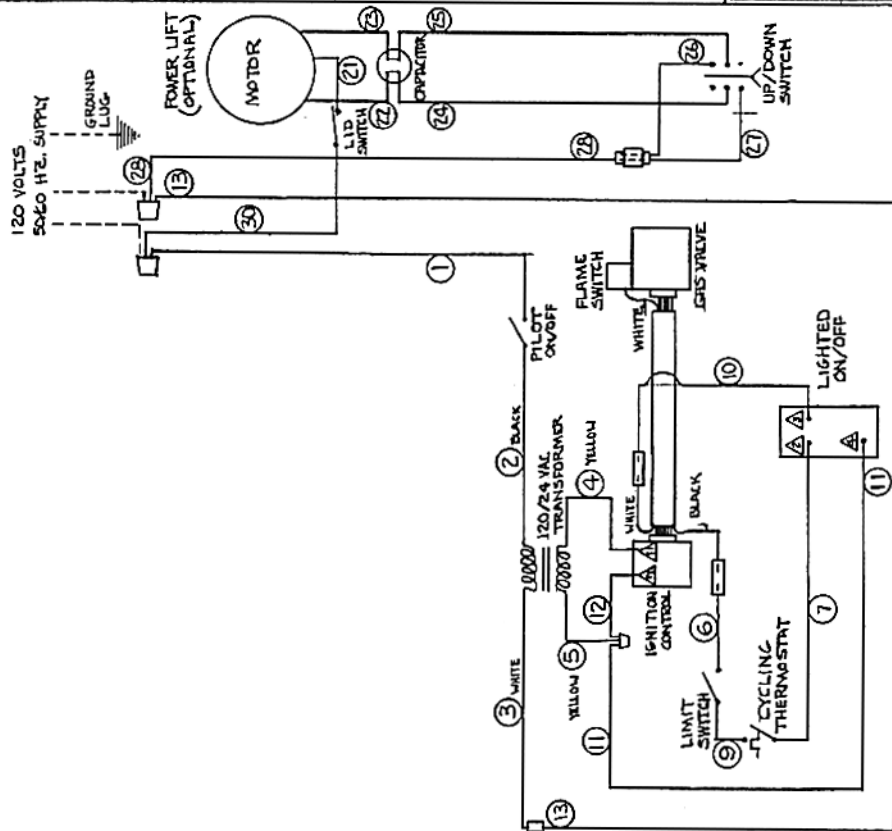
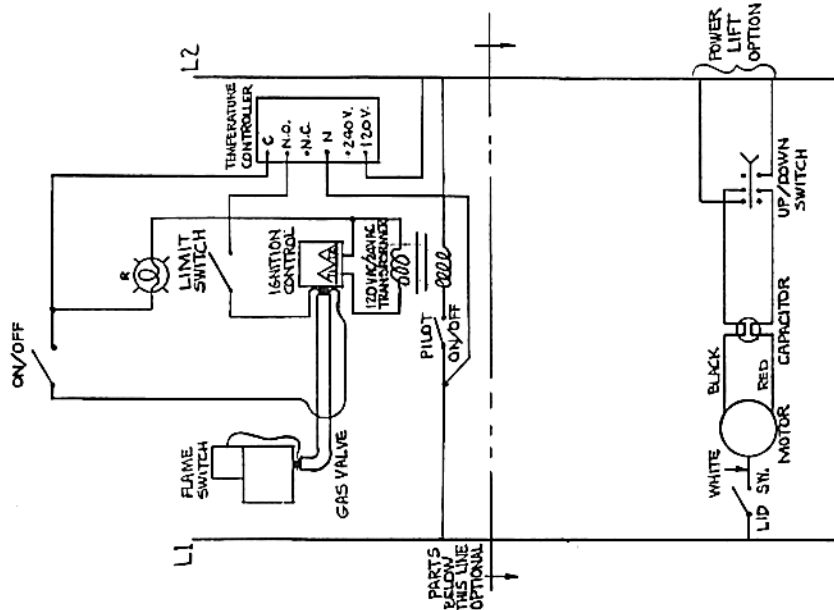


FIG. 15 WIRING DIAGRAM – GAS HEAT ELECTRIC IGNITION (SOLID STATE TEMPERATURE CONTROL)

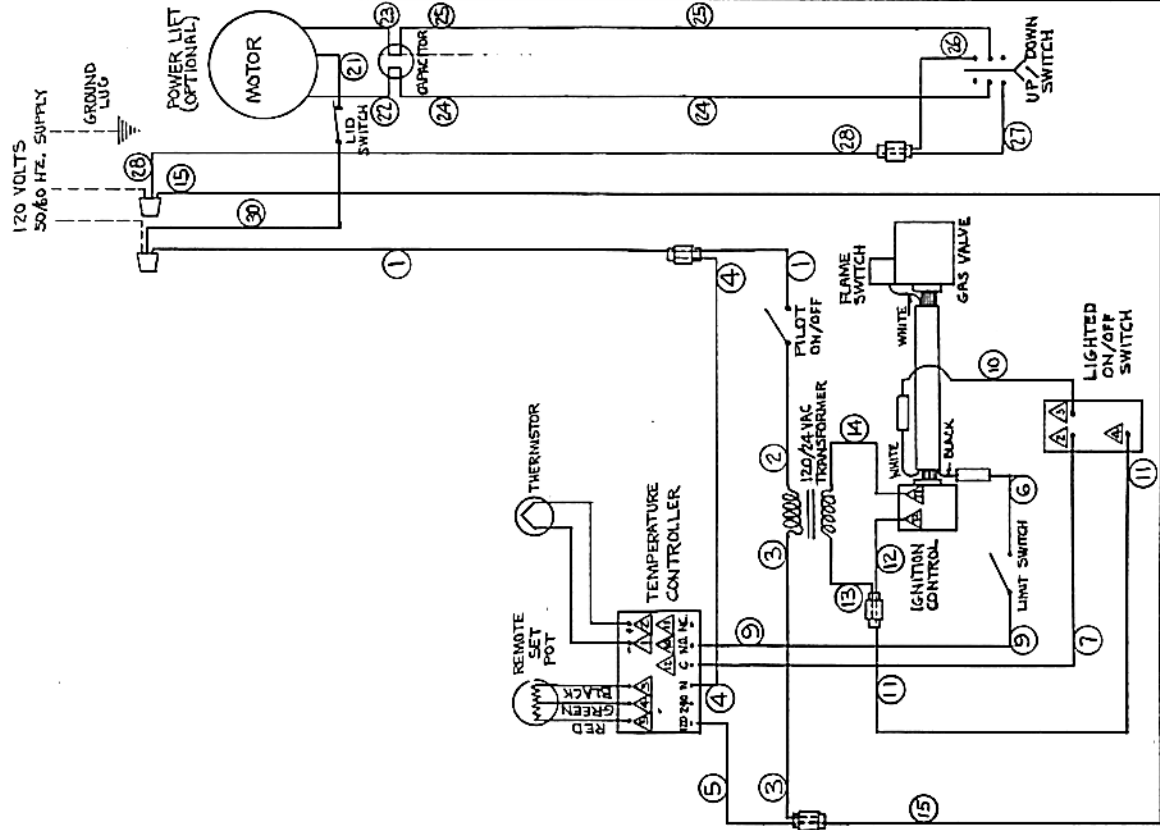
LADDER DIAGRAM



| SYMBOL | DESCRIPTION |
|--------|---|
| ○ | WIRE NO. |
| △ | TERMINAL NO ON COMPONENT |
| — | YELLOW WIRE NUT PART NO. 15-01-004 |
| — | MALE SPlice CONNECTOR P.N. 15-02-017 |
| — | SELF-STRIPPING T-TAP PART NO. 15-01-008 |

NOTES:

CONNECTION DIAGRAM



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