

# ELECTRIC FORCED AIR HEATER

## MODEL TSH20J

THIS HEATER IS DESIGNED FOR MOUNTING IN THE KICKSPACE OF KITCHEN AND BATHROOM CABINETS. IT MAY ALSO BE MOUNTED WITH THE GRILLE IN A VERTICAL POSITION INSTEAD OF THE HORIZONTAL POSITION AS SHOWN. THE HEATER MAY BE USED WITH A WALL LINE VOLTAGE THERMOSTAT OR WITH BUILT-IN THERMOSTAT ACCESSORY KIT MODEL(S) TSH1TX (SINGLE POLE) OR TSH2TX (DOUBLE POLE).

### OPERATING INSTRUCTIONS

THE THERMOSTAT CONTROL CAN BE EITHER THE WALL TYPE OR BUILT INTO THE UNIT ON THE LEFT SIDE OF THE GRILLE. IT SHOULD BE SET TO THE POSITION THAT GIVES THE DESIRED COMFORT LEVEL IN THE ROOM.

**CAUTION: DO NOT OBSTRUCT THE FRONT GRILLE OF THE HEATER SINCE THE PROPER OPERATION OF THE HEATER REQUIRES A FREE FLOW OF INTAKE AND EXHAUST AIR.**

THE HEATER HAS A BUILT-IN MANUAL RESET THERMAL PROTECTOR WHICH PREVENTS OVERHEATING IF THE GRILLE OF THE HEATER IS ACCIDENTALLY BLOCKED.

**TO RESET THE THERMAL PROTECTOR, DISCONNECT POWER SUPPLY, INSERT SMALL BLADE SCREW DRIVER OR EQUIVALENT THROUGH GRILLE INTO VERTICAL SLOT LOCATED ON LOWER CENTER OF HEATER CHASSIS AND LIFT UP.**

### MAINTENANCE INSTRUCTIONS

UNIT SHOULD BE CLEANED EVERY YEAR. TO CLEAN: DISCONNECT MAIN SUPPLY, REMOVE FRONT SCREWS, UNPLUG UNIT AND SLIDE OUT. AFTER CLEANING REPLACE UNIT AND ALL SCREWS TO MAINTAIN GOOD GROUND CONTINUITY.

### INSTALLATION INSTRUCTIONS

1. SELECT AN AREA THAT IS NOT DIRECTLY UNDER SINK OR OTHER HEAVILY USED WORK AREA, AS THE AIR DISCHARGE TEMPERATURE MAY BE UNCOMFORTABLE. FLOOR MATERIAL SHOULD BE CHECKED ADJACENT TO HEATER BEFORE INSTALLATION TO MAKE CERTAIN THAT IT WILL NOT DISCOLOR OR DISTORT. (SOME TEND TO DISTORT AND DISCOLOR AT TEMPERATURES IN THE VICINITY OF 140°F.)
2. CUT 22 3/8" BY 3 5/8" OPENING IN KICKSPACE AS SHOWN IN FIGURE 1.
3. REMOVE SCREWS HOLDING HEATER COVER AND REMOVE COVER. REMOVE DESIRED KNOCKOUT.
4. RUN SERVICE CABLE (FROM THERMOSTAT, IF USED) TO KNOCKOUT AND ATTACH WITH AN APPROVED CONNECTOR, ATTACH GROUND WIRE UNDER GREEN GROUND SCREW. HEATER IS FACTORY WIRED FOR 240/208 VOLT, 2000/1500 WATTS. (SEE OTHER SIDE FOR FIELD CONVERTED VOLTAGES AND WATTAGES)
5. WIRING: WIRE SERVICE CABLE TO RECEPTACLE WITH APPROVED CONNECTORS.
6. REPLACE COVER AND SCREWS, PUSH UNIT INTO OPENING, PUT GRILLE IN PLACE AND ATTACH UNIT TO CABINET USING TWO SCREWS PROVIDED.

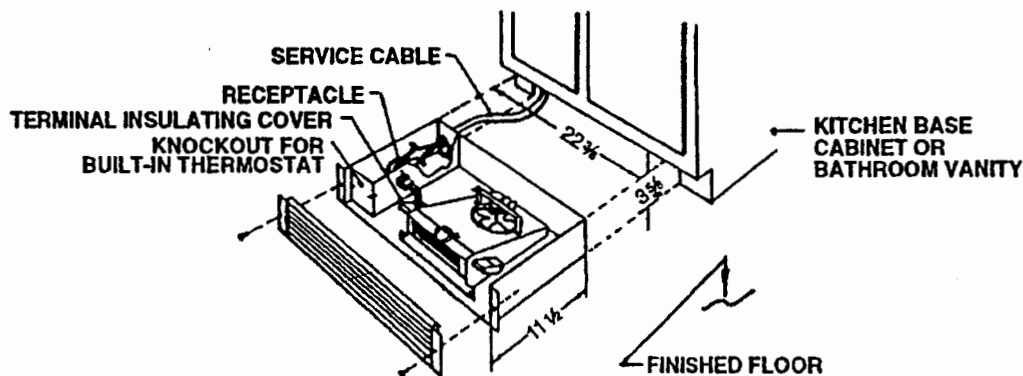


FIGURE 1

7. HEATER MAY BE CONVERTED TO THE FOLLOWING VOLTAGES AND WATTAGES:

240/208 VOLTS	1000/750 WATTS
120 VOLTS	1500 WATTS
120 VOLTS	1000 WATTS

**A. 240/208 VOLT 1000/750 WATTS**

REMOVE INSULATING COVERS FROM RIGHT HAND TERMINALS OF HEATING ELEMENTS. REMOVE TWO YELLOW JUMPERS CONNECTING TWO FRONT AND TWO REAR TERMINALS. CAUTION: WHITE LEAD MUST REMAIN FIRMLY IN PLACE ON SECOND TERMINAL. BLACK MOTOR LEAD MUST REMAIN FIRMLY IN PLACE ON THIRD TERMINAL. REPLACE INSULATING COVER AND SCREWS, PROCEED AS IN STEP 5.

**B. 120 VOLT 1500 WATTS**

UNPLUG HEAT UNIT FROM OUTLET BOX RECEPTACLE. REMOVE 240/208 VOLT RECEPTACLE PROVIDED WITH HEATER. REMOVE INSULATING COVER FROM RIGHT HAND TERMINAL OF HEATING ELEMENTS. REMOVE YELLOW JUMPER CONNECTING FRONT TWO ELEMENT TERMINALS. CAUTION: WHITE LEAD MUST REMAIN FIRMLY IN PLACE ON SECOND TERMINAL. REPLACE INSULATING COVER, UNIT IS NOW READY FOR WIRING.

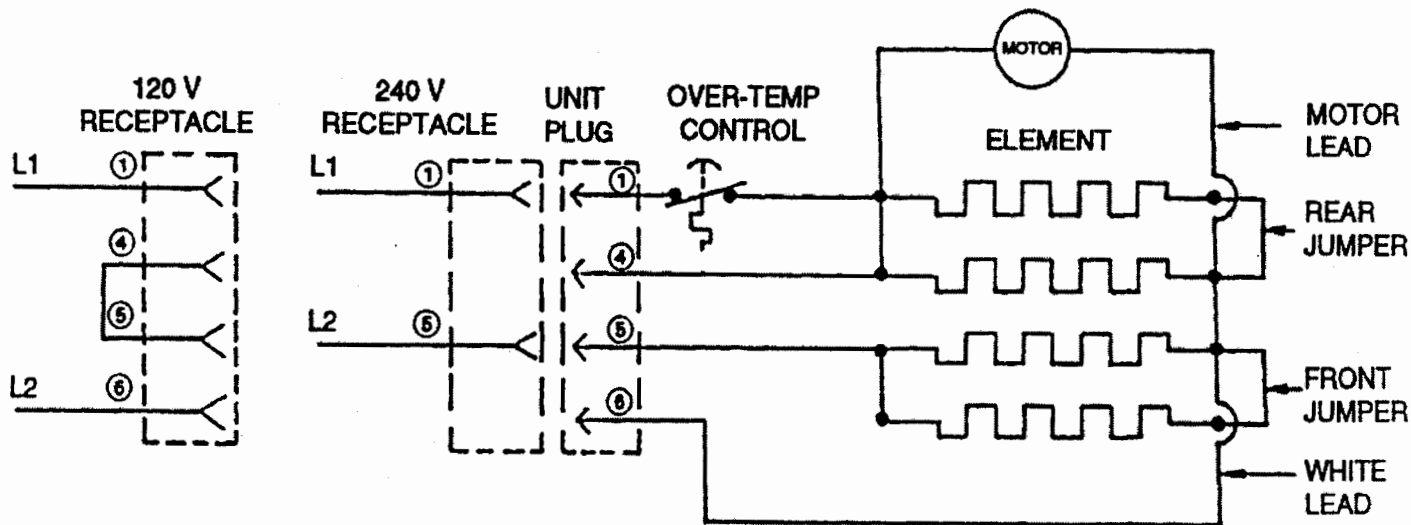
**C. 120 VOLT 1000 WATTS**

REMOVE INSULATING COVER FROM RIGHT HAND TERMINALS OF HEATING ELEMENTS. REMOVE TWO YELLOW JUMPERS CONNECTING TWO FRONT AND TWO REAR TERMINALS. CAUTION: WHITE LEAD MUST REMAIN FIRMLY IN PLACE ON SECOND TERMINAL. REPLACE INSULATING COVER AND PROCEED AS IN STEP 7B ABOVE.

8. AFTER SELECTING VOLTAGE AND WATTAGE REQUIREMENTS IN STEP 7 ABOVE, WIRE SERVICE CABLE TO RECEPTACLE WITH APPROVED CONNECTORS.

9. REPLACE COVER AND SCREWS. PUSH UNIT INTO OPENING, PUT GRILLE IN PLACE AND ATTACH UNIT TO CABINET USING TWO SCREWS PROVIDED.

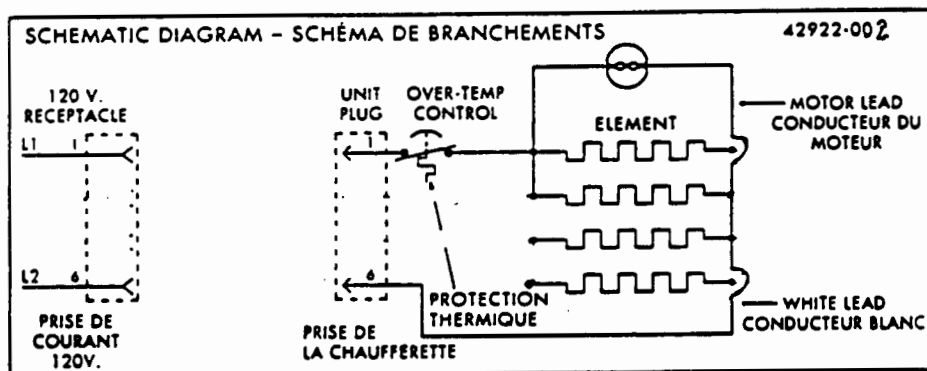
**INSTALLATION OF ACCESSORY BUILT-IN THERMOSTATS**



1. REMOVE 1/2" (12.7MM) DIAMETER KNOCKOUT IN FRONT OF OUTLET BOX AND GRILLE.
2. ATTACH THERMOSTAT TO OUTLET BOX WITH NUT PROVIDED.
3. CONNECT IN SERIES BETWEEN SERVICE CABLE AND RECEPTACLE, MAINTAINING POLARITY. USE APPROVED CONNECTORS.
4. INSTALL FRONT GRILLE. PUSH KNOB ON THERMOSTAT SHAFT, TURN THE KNOB COUNTERCLOCKWISE UNTIL IT STOPS.
5. POSITION THE CIRCULAR NUMBERED INSERT INTO KNOB RECESS, WITH "1" AT THE BOTTOM FOR SINGLE POLE OR "0" FOR DOUBLE POLE THERMOSTATS.
6. POSITION THE TRIANGULAR POINTER ON THE FRONT GRILLE PANEL DIRECTLY BELOW THE "1" OR "0".

## INSTALLATION OF ACCESSORY BUILT-IN THERMOSTATS

1. Remove 1/2" (12.7mm) diameter knockout in front of outlet box and grille.
2. Attach thermostat to outlet box with nut provided.
3. connect in series between service cable and receptacle, maintaining polarity. Use approved connectors.
4. Install front grille. Push knob on thermostat shaft, turn the knob counterclockwise until it stops.
5. Position the circular numbered insert into knob recess, with "1" at the bottom for single pole or "0" for double pole thermostats.
6. Position the triangular pointer on the front grille panel directly below the "1" or "0".





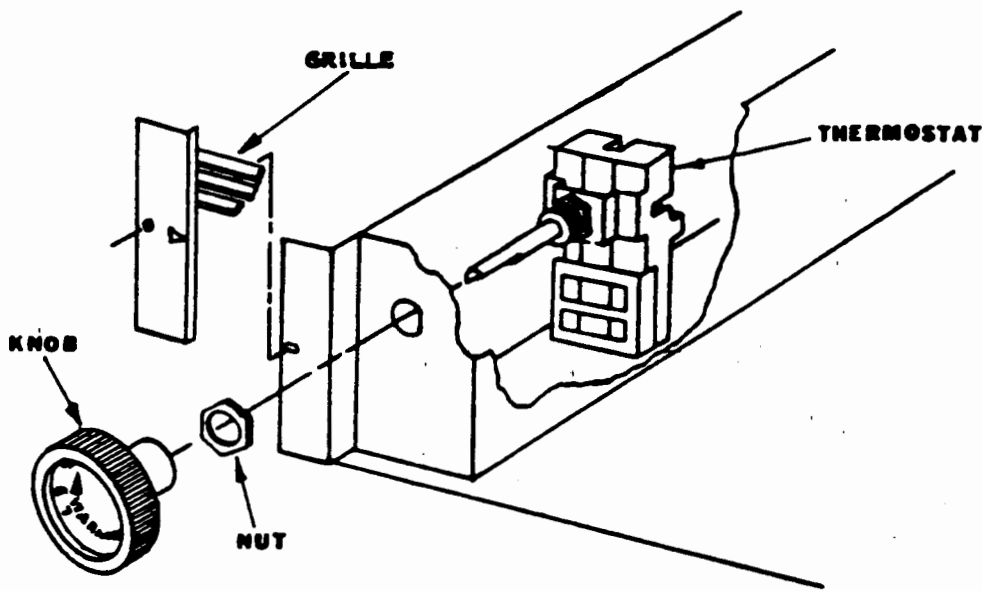
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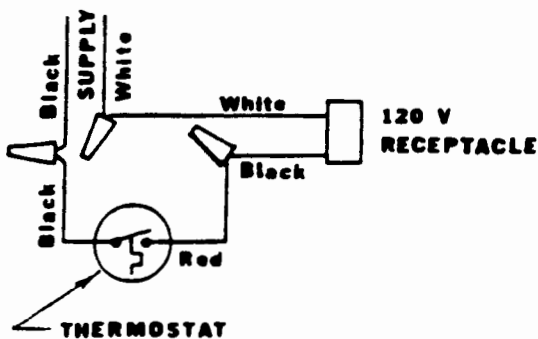
### INSTRUCTIONS FOR INSTALLING THERMOSTAT KIT

Catalog number TSH1TX (single pole) and TSH2TX (double pole).

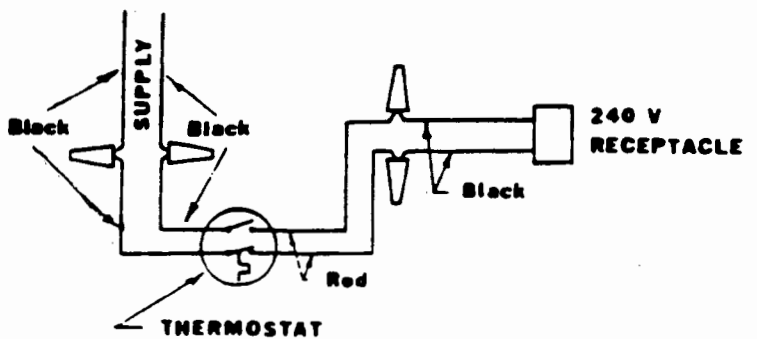
REMOVE THE JUNCTION BOX COVER, REMOVE KNOCK-OUT & INSTALL THE THERMOSTAT KIT. WIRE THERMOSTATS AS SHOWN IN THE TYPICAL WIRING DIAGRAM BELOW.



**SINGLE POLE**



**DOUBLE POLE**



### CAUTION

1. DO NOT BYPASS OR ELIMINATE THERMAL CUTOUT.
2. THE WIRING OF THESE DEVICES SHOULD COMPLY WITH LOCAL ELECTRIC CODES.
3. CHECK LOCAL CODES TO DETERMINE IF SINGLE OR DOUBLE POLES ARE REQUIRED
4. MAKE SURE ALL ELECTRIC CONNECTIONS & WIRE NUTS ARE TIGHT.