

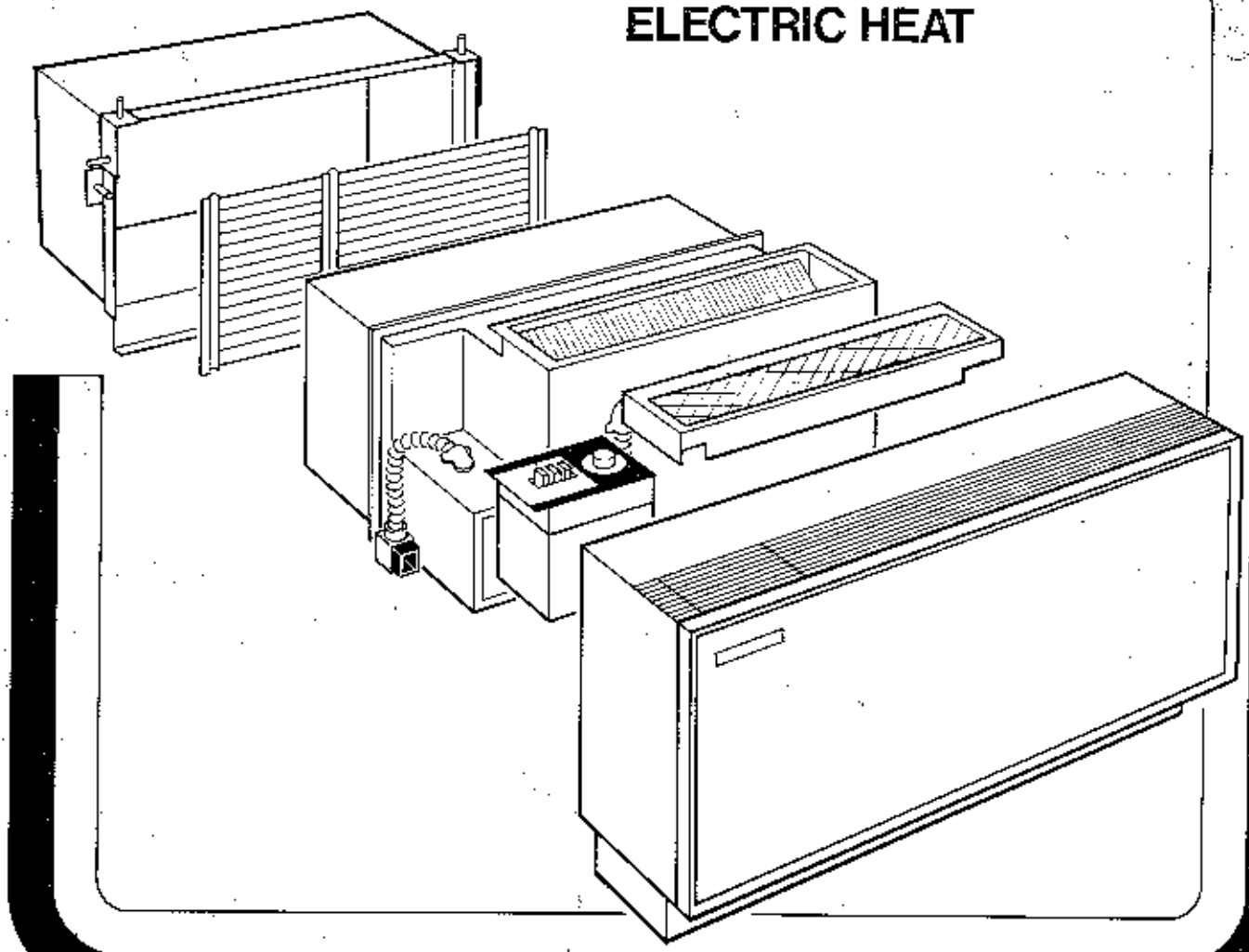
**Friedrich**® Climate Master Series

# series 700

## Air Cooled Console Conditioners

PRODUCT DESCRIPTION & INSTALLATION PROCEDURE

### ELECTRIC HEAT



The information on the following pages is a complete installation guide for Friedrich models 700 Series 7 thru 17 (all electric) conditioners.

Figure 1 shows a complete all electric Series 700 Friedrich conditioner. This conditioner is packaged and shipped in six individual cartons as follows: (1) outdoor louver, (2) wall box, (3) cooling chassis, (4) heating section, (5) control module, and (6) room cabinet.

The Electric Heat model installs in the following sequence:

#### Wall Box

Single piece heavy gauge with temporary removable weather seal includes: built-in glides, pitch to outside, hardware for mounting room cabinet and securing chassis.

#### Outdoor Louver

Extruded aluminum, snaps into wall box from inside. Available with outside flanged frame.

#### Cooling Chassis

Single package unit includes compressor internally spring-mounted and externally vibration-isolated, with built-in overload protection and capacitor. Direct-Drive Centrifugal Condenser blower with special coating provides positive condensate removal. Plate finned condenser coil and expansion valve operation. Room side blowers are slow two-speed cen-

trifugal blowers with built-in overload protection, easily removable. Evaporator coil with condensate pan connected by plastic hose to condenser side. Return air filter removable without removing room cabinet front panel. Fresh air filter provides full filtration through motorized Fresh Air damper.

#### Room Cabinet

Constructed of heavy gauge furniture steel with baked enamel finish, available in various colors. Kick plate is adjustable and can be furnished in heights to match sill heights and wall box positions. Discharge grille is extruded aluminum with polished top and shaded interior, with bars set at 15 degrees deflection. Control access door is hinged for easy access and can be furnished with exposed knob or flush tamper proof control door is also available. Return air enters unit beneath front panel and through kick plate.

#### Heater Section

Easily installed, secures to cooling chassis, low watt density sheathed element with over-heat protection.

#### Control Module

Self-contained removable module (without removing cooling section or heating section) is furnished with manual changeover, automatic changeover, wall thermostat, master slave, security guard, guest room control and emergency power options.

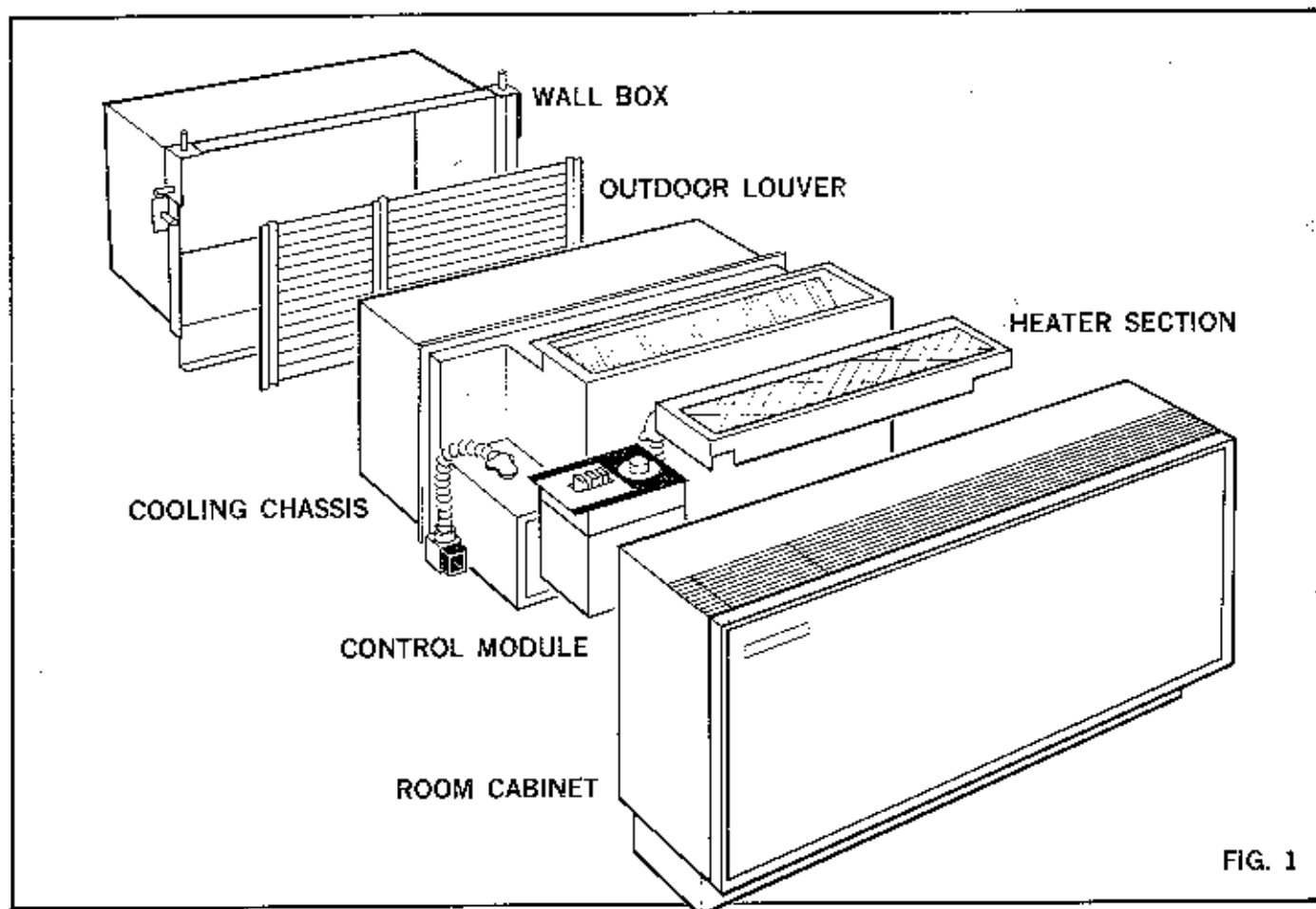


FIG. 1

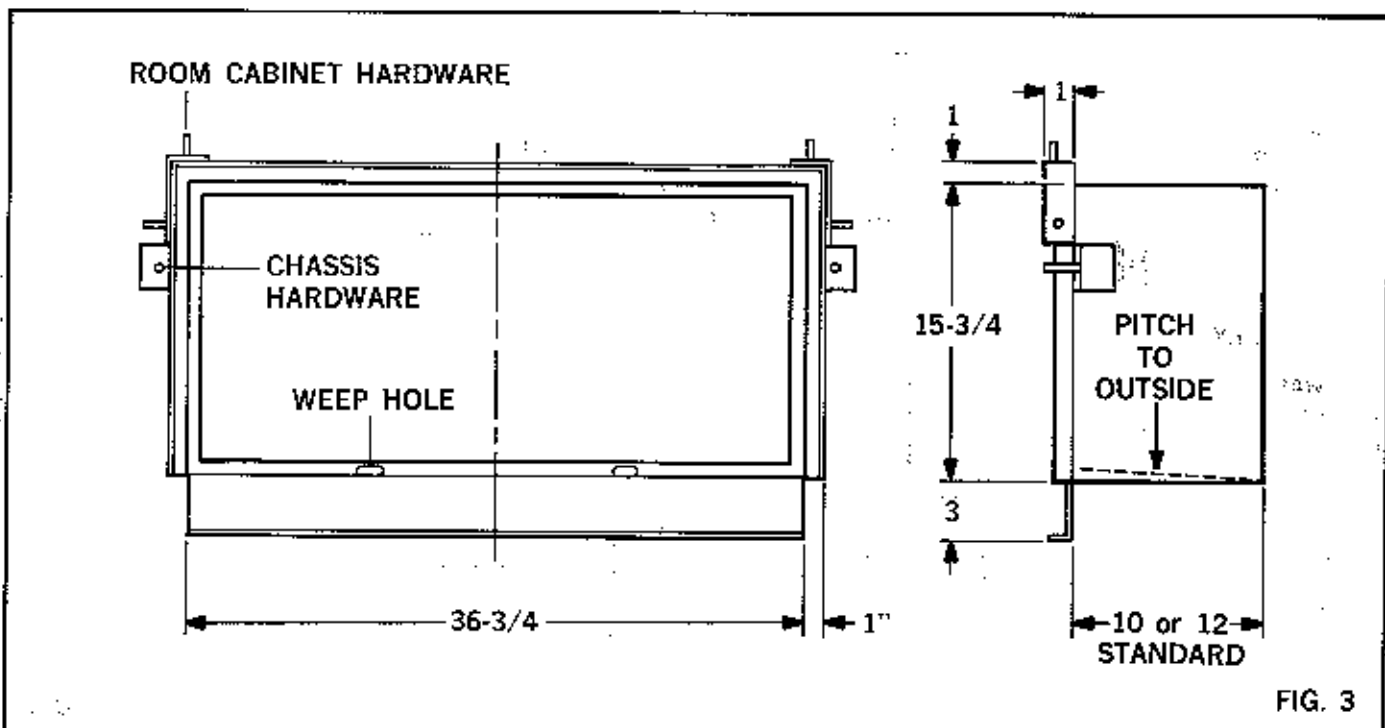
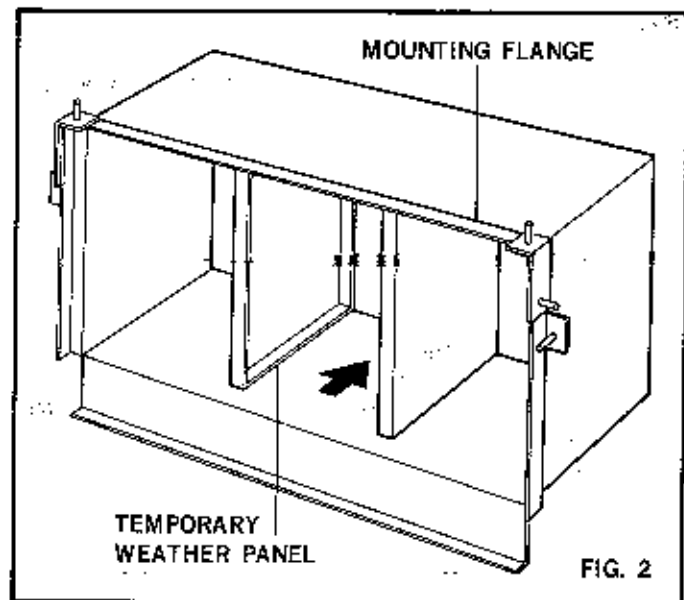
# WALL BOX

Installation of the wall box is the first and most important step for installing the Friedrich through-the-wall air conditioner. The wall box becomes an integral part of the wall and must be installed per plans and specifications.

Figure 3 shows exact wall box dimensions. Standard depth wall boxes are 10" and 12" (height and width are constant for all). Wall boxes are available in 1" increments to 25" deep. Splitter baffles are furnished when depth is more than 10". Make certain of the following before installing wall box:

1. Consult plans and specifications to determine the exact location of each box. Plans should show (a) height of wall box above finished floor, (b) exact along-wall position and (c) amount of recess or projection from outside wall.
2. The wall opening is 3" minimum from the finished floor for models 7 thru 14 and 6" from the finished floor for model 17.
3. If a flanged louver is used, the rear edge of the wall box must be flush or within 1/8" recess from the outside finished wall (Figure #2).
4. The mounting flange on the wall box should never be recessed into the finished wall (see Figure #3). The studs on this flange are utilized later when the room cabinet is installed.
5. The bottom surface of the wall box is designed to pitch toward the outside of the building when installed horizontally level and vertically plumb. (Use level on top and side surfaces of wall box ONLY.)
6. Do not remove the temporary shipping panel while installing wall box. Premature removal of this panel could change the shape of the box and result in a poor weather seal.

7. The wall box should be parged to masonry and lagged to prevent movement. If wall construction is 5" to 9" in depth, a blocking beneath the box should be considered.
8. Consult factory when special application is necessary, such as unusual wall construction, low window sill, etc.



# WALL BOX

## MASONRY WALL INSTALLATION

Step 1] Consult plans and specifications to determine exact location of each box. Plans should show:

- A) Height of wall box above finished floor
- B) Along-wall position
- C) Amount of recess or projection from outside wall

**NOTE:** Make certain that correct wall box depth is used at each location as specified in plans.

Step 2] Lay-up masonry to specified height above finished floor line. Wall box must be 3" minimum from finished floor.

Step 3] Place wall box in correct position on masonry per plans and specifications. Note the following:

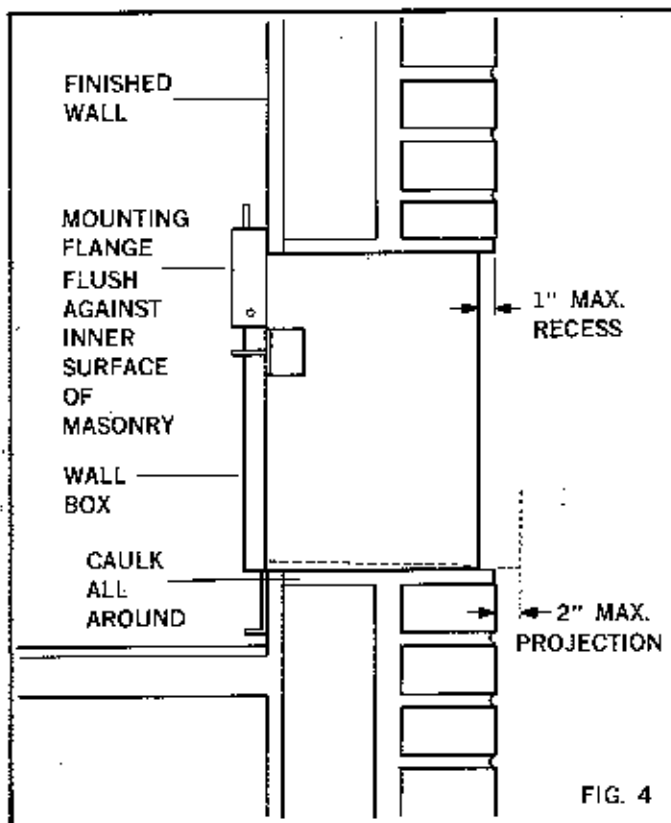
- A) Mounting flange of wall box must set firmly against finished interior wall. This flange must never be recessed.
- B) Weather panel and temporary supports must remain in place until after wall construction is complete.

Step 4] Make sure wall box is set horizontally level and vertically plumb.

**NOTE:** Bottom surface is designed to pitch toward outside when wall box is level.

Step 5] Build-up masonry around wall box in the usual manner making sure the weep holes (See Figure 3) are not plugged or obstructed in any way. Interior wall and floor must be completely finished before installing room cabinet.

Step 6] Caulking may be necessary to assure a weather tight installation.



## PANEL WALL INSTALLATION

Step 1] Consult plans and specifications to determine exact location of each box. Plans should show:

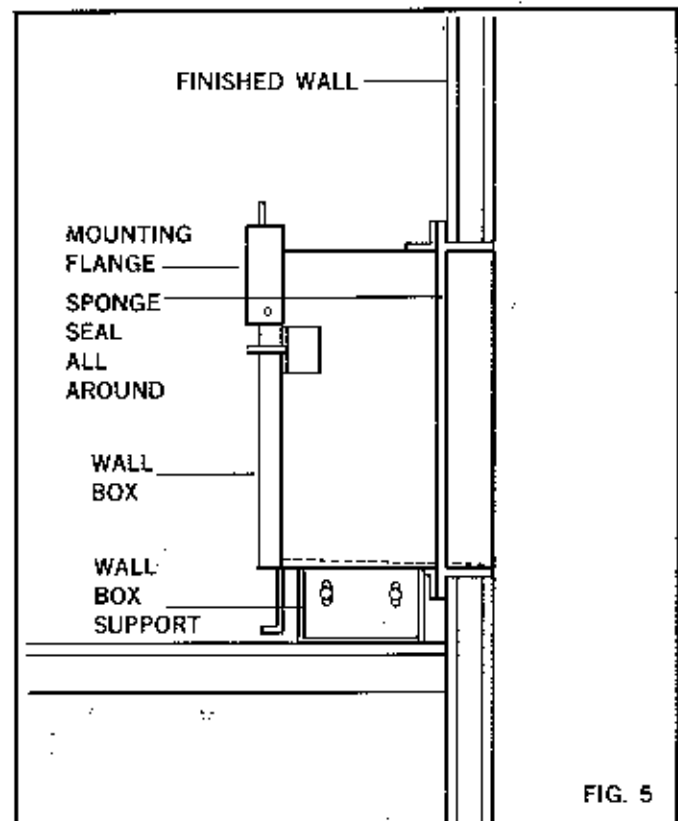
- A) Height of wall box above finished floor
- B) Along-wall position
- C) Amount of recess or projection from outside wall

**NOTE:** Make certain that correct wall box depth is used at each location as specified in plans.

Step 2] Support legs are supplied with wall box. Secure one leg to each end of box as shown below using hardware supplied. Legs are adjustable  $\pm 0-1"$  in height to compensate for variation in finished floor and carpet.

Step 3] Make sure wall box is set horizontally level and vertically plumb. Use shims under support legs if necessary. Anchor wall box legs to floor.

Step 4] Apply sponge seal all around wall box to assure a weather tight seal. See Figure 5



# OUTDOOR LOUVER

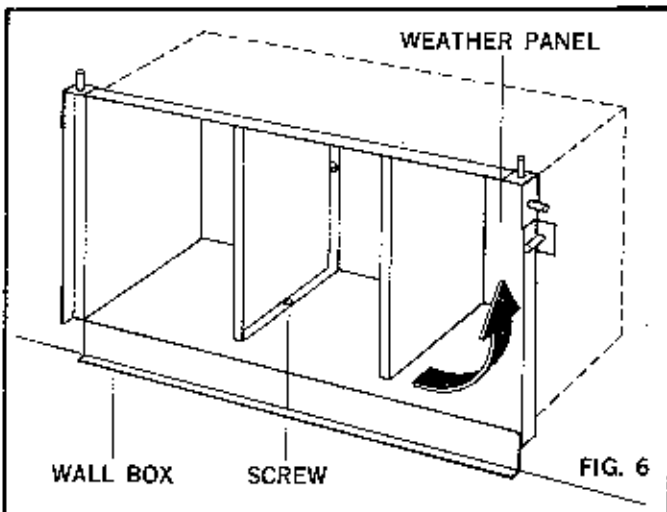
## OUTDOOR LOUVER INSTALLATION

Install outdoor louver only when ready to install cooling chassis in wall box. Until then, leave weather panel and temporary supports in place in wall box.

**NOTE:** For extra depth wall boxes a splitter must be installed. Attach stripping to splitter and secure to center post of louver before installing louver.

**Step 1.** Remove sheet metal screws from the top and bottom of each temporary construction support.

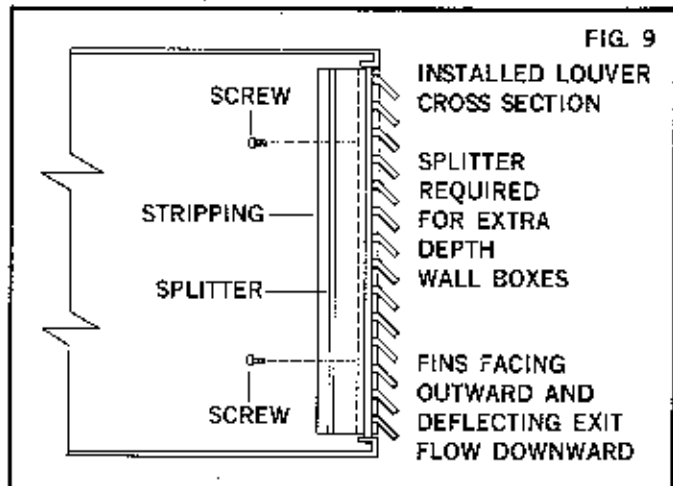
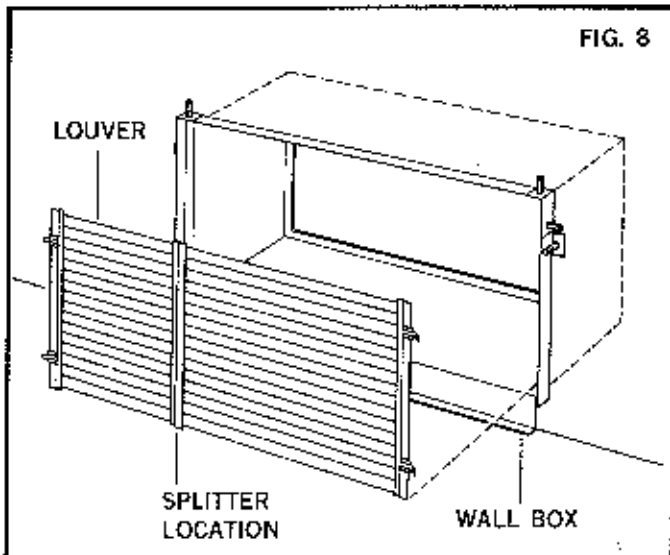
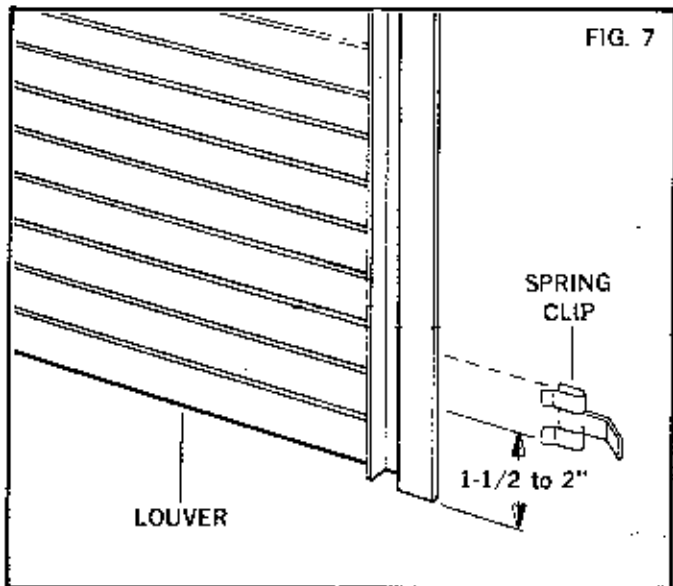
**Step 2.** Swivel both supports to a horizontal position as shown by the arrow in Fig. 6 below and pull temporary construction support into room.



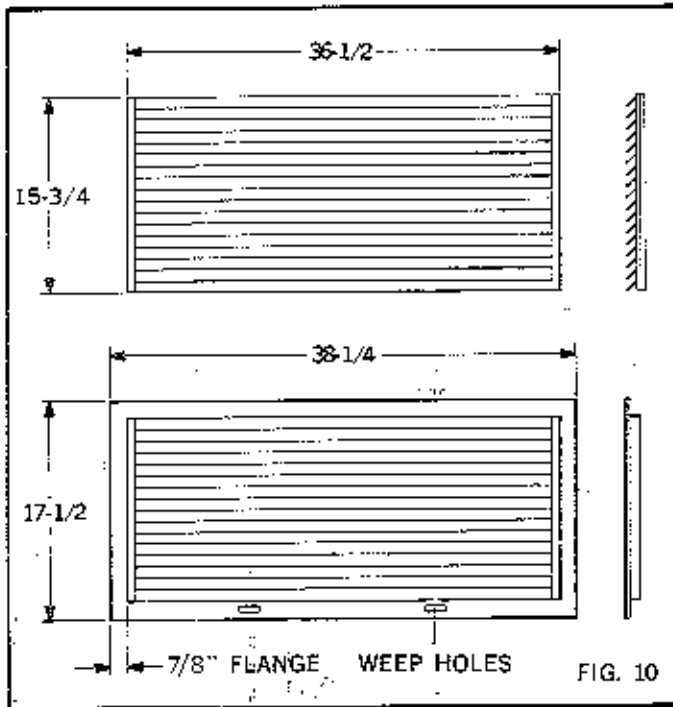
**Step 3.** Position louver spring clips on the louver end supports as shown in Fig. 7. (Spring clips are shipped in hardware bag in louver carton.) Clips should be from 1-1/2 to 2 inches from the top and bottom of the louver.

**Step 4.** Place louver (fins facing outdoors and blades downward) in opening of wall box. Press inward firmly until louver is squarely seated against outer lip of wall box and clips have snapped into place at end of wall box (see Fig. 8).

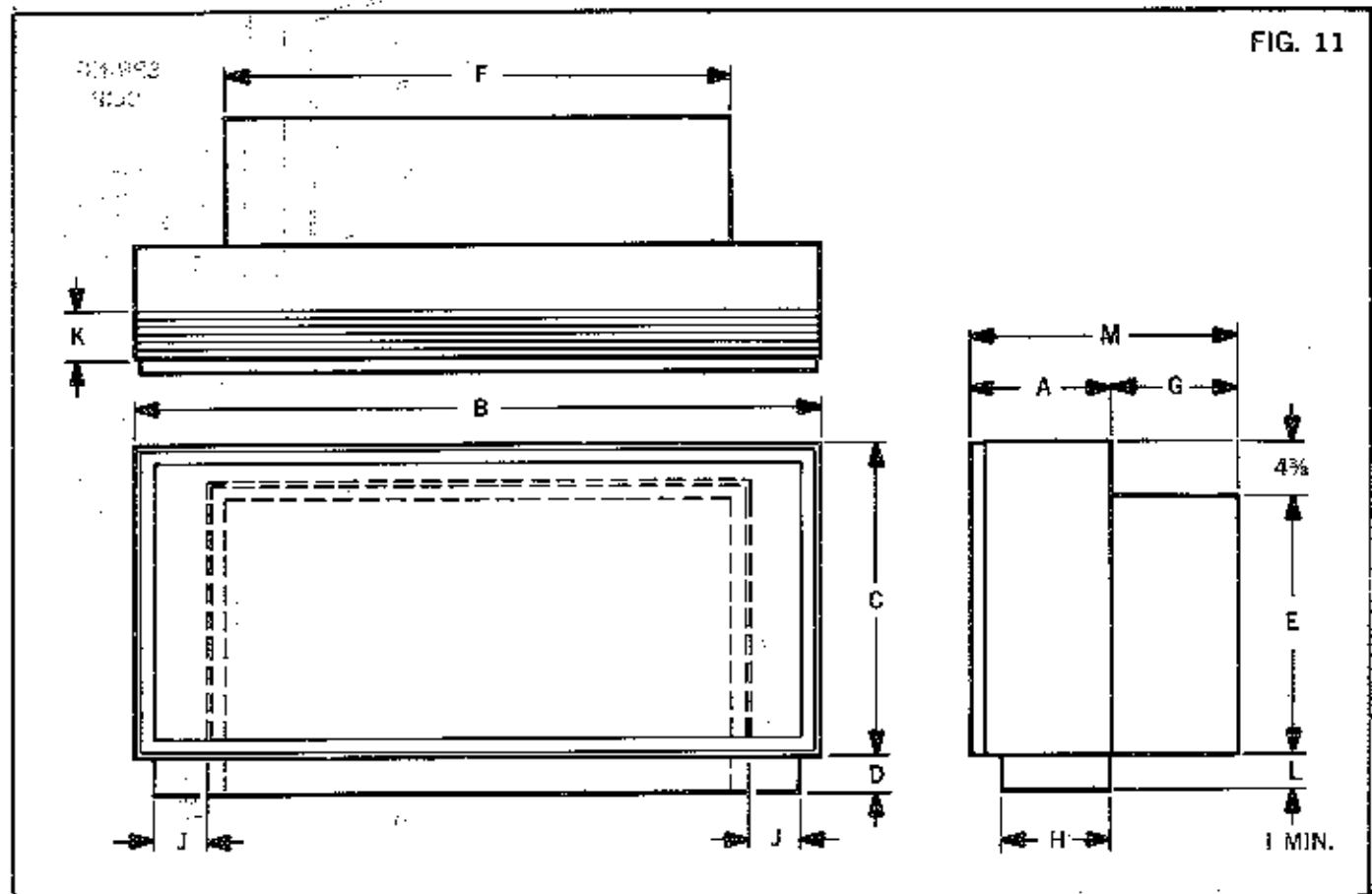
**Step 5.** When louver is correctly installed it is centered in wall box opening with fins facing outward and deflecting exit air flow downward (see Fig. 9).



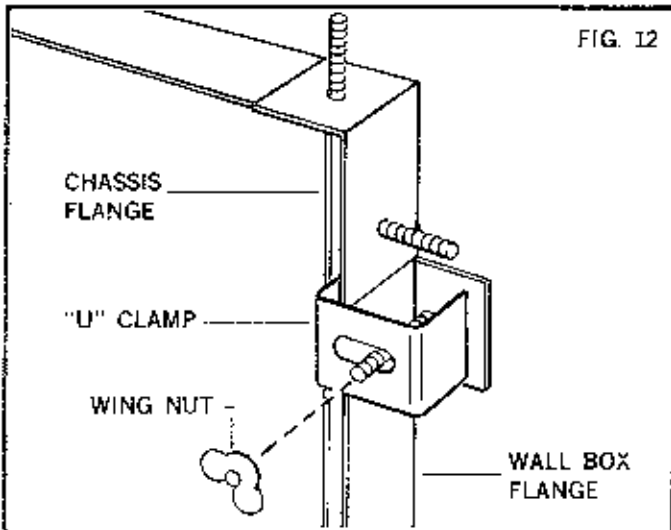
# DIMENSIONS



DESCRIPTION		"SERIES 700"	
		7-14	17
A	Cabinet Depth	11 $\frac{3}{4}$	17
B	Cabinet Width	48	48
C	Cabinet Height	20	23
D	Base height (adjustable) Minimum	3 $\frac{3}{8}$	3 $\frac{3}{8}$
E	Wall box height	16	16
F	Wall box width	36 $\frac{3}{4}$	36 $\frac{3}{4}$
G	Wall box depth adjustable to 1" increments for varying wall thickness	10 or 12 std.	10 or 12 std.
H	Base width	6 $\frac{1}{4}$	11 $\frac{1}{2}$
L	Wall box height above floor (adjustable) Minimum	3	6
J	Right and Left side piping compartment	4	4
K	Discharge Grille depth	4 $\frac{3}{4}$	4 $\frac{3}{4}$
M	Total Minimum Unit Depth	21 $\frac{3}{4}$	27



# COOLING CHASSIS

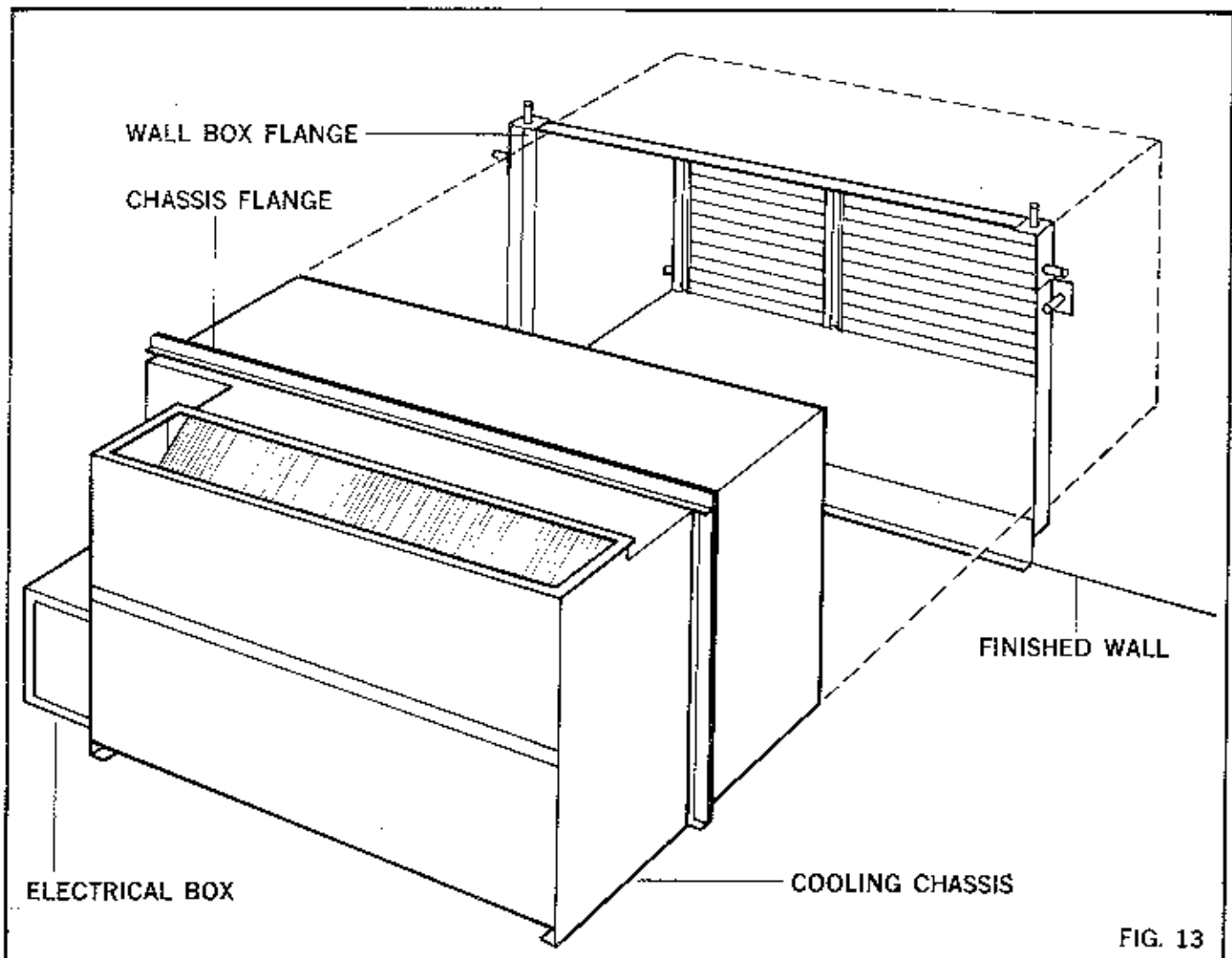


## COOLING CHASSIS INSTALLATION

**Step 1.** Set lower rear edge of cooling chassis inside wall box opening and push entire chassis forward, making certain that chassis slides in straight until it is all the way into the wall box (below).

**Step 2.** Press chassis firmly against wall box mounting flange. Then place U-clamp over threaded studs and tighten wing nuts on studs (right). U-clamps and wing nuts are packed in hardware bag in cooling chassis carton.

**NOTE:** When tightening wing nut on U-clamp, chassis must be pushed firmly into wall box.



# ROOM CABINET

## ROOM CABINET INSTALLATION

The room cabinet is shipped fully assembled and ready for installation; no disassembly and reassembly is required. The cabinet should be installed only after the interior walls and the floors have been finished.

**Step 1.** Position room cabinet over top wall box mounting flange and set the two slots in the cabinet mounting angle on the threaded studs in the mounting flange. Push cabinet hard against wall and tighten 2 wing nuts over the threaded studs to fasten cabinet and heating module securely to the wall box mounting flange.

**Step 2.** Loosen 4 wing nuts and adjust cabinet legs until they sit squarely on finished floor, then retighten the wing nuts.

**Step 3.** Lag cabinet to wall at slotted mounting holes in rear cabinet flanges.

**Step 4.** If cooling chassis is not to be installed immediately, decorator panel may be added to close front of room cabinet at this time. Set lower mounting tabs of panel into pins at bottom of the cabinet side panels. Swing decorator panel to vertical and then lower it until upper mounting tabs slip into flanges on front of cabinet. Press firmly downward on panel to secure it in place.

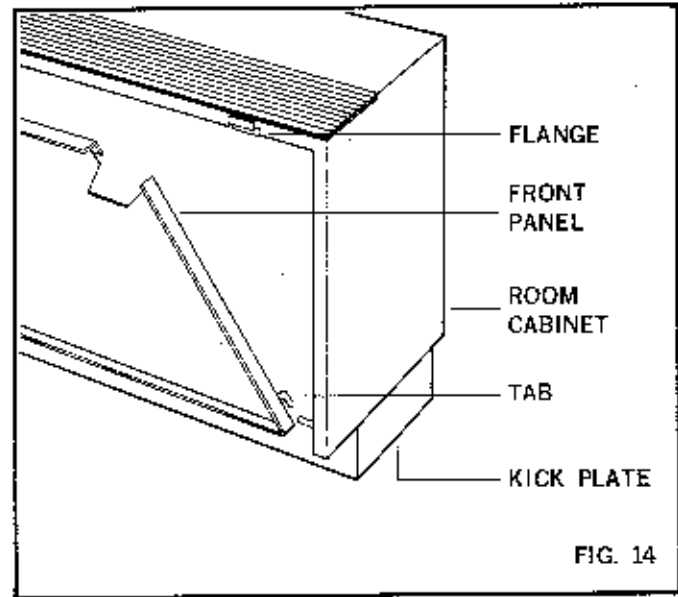


FIG. 14

**NOTE:** To remove panel, simply pull upward firmly to free tabs, then swing panel away from cabinet.

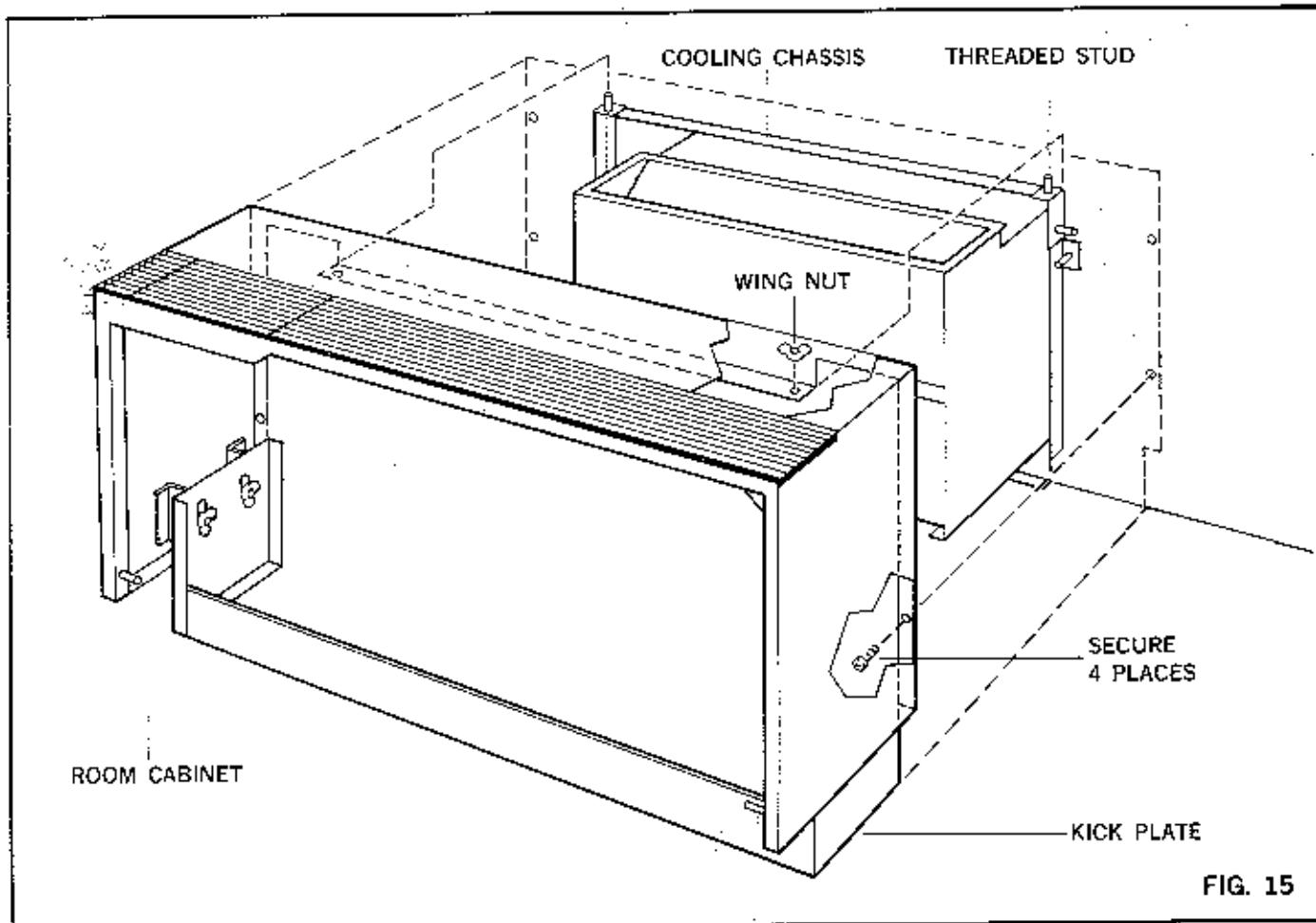


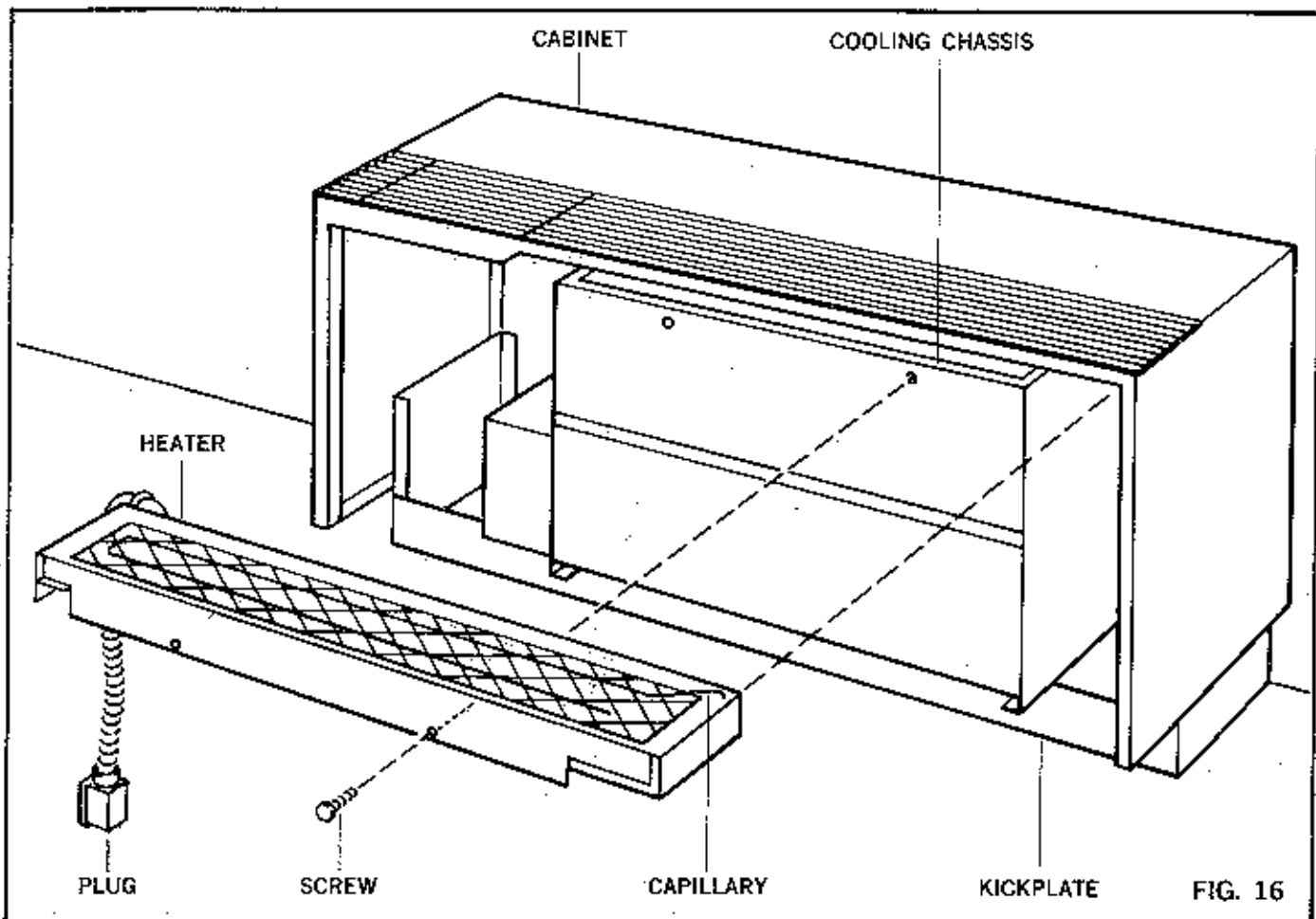
FIG. 15

# ELECTRIC HEAT

## ELECTRIC HEATER INSTALLATION

**Step 1.** Remove and save 2 mounting screws from the top front edge of cooling chassis.

**Step 2.** With heater plug to the left side (control side), slide heat section over the chassis discharge opening. **CAUTION:** Be careful to prevent damage of capillary tube on the top side of the heat section. Push forward until lower front of heat section butts squarely with cooling chassis. Re-install 2 mounting screws to securely attach heat section to chassis.



# CONTROL MODULE

The Control Module is shipped completely factory wired to the power supply terminal board. Wiring from the terminal board to power source is supplied by others.

## CONTROL MODULE INSTALLATION

**Step 1.** Remove and save two (2) mounting screws from top front of control module. Fit aluminum switch plate over push buttons and thermostat shaft. Press thermostat knob into thermostat shaft and unwind thermostat capillary tube.

**Step 2.** Hook slot at the top rear of control module over the support angle in the room cabinet. Swing module upward and forward until mounting holes in module align with mounting slots in the front flange of room cabinet.

**Step 3.** Re-install two (2) mounting screws and tighten securely.

**Step 4.** Remove screw securing front plate to control module and remove front plate.

**Step 5.** Remove knockout in front of terminal block and install connector.

**Step 6.** Install power wiring (supplied by others) to terminal block making connections to L1, Gr And L2 (for 227V L2 connection is neutral.)

**Step 7.** Replace front plate and secure with screw...

**Step 8.** Open blower compartment cover on cooling chassis by loosening two (2) sheet metal screws. Run capillary tube through slot at upper left corner of blower compartment.

**CAUTION:** Be careful not to kink or break capillary tube while unwinding it.

Insert bulb and clip at left hand blower inlet. Tip of bulb must be higher than its junction with the capillary tube and must not come in contact with the blower wheel or motor shaft. Thermo bulb must be located **below** fan motor shaft. Close blower compartment cover and tighten two (2) sheet metal screws.

**Step 9.** Plug heat section cord and cooling chassis cord into the control. The heat section cord and cooling chassis cord are labeled to match their receptacles at the control.

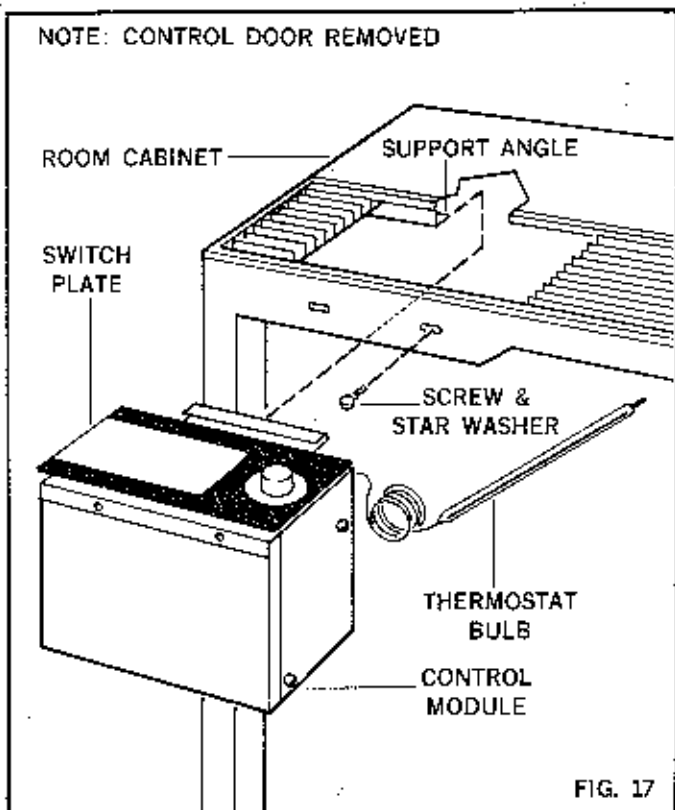
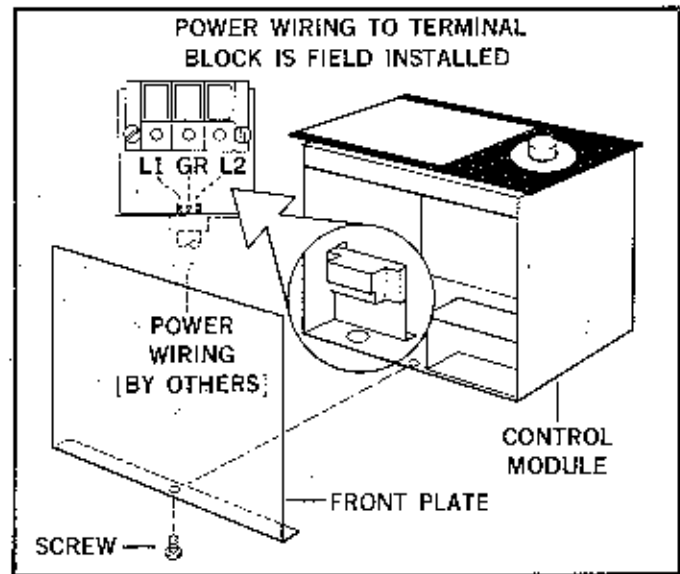


FIG. 17

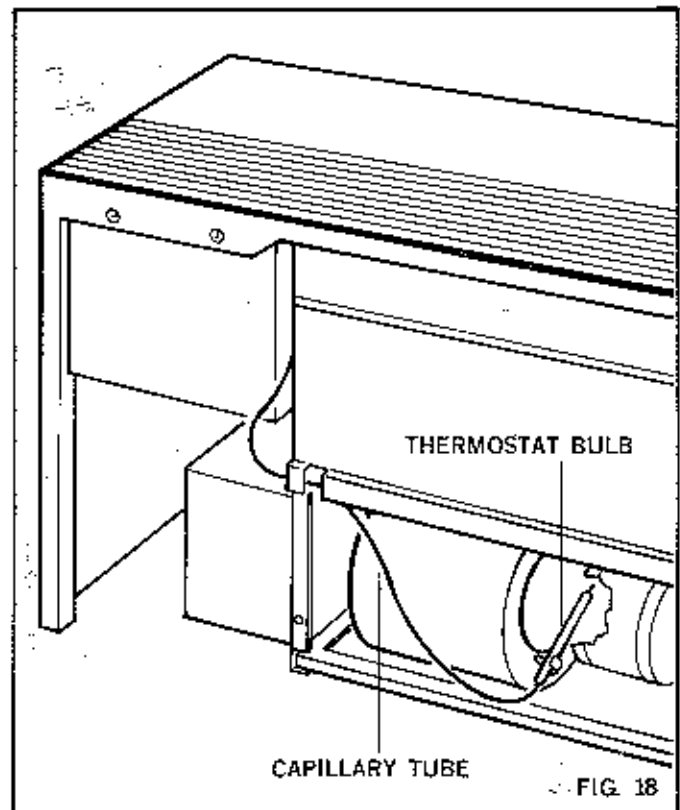


FIG. 18

# START-UP

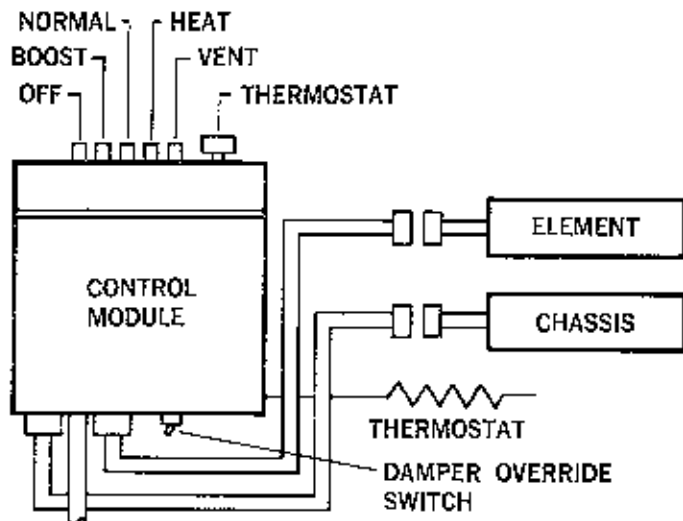
## MANUAL CHANGEOVER

Correct voltage and current must be supplied to each terminal in accordance with the nameplate ratings. The disconnect switch must be closed and all electrical leads must be plugged into the control module in the correct manner. **CAUTION:** Before turning on main power, make certain that all control module STAND-BY (OFF) buttons are down. Standard 5-button control modules provide for STAND-BY (OFF), HI COOL, LO COOL, HEAT and VENT. Each function operates as follows.

A. Set thermostat knob fully clockwise (COOLER) and press HEAT button. Blowers will start immediately at LO speed. Slowly turn thermostat knob fully counterclockwise (WARMER). Heating module will now operate and discharge air will grow warm.

B. Set thermostat knob fully counterclockwise (WARMER). Press LO COOL button. Roomside blowers will run at LO speed. Slowly turn thermostat knob fully clockwise (COOLER). Compressor and condenser blower will now operate and discharge air will grow cooler.

C. With compressor and condenser blower running, press HI COOL button. Roomside blower speed will increase.



TO JUNCTION BOX ON CABINET OR DISCONNECT SWITCH (BY OTHERS)

D. Press VENT button. Compressor and condenser blower will stop. Roomside blower will run at normal speed. The motorized damper will open to admit fresh air to the blower compartment.

E. Press STAND-BY (OFF) button. All operations will stop.

## AUTOMATIC CHANGEOVER

Correct voltage and current must be supplied to each unit in accordance with the nameplate ratings. All electrical leads must be connected to the control module in the correct manner and the disconnect switch must be closed.

**CAUTION:** Before turning on main power, make certain that all control module STAND-BY (OFF) buttons are down.

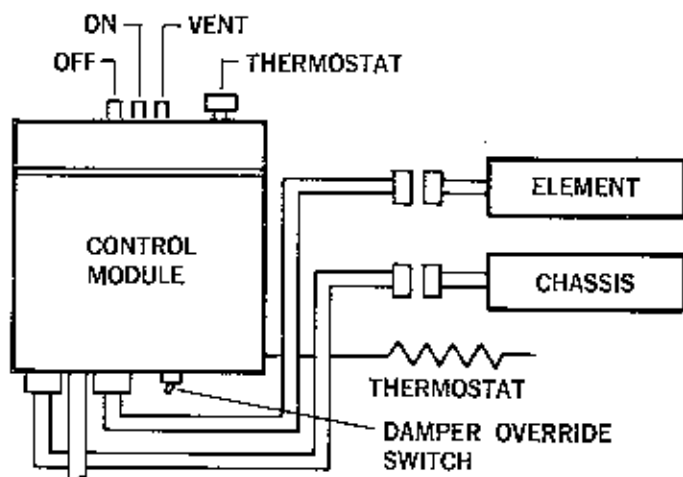
This control includes a 3-button switch that provides for STAND-BY (OFF) ON and VENT. Each function operates as follows:

A. Set thermostat knob fully counterclockwise (WARMER). Press ON button. Roomside blowers will start immediately at LO speed. Motorized damper will open to admit fresh air and the heating module will operate. Within a few moments, the discharge air will become warm.

B. Turn thermostat clockwise (COOLER). Roomside blower speed will increase. Compressor and condenser blower will start and fresh air damper will close. Discharge air will become cool within a few moments.

C. After room has cooled appreciably, the compressor and condenser blower will stop. Roomside blower will switch to LO speed and fresh air damper will reopen.

D. Press VENT button. Roomside blowers will continue to run and motorized damper will open to admit fresh air. Neither the heater or compressor and condenser blower will operate when the VENT button is down.



TO JUNCTION BOX ON CABINET OR DISCONNECT SWITCH (BY OTHERS)

**NOTE:** Fresh air damper will operate only when the damper override switch is set to OPEN position.

E. Press STAND-BY (OFF) button. All operations will stop.

**Friedrich**<sup>®</sup> Climate  
Master  
Series

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Continuing engineering research results in steady improvement. Therefore, these specifications are subject to change without notice.

Form F10150



Printed in U.S.A.