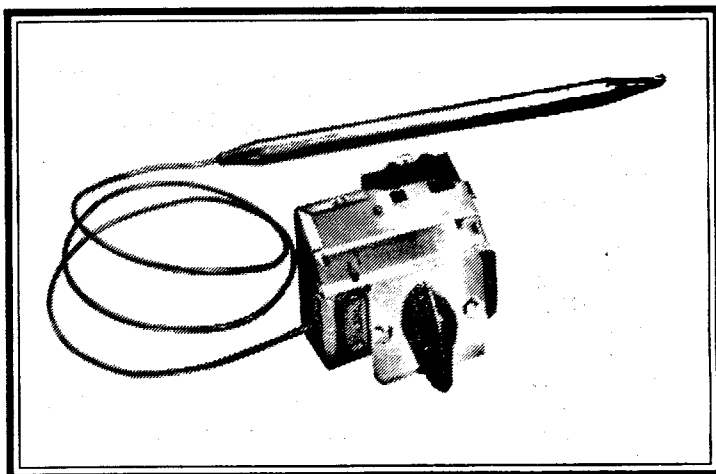


## C17-100 AIR CONDITIONING AND HEATING CONTROL



### APPLICATIONS

Room Air Conditioner-Heat/Cool Units, Packaged-Terminal Air Conditioners, Through-the-Wall Air-Heat/Cool Units.

### DESCRIPTION

The C17 is used on air conditioning equipment and provides either Manual or Automatic Heat Cool change-over. The C17-100 has two separate switches for heating and cooling.

### IMPORTANT

1. The schematic drawings and other information included in these Installation Instructions are for the purpose of illustration and general reference only.
2. These instructions do no expand, reduce, modify or alter the Ranco Terms in any way; and no warranty or remedy in favor of the customer or any other person arises out of these instructions.
3. With very few exceptions Ranco controls have been approved by the Underwriters' Laboratories as UL listed and/or UL recognized (component); however, approval does not extend to their use for any other purpose. Ranco assumes no responsibility for any unconventional application of its control unless such application has been approved in writing by Ranco.
4. This is the responsibility of the customer to assure that his or its application and use of all Ranco products are in compliance with all federal, state and local requirements, including, without limitation, all requirements imposed under the National Electric Code and any applicable building codes.

### CAUTION

To prevent possible electrical shock or equipment damage, disconnect electrical power to the unit before and during installation. DO NOT restore electrical power to unit until the control is properly installed and grounded. DO NOT locate the control in an explosive atmosphere as a safety hazard can result due to possible spark generation in the control. Controls are not to be located in areas of significant moisture, dirt or dust, or in a corrosive explosive atmosphere. Use of controls in such environments may result in injury or damage to the persons or property (or both) and are likely to shorten control life; Ranco assumes no responsibility for any such use.

### ELECTRICAL RATINGS

VOLTAGE, A.C.	MAXIMUM MOTOR FULL LOAD	AMPERE RATINGS LOCKED ROTOR	RESISTIVE LOAD AMPS
120	20	78.0	16.0
240	20	78.0	

### C17-100 CONTROL

The control has two SPDT switches. They are marked on the insulator base as A and B. Each has three separate quick-connect terminals. There are two operating events to each switch ("Cut-In" and Cut-"Out"), making a total of four switching events that govern the overall performance. Each switch has a minimum of 3 1/2° F differential.

### CONTROL EVENTS

The two SPDT switches are referred to as "A" and "B". Identification of these switches is made on the Terminal side (outside) of the common switch insulator block. (SEE FIG.1)

#### A Switch (Terminals 2&3)

In heating applications, the switch events are:

- 2 "Cut-In" on drop of temperature
- 3 "Cut-Out" on rise of temperature

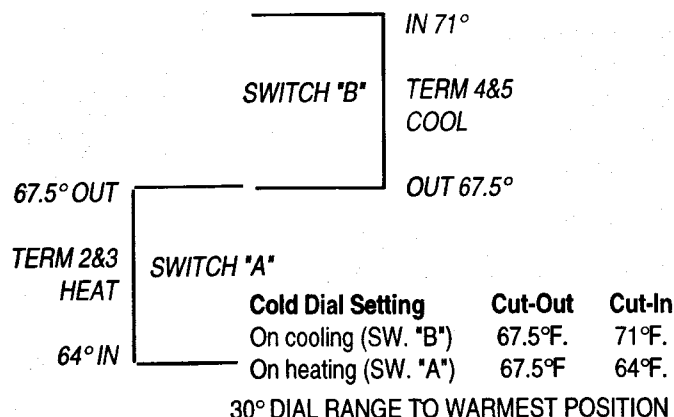
The control, therefore has four (4) switching events.

#### B Switch (Terminals 4&5)

In cooling application, the events of the SPDT switch are:

- 4 "Cut-In" on rise of temperature
- 5 "Cut-Out" on drop of temperature

### TYPICAL EXAMPLE OF CONTROL SETTINGS

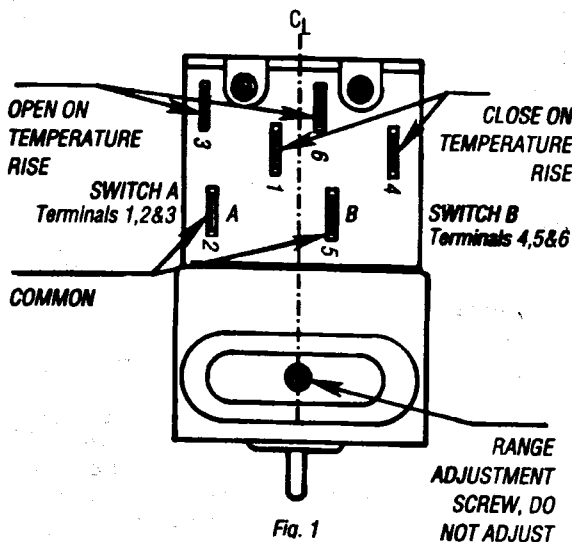


Below are the factory settings with the dial knob on "Cold" and "Warm" cam positions.

Cold Cam	Cut-Out	Cut-In
On Cooling .....	67.5° F.	71° F.
On Heating .....	67.5 F.	64 F.

Warm Cam	Cut-Out	Cut-In
On Cooling .....	101° F.	
On Heating .....	97.5° F.	

## SWITCH TERMINAL WIRING



## INSTALLATION-MOUNT CONTROL

1. Disconnect electrical power from unit.
2. Remove knob and save.
3. Remove unit panels to access the Thermostat area.
4. Label and identify wiring to Thermostat BEFORE you remove it.
5. Disconnect wiring to Thermostat.
6. Remove old Thermostat and Bulb.
7. Install replacement Thermostat and Bulb; same as original.
8. Wiring; same as original
9. Reinstall Access Panel and original knob.
10. Set control at Mid-Point (NORMAL).
11. Reconnect electric power.

## WIRING-TERMINAL DESIGNATIONS - Fig 1

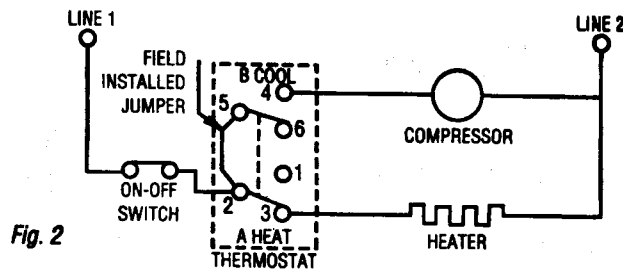
The C17 Thermostat has two SPDT switches which are electrically isolated from each other for automatic or separate manual Heat/Cool change-over. The Heating Switch is called Switch A and is identified by Terminals 1, 2, and 3. The Cooling switch, Switch B, is identified by Terminals 4, 5, and 6. When using the heat switch (Switch A), Terminal 2 is common to Terminals 1 and 3 (See figures 3 and 4). When using cooling switch (Switch B), Terminal 5 is common to Terminals 4 and 6 (See figures 2 and 3).

C17 Switch Terminal	Connects to
2	Power supply for heat and cool circuit
3	Heating Load
4	Cooling Load
5	Jumper to Terminal 2

## AUTOMATIC CHANGE-OVER, TWO STAGE SWITCHING

Connect jumper wire between Terminals 2 and 5 on the C17 control. This provides power to Terminal 5 for separate heating and cooling functions (See Figure 2).

### AUTOMATIC HEAT/COOL CHANGE-OVER

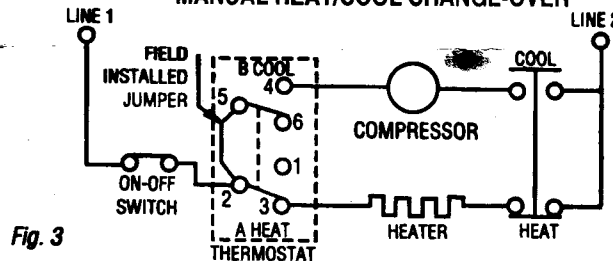


Two-Stage Switching with Automatic Change-over.

## MANUAL CHANGE-OVER, TWO STAGE SWITCHING

Connect jumpers between Terminals 2 and 5 on the C17 control. This provides power to Terminal 5 or separate heating and cooling functions (See Figure 3).

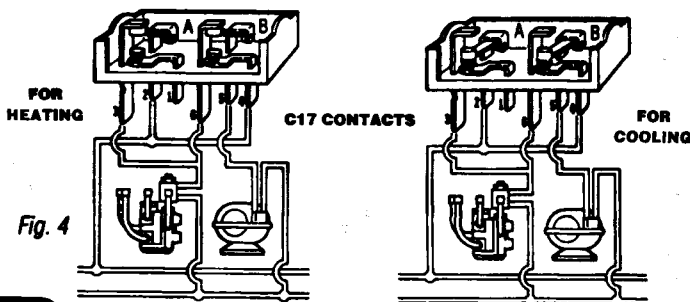
### MANUAL HEAT/COOL CHANGE-OVER



Two-Stage Switching with Manual Change-over for separate Heat/Cool.

## WIRING-REVERSING VALVE - Fig 4

The position of the contacts are schematically presented on a heat pump operating system with a reversing valve for heating and cooling.



Schematic wiring through the C17-100 on Heat Pump System.

