

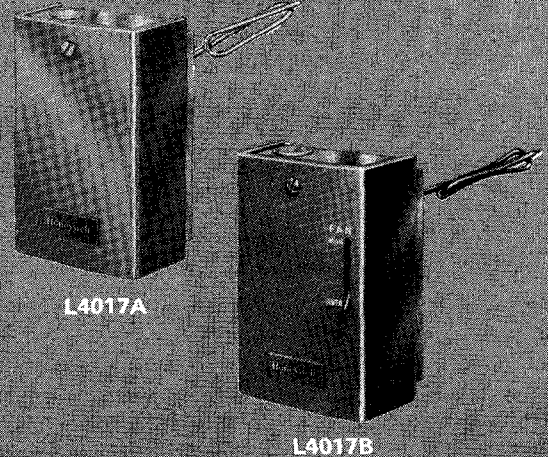
Honeywell

THE L4017 COMBINATION FAN AND LIMIT CONTROL PROVIDES FAN AND HIGH LIMIT SWITCHING FOR ALL TYPES OF FORCED AIR HEATING SYSTEMS.

- The fan switch makes and the limit switch breaks on temperature rise.
- The control may be used in line voltage, low voltage, or millivolt systems.
- The sensing element is installed directly in the plenum duct.
- The liquid-filled element operates independently of changes in pressure.
- Electrical circuits are switched by reliable snap switches.
- Temperature settings are adjustable.
- Fast response sensing elements.
- The sensing element may be bent away from an obstruction if necessary.
- Models available with a manual fan switch.

H.A.
11-75 (.046)

COMBINATION FAN AND LIMIT CONTROLS



L4017A,B

Residential Div. Form Number

60-2259

SPECIFICATIONS

TRADELINE MODELS

Tradeline models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. Tradeline model specifications are the same as those of standard models except as noted below.

TRADELINE MODELS AVAILABLE:

L4017B Combination Fan and Limit Control. MANUAL-AUTO fan switch, 60 inch [1524 mm] capillary sensing element. Includes limit stop adjusting tool and element support bracket.

L4017B Combination Fan and Limit Control. MANUAL-AUTO fan switch and 10 inch [254 mm] self-supporting element. Includes limit stop adjusting tool.

ADDITIONAL FEATURES: Tradeline pack with cross reference label and special instruction sheet.

STANDARD MODELS

MODELS:

L4017A Combination Fan and Limit Control. Unit has adjustable fan-on and high limit set points with fixed limit and adjustable fan differentials. With case and cover.

L4017B Combination Fan and Limit Control. Unit has adjustable fan-on and high limit set points with fixed limit and adjustable fan differentials—with MANUAL-AUTO fan switch. With case and cover.

ELECTRICAL RATING (amperes):

	FAN		LIMIT	
	120V AC	240V AC	120V AC	240V AC
Full Load	14	7	8	4
Locked Rotor	84	42	48	24

0.25 amp at 0.25 to 12V dc (limit only).

Maximum connected load—2000 VA.

MAXIMUM AMBIENT TEMPERATURE: 190 F [88 C] at switches and 300 F [149 C] at sensing element.

LIMIT DIFFERENTIAL: Fixed at 25 F [14 C].

SWITCH ACTION: Fan switch makes at set point (adjustable differential model) and limit switch breaks at set point on temperature rise. Fan switch breaks at set point on model with fixed differential on temperature fall.

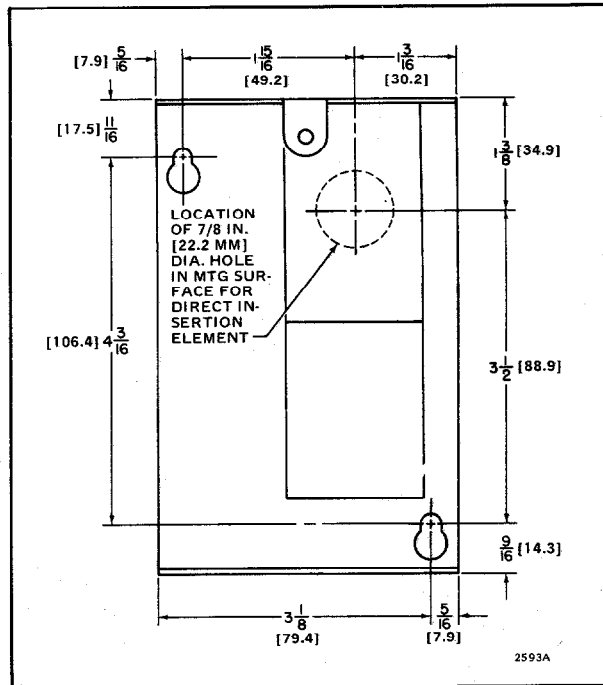


FIG. 1—L4017A AND B DIMENSIONS, IN INCHES [MILLIMETERS IN BRACKETS], AND LOCATION OF MOUNTING HOLES.

(continued on page 3)

ORDERING INFORMATION

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER.

SPECIFY—

1. MODEL NUMBER, TRADELINE IF DESIRED.
2. SELF-SUPPORTING ELEMENT OR CAPILLARY.
3. CAPILLARY LENGTH (CAPILLARY MODELS ONLY).
4. OPTIONAL SPECIFICATION, IF DESIRED.
5. FAHRENHEIT OR CELSIUS SCALEPLATE AND RANGES, IF DESIRED.
6. ACCESSORY, IF DESIRED.

IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WOULD LIKE TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:

1. YOUR LOCAL HONEYWELL RESIDENTIAL DIVISION SALES OFFICE (CHECK WHITE PAGES OF PHONE DIRECTORY).
2. RESIDENTIAL DIVISION CUSTOMER SERVICE
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH
MINNEAPOLIS, MINNESOTA 55422 (612) 542-7500
(IN CANADA—HONEYWELL CONTROLS LIMITED, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9)
INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

LENGTH OF ELEMENT (in inches) [millimeters]:
 Self-supporting model-10 [254] (total length of element).
 Capillary models-24 [609.6], 36 [914.4], and 54 [1371.6] (flexible capillary length). Add 6 [152.4] inches for total length including sensing element.
SENSING ELEMENT: Liquid-filled.
ADJUSTMENT MEANS: Indicators are inside cover.
MOUNTING MEANS: Two holes in backplate.
DIMENSIONS: See Fig. 1.
FINISH: Gray.
UNDERWRITERS LABORATORIES INC COMPO-

NENT RECOGNIZED: File No. MP466, Guide No. MBPR-2.
CANADIAN STANDARDS ASSOCIATION CERTIFIED: File No. LR1620, Guide No. 400-E-0.
OPTIONAL SPECIFICATION: L4017A Combination Fan and Limit Control with fan-off scale. Unit has fixed fan and limit differentials. Fan-on setting is fixed at 33 F [19 C] above fan-off setting. With case and cover.
ACCESSORY: Adapter plate bag assembly, Part No. 21136E, to match mounting holes of competitive devices.

INSTALLATION

CAUTION

1. Installer must be a trained, experienced serviceman.
2. Disconnect electricity before connecting wiring to prevent electrical shock or equipment damage.
3. Conduct a thorough checkout after the installation is complete.

LOCATION

Locate the control on a solid area of the furnace casing or jacket or on the discharge plenum. The stand-off plate furnishes a heat barrier, and a 1/4 inch [6.4 mm] thick asbestos washer (Part No. 106638) is provided to slip over the capillary for air seal between the element clearance hole and the diaphragm power head (see Fig. 4). Since the ambient temperature rating is 190 F [88 C] at the switches, this heat barrier should be adequate for all normal applications.

Locate element where it will be exposed to rapid temperature changes in the furnace. After the fan starts, the element temperature should be affected as much as practicable by the changing temperature of the outlet air and receive only enough radiant heat to reduce element temperature lag. The element should not touch any internal part of the furnace. When provided use the furnace manufacturer's recommendations to determine the exact location (Fig. 3).

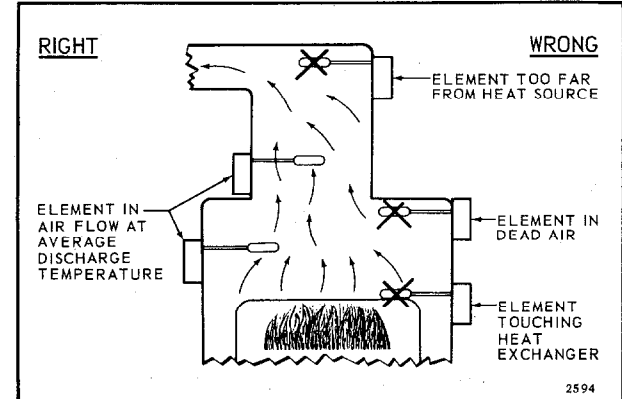


FIG. 3—PROPER AND IMPROPER LOCATIONS FOR SENSING ELEMENT. WHEN PROVIDED, USE THE FURNACE MANUFACTURER'S RECOMMENDATIONS TO DETERMINE THE EXACT LOCATION.

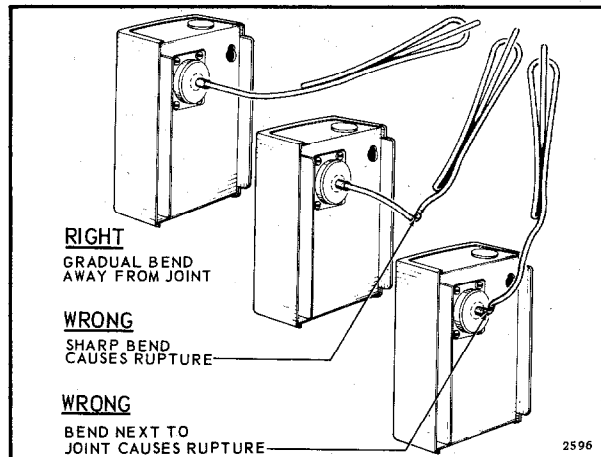


FIG. 2—PROPER POSITIONING OF ELEMENT.

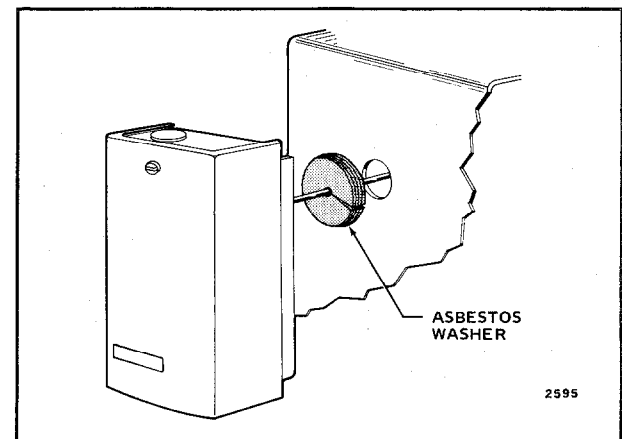


FIG. 4—USE OF ASBESTOS WASHER FOR HEAT BARRIER.

MOUNTING

1. Make a 7/8 inch [22.2 mm] diameter hole where the element is to be inserted.
2. Loosen the cover screw and remove the cover from the L4017.
3. Use the control as a template to mark the location of the 2 mounting holes (see Fig. 1).
4. Punch or drill the holes for the mounting screws.

5. Insert the element into the element opening and slip the asbestos washer over the capillary (Fig. 4). With the 2 screws provided, securely fasten the control to the furnace casing.

6. Position the element as described in Location above, bending as necessary. Avoid sharp bends or repeated flexing with the self-supporting model (Fig. 2).

FLEXIBLE CAPILLARY MODEL

The element must be firmly held in position by use of capillary support, Part No. 107324A, or similar support (Fig. 5).

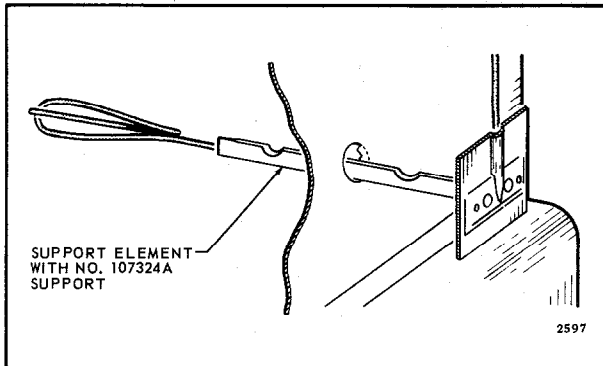


FIG. 5—CAPILLARY SUPPORT.

REPLACEMENT OF SIMILAR DEVICE BY THE L4017

Adapter plate bag assembly, Part No. 21136E, is available to fit mounting holes of similar controls (Fig. 6).

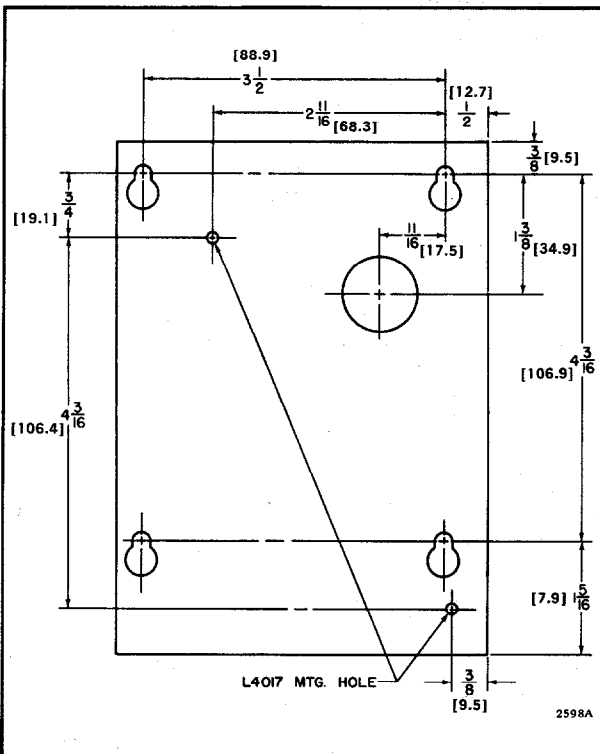


FIG. 6—ADAPTER PLATE AND DIMENSIONS, IN INCHES [MILLIMETERS IN BRACKETS].

WIRING

CAUTION

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

All wiring must comply with applicable local codes and ordinances. Follow the system wiring diagrams furnished with the burner. Figs. 7 and 8 illustrate the connections to the L4017. For ease in wiring, 2 conduit knockouts are furnished at the bottom, and 1 at the top of the case.

CAUTION

A jumper is provided between the fan and the limit terminals. This jumper is used when both the fan and the limit switches are switching line voltage circuits. When the high limit switch is used in the low voltage circuit, remove this jumper.

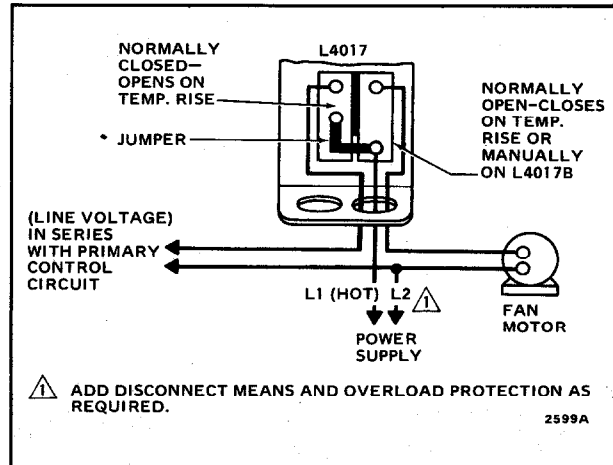


FIG. 7—CONNECTIONS TO L4017 WITH LIMIT SWITCH IN LINE VOLTAGE CIRCUIT (JUMPER IN PLACE).

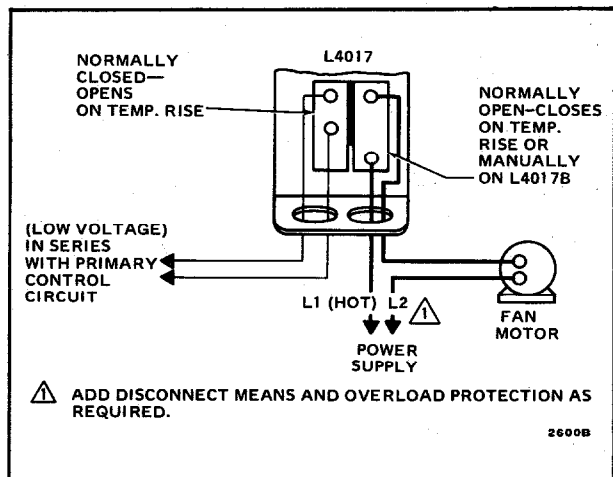


FIG. 8—CONNECTIONS TO THE L4017 WITH LIMIT SWITCH IN LOW VOLTAGE CIRCUIT (JUMPER REMOVED).

SETTINGS

LIMIT SETTING

To set the cutout point for the high limit switch, move the high limit indicator (Fig. 9) to the desired set point. Follow setting instructions furnished by the furnace manufacturer whenever possible. The limit differential is fixed at 25 F [14 C]. The switch breaks at the setting and remakes 25 F [14 C] below the set point.

IMPORTANT

The high limit setting is provided with a stop to limit the maximum temperature setting. Do not force indicator above this point.

FAN SETTING (ADJUSTABLE DIFFERENTIAL)

The fan differential is adjustable from 15 to 50 F [8 to 28 C]. The fan switch makes at the set point and breaks 15 to 50 F [8 to 28 C] below the fan-on setting, depending on the position of the fan adjustment dial. To change the setting, move the fan-on indicator (Fig. 9) to the desired temperature. Set the fan differential adjustment dial (Fig. 9) to the desired differential. For constant fan operation (L4017B only), set the MANUAL-AUTO switch in the manual position.

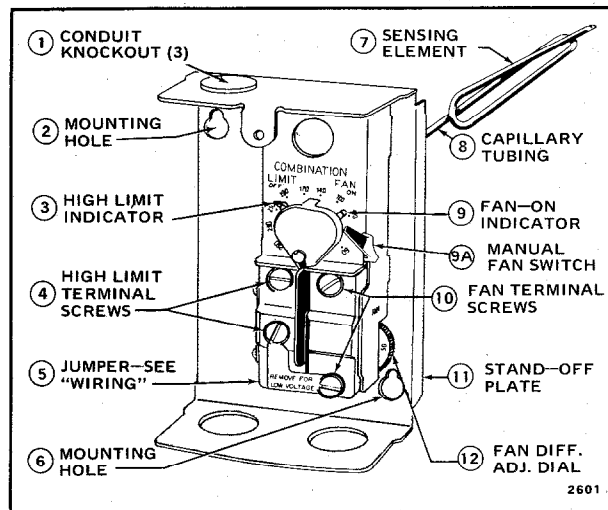


FIG. 9—L4017B WITH COVER REMOVED. L4017A IS SIMILAR BUT DOES NOT INCLUDE THE MANUAL FAN SWITCH.

FAN SETTING (FIXED DIFFERENTIAL)

Set the fan indicator to the desired fan-off temperature. The fan will come on 35 F [19 C] above that setting.

CHECKOUT AND TROUBLESHOOTING

CHECKOUT

1. Follow the furnace manufacturer's instructions for placing the furnace in operation. If a manual reset Pilotstat control is used, make sure that it is holding in.

2. Set the thermostat and limit control to call for heat. The main burner should light.

3. To check the high limit control, disconnect the fan motor and close all dampers. Set thermostat to call for heat. Main burner should light. When plenum temperature reaches limit control setting, main burner should shut off. When checkout is complete, connect fan motor and open all dampers.

4. Make sure that the fan operates when the furnace temperature rises to the setting and shuts off when temperature drops below set point and through the desired

differential. On fixed differential models, the fan should operate when furnace temperature rises to setting plus differential and shut off when temperature drops to setting.

OVERHEATING FURNACE (LIMIT SWITCH FREQUENTLY CUTS OUT)

1. Make sure fan is operating by jumpering across the fan terminals. If fan does not operate, check the wiring.

2. Make sure that fan setting is low enough so that the hot air is circulated from the furnace before the plenum temperature nears the high limit setting.

3. If limit switch continues to cut out, check for obstruction to airflow through furnace. Inspect for clogged air filters and improperly adjusted dampers.

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