

# Honeywell

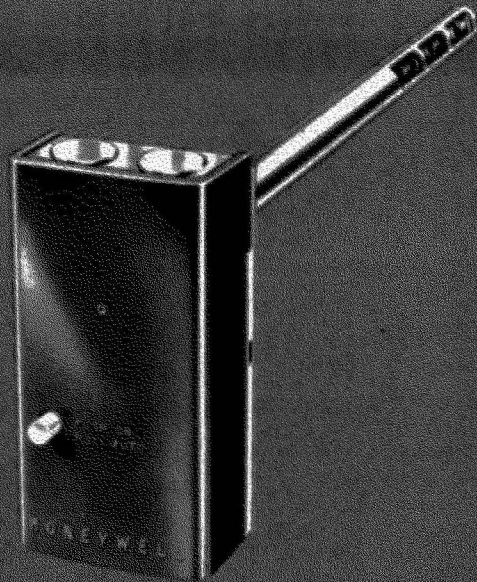
L4064 COMBINATION WARM AIR FAN AND LIMIT CONTROLLERS ARE SUITABLE FOR ALL TYPES OF FORCED AIR HEATING SYSTEMS.

- L4064A-F,J and R turn fan on and off according to plenum temperature.
- L4064T has bimetal heater which turns fan on 90 seconds (nonadjustable) after the thermostat calls for heat. Fan turns off according to plenum temperature.
- The L4064B,D,F,R and SUPER TRADELINE model of L4064T have a manual fan switch which overrides the fan set points and keeps the fan running continuously.
- The L4064J and R have a special high temperature range suitable for gravity heating systems.
- Variety of fan and high limit setting ranges available.
- Push-in terminals provided to speed installation.
- Rigid or swivel bracket mounting, or surface mounting.
- Suitable for line voltage, low voltage, or self-generating Powerpile control applications.
- Slotted wiring knockouts for easy installation.
- Strain relief bushings included with SUPER TRADELINE and TRADELINE models protect wiring from field abuse.
- L4064 adapts to many competitive mounting holes for ease in replacement installations.
- SUPER TRADELINE and TRADELINE models include deluxe case with mounting adapters and screw terminal adapters for easy installation.

G.S.  
REV. 4-81\*

Form No.  
60-2258-2

## FAN AND LIMIT CONTROLLERS



## L4064A-F,J,R,T

# SPECIFICATIONS

**IMPORTANT**

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

## SUPER TRADELINE / TRADELINE MODELS

SUPER TRADELINE/TRADELINE models offer features not available on TRADELINE or standard models, and are designed to replace a wide range of Honeywell and competitive models. SUPER TRADELINE/TRADELINE models are selected and packaged to provide ease of stocking and handling as well as maximum replacement value. Specifications for SUPER TRADELINE and TRADELINE models are the same as those of standard models except as noted below.

**SUPER TRADELINE MODELS AVAILABLE:**

- L4064B Fan and Limit Controller.
- L4064T Fan and Limit Controller.

**SUPER TRADELINE FEATURES INCLUDE:**

- Universal adapters for 5/8, 3/4, and 1 in. diameter elements.
- Wiring space for related controls.
- All TRADELINE pack features as listed below.

**TRADELINE MODELS AVAILABLE:**

- L4064B Fan and Limit Controller.

**TRADELINE FEATURES INCLUDE:**

- High limit stop—adjustable, factory-set at 200 F [93 C].

- Mounting means—surface or rigid bracket.
- Two round wiring knockouts in top and 2 slotted in bottom of case.
- 110265A Rigid Bracket, single wing with No. 8-32 setscrew.
- Mounting screws provided.
- 123198A Push-in Screw Terminal Adapter.
- 127123 Steel Bushing with 135236 Wire Snap Ring to adapt insertion element to 1 in. [25.4 mm] hole in plenum.
- 137813 Strain Relief Bushing.
- TRADELINE pack with cross reference label and special instruction sheet.

## STANDARD MODELS

MODELS: L4064A—F,J,R,T Fan and Limit Controllers. See Tables I and II. Table I gives specifications in

Fahrenheit degrees. Table II gives specifications in Celsius degrees.

TABLE I — L4064 SPECIFICATIONS IN DEGREES FAHRENHEIT.

MODEL	SENSING ELEMENT	MANUAL FAN SWITCH	SCALE RANGE	FAN-ON		FAN-OFF		HIGH LIMIT	
				RANGE	FACTORY-SET	RANGE	FACTORY-SET	RANGE	FACTORY-SET
L4064A	Helical bimetal	No	50 to 250	65 to 215	125	50 to 200	100	100 to 250	250
L4064B		Yes							
L4064C	Flat, spiral bimetal	No	250	215	125	200	100	250	250
L4064D		Yes							
L4064E	Helical bimetal	No	80 to 350	100 to 305	125	80 to 290	100	150 to 350	250
L4064F		Yes							
L4064J	Helical bimetal	No	80 to 350	100 to 305	125	80 to 290	100	150 to 350	250
L4064R		Yes							
Standard L4064T		No	50 to 250	None — fan comes on 90 sec. after call for heat	125	50 to 200	100	100 to 250	250
SUPER TRADELINE L4064T		Yes	50 to 250	None — fan comes on 90 sec. after call for heat	125	50 to 200	100	100 to 250	250

(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, OR SPECIFY—

1. Order number.
2. Insertion depth—L4064A,B,E,F,J,R,T only.
3. Adjustable high limit stop, if desired (include desired set point).
4. Accessories, 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 GROUP SALES OFFICE (CHECK WHITE PAGES OF PHONE DIRECTORY).
2. RESIDENTIAL GROUP 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.

TABLE II – L4064 SPECIFICATIONS IN DEGREES CELSIUS.

MODEL	SENSING ELEMENT	MANUAL FAN SWITCH	SCALE RANGE	FAN-ON		FAN-OFF		HIGH LIMIT	
				RANGE	FACTORY-SET	RANGE	FACTORY-SET	RANGE	FACTORY-SET
L4064A	Helical bimetal	No	10 to 121	18 to 102	52	10 to 93	38	38 to 121	121
L4064B		Yes							
L4064C	Flat, spiral bimetal	No	10 to 121	18 to 102	52	10 to 93	38	38 to 121	121
L4064D		Yes							
L4064E	Helical bimetal	No	27 to 177	38 to 152	None – fan comes on 90 sec. after call for heat	27 to 143	66 to 177	38 to 121	121
L4064F		Yes							
L4064J	Helical bimetal	No	27 to 177	38 to 152	None – fan comes on 90 sec. after call for heat	27 to 143	66 to 177	38 to 121	121
L4064R		Yes							
Standard L4064T	SUPER TRADELINE L4064T	No	10 to 121	18 to 102	None – fan comes on 90 sec. after call for heat	10 to 93	38 to 121	38 to 121	121
		Yes							

ELECTRICAL RATINGS (amperes):

	120 Vac		240 Vac		24 Vac		
	FAN	LIMIT	FAN	LIMIT	FAN	LIMIT	TIMER
Full Load	14	8	7	4	—	—	—
Locked Rotor	84	48	42	24	—	—	—
Max. Amp	—	—	—	—	—	2	.2

HIGH LIMIT DIFFERENTIAL: 25 F [14 C].  
 LIMIT STOP SETTING: 150 F to 250 F [66 C to 121 C] in 10 F [5.6 C] increments (specify when ordering).  
 MINIMUM SWITCH TEMPERATURE:  
 L4064A,T—minus 40 F [minus 40 C].  
 L4064B-F,J,R—plus 32 F [0 C].  
 MAXIMUM SWITCH TEMPERATURE: 190 F [88 C].  
 MAXIMUM ELEMENT TEMPERATURE:  
 L4064A-F,T—350 F [177 C].  
 L4064J,R—600 F [316 C].  
 MOUNTING DIMENSIONS: See Fig. 1.

Pilot Duty—2 A at 25 Vac; 0.25 A at 0.25 to 12 Vdc.  
 Maximum Combined Connected Load—2000 VA.

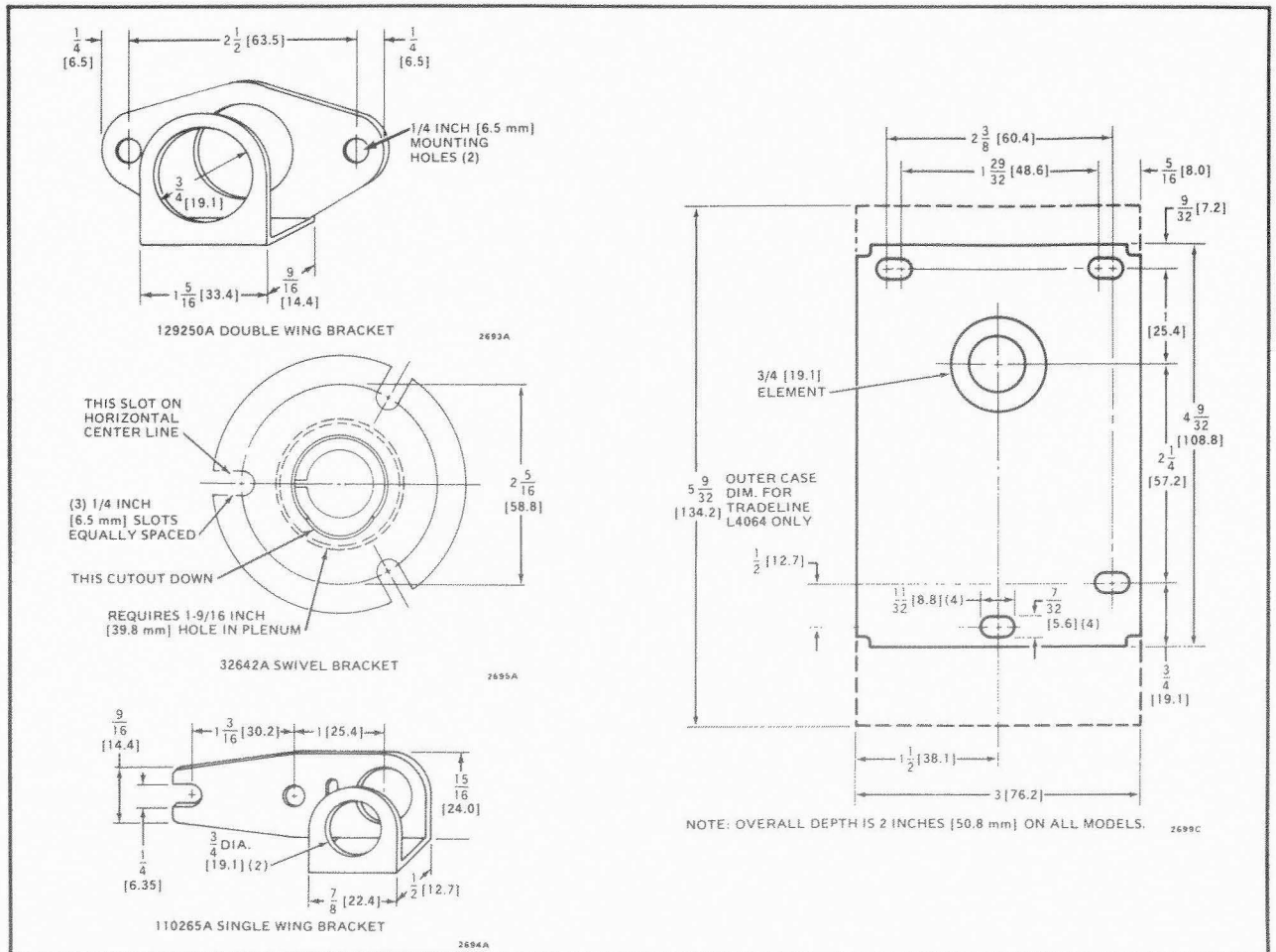


FIG. 1—MOUNTING DIMENSIONS IN in. [mm IN BRACKETS].

#### MOUNTING MEANS:

L4064A,B,E,F,J,R,T—rigid bracket, swivel bracket, or flush mounting.

L4064C,D—flush mounting only.

CASE DIMENSIONS: See Fig. 1.

#### ELEMENT DIMENSIONS:

L4064A,B,E,F,J,R,T (helical)—3/4 in. [19.1 mm] diameter; 5, 8, or 11-1/2 in. [127, 203.2 or 292.1 mm] insertion.

L4064C,D (flat spiral)—1-1/2 in. [38.1 mm] diameter; 1-1/2 in. [38.1 mm] insertion.

ADJUSTMENT MEANS: Adjustable levers on scaleplate.

FINISH: Zinc-plated steel.

#### WIRING KNOCKOUTS:

L4064A-F,J,R—two in bottom of case, slotted for easy installation.

L4064T—has one knockout in bottom of case.

UNDERWRITERS LABORATORIES INC. APPROVALS:  
L4064A,B,C,D,T LISTED—File MP466, Guide MBPR;  
L4064E,F,J and R COMPONENT RECOGNIZED—File MP466, Guide MBPR2.

#### ACCESSORIES:

1. 110265A Rigid Bracket—single wing, with No. 8-32 setscrew.
2. 129250A Rigid Bracket—double wing, with No. 8-32 setscrew.
3. 32612A Swivel Bracket.
4. 137813 Strain Relief Bushing.

## INSTALLATION

#### WHEN INSTALLING THIS PRODUCT . . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

### CAUTION

1. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage.
2. When connecting cable or conduit to control, avoid straining the control case.

Follow furnace or burner manufacturer's instructions, if available. Do NOT exceed the ratings and limitations given in this section.

#### LOCATION

If this is a replacement installation, locate the L4064 in the same location as the control being replaced. Sensing tube length should be same as old control. If this is a new installation, the element should be installed only by a trained, experienced service technician according to the furnace manufacturer's instructions. The element must not touch any internal part of the furnace.

NOTE: The electrical rating is at maximum switch temperature of 190 F [88 C]. If plenum surface temperature exceeds 190 F [88 C], heat insulating material or mounting bracket must be used. The L4064J,R requires the use of a bracket in gravity systems.

#### MOUNTING

The devices may be mounted as follows:

L4064A,B,E,F,J,R,T—flush mounting or bracket (rigid or swivel).

L4064C,D—flush mounting only.

#### FLUSH MOUNTING

L4064A,B,E,F,J,R,T

Hole in plenum should be just large enough to accommodate the 3/4 in. [19.1 mm] diameter element tube. For adequate clearance an 0.80 in. [20.3 mm] diameter hole is recommended.

L4064C,D

Hole in plenum should be 1-9/16 in. [39.7 mm] diameter to accommodate the 1-1/2 in. [38.1 mm] diameter element.

1. Remove cover by squeezing sides and pulling off. Insert element in plenum and mark location of mounting holes. Make sure the case is snug against the plenum before marking the mounting holes.
2. Punch or drill holes for mounting screws.
3. Place insulation between plenum and case if necessary.
4. Fasten controller securely with mounting screws.

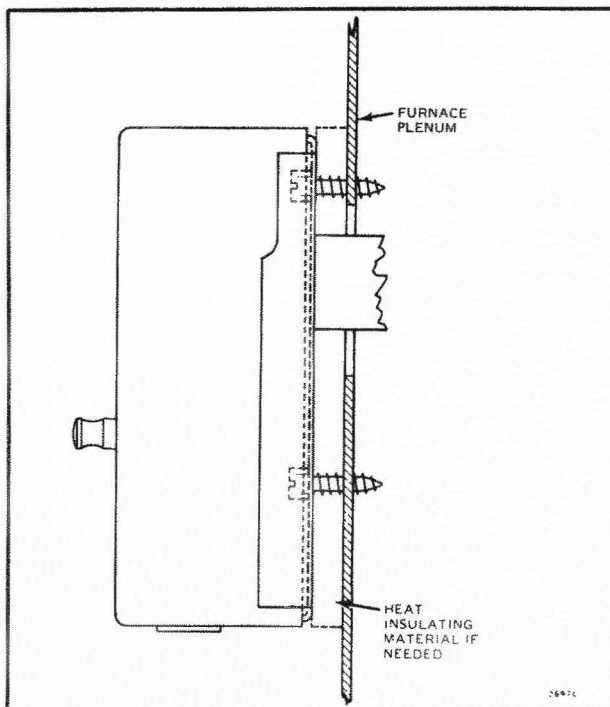


FIG. 2—FLUSH MOUNTING (L4064A,B,E,F,J,R,T). REQUIRES A HOLE 0.80 in. [20.3 mm] DIAMETER IN THE PLENUM.

### SWIVEL MOUNTING

L4064A,B,E,F,J,R,T may be swivel mounted. The swivel bracket requires a 1-9/16 in. [39.7 mm] hole in the plenum (Fig. 3).

1. Use bracket as a template to make the location of mounting holes in plenum. Drill or punch holes for mounting screws.
2. Fasten the bracket in place with furnished screws. Start the screws but do not tighten.
3. Insert element tube through bracket, straighten controller, and fasten. Tighten the mounting screws securely. It may be necessary to rotate the bracket to tighten all screws securely.

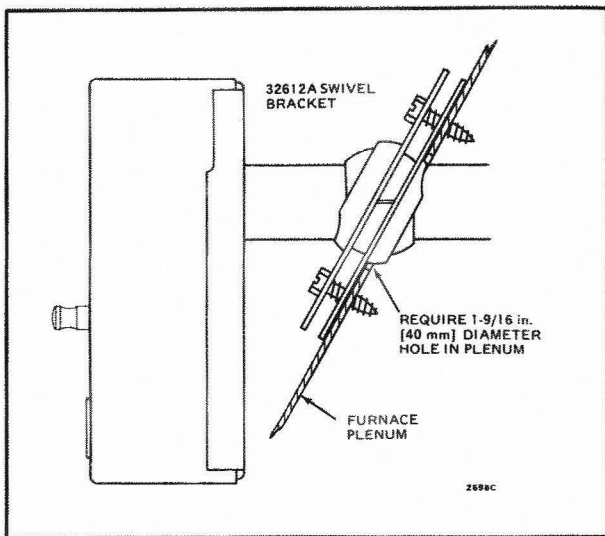


FIG. 3—SWIVEL MOUNTING. REQUIRES A 1-9/16 in. [39.7 mm] DIAMETER MOUNTING HOLE FOR ELEMENT INSERTION.

### RIGID BRACKET MOUNTING

WARNING

When mounting control on bracket, make sure setscrew strikes tube frame and not inner sensing element.

L4064A,B,E,F,J,R,T may be mounted using a rigid bracket. The rigid bracket requires a hole 0.80 in. [20.3 mm] diameter for mounting (Fig. 4).

1. Use bracket as a template to mark the location of mounting holes in plenum. Drill or punch holes for mounting screws.
2. Fasten bracket in place with furnished screws. Tighten the screws securely.
3. Insert element tube through bracket, straighten controller and fasten by tightening setscrew. Be sure screw strikes tube frame and does not strike inner sensing element.
4. For replacement installations with existing 1 in. [25.4 mm] diameter hole. SUPER TRADELINE and TRADELINE models are supplied with split steel bushings and wire snap ring. Follow the instructions below for using the steel bushing adapter.

### STEEL BUSHING ADAPTER (SUPER TRADELINE and TRADELINE models)

1. Insert one-half of the split steel bushing through the wire ring (Fig. 5). It may be necessary to spread the ring slightly.
2. Insert the other half of the steel bushing into the ring making sure tabs and ears are at the same ends.
3. Place bushing assembly on element, ear end first.
4. Holding bushing at seams, push firmly to the control end of element.
5. Insert element tube with adapter through bracket, straighten controller and fasten. Tighten setscrew. Be sure screw strikes bushing and not inner sensing element.

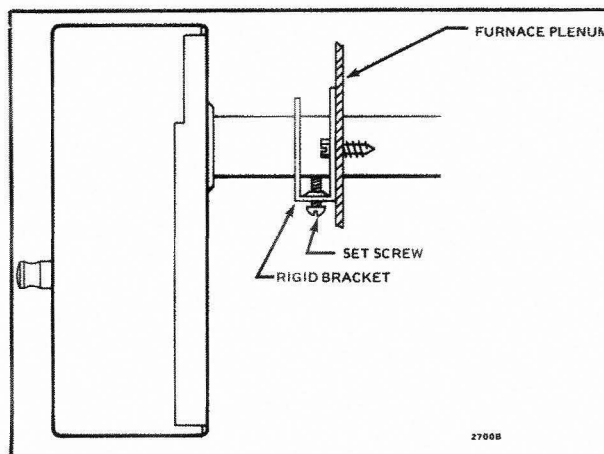


FIG. 4—RIGID BRACKET MOUNTING REQUIRES A HOLE 0.80 in. [20.3 mm] DIAMETER FOR MOUNTING.

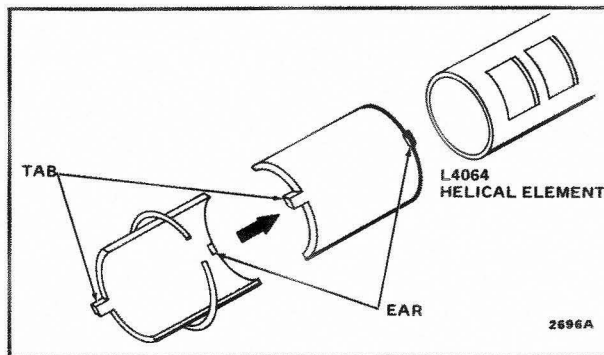


FIG. 5—USING TRADELINE ADAPTER.

### WIRING

Disconnect power supply before beginning installation to prevent electrical shock and equipment damage.

All wiring must comply with local electrical codes and ordinances or in the absence of local codes with the National Electrical Code ANSI C1-1981—NFPA 70. Follow burner or furnace manufacturer's instructions if available; otherwise, proceed as follows.

IMPORTANT

The metal-fiberboard jumper must be removed when the limit is used in the low voltage circuit. To remove, pull out. To replace, push metal fiberboard jumper in with tab side up.

## INSTALLATION (SUPER TRADELINE/TRADELINE shown)

The slotted knockouts on the bottom of the case and the strain relief bushing are provided to simplify the installation procedure and to protect the wires.

1. To remove the slotted knockout(s), use a long-nose pliers as shown in Fig. 6 and pull straight down.



FIG. 6—REMOVING SLOTTED KNOCKOUTS.

2. Insert the strain relief bushing into the knockout as shown. The open side of the bushing should face the open side of the knockout.

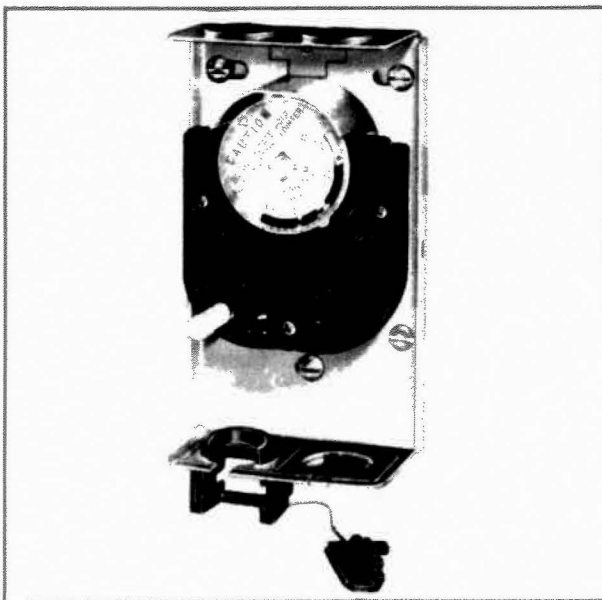


FIG. 7—INSERT STRAIN RELIEF BUSHING.

3. Connect wire to the push-in terminals, pull wires through slot, and lay side by side.

4. When the wires have been connected to the control, close the movable gate on the strain relief bushing. Use a channel lock pliers to snap the gate shut (Fig. 8).

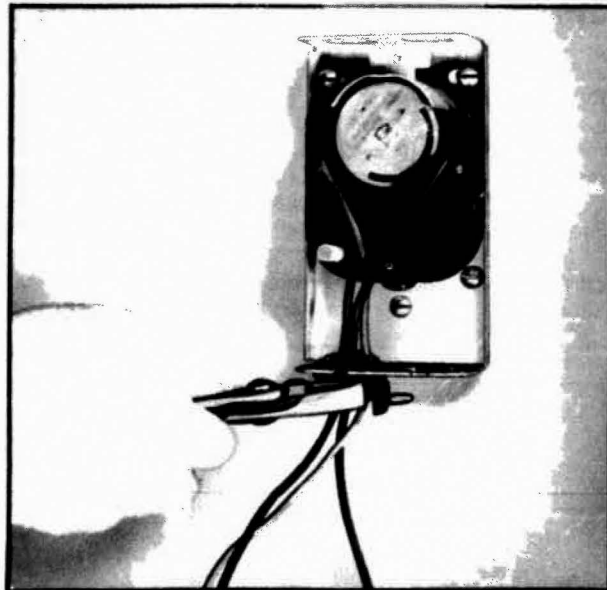


FIG. 8—CLOSING THE STRAIN RELIEF BUSHING.

When connecting cable or conduit to this control, use care to avoid strain on the control case. When connecting wires to the push-in terminals, use the following procedure:

1. No. 14, 16, or 18 solid or No. 14 or 16 stranded wire may be connected to the terminals.

2. Strip insulation from wires the distance shown by the strip gauge on the controller.

3. Solid wire may be inserted by pushing into the terminal holes. If stranded wire is used, insert a small screwdriver into the slot next to the terminal (Fig. 9). Push in and hold while inserting wire in terminal. Then remove screwdriver. Stranded wire may be pushed directly in if solder dipped.

### IMPORTANT

All wires must be clear of rotating scaleplate.

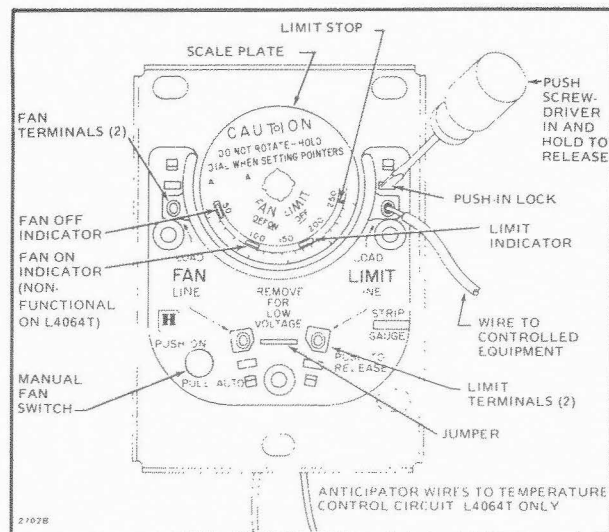
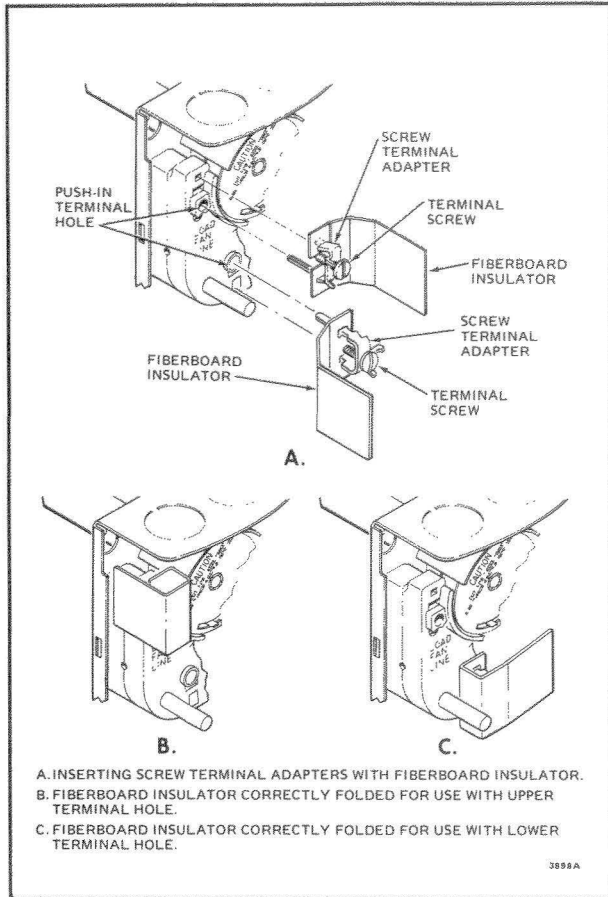


FIG. 9—INTERNAL VIEW OF L4064, SHOWING USE OF SCREWDRIVER TO CONNECT OR DISCONNECT WIRES AT PUSH-IN TERMINALS. NOTE: BECAUSE THE DIAL TURNS WHEN THE ELEMENT TEMPERATURE CHANGES, THE LETTERING ON THE DIAL MAY NOT BE HORIZONTAL.

**SCREW TERMINAL ADAPTERS  
(SUPER TRADELINE and  
TRADELINE models only)**

Two 123198A Screw Terminal Adapters are provided with SUPER TRADELINE and TRADELINE models for converting push-in terminals to screw type terminals. These are for use on the fan side of the

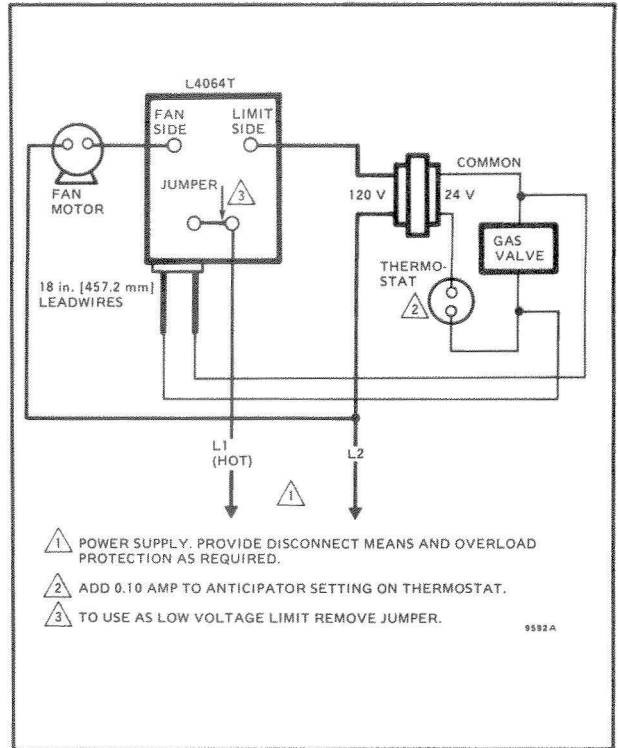


**FIG. 10—INSTALLING SCREW TERMINAL ADAPTER.**

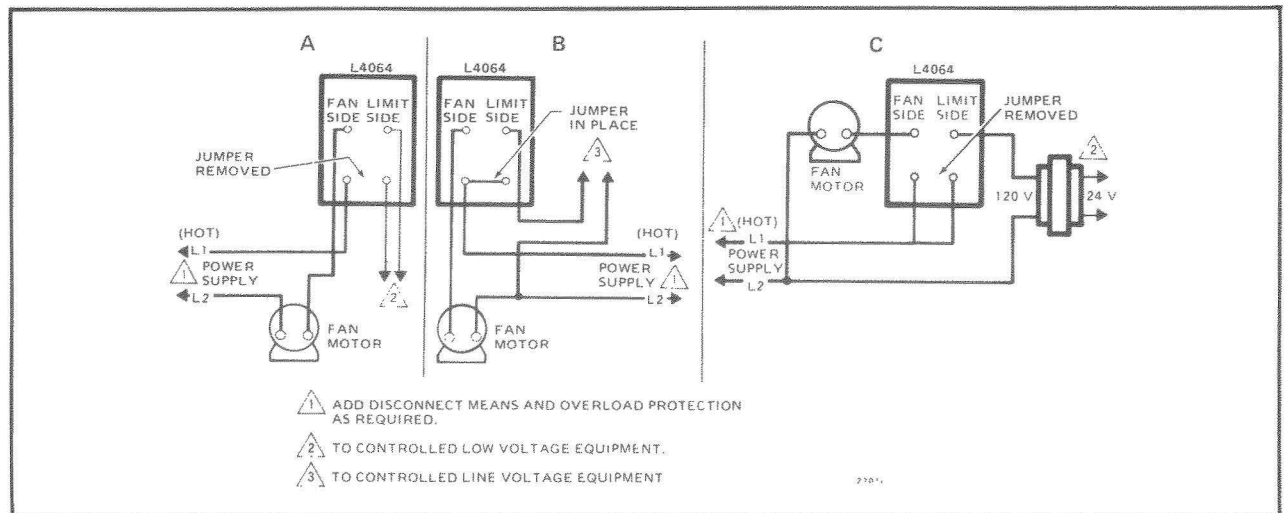
switch when it is desirable to connect more than one wire to a terminal.

**NOTE:** Because of temperature limitations on field wiring, the screw adapters should be used **ONLY** when the L4064 is installed on a mounting bracket. Do not remove fiberboard insulator from upper adapter; this insulates the adapter from the dial.

To install, push long, serrated prong all the way into the round terminal hole so that tip of small prong fits into square hole (Fig. 10).



**FIG. 12—L4064T 3-WIRE LINE VOLTAGE HOOKUP.**



**FIG. 11—A: LIMIT IN LOW VOLTAGE CIRCUIT.  
 B: LIMIT IN LINE VOLTAGE CIRCUIT.  
 C: LIMIT IN LINE VOLTAGE CIRCUIT WITHOUT JUMPER.**

# SETTINGS AND ADJUSTMENTS

## CAUTION

When adjusting the fan and limit setting levers, hold the scaleplate dial to keep it from turning and straining the sensing element.

## IMPORTANT

To L4064T uses a bimetal heater to turn on the fan 90 seconds after a call for heat. When the call for heat ends, the fan will continue to run until the fan-off temperature is reached. If the L4064T is used to replace an L4064A or B, the blower fan may circulate cold air until the plenum heats up. No adjustment of the fan-on time is possible.

Move the setting levers to the control points recommended by the burner or furnace manufacturer. Use gentle finger pressure.

1. Move the FAN OFF setting lever to the temperature at which the fan is to stop to prevent circulation of cool air.

2. Move the FAN ON setting lever as follows:  
L4064A-F—FAN ON range is from 15 F [8 C] above the FAN OFF setting to 35 F [19 C] below the LIMIT OFF setting.

L4064J,R—FAN ON range is from 20 F [11 C] above the FAN OFF setting to 45 F [25 C] below the LIMIT OFF setting.

L4064T—Move the FAN ON indicator as needed for setting the FAN OFF indicator and LIMIT indicator. The FAN ON indicator is nonfunctional on the L4064T; the bimetal heater acts to turn on the fan 90 seconds after a call for heat from the thermostat.

3. Move the LIMIT setting lever to the temperature at which the high limit switch is to break the burner circuit. L4064A-F,T limit range is 100 F to 250 F [55 C to 139 C]; L4064J,R limit range is 150 F to 350 F [83 C to 194 C].

## MANUAL SWITCH (L4064B,D,R,T)

For constant fan operation (overriding fan setting levers), push the FAN switch button in. For fan to cycle automatically, pull button out.

# OPERATION

L4064A-F,J,R—As the plenum temperature rises, the bimetal sensing element of the control warps and mechanically makes the fan contacts (at the FAN ON temperature setting). During normal operation, the call for heat ends before the LIMIT setting is reached and the fan contacts break as the plenum temperature falls and the FAN OFF setting is reached.

If the call for heat continues until the temperature in the plenum rises to the LIMIT setting, the bimetal

element will mechanically break the limit contacts and de-energize the gas control circuit.

L4064T—The operation of the L4064T is the same as that of the L4064B except that this combination fan and limit control uses a bimetal heater to heat its bimetal sensing element. This heater acts to anticipate the rise in plenum temperature and turns on the fan 90 seconds after the thermostat calls for heat.

# CHECKOUT

When installation is complete, turn on the power supply. Disconnect the fan at the fan motor or L4064. Set thermostat to call for heat. Burner should come on and limit controller should shut burner off when plenum temperature reaches the limit set point. Turn off power, reconnect the fan switch, turn on power and again set

thermostat to call for heat. On L4064A-F,J,R fan should come on when plenum temperature has reached fan-on setting. On L4064T, fan should come on 90 seconds after call for heat. Fan should shut off on all L4064 models when call for heat ends and plenum has cooled to fan-off setting.

Dear Customer,

We welcome your comments and suggestions for improving this publication. Your assistance is greatly appreciated and will enable us to provide better technical information for you.

Please send your comments and suggestions to:

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