

**READ AND SAVE  
THESE INSTRUCTIONS**

## **IMPORTANT INSTRUCTIONS**

### **READ ALL INSTRUCTIONS BEFORE INSTALLING OR USING THIS HEATER.**

To reduce the risk of fire, electric shock, or injury to persons, observe the following:

1. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the address or telephone number listed in the warranty.
2. Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.
4. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, etc. and curtains at least 3 feet (0.9 m) from the front of the heater.
6. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
7. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before reusing.
8. Do not use outdoors.
9. To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel (or operate internal disconnect switch, if provided).
10. Do not insert or allow foreign objects to enter any ventilation or exhaust opening, as this may cause an electric shock or fire, or damage the heater.
11. To prevent a possible fire, do not block air intakes or exhaust in any manner.
12. A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.
13. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
14. This product is designed for installation in flat ceilings only. **DO NOT MOUNT THIS PRODUCT IN A WALL.**
15. **MODEL 161 ONLY:** Install housing no closer than 6" from side wall. For supply connections, use wire suitable for 75°C minimum. Do not install insulation within 3 inches of top or sides of housing.
16. To avoid electrical shock: Do not install unit in a tub or shower enclosure or any location where it may come in contact with water. Never place a switch where it can be reached from a tub or shower.
17. Do not connect heater to dimmer switch or speed control.
18. This product must be grounded.

### **SAVE THESE INSTRUCTIONS**

**INSTALLER: Leave This Manual With The Homeowner. HOMEOWNER: Use and Care Information on Page 3.**

# PLANNING

Choose the location for your heater. Refer to "IMPORTANT INSTRUCTIONS" above.

## MODELS 162 & 164 ONLY:

**THE UNIT WILL OPERATE MOST EFFICIENTLY WHEN LOCATED WHERE THE SHORTEST POSSIBLE DUCT RUN AND MINIMUM NUMBER OF ELBOWS WILL BE NEEDED. UNITS ARE DESIGNED FOR USE WITH STANDARD 4" ROUND DUCT.**

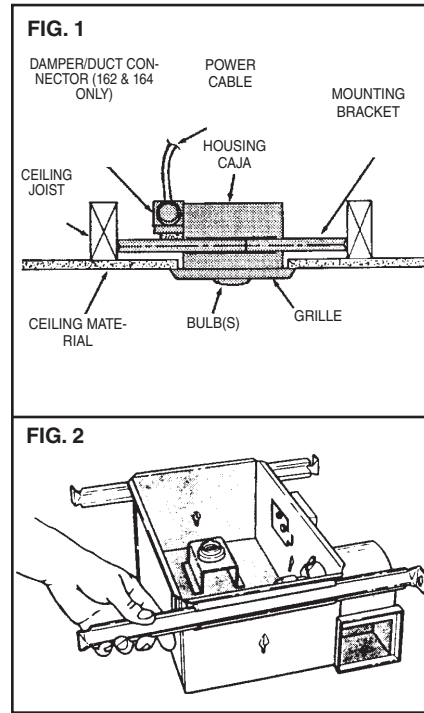
Note that two-bulb units (163 & 164) can be fitted with one infrared bulb (for heat) and one reflector bulb (for light). Dual or multi-controls can be used for separate control of bulbs and/or exhaust fan. Purchase controls separately.

Follow these basic steps when installing this unit: (Fig. 1)

- Nail unit to joists.
- Attach ductwork (Models 162 or 164 only).
- Connect power cable.
- Fasten grille to housing.

# PREPARATION

1. Remove the unit from carton. Save carton for use as plaster shield in rough-in installations.
2. Slide adjustable mounting brackets into bracket channels on housing. (Fig. 2)



# INSTALLATION

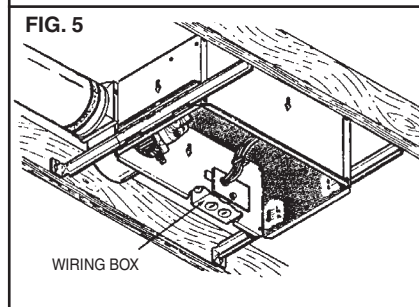
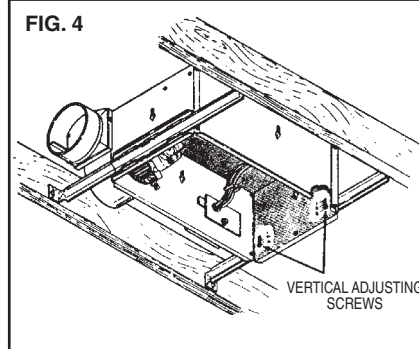
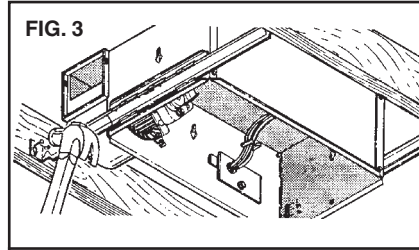
**WARNING:** To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.

**CAUTION:** High temperature, risk of fire, keep electrical cords, drapery, furnishings, and other combustibles at least 3 feet (0.9 m) from the front of the heater and away from the side and rear.

1. Position unit between joists and extend mounting brackets.
2. Nail brackets firmly to joists. Bottom of brackets should be positioned flush with joist bottom. (Fig. 3)
3. Brackets are factory-set for ½" thick ceiling material. For thicker ceilings, loosen 4 vertical adjusting screws and lower housing to appropriate thickness on gauges. Tighten vertical adjusting screws firmly. (Fig. 4)

## ATTACH DUCTWORK (MODELS 162 & 164 ONLY)

1. Snap the damper/duct connector onto housing. Make sure that tabs on the connector lock in housing slots and that gravity closes damper. (Fig. 4)
2. Attach 4" round duct to damper/duct connector and run ductwork to the outside through a roof or wall cap. Check damper to make sure it opens freely. Tape all joints to make them secure and air tight. (Fig. 5)



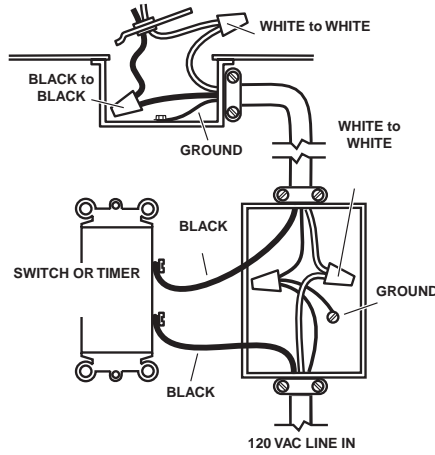
# WIRING

Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.

1. Remove wiring box from side of housing. Remove knockout(s) and connect power cable(s) to wiring box using proper U.L. approved connector.
2. Wire unit as indicated in appropriate diagram. (Fig. 6) Push all wiring into wiring box and replace wiring box onto housing.

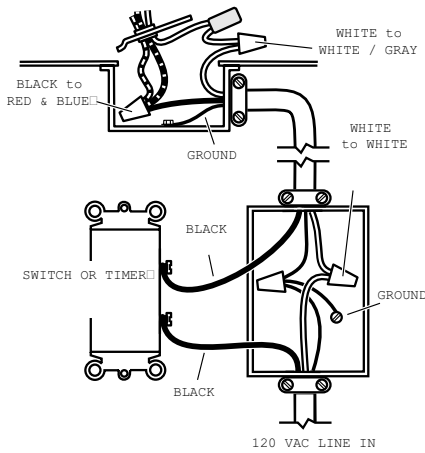
FIG. 6

## MODEL 161



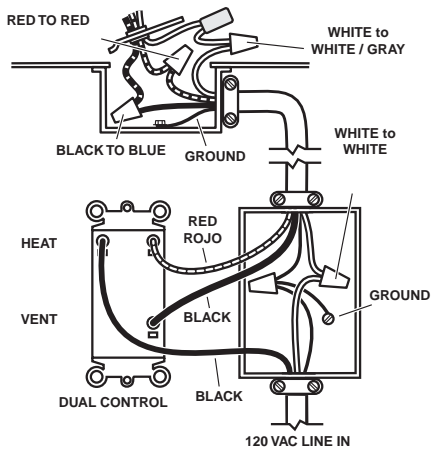
## MODEL 162

Lamp & Vent operate together



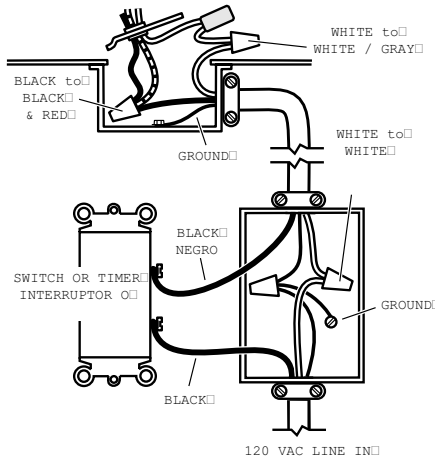
## MODEL 162

Lamp & Vent operate separately



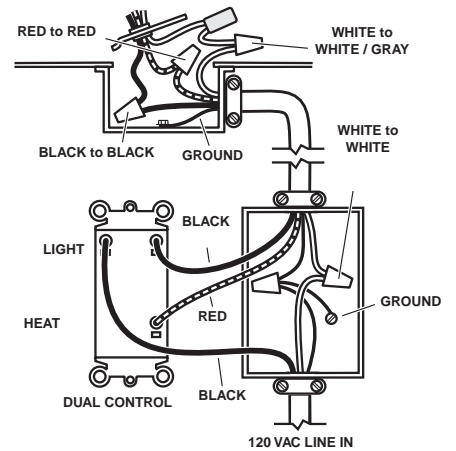
## MODEL 163

Lamps operate together



## MODEL 163

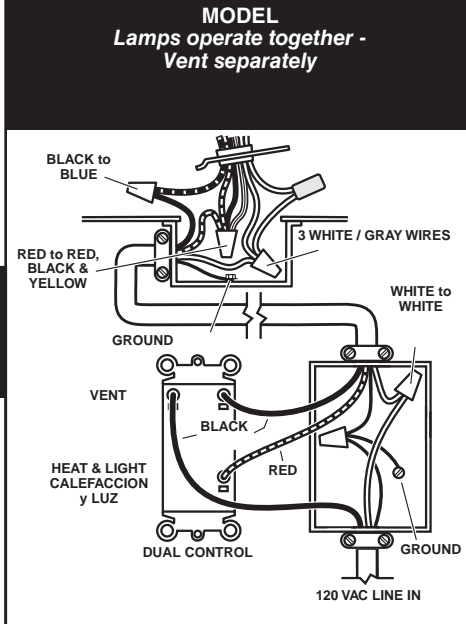
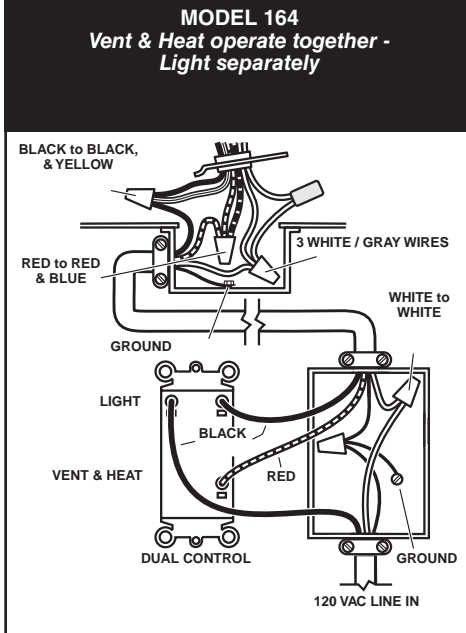
Lamps operate separately



# FINAL ASSEMBLY

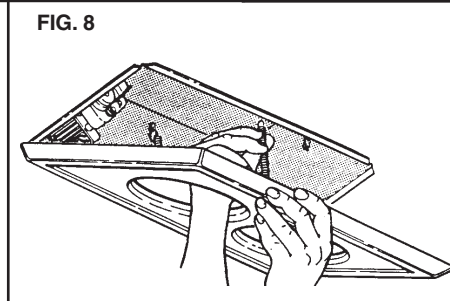
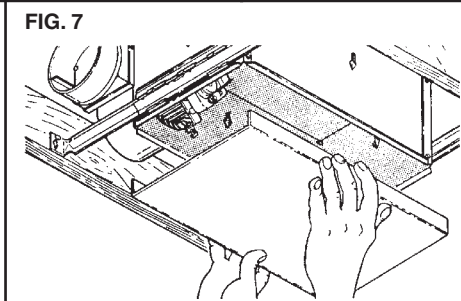
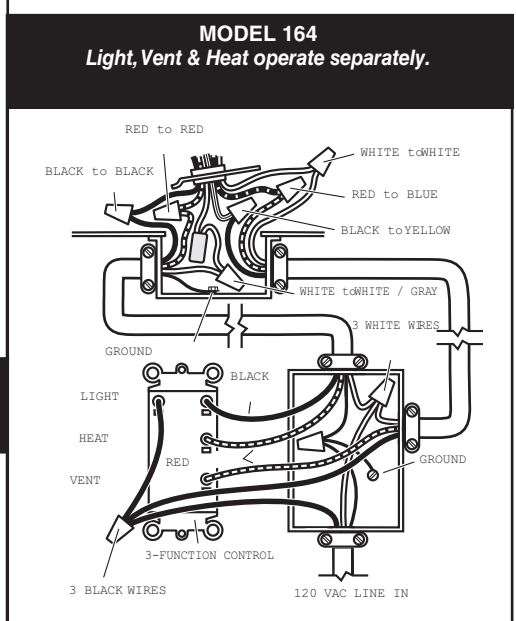
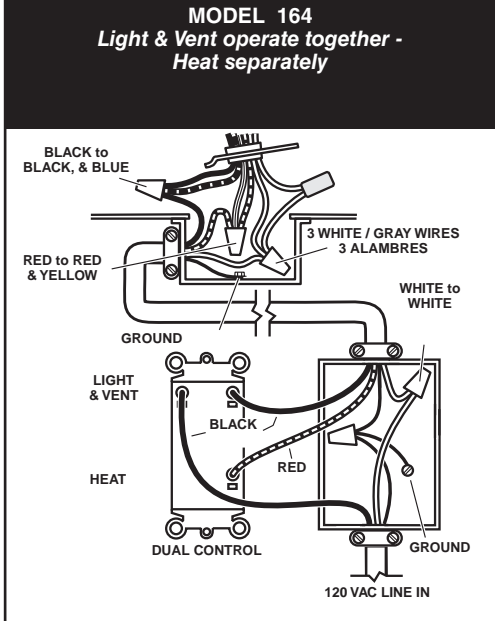
1. Protect motor, bulb sockets and wiring from construction dust, drywall spray, paint, etc. by using the plaster shield. Cut it from the carton and follow directions printed on it. (Fig. 7)
2. Finish all ceiling work as necessary.
3. Remove plaster shield and check if bottom of housing is flush with finished ceiling. If not, loosen vertical adjusting screws, reposition housing, and retighten screws.
4. Attach grille by hooking springs onto clips on side of housing. (Fig. 8)
5. Install BR40 or R40-size 250W infrared bulb(s). Center grille around bulb(s).

FIG. 6 (CONT')



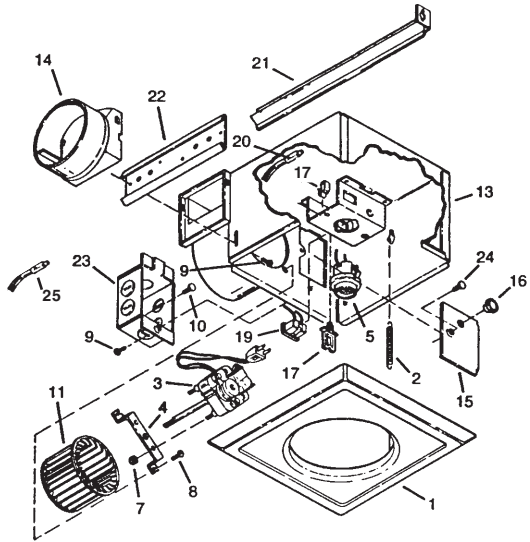
**WIRE COLOR LEGEND**  
*For wiring diagrams on pages 2 & 3*

BLACK		BLUE	
WHITE		YELLOW	
RED		GROUND	



# SERVICE PARTS

MODELS 161 & 162



# OPERATION

Before using heater, make sure heater has been properly installed according to installation steps beginning with the "PLANNING" section on page 1.

**MODELS 162 & 164 OPERATION NOTE:** These units are designed with a thermostat which senses excess heat and may start the blower automatically. This is normal and is no cause for concern.

# MAINTENANCE

## LUBRICATION

The heater is permanently lubricated and never needs oiling or disassembly.

## CLEANING

Clean heater once a month as follows:

1. Turn off power at service panel.
2. Make sure heater is cool.
3. Use a soft brush attachment to gently vacuum grille openings or wipe grille clean with a soft cloth.
4. Restore power.

**CAUTION: METAL AND ELECTRICAL PARTS SHOULD NEVER BE IMMERSSED IN WATER.**

KEY NO.	MODEL 161	MODEL 162	MODEL 163	MODEL 164	DESCRIPTION
1	97010319	97010319	97010320	97010320	Grille Assembly (Includes Key No. 2)
2	06170-00	06170-00	06170-00	06170-00	Grille Spring (2 Req.)
3	----	97010254	97009724	97010254	Motor
4	----	98007352	98007426	98007352	Motor Mounting Bracket
5	99770034	99770034	99770034	99770034	Bulb Holder
6	----	----	99770037	99770037	Bulb Holder
7	----	99260423	99260423	99260423	Nut, #8-32 (2 Req.)*
8	----	99160360	99160360	99160360	Screw, #8-32 x 1/2 (2 Req.)*
9	99150545	99150545	99150545	99150545	Sheet Metal Screw #8-18 x 3/8 (5 Req.) (7 Req. -161)*
10	99150546	99150546	99150546	99150546	Ground Screw #8-18 x 3/8
11	----	97010255	----	97010255	Blower Wheel
12	----	----	97009762	----	Fan Blade
13	97009475	97009476	97009477	97009478	Housing (Includes Key Nos. 9 & 23)
14	----	97009595	----	97009595	Damper/Duct Connector
15	25067-00	20050-09	20050-09	20050-09	Wiring Box Cover
16	99400026	99400026	99400026	99400026	Bushing (2 Req. -163 & 164)
17	99270830	99270830	99270830	99270830	Wire Clip
19	----	99270835	99270835	99270835	Receptacle
20	----	99270832	----	99270832	Thermostat (Fan)
21	98003036	98003036	98003036	98003036	Mounting Bracket (4 Req.)
22	98007763	98007763	98007763	98007763	Bracket Channel (2 Req.)
23	25064-00	25064-00	25064-00	25064-00	Wiring Box
24	99150564	99150564	99150564	99150564	Screw, #8-18 x 1/2*
25	----	79270237	79270237	79270237	Thermostat (Lamps)
**	----	----	99270668	99270668	Crimp Connector (2 Req. -163) (3 Req. -164)

\* Standard Hardware. May be purchased locally

\*\* Not Shown

Order service parts by "PART NO." - NOT by "KEY NO."