

## Ventilation Fan with Light

**MODEL: 8663RP, 8664RP**

Suitable for use in shower or tub enclosure when used with GFI protected branch circuit.

Suitable for use in insulated ceilings.

**WARNING:** To reduce the risk of fire or electrical shock, do not use this fan with any solid-state speed control device. Do not install in a ceiling insulated to a value greater than R-40.

### IMPORTANT SAFETY INSTRUCTIONS

**WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

- A. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
- B. Before servicing or cleaning unit, switch power off at Service Panel and lock Service Panel 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.

**CAUTION:**

For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.

### INSTALLATION INSTRUCTIONS

**WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

- A. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- B. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- C. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
- D. Ducted fans must always be vented to the outdoors.
- E. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application.
- F. NEVER place a switch where it can be reached from a tub or shower.
- G. For installation in sloped ceilings up to 12/12 pitch.
- H. Ductwork must point up.

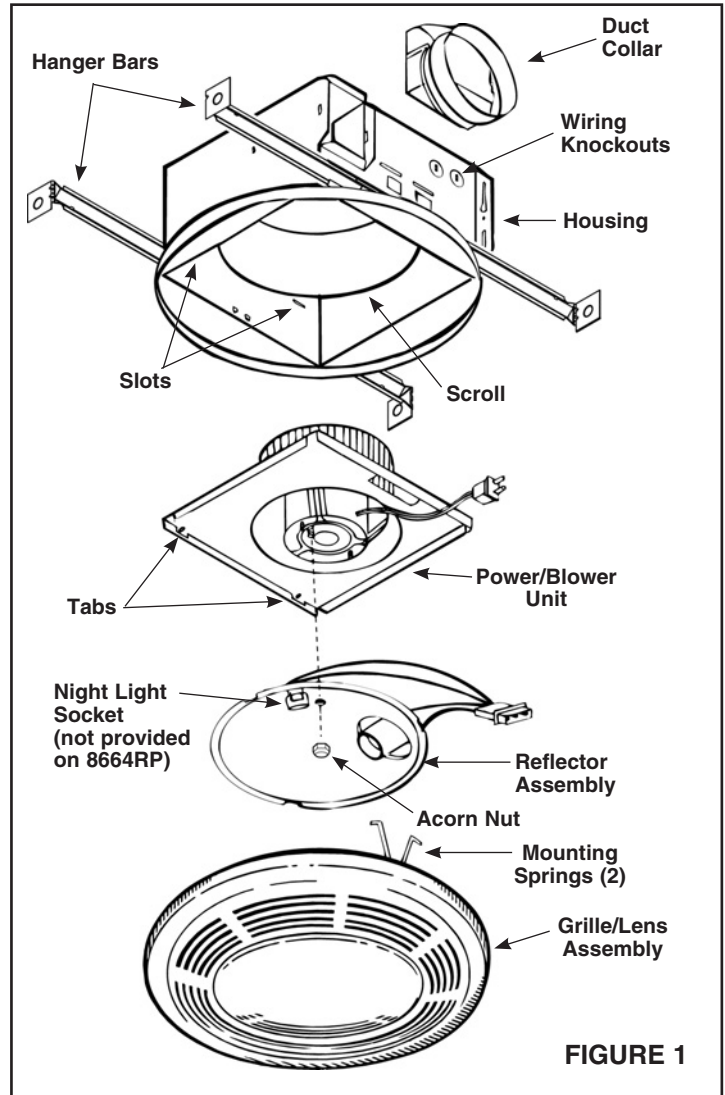
### FOR BEST RESULTS

When installing the Exhaust Fan/Light in a new construction site, install housing during the rough-in construction of the building. The blower unit, reflector and grille should be installed after the finished ceiling is in place.

Refer to instructions on page 3 to install the Exhaust Fan/Light in an existing finished building.

### PLANNING DUCTWORK AND WIRING

1. Use 4" round duct.
2. Plan duct run from discharge opening of fan to the outside. For best fan performance, make duct run as short as possible and use minimum number of elbows.
3. Use optional NuTone ducting accessories as needed.



**FIGURE 1**

**IMPORTANT:** Use wire suitable for 90°C.

Plan to run 120vAC house wiring (with ground) from power source, through wall switches, to junction box in fan. For separate control of fan, light, and night light three wall switches are required. See NuTone Catalog for accessory switches. For separate control of fan, light, and night light, five conductors are needed between the wall switch box and the fan's junction box. (Night light not provided on 8664RP).

### INSTALLATION IN A NEW CONSTRUCTION SITE

#### PREPARATION

1. Refer to Figure 1. Remove power unit/blower assembly from housing.
  - A. Unplug power unit.
  - B. Remove screw (located next to plug-in receptacle) which holds power/blower unit mounting plate in place. Save screw.
  - C. Lift mounting plate at end near the plug-in receptacle until blower wheel clears the scroll.
  - D. Remove plate by pulling its tabs out of slots in housing. Set power/blower unit aside until needed.
2. Remove one of the wiring knockouts from housing.

## MOUNTING THE HOUSING

**Note:** When installing in existing construction, refer to page 3

### Mounting Using Mounting Tabs

Refer to Figure 2.

1. Locate fan housing next to ceiling joist.
2. Use wood screws (not provided) to loosely attach housing to ceiling joist through keyhole slots in mounting tabs.
3. Adjust housing so that it will be flush with finished ceiling. For the grille to fit properly, the housing's rim must not extend beyond finished ceiling surface.
4. When housing is properly adjusted, tighten screws in slots.

### Mounting Using Hanger Bars

Refer to Figure 3.

1. Insert hanger bars in slots provided in housing.
2. Locate fan housing between joists so that the bottom of the housing is even with the planned finished ceiling.
3. Use screws or nails (not provided) to secure hanger bars to ceiling joists.

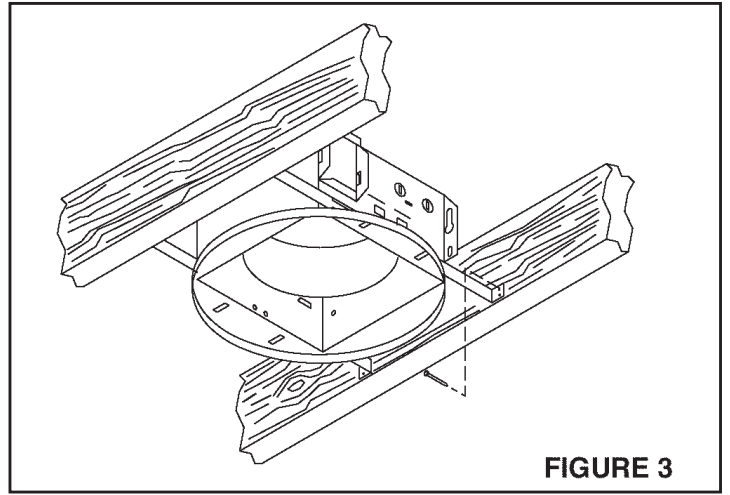


FIGURE 3

## INSTALLING DUCTWORK

1. Refer to Figure 1. Place duct collar over flanges at discharge opening of fan. Secure collar by snapping tabs into slots in flanges.
2. Run 4" round duct from fan's discharge opening to the outside and terminate.

## WIRING

All wiring must comply with local codes and unit must be properly grounded.

**IMPORTANT:** Use wire suitable for 90°C.

1. Run 120vAC house wiring from wall switches to fan location, neutral (white), ground (bare copper), and three switched hot leads. See Figure 4.
2. Insert and secure an approved box connector into wiring entrance hole.
3. Pull wires through box connector and into junction box. Tighten box connector.
4. Refer to Figure 4A. (For 8663RP)  
Connect white wires from the fan and light receptacles to white (neutral) wire from the supply. Connect black wire to wire from fan switch. Connect red wire to wire from light switch. Connect yellow wire to wire from night light switch.  
Refer to Figure 4B. (For 8664RP)  
Connect white wires from the fan and light receptacles to white (neutral) wire from the supply. Connect black wire from fan (BLK) receptacle to wire from fan switch. Connect blue from light (WH) receptacles to wire from light switch.
5. Connect the green (or bare) ground wire to the green ground lead.

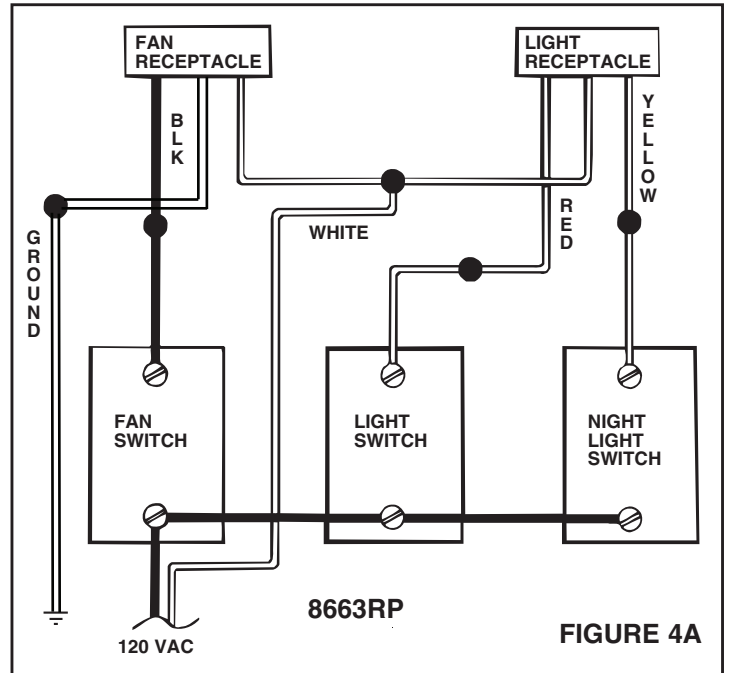


FIGURE 4A

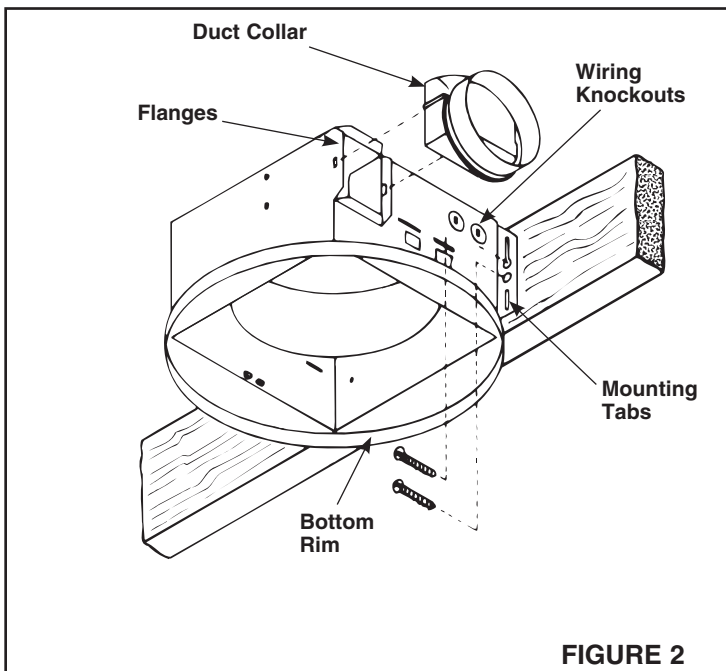


FIGURE 2

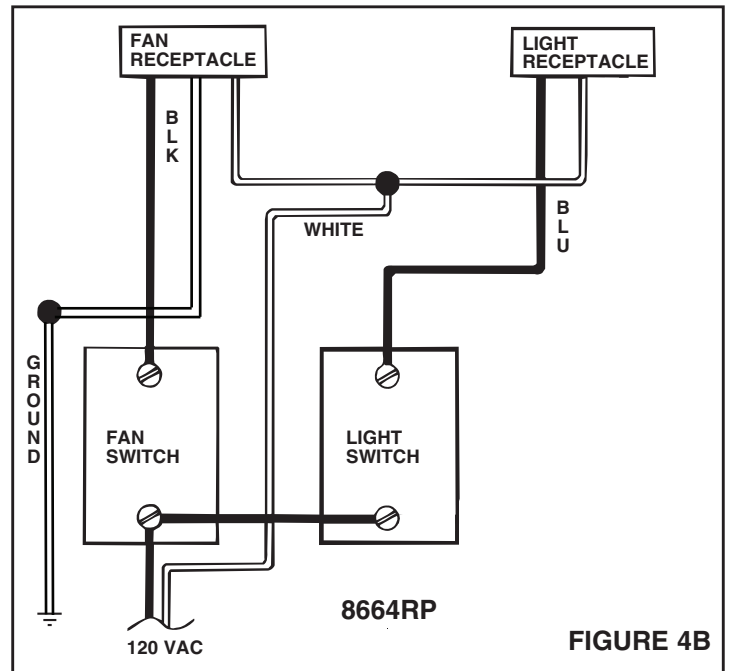


FIGURE 4B

## POWER/BLOWER UNIT INSTALLATION

1. Refer to Figure 1. Place power/blower unit into housing so that mounting plate's tabs insert into slots in housing.
2. Press other end of mounting plate down until it is firmly seated over scroll and plug-in receptacles.
3. Secure mounting plate to housing with provided screw.
4. Insert motor plug into junction box receptacle.

## COMPLETING INSTALLATION

1. Insert lamp plug into junction box receptacle and secure reflector assembly to motor frame with wing nut provided.
2. Install lamps 100 watt (maximum) for light, and 7 watt (maximum) for night light (Night light not provided on 8664RP).
3. Squeezing the grille assembly's mounting springs together, insert springs into slots on both sides of housing.
4. Press grille assembly firmly into place against ceiling.

## INSTALLATION IN EXISTING CONSTRUCTION

Locate fan between ceiling joists.

Plan ducting wiring before proceeding with installation. Refer to Figure 4 for wiring. **CAUTION: Check area above planned location to be sure that:**

1. Ducting can be installed.
2. Wiring can be run to the planned location.
3. No wiring or other obstruction might interfere with installation.

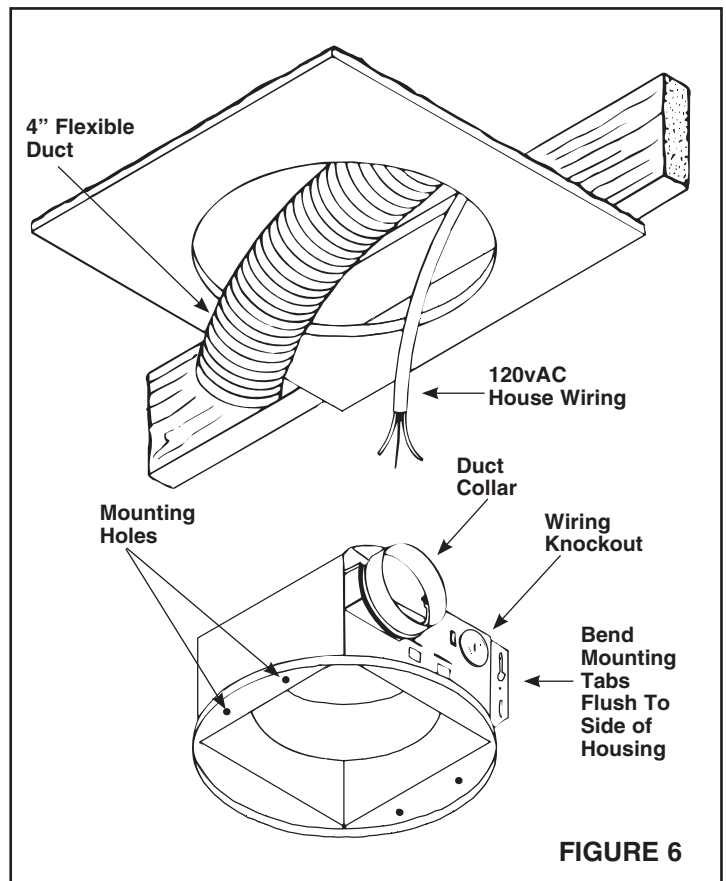
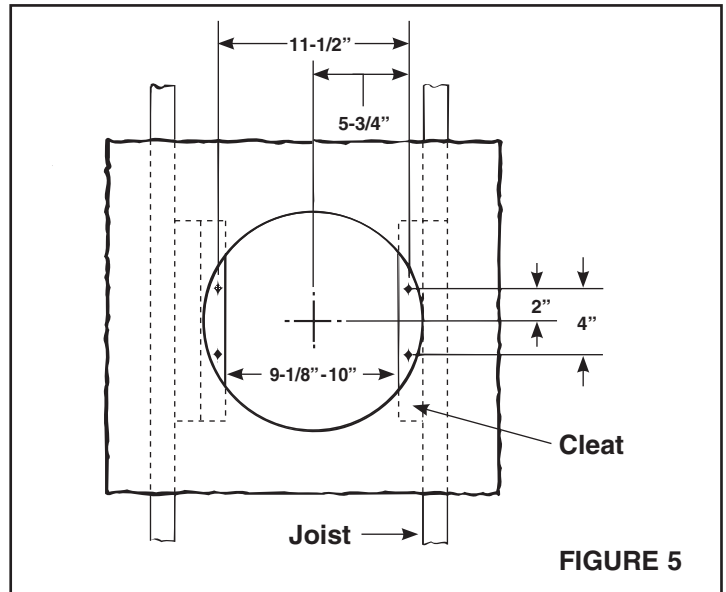
### INSTALLATION FROM ACCESSIBLE AREA ABOVE

1. After determining desired location for fan, drill a small hole in the ceiling.  
Place a coat hanger or other stiff wire up through hole to help in locating from above.
2. Place fan housing on top of ceiling surface and use the housing as a template to mark area to be cut out. Cut round hole  $13\frac{1}{8}$ " in diameter for rough opening.
3. After cutting out opening, mount housing in the opening using the hanger bars provided.
  - A. Insert hanger bars in slots in housing.
  - B. Position housing in opening so that bottom of housing is flush with ceiling.
  - C. Use screws or nails (not provided) to secure hanger bars to ceiling joists.
4. Install ducting and wiring as described above.

### INSTALLATION FROM AREA BELOW CEILING

Note: If you do not have access to the area above the installation location, make sure that the installation will not interfere with existing wiring, plumbing, etc. and that the wiring and ducting can be run to the desired location. It will be necessary to use flexible duct when installing the unit from below.

1. The fan must be mounted between ceiling joists. Decide where you want to locate the fan, and then determine where the nearest joists are.  
**Locating Joists** – Lightly tap the ceiling. A hollow sound means no joist; a solid sound means a joist is present. To be sure you have located a joist, drill a small hole ( $1/16$ ") and probe into the ceiling with a wire.
2. Locate the joists. Drill a starter hole in the ceiling between the joists.
3. To exactly locate the edge of joist, saw a line from hole to joist.
4. Refer to page 1. Remove power/blower unit from housing.
5. Use the housing pan as a template to mark cutout: place pan centered between joist and trace around pan.
6. Make cutout along outside of marked line.
7. Refer to Figure 5. Install 2 x 4 cleats to both ceiling joists. In some cases it may be necessary to use more than a single cleat on one side. The distance between cleats must be at least  $9\frac{3}{4}$ " but not more than 10".
8. Remove side wiring knockout and insert and secure an approved box connector into the wiring entrance hole.
9. Use pliers to bend both mounting tabs as flush as possible to the side of the housing.
10. Install duct collar.
11. String wiring through box connector and connect 4" flexible duct to duct collar.
12. Carefully push ductwork and wiring back into cutout. Place housing into cutout.
13. Use wood screws to secure housing to cleats through four holes in housing's pan. Make sure pan is flush to finished ceiling.
14. Install Power/Blower Unit and complete installation.



## CLEANING AND RELAMPING

1. Pull grille assembly away from ceiling.
2. Squeezing the grille assembly's mounting springs together, remove grille assembly from housing to expose socket for relamping.
3. Clean grille and lens assembly using a mild soap and water solution. Assemblies with wood frames should not be immersed.
4. Replace grille assembly flat against ceiling after cleaning or relamping.