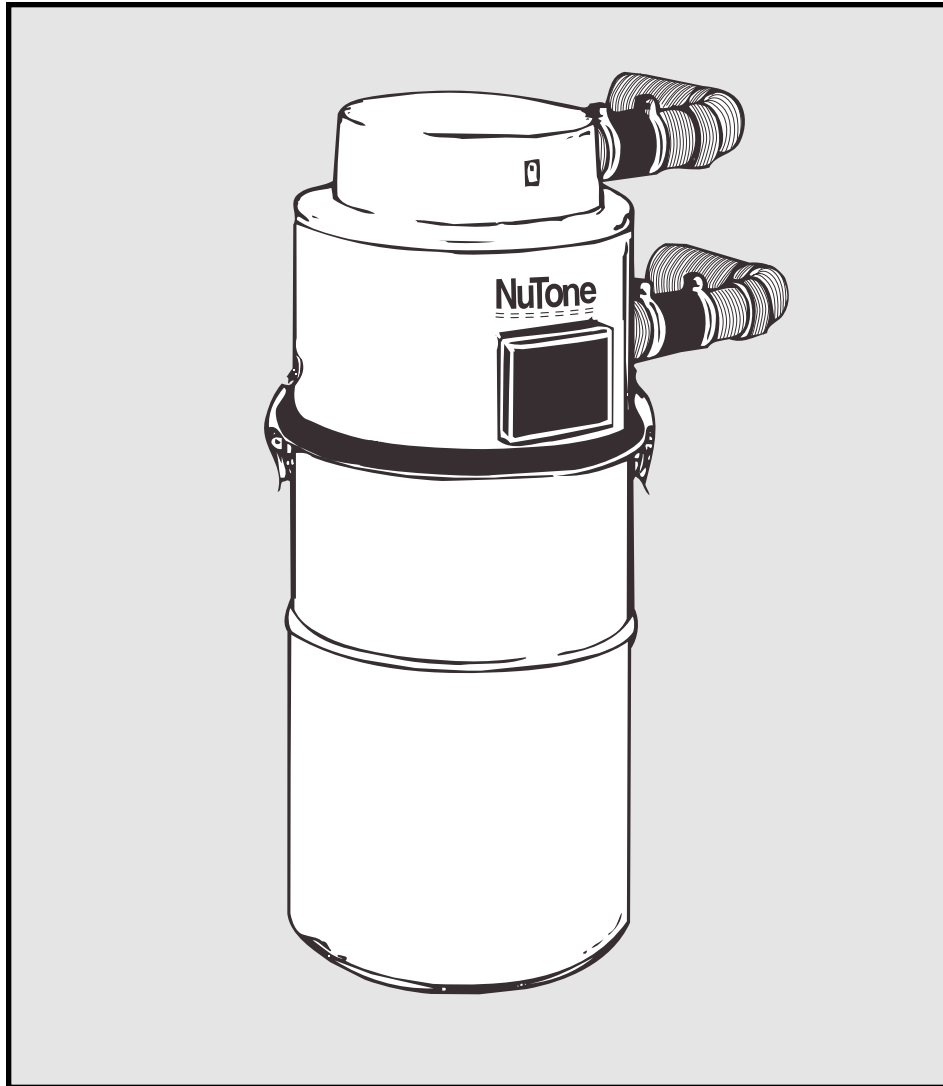


NuTone®

BUILT-IN CENTRAL CLEANING SYSTEM

MODEL: CV-352



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GENERAL INFORMATION

The NuTone Central Cleaning System consists of a Central Power Unit, PVC Tubing, PVC Fittings, automatic switch operated Wall Inlets, a flexible hose and various cleaning attachments.

The Power Unit is designed to be wall mounted away from the living area of the home and connected to the living area by means of permanently installed In-Wall tubing and fittings.

LAYOUT AND PLANNING EXAMPLES

As an aid in planning the installation, look at the following examples.

THE RANCH STYLE HOUSE

Here the power unit is mounted in the garage. The intake and exhaust tubing, the only exposed tubing in the installation, runs up the garage wall and into the attic.

The trunk line runs horizontally through the attic from the power unit to the farthest inlet location. Branch lines spread throughout the attic, connecting the trunk line to the inlet tubing. Each inlet tube is threaded

vertically through an inside wall. Located in hallways, and in large rooms, the inlets are placed to provide maximum access to all cleaning areas. See Figure 1.

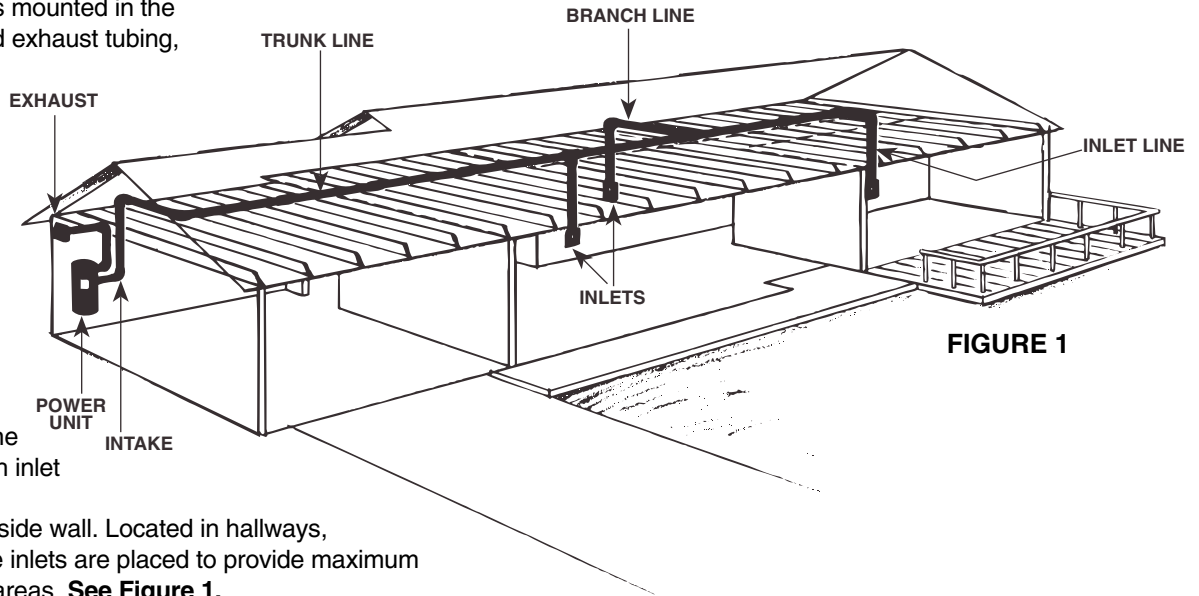


FIGURE 1

THE TWO-STORY HOUSE

In this installation, the power unit is mounted in the basement, conveniently located for shop use and messy cleaning jobs. The intake tubing runs up the basement wall and connects to the main trunk line, which runs along the unfinished basement ceiling. Two first-floor inlets are connected to the trunk line by vertical inlet lines run through interior walls. In the center of the house, a vertical branch

line runs from the basement trunk line, through stacked closets, up into the attic. A second trunk line runs across the attic and two branch lines connect to inlet lines which are dropped down through upstairs interior walls. See Figure 2.

The double-trunk line system is commonly used in two-story houses. Finding the "key" to an accessible vertical area is the most important step in this kind of installation.

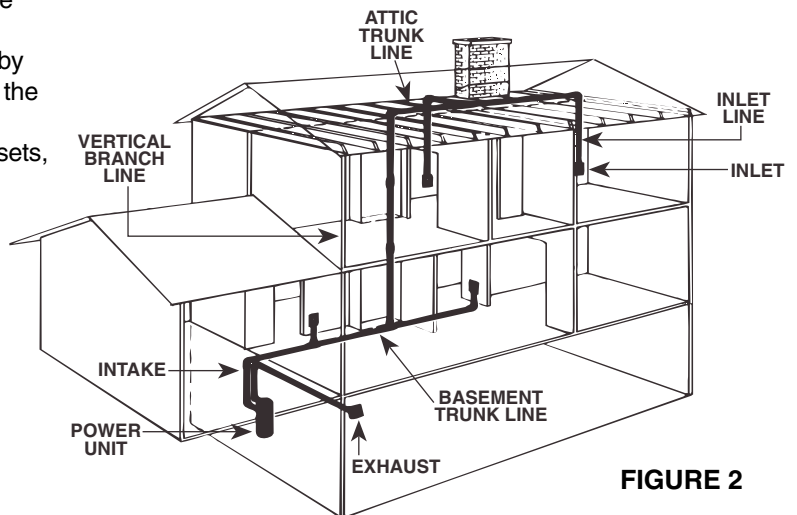


FIGURE 2

THE SPLIT-LEVEL HOUSE

Like the two-story house, the split level installation commonly calls for a two-level trunk line.

Here, the power unit is located in the garage.

The intake tubing runs exposed up the garage wall and into the ground level section's attic.

Two branch lines connect this part of the trunk line to inlet lines which are dropped

inside interior walls. A vertical branch line runs to the upstairs attic, where the trunk line branches into a T-shape.

This trunk line connects to two upstairs inlet lines and to one inlet line which drops through an upstairs wall and down into the third-level utility room. This last inlet services both the utility room and a large L-shaped recreation room.

See Figure 3.

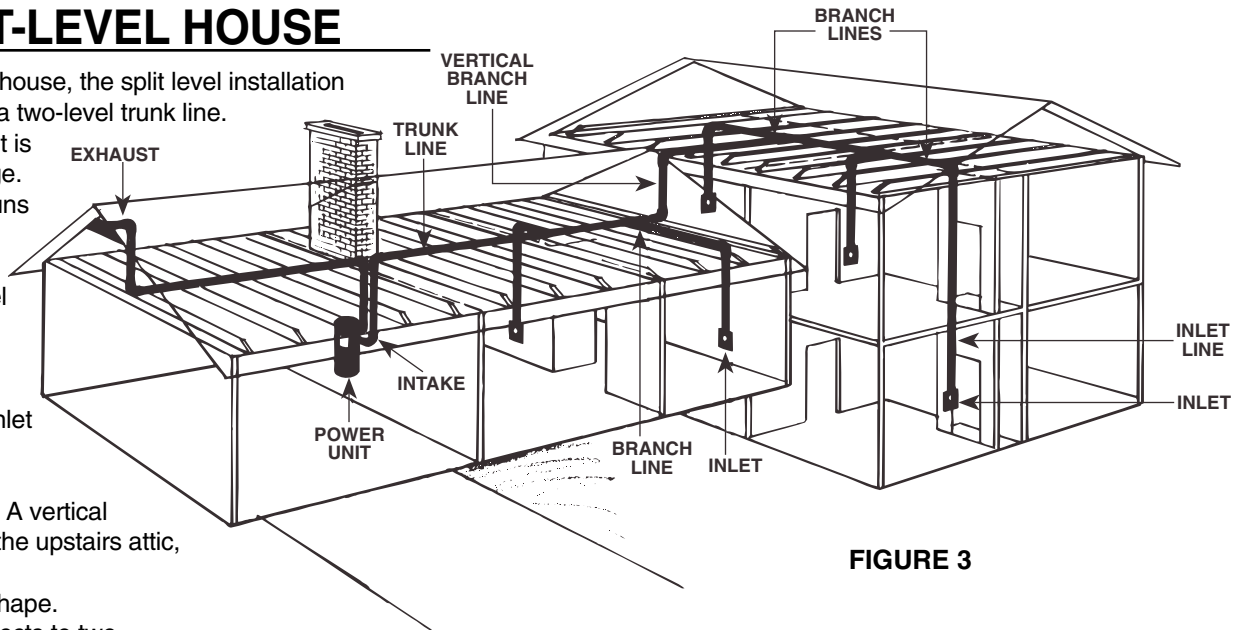


FIGURE 3

LOCATING THE POWER UNIT

- Locate the power unit away from the general living area.
- The power unit is equipped with an inlet. When planning, remember the power unit has an inlet for a garage, basement, utility room, etc.
- Locate the power unit in an accessible area for changing the soil bag and periodically cleaning the secondary filter.
- Locate the power unit within six feet of a grounded electrical outlet. The power unit requires a 120 vAC power source.
- Do not locate the power unit close to a source of extreme heat (i.e., water heater) or in an area with an ambient high temperature (i.e., attic, furnace room).

- If the power unit is located in a closet or a small utility room, make sure the area is well-ventilated (i.e., with door louvers).
- The power unit should be exhausted to the outside. The exhaust should not be vented into a wall, a ceiling or a concealed space in the house. The exhaust line should be terminated outside the home, using Model 393 Wall Cap or a roof vent.

WARNING

Power unit must not be mounted in a high ambient temperature area such as attic, furnace room, etc.

LOCATING THE WALL INLETS

- Locate inlets on interior walls.
- Choose central locations which allow several rooms to be cleaned from a single inlet.
- Locate inlets centrally so that a maximum area can be cleaned with the 30' hose.

- Locate inlet within six feet of an electrical outlet to allow use of optional current-carrying hose.
- Be sure tubing will not obstruct electrical, plumbing or other mechanical installation.
- Be sure inlets will not be blocked by doors or furniture.

TUBING

- The installation should consist of a main trunk line running from the farthest wall inlet to the power unit location, with branch lines running to each additional inlet. Beginning at the area farthest from the power unit, choose a tentative inlet location. Measure (30 feet for 30 foot hose) from the proposed inlet location to the farthest corner of the rooms to be cleaned by that inlet to determine if inlet location is proper.
- Move tentative inlet location if necessary. Use the same

procedure to determine each additional inlet location, always working toward the power unit.

- Generally, an installation will require 3 to 4 inlets and 16 to 20 feet of tubing per inlet. It is suggested that a floor plan be used to more accurately determine the quantity of materials needed.

NOTE: Conventional metal or plastic strapping should support the exhaust tubing when a muffler is used, or at the joints of long runs of tubing where another means of support is not available.

INSTALLATION IN NEW CONSTRUCTION

WALL INLET ROUGH-IN

1. Once the locations for wall inlets have been determined, mount all inlet brackets.
2. To locate bracket on wall stud, measure approximately 18" up from finished floor level. (Height may vary according to individual preference.)
3. **Refer to Figure 4.** Model 361 for using 360 inlet. Nail bracket to side of stud so that front edge of bracket is flush to front of stud. (The bracket may also be nailed to the front edge of the stud. For front stud mounting, use locating tabs on bracket for proper alignment.)
4. **Refer to Figure 5.** Model 329 for use with 330 inlets. Remove cardboard from plaster guard frame. Using four (4) provided screws, attach the appropriate flanged fitting and inlet seal to back of inlet.
5. Replace cardboard in plaster guard frame.
6. When using Model 329 glue elbow to mounting plate.

NOTE: Configuration of spacer may vary depending upon installation.

NOTE: When using the Model 361 inlet bracket on walls thinner than 1/2", use a 1/4" spacer (not furnished) between the wall and the inlet bracket. See Figure 5A.

Spacer may be made from plywood, masonite, etc. Contact cement may be used to hold spacer in place during assembly.

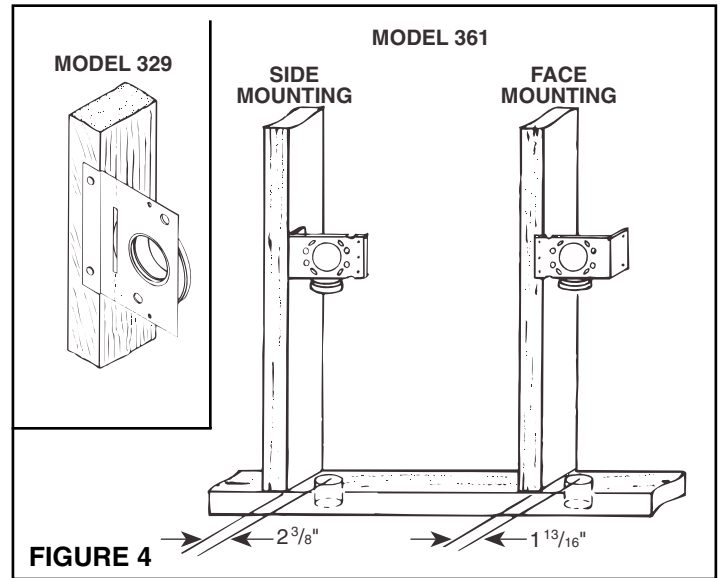


FIGURE 4

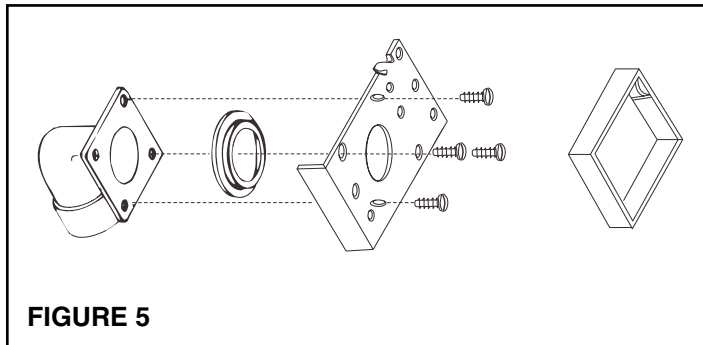


FIGURE 5

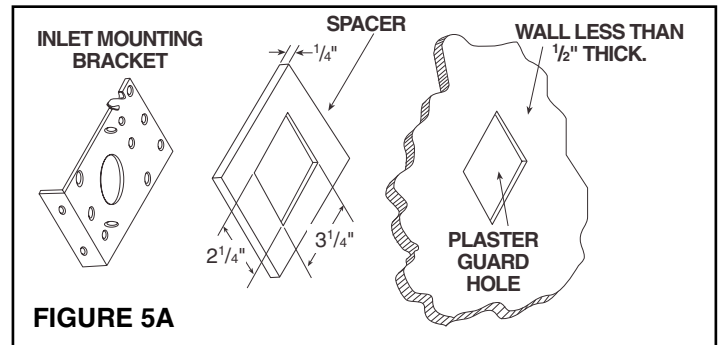


FIGURE 5A

INSTALLING THE TUBING

INSTALLATION HINTS

Use the following installation guidelines when installing the tubing.

1. Start tubing installation at farthest inlet and work toward the power unit.
2. Tubing run to the power unit should be as straight as possible.
3. When assembling sections with elbows and tees, make sure the curve in the fitting is aligned so that the air flows toward the power unit.
4. Branch lines should always join the trunk line from above or from the same level. Never join a branch line from an angle below the trunk line.
5. Secure tubing to joists or studs.
6. **Refer to Figure 20 on page 7.** Run low voltage wiring and secure wiring to tubing. Leave approximately 6" of wire for connection to each inlet.

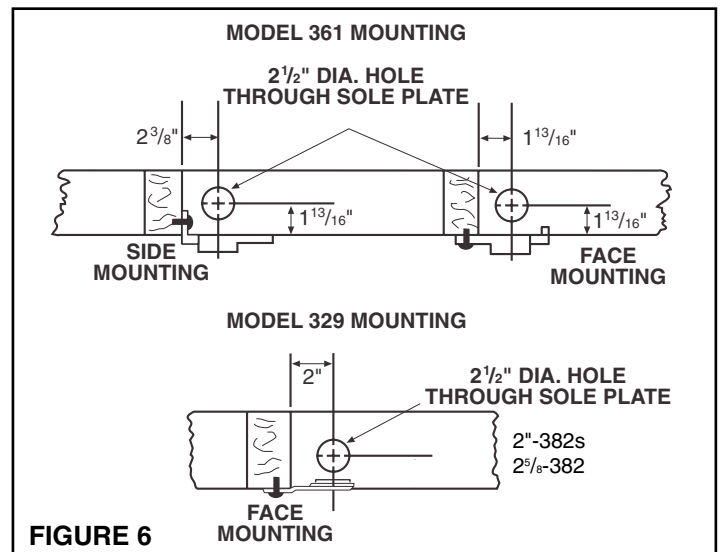


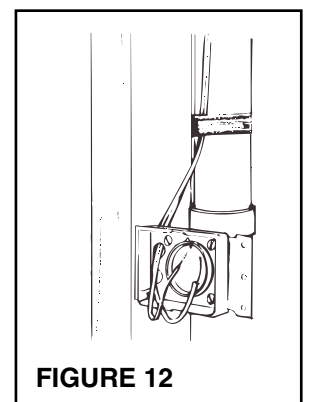
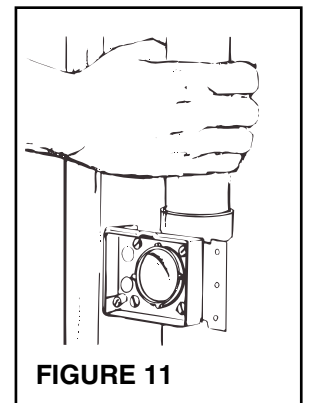
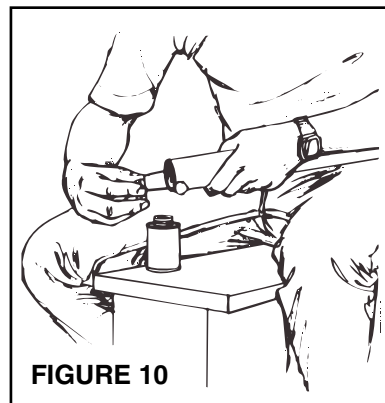
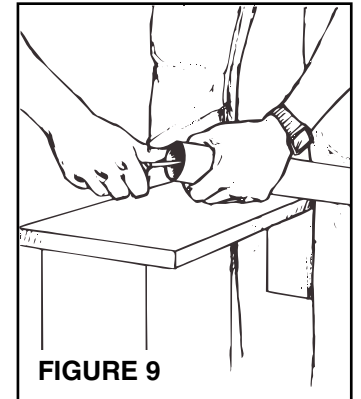
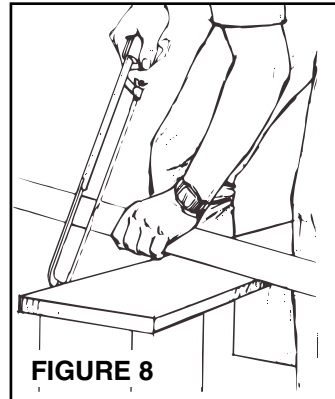
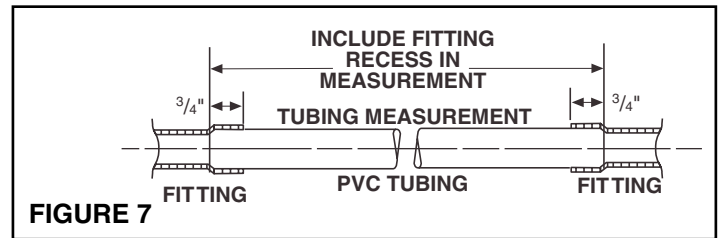
FIGURE 6

TUBING INSTALLATION

1. Cut a 2½" diameter hole in sole plate, header or stud directly in line with opening of inlet bracket fitting. **Note Figures 6 and 4 for center line dimensions.**
2. **Refer to Figure 7.** Measure length of tubing needed to connect inlet to trunk line. Allow approximately ¾" of tubing for inserting into fittings.
3. **Refer to Figure 8.** Cut tubing, keeping cut square.
4. **Refer to Figure 9.** Remove burrs from both inside and outside of tubing.
5. Before cementing, pre-assemble section to inlet fitting, check for proper length.
6. **Refer to Figure 10.** Apply cement (Model 379) to outside of tubing. Coat tubing approximately 1" back. Take care to keep cement from inside of tube.
7. **Refer to Figure 11.** Insert tubing into fitting with a twisting motion to evenly spread cement. Be sure tubing is firmly seated in fitting.
8. If fittings have been attached to tubing at the end opposite the inlet bracket, be sure alignment is proper before cement sets.
9. **Refer to Figure 12.** Low voltage wiring (Model 376) should be completed as tubing is installed. Tape wire to tubing to hold in place and insert through hole in inlet bracket.

NAIL PLATE INSTALLATION

Caution: When tubing is run through the wall stud, sole plate, headers - or anywhere that building materials will be attached - place a nail plate (Model 378) over that area (on both sides if necessary) to prevent nails from piercing tubing.



WALL INLET INSTALLATION

MODEL 360 WALL INLET(361 Rough in)

1. Once the walls have been finished, install the wall inlets.
2. Remove the cardboard plaster guard.
3. **Refer to Figure 13.** For some dry wall or panel construction, the plaster frame will extend beyond the finished wall. In this case, remove plaster frame from mounting bracket by removing mounting screws.
4. **Refer to Figure 14.** Connect 2-conductor low voltage wire to terminal screws on back of wall inlet.
5. Guide excess wire back through hole in inlet bracket and make sure seal is secure between mounting bracket and flanged fitting.
6. **Refer to Figure 15.** Place inlet into mounting bracket and secure.

NOTE: When wall inlets are installed in 1/2" thick walls or less, the tube of the wall inlet may extend into elbow area of the flanged fitting and cause blockage. Shorten the wall inlet tube to prevent this condition. See Figure 16.

For extra thick walls, use Model 399 extension sleeves to connect inlet to the flanged fitting.

MODEL 330 WALL INLET (329 Rough in)

See Figure 17.

1. Connect 2-conductor low voltage wire to terminal screws on back of wall inlet.
2. Align inlet mounting holes with holes in mounting plate.
3. Place inlet into mounting plate and secure with two provided screws.

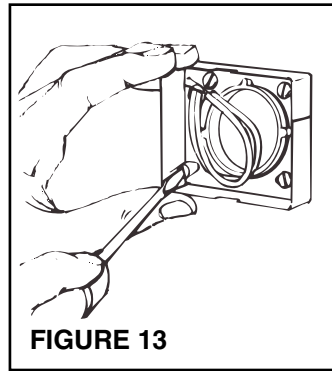


FIGURE 13

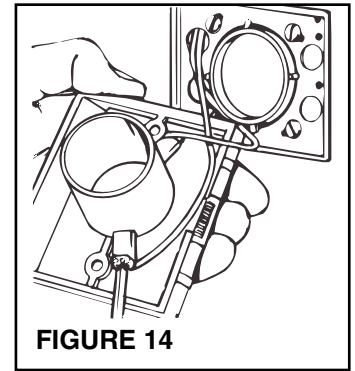


FIGURE 14

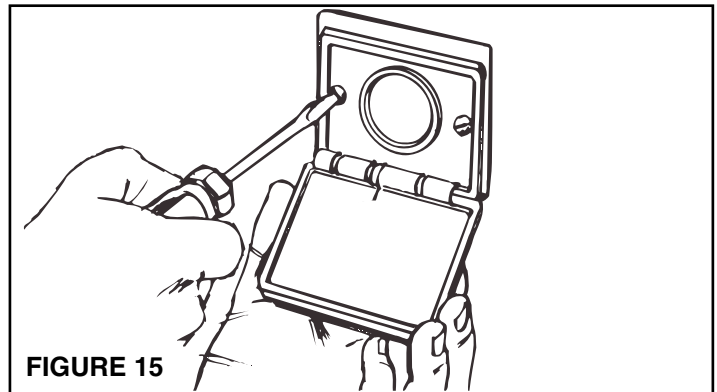


FIGURE 15

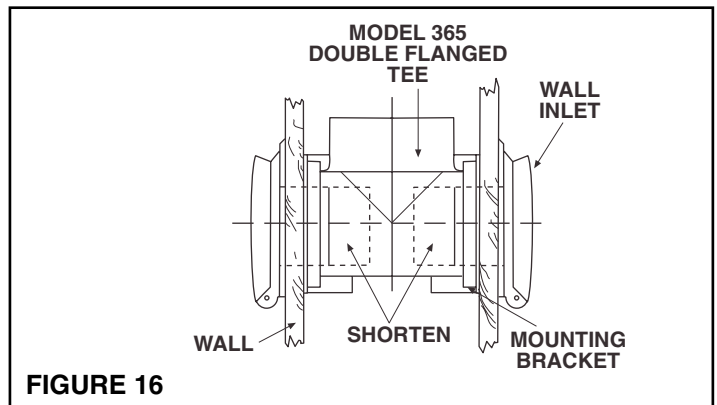


FIGURE 16

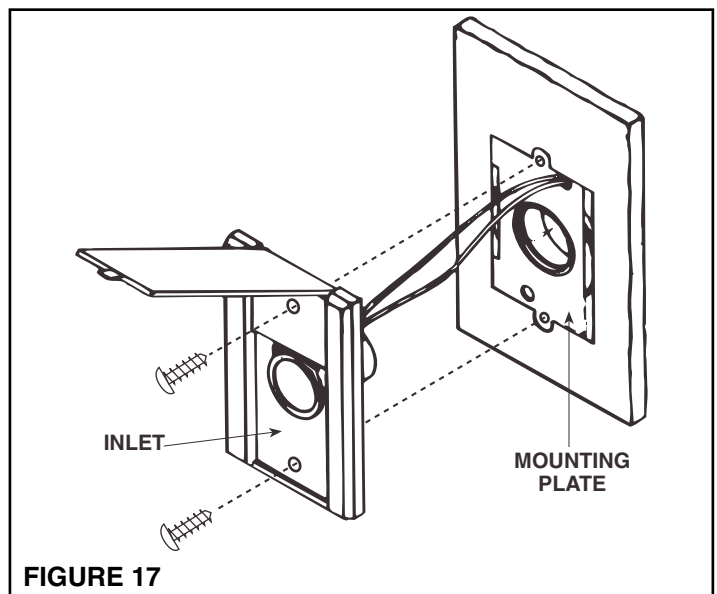


FIGURE 17

POWER UNIT INSTALLATION

MOUNTING See Figure 18.

1. Locate the power unit within six feet of a grounded electrical outlet.
2. Drill $\frac{3}{16}$ " diameter pilot holes for the two (2) mounting screws in a wall stud or strong support. See Figure 19.
3. Tighten mounting screws. Leave approximately $\frac{1}{8}$ " to $\frac{3}{16}$ " clearance between head of screw and wall.
4. Hang power unit onto mounting bolts. Make sure top keyhole slot and lower slot in mounting bracket are engaged behind mounting screws. Pull down to secure.
5. Remove dirt canister from power unit.
6. Install soil bag and securely replace dirt canister.

NOTE: Cyclonic model does not use a soil bag.

TUBING CONNECTIONS

1. Using rubber couplings and hose clamps, connect intake and exhaust tubing to the power unit.
2. Connect intake tubing to lower intake tube on power unit.
3. Connect exhaust tubing to upper exhaust tube on the power unit.
4. Make sure all tubing connections are air tight.
5. The exhaust should not be vented into a wall, a ceiling or a concealed space in the house. The exhaust line should be terminated outside the home, using Model 393 Wall Cap or a roof vent.

WIRING See Figure 20.

Grounding Instructions – This appliance must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Danger – Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as whether the outlet is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This appliance is for use on a nominal 120-volt circuit and has a grounding plug. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adapter should be used with this appliance.

1. Connect low voltage wire (18 gauge, 2-conductor, Model 376) to two low voltage wires located on outside of the power unit.
2. The power unit is equipped with a six foot grounded cord. Plug cord into 120 volt grounded receptacle.

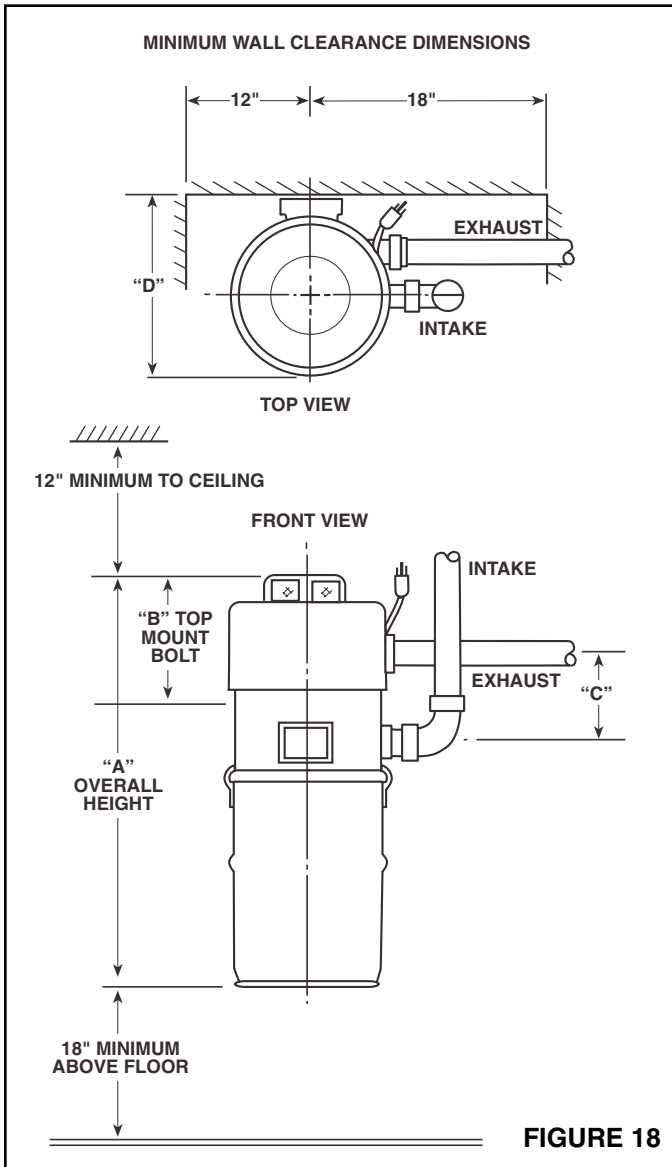


FIGURE 18

DIMENSIONAL CHART

MODEL	
DIMENSION	CV-352
A	27"
B	7 $\frac{3}{4}$ "
C	6 $\frac{1}{2}$ "
D	13 $\frac{5}{8}$ "

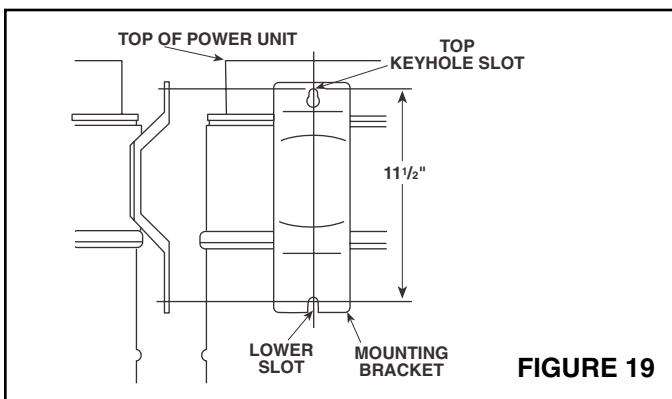


FIGURE 19

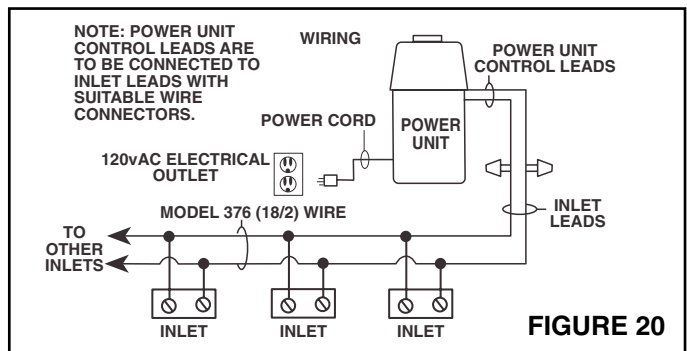


FIGURE 20

INSTALLATION IN EXISTING CONSTRUCTION

LAYOUT AND PLANNING

The general layout and planning and the component locations are the same for existing construction.

See pages 2 and 3.

LOCATING ACCESS KEYS

Unless your home is a ranch-style house where a single trunk line can run directly through the attic or basement, you should first investigate your house to find the “key” to running your tubing from level to level. What you’re looking for is an accessible area that is free from obstructions and will accommodate the 2” tubing.

Let’s say, for example, you have a two-story house and you want to locate the power unit in the basement. The first floor inlets can easily be connected to a trunk line which runs along the basement ceiling. However, you can’t find interior walls on both the first and second floors which line up and are free from obstacles. How do you get from the basement to the attic?

Some of the “keys” you might find in your home are illustrated here.

Stacked Closets. Many homes will have an upstairs closet located directly above a downstairs closet. It is easy to run the tubing from one floor level to another inside these stacked closets. In these installations the tubing is often left exposed inside the closets. See Fi

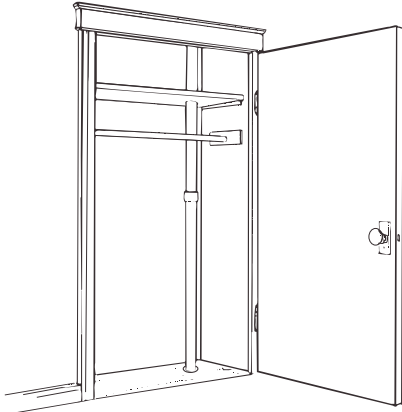


FIGURE 21

WALL INLET INSTALLATION

Use the following procedures for installation in existing construction.

1. See Figure 24. A small “Pilot” or “Locating” hole can be drilled behind baseboard toe strip to determine proper location of 2½” diameter tubing hole in sole plate.
2. Measure the total thickness of the wall, including baseboard. One half of this wall thickness measured from the Pilot Hole (dimension “X”) will determine the proper location of the 21/2” tubing hole in the sole plate.
3. See Figure 24. Once desired inlet locations have been determined, cut a 2½” hole in soleplate directly in line with proposed inlet location. Check through tubing hole to be sure no obstruction exists.

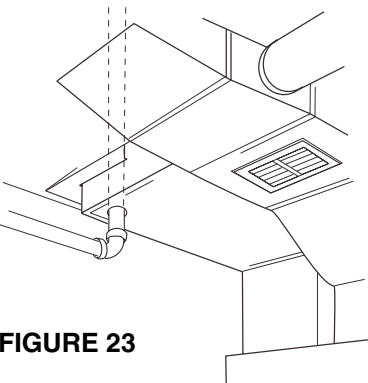


FIGURE 23

Built-In Appliances. In a home where the kitchen features built-in appliances, you’ll often find a hollow space behind these appliances. If this space lines up with an obstruction-free interior wall above or a closet, this might be a “key” to your installation. In a ranch-style home, this “key” would provide access to run tubing from a basement located power unit to an attic trunk line. You may also want to consider running exposed tubing through cabinets or cupboards. See Figure 22.

Laundry Chute. Pictured here is tubing run from the basement to the attic through a laundry chute. A dumb-waiter would serve the same purpose. See Figure 22.

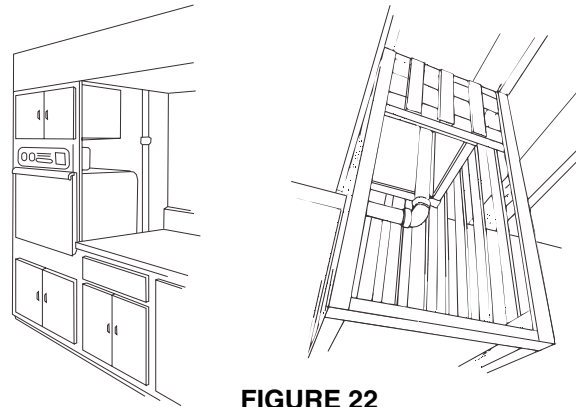


FIGURE 22

Cold-Air Return. A cold-air return often provides a straight run from basement to other levels of the house. The ductwork is easily cut for access. Seal around the tube when completing the installation. See Figure 23.

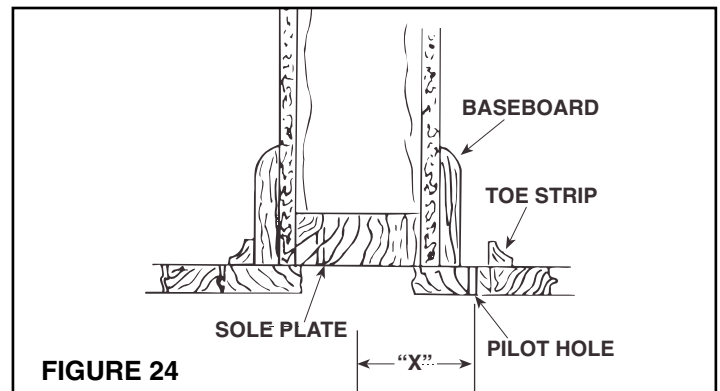


FIGURE 24

4. Be sure tubing hole is centered in sole plate and directly in line with proposed wall inlet cutout.

NOTE: If 330 wall inlet is being used refer to Model 330 Wall Inlet Installation on next page.

5. If area is clear, cut an inlet opening in the wall approximately 18" above the floor. Make sure wall opening and 2½" tube hole line up (Figure 25).
6. Cut a length of tubing that will extend from inlet opening to a point below floor level (or above ceiling level in attic installation). Tape low voltage wire to tube and insert tube through predrilled hole to a level opposite the wall opening.
7. Apply cement to tube and install flanged wall fitting. Make sure fitting is well seated and sealed (Figure 26).
8. Remove plaster frame from mounting bracket. Pull low voltage wire through hole in bracket and insert bracket into cutout. Secure bracket to flanged fitting with four screws provided. Be sure seal is secure between flange fitting and mounting bracket (Figure 27).
9. Starting from farthest wall inlet location, install each inlet as described above. Working back toward power unit, connect each branch line into main trunk line. Complete low voltage wiring as main trunk line is continued back to power unit.
10. Attach the low voltage wires to terminal screws on back of wall inlet (Figure 28).
11. Insert wall inlet into bracket and secure with the two screws provided (Figure 29).
12. Mount power unit and complete wiring. See page 7.

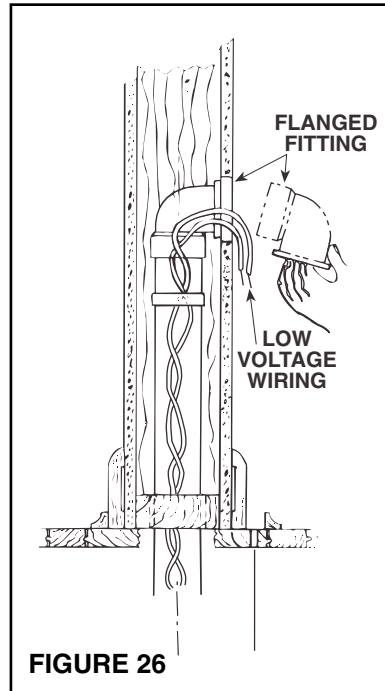


FIGURE 26

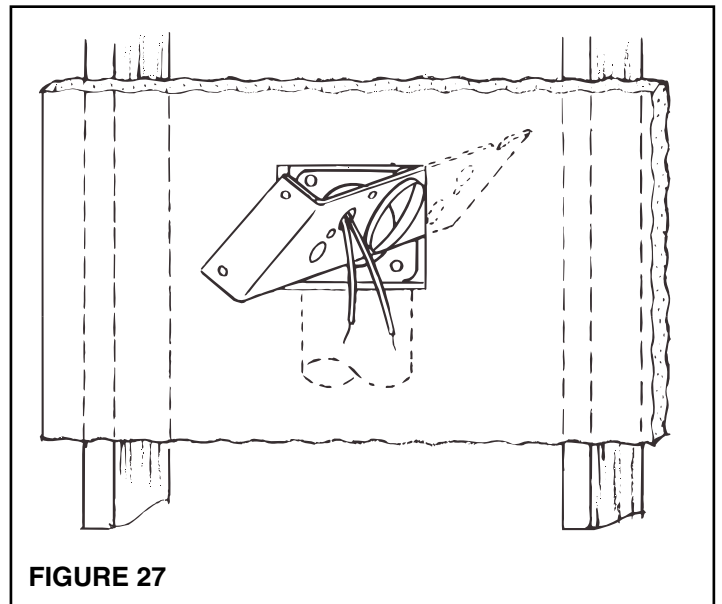


FIGURE 27

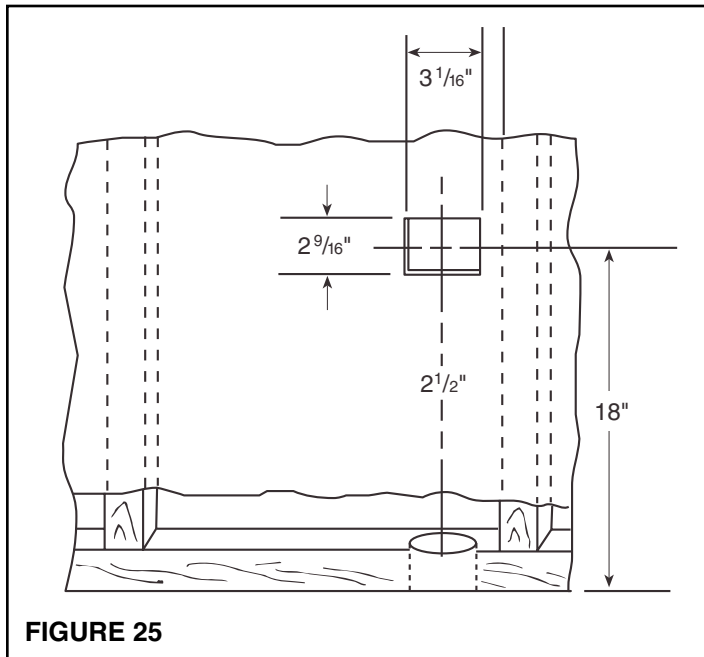


FIGURE 25

NOTE: If the wall for mounting the Model 360 inlet is less than ½", a spacer must be used. See Figure 5A as a guide.

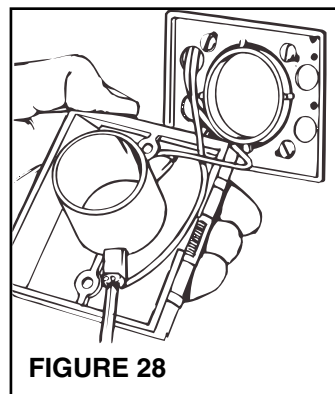


FIGURE 28

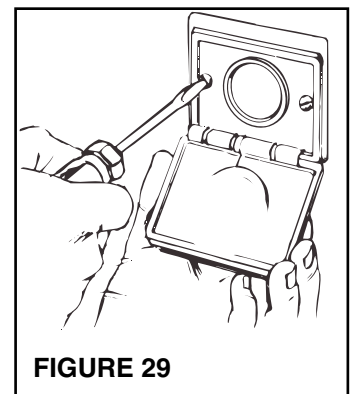
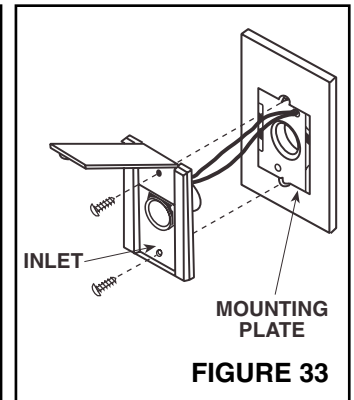
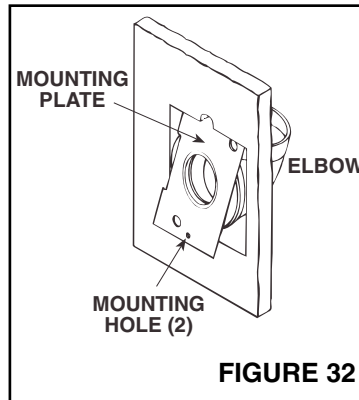
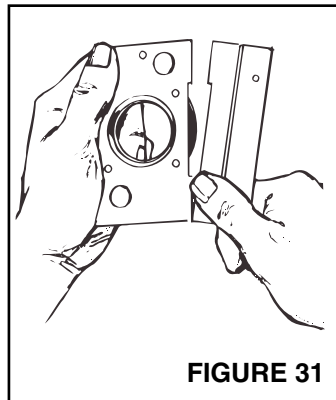
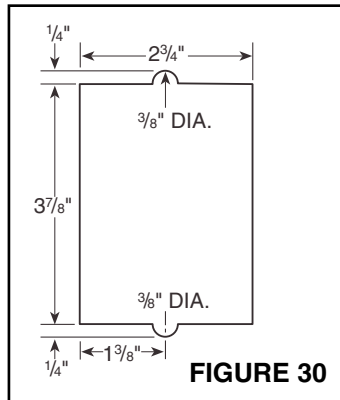


FIGURE 29

MODEL 330N WALL INLET INSTALLATION

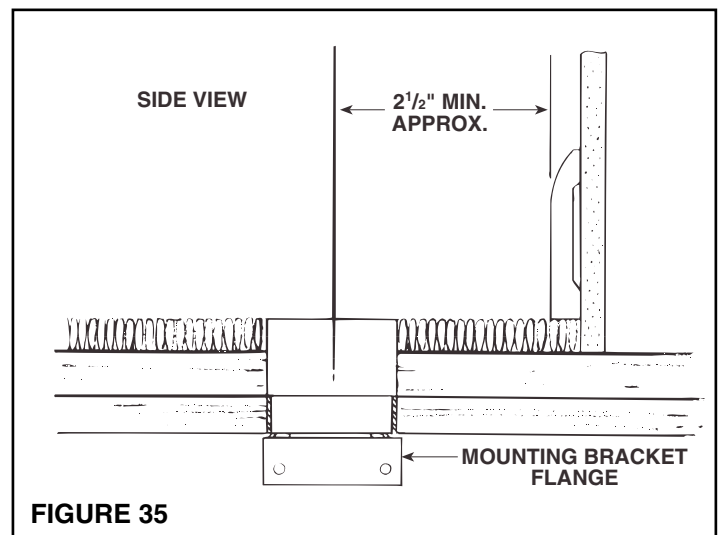
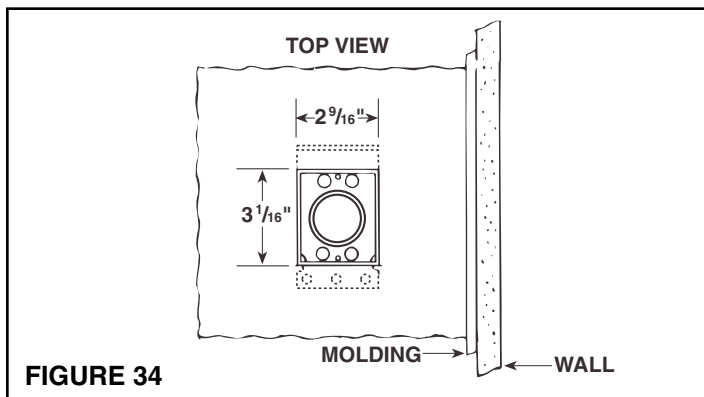
1. Make cutout according to dimensions in Figure 30.
2. Refer to Figure 31. Break off nail plate at scored line.
3. Refer to Figure 32. Glue elbow to mounting plate, place assembly into cutout, and attach elbow to tubing inside the wall.
4. Make sure mounting holes are exactly at top and bottom.



FLOOR INLET INSTALLATION

INSTALLATION IN NEW AND EXISTING CONSTRUCTION

1. Refer to Figures 34 and 35. After floor inlet location has been selected, cut a 3 1/16" x 2 9/16" square hole in floor. Center line of inlet must be located at least 2 1/2" from wall to allow cover to be opened when hose is inserted.
2. Determine direction of tubing and attach appropriate flanged fitting to mounting bracket with four (4) screws supplied. **Be sure mounting bracket flange does not interfere with tubing and seal is securely in place.**
3. Refer to Figure 36. Position bracket with frame and flanged fitting assembly into cutout from below and secure to sub floor.
4. Refer to Figure 37. Large end of Model 399 extension sleeve should be cut to length to allow proper seating of inlet against floor or carpet.
5. Refer to Figure 38. Pull Low Voltage 2-Conductor wire through mounting bracket and attach to terminal screws on back of floor inlet. Cement extension sleeve to Model 360 inlet. Insert extension sleeve through vinyl gasket in mounting bracket and firmly seat into flanged fitting.
6. For convenience of operation, floor inlet should be installed to open back toward wall.
7. Refer to Figure 36. Secure floor inlet in place with two screws.



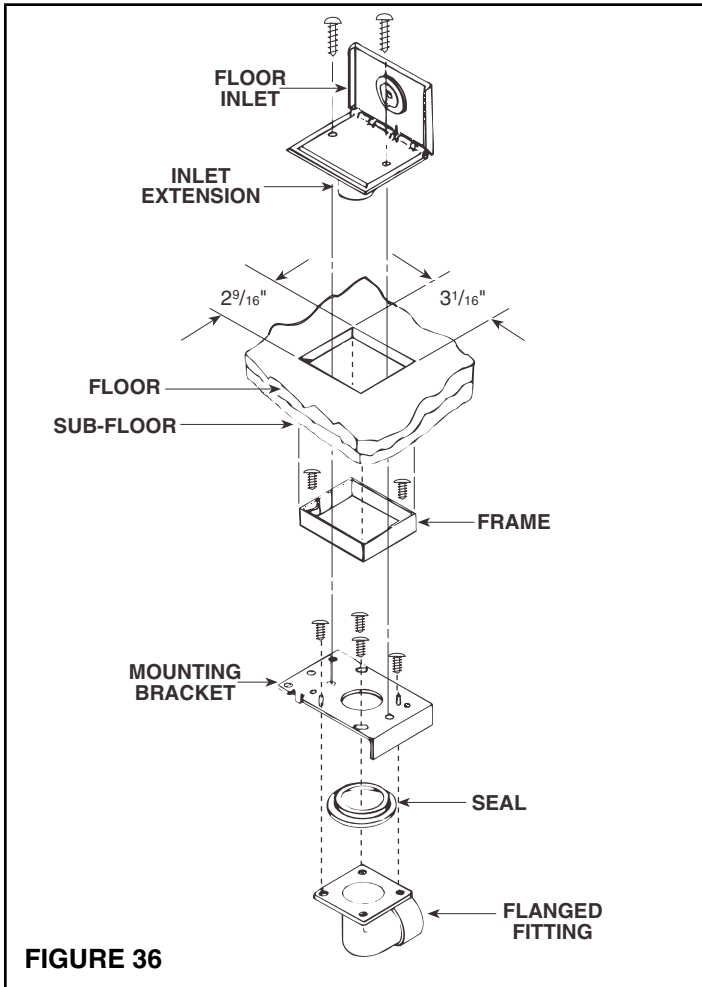


FIGURE 36

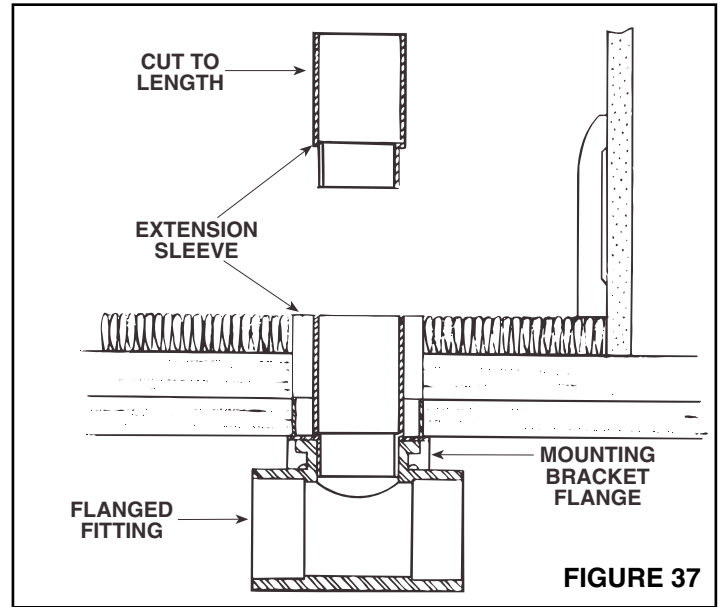


FIGURE 37

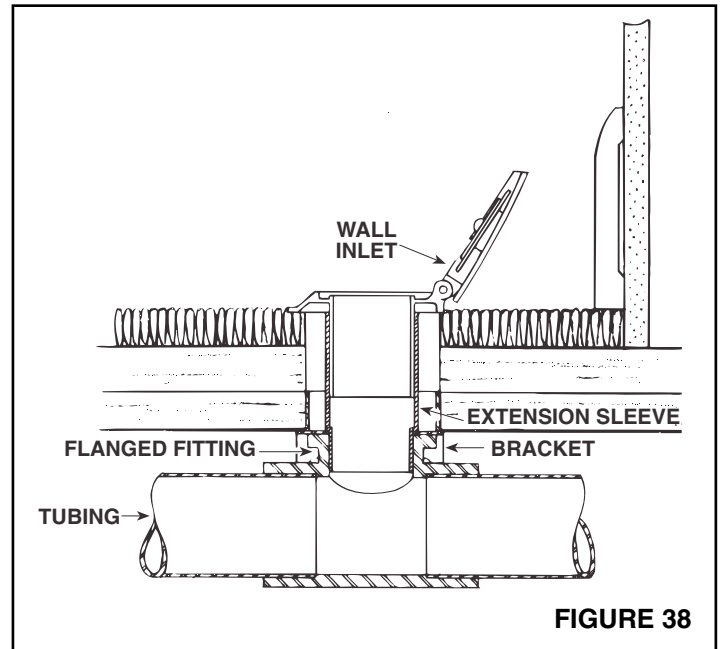


FIGURE 38

FINAL SYSTEM CHECK

Be sure all inlets are closed and soil bag is in place. Check switch on power unit for manual on/off operation.

Check each wall inlet to be sure contacts activate power unit when hose is inserted. A short piece of wire can be used to short contacts in wall inlet together to activate power unit. Check each wall inlet and tubing connection for air leaks. Check power unit for leaks around inlet tube and dirt receptacle.

Installer, will you please make sure a bag is installed in the power unit. Remove the extra bag and owner's manual from the power unit dirt receptacle and leave them with the cleaning attachments for the convenience of the Home Owner... Thank You.

NuTone®

Two Year Limited Warranty

WARRANTY OWNER: NuTone warrants to the original consumer purchaser of its products that such products will be free from defects in materials or workmanship for a period of two (2) years from the date of original purchase. **THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

During this two year period, NuTone will, at its option, repair or replace, without charge, any product or part which is found to be defective under normal use and service. **THIS WARRANTY DOES NOT EXTEND TO FLUORESCENT LAMP STARTERS OR TUBES, FILTERS, DUCT, ROOF CAPS, WALL CAPS AND OTHER ACCESSORIES FOR DUCTING.** This warranty does not cover (a) normal maintenance and service or (b) any products or parts which have been subject to misuse, negligence, accident, improper maintenance or repair (other than by NuTone), faulty installation or installation contrary to recommended installation instructions.

The duration of any implied warranty is limited to the one year period as specified for the express warranty. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

NUTONE'S OBLIGATION TO REPAIR OR REPLACE, AT NUTONE'S OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. NUTONE SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH PRODUCT USE OR PERFORMANCE. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty supersedes all prior warranties.

WARRANTY SERVICE: To qualify for warranty service, you must (a) notify NuTone at the address stated below or telephone 1/800-543-8687, (b) give the model number and part identification and (c) describe the nature of any defect in the product or part. At the time of requesting warranty service, you must present evidence of the original purchase date.

Date of Installation

Builder or Installer

Model No. and Product Description

IF YOU NEED ASSISTANCE OR SERVICE:

For the location of your nearest NuTone Independent Authorized Service Center:
Residents of the contiguous United States Dial Free 1-800-543-8687

Please be prepared to provide:

Product model number • Date and Proof of purchase • The nature of the difficulty

Residents of Alaska or Hawaii should write to: NuTone Inc. Attn: Department of National Field Service, 4820 Red Bank Road, Cincinnati Ohio 45227-1599.

Residents of Canada should write to: Broan-NuTone Canada, 1140 Tristar Drive, Mississauga, Ontario, Canada L5T 1H9.

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