

Clearadon Installation Instructions

This set of instructions is designed to be an aid in installing a Shallow Tray 3311/Clearadon. The installer should make himself familiar with the instructions that come with the system. Remember that it is important to have a professional neat looking job. Keep the work site and path to the site neat and clean. This will, not only make the job go faster, but provide a more professional image. Always be sure to leave the site as clean, if not, cleaner than when the job began.

Before arriving at the job, the installer should review the contract as well as the job sheet titled Water Test Results (WTESTFOM.SAM). Once at the job, the installer should first consider the placement of the equipment. Customer's preferences should always be considered. The person who has sold the job will probably have worked out some of these details and should have made notes on them in the "System Design" area of the job sheet titled Water Test Results (WTESTFOM.SAM). If there are any questions about the information on the Water Test Results (WTESTFOM.SAM), they should be directed to the salesman or the system designer for the job. There will be times when the placement of the equipment will be left up to the installer. The following is a list of things to be considered:

1. Future use of the space.
2. Anticipated additional equipment (water treatment or other equipment).
3. Serviceability of equipment.
4. Will the outside faucets need by-passing.
5. Electrical outlet location and its proximity to the equipment.
6. How the by-pass will be installed to make the piping neat.
7. Location of sampling ports.

The customer should be informed of the anticipated time and duration for interruption of water. Once the location of the equipment is determined, place it in position and perform the following steps:

Set Up and Plumbing

1. Check voltage on the unit and make sure it matches the voltage available for the installation. Because of ease of wiring, 110 volt systems are preferred.
2. Make sure the well pump can deliver water at the rate marked on the inlet flow restrictor.
3. Place the unit so the plumbing will be neat and there is access to serviceable parts. You must consider the routing of the vent stack when placing the unit. Use the guide "Shallow Tray 3311 Equivalent Pipe Lengths" (KM 3/25/91)⁴ provided with the unit to make sure you don't exceed the equivalent pipe length limit of 95'. If you must exceed the limits, you will need to up size the auxiliary fan. A Fantech HP-220(old FR-175) will allow you to go 175 equivalent feet. If you up size the auxiliary fan, don't forget to change the fuse for the auxiliary fan to a 2 amp fuse. Newer Clearadons do not have separate fan fuses.

⁴ If you do not understand equivalent feet or can not find this document make sure to ask how to calculate this.

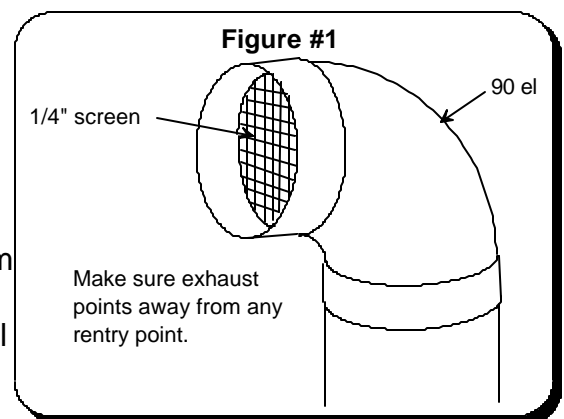
4. Remove the cover on the aeration unit and check to see that floats are not tangled and the pickup for the shallow well pump is as close to the bottom as possible.
5. Make the plumbing connections between the components of the unit.
6. Make the electrical connections between the components of the unit. If you have a P model you will only need to plug the Clearadon and pump into a dedicated 20 amp 115 volt duplex outlet. The solenoids will be plugged into the cords coming from the Clearadon control box.
7. **Shut off the hot water heater** to prevent any possible damage.
8. If necessary, shut off the water pump.
9. Drain the system to remove the water that might prevent the sweating of the copper joints. This is sometimes aided by the opening of one or more faucets in the house. Using a wet/dry shop vac placed snugly over the end of the pipe you can quickly pull out the water that will not drain easily.
10. Cut the water lines necessary for the installation of a copper ball valve by-pass assembly.
11. Install copper ball valve by-pass, close all faucets that have been opened, turn the water on to the house and check for leaks.

- **The flow of water into and out of the unit is in the correct direction.**
- **The system is installed so that it is not necessary to cut lines to remove or service the equipment.**
- **All joints are soldered and wiped**
- **All crimp rings crimped**
- **Stainless steel clamps installed and tightened**
- **Glued joints checked**
- **Threaded fittings tefloned and tightened.**

12. Unless there is a unusual run⁴ to the unit or the customer has requested something else, connect the by-pass to the unit with pex pipe⁵ and check the following:

Vent Stack Installation

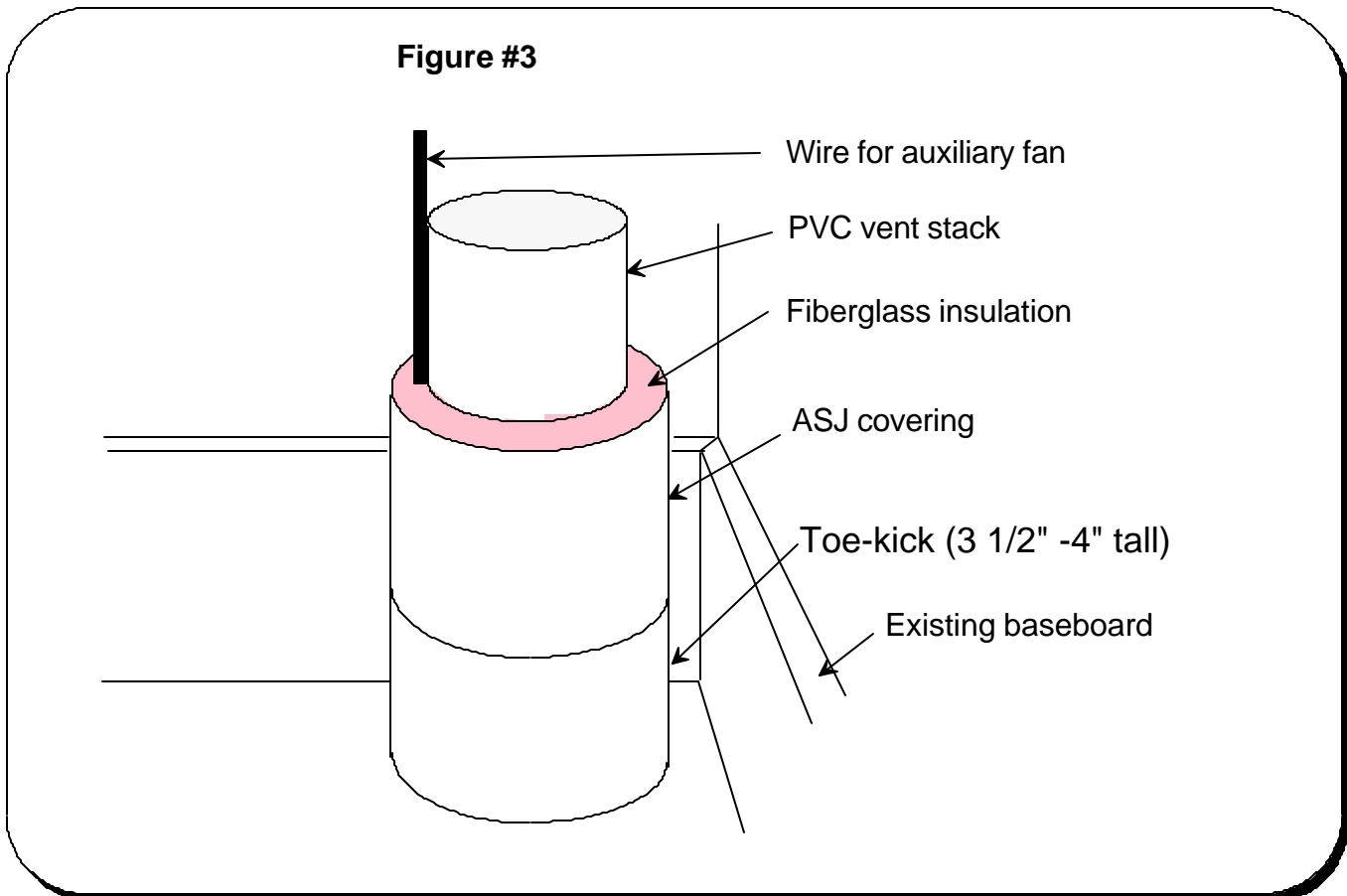
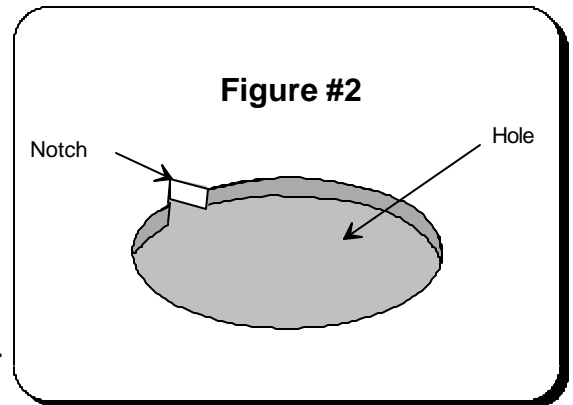
1. The stack is to be 4" schedule 40 (DWV) PVC pipe.
2. The auxiliary fan must be installed outside of the living space. Outdoors, a ventilated attic (not a knee wall space), or a garage with no living space over the top are acceptable locations. The fan must be mounted in a vertical run of the vent stack to prevent condensation from collecting in the fan housing. Make sure the auxiliary fan has a disconnect in a location near it that meets electrical code.



⁴ If there is to be a long run of piping (more than 5ft. in one direction), be sure to use a hammer arrested on the line feeding the unit

⁵ This will prevent noise from being transmitted to the house framing as it would with copper pipe.

3. The end of the exhaust pipe must be 10 feet away or 2 feet above any reentry point.
4. The end of the exhaust pipe will have to be fitting with a 90 el. The terminating el is to have a piece of 1/4" hardware cloth screen friction fit into the end (see figure #1). This is to prevent debris from entering the pipe. Make sure the exhaust points away from any reentry point. Do not point the stack toward a blank vertical wall of a living space, operating sky lights, etc...
5. Run the vent stack so that water will drain back into the unit and not be trapped in any dips in the vent piping.
6. The stack is to be securely attached to the structure every ten feet on vertical runs and every 5-7 feet on horizontal runs. The use of Clic hangers are very effective on vertical runs and at the end of a horizontal run that is to support the fan. Galvanized strap hangers on horizontal runs that are to be hung are provide a neat appearance. In attic areas that require the pipe to run horizontally on top of ceiling joist, blocks of wood (to maintain pitch) and metal or plastic pipe strap work well.
7. Vent stacks that pass through fire walls must use an intermiscent fire stop system.



8. When drilling holes through closets for vent stacks, first try to establish the orientation of the floor joists. Before drilling any large holes, use a feeler bit to try to determine if there are any obstructions. When choosing the location of the hole remember that the pipe will have insulation around it that must clear any baseboard or closet shelf cleats. If possible, locate the pipe so that the shelving can be cut around the insulation and not weaken the shelf.
9. Stacks that pass through closets should have the wire for the auxiliary fan run beside the stack. The best way to do this is to notch the side of the hole the vent pipe will run through (see figure #2) . The pipe is to be insulated with 1" rigid fiberglass insulation that has an ASJ (All Service Jacket) covering. The base of the insulation (where it penetrates the floor) is to have a toe kick placed around it. The toe kick is to be made of PVC pipe insulation jacket (see figure #3)

Start Up and Testing

1. Chlorinate the system according to the manufacture's instructions.
2. Once the unit is connected to the plumbing and the vent stack and auxiliary fan are installed, turn the by-passe(s) to the service position.
3. Turn the unit on and prime the pump using the by-pass to back feed water to the pump. This will fill the pump if one of the plug on the top of the pump head are loosened.
4. Cycle the unit two or three times by drawing water to be sure it is operating properly and to allow for checking of a any possible backdrafting problems.
5. Drill a hole to in the vent stack a few feet away from the unit (the aeration unit) and test to be sure there is a negative pressure in the stack when the tray is full of water. You can do this by drawing water until the unit's main blower comes on. Be sure to wait at least one minute after the blower comes on before testing the vacuum, for this is the time it will take the unit to fill the tray with water. Tap and plug the hole with an 1/8" ips plug.
6. **CHECK FOR LEAKS.**
7. **TURN ON THE HOT WATER HEATER.**
8. Explain the operation of the system to the customer, show them how to start the pump if the low pressure shut off should force a shut down after a power outage. Show them where you have left the information packet.
9. Review and check the items on the Water Job Completion Check List (WTCOMPCK.SAM).