



SUMMIT HILL LABORATORIES

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VETROSON[®] ACTIVE ANESTHESIA SCAVENGER

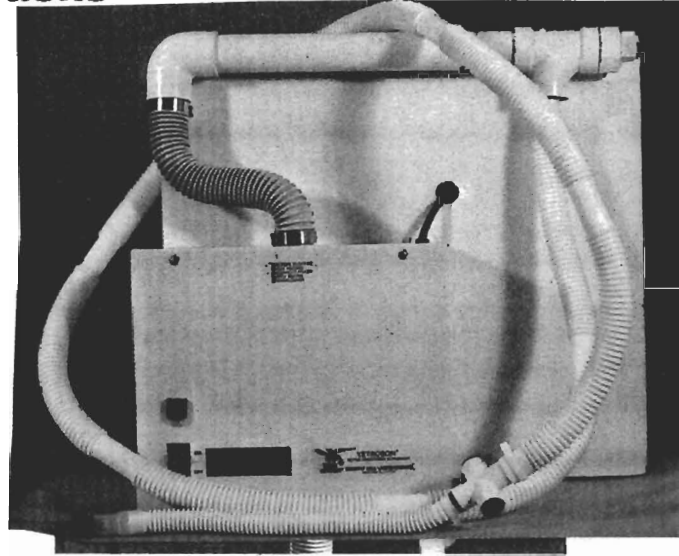
Patent Pending

Operating Instructions

The elimination of trace anesthetic gases from the operating room is a major concern for veterinarians and their personnel. The only effective way to eliminate these gases is to collect them at the anesthesia machine's pop-off valve outlet and conduct them directly to the outside.

The VETROSON PASSIVE ANESTHESIA SCAVENGER is an ideal method of scavenging gases from one machine when it is located in a room with an outside wall.

However, there are many instances when the anesthesia machine is located some distance from an outside wall. Also some veterinary clinics, animal research centers, universities and other facilities may have several machines, each requiring trace gas scavenging. The VETROSON ACTIVE ANESTHESIA SCAVENGER meets the scavenging requirements of the multi-machine facility regardless of the location of the machines within the practice.



SCAVENGING SYSTEM BENEFITS

PREVENTS UNLOADING OF THE BREATHING CIRCUIT. The vacuum pressure generated by the power unit is continuously regulated by the Air-Inlet Valves in the scavenging interface system.

OFFERS NO RESISTANCE TO THE POP-OFF VALVE. The tube diameters of the system are designed so that there will be no increase in pop-off exhaust pressure during surgery.

ELIMINATES NEED FOR CHARCOAL FILTERS. Forget about charcoal-filled canisters that become saturated (and ineffective) after a short period of time! Full attention may be devoted to surgery, not to the status of a charcoal filter.

EFFECTIVE FOR ALL ANESTHETIC AGENTS INCLUDING NITROUS OXIDE. Compatible with all non-flammable anesthetic agents, the system is also effective with nitrous oxide. Charcoal filled canisters do not absorb nitrous oxide but pass it directly to the operating room.

DOES NOT INHIBIT MACHINE MOBILITY. Ten feet of flexible exhalation tubing assures mobility of the anesthesia machine.

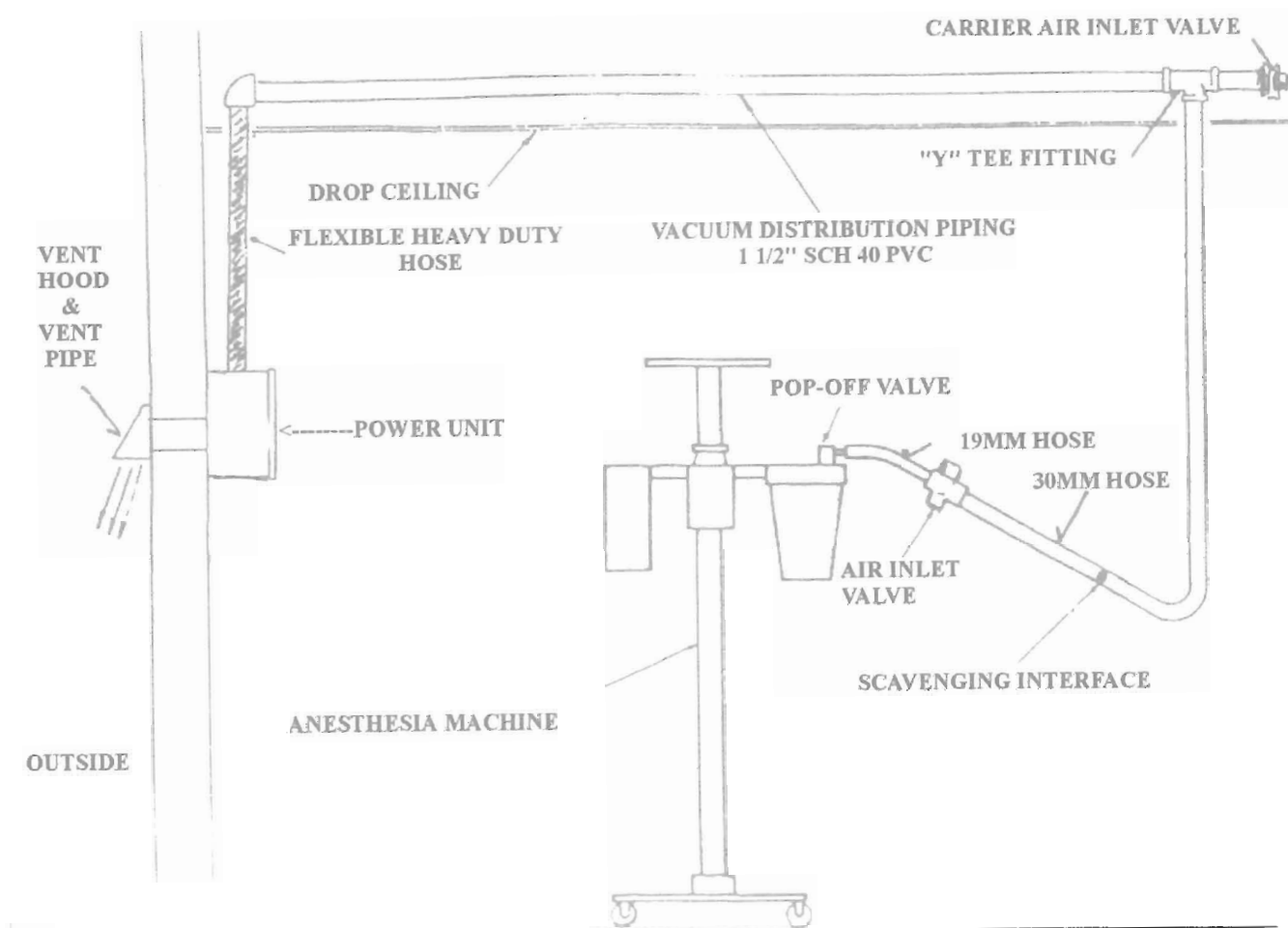
SUITABLE FOR CLINICS THAT HAVE ONE OR MORE MACHINES. The VETROSON ACTIVE SCAVENGER may be designed for hospitals with multiple machines and/or machines not located in rooms adjacent to an outside wall.

DESIGNED TO FIT MOST ANESTHESIA CIRCUITS. The VETROSON ACTIVE ANESTHESIA SCAVENGER may be directly connected to the scavenging pop-off valve outlet nipple on all commonly used Anesthesia Machines.

The VETROSON® ACTIVE ANESTHESIA SCAVENGER consists of:

- A) The POWER UNIT (14" x 12" x 8") can accommodate one or more anesthesia machines and mounts on the inside of an exterior wall. Included with the Power Unit is a 4" Vent Pipe, an outside weather-tight vent hood, 1 ½" male SCH 40 connector fitting, and 6' of 1 ½" I.D. flexible Heavy Duty Hose to connect the power unit to the veterinarian supplied 1 ½" SCH 40 PVC Distribution System.
- B) The SCAVENGING INTERFACE attaches directly to the 19mm scavenging pop-off valve outlet nipple of Omeda (Fraser), Drager, Pitman-Moore 990 Anesthesia Machines, and with an adaptor to the 22mm exhaust nipple on the VETROSON® Small Animal Anesthesia Machine pop-off valve. An adaptor is supplied which will connect with the ¼" I.D. scavenging hose of an N.R.B.(non-rebreathing) circuit. The interface consists of: Air Inlet valves, 9' x 30mm and 1' x 19mm exhalation tubing.
- C) The CARRIER AIR-INLET VALVE which includes a "Y" Tee Fitting acts in conjunction with the Air-Inlet valve(s) to regulate the vacuum pressure of the system.

NOTE: The Customer supplied 1 ½" SCH 40 PVC VACUUM DISTRIBUTION SYSTEM connects the 1 ½" SCH 40 Male Hose Connector Fitting at the end of the 6' flexible heavy hose of the Power Unit to the "Y" Tee Fitting at the end of the 30mm Scavenging Interface. This material is inexpensive and readily available through any plumbing or building material contractor.



CAUTION:

Do not use the VETROSON® ACTIVE ANESTHESIA SCAVENGER in the presence of explosive or flammable anesthesia agents. The VETROSON® ACTIVE SCAVENGER will be effective only when used in the inhalation anesthesia procedure where there is no gas leakage from the breathing circuit or machine.

GENERAL INSTRUCTIONS:

The VETROSON ACTIVE ANESTHESIA SCAVENGER is ready to use once the following steps have been completed:

Caution: The services of a contractor may be required to cut a hole through the exterior wall, mount the Power Unit, run electrical power to within 6' of the Power Unit, and install the 1-1/2" SCH 40 PVC DISTRIBUTION SYSTEM. Summit Hill Laboratories is not responsible for any damage to walls, studs, block, brick, siding, water pipes, electrical wires, heating or cooling ducts, telephone wires, sanitary pipes or anything else located on or within the walls.

SPECIFIC INSTALLATION INSTRUCTIONS:

Step #1: Mounting of the Power Unit to and through the outside wall.

The following materials are required to complete the mounting and are supplied by the veterinarian:

1. Four flat washers for 1/4" diameter lag screws.
2. Four 1/4" diameter lag screws - screw length to be determined by contractor and/or two 1/4" molly bolts.
3. Four plastic lag screw anchors.
4. Caulking compound to seal the vent components.
5. Three #6 x 1" R.H. plated screws and anchors for the vent.

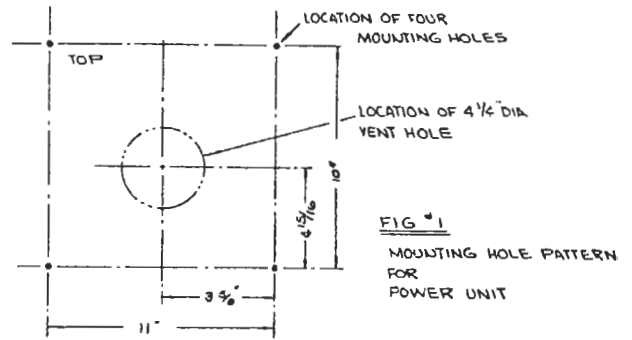
A. Selection of the mounting position for the Power Unit.

1. The mounting location must be on an exterior wall so the exhausted gases vent directly to the outside.
2. The Power Unit must be mounted on the inside of the facility in a low traffic area and high enough on the wall to prevent someone from walking into it.

3. For ease of installation, try to select an area within 6' of a 110V 60 Hz wall receptacle.
4. The mounting location must be in a cool dry place that is readily accessible to the user. Do not mount the unit in the attic or crawl space.

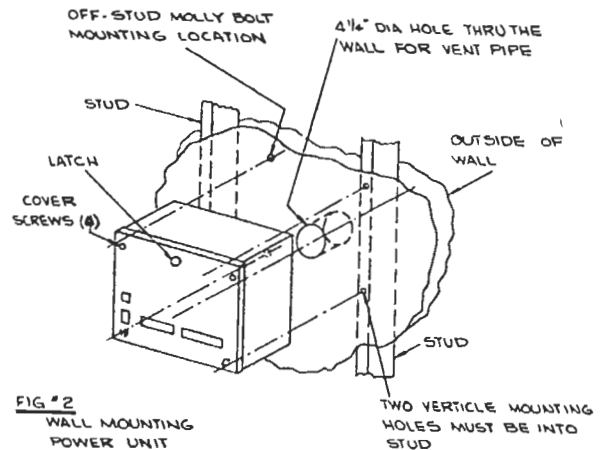
B. See Figure #1 - Once wall location has been selected, lay out the hole pattern on the wall.

1. For stud walls, two mounting holes must be located on a stud for solid mounting.
2. Cross braces may be installed between the studs to provide a hard mounting surface for all four mounting screws.
3. Before the vent hole is cut, please re-read Caution.
4. See Figure #2 - Cut a 4-1/4" diameter hole through the wall at the proper location for the vent pipe. This hole must be straight and level.



C. Opening the cover of the Power Unit:

1. Make sure the power cord is disconnected.
2. Use a flat-bladed screw driver to remove the four cover screws and set aside.
3. Using two of the above screws re-attach the cover to the lower cover mounting holes on the flange of the Power Unit. This will prevent strain on the wire harness and provide access to the mounting holes inside the enclosure.

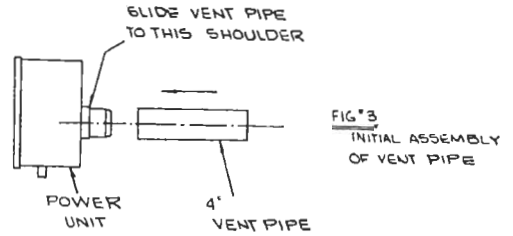


D. Note the position of the four mounting holes at the back of the enclosure.

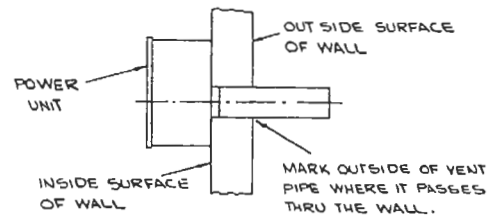
1. Hold the Power Unit up to the wall and mark the location of the four mounting holes.
2. Pilot drill four mounting holes in the wall, as per your selection of mounting hardware.

E. See Figure #3.

1. Temporarily slide the 4" diameter aluminum pipe onto the large aluminum hub on back of the Power Unit.
2. Relocate the Power Unit on the wall with the 4" vent pipe protruding through the wall to the outside.
3. Attach the Power Unit to the wall with four mounting screws to accomplish secure mounting.



4. See Figure #4 - From the outside, mark the vent pipe where it comes through the wall.
5. From the inside, remove the Power Unit and vent pipe from the wall.



6. Remove the vent pipe from the Power Unit and cut at the mark made in #4 above.

FIG. #4 MARK VENT PIPE TO FIT WALL THICKNESS.

7. Reassemble the vent pipe to the hub.
8. See Figure #5 - Assemble 4" screw type clamp over the end of vent pipe and tighten clamp screw.
9. See Figures #6 - Enlarge the vent hole (inside wall only) to provide clearance for the screw mounting clamp.

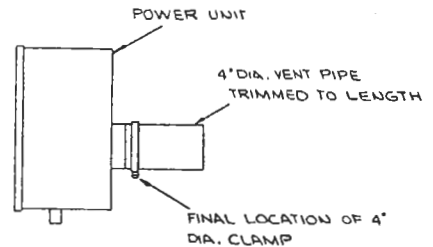


FIG. #5 FINAL MOUNTING OF VENT PIPE & CLAMP.

10. Remount the Power Unit and vent pipe to the inside wall and secure with the mounting hardware.

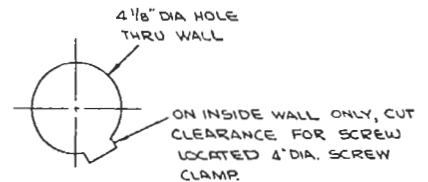


FIG. #6 WALL CLEARANCE FOR 4" CLAMP

F. Assemble the hooded vent to the vent pipe on the outside wall.

1. See Figure #7 - Locate the hooded vent over the vent pipe and make sure flange of the hooded vent is against the surface of the wall. The opening of the vent must be down.

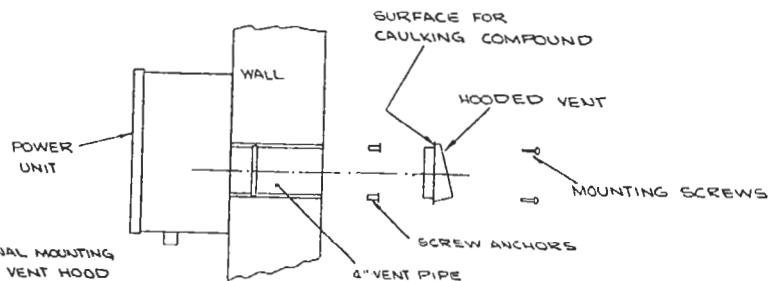


FIG. #7 - FINAL MOUNTING OF VENT HOOD

2. Mark the location of the three mounting holes.

3. Remove the hooded vent.
4. Predrill mounting holes, as per mounting hardware selection.
5. Add caulking compound to back of flange of hooded vent.
6. Reassemble the vent and mount with mounting hardware.
7. Finish caulking the vent flange to insure weather tight condition.

STEP #2: Electrical Power Source.

The Power Unit is equipped with its own 1-1/2 AMP fuse and the power supply must be 110V, 60 cycle, 10 AMP circuit. The Power Unit is supplied with a conventional three pronged power cord, 6' long. Therefore, the power supply must be run to within 6' of the Power Unit and must terminate in a conventional grounded receptacle. If this type of power supply is not already located in the area of the wall mounted Power Unit, an electrical contractor should be retained to properly locate and run the power source.

STEP #3: Vacuum Distribution System

The vacuum distribution system is the means of conducting the vacuum generated by the VETROSON ACTIVE ANESTHESIA SCAVENGER Power Unit to the individual Scavenger Interfaces located at each of the anesthesia machines.

With the exception of the one Carrier Air Inlet Valve, the 1-1/2" SCH 40 male hose Connector Fitting at the end of the 1-1/2" I.D. flexible Heavy Duty Hose and the connector fitting "Y" Tee at the end of the scavenging interface, all pipe, fittings, cement, supports, hangers, labor, etc. are provided by the veterinarian.

Caution: You may require the services of a plumbing contractor to install your Distribution System. Summit Hill Laboratories is not responsible for any damage incurred to your facility as a result of installation of the Distribution System.

Materials: All pipe and fittings must be SCH 40, 1-1/2" PVC which is readily available through your contractor or building supplies dealer. All joints must be cemented with conventional plumber's PVC cement.

Location: The Distribution System must be located in such a fashion so as not to present a hazard. It can be located above the ceiling or along the bottom of interior walls. The connection point for the Scavenging Interface must be within 6' to 8' of the anesthesia machine usage point.

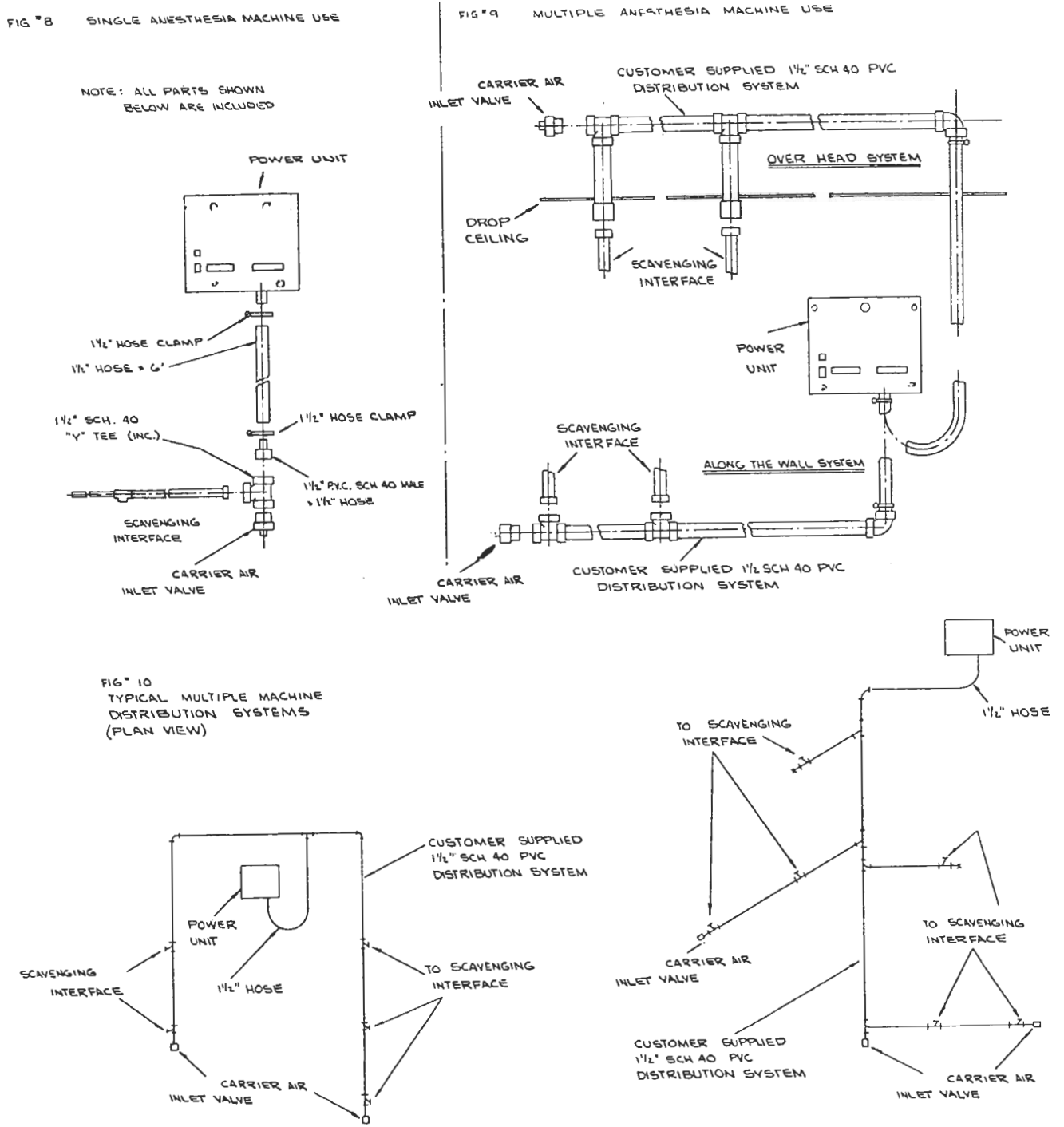
Note: Every Distribution System will be unique to the individual facility in which it is installed.

The following diagrams will show suggested installations for single machine and multiple machine facilities. Details will show segments of a typical distribution system.

See Figure #8 - Single Anesthesia Machine. Please note that all parts listed on the diagram are supplied by Summit Hill Laboratories.

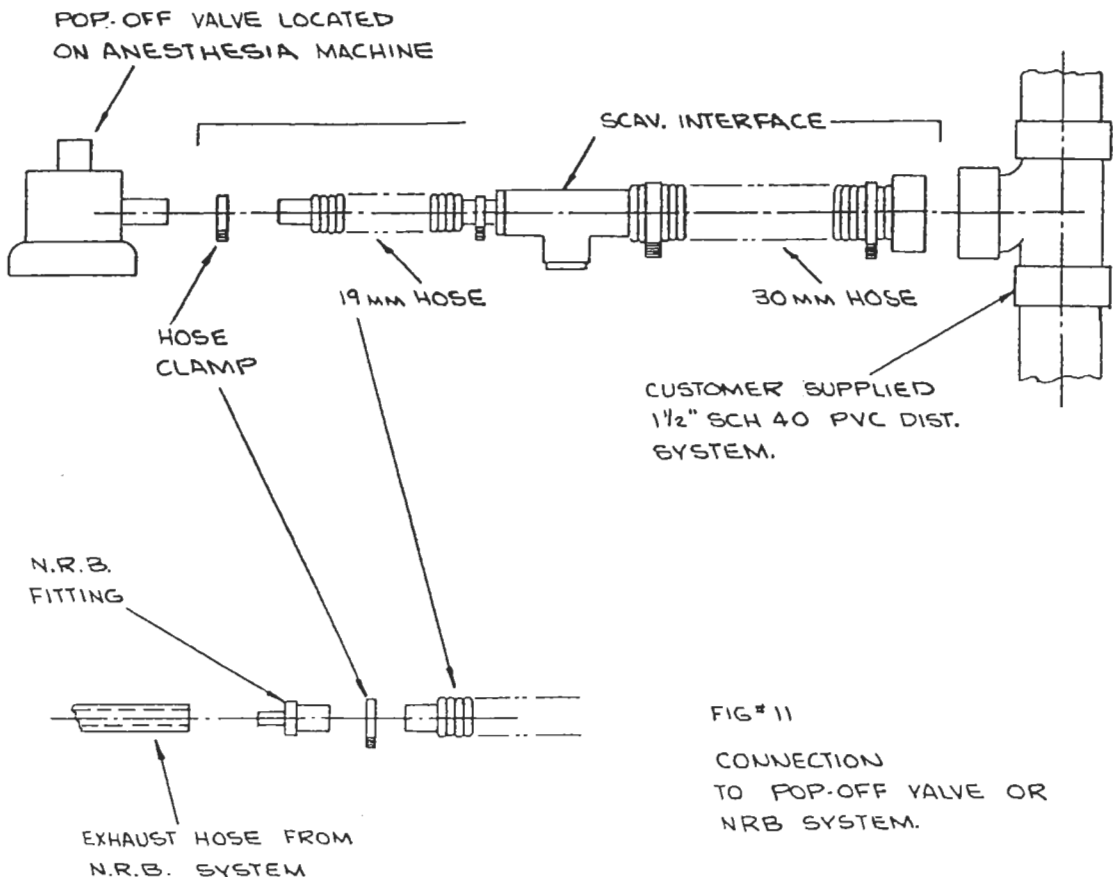
See Figure #9 - Multiple Anesthesia Machines use. In addition to what is supplied in Figure #8, the veterinarian must purchase from Summit Hill Laboratories a Scavenging Interface for each additional anesthesia machine. The veterinarian must also purchase a Carrier Air Inlet Valve for each additional "Dead-end" in the system.

See Figure #10 - Please note the two plan views showing layouts using the Summit Hill Laboratories VETROSON ACTIVE SCAVENGER.



STEP #4: Installation of the Scavenging Interface to the Anesthesia Machine and to the Distribution System

1. The Scavenging Interface is approximately 10' long. The Distribution System connection must be made within 6' to 8' from the point where the anesthesia machine must be used.
2. See Figure #11 - The 1-1/2" PVC male fitting located at the end of the Scavenging Interface must be cemented into the 1-1/2" PVC "Y" tee.
3. For the direct connection to the machine's Pop-Off Valve, slide the end of the 19mm hose over the exhaust nipple of the Pop-Off Valve and close the clamp around the hose.
4. For the direct connection to a Non-Rebreathing System (N.R.B.) insert the N.R.B. adaptor fitting into the 19mm hose of the Scavenging Interface and close the clamp around the hose.
5. Connect the N.R.B. discharge hose to the nipple on the N.R.B. adaptor fitting.



1. Connect all Scavenging Interfaces to the "Y" Tee fittings of Distribution System and the pop-off valve exhaust nipple of the anesthesia machines.

2. Activate the system by turning "On-Off" switch to On (Figure #12).
4. Allow the system to run for at least ten minutes once the anesthesia machine has been turned off.

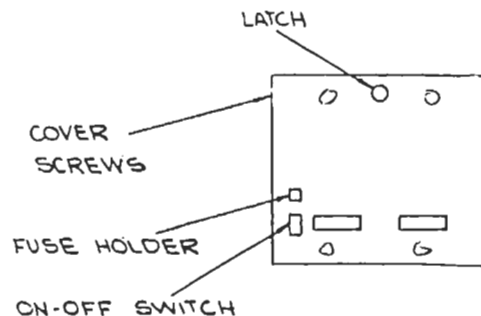


FIG #12
OPERATION OF
POWER UNIT

STEP #6: Testing the Vacuum Pressure

The VETROSON ACTIVE SCAVENGER should not allow negative pressure greater than 1 cm. of water to reach the pop-off valve. This pressure may be checked by using the following steps (See Figure #13).

1. Attach the Scavenging Interface to the N.R.B. circuit using the adaptor provided (see Figure #11).
2. Add the section of the 1/4" I.D. clear tubing included.
3. Submerge the tip of the 1/4" tubing into glass of water.
4. With the unit turned on the water level in tube should not rise more than 1 cm. above the water level in the glass.

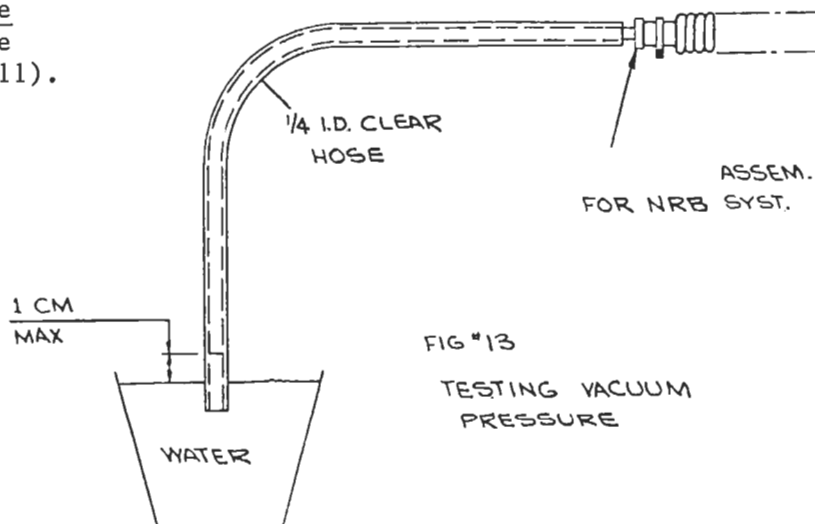


FIG #13
TESTING VACUUM
PRESSURE

CAUTION: If the water level in the tube rises more than 1 cm. above the water level in the glass, excessive pressure is present. Should this situation occur, do not use the system during surgical procedures as negative pressure will cause excessive evacuation of anesthetic gases from the machine and thus be a hazard to the patient. Please phone Summit Hill Laboratories in such instances for immediate assistance.

WARRANTY

SUMMIT HILL LABORATORIES will repair or replace any part of the Power Unit which proves defective by reason of improper workmanship and/or material for a period of one (1) year without charge for parts or labor. Other listed components and accessories are warranted against defects by reason of improper workmanship and/or material for a period of thirty days from date of purchase. Consult the warranty sheet for complete information.

SERVICE POLICY

If repairs are necessary, SUMMIT HILL LABORATORIES will deal directly with the veterinarian.