

Egg Harbor Fire Department and First Responders Standard Operating Guideline

Subject: Positive Pressure Fan Operation

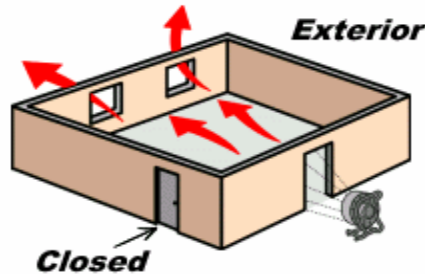
SOG 812

Purpose: The purpose of this SOG is to establish a guideline for Positive Pressure Ventilation (PPV)

Scope: This procedure applies to all members of the Egg Harbor Fire Department.

Guideline

- A. Positive Pressure Ventilation fans are used primarily for the positive displacement of smoke and toxic gases with fresh ambient air.
Positive Pressure Fan ventilators are not intrinsically safe and should not be operated in explosive atmospheres.
- B. The principle is simple; pressurize the structure with fresh air with an exit opening for the toxic gasses.

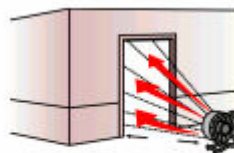


- C. To operate the positive pressure fan be sure that the fan turbine exhaust is clear of any debris or personnel. Air velocity can reach speeds in excess of 60 mph, be careful to observe your surroundings before starting.

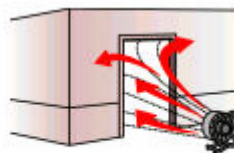
- D. To start the gasoline powered fan motor rotate the Ignition switch to the on position. It should be stowed in this position.
- E. Set choke to full on by moving the lever to the left, it should be stowed in this position.
- F. Set fuel switch to open. By moving the lever to the right.
- G. Pull start cord until motor begins to run, after motor is running slowly turn the choke off by moving the lever to the right.
- H. Increase throttle until desired flow is achieved.
- I. To start electric powered fan plug in turn switch on.
- J. Increase speed until desired flow is achieved.
- K. The angle of the fan may be adjusted by pivoting the fan head.
- L. Hearing and eye protection is required if working in close proximity of the fan.

Ventilating smoke or gas post fire or without fire.

- A. Begin by closing all exterior doors and windows possible.
- B. Setup fan at an entrance door or window, use electric powered fan if at all possible.
- C. Fan should exhaust with the wind direction, it is not advised to ventilate up wind.
- D. Set fan at a distance to allow proper coverage of the opening for most doorways this is approx. 3-5 feet.
- E. 95% of the Airflow should enter the opening if air flow can be felt exiting the same area where the fan is placed move the fan back until no air flow can be felt exiting the area.
- F. The air flow should be flowing inward at all points.

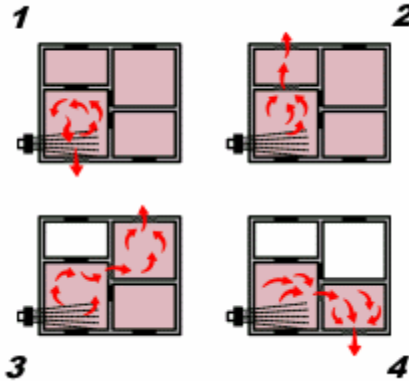


Good Seal



Incorrect

- G. Start fan, slowly increase speed to desired level.
- H. Start at the closest windows or exits opening one(1) at a time until room or rooms are clear then close openings. Work away from the fan until the farthest (from the fan) exit or window has been opened. Allow the last window or exit to remain open until area is clear.



- I. Air exit area openings should not exceed 1-1/2 times the air entrance opening area.
- J. If screened windows double the exit area.



Too Many Exits



Exit Too Small

- K. Curtains or blinds should be removed.
- L. The Gas Powered Fan Produces Carbon Monoxide Gas During Operation Evaluate Area with CO Monitor Before Occupying.

Positive Pressure Ventilating smoke and gas during a fire in a structure.

- A. Beware this can be very dangerous if not administered properly.
- B. Must be a coordinated effort with the permission of the IC.
- C. Must only be done after having a hose team in place with a charged hose-line.
 - 1. Hose-line should be a minimum of 1 3/4" diameter.
- D. Start by determining the area of fire, level of involvement, type of building construction.
- E. Place fan at area on the opposite side of the involved area of the structure.

1. If the fire is in the rear of the building the fan should be placed at the front.
- F. Start fan and allow to idle
- G. Locate a ventilation exit closest to the fire and open it.
 1. If the fire is on the second floor in a bedroom, that rooms window(s) should be removed.
 2. Ventilating should be done from the outside during this operation.
- H. Adjust fan speed to high and extinguish the fire.
- I. If extensions into walls or ceiling spaces are suspected, positive pressure ventilation should be ceased.
- J. After operation has been completed adjust throttle to low idle and allow fan to idle for a minimum of 3 minutes. Top off fuel, check oil, and replace on apparatus.