FEDERAL LAW:

183.520 Fuel tank vent systems.

(a) Each fuel tank must have a vent system that prevents pressure in the tank from exceeding 80 percent of the pressure marked on the tank label under Sec.183.514(b)(5).

Pressure build-up can occur in a fuel tank due to temperature changes and during filling. The fuel tank vent system must be designed and installed to prevent the pressure build-up from exceeding 80 percent of the pressure marked on the tank label.

Unless there is trapped liquid or a clogged vent, temperature changes should not cause pressure problems. Filling a fuel tank at the normal rate of liquid flow (9 to 12 gallons per minute) found with most fuel dispensing pumps (some may put out more), might present a problem if too small a vent line is selected or if there are restrictions in the line. Blow-back through the fill opening will occur if the vent system is plugged. It has been generally found that a 9/16 inch inside diameter vent line with not less than 7/16 inch inside diameter fittings, provides sufficient flow capability to allow the fuel tank to breathe without excessive pressure build-up. It must be emphasized that vent lines be installed so that there are no potential liquid traps.

TO COMPLY WITH THE LAW

- *Does the vent prevent fuel tank build-up from exceeding 80 percent of the pressure marked on the label?*

FEDERAL LAW:

183.520 Fuel tank vent systems.

(b) Each vent must

(1) Have a flame arrestor that can be cleaned unless the vent is itself is a flame arrestor; and

(2) Not allow a fuel overflow at the rate of up to two gallons per minute to enter the boat.

Fuel tank vent flame arrestors must be able to be cleaned so they will not adversely restrict the breathing of a fuel tank. Flying particles, debris and salts from sea spray can attach to flame arrestor elements. There must be some means to free the arrestor from this contamination. Access to the arrestor may be from outside or inside the boat as long as it can be accomplished in a normal servicing manner. Removal of the vent fitting is also acceptable.

It is possible that a fuel tank vent system itself may perform the function of a flame arrestor. The diameter and length of the vent tubing and its routing are considerations in designing a fuel tank vent system that is itself a flame arrestor. There are no recommendations of proper diameters and lengths at this time. The burden of proof as to whether or not a fuel tank vent system performs is the boat manufacturer's.

The fuel tank vent outlet fitting must be located so that overflowing fuel coming out of the vent at a rate of up to 2 gallons per minute will not enter the boat. This requirement may involve deck design, cockpit coaming design, air vent location, hawsehole design for underdeck cleating of lines and any other opening where fuel would overflow into the boat.

Deck joints in riveted metal decks, or wooden decks, could provide a path for fuel to flow to the boats interior unless they are caulked to resist such fuel leakage.

TO COMPLY WITH THE LAW

- ***If the vent has a flame arrestor, can it be cleaned?***
- ***Does the fuel tank vent system prevent overflow of up to 2 gallons per minute from getting into the boat?***