



Vessel Afire!

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This past week, a boat caught fire in Patchogue Bay. The mariners were rescued. The boat burned to the waterline and sank to the bottom. Thus, it would seem appropriate to review what one does when someone yells "Fire in the Hold!"

It would seem to me that one of the most frightening circumstances to be caught in is a boat afire. It is loaded with high-octane fuel creating toxic smoke; using water to fight the fire can sink the boat; leaving the boat may entail going into another hostile environment—cold and unforgiving water. It doesn't sound like there are many, if any, good alternatives. Also, fire prevention professionals quote that on average a fire will double in area every five minutes. At that rate, it wouldn't take long to engulf an entire boat. So, time is of the essence and it is highly unlikely that anyone can get to you in time to assist in the fire suppression. You and your crew, most likely, are it.

Causes of Fires

According to many studies, the engine is not the most likely

source of fires on boats—electricity is. More than half of boat fires start with wiring or appliance failures. Next come fires started by an overheated engine. Less than 10 percent of boat fires start with a fuel leak. The rest is a mixed bag of "miscellaneous."

An electrical fire such as the one that starts from a frayed/chafed wire is very different than one that is fed by a malfunctioning inverter or generator. The first is going to act like someone was smoking in bed—material is aflame but not being fed by the electricity itself.

Types of Fire Extinguishers and Who Needs What

First, fire extinguishers are classified into "A," "B" and "C" types. (There is a type "D" for chemical/combustible metals fires such as would be created by the magnesium in a flare but I have never seen it successfully used before the flare involved surrounding materials—get the flare off the boat [let the fish below deal with it] and then deal with the fire.) The easiest way to remember what they are used for is thus:

"A" – the fire creates ash – paper, bedding, clothes, wood...

"B" – the subject afire can boil – "POLs" or petroleum, oils and lubricants...

"C" – a charge runs through it—electronic equipment...

They also come in sizes (pounds of suppressant). For the private boater, sizes 1 (I) or 2 (II) are the most common and manageable. The question is, "How many do I need for my size boat?" And the answers are:

All power boats, except outboards, less than 26 feet and of open construction must carry one B-I, U. S. Coast Guard-approved extinguisher.

All power boats 26 feet to less than 40 feet must carry two B-I or one B-II U. S. Coast Guard-approved extinguishers.

40 feet to less than 65 feet must carry three B-I or one B-II and 1 B-I U. S. Coast Guard-approved extinguishers.

Larger vessels must adhere to federal regulations about automatic fire-suppression systems in enclosed spaces.

What are the suppressants

and what is best for my boat might be the next set of logical questions. As would seem obvious to even the casual reader, carbon dioxide is one suppressant. It smothers the fire by withholding oxygen from the "fuel-oxygen-heat" equation. CO2 has one not-so-obvious drawback. If you use it on a type-B fire, the high pressure of the CO2 coming out of the canister may spread the fire. So, hold CO2 aside. Another suppressant type is "dry chemical." It can handle "A," "B" and "C" fires but it also has a problem. The chemical suppressant tends to be corrosive in a marine environment. So hold that dry chemical aside, too. What tends to be best, at least for "A" and "B" fires, is foam. It smothers the fire. The foam is water-based so the use of it on an electrical fire can be problematic as it may give a medium for the electricity to reach the salver—you! Of course, in a private boat, a foam extinguisher will work fine for your chart plotter that shorted out. I just wouldn't use it in an environment where a generator is putting out high

voltage power to a large vessel with a myriad of electronic needs such as A/C, TV, radar, etc. That much juice is something you don't want to be in the middle of!

Where Do I Keep the Extinguishers?

Where I can get to them—plus the sleeping berths. If you awake to a fire, you may have to fight your way out. Every other extinguisher should be kept in a convenient place.

Boat's Afire—Now What!???

Act quickly. Have someone turn the boat so the fire is down wind and proceed ahead as slowly as possible to maintain steerage. And have the helmsman call the USCG on VHF-16. Get the "rescue starts now" clock going. While reaching for the fire extinguishers, yell "everybody into life-jackets!" If you do have to abandon ship, you are prepared. Aim the extinguisher at the base of the flame. Move the extinguisher back and forth across the source of the flame to spread the coverage.

And be sure to call the U.S. Coast Guard.