

DO NOT OPERATE YOUR BOAT WITHOUT DOING THE FOLLOWING:

TRIP CHECKLIST FOR CARBON MONOXIDE

- ☐ Educate all passengers about the symptoms of CO poisoning and where CO may accumulate.
- ☐ Confirm that water flows from the exhaust outlet when the engines and generator are started.
- ☐ Listen for any change in exhaust sound, which could indicate an exhaust component failure.
- ☐ Look for exhaust leaking from exhaust system components.
Note: Engine room bulkheads may not prevent leaking exhaust from entering the boat cabin.
- ☐ When docked or rafted with another boat or boats, be aware of exhaust emissions from the other boat(s).
- ☐ Every time you boat, test the operation of each CO detector by pressing the test button. CO detectors have a limited life; replace as directed by the manufacturer.

BOATER'S MONTHLY MAINTENANCE CHECKLIST

- ☐ Inspect rubber exhaust hoses for burned, cracked, or deteriorated sections.

ANNUAL CHECKLIST HAVE A QUALIFIED MARINE TECHNICIAN:

- ☐ Replace exhaust hoses if cracked, charred, or deteriorated.
- ☐ Ensure that your engines and generators are properly tuned and well maintained.
- ☐ Inspect each water pump impeller and the water pump housing. Replace if worn. Make sure cooling systems are in working condition.
- ☐ Inspect all metallic exhaust components, including the cylinder head gasket, exhaust manifold, water injection elbow, and the threaded adapter nipple between the manifold and the elbow, for cracking, rusting, leaking, or loosening.
- ☐ Clean, inspect, and confirm proper operation of the generator cooling water anti-siphon valve (if so equipped).

want to know more?

For more information about how you can prevent carbon monoxide poisoning on recreational boats and other boating safety information, contact:

United States Coast Guard

Office of Auxiliary & Boating Safety
Commandant (CG-BSX) Stop-7501
2703 Martin Luther King Jr. Ave., S.E.
Washington, DC 20593-7501
www.uscgboating.org



National Marine Manufacturers Association

231 South LaSalle Street, Suite 2050
Chicago, IL 60604
www.nmma.org
312.946.6200

American Boat & Yacht Council, Inc.

613 Third Street, Suite 10
Annapolis, MD 21403
www.abycinc.org
410.990.4460

CARBON MONOXIDE POISONING:

what you
can't see...



Brought to you by the U.S. Coast Guard.

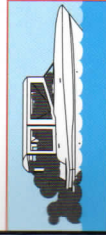


...can
harm you.

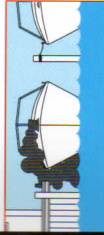
where can CO
accumulate?

ANYWHERE in or around your boat.

how can CO
accumulate?



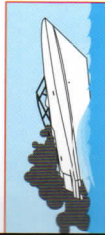
Inadequately ventilated canvas enclosures or enclosed places.



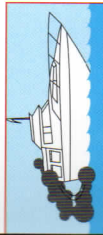
Blocked exhaust outlets.



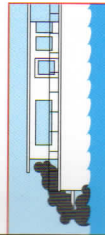
Another vessel's exhaust. CO from the boat positioned next to you can be just as deadly.



"Station wagon effect" or back drafting.



At slow speeds, while idling, or stopped.



Under swim platforms.

If you could see carbon monoxide accumulating around your boat, it might look like this.

WHAT IS CARBON MONOXIDE?

Carbon monoxide (CO) is a colorless, odorless, and tasteless gas. It is produced when a carbon-based fuel—such as gasoline, propane, charcoal, or oil—burns.

CO sources on your boat may include engines, gas generators, cooking ranges, and space and water heaters. Even engines with catalytic converters produce some CO.

WHY IS IT SO DANGEROUS?

Carbon monoxide enters your bloodstream through the lungs, blocking the oxygen your body needs. Prolonged exposure to low concentrations or very quick exposure to high concentrations can kill you.

Early symptoms of CO poisoning include irritated eyes, headache, nausea, weakness, and dizziness. These symptoms are often confused with seasickness or intoxication, so those affected may not receive the medical attention they need.

HOW CAN YOU protect others and yourself?

- Know the signs of CO poisoning.
- Know where and how CO may accumulate in and around your boat.
- If you can smell engine exhaust, you are inhaling CO.
- Follow all warnings and instructions for canvas, engine and blower operations, etc.
- Maintain fresh air circulation throughout the boat at all times.
- Know where your engine and generator exhaust outlets are located and keep everyone away from these areas.
- Stay off the back deck and the swim platforms (and do not use a hand-held shower in these areas) while the engines and/or generators are running.
- Never enter areas under swim platforms where exhaust outlets are located.
- Although CO can be present without the smell of exhaust fumes, if exhaust fumes are detected on the boat, take immediate action to ventilate these fumes.
- Treat symptoms of seasickness as possible CO poisoning.
 - Get the person into fresh air immediately. Seek medical attention—unless you're sure it's not CO.
- Install and maintain approved marine-grade CO detectors.
 - Every alarm requires immediate action.
- If CO is suspected, turn off all engines and open all hatches, windows and ports to ventilate.
 - Changing course and speed to place boat heading into the wind can improve ventilation.
- Maintain your engine in accordance with manufacturers' recommendations. Engines that are not tuned properly produce more CO.
- Follow the checklists provided in this pamphlet.

THE U.S. COAST GUARD

wants you to know...

- CO can harm and even kill you inside or outside your boat.
- CO symptoms are similar to seasickness or alcohol intoxication.
- CO can affect you whether you're underway, moored, or anchored.
- You cannot see, smell, or taste CO, but if you smell exhaust fumes, CO is present.
- CO can make you sick in seconds. In high enough concentrations, even a few breaths can be fatal.

...CO poisonings are preventable!!