

U.S. Department
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Boating Safety Circular 82

COAST GUARD ADVISORY ON CARBON MONOXIDE HAZARD CAUSED BY GENERATOR EXHAUST GAS ACCUMULATIONS

Owners and operators of boats equipped with gasoline-powered generators with exhaust ports which exit through the transom beneath or near a swim platform should turn off their generators when passengers are on the swim platform or swimmers are in the water.

A September 2000 National Institute for Occupational Safety and Health (NIOSH) study of carbon monoxide deaths on Lake Powell in Arizona over the last 10 years showed seven fatalities involved houseboats with through-transom generator exhaust systems. A similar National Park Service (NPS) investigation found dangerous accumulations of carbon monoxide gases on houseboats with through-transom exhaust systems when the generator was running and exhaust fumes became trapped beneath the swim platform.

Carbon monoxide is a colorless, odorless and tasteless gas that accumulates rapidly. Carbon monoxide in high concentrations can be fatal in a matter of minutes. Unless the symptoms are severe, carbon monoxide poisoning is often misdiagnosed as seasickness; however, lower concentrations must not be ignored because the effects of exposure to carbon monoxide are cumulative and can be just as lethal.

Some houseboat transom designs consist of a recessed area amidships forward of the swim platform creating a cavity for engine and generator exhaust ports. When the generator is running the carbon monoxide gas buildup in this cavity, on or near the swim platform, and near the rear deck space is so high, that there is an imminent danger of death for anyone in or near the cavity for even a very short period of time.

The Coast Guard has conducted a preliminary investigation into the problem and has sent a letter

to all known houseboat manufacturers informing them of the hazard and soliciting their ideas for reducing the danger.

The National Marine Manufacturers Association has published a pamphlet, "Carbon Monoxide Poisoning -- Know More About It," which is reprinted in this issue of the **Boating Safety Circular**. Pamphlets such as this, as well as other boater educational materials, have historically concentrated on carbon monoxide hazards created by the exhaust of the main engines while underway. Although these hazards still exist and need to be addressed, new educational materials need to be developed that include more emphasis on the additional carbon monoxide hazards of gasoline powered generators especially while a vessel is not underway.

While the NIOSH study and the NPS investigation were limited to houseboats, the problem can exist on any boat with a gasoline-powered generator exhaust port located adjacent to a swim platform on the transom. A common practice of running gasoline-powered generators to power air conditioning, entertainment centers and galley appliances while anchored or moored exacerbates the problem.

For that reason, all owners and operators of boats equipped with swim platforms and gasoline-powered generators with exhaust ports on the transom are advised to turn off their generators when their boats are at anchor or moored and passengers are on or near the swim platform or swimmers are in the water.

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RECREATIONAL BOAT FACTORY VISIT PROGRAM

On August 21, 2000 the Coast Guard Recreational Boating Product Assurance Division awarded a contract to Resource Network International (RNI) of Silver Spring, Maryland to train 14 Compliance Associates and to have them conduct approximately 1,000 factory visits annually.

The training, which was completed on December 14, 2000, covered Federal regulations and safety standards, voluntary standards such as those published by the American Boat and Yacht Council (ABYC) and Society of Automotive Engineers (SAE), compliance testing, procedures and policies, and manufacturer liaison. The purpose of the factory visit program is to emphasize the need to comply with Federal safety standards and regulations, to ensure each manufacturer understands the regulations and to assist manufacturers in certifying compliance with the regulations.

The first factory visit was conducted on January 8, 2001 and authorized Compliance Associates from RNI will be contacting and visiting all recreational boat manufacturers and importers on a scheduled basis.

The factory visit program should lead to a heightened understanding of both Federal and voluntary safety standards and regulations, and thereby provide the public with safer recreational boats.

DEFECT NOTIFICATION AND RECALL CAMPAIGNS

Problem Descriptions:

Basic Flotation: Most inboard, inboard/outdrive and jetdrive powered motorboats less than 20 feet in length are required to contain sufficient flotation so that some portion of the boat remains above the surface of the water if the boat is swamped. Boats with “Basic Flotation” problems will sink if they capsize or swamp.

Level Flotation: Most outboard powered motorboats less than 20 feet in length are required to float level when they are swamped and to support a certain percentage of the weight which they are rated to carry. Boats with “Level Flotation” problems do not float level when swamped.

Capacity Label Missing, Maximum Persons Capacity Overrated, Maximum Weight Capacity Overrated or Horsepower Capacity Overrated: Almost all motorboats less than 20 feet in length are required to bear a “U.S. Coast Guard Maximum Capacities” label. If the label is missing or the values are overrated, an operator who is unfamiliar with a particular boat may try to carry too much weight or, in the case of outboard powered boats, too much horsepower. Some insurance companies will not insure a boat that lacks the label or bears a label with incorrect information.

The recall list includes new campaigns as well as old ones. The new campaigns begun since December 1999, follow:

AMERICAN SUZUKI MOTOR CORPORATION

(Brea, CA)(990116T)

Year: 1998 and 1999

Models: DF60 and DF70

Units: 1,769

Problem: Shift rod connecting pin and clip may fall out; potential loss of shifting control

ARCTIC CAT, INC.

Thief River Falls, MN (010003T)

Year: 1999

Models: Tigershark 1100 LI

Units: 522

Problem: Throttle bodies may wear/corrode causing stiff throttle operation and return; may result in throttle remaining in open position; danger of collision

ARCTIC CAT, INC.

Thief River Falls, MN (000201T)

Year: 1997

Models: Tigershark:

Daytona 770 and 1000,
Monte Carlo 640, 770 &
1000

Units: 9,436

Problem: A crack may develop in base of fuel filler neck permitting liquid fuel or vapor leakage; possible fire/explosion if ignition source present

BACK COUNTRY BY CHAMPION

(Sarasota, FL)(991626S)

Year: 1996 - 1999

Models: 151 Pro Guide

Units: 55

Problem: Level Flotation

BOMBARDIER MOTOR CORP. OF AMERICA

(Benton, IL)(000069T)

Year: 2000

Models: Speedster, Challenger & Islandia

Units: 1,216

Problem: Throttle may stick at high RPM; possibility of collision; fuel pickup neck may be too thin; possible fuel leakage may lead to fire/explosion

BOMBARDIER MOTOR CORP. OF AMERICA

(Benton, IL)(000124T)

Year: 2000

Models: Sea Doo RX 5513 and 5514

Units: 1,112

Problem: Sponsons may loosen and fall reducing steering ability at high speed; possible danger of collision

BOMBARDIER MOTOR CORP. OF AMERICA

(Benton, IL)(0000125T)

Year: 2000

Models: Sea Doo RX DI and GTX DI

Units: 3,272

Problem: Possible fuel leak between direct air injector and fuel rail assembly; possible fire or explosion if ignition source present

BOMBARDIER MOTOR CORP. OF AMERICA

(Benton, IL)(000087T)

Year: 2000

Models: GTX and GTX RFI

Units: 10,273

Problem: Fuel fill is adjacent to ventilation system opening and operator could inadvertently fill engine compartment with fuel; possible fire/explosion if ignition source present

BOMBARDIER MOTOR CORP. OF AMERICA

(Benton, IL)(000145T)

Year: 2000

Models: GTX, XP, RX DI, GTX DI, AND LRV (5513, 5514, 5544, 5545, 5646, 5649, 5651, 5653, 5655, 5656, 5659, 5669 and 5688)

Units: 3,476

Problem: Clip securing air intake silencer could release and allow gaskets to fall into throttle bodies; for DI (direct injection) models only, fogging tube inside air silencer could also be drawn into the rear throttle body; resulting in loss of speed control and possible collision