



# Boating Safety Circular 84



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## 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.

Sources on your boat may include engines, gas generators, cooking ranges, space and water heaters.

## WHY IS IT SO DANGEROUS?

Carbon monoxide (CO) 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. They are often confused with seasickness or intoxication, so those affected may not receive the medical attention they need.

# where can CO accumulate?

**ANYWHERE** in or around your boat.

## how can CO accumulate?



Inadequately ventilated canvas enclosures.



Exhaust gas trapped in enclosed places.



Blocked exhaust outlets.

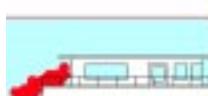


Another vessel's exhaust.

CO from the boat docked next to you can be just as deadly.



"Station wagon effect" or back drafting.



At slow speeds, while idling, or stopped.

Be aware that CO can remain in or around your boat at dangerous levels even if your engine or the other boat's engine is no longer running!

## HOW CAN YOU protect others and yourself?

- Know where and how CO may accumulate in and around your boat.
- 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.
- Never sit on the back deck, teak surf, or hang on the swim platform while the engines are running.
- Never enter areas under swim platforms where exhaust outlets are located unless the area has been properly ventilated.
- 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 CO detectors inside your boat. Do not ignore any alarm. Replace detectors as recommended by the manufacturer.
- Follow the checklist provided in this pamphlet.
- Get a Vessel Safety Check.

## 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.
- CO can make you sick in seconds. In high enough concentrations, even a few breaths can be fatal.

**...CO poisonings are preventable.**

**DO NOT OPERATE YOUR BOAT  
WITHOUT DOING THE FOLLOWING:**

**TRIP CHECKLIST  
FOR CARBON MONOXIDE**

- Make sure you know where exhaust outlets are located on your vessel.
- Educate all passengers about the symptoms of CO poisoning and where CO may accumulate.
- When docked or rafted with another boat, be aware of exhaust emissions from the other boat.
- 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.
- Test the operation of each CO detector by pressing the test button.

**BOATER'S MONTHLY MAINTENANCE  
CHECKLIST**

- Make sure all exhaust clamps are in place and secure.
- Look for exhaust leaking from exhaust system components. Signs include rust and/or black streaking, water leaks, or corroded or cracked fittings.
- Inspect rubber exhaust hoses for burned, cracked, or deteriorated sections. All rubber hoses should be pliable and free of kinks.

**ANNUAL CHECKLIST**

**HAVE A QUALIFIED MARINE TECHNICIAN:**

- Replace exhaust hoses if cracking, charring, or deterioration is found.
- 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 for cracking, rusting, leaking, or loosening. Check the cylinder head gasket, exhaust manifold, water injection elbow, and the threaded adapter nipple between the manifold and the elbow.
- Clean, inspect, and confirm proper operation of the generator cooling water anti-siphon valve (if equipped).

**want to  
know more?**

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

**United States Coast Guard**

Office of Boating Safety (G-OPB-3)  
2100 Second Street SW  
Washington, DC 20593-0001  
[www.uscgboating.org](http://www.uscgboating.org)  
1-800-368-5647

**National Marine Manufacturers Association**

200 East Randolph Drive  
Suite 5100  
Chicago, IL 60601-9301  
[www.nmma.org](http://www.nmma.org)  
312-946-6200

**American Boat & Yacht Council, Inc.**

3069 Solomon's Island Road  
Edgewater, MD 21037-1416  
[www.abycinc.org](http://www.abycinc.org)  
410-956-1050

For information on how to get a  
**free VESSEL SAFETY CHECK**, visit  
[www.VesselSafetyCheck.org](http://www.VesselSafetyCheck.org)

or contact your local U.S. Coast Guard Auxiliary  
or United States Power Squadrons®.



Brought to you by the U.S. Coast Guard

# How Much is that Belt Pack in the Window?

**Testers take seven belt pack inflatables for a walk in the park**

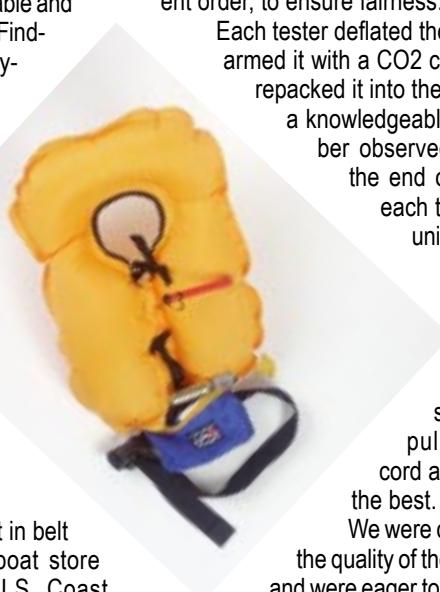
Belt pack inflatable life jackets are the hippest new thing in boating safety, giving boaters a cutting-edge option for staying out of harm's way while on the water. Compact and clever, these life jackets will charm the topsiders off the boater who's got to have the absolute latest in boating gear, while their safety side will pique the curiosity of even the most stoic mariner.

Just like that adorable puppy in the pet store window that catches your eye, belt packs will steal your affection. But are these diminutive little PFDs really as lovable and loyal as they look? In Foundation Findings #37, we set out to find everything there was to know about these new models. In this issue, Part I of our two-part article, we'll tell you all about the care and feeding of your belt pack inflatable. In Part II, we'll take our testing to the water and tell you how it feels to wear one in real-life conditions.

## The Latest Litter

In order to check out the latest in belt pack technology, we scoured boat store shelves and the Internet for U.S. Coast Guard-approved inflatable belt pack models. We came up with seven including two from SoSpenders, three from Stearns, one from Mustang, and one from SeaPro. For this article, we created a short-hand name for each unit that includes the manufacturer name and cylinder size (for instance, the Stearns Inflatable Max Manual Belt Pack is simply the Stearns 25).

Talk about evolving technology: After conducting these tests last fall, we learned almost immediately that two readily-available models were being discontinued, and new versions were already on the way but not yet available for testing. With new models rapidly hitting the market, we decided to focus this article on qualities to look for in a belt pack, rather than the best or worst models.



## A Walk Around the Park

With seven models in hand, we started our three-tiered test. We began with a repacking exercise for four boaters who were interested in, but not knowledgeable about, belt packs. In a quiet room, one by one, they were given a fully inflated jacket and were asked to read each unit's instructions for three minutes.

To simulate conditions out on a boat, they read only the instructions attached to the jacket, not the entire user's manual. Each of the testers repacked the jackets in a different order, to ensure fairness.

Each tester deflated their jacket, re-armed it with a CO2 cartridge, and repacked it into the pouch while a knowledgeable staff member observed. Finally, at the end of repacking, each tester put the unit around their waist, imagined they were jumping into stormy seas, then pulled the jerk cord and hoped for the best.

We were curious about the quality of the instructions and were eager to know if regular boaters could master rearming and repacking. We also wanted to address an unanticipated piece of information we ran across: that a large majority of people we talked to — experienced boaters and staff members included — had never inflated their own inflatable life jackets. Surprised? So were we, but more on that later.

## Paper Training

Our testers found little uniformity with the instructions, even among jackets from the same manufacturer. Across the board, instructions with pictures were a favorite. In particular, the SoSpenders 16 and 38 models had simple and clear pictograms, however, the testers were disappointed when the pictures did not exactly match the way the units

looked when folded. On all but one jacket, the Mustang 33, the rearming instructions were placed separately from the repacking instructions, which was difficult to follow. In addition to having written instructions, the Mustang 33 and Stearns Auto 33 got high marks for the dotted lines right on the life jacket bladder that said "Fold here."

Because of the nearly ubiquitous small print and poor organization of the attached directions, we concluded that a belt pack owner's first experience with the instructions should definitely be in a stable well-lit room at home, rather than a rolling galley table midway through a cruise.

## Obedience Issues

Our testers spent anywhere from five to 25 minutes repacking and rearming the jackets. By far, most frustrating for testers was simply trying to squeeze every hint of air out of the bladder before attempting to get it back into its pouch. Most models were intricately folded and required fastidious attention to the instructions.

Rearming the jacket with CO2, which would seem to be the most difficult part actually proved to be the easiest. All testers successfully rearmed each jacket, though in two of our 28 repackings, the lever attached to the jerk cord was not set correctly and accidentally pierced the cylinder, instantly inflating the jacket.

One reason the testers were so successful in rearming could be the relative consistency of rearming mechanisms. On all inflatable life jackets, to show if a jacket is ready to inflate, a red and green color coding system is in place. Essentially red means stop and green means go. To show this, almost all models require you to install a green plastic "pin" into part of the lever arm during rearming. About the size of an earring, this pin is easy to lose or break. The pin comes with the CO2 cylinder as part of your jacket's specific "rearming kit."

On most models, the rearming mechanism is hidden inside the belt pack. However, we loved the extra safety of the SoSpenders 16 and Stearns 16 models in which a clear plastic window showed the cylinder and conse-

quently the green pin that indicates the unit is ready. The SeaPro 25 went further by having the cylinder assembly on the outside of the pack for excellent viewing, but we felt uncomfortable about it being exposed where the cord could accidentally get caught on something. Another great safety feature of this model is its rearming mechanism that shows readiness by green automatically appearing in a small window (as opposed to remembering to insert the pin) when you screw the cylinder in all the way.

When it came time to take that deep breath and imagine going overboard, all our testers' life jackets inflated when the jerk cord was pulled — except one. In this case, the tester had run out of patience while repacking the SoSpenders 38 and had simply forced the bladder into the pouch. After it failed to inflate during testing, she freed the bladder from the pouch manually and the jerk cord worked fine.

### Old Dog, New Tricks?

After going through the rearming and repacking exercise, several testers commented that wearing an inflatable belt pack without going through this process — or supplying one to an unknowing guest — was just plain dumb. And you know what? We did feel dumb, since many of us had to admit we had never actually inflated our own life jackets. Gulp.

Why hadn't we inflated our jackets? The main reason, we decided, was the high cost of CO2 cylinders. We concluded that the cost of testing the unit — at least once — should

be factored into the cost of owning the jacket. In lieu of that, remember that every jacket can be inflated orally either to test the jacket onshore or to inflate it in an emergency.

### A Big Commitment

Having the coolest, most current technology will get you nowhere if you don't understand the animal you've brought home. To become a good owner, we cannot stress enough that you must spend time reading the user's manual. Then, practice rearming and repacking. You'll feel better wearing the belt pack if you understand how it works. Additionally, we strongly suggest you buy a couple of spare rearming kits when you purchase the unit.

For those up to the commitment, we found belt packs offer an economic, easy-to-wear life jacket for cruising, sailing, kayaking, or dinghying around in warmer, inland waters. A belt pack can be a perfect transition into safer boating, especially for the boater who simply isn't in the habit of wearing a life jacket.

For even more information on our two-part Foundation Findings on belt pack inflatables, please visit [www.BoatUS.com/foundation](http://www.BoatUS.com/foundation).

*The BoatU.S. Foundation is a national non-profit 501(c)(3) organization primarily supported by donations from individuals and grants.*



**A belt pack's low profile means it doesn't interfere with tasks around the boat.**



Model	SoSpenders 16 Gram Scout Belt Pack	Stearns Multipurpose Inflatabelt-Lite Manual	Sea Pro Marine Swimmer Safety Belt	Stearns Inflatabelt Max Manual Belt Pack +	Mustang Survival Airforce Inflatable Pouch PDF	Stearns Inflata-belt Max Automatic/Manual Belt Pack	SoSpenders World Class Belt Pack +
Shorthand Name	SoSpenders 16	Stearns 16	Sea Pro 25	Stearns 25	Mustang 33	Stearns Auto 33	SoSpenders 38
Cylinder Gram Weight	16 Grams	16 Grams	25 Grams	25 Grams	33 Grams	33 Grams	38 Grams
Belt Pack MSRP	\$59.99	\$59.99	\$139.95	\$69.99	\$80.00*	\$95.99	\$69.99
Rearming Kit MSRP	\$9.99	\$9.99	\$25.00 for 3	\$13.99	\$15.00*	\$21.99	\$16.99
Dimensions of Pack L x H x W	10 x 3.5 x 2.25"	24.5 x 3.5 x 2"	16.5 x 2.75 x 2.25"	9.5 x 4.75 x 2.5"	8 x 4.25 x 2.5"	10.5 x 4.75 x 3.25"	8.5 x 5.55 x 3"
Overall Pack Weight	13.4 oz	12.8 oz	17.4 oz	17.0 oz	19.6 oz	22.0 oz	21.8 oz
Rearming and Repacking Test Ratings							
Speed of Repack Rating 1=fastest; 7=slowest	4	1	6	3	2	5	7
Ease of Repack Rating 1=easiest; 7=harsdest	3	1	4	1	2	3	5

+ Discontinued

\* No MSRP available, average price

## Belt Pack Inflatables

### Take the Plunge

In Part I of this series, we introduced you to some of the smallest, most high-tech life jackets on the market: belt pack inflatables. We took these products home, repacked and rearmed them, and treated them like our own. Now, in Part II, we've taken these life savers to the water and put them to the test.

#### Proving Ground

For our testing, we used seven of the most current U.S. Coast Guard-approved belt pack inflatable models from a variety of manufacturers, including six manual inflation models and one automatic.

First, we asked five testers of various body types to wear each of the jackets uninflated for 30 minutes as they went about their daily tasks. Each jacket definitely met its claim of being compact and easy to forget. But while

The victims' first task in the water was to yank the cord to inflate the jacket. The Stearns Auto 33 eliminates the first of these steps by automatically inflating when immersed. (For this article we created a short-hand name for each unit that includes the manufacturer's name and cylinder size. Full names of products can be found in the chart at right). Then came "secondary donning," or pulling the jackets over their heads. After donning the jackets, the victims felt they had to make additional adjustments to make the unit fit comfortably in about a third of the cases. We found that snuggling the belt very tight around your waist so it was comfortable out of the water made it fit too tightly once you were in the water. One test subject, a large male, had difficulty tying the under-chin straps on some jackets, and preferred the buckle snaps on

In the turn test, we were thrilled to find that the inflated belt packs turned an "unconscious" victim up from a face-down position in almost every single test — much more often than a typical Type II or Type III foam life jacket. This was one of the most impressive life-saving discoveries of our testing.

#### Feelings of Safety and Comfort

When we asked our victims how safe they felt in each jacket, there were three jackets that got perfect five-star ratings from all testers: the Stearns 25, Mustang 33, and SoSpenders 38. The Mustang 33 in particular had a unique square shape that kept victims' faces an average of 6.9 inches above the water—the highest freeboard tested. All the other jackets had freeboard ranging from 5 to 5.7 inches.



**The life jacket bladder on a manual belt pack inflatable is stored in a small pouch around your waist. When needed, you pull a cord and the jacket inflates, like on the SoSpenders 16 above. After that, you must pull the unit over your head and make adjustments to the straps. On some boaters a little air might need to be released for the jacket to fit comfortably; in some cases, it may need to be added. This additional work is called "secondary donning."**

wearing a belt pack around a boat is one thing, wearing it in the water is quite another. Belt pack models: report for duty!

#### Field Exercises

In a static swimming pool, four "victims" tried on each of the inflated belt packs. Here, we made measurements on the jackets' fit while in the water and asked the victims to perform a series of tests. We also asked them subjective questions about how they felt in the jackets. Second, we visited a local wave pool to try out the personal flotation devices (PFDs) in choppier conditions of two- to four-foot seas. Belt pack inflatables are intended for inland waters where help isn't too far away, so we wanted to see how the jackets would feel and behave during a relatively short time in the water.

the Stearns 25. Another victim commented that he needed more instructions right on the jacket where he could see them while he was in the water.

All agreed on this point: an uninflated belt pack would be of little use to an unconscious victim, and even an injured boater could be in real trouble since this process does take some strength and coordination. Trying out the life jacket ahead of time, in a pool if possible, is the best way to build competence in donning the jacket in a pressure situation.

We also asked the victims to try to swim in the jackets. We found that because the jackets were specifically designed to flip a person onto his or her back, swimming on your stomach was very difficult, so kicking on your back was the best way to get around.

But feeling safe in the water did not necessarily mean feeling comfortable. For example, the Mustang 33 strained the neck of one tester, and made it hard for others to swim. The extra oral inflator on the



**All the jackets met their claims of being compact and easy to wear around the boat, plus they're a cool, safe alternative on a hot day**

SoSpenders 38 poked some victims in the chest. The Sea Pro 25 was most popular for the feeling of comfort in the water, mainly because of the intuitive position of a strap adjustment tab in the center of the jacket. The innovative design of the Stearns 16 made it the least popular choice for a long stretch in the water, since the neck strap dug painfully into the necks of the victims.

#### The Debrief

While a belt pack is not going to be the only life jacket on our boat or in our closet, we feel strongly that it fills an important niche for boaters. Belt packs offer boaters a less expensive inflatable and a less bulky option for specific types of inland boating where you don't expect huge seas or dramatic



All inflatables can be blown up orally, but the two 16 gram models we tested can also be orally inflated up to 22 grams during secondary donning.



On the Stearns 16 the flotation is located in a pillow shape over your belly. A strap then goes around your neck to hold your head up.

weather, and where you expect help to arrive fairly quickly.

But remember, these inflatables are different from the average Type II or III foam life jackets that are most common to boating. They fit different, they act different, they need more maintenance, and their owners need to inflate them and get familiar with how they work well before an emergency.

So which jacket is best? Our answer: the one you will wear! Think about your boating lifestyle, check out the chart, and take the plunge!

For even more information on our two-part Foundation Findings on belt pack inflatables, please visit [www.BoatUS.com/foundation](http://www.BoatUS.com/foundation).

*The BoatU.S. Foundation is a national nonprofit 501(c)(3) organization. Our work is primarily supported by donations from individuals and grants.*

#### Belt Pack Inflatable Test Results



**SoSpenders 16**

**SoSpenders 16 Gram Scout Belt Pack**  
16 Gram Cylinder Unit: \$59.99 Rarm Kit: \$9.99

Sense of Security ● ○

Wearability ● ● ● ●

In-Water Comfort ● ● ●



**Stearns 16**

**Stearns Multipurpose Inflata-Belt Lite-Manual**  
16 Gram Cylinder Unit: \$59.99 Rarm Kit: \$9.99

Sense of Security ● ○

Wearability ● ● ● ● ●

In-Water Comfort ● ● ●



**Sea Pro 25**

**Sea Pro Marine Swimmer Safety Belt**  
25 Gram Cylinder Unit: \$139.99 Rarm Kit: \$25.00 (3 pack)

Sense of Security ● ● ● ● ○

Wearability ● ● ● ○

In-Water Comfort ● ● ● ● ●



**Stearns 25**

**Stearns Inflata-Belt Max Manual Belt Pack**  
25 Gram Cylinder Unit: \$69.99 Rarm Kit: \$13.99

Sense of Security ● ● ● ● ●

Wearability ● ● ● ○

In-Water Comfort ● ● ● ● ●



**Mustang 33**

**Mustang Survival Airforce Inflatable Pouch PFD**  
33 Gram Cylinder Unit: \$80.00 Rarm Kit: \$15.00

Sense of Security ● ● ● ● ●

Wearability ● ● ● ●

In-Water Comfort ● ● ● ● ●



**Stearns Auto 33**

**Stearns Inflata-Belt Max Auto/Manual Belt Pack**  
33 Gram Cylinder Unit: \$95.99 Rarm Kit: \$21.99

Sense of Security ● ● ● ● ○

Wearability ● ● ○

In-Water Comfort ● ● ● ●



**SoSpenders 38**

**SoSpenders World Class Belt Pack**  
38 Gram Cylinder Unit: \$69.99 Rarm Kit: \$16.99

Sense of Security ● ● ● ● ●

Wearability ● ● ○

In-Water Comfort ● ● ●

*To obtain these results, we asked our testers a series of subjective questions, including: How safe do you feel in this jacket while in the water? How comfortable is it to wear around the boat? and How comfortable do you feel in the water?*

## FACTORY VISIT PROGRAM UPDATE

The Coast Guard Recreational Boating Product Assurance Division recently awarded a contract for the Recreational Boat Factory Visit Program to Parroco Production Group (PPG). 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 Recreational Boating Product Assurance Division assigns all recreational boat manufacturers a three character Manufacturer Identification Code (MIC). Using the Coast Guard MIC database (see [http://www.uscgboating.org/recalls/mic\\_database.htm](http://www.uscgboating.org/recalls/mic_database.htm)) the PPG Compliance Associates are contacting and visiting all recreational boat manufacturers and importers on a scheduled basis.

The compliance associate (CA) usually contacts the manufacturer a couple of times before a visit. The first contact—a few weeks before a visit—is to arrange an inspection date, and to confirm information such as address and types of boats produced. The second contact—a few days before the visit—is to reconfirm the date and time of the visit.

Typically, a CA will ask to inspect current production and will look for:

1. Noncompliances with Federal regulations which are manufacturer requirements;
2. Noncompliances with Federal regulations which are operator requirements; and
3. Manufacturing practices for which voluntary industry safety standards and recommended practices are available.

At the end of the visit, which normally takes a couple of hours, the CA discusses the results with the manufacturer. Then the CA files a report with the Recreational Boating Product Assurance Division at Coast Guard Headquarters. Usually, for minor, non-safety-related problems, corrective action is limited to future production. Headquarters may also direct the manufacturer to conduct defect notification for any serious non-compliances with Federal safety standards.

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.

If you have any questions or if you are a manufacturer who would like to schedule a visit, please contact CWO Doug Luper at 202/267-0384.

## 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 September 2003 follow:

**AMERICAN HONDA MOTOR CORP.**

(Torrance, CA)(040086T)

Models: BF8A 8 HP Outboard Motors w/ serial nos.:  
BZBC-1300327 to BZBC-1800582  
BACL-1213392 to BACL-1700048  
BACS-1210688 to BACS-1700084

Units: 7,000

Problem: Some flywheels may develop hairline cracks; engine vibration or engine over-revving may cause flywheel to break; possible injury to operator or passengers

**BAYLINER MARINE CORP.**

(Arlington, WA)(040057S)

Year: 2003  
Models: 2352 Walk Around Trophy  
Units: 125  
Problem: Fuel tank barbs lack anti-siphon protection

**BAYLINER MARINE CORP.**

(Arlington, WA)(040018S)

Year: 2003-2004  
Models: 219 Sport Deck  
Units: 315  
Problem: Improper blower hose installation

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Sturtevant, WI)(040019T)

Year: 2000-2003  
Models: Following boats equipped with  
Mercury 240 EFI Engines:  
2000-2003 Sea-Doo Islandia  
2002 & 2003 Sea-Doo Utopia 205  
2000-2002 Sea-Doo Challenger 2000  
2002 Sea-Doo X-20  
Units: 3,185  
Problem: Throttle body may corrode; throttle may stick when starting engine causing boat to accelerate unexpectedly or throttle may fail to return to idle speed; danger of collision

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Sturtevant, WI)(040022T)

Year: 2004  
Models: Sporster LEDI , Sporster 4-TEC, Speedster 200  
Units: 492  
Problem: Insufficient thread engagement in the ball joint located at the steering nozzle may cause loss of steering control; danger of collision

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Sturtevant, WI)(040017S)

Year: 2003-2004  
Models: 2003 Sporster 4-TEC, 2004 Sporster 4-TEC  
2004 Speedster 200  
Units: 1,392  
Problem: Hose clamps may be improperly positioned on end of fuel lines; potential for fuel leak; possible fire/explosion if ignition source present

**BOMBARDIER RECREATIONAL PRODUCTS**

(Valcourt (Quebec) Canada)(040048T)

Year: 2004  
Models: Sea-Doo RXP  
Units: 1,000  
Problem: Hood may crack near access cover hinge cover may fly off and hit operator and/or passenger; risk of injury

**BOMBARDIER MOTR CORP. OF AMERICA**

(Waukegan, IL)(040016T)

Year: 2004  
Models: 100, 115, 135, 150, 175, 200, 225 and 250 HP  
Evinrude Direct Injection outboards  
Units: 978  
Problem: Fuel return manifold may contain excessive flashing on an elbow preventing an O-ring from properly seating causing a fuel leak; possible fire/explosion if ignition source present

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Waukegan, IL)(030178T)

Year: 2001-2003  
Models: Side mounted remote control boxes  
(parts nos. 176380 and 176381) for use with Johnson and Evinrude outboards  
Units: 20,420  
Problem: Loose or improperly assembled fast idle levers may cause engine to stick in gear or in neutral or jam the throttle; danger of collision

**MERCURY MARINE**

(Fond du Lac, WI)(030176T)

Year: 2003-2004  
Models: 225 EFI Four Stroke Outboards with  
serial nos.: OT653945 - OT862518  
Units: 2,461  
Problem: Binding in throttle system may prevent operator from disengaging the shift mechanism and shifting into neutral; danger of collision

**NAUTIC STAR BOATS**

(Amory, MS)(03R0168S)

Year: 2003  
Models: Nautic Star 1900 Bay Boat  
Units: 20  
Problem: Trolling motor receptacle trim switch in bow not ignition-protected; possible fire/explosion if fuel/vapor source present

**POLARIS INDUSTRIES, INC.**

(Medina, MN)(030113T)

Year: 2003 - 2004  
Models: MSX 140  
Units: 4,187  
Problem: Insufficient clearance between fuel return hoses and fuel injector brackets may create abrasion points allowing fuel to leak into engine compartment; possible fire/explosion if ignition source present

**POLARIS INDUSTRIES, INC.**

(Medina, MN)(030113T)

Year: 1998 - 2001

Models: 1998 SLH (B984673), SLXH (B984690)  
1999 SLH (B994673), SLX (B994690)  
2000 SLH (W004673), SLX (W004699)  
2000 PRO 1200 (W004999)  
2001 SLH (W014697), SLX (W014699)  
2001 PRO 1200 (W014999)

Units: 7,670

Problem: Hood hinge could fail and separate from the deck and strike the operator/passenger

**PRAIRIE ADVENTURE OUTDOORS**

(West Point, MS)(03R0169S)

Year: 2003

Models: 14-1531

Units: 20

Problem: Level Flotation

**VOLVO PENTA OF THE AMERICAS**

(Chesapeake, VA)(030207T)

Year: 2004

Models: 4.3 GL-D, 5.0 GL-E &amp; 5.7 GL-E

Units: 550

Problem: Sealing O-ring may be missing from fuel fitting adapter resulting in a fuel leak; internal seal in fuel pump may have been omitted during manufacture of the pump; possible fire/explosion if ignition source present

**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(040065T)

Year: 2004

Models: FX1100/FX1100A

Units: 1,579

Problem: Main wiring harness may not be properly secured allowing it to rub against motor mount until insulation is worn through; possible fire/explosion if fuel or vapor source present

**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(030208T)

Year: 2004

Models: SJ700B-C (SuperJet)

Units: 150

Problem: Fuel may leak from fuel tank into engine compartment due to possible pinhole in fuel tank wall; possible fire/explosion if ignition source present

**ZODIAC OF NORTH AMERICA**

(Stevensville, MD)(030210T)

Year: 2003

Models: Medline I, Medline II, Pro Open 550, Pro Open 650, Yachtline Deluxe 340, 380, 420 &amp; 480

Units: 155

Problem: WEMA fuel sender gaskets on Kracor fuel tanks may deteriorate and develop leaks; possible fire/explosion if ignition source present

**The following are the other campaigns still in progress that began before September 2003:****AMERICAN HONDA MOTOR CORP.**

(Torrance, CA)(030056T)

Year: 2002 &amp; 2003

Models: Honda 200 &amp; 225 HP Outboard Motors:

2002 BF200 w/ serial nos.:

BAEJ-1000001 to BAEJ-1000969

BAFJ-1000001 to BAFJ-1000222

2003 BF200 w/ serial nos.:

BAEJ-1100001 to BAEJ-1100708

BAFJ-1100001 to BAFJ-1100120

2002 BF225 w/ serial nos.:

BAGJ-1000001 to BAGJ-1003344

BAHJ-1000001 to BAHJ-1000601

2003 BF225 w/ serial nos.:

BAGJ-1100001 to BAGJ-1101489

BAHJ-1100001 to BAHJ-1100662

Units: 5,805

Problem: Potential interference between wire harness and throttle body may lead to short circuit which blows a fuse, stops the engine or overheats the throttle cable; throttle could stick; possible collision

**AMERICAN HONDA MOTOR CORP.**

(Torrance, CA)(020129T)

Year: 2002

Models: ARX1200T3 with HINs:

HPSA0001J102 to HPSA3548J102

ARX1200N3 with HINs:

HPSB0001J102 to HPSB1506J102

Units: 5,037

Problem: Bearings within throttle body subject to corrosion; throttle may not return to idle position; possibility of collision

**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  
Tigershark: 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

**BLUE SEA SYSTEMS**

(Bellingham, WA)(030062T)

Year: 2002 &amp; 2003

Models: T-1 Thermal Circuit Breakers:

Part Number	Amperage	Part Number	Amperage
7120	25	7020	25
7121	30	7021	30
7122	35	7022	35
7123	40	7023	40
7124	50	7024	50
7125	60	7025	60
7126	70	7026	70
7127	80	7027	80
7128	90	7028	90
7129	100	7029	100
7130	110	7030	110
7131	120	7031	120
7132	135	7032	135
7133	150	7033	150

shipped to the following OEM purchasers:

Atlas Boat Works, Inc.  
 Beneteau Mfg. USA, Inc.  
 BH Electronics, Inc.  
 Carver Boat Corp.  
 Chantiers Beneteau SA  
 Chuckhouse, Inc.  
 Cruisers Yachts  
 Davis Boats  
 Endeavor Catamaran  
 Ennals Ives  
 Fleet Safety Supply  
 Florida Bow Thrusters  
 Good Automatic Windlass  
 Harken, Inc.

Hells Bay Boat Works  
 High Tech Marine, Inc.  
 Hinckley Company  
 Ideal Windlass Co., Inc.  
 Ironwind, Inc.  
 DBA Moose Boats  
 M & G Electronics Corp.  
 Marintek  
 Medeiros Boat Wks. Ltd.  
 Nordic Tugs, Inc.  
 Novatron Corporation  
 Ocean Technologies  
 Pacer Marine  
 Pacific Mariner, Inc.

Pacific Trawlers NW  
 Regal  
 S2 Yachts, Inc.  
 Sabre Corp.  
 Safe Boat  
 Scandik, Inc.  
 Sea Ray - Merritt Is.  
 Sea Sport Boats, Inc.  
 Sea Vee Boats  
 Seaward Products  
 Seawolf Marine Mfg.  
 Sharpe Marine  
 Silver Ships, Inc.  
 Silverton Marine Corp.

Team Supreme  
 Thoroughbred Cruisers  
 Thunderbird Products  
 TOMCO Marine Group  
 Trans Fbgl. Boat Co.  
 Tri Tec Systems, Inc.  
 US Marine Corp.  
 WESCO (non-marine  
 vehicle market)  
 Wood Mfg. Company  
 DBA Ranger Boats

Units: 54,193

Problem: Potential fire risk if circuit breaker handle is held in the "on" position after the unit is tripped and the circuit breaker contacts weld together; if the contacts weld and the short circuit is not corrected, heat may be generated that may damage attached or adjacent wiring; possible fire/explosion if fuel or vapor source present

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Benton, IL)(030010T)

Year: 2003

Models: Sportster 4-TEC Sport Boats  
 Model 5770 w/ HINs:  
 US-CEC55000L203 - US-CEC55183A303  
 Model 5768 w/ HINs:  
 US-CEC65001L203 - US-CEC65055A303

Units: 178

Problem: Fuel tank air vent nipple might have been deformed during clamp torquing procedure; potential fuel leak; possible fire/explosion if ignition source present

**BOMBARDIER RECREATIONAL PRODS.**

(Sturtevant, WI)(020082T)

Year: 2001 &amp; 2002

Models: 2001 Utopia 185 models: 5452, 5454, 5456  
 and 5458; 2001 Challenger model 5448;  
 2002 Utopia 185 & 205 models: 5462, 5475,  
 5476 and 5745  
 2002 Islandia model 5709

Units: 473

Problem: Engine wiring harness has 3 exposed wires (one of which carries battery voltage); possible spark if battery wire contacts metal while engine running; possible fire/explosion if fuel/vapor 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 rear throttle body; loss of speed control and possible collision

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Waukegan, IL)(020139S)

Year: 2002

Models: 25 &amp; 30 HP Johnson Outboards

Units: 1,046

Problem: Due to shift linkage misadjustment engines might not have start-in-gear protection

**BOMBARDIER RECREATIONAL PRODS.**

(Sturtevant, WI)(020153T)

Year: 2002

Models: Utopia 185 and 205 Sport Boats

Units: 437

Problem: Starboard and/or port console may come loose. If starboard console comes loose, operator might lose steering/control causing danger of collision. If port console comes loose handhold may separate from deck causing passengers to lose balance

**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)(000087T)

Year: 2000

Models: GTX and GTX RFI

Units: 10,436

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

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Benton, IL)(980165T)

Year: 1998

Models: Speedster and Challenger 1800  
jetboats

Units: 2,265

Problem: Seat swivel plates may crack or break; operator or passengers may fall; potential for injury

**BOMBARDIER MOTOR CORP. OF AMERICA**

(Benton, IL)(000125T)

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 RECREATIONAL PRODUCTS**

(Sturtevant, WI)(020185S)

Year: 2002

Models: Fish Hawk 170CC, 180CC, 210CC, 230CC,  
210WA, 230WA, 200BF & 220BF

Units: 465

Problem: Improper fuel hoses between the fuel tank, squeeze bulb, fuel filter and engine

**CRESTLINER, INC.**

(Little Falls, MN)(020206S)

Models: 2001 & 2002 Sportfish 1850 and  
Superhawk 1800 and 2002 Eagle 2300

Units: 1,217

Problem: Fuel tank hold down brackets may dig into top surface of tank during expansion causing fuel leak; possible fire/explosion if ignition source present

**CRUSADER ENGINES**

(Sterling Heights, Michigan)(020198S)

Year: 2002 &amp; 2003

Models: 5.0L MPI w/ aluminum hood and  
5.7L MPI w/ aluminum hood

Units: 425

Problem: Possible arcing or open flame at the coil wire connection to the ignition coil and/or distributor cap; possible fire/explosion if fuel or vapor source present

**CRUSADER ENGINES**

(Sterling Heights, Michigan)(030013S)

Year: 2002 - 2003

Models: 8.1L MPI STD  
8.1L MPI HO

Units: 218

Problem: Fuel line connections at fuel rail may not be fully locked into place; potential fuel leak; possible fire/explosion if ignition source present

**GLASTRON BOATS**

(Little Falls, MN)(030063T)

Year: 2003

Models: GX 225

Units: 95

Problem: Operator and passenger seat bases might not be properly installed; possible personal injury to user

**HAMILTON JET**  
(Seattle, WA)(000197T)

Year: 1998  
Models: HJ 212 steering assemblies with serial nos.: 0001-2114  
HJ 213 steering assemblies with serial nos.: 0001-0299  
Units: 1,261  
Problem: Cracks in steering nozzle; possible steering failure and danger of collision

**HAMILTON JET**  
(Seattle, WA)(000085T)

Year: 1998 & 1999  
Models: HJ 212 with serial nos. 964 - 1774  
HJ 213 with serial nos. 001 - 234  
Units: 676  
Problem: Flange inserts on some jet units are oversized and may become stiff or stick under certain circumstances; possible steering failure and danger of collision

**HARRIS KAYOT**

(Fort Wayne, IN)(000248T)

Year: 1998 - 2001  
Models: Pontoon boats equipped with Mercury Outboards with the following last four characters in their HINs: K798 - J001.  
Units: 1,081  
Problem: Wire on ignition interrupter switch may not be connected; emergency shutoff switch might not operate

**JERSEY MARINE INDUSTRIES**

(West Berlin, NJ)(02R0362S)

Year: 2003  
Models: Silverhawk  
Units: 44  
Problem: Metallic fuel fill not grounded

**KAWASAKI MOTOR CORP., U.S.A.**

(Santa Ana, CA)(010023T)

Year: 2000 & 2001  
Models: JT-1100 C-1 (2000) & F-1 (2001)  
Units: 6,065  
Problem: Fuel pumps may be subject to corrosion causing possible fuel leaks into engine compartment; possible fire/explosion if ignition source present

**KAWASAKI MOTOR CORP., U.S.A.**

(Santa Ana, CA)(990167T)

Year: 1999  
Models: Ultra 150  
Units: 2,859  
Problem: Overtightening of steering cable mounting nut may cause nut to fail causing loss of steering control

**KAWASAKI MOTOR CORP., U.S.A.**

(Santa Ana, CA)(000225T)

Year: 1999 & 2000  
Models: JH 1200-A1 AND JH 1200-A2  
Units: 8,749  
Problem: On 1999 JH 1200-A1 and 2000 JH 1200-A2, fuel tank vent hose end can drop into engine compartment, if incorrectly installed during vessel setup or during service on steering column. Pressure buildup in tank can expel gasoline/vapor from vent hose into engine compartment. Under certain conditions, with vent hose in correct position, fuel expelled onto deck and into engine compartment; possible fire/explosion if ignition source present

**KAWASAKI MOTOR CORP., U.S.A.**

(Santa Ana, CA)(990186T)

Year: 1998 & 1999  
Models: 1998 JT1100-B1 (7,986 units)  
1998 JH1100-A3 (5,982 units)  
1999 JT900-B1 (3,097 units)  
1999 JT1100-B2 (4,193 units)  
1999 JH1100-A4 (1,982 units)  
Units: 23,240  
Problem: Engine backfire can rupture fuel pump diaphragm causing fuel leakage; possible fire/explosion if ignition source present

**KOHLER CO.**

(Kohler, WI)(030088T)

Year: 1950 - 1989  
Models: L600 or L654 gasoline engines: 2R, 2A, 2.5R, 2.5A, 3.5R, 3.5A, 4R, 4A, 5R, 5A, 6.5R, 6.5A, 7.5R, 7.5A  
Problem: Failure of the black iron wet exhaust pipe may cause carbon monoxide poisoning

**LARSON BOATS**

(Little Falls, MN)(030060T)

Year: 1999 - 2003  
Models: Cabrio 333  
Units: 290  
Problem: Isolation bulkheads not properly sealed and fuel vapors could reach areas containing electrical equipment; possible fire/explosion if ignition source present

**LARSON BOATS**

(Little Falls, MN)(010066S)

Year: 2001  
Models: SEI 180 BR I/O, SEI 190 BR SF  
SEI 190 BR I/O and LXI 190 BR I/O  
Units: 697  
Problem: Basic Flotation

**MAXUM MARINE**  
(Everett, WA)(010122T)

Year: 2001  
Models: 2100 SD  
Units: 91  
Problem: Isolation bulkheads not properly sealed and fuel vapors could reach areas containing electrical equipment; possible fire/explosion if ignition source present

**MAXUM MARINE**  
(Salisbury, MD)(020202T)

Year: 2000 & 2001  
Models: 2955 SCR Sun Cruisers  
Units: 453  
Problem: Isolation bulkheads not properly sealed and fuel vapors could reach areas containing electrical equipment; possible fire/explosion if ignition source present

**MERCURY MARINE**  
(Fond du Lac, WI)(000247T)

Year: 2000 & 2001  
Models: 240 HP M2 Jet Drive with serial nos.: 0E370718 to 0E394131  
Units: 4,440  
Problem: Potential short in voltage regulator; possible fire/explosion if fuel or vapor source present

**MERCURY MARINE**  
(Fond du Lac, WI)(010063T)

Year: 1999 & 2000  
Models: 225/250 HP Mercury/Mariner  
200/225 HP Optimax  
3.0L Carb/Work versions  
These are outboards with serial nos.: 0G927950 to 0T264046  
Units: 14,108  
Problem: Insufficient weld penetration between bracket and shift cable attaching stud; potential loss of shift control

**MERCURY MARINE**  
(Fond du Lac, WI)(010074T)

Year: 2001  
Models: MCM 496 MAG Sterndrive Engines  
MCM 496 MAG HO Sterndrive Engines  
MIE 8.1S Horizon Inboard Engines  
MIE 8.1S HO Inboard Engines  
All have serial numbers in the range between 0M025000 - 0M061418  
Units: 2,501  
Problem: Fuel line/ fuel rail outlet plug may not be properly connected to fuel rail and may cause fuel leakage; possible fire/explosion if ignition source present

**MERCURY MARINE**  
(Fond du Lac, WI)(020177S)

Year: 2003  
Models: Mercury Racing 575 Sci  
Units: 128  
Problem: Fuel line between fuel filter and throttle bodies on some Mercury 575 Sci engines may crack allowing fuel to leak; possible fire/explosion if ignition source present

**PLEASURECRAFT ENGINE GROUP**

(Little Mountain, SC)(020196S)  
Year: 2002-2003  
Models: 5.7/5.0L MPI w/ serial nos. 420733 - 430688  
Units: 1,093  
Problem: Internal lead in coil wire positioned incorrectly; possible fire/explosion if fuel/vapor source present

**POLARIS INDUSTRIES, INC.**

(Medina, MN)(020091T)  
Year: 2002  
Models: Virage i & Virage TXi PWCs  
Units: 3,458  
Problem: Some fuel tanks may have a hole under the fuel pump retaining nut threads; possible fire/explosion if ignition source present

**PRO-LINE BOATS**

(Crystal River, FL)(990192T)  
Year: 2000  
Models: All boats with breaker box manufactured by ESI South, Inc.  
Units: 147  
Problem: Breaker box may contain non ignition-protected circuit breakers; possible fire/explosion if fuel or vapor source present

**PURSUIT/S2 YACHTS, INC.**

(Fort Pierce, FL)(000106S)  
Year: 2000  
Models: 2260 Denali w/ HINs: SSUF2099G900 - SSUF2107K900  
2460 Denali w/ HINs: SSUF4362F900 - SSUF439IL900  
Units: 39  
Problem: Blower warning label missing

**RINKER BOAT CO., INC.**

(Syracuse, IN)(02R0311S)  
Year: 2002  
Models: 212 Captiva  
Units: 1,081  
Problem: Insufficient blower capacity in powered ventilation system

**RIVIERA CRUISER**

(Columbia City, IN)(990117S)

Year: 1999

Models: Pontoon Boats equipped with built-in  
Fikes Plastics Fuel Tanks w/ serial  
nos: 904001 - 905159

Units: 97

Problem: Fuel tank leakage; possible fire or explosion if  
ignition source present**SEA MAX**

(Little Mountain, SC)(020197S)

Year: 2002-2003

Models: 5.7/5.0L MPI w/ serial nos.  
225050 - 225200 - Model Year 2002  
235026 - 235051 - Model Year 2003

Units: 50

Problem: Internal lead in coil wire not positioned  
correctly; possible fire/explosion if fuel or vapor source  
present**SEA RAY BOATS**

(Knoxville, TN)(010092S)

Year: 2001

Models: 225WE with hull nos.: 3016-3102,  
3104-3109, 3111-3117, 3119-3126,  
3128-3191, 3193-3200, 3202-3216,  
3218-3231, 3234, 3236-3246,  
3248-3263, 3265-3295, 3297-3307,  
3310-3314  
240DA with hull nos.: 3341-3358,  
3361-3378, 3380, 3382, 3384-3385,  
3387-3390, 3392-3419  
240SD with hull nos.: 3358, 3568,  
3571, 3575, 3580, 3585, 3590, 3595,  
3596, 3600, 3602, 3605, 3609, 3613,  
3618, 3619, 3626, 3630, 3636, 3638,  
3642, 3643, 3647, 3654, 3656, 3658,  
3664, 3666, 3670, 3671, 3675, 3682,  
3684, 3686, 3692, 3694, 3698, 3699,  
3703, 3710, 3712, 3714, 3720, 3722,  
3726, 3727, 3731, 3738, 3740, 3742,  
3748, 3750, 3753, 3756, 3760, 3763,  
3767, 3770, 3774, 3777, 3781, 3784,  
3788, 3791, 3792  
245WE with hull nos.: 3158-3182,  
3187-3188, 3202, 3206-3210, 3218,  
3221-3222, 3229-3230, 3233-3235,  
3237-3238

Units: 466

Problem: Potential fuel leak at fuel tank pickup hose  
connection; possible fire/explosion if ignition source  
present**SEA RAY BOATS**

(Knoxville, TN)(010089S)

Year: See below

Models: 370 AC (1997 - 2000) (186 units)  
400 DB (1996 - 2001) (500 units)  
420 AC (1996 - 2001) (223 units)  
450 EB (1998 - 2001) (132 units)  
460 DA (1999 - 2001) (130 units)  
480 DB (1998 - 2001) (313 units)  
540 CMY (2001) (19 units)  
540 DA (1998 - 2001) (150 units)  
560 DB (1998 - 2001) (109 units)  
580 SS (1997 - 2000) (35 units)

Units: See above

Problem: Lack of overcurrent protection could lead to  
heat buildup in electrical wiring; possible fire/explosion if  
fuel or vapor source present**STARDUST CRUISERS, INC.**

(Monticello, KY)(010047T)

Year: 1997 - 2000

Models: Houseboats with Mathers multistation  
propulsion control system with hull  
nos.: TKZ00850 - TKZ01100

Units: 343

Problem: Engine control relays not ignition-proof;  
possible fire/explosion if fuel or vapor source present**SUMERSET CUSTOM HOUSEBOATS**

(Somerset, KY)(020189T)

Year: 1992 - 1999

Models: Various

Units: 252

Problem: Shore power service circuit breakers on boats  
with dual shorepower option improperly wired**TRACKER MARINE L.P.**

(Springfield, MO)(021065S)

Year: 2003

Models: Laker 14 &amp; 1436AWS

Units: 541

Problem: Level Flotation

**TRACKER MARINE L.P.**

(Springfield, MO)(030015T)

Year: 2003

Models: Bass Buggy 18 built 9/3/02 - 2/25/03

Fishin Barge 21 built 8/10/02 - 2/25/03

Fishin Barge 25 built 8/10/02 - 2/25/03

220F, Grn, Blu built 8/10/02 - 2/25/03

240F, Grn, Blu built 8/10/02 - 2/25/03

Units: 762

Problem: Incorrectly installed fuel feed fitting; potential  
fuel leakage; possible fire/explosion if ignition source  
present

**VOLVO PENTA OF THE AMERICAS, INC.**

(Chesapeake, VA)(980145T)

Year: 1997

Models: BY engines w/ serial nos.:  
4110155491 - 4110159682

Units: 2,000

Problem: Improperly machined fuel pump inlet fitting  
may cause fuel leakage; possible fire/explosion if ignition  
source present**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(030115T)

Year: 2003

Models: SR230 (SRT1000-B and C-B)  
Sport Boats

Units: 452

Problem: Hose clamps on fuel tank vent hose and fuel  
tank vent check valve cannot be tightened to proper  
specification and fuel tank vent check valve may have burrs  
on plastic fittings which could prevent proper sealing  
allowing vapor to escape; possible fire/explosion if ignition  
source present**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(020072T)

Year: 2002

Models: GP1200A-A ("GP1200R")  
XA1200A-A ("XL1200")  
XA800A-A ("XLT800")

Units: 2,097

Problem: Fuel sender assembly not adequately clamped  
to its rubber fuel tank fitting allowing vapor to escape;  
possible fire/explosion if ignition source present**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(020128T)

Year: 2002

Models: FX1000-A &amp; FX1000C-A

Units: 3,666

Problem: Fuel pump module not sealed properly to fuel  
tank surface; potential for vapor to escape; possible fire/  
explosion if ignition source present**YAMAHA MOTOR CORP., U.S.A.**

(Cypress, CA)(020176T)

Year: 2002

Models: FX1000C-A (FX140)

Units: 6,459

Problem: Wire harness inside air cleaner case may  
interfere with throttle linkage and keep throttle open;  
danger of collision**DISTRIBUTION -SDL No. 140**

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
<b>A</b>	1	1				1			1	1			1	1	1	1			1							
<b>B</b>		1	1			1		1	1	1				5	1		1	1								1
<b>C</b>	1	1		1	1		1					3													1	1
<b>D</b>					1																					
<b>E</b>	1								1	1	1		1													
<b>F</b>																										
<b>G</b>																										
<b>H</b>																										

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**DEPARTMENT OF HOMELAND SECURITY****Coast Guard****33 CFR Part 181****[USCG-2003-14272]****RIN 1625-AA53****Country of Origin Codes and Revision of Regulations on Hull Identification Numbers****AGENCY:** Coast Guard, DHS.**ACTION:** Final rule.

**SUMMARY:** The Coast Guard is revising its regulations to allow U.S. manufacturers of recreational boats to display a 2-character, country of origin code before the 12-character Hull Identification Number (HIN) without separating the two by means of borders or on a separate label as is currently required by the HIN regulations. This removal of our previous restriction will allow U.S. manufacturers to comply with the International Organization for Standardization (ISO) HIN standard, without changing the information collected by States on undocumented vessels they register because the U.S. HIN remains only 12 characters.

**DATES:** This final rule is effective August 16, 2004

**ADDRESSES:** Comments and material received from the public, as well as documents mentioned in this preamble as being available in the docket, are part of docket USCG-2003-14272 and are available for inspection or copying to the Docket Management Facility at room PL-401 on the Plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also find this docket on the internet at <http://dms.dot.gov>.

**FOR FURTHER INFORMATION CONTACT:**

If you have questions on this final rule, call Mr. Alston Colihan, Office of Boating Safety, Coast Guard, telephone 202-267-0984. If you have questions on viewing or submitting material to the docket, call Andrea M. Jenkins, Program Manager, Docket Operations, telephone 202-366-0271.

**SUPPLEMENTARY INFORMATION:****Regulatory History**

On June 20, 2003, we published in the **Federal Register** (68 FR 36957) a notice of proposed rulemaking (NPRM) entitled "Country of Origin Codes and Revision of Regulations on Hull Identification

Numbers." We received six letters commenting on the proposed rule. No public hearing was requested and none was held.

**Background and Purpose**

In 1995, the International Organization for Standardization (ISO) finalized a hull identification number standard (ISO 10087:1995(E)) consisting of the existing Coast Guard 12-character HIN format preceded by a 2-character country code and a hyphen. Boat manufacturers in the United States that export to Europe started using the ISO HIN standard beginning with the 1996 model year. The ISO standard states that "A HIN shall consist of 14 consecutive characters plus a hyphen \* \* \*." But 33 CFR 181.27 of our HIN standard states, "If additional information is displayed on the boat within two inches of the hull identification number, that information must be separated from the hull identification number by means of borders or must be on a separate label so that it will not be interpreted as part of the hull identification number." While the ISO HIN standard includes a paragraph, ISO 10087:1995(E)(6) entitled "Additional information," that contains language nearly identical to that in § 181.27, the ISO additional information requirements do not apply to the country code and hyphen, which are part of the 14-character, international HIN.

The American Boat and Yacht Council (ABYC) develops voluntary consensus safety standards for the design, construction, equipage, maintenance, and repair of small craft. An ABYC Technical Committee studying the ISO HIN standard and our HIN standard concluded that the differing requirements create a problem for U.S. builders exporting to Europe. One large U.S. manufacturer that exports to Europe pointed out that use of a separate tape to create the border required by our HIN standard often results in misalignment and other flaws that may be confused with attempts to alter an HIN.

This proposal was discussed at the October 29, 2001 meeting of the National Boating Safety Advisory Council (66 FR 49445, September 27, 2001) and there were no objections stated by State Boating Law Administrators in attendance at the meeting. The NBSAC passed a resolution requesting the Coast Guard to immediately pursue rulemaking for an exception to current regulations to allow the USA HIN system to conform to the ISO HIN standard while not requiring the states to include the country code in their registration process.

**Discussion of Comments**

By the close of the comment period on September 18, 2003, we received six comments from the following categories: one individual, one State boating official, one boat manufacturer, and three associations.

*Rule Beneficial to Import-Export Community*

The individual supported the rule because it removes the limitations of the separate label requirement and will be beneficial to the import-export community.

The boat manufacturer supported the rule because separation of the 2-character country of origin code from the HIN by means of borders or on a separate label is burdensome and costly due to the necessity to maintain two different HIN labeling systems: one for boats sold domestically and a second one for boats exported for sale overseas. Removal of the requirement for borders or a separate label around the country of origin code will allow U.S. manufacturers to comply with the ISO HIN standard, without changing the information collected by the States on undocumented vessels they register.

This manufacturer stated that one of the challenges the company faces as an exporter is being cost-effective while maintaining compliance with regulations in different countries or regions. The more the company can streamline production to meet global market standards, according to the manufacturer, the greater the company's effectiveness as global marketing competitors. As these views are consistent with our proposed rule, we made no changes in the rule based on these two comments.

*Importance of Manufacturers and State Officials Being Aware that Country of Origin Codes are not Part of U.S. HINs*

The State boating official was not opposed to the hyphen between the country of origin and the HIN. According to the official, one issue that may arise would be the entering of stolen boats into State and National Crime Information systems. If the country of origin is included as part of the HIN on a theft entry, that entry would not produce a "hit" if someone looking to see if a vessel was stolen simply uses the 12-digit HIN which does not include a country code. Therefore, the official suggests that it be made clear to manufacturers and state titling authorities that manufacturer's statements of origin and state titles only include the 12-digit HIN.

The Coast Guard agrees. Consistent with the NBSAC resolution, our rule brings the U.S. HIN system into conformity to the ISO HIN standard and does not require the states to include the country code in their registration process. The manufacturer's statements of origin and state titles are State

paperwork and ownership issues.

Publication of the state official's concerns here in the **Federal Register**, however, should help ensure that manufacturers and State officials take note of this concern. In addition, we are revising our final rule to expressly include a reference in § 181.27, that the HIN is 12 characters long.

*Advocates for Changing to 17-Character HIN*

An association representing auto theft investigators opposed the proposed rule, because, according to the association, the addition of two new HIN characters would only serve to complicate and confuse the law enforcement and insurance communities, as well as various state registration departments and the general public. Also according to the comment, any HIN modification should result in the adoption of a 17-character HIN format as approved and submitted to the Coast Guard by the association representing auto theft investigators, the American Boat and Yacht Council (ABYC) and the National Association of State Boating Law Administrators (NASBLA).

Since the Coast Guard published the HIN regulations in 1972, boat manufacturers have had the option of including additional characters near the HIN, provided the additional characters were distinctly separate -- by a hyphen from 1972 to 1984 and by means of borders or on a separate label from August 1, 1984 (48 FR 40716, September 9, 1983) to the present. United States manufacturers exporting overseas have been using the ISO HIN standards since 1996. In addition, the 17-character HIN format to which the comment refers is beyond the scope of this rulemaking.

An association representing State Boating Law Administrators as well as an association representing investigators of boat thefts also opposed the proposed rule and instead, supported adoption of the 17-character HIN format. Again, U.S. manufacturers exporting overseas have been using the ISO HIN standards since 1996; however, they have had to separate the country of origin code from the 12-character HIN by means of borders or with a separate label. This rule simply makes the U.S. HIN regulations more compatible with the ISO HIN Standard. In addition, the 17-character HIN format to which the associations refer is beyond the scope of this rulemaking that does not call for States to adjust for the addition of any characters to the HIN.

All three associations indicated we were creating a 14-character HIN. We are not. The country of origin code is separated by a hyphen and is not part of the U.S. HIN. As noted above, we have revised our final rule to reflect that our HIN remains 12 characters.

**Discussion of Rule**

We did not change the final rule from the rule we proposed in 2003 (68 FR 36957, June 20, 2003) with the exception of inserting a reference to the length of the HIN, 12 characters, in § 181.27. This final rule will relieve manufacturers of recreational boats who sell both internationally and domestically of the burden of the requirement to separate the country of origin code for the United States, "US-", from the 12-character HIN by means of borders or a separate label. Any other information would still have to be separated from the 12-character HIN by means of borders or a separate label.

**Regulatory Evaluation**

This rule is not a "significant regulatory action" under section 3(f) of Executive Order 12866, Regulatory Planning and Review, and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget has not reviewed it under that Order. It is not "significant" under the regulatory policies and procedures of the Department of Homeland Security (DHS).

We expect the economic impact of this rule to be so minimal that a full Regulatory Evaluation under the regulatory policies and procedures of DHS is unnecessary. Allowing manufacturers following the ISO HIN format to separate the country of origin code without the use of borders or a separate label would relieve a burden and thereby reduce the costs of complying with the HIN display requirement.

**Small Entities**

Under the Regulatory Flexibility Act (5 U.S.C. 601-612), we have considered whether this rule would have a significant economic impact on a substantial number of small entities. The term "small entities" comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. The Small Business Administration (SBA) has size standards for each industry and has established codes under the North American Industry Classification System (NAICS). Each NAICS code identifies an industry, and has a corresponding revenue- or employee-based small business size standard. The only type of small entity that this rule would affect would be small businesses.

There were 4,420 U.S. manufacturers of recreational boats in 2002, an estimated 80 percent of which qualify as small businesses by the size standards of the SBA. However, we have observed that the businesses we

have identified as small manufacture fewer numbers of boats than their larger competitors. In addition, most of the businesses we have identified as small do not export to the European market and therefore would not follow the ISO HIN format.

Therefore, the Coast Guard certifies under 5 U.S.C. 605(b) that this rule would not have a significant economic impact on a substantial number of small entities.

**Assistance for Small Entities**

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104-121), we have offered to assist small entities in understanding this final rule so that they can better evaluate its effect on them and participate in the rulemaking. If the rule affects your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact Mr. Alston Colihan, Project Manager, Office of Boating Safety, by telephone at (202) 267-0984 or by e-mail at [acolihan@comdt.uscg.mil](mailto:acolihan@comdt.uscg.mil).

Small businesses may also send comments on the actions of Federal employees who enforce, or otherwise determine compliance with Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1-888-REG-FAIR (1-888-734-3247).

**Collection of Information**

This final rule would call for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520).

**Federalism**

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on State or local governments and would either preempt State law or impose a substantial direct cost of compliance on them. We have analyzed this final rule under that Order and have determined that it does not have implications for federalism.

**Unfunded Mandates Reform Act**

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State,

local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 or more in any one year. This final rule would not impose an unfunded mandate.

#### Taking of Private Property

This rule would not affect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

#### Civil Justice Reform

This final rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

#### Protection of Children

We have analyzed this rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

#### Indian Tribal Governments

This rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

#### Energy Effects

We have analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a "significant energy action" under that order because it is not a "significant regulatory action" under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

#### Environment

We have analyzed this rule under Commandant Instruction M16475.ID, which guides the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321-4370f), and have concluded that there are no factors in this case that would limit the use of a categorical exclusion under section 2.B.2 of the Instruction. Therefore, this rule is categorically excluded, under figure 2-1, paragraph (34)(d), of the Instruction, from further environmental documentation. The proposed rule to remove the requirement to separate the 2-character country of origin code from the 12-character HIN by means of borders or on a separate label relates to the documentation of vessels and is not expected to have any environmental impact. An "Environmental Analysis Checklist" and a "Categorical Exclusion Determination" are available in the docket where indicated under **ADDRESSES**.

#### List of Subjects in 33 CFR Part 181

Labeling, Marine safety, Reporting and recordkeeping requirements

For the reasons set out in the preamble, the Coast Guard amends 33 CFR part 181 as follows:

#### PART 181 — MANUFACTURER REQUIREMENTS

- 1. The authority citation for part 181 is revised to read as follows:

**Authority:** 46 U.S.C. 4302

- 2. Revise § 181.27 to read as follows:

#### § 181.27 Information displayed near hull identification number.

With the exception of the characters "US.", which constitute the country of origin code for the United States, if information is displayed on the boat within 2 inches of the 12-character hull identification number (HIN), that information must be separated from the HIN by means of borders or must be on a separate label, so that it will not be interpreted as part of the hull identification number.

Dated: May 10, 2004

**David S. Belz,**  
*Rear Admiral, U.S. Coast Guard, Director of Operations*

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