



Emergency Operating Procedures for:

Damage Control and Flooding

I. Overview

Broadly speaking, boats sink for 2 primary reasons: either taking on water from above deck or springing a leak below the waterline.

The majority of incidents actually results from the former. Whether the bilge pump malfunctions, or a heavy storm hits, boats take on more water than they can handle and submerge. The only way to combat this form of sinking is to conduct preventative maintenance and be vigilant. Both of Serenity's 3700-gph bilge pumps are on float switches and should automatically actuate if large amounts of water pool in the hull.

Water intrusion due to openings in the vessel hull can develop from a variety of causes:

- Hitting floating debris
- Grounding on a Rock or other Danger to Navigation
- Faulty Equipment, like a ruptured cooling hose

The first line of defense is preventative maintenance and responsible handling of the houseboat. This SOP is intended for use in emergency situation to prevent the loss of life and property. It is divided into three sections, one for flooding underway, one for flooding on the beach, and one for flooding alongside.

II. Flooding Procedures Underway

- a. Order Crew to don PFDs.
- b. Muster Crew on Exterior Decks.
- c. Manually Energize Bilge Pumps.
 - i. The Bilge Pumps are rated at 3700-GPH and should automatically engage with a float switch, but it is good practice to manually engage them in the flooding space to ensure that they are operating.
 - ii. The middle compartment bilge pump can be manually turned on at the main breaker panel.
 - iii. The engine compartment bilge pump can be manually turned on with the switch located at the aft end of the center engine compartment hatch.
- d. Head for Shore.
 - i. Beaching the houseboat may be your best option to prevent its sinking.
 - ii. Ideally, beach on a shallow sandy beach.
 - iii. Avoid rocky and steep shores if possible.
- e. Make a Mayday Call on VHF Channel 16.
- f. Determine Source of Water Intrusion.
- g. Attempt to Stem the Inflow of Water
 - i. Once the source of water intrusion is identified, attempt to plug the hole.
 - ii. If it is ruptured hose, attempt to close the seacock.
 - iii. If there is a hole in the hull or no seacock on the through hull fitting that is leaking, you must plug the hole with something. Wood, bedding, rubber, foam noodles, anything that is handy can be used to plug the hole and at least reduce the inflow of water.
- h. Rig Crash Pumps If Necessary
 - i. Close the Seacock for Raw Cooling Water Intake on the Generator.
 - ii. Disconnect Raw Cooling Water Intake Hose and Place it in the Lowest Point in the Bilge.
 - iii. Bring the Generator Online
 - iv. Generator Will Now Draw Cooling Water From the Bilge and Discharge It Overboard.
 - v. As the Water Level Drops You May Need to Shut Down the Generator to Avoid Damage to the Raw Water Intake Impeller.

III. Flooding Procedures On the Beach

- a. Order Crew to Don PFDs.
- b. Muster Non Essential Crew on the Beach.
- c. Manually Energize Bilge Pumps.
 - i. The Bilge Pumps are rated at 3700-GPH and should automatically engage with a float switch, but it is good practice to manually engage them in the flooding space to ensure that they are operating.
 - ii. The middle compartment bilge pump can be manually turned on at the main breaker panel.
 - iii. The engine compartment bilge pump can be manually turned on with the switch located at the aft end of the center engine compartment hatch.
- d. Make a Mayday Call on VHF Channel 16.
- e. Determine Source of Water Intrusion.
- f. Attempt to Stem the Inflow of Water
 - i. Once the source of water intrusion is identified, attempt to plug the hole.
 - ii. If it is ruptured hose, attempt to close the seacock.
 - iii. If there is a hole in the hull or no seacock on the through hull fitting that is leaking, you must plug the hole with something. Wood, bedding, rubber, foam noodles, anything that is handy can be used to plug the hole and at least reduce the inflow of water.
 - iv. On the beach it is often more effective to plug the hole from the outside of the hull so that the water pressure will push the plug into place.

g. Rig Crash Pumps If Possible

- i. Close the Seacock for Raw Cooling Water Intake on the Generator.
- ii. Disconnect Raw Cooling Water Intake Hose and Place it in the Lowest Point in the Bilge.
- iii. Bring the Generator Online
- iv. Generator Will Now Draw Cooling Water From the Bilge and Discharge It Overboard.
- v. As the Water Level Drops You May Need to Shut Down the Generator to Avoid Damage to the Raw Water Intake Impeller.

IV. Flooding Procedures Alongside

- a. Order Crew to Don PFDs.
- b. Muster Non-Essential Crew on Dock.
- c. Manually Energize Bilge Pumps.
 - i. The Bilge Pumps are rated at 3700-GPH and should automatically engage with a float switch, but it is good practice to manually engage them in the flooding space to ensure that they are operating.
 - ii. The middle compartment bilge pump can be manually turned on at the main breaker panel.
 - iii. The engine compartment bilge pump can be manually turned on with the switch located at the aft end of the center engine compartment hatch.

d. Request Help from Marina Personnel.

- i. Send someone to request support in dewatering the vessel.
- ii. The marina will likely have portable dewatering pumps.
- e. Determine Source of Water Intrusion.
- f. Attempt to Stem the Inflow of Water.
 - i. Once the source of water intrusion is identified, attempt to plug the hole.
 - ii. If it is ruptured hose, attempt to close the seacock.
 - iii. If there is a hole in the hull or no seacock on the through hull fitting that is leaking, you must plug the hole with something. Wood, bedding, rubber, foam noodles, anything that is handy can be used to plug the hole and at least reduce the inflow of water.

g. Rig Crash Pumps If Possible

- i. Close the Seacock for Raw Cooling Water Intake on the Generator.
- ii. Disconnect Raw Cooling Water Intake Hose and Place it in the Lowest Point in the Bilge.
- iii. Bring the Generator Online
- iv. Generator Will Now Draw Cooling Water From the Bilge and Discharge It Overboard.
- v. As the Water Level Drops You May Need to Shut Down the Generator to Avoid Damage to the Raw Water Intake Impeller.