



**MOBAS**  
**Man Over-Board Alarm Sys-**  
**tem**  
Patent 7,083,482

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## **Please Read Thoroughly Before Installation or Operation of the Man Over-Board Alarm System**

Boating continues to be one of the favorite pastimes of the water faring Americans. The MOBAS (Man Over-Board Alarm System) is designed to help ensure your experience on the waterways is fun and safe. MOBAS is a wireless engine shutdown system that may help prevent injuries and damage associated with falls overboard. It allows the operator to be free of the physical tether to of the lanyard style kill switch and can be used by all passengers.

MOBAS comes with the Control Module, two (2) Transmitters, Helm mount Rescue Mode Rocker Switch and an external Antenna. Everyone onboard can be equipped with a Transmitter to be worn high on their person or above the buoyancy line of their PFD. A falls overboard, upon submersion, the Transmitter will transmit a Keelog Security Coded Signal to the Control Unit. Instantly the Control Unit will emit an Audible and Visual Alarm resulting in the engine(s) shutting down. If rescue is needed, simply activate the Rescue Mode by depressing the top portion of the Helm mounted Rescue Mode Switch., allowing the engine to be restarted.

To ensure MOBAS is operated as designed, it is important to read this manual, install MOBAS correctly and understand it's operation.

### **Boating Safety Notice**

The boat owner/operator is responsible for instructing each passenger the safe operation of the vessel and it's equipment per the manufacturer's owner's manual, placards and documentation. Maritech Industry urges operators and occupants take a boating safety course before operating any vessel. To find classes near you, call your nearest boating safety office (county, state and/or US Coast Guard Auxillary). The owner/operator is responsible for fully understanding MOBAS and instructing every occupant about its' location and proper use prior to every launch.

### **Warranty**

Upon purchase of your MOBAS Unit, fill out the warranty form. Attach a copy of the sales receipt to Maritech Industry within 30 days of purchase. MOBAS manufacturer's warranty, implied or otherwise, is void without timely receipt of these documents.

## System Check

Prior to every launch, the operator is required to conduct a MOBAS system check as follows:

It is helpful to have passengers of your vessel assist in a pre-launch testing of MOBAS. This helps everyone to understand the operation and benefits of MOBAS, Man Over-Board Alarm System.

### 1. Transmitter Test:

A. With the vessel in the water, safely start the engine or you can turn the ignition switch to the ON position so that power is supplied to the control module. The LED at the **bottom** of the Rescue Mode Switch will be on.

B. Dip the Transmitter into water. The Control Module will immediately sound an Alarm and the LED on the Upper portion of the Rescue Mode Switch will flash. If the battery is low on the Transmitter, the Low Battery LED on the Control Module will be illuminated. If the engine is running, it will shutdown.

C. Test all Transmitters to be used sequentially. Prior to each Transmitter test, turn off ignition to clear previous alarm or cycle the Rescue Mode Switch On/Off and repeat steps A through C.

D. Continue to System Activation Test.

### LOW Battery Indication:

If your Transmitter has a low battery as indicated, it will continue to operate normally. It is an indication to have the batteries replaced (Refurbished) as soon as is possible.

## System Check Continued:

### Replacing Your Transmitter:

Contact your local retailer or dealer. You may also order Transmitters by contacting us at [info@maritechindustry.com](mailto:info@maritechindustry.com). Go to [www.maritechindustry.com](http://www.maritechindustry.com) to see pricing.

**NOTE:** Your Control Module will always remember your Transmitters, even when just the battery is replaced. Should you purchase additional Transmitters or replace your original Transmitter, you will need to program the new Transmitters into the Control Module. **See: Programming Transmitters.**

### 2. System Activation Test:

- A. Complete Transmitter Test on all Transmitters as instructed in 1.
- B. Safely start your engine.
- C. Submerge the Transmitter into water.
- D. Confirm the Control Module sounds a pulsating audible alarm, the top LED on the Rescue Mode Switch is flashing and the engine shuts down.
- E. Press the Rescue Mode Switch to the ON position. You will hear a continuous audible alarm and the top LED is now on and not pulsating. The Control Module is now deactivated, which permits re-starting the engine.
- F. Restart your engine.
- G. Press Rescue Mode Switch back to the normal position after confirming MOBAS is operating correctly.
- H. The System Check is now complete.

If MOBAS should not function as designed, take appropriate actions ([refer to troubleshooting section of this manual](#)). If troubleshooting does not resolve the issue, immediately contact your retailer, local dealer or Maritech Industry at [service@maritechindustry.com](mailto:service@maritechindustry.com).

## **Wear and Care of your Transmitters**

### **Wear of your Transmitters:**

Do not wear the Transmitter under clothing or in areas that could prevent or delay saturation upon entry into the water.

### **Use in Fresh Water:**

Attach the Transmitter anywhere above the PFD's Buoyancy line.

### **Use in Salt or Brackish Water:**

Warning, the high mineral content of these waters filter Transmitter signal strength. In this type of water, the Transmitter must break the surface of the water to activate the Control Module and shut down the engine. This will ensure line of sight for transmission.

### **Programming Transmitters:**

To clear your Control Module of all the Transmitters that have been programmed into it, hold down the Learn Button on the Control Module for 10 seconds to clear it's memory. When you release the button, the LED will flash and when it quits flashing the memory is cleared. You do not have to do this before you add a new Transmitter.

To program new Transmitters into your Control Module, first turn your Ignition Switch to the ON position. On the Control Module, press and release the Learn Button. The Learn LED will stay on. When you dip the Transmitter into water, the LED will go out. Dip the Transmitter into the water again, the LED will flash. When the LED quits flashing, the Transmitter is programmed into the Control Module.

## **Programming Transmitters Continued:**

Also, if you never clear the memory of the Control Module, it will hold up to 8 Transmitters. With the extended memory, the Control Module can hold up to 50 Transmitters. When the memory is full, additional Transmitters may be added and will cause the oldest programmed Transmitters to be dropped to make room in the memory. A Transmitter can be programmed in all of the fleets Control Modules so the Transmitter can be used on any vessel in the fleet.

## **Instructions to Occupants**

Prior to every launch, the owner/operator is required to instruct every occupant that is of age to understand about the following:

### **Overview:**

1. The importance of safe boating.
2. The hazards associated with falls overboard.
3. The location and proper operation of MOBAS.
4. To attach a Transmitter securely to their person and ensure continuous wear of the Transmitter while on board.
5. Always wear a life jacket (PFD).
6. Operator will always have enough PFDs onboard for the operator and all occupants.

Keep extra Transmitters and documentation on the vessel, in a dry, convenient place. Follow this owner's manual instructions and content prior to every launch.

## Rescue Mode

### Important!!!

NEVER operate your vessel with MOBAS in Rescue Mode unless the system is damaged or while conducting an actual rescue.

Press the Rescue Mode Switch to the ON position. The LED will illuminate and a steady alarm will sound. This will allow you to start your engine as needed.

**In Rescue Mode, the safety features of MOBAS are deactivated and no longer affords increased protection from injuries and damage associated with falls overboard events.**

If you elect to operate the vessel with Rescue Mode Activated, we urge the operator to wear the OEM supplied tethered lanyard for the kill switch until MOBAS is reactivated.

The owner/operator of the vessel is required to inform all occupants when MOBAS is deactivated and warn them about hazards associated with falls overboard.

## Installation Instructions-Outboards

Professional installation is recommended. Please contact your local dealer, certified marine mechanic or Maritech Industry's Service Department ([service@maritechindustry.com](mailto:service@maritechindustry.com)) to ensure proper installation.

Always refer to your boat's owner's manual to ensure the wires and color codes required for installation are correct.

### Installation:

1. Confirm that the Control Module is for Outboard Engines.
  2. Ensure that the battery, engine, ignition and emergency cutoff switch is in good working order.
  3. Once confirmed, disconnect the battery.
  4. Locate a convenient, secure area, usually under the Helm, to mount the Control Module. Locate a convenient location at the Helm to mount the Rocker Switch assembly. Also locate an appropriate location for the extended Antenna. Usually as high and aft as possible.
  5. Once the mounting locations have been located, install the Control Module, Rescue Mode Switch and Antenna at the intended locations.
  6. **Always look where your drilling or mounting to avoid damaging wires, hoses, etc.**
  7. Attach the cable from the Control Module to the Rescue Mode Switch. You can use Tie Wraps to secure cable and/or wires.
  8. Attach the Antenna Cable.
  9. After installation of those three devices, access the following wires from the cable assembly.
    - A. Purple Wire, has 12VDC when the ignition is turned on.
    - B. Black or Black/White Wire, negative/ground for vessels circuit.
    - C. Black/Yellow Wire, used for emergency engine shutdown.
- Your vessel may have a different color code system. Use the Color Code Chart in this manual or contact your engine manufacturer for the proper color codes and functions.
10. Attach the Purple Wire to the wire of your vessel that has +12VDC on it when the Ignition Switch is in the ON position, usually Purple.

### **Installation Instructions-Outboards Continued**

11. Attach the Black or Black/White wire to the vessels' Black or Black/White wire. This the ground/negative side of the vessels circuit. A ground/negative Connection Block can usually be found at the fuse panel under the Helm.
12. Attach the Black/Yellow wire(s) to the Black/Yellow wire of the Outboard Engines. You can usually find the Black/Yellow Wire at the Ignition Switch or where the Tethered Emergency Kill Switch is located. Check the Color Codes for your engine.
13. Once the installation has been completed, reconnect the battery and test the system per System Check on page 4/5 of this manual.

### **Dual Outboard Installation Instructions**

For the second Outboard Engine, the instruction are the same. If both of the Ignition Systems negative side of the circuit are bonded, you can simply attach the Control Module #2 Black/Yellow wire to the second Outboard engines' Black/Yellow Wire.

## Installation Instructions-Inboards

### NOTICE!

**Professional installation is recommended. Please contact your local dealer, certified marine mechanic or Maritech Industry's technical support department to ensure proper installation.**

**Always refer to your boat's owner's manual to ensure the required wires and color codes are correct.**

### Installation:

1. **Confirm that the Control Module is for an Inboard Engine.**
2. Ensure that the battery, engine, ignition and emergency cutoff switch is in good working order.
3. Once confirmed, disconnect the battery.
4. Locate a convenient, secure area, usually under the Helm, to mount the Control Module. Locate a convenient location at the Helm to mount the Rocker Switch assembly. Also locate an appropriate location for the extended Antenna. Usually as high and aft as possible.
5. Once the mounting locations have been located, install the Control Module, Rescue Mode Switch and Antenna at the intended locations.
6. **Always look where your drilling or mounting to avoid damaging wires, hoses, etc.**
7. Attach the cable from the Control Module to the Rescue Mode Switch. You can use Tie Wraps to secure cable and/or wires.
8. Attach the Antenna Cable.

## **Installation Instructions-Inboards Continued**

9. After installation of those three devices, access the following wires from the cable assembly of The Control Module.
  - A. Purple Wire, has 12VDC when the ignition is turned on.
  - B. Black or Black/White Wire, negative/ground for vessels circuit.
  - C. Purple/White wire is used to connect to the vessels purple wire that continues to the engine.
10. Attach the Black or Black/White wire to the Black or Black/White wire of the vessel. You can connect to a fuse block that has tabs for connection of the negative side of the circuit.
11. The vessels Purple wire that controls the shutdown of the engine, coming from the Ignition Switch to the Manual Kill Switch, is cut. The Purple wire from the Control Module is attached to the cut Purple wire coming from the Ignition Switch.
12. The Purple/White wire of the Control Module connects to the cut Purple wire that continues towards the engine.
13. Always refer to your vessels' Engine Control Circuit Color Codes for proper connection.
14. Once done, reconnect the battery and test the system per System Check on page 4/5 of this manual.

## Color Codes

<u>MOTOR</u>	<u>WIRE COLORS</u>	<u>MOBAS</u> <u>WIRE COLORS</u>
<b>Evinrude Johnson Mercury</b>		
12 Volts w/Ign ON	Purple	Purple
Outboard Shutdown	Black/Yellow	Black/Yellow
Ground/Negative	Black/White	Black/White
<b>Honda</b>		
12 Volts w/Ign ON	Black/Yellow	Purple
Outboard Shutdown	Black/Red	Black/Yellow
Ground/Negative	Black	Black/White
<b>Yamaha</b>		
12 Volts w/Ign ON	Yellow	Purple
Outboard Shutdown	White	Black/Yellow
Ground/Negative	Black	Black/White
<b>Tohatsu</b>		
12 Volts w/Ign ON	Red	Purple
Outboard Shutdown	Brown	Black/Yellow
Ground/Negative	Black	Black/White
<b>Suzuki</b>		
12 Volts w/Ign ON	Gray	Purple
Outboard Shutdown	Green	Black/Yellow
Ground/Negative	Black	Black/White

## Troubleshooting Guide

If MOBAS is ever damaged, a by-pass is provided by activating the Rescue Mode. Once in Rescue Mode, power is removed from the Control Circuit and the owner/operator can start the vessel. To isolate the problem, use the guide below:

**Symptom:** Engine will **not turn off** when the Transmitter is submerged in water.

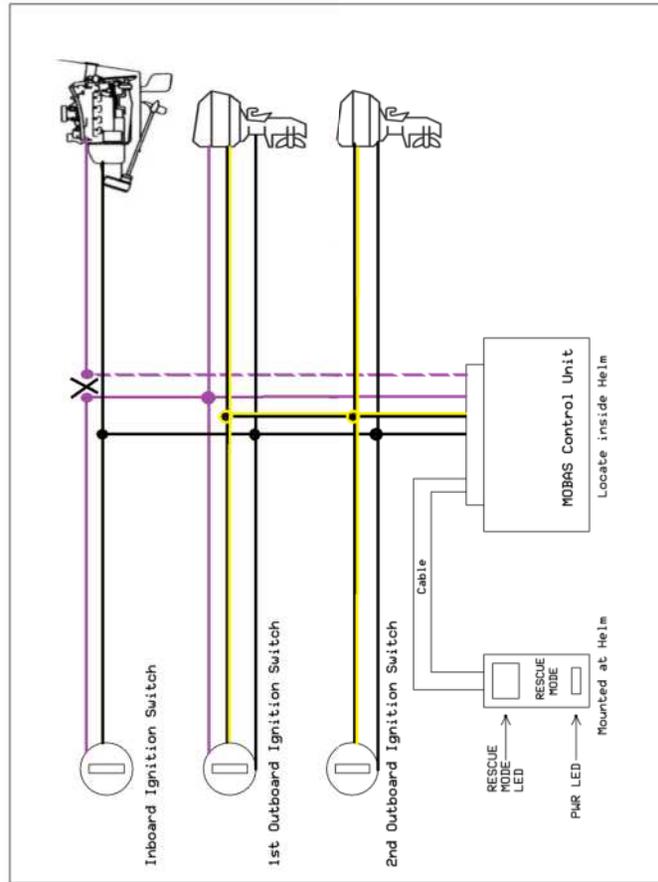
- Has the Transmitter been programmed to the Control Module?
- Is the Bottom LED on the Rescue Mode Switch illuminated, indicating the power is on for MOBAS? MOBAS Control Unit uses a Pico Fuse on its circuit board, which requires the factory to replace it and check the Control Unit out.
- Has the Rescue Mode Switch been activated?
- Are the wires from the Control Unit securely attached to the wires for 12 Volts when the ignition is on, Circuit Negative/Ground and the motor kill wire for Outboards?
- Does the Transmitter's Battery need replacing?

**Symptom:** Engine will **not start** although the Transmitter is dry.

- Is the Control Unit in Alarm?
- Are the wires from the Control Unit securely attached to the wires for 12 Volts when the ignition is on, Circuit Negative/Ground and the motor kill wire for Outboards?

If these troubleshooting measures do not resolve the problem, activate the Rescue Mode. Once activated, the owner/operator can start the vessel.

For further help, contact Maritech Industry at [info@maritechindustry.com](mailto:info@maritechindustry.com).



The above Wiring Diagram shows a Single Inboard Installation and a Single Outboard or Dual Outboard connections for MOBAS.

# MOBAS

## Man Over-Board Alarm System

### Specifications

Voltage	12 Volts DC nominal
Standby Current	13m Amps
Alarm Current	650 mAmps
Alarm	85db
Frequency	433 MHZ
Dimensions	6.9"Lx3.6"Wx2.1"H
Housing Material	94V-2 Polycarbonate
	IP-65 Rating
	O-Ring Sealed Housing
Signal Strength	200 feet Line of Sight
Warranty	One (1) Year Mfg. Defects
Installation	Approx. 1 Hour
	Maritech Industry, Inc.