

HawkEye® Micro Digital Depth Sounder Installation and Operation Manual

Warning:



This depth sounder should not be used as a navigational aid to prevent grounding, boat damage, or personal injury. Always operate the boat at slow speeds in unfamiliar water, or if you suspect shallow water or submerged objects, as water depth may change too quickly to allow time for you to react.

Safety Information:

- Read the following safety information carefully before attempting to operate this depth sounder.
- Only qualified personnel should perform repairs or servicing not covered in this manual.
- Periodically wipe the display with a dry cloth. Do not use abrasives or solvents on this device.
- Always cover the display with a cover when not in use. Do not expose the display to direct sunlight for extended periods of time.
- If gluing the transducer in-hull, always test the mounting location before affixing to the hull with epoxy.
- Want to save yourself hours of aggravation? If so, then read this manual entirely before attempting the installation.

IMPORTANT:



Install and test the display in the desired mounting location before attempting the transducer installation. If you are going to glue the transducer in-hull, you must use **ONLY A 2-PART, SLOW CURE CLEAR EPOXY.**

Standard Transducer Description

The transducer supplied with this HawkEye® Micro Depth Sounder is suitable for installation and operation on most boats. For optimal performance the transducer should be mounted to the transom of the vessel as per the transducer installation instructions. On fiberglass hulls (non-cored) and some aluminum hulls it can be glued to the inside of the hull, but this type of installation will require you to first test the installation location and it may reduce the performance of the HawkEye® Micro Depth Sounder slightly.

Parts Supplied in Packaging

Before installing your HawkEye® Micro Depth Sounder, please ensure that the following parts are included in the packaging:

- Micro Depth Sounder Display
- Digital Depth Sounder Module (DSM) with waterproof fuse housing and .25A, 250V fuse.
- Surface Mount Bracket
- (2) #2 x 3/8" Stainless Steel Screws
- Alarm Buzzer

Tools and Supplies Required for Installation

- Power Drill
- 19/32" (15 mm) Drill Bit, Hole Saw, or Spade Bit (Warning Buzzer Installation)
- 1/2" (12 mm) Drill Bit, Hole Saw, or Spade Bit (LCD Display Plug Pass Through)
- 1/16" (2 mm) Drill Bit (LCD Display Mounting Screws)
- Wire Connectors Suitable for Connecting the Power Wire to Your Vessel
- Wire Cutting/Crimping Tool
- Zip-Ties
- Marine Sealant
- (4) Stainless Steel Screws or Bolts (DSM Mounting)
- Silicon Grease or Petroleum Jelly



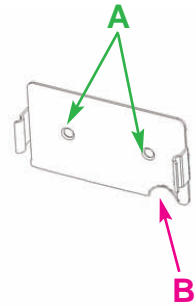
IMPORTANT:

Be certain to seal any penetrations into wood during the installation process with a marine grade sealant.

STEP 1

Installation of the Display

1. Find a location on the vessel that will allow clear viewing of the display. Keep in mind that the wires for the DSM must reach the mounting location of the display.
2. Lay the Display Mounting Bracket against the mounting location and using a pencil, mark mounting holes (A, B).

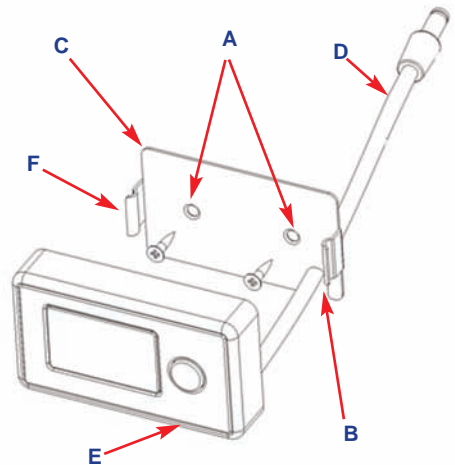


IMPORTANT:

Check behind the desired cutting area for wires, switches, etc. that may be damaged during cutting. If these obstructions are present, use masking tape to hold them out of the way during cutting.



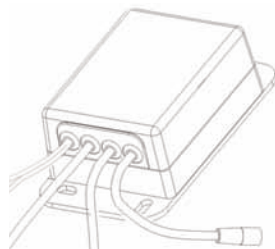
3. Drill (2) 1/16" (2 mm) holes at location A.
4. Drill (1) 1/2" (12 MM) hole at location B.
5. Insert the Display Cable (D) into the hole B.
6. Install and fasten the Display Mounting Bracket (C) by installing the supplied (2) #2 x 3/8" Stainless Steel Screws in the holes labeled A.
7. Feed the remaining Display Cable (D) through the Cable Pass Through (B).
8. Secure the Display Housing (E) to the Display Mounting Bracket (C) by aligning the Mounting Tabs (F) with the notches on the back of the Display and pressing securely together.



STEP 2

Installing the Digital Depth Sounder Module (DSM)

1. The mounting location for the DSM must not allow exposure to excessive heat or submersion in bilge water. Also, make certain that the cables for the Transducer and Display reach the desired mounting location.
2. There are several ways to mount the Electronics Housing. Be certain that the installation that you choose is secure and will not allow the housing to move around.
 - A Using a pencil, mark the mounting holes in the Housing. Check behind the desired mounting location for any cables or wiring that could be damaged during drilling. You will have to supply your own screws, so make certain that the length of screw that you have chosen will not penetrate an undesirable location (through the bottom, side, top, etc of the vessel). Drill and install screws through the Housing mounting holes into the drilled holes.
 - B Using an alcohol solution, clean both the DSM and the Mounting Location. Apply a marine grade adhesive or tape that is resistant to gas and oil, to the back of the housing and press it against the mounting location.
 - C Use Zip-Ties to secure the Housing to a solid surface.



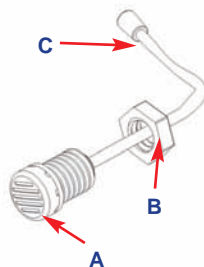
STEP 3

Installing the Audible Alarm Assembly

NOTICE:

Make certain that the desired mounting location allows for access to the back of the Alarm Housing (A) when it is installed as you will have to install the Nut (B) from the back. Please keep in mind that the cable from the Alarm Housing to the electronics box must reach the desired mounting location.

1. Find a location on the vessel that will allow the audible alarm to be heard by the operator under ALL operating conditions. Mark that location with a pencil.
2. Check behind the desired mounting location for any cables or wiring that could be damaged during Installation and secure them out of the way.
3. Using the 19/32" (15 mm) drill bit, drill the hole for the Alarm Housing (A).
4. Remove the Nut (B) from the Alarm Housing (A) and Cable Assembly (C).



5. Seal any penetration into wood with a marine sealant.
6. Insert the Plug (C) through the hole you just drilled, and press the Alarm Housing into the hole until it is flush against the mounting surface.
7. Access the back of the Alarm Housing from below the mounting surface and install the Nut (B), turning clockwise until it is tight and the Alarm Housing does not rotate.

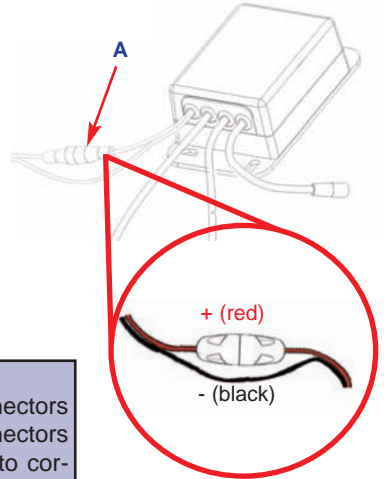
STEP 3

Linking the System Wires

12 Volt Power Harness: (A)

The system has an ON/OFF switch as well as an Auto Power-OFF feature. It is recommended that you connect the power harness to a constant power source such as a terminal block or directly to the battery.

1. Connect the BLACK wire on the DSM harness to a negative (-) terminal or suitable ground.
2. Connect the RED wire on the DSM harness to a positive (+) 12 Volt power source.

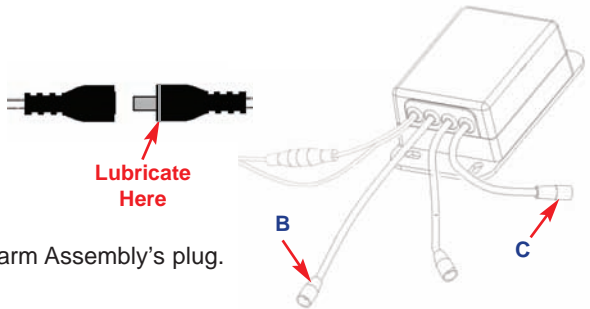


NOTICE:

When connecting the Power Harness use only connectors designed for the marine environment. These connectors form a solid electrical connection and are less likely to corrode. Never use "Twist-On" or "Automotive" type connectors.

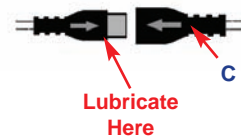
The Alarm System: (B)

1. For extended waterproofing of the connection, lubricate the plug by applying a generous amount of silicon grease or petroleum jelly to the ridge on plug B on the DSM.
2. Firmly press plug B into the Alarm Assembly's plug.



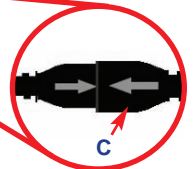
The Display: (C)

1. Lubricate the plug by applying a generous amount of silicon grease or petroleum jelly to the Display Plug.
2. Align the arrows on the Display Plug and Plug C, and gently, but firmly press them together until the arrow on the display plug touches Plug C's housing.



IMPORTANT:

BE VERY CAREFUL WHEN MAKING THE DISPLAY CONNECTION. Improper alignment of the plugs and internal pins will cause unreparable damage to the connector.



STEP 4

Testing the Display Installation

Before continuing with your installation, you should test the unit to make sure the system wires are properly attached.

1. Apply power to the unit by turning on the power source that you've attached the red and black wires to.
2. Press and release the button on the display.
3. The alarm should beep twice while the display illuminates all the LCD graphics for 2 seconds.
4. "----" will then be shown on the LCD.



If the display operates as per above, continue to the "Getting to Know Your Micro Depth Sounder" section.

If the display does not turn ON:

1. Check the power source using a test light or DC volt meter. Make sure there is 12 volt power where the power harness connects to both the positive and negative sources.
2. Check the fuse holder assembly with a test light or DC volt meter. Connect the ground to the test meter or light to the vessel's negative power source.
 - A Remove the fuse and check for 12 volt power at the spring located inside the fuse housing that is connected to the vessel's power source. *If 12 volt power is present continue to Step 2-B. If power is not present, return to Step 1.*
 - B Insert the fuse and check for 12 volt power at the end of the fuse. *If 12 volt power is present continue to Step 2-C. If power is not present, replace the fuse.*
 - C Reassemble the fuse housing. Strip back a quarter of an inch of wire cover on the display side of the fuse housing and test for 12 volt power. *If 12 volt power is present continue to #3 below. If power is not present, replace the fuse housing assembly.*



A



B



C



IMPORTANT:

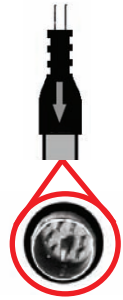


The fuse used in the Micro Depth Sounder is a .25A, 250V fuse. Do not rely on a visual inspection of the fuse to determine if it is functioning. If your depth sounder will not turn on, ALWAYS test the fuse with a test light or voltage meter.

3. Check the Display Plug Pins

- A) Disconnect the display plug from the DSM.
- B) Look inside the end of the display plug. If the pins are bent, use a small screwdriver to straighten them.
- C) Reassemble as per Step 3, on Page 4.

4. If you still can not get the system to turn on as per Step 4, visit our Customer Service Center on our website or call 888-667-2767 for advanced technical support.



STEP 5

Getting to Know Your Micro Depth Sounder

The HawkEye® Micro Depth Sounder's auto-ranging, auto-sensitivity features mean that you never have to worry about adjustments. Simply turn the power on, and you're ready to go. The DSM emits sound signals that travel through water, then calculates the amount of time that elapsed while the signal traveled down to the bottom and returned back to the transducer. This time is calculated by the DSM and displayed as a depth reading on the LCD. Extremely dirty water, very soft bottom, high speeds, improper transducer mounting, deep water, or a combination of the above will result in incomplete or inaccurate readings. Under these conditions inaccurate readings or "---" will be displayed.



Powering the Display On and OFF

- To Power ON - Press and release the button on the front of the Display. The LCD will display a test sequence and then switch to normal operation.
- Manually Powering OFF - Press and HOLD the button for 5 Seconds. Release when "OFF" is displayed on the display. The unit is now OFF.
- Auto OFF Feature - to help save your battery if you forget to turn the DF1120S OFF, the unit will automatically turn OFF if "---" is displayed on the LCD for 5 continuous minutes.

Setting the Units of Measure

The units of measure for depth readout and alarm functions can be set in 4 easy steps. The two settings available are Feet (FT) and Meters (M).

To Set the Units:

1. Press and hold the button for 3 seconds until the units indicator (FT or M) blinks.
2. To set the units to FEET press the button. "FT" will flash on the Display.
3. To set the units to METERS press the button. "M" will flash on the Display.
4. The display will return to the normal operation mode automatically after five seconds.



Setting the Depth Alarm

The alarm function can be set for depths ranging from 2 to 10 feet and triggers an Audible and LCD Icon Alarm when the depth is less than the setting.

To set the SHALLOW ALARM:

1. Press and release the button located on the front of the DF1120S display. The current alarm setting will be displayed on the display. "0" is the default setting and will turn the alarm "OFF".
2. Pressing the key will increase the selected value. When the setting reaches "10", the next key pressed will reset the alarm to "0".
3. After your selection is made, the display will return to normal operation after 5 seconds.



NOTICE:

To turn the alarm OFF, the alarm should be set to "0".

When triggered, the audible alarm sounds for 10 seconds while the "🔔" icon flashes on the display. After 10 seconds, the audible alarm mutes and the "🔔" icon continues to blink until the depth increases or the alarm is reset. To reset the alarm repeat steps 1 thru 3.

Troubleshooting

Display Will Not Turn On:

Refer to Step 4 in this manual. Keep in mind the fuse used in the Micro Depth Sounder is a .25A, 250V fuse. Do not rely on a visual inspection of the fuse to determine if it is functioning. If your depth sounder display will not turn on, ALWAYS test the fuse with a test light or voltage meter or simply replace the fuse.

Sonar Cross Talk:

If you experience incorrect depth readings on your Micro Depth Sounder display, but nothing on another fish finder screen on the same boat (or vice versa) then you are experiencing sonar cross-talk interference. The only real solution is to move the transducers further away from each other. This can help keep the transducer cones from intersecting, but because cones get wider as the depth increases, the problem can not usually be completely solved by position only. Changing one of the sounders to another model that runs on a different frequency will solve the problem.

Using A Non-Standard Transducer:

You may be able to use a transducer that is currently installed in your watercraft or a specialized transducer. You need to be sure that the transducer runs on 200Khz and is able to put out 250 watts of transmitting power. If you are unsure of the specifications please contact the manufacturer. If you need to attach a non-standard transducer to the Digital Depth Sounder display, order part # 8000-90 from our website or toll free at 888-667-2767. Strip back the rubber cable cover 1" (28 mm) exposing the three internal wires (blue, white, and bare) on your transducer. Using a soldering iron, solder the blue, white and bare wires from the 8000-90 extension cable to the corresponding wires on your transducer. Using electrical tape, or heat shrink tubing make certain that the soldered connections are completely sealed and protected against accidental electrical interference and corrosion. **Cutting the plug off the "Black Box" Electronics Housing will void the warranty.**

Poor Performance:

If you are not happy with the performance of your depth sounder, please visit our website or call 888-667-2767 for technical support. Rest assured that this depth sounder is engineered to the highest standards and is part of the the best selling family of depth sounders in the world. It is highly likely that your dissatisfaction is due to improper installation and/or setup, and our technical support resources can get your system working properly.

Advanced Troubleshooting Help:

If you have questions about this product please visit our Customer Service Center on our website at www.norcrossmarine.com (*You may also call us toll free at 888-667-2767*) where you can find information relating to:

- **Warranty Details**
- **Warranty Registration**
- **Troubleshooting**
- **Product Knowledgebase**
- **Product Specifications**
- **Parts & Accessories**

Replacement Parts:

Visit our website or call 888-667-2767 to order replacement parts.

- **1000-60** - Micro Depth Sounder Display Assembly
- **1000-61** - Digital Depth Sounder Module (DSM) Assembly
- **1000-62** - Audible Alarm Assembly
- **1000-63** - Stainless Steel Display Mounting Bracket
- **8000-01** - Combination Transom/In-Hull Transducer Assembly
- **8000-90** - 30' Transducer Cable Extension w/ Waterproof Plug
- **8000-91** - Transom Mount Bracket Kit
- **8000-95** - 2-Part, Slow Cure, Epoxy Kit for In-Hull Transducer Mounting

NOTICE



To be eligible for the 2 year product warranty, you must register your product within 15 days of purchase. Please visit our Customer Service Center on our website to register. Make a copy of your original purchase receipt and store it in a safe place. You will need to present it in the rare occurrence that you need to send your product in for service.



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