TRANSOM TRANSDUCER Installation Guide

532508-4_A

The transom mount installation allows adjustment of both running angle and depth after the transducer is mounted, which enables you to tune the installation for best results. It is important to read the instructions completely and understand the mounting guidelines before beginning this installation.

NOTE: Due to the wide variety of hulls, only general instructions are presented in this guide. Each boat hull represents a unique set of requirements that should be evaluated prior to installation. For detailed information about installing transducers on different hull types, download the Transducer Installation Resource Guide from our Web site at **humminbird.com**.

NOTE: Your transducer may not look exactly like the transducer shown in the illustrations, but it will mount in exactly the same way.

Installation Preparation

Install the control head before you start the transducer installation. See the control head installation guide.

Review your boat manufacturer's owner's manual for recommended transducer installation locations and cable routing methods, as well as your transom and/or deadrise angle.

Read and understand your boat's warranty before starting this installation.

Visit our Web site at **humminbird.com** for additional information and resources for transducer installations. Also, visit **youtube.com/humminbirdtv** for informational videos.

Confirm your boat is level for the installation.

Consider your speed requirements.

Traveling over 65 mph with the transducer in the water is not recommended with the transom mount transducer, as damage may occur. If speed above 65 mph is critical, see the FAQ (Frequently Asked Questions) section of our Web site at **humminbird.com.**

Supplies: In addition to the hardware supplied with your transducer, you will need a powered hand drill and various drill bits, various hand tools, including a ruler or straightedge, a level, marker or pencil, Phillips-head screwdriver, flat head screw driver, a socket/nut driver, a 1/2" (13 mm) wrench and torque wrench, safety glasses and dust mask, marine-grade silicone sealant, and dielectric grease (optional). You may also need extension cables and hardware for routing the cable to the control head.

Installation Overview

New Installation: Review ***Turbulence-Free Mounting Guidelines*** and proceed to section ***1. Mount the Transom Bracket to the Boat.***

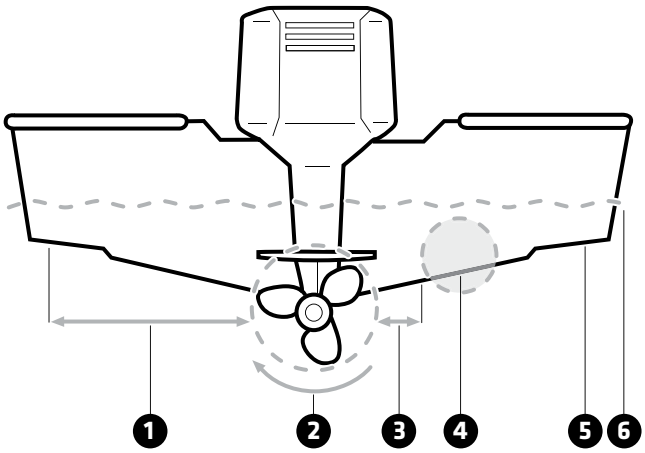
Previously-installed Transducer: If you have a previously-installed XHS transducer on the transom, the bracket in this installation kit can be installed in the same location using the following instructions:

1. Line up the metal bracket with the previously-used mounting holes to confirm that the two slot holes match the previous installation. Fill any unused holes with marine-grade silicone sealant.

2. Make sure the boat is level on the trailer (from port to starboard and from bow to stern).
3. Proceed to section ***2. Install the Transducer.***

Turbulence-Free Mounting Guidelines

It is very important to locate the transducer in an area that is relatively free of turbulent water. Consider the following to find the best location with the least amount of turbulence:



1. **Avoid areas where there is turbulent water flow.** Turbulent water is normally confined to areas immediately aft of ribs, strakes, or rivets on the bottom of the boat, and in the immediate area of the propeller(s). The best way to locate turbulence-free water is to view the transom while the boat is moving.

2. **Observe your propeller's direction of rotation** (in forward, as you're facing the stern of the boat from behind). Clockwise propellers create more turbulence on the port side. Counterclockwise propellers create more on the starboard side.

3. **Ensure there is adequate distance from the propeller(s).** On outboard or inboard/outboard boats, it is best to locate the transducer at least 15" (38.1 cm) to the side of the propeller(s).

4. **The ideal mounting location (right of the propeller[s]).** It is important to note that if you plan to trailer your boat, do not mount the transducer too close to trailer bunks or rollers to avoid moving or damaging the transducer during loading and unloading of the boat.

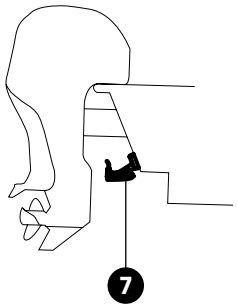
5. **For boats with stepped hulls,** it may be possible to mount the transducer on the step. Do not mount the transducer on the transom behind a step to avoid popping the transducer out of the water at higher speeds.

6. **The transducer must be mounted so that it is parallel with the waterline, but fully submerged in the water during operation.**

7. **If you have a Side Imaging® transducer,** the transducer must NOT have anything obstructing the 'view' of the side looking beams. For example, nothing can be in the line of sight of these beams (not a hull, motor, or other transducer, etc.)

NOTE: You may need to tilt the motor up and out of the way when using the side looking beams.

Deadrise: The hydrodynamic shape of your transducer allows the sonar beams to point down without deadrise adjustment.



Unobstructed View: This jack plate installation gives the transducer safe distance from the motor and turbulence. The Side Imaging has a clear view side-to-side.

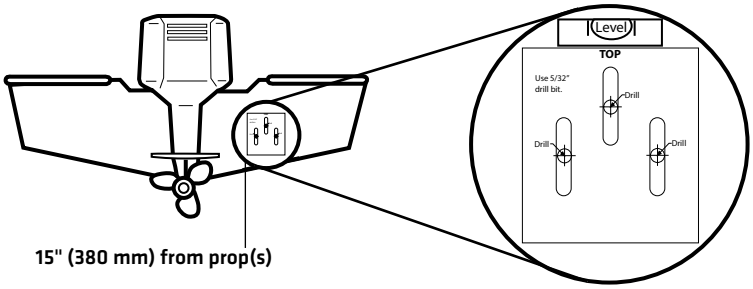
1 | Mount the Transom Bracket to the Boat

1. Confirm the boat is level on the trailer (both from port to starboard and from bow to stern).
2. Hold the mounting bracket against the transom of the boat in the location you have selected.

   Align the bracket horizontally, using the level. Make sure that the lower corner of the bracket does not protrude past the bottom of the hull.

   If your propeller moves clockwise as the boat moves forward (as you're facing the stern of the boat from behind), mount the transducer on the starboard side. **If your propeller moves counterclockwise** as the boat moves forward (as you're facing the stern of the boat from behind), mount the transducer on the port side.

Using the Mounting Bracket to Mark the Drill Holes



3. Continue to hold the bracket on the transom of the boat, and use a pencil or marker to mark where to drill the three mounting holes. Mark the drill holes near the top of each slot, making sure that your mark is centered in the slot.
4. Make sure the drill bit is perpendicular to the actual surface of the transom, NOT parallel to the ground, before you drill.

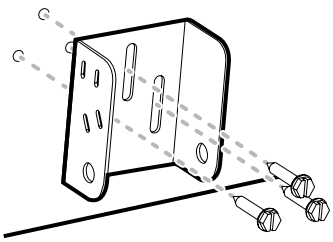
   Using a 5/32" (4.0 mm) bit, drill the three holes to a depth of approximately 1" (25 mm).

   NOTE: On fiberglass hulls, it is best to use progressively larger drill bits to reduce the chance of chipping or flaking the outer coating.

5. Use a marine-grade silicone sealant to fill the drilled holes.
6. Align the transom bracket with the mounting holes. The center slot should be above the two outer slots. Confirm the bracket is level.
7. Using a hand socket/nut driver, install the three #10-1" (25 mm) screws into the drilled holes, but **do not tighten completely.**

   NOTE: Make sure the mounting screws are snug, but do not fully tighten the mounting screws at this time to allow the transducer assembly to slide for adjustment purposes.

Attaching the Bracket to the Transom



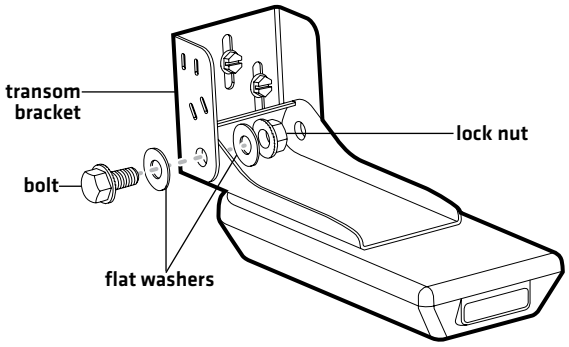
2 | Install the Transducer

The transom bracket allows you to adjust the height, and the pivot bolts allow you to adjust the angle of the transducer. These adjustments help reduce cavitation and air bubbles around the transducer during operation.

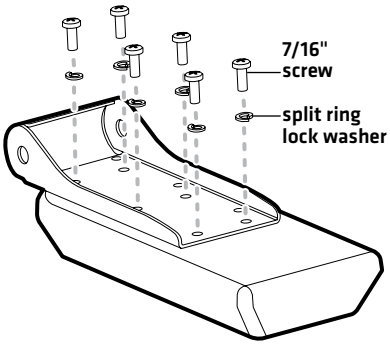
1. Align the transducer bracket with the holes on top of the transducer.
2. Use a Phillips-head screwdriver to install a 7/16" (11 mm) screw and #8 split ring lock washer into each bracket hole (6 holes total). Hand tighten each screw until each split ring lock washer flattens. **Hand tighten only.**
3. Align the holes on the transducer bracket with the holes on the transom bracket.

4. Install the pivot bolt, 2 washers, and lock nut into the first hole as shown in the illustration ***Installing the Transducer Bracket.*** Repeat for the second hole.
5. Use a 1/2" (13 mm) wrench to tighten the assembly, but do not fully tighten the hardware at this time (so you can make adjustments if needed after testing the installation).

Installing the Transducer Bracket



Attaching the Transducer Bracket



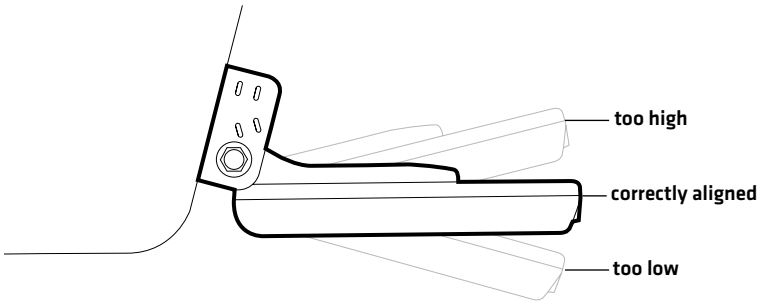
3 | Confirm the Mounting Angle

You will need to adjust the initial angle of the transducer both vertically and horizontally to confirm the transducer mounting angle.

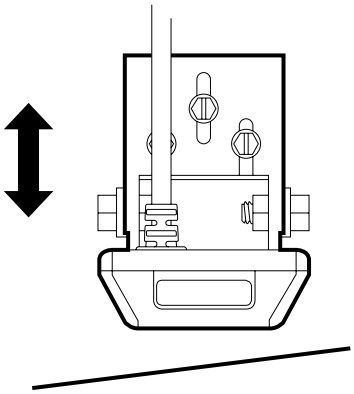
1. Confirm the height of the transducer is high enough on the transom so it is out of the jet stream when the boat is on plane and that it will be submerged in the water during trolling speeds.

   To adjust the height, loosen the screws slightly in the transom bracket, and slide the bracket up or down using the slots. If you cannot access the screws, you may need to uninstall the transducer, adjust the height, and repeat the installation instructions in sections 1 and 2.
2. **Adjust the angle of the transducer,** so it is parallel with the length of the boat hull, with a slight down angle (approximately 5 degrees).

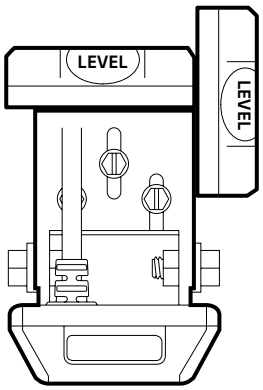
Adjusting the Transducer Running Angle



Adjusting the Height



Leveling the Bracket



3. Hand tighten the two pivot bolts, using a 1/2" (13 mm) wrench.

NOTE: You will finalize the installation after you route the cable and test the installation in the following procedures.

4 | Route the Cable

You can route the cable **over the transom** or **through a hole in the transom above the waterline**. Your boat may have a pre-existing wiring channel or conduit that you can use to route the cable. Select the routing method that is best for your boat configuration, and purchase any extension cables, cable clips, clamps, etc. as needed.

- It is best to route the cable to the side of the transducer so the transducer will not damage the cable during movement.

- The transducer can pivot up to 90 degrees in the bracket. Allow enough slack in the cable for this movement.
- **If you drill any holes, fill them with marine-grade silicone sealant.**
- **Excess Cable:** If there is excess cable that needs to be gathered at one location, dress the cable routed from both directions so that a single loop is left extending from the storage location. Doubling the cable up from this point, form the cable into a coil. Storing excess cable using this method can reduce electronic interference.

CAUTION! Do not cut or shorten the transducer cable, and try not to damage the cable insulation. Route the cable as far as possible from any VHF radio antenna cables or tachometer cables to reduce the possibility of interference. If the cable is too short, extension cables are available to extend the transducer cable up to a total of 50'. For assistance, contact Humminbird® Technical Support.

CAUTION! Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

5 | Connect the Cable

1. Connect the transducer cable to the transducer port on the control head or cable connector (if applicable).

   The connector is keyed to prevent reversed installation, and insertion should be easy. Do not force the connectors into the ports.

   If the cable connector is round, hand-tighten the screw nut to secure the cable connection. **Hand-tighten only!**

   Refer to your control head installation guide for additional details.

6 | Test and Finish the Installation

Once you have installed the control head, the transducer, and have routed all the cables, you must perform a final test before locking the transducer in place.

Testing should be performed with the boat in water deeper than 2 feet. The transducer should be fully submerged because the sonar signal cannot pass through air.

WARNING! The transducer must be fully submerged in water during operation because the sonar signal cannot pass through air. Air pinging can damage the transducer.

Test the Transducer Installation on the Control Head

1. Press the POWER key to turn on the control head.

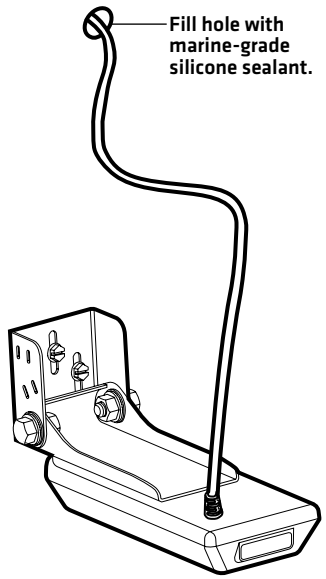
   If the transducer is detected, the control head will start Normal mode.
2. Select a Sonar View to display on-screen.

   HELIX®: Press and hold the VIEW key. Select Sonar > Sonar View.

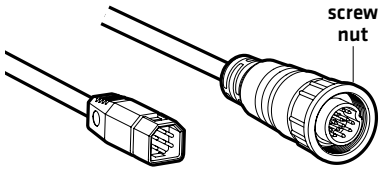
   SOLIX®: Press the HOME key. Select a 2D Sonar View.

   Other: See your control head operations manual.
3. If the bottom is visible on-screen with a digital depth readout, the unit is working properly.
4. **2D Sonar Test:** If the unit is working properly, gradually increase the boat speed to test high-speed performance.
5. Review the sonar returns displayed on the (2D) Sonar View. If the unit functions well at low speeds, but begins to skip or miss the bottom at higher speeds, the transducer requires adjustment.

Routing the Cable



Transducer Connectors



CAUTION! If you do change the transducer position, re-trace the position of the mounting bracket before proceeding.

6. **Side Imaging® Test:** Select a Side Imaging View.

   HELIX: Press and hold the VIEW key. Select Sonar > Side Imaging View.

   SOLIX: Press the Home key. Select a Side Imaging View.

   Other: See your control head operations manual.

7. Navigate the boat in a straight line at trolling speed. Confirm there is nothing obstructing the display of the side imaging beams.

Finalize the Transducer Installation

Once you have reached a consistently good sonar signal at the desired speeds, you are ready to lock down the transducer settings.

8. Confirm the transom bracket is level and hand tighten the screws until they are secure. **Hand tighten only!**

   Fully tighten the two pivot bolts, using a 1/2" (13 mm) torque wrench to 12 ft-lbs. If you don't have a torque wrench, use a crescent/box wrench to hand tighten the two pivot bolts until they are secure, then turn the wrench 45 to 60 degrees more. **Hand tighten only!**

Maintenance

If your transducer remains in the water for long periods of time, slush, algae and other marine growth can reduce the effectiveness of the transducer. Periodically clean the face of the transducer with a mild, marine-safe and plastic-safe soap or solution.

If your transducer remains out of the water for a long period of time, it may take some time to wet the transducer after it is returned to the water. Small air bubbles can cling to the surface of the transducer and interfere with proper operation. These bubbles will dissipate with time, or you may wipe the face of the transducer with your fingers after the transducer is in the water.

Contact Humminbird

Web site: humminbird.com

E-mail: service@humminbird.com

Telephone: 1-800-633-1468

Direct Shipping: Humminbird
Service Department
678 Humminbird Lane
Eufaula, AL 36027 USA

WARNING! Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.

WARNING! The transducer must be fully submerged in water during operation because the sonar signal cannot pass through air. Air pinging can damage the transducer.

NOTE: Download Humminbird installation guides and operations manuals from our Web site at **humminbird.com**.

NOTE: Product specifications and features are subject to change without notice.

ENVIRONMENTAL COMPLIANCE STATEMENT: It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE: EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive (WEEE)" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

APEX™ SERIES CONTROL HEAD Installation Guide

532744-1_A

Follow the instructions in this installation guide to gimbal mount the control head.

Installation Preparation

Read the instructions in this transducer guide completely to understand the mounting guidelines before starting the installation.

Visit our Web site at humminbird.com for additional information and resources for transducer installations. Also, visit **youtube.com/humminbirdtv** for informational videos.

Supplies: In addition to the hardware supplied with your control head, you will need a powered hand drill and various drill bits, flat head screwdriver, pencil, safety glasses and dust mask, marine-grade silicone sealant, dielectric grease (optional), extension cables (optional), Ethernet cables (optional), and accessory cables (optional). Also, see ***Connect Power*** to determine the type of connection, fuse size, and additional equipment you will need for the installation.

Accessories and Ethernet: Accessories and Ethernet equipment are available for purchase at **humminbird.com**. The installation guides are available with the product, or they can be downloaded from our Web site.

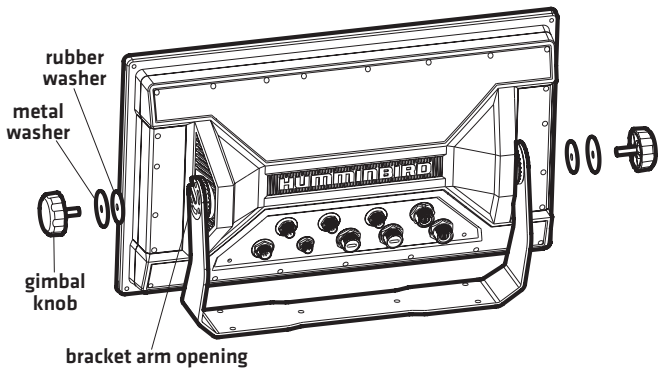
Installation Overview

1 | Plan the Mounting Location

Pre-assemble the control head to plan the best mounting location.

1. Place 1 metal washer onto each gimbal knob.
2. Place 1 rubber washer onto each gimbal knob.
3. Install the gimbal knobs (with washers) into each side of the control head. Tighten the knobs just enough so you can slide the control head into the gimbal bracket arms.
4. Install the control head into the arms of the bracket mount. Confirm the opening in the gimbal bracket arms faces the rear of the control head. Confirm the ratchets on the bracket and control head fit together.

Assembling the Control Head and Bracket

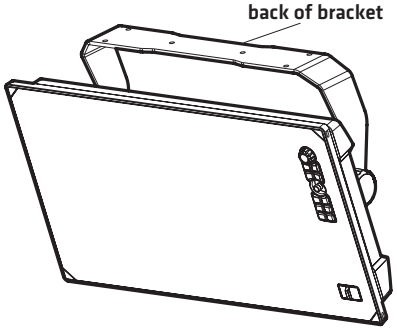


If you prefer to mount the control head overhead, flip the bracket to the top of the control head. The opening in the gimbal bracket arms must face the rear of the control head.

NOTE: Overhead and/or thin panels may require additional hardware (separate purchase required) to securely mount the control head.

5. Hand-tighten the gimbal knobs to secure the control head to the gimbal bracket.

Overhead Mount



6. Place the assembled control head in various locations to determine the best mounting location with the following requirements:
   - a stable, protected surface to protect the control head from excessive wave shock, vibration, and water
   - sufficient space for the control head tilt range
   - visibility during operation, as well as easy installation and removal
   - access above and below the mounting surface to pass the cables through to the control head
   - space for the 1" (25 mm) cable hole located 2" to 4" (50 to 100 mm) behind the chosen mounting location
7. Test route all cables (transducer, power, Ethernet, accessories) to the control head mounting location. Leave enough cable length for installing the cable tray and for the control head tilt range.
8. After you have selected the mounting location, loosen the gimbal knobs and remove the control head from the gimbal bracket.

2 | Install the Gimbal Bracket

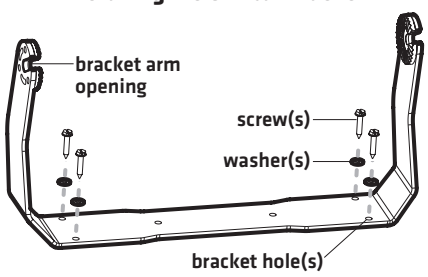
1. Place the gimbal bracket in the chosen position on the mounting surface. Mark the four outer mounting screw locations using a pencil or center punch.

   Make sure the bracket faces forward. The opening in the gimbal bracket arms must face the rear of the control head. See the illustration ***Assembling the Control Head and Bracket*** for more information.
2. Mark the four mounting screw locations using a pencil or center punch.
3. Set the gimbal bracket aside. Drill the four mounting screw holes using a 5/32" (4 mm) drill bit.
4. **Cable Hole:** Mark and drill a 1 1/4" (31.75 mm) hole 2" to 4" (50 to 100 mm) behind the bracket. You will use this hole for routing the cables to the control head in another section.
5. Proceed to ***Traditional Mount*** or ***Overhead Mount***.

Traditional Mount

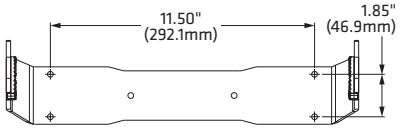
1. Place the bracket on the mounting surface aligned with the drilled holes.
2. Fill the mounting holes with marine-grade silicone sealant.
3. Place one flat washer onto each #10 x 1" wood screw. Insert the four screws with washers into the mounting holes and tighten them until they are secure (see the illustration ***Installing the Gimbal Bracket***). **Hand tighten only!**

Installing the Gimbal Bracket

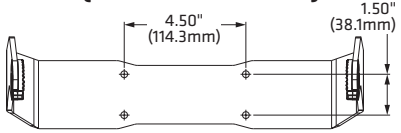


4. Place the control head back onto the gimbal bracket (see ***Plan the Mounting Location*** for details). Adjust the control head viewing angle as needed and tighten the gimbal knobs until the assembly is secured. **Hand-tighten only!**

Bracket Hole Pattern Measurements (APEX 19)



Bracket Hole Pattern Measurements (APEX 16 and APEX 13)



Overhead Mount

NOTE: Overhead and/or thin panels may require additional hardware (separate purchase required) to securely mount the control head.

1. Place the bracket on the mounting surface aligned with the drilled holes. Fill one hole with marine-grade silicone sealant.
2. Place one flat washer on a #10 x 1" wood screw and install the screw into the hole (see the illustration ***Installing the Gimbal Bracket***). Repeat for the remaining three holes.
3. Tighten each screw until it is secure.
4. Place the control head back onto the gimbal bracket (see ***Plan the Mounting Location*** for details). Adjust the control head viewing angle as needed and tighten the gimbal knobs until the assembly is secured. **Hand-tighten only!**

3 | Connect Power

It is important to review the following information before you start the power installation:

- **Cable Length:** A 6' (2 m) long power cable is included. You may shorten or lengthen the cable using 16 gauge multi-stranded copper wire. See the ***Recommended Power Cable Extension Information*** table for details.

Recommended Power Cable Extension Information

Extension Length	Wire Gauge
1 to 6 ft	18 AWG
6 to 12 ft	14 AWG
12 to 24 ft	12 AWG

Please consult a U.S. Coast Guard ABYC-approved wire gauge diagram or a certified NMEA Marine Electronics Installer.

- **Power Supply:** The control head must be connected to a 12 VDC power supply using the fuse size shown in the Required Fuse Size table.

Required Fuse Size

Model	Fuse Size	Fuse Type
APEX 13	5A	slow-blow or MDL equivalent
APEX 16	7.5A	slow-blow or MDL equivalent
APEX 19	7.5A	slow-blow or MDL equivalent

- **Fuse Panel or Battery:** The control head power cable can be connected to the electrical system of the boat at the fuse panel (usually located near the console), or directly to the battery. In order to minimize the potential for interference with other marine electronics, a separate power source (such as a second battery) may be necessary.

WARNING! Some boats have 24 or 36 Volt electric systems, but the control head MUST be connected to a 12 VDC power supply.

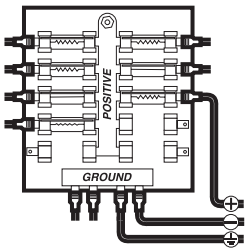
WARNING! Make sure that the power cable is disconnected from the control head at the beginning of this procedure.

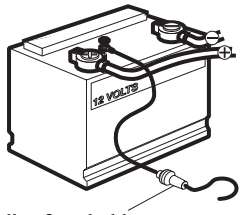
WARNING! Humminbird® is not responsible for over-voltage or over-current failures. The control head must have adequate protection through the proper selection and installation of the fuse size shown in the ***Required Fuse Size*** table.

1. Confirm that the power cable is disconnected from the control head.
2. Connect the power cable wires to the fuse panel or battery as follows:

   Fuse Terminal Connection: Use crimp-on type electrical connectors (not included) that match the terminal on the fuse panel. Attach the black wire to ground (–), and the red wire to positive (+) 12 VDC power. Install the required fuse (as shown in the ***Required Fuse Size*** table).

   Battery Connection: Install an inline fuse holder (not included) and the required fuse (as shown in the ***Required Fuse Size*** table). Attach the black wire to ground (–), and the red wire to positive (+) 12 VDC power.





Inline fuse holder

NOTE: For multi-control head installations and troubleshooting information, download the Power Troubleshooting Guide from our Web site at **humminbird.com**. Also, see the Operations Summary Guide to set the Low Battery Alarm and use Standby Mode to conserve power.

NOTE: If you have a trolling motor, it is important to keep the control head power and trolling motor power as separate as possible.

NOTE: If you cut the power cable and expose the shield/drain wire, do not connect the ground and shield/drain wires together to negative (-) 12V. Trim the shield close to the cable jacket/insulation.

4 | Route the Cables to the Control Head

1. **Sonar:** Proceed to your transducer installation guide and follow the instructions to install the transducer.
2. **Accessories (optional):** Install accessories using the guides provided with them.
3. **Ethernet (optional):** Install Ethernet cables and hardware using the Ethernet Installation Guide.

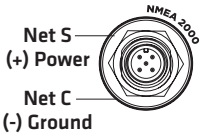
   NOTE: The installation guides for Ethernet and optional-purchase accessories are available with your product, and they can be downloaded from our Web site at **humminbird.com**.

4. Route all cables to the control head. Your boat may have a pre-existing wiring channel or conduit that you can follow. Route the cables as far as practical from the antenna cable of VHF radios or tachometer cables to reduce the possibility of interference.

   CAUTION! Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

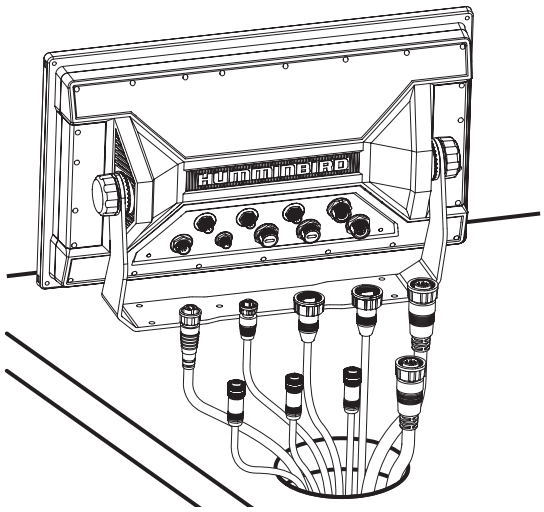
5. Pass the cables through the cable hole.

NMEA 2000® Port (optional)



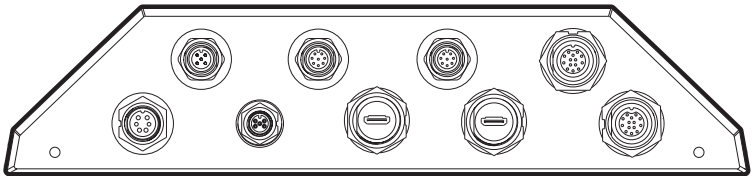
LEN = 2

Routing the Cables Behind the Bracket



6. Connect each cable to the appropriate ports on the control head. The ports are labeled, and the connectors are keyed to prevent incorrect installation.

APEX Connector Panel



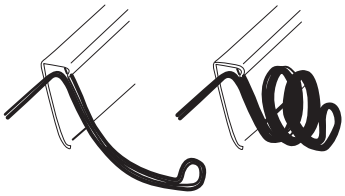
7. Hand-tighten the screw nut on each cable to secure the connection. See the illustration ***Routing the Cables Behind the Bracket***.

   Cover any unused ports to prevent potential damage.

8. Confirm there is enough cable slack to allow for the control head to pivot through its full tilt range and for connecting or disconnecting the cables. Use nylon cable ties (not included) to secure the cables and create a clean assembly.

   NOTE: If there is excess cable that needs to be gathered at one location, dress the cable routed from both directions so that a single loop is left extending from the storage location. Doubling the cable up from this point, form the cable into a coil. Storing excess cable using this method can reduce electronic interference.

Storing Excess Cable



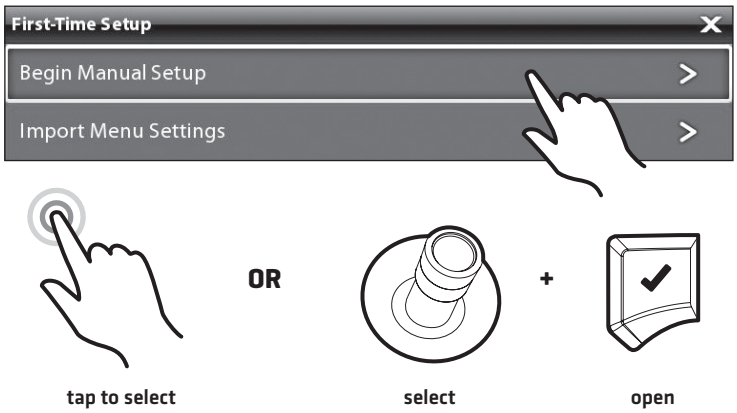
5 | Test the System Installation

1. Press the POWER key to turn on the control head. Select **Start Normal Mode**.

   When you power on the control head for the first time, use the Setup Guide to configure the unit. After initial setup, these settings can be adjusted from the Home screen > Settings or Setup Guide.

2. Select **Begin Manual Setup**.

   To import menu settings from another control head, download the APEX/SOLIX Operations Manual from **humminbird.com**.



3. Select **Angler mode**. Follow the on-screen prompts to configure the unit.

   Angler mode is the fastest way to configure the control head with less menu settings to get in the way. Use the smart defaults without the need to customize your unit.

   Custom mode allows you to see more menu settings for a detailed customization of your unit. For details, download the APEX/SOLIX Operations Manual from **humminbird.com**.

4. After the setup is confirmed, press the Home key.

5. Select Settings > Network > System Info.

   GPS: Confirm the GPS is listed as **Enhanced Fix** or **3D Fix**. Confirm that a latitude/longitude position is displayed in the **Position** digital readouts section.

   Accessories: Review the list to confirm accessories are listed as connected. If an accessory is not detected, check cable connections, confirm power is turned on, and review the installation guide. The temp/speed accessory will be detected only if the paddlewheel has moved.

   NOTE: You can access sensor port settings from Settings > Network. To turn on NMEA 0183 output, select NMEA 0183 sentences, set the baud rate, etc., select Settings > Network > NMEA 0183.

6. Press the Home key.
7. **Sonar Test:** Test and finalize the transducer installation using the instructions in the transducer installation guide.
8. When the transducer test and installation are completed, the APEX control head is ready for on-the-water operation.

   Use the **Home screen** to access settings, alarms, views, and tools. The options are determined by the equipment attached to the control head network.

   For operations information, see the Quick Start Guide included with your control head and the APEX/SOLIX Operations Manual (available for download at **humminbird.com**).

Contact Humminbird

Web site: humminbird.com
E-mail: service@humminbird.com
Telephone: 1-800-633-1468
Direct Shipping: Humminbird
Service Department
678 Humminbird Lane
Eufaula, AL 36027 USA

⚠ **WARNING!** Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.

⚠ **WARNING!** This device should not be used as a navigational aid to prevent collision, grounding, boat damage, or personal injury. When the boat is moving, water depth may change too quickly to allow time for you to react. Always operate the boat at very slow speeds if you suspect shallow water or submerged objects.

FCC NOTICE: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

⚠ **CAUTION!** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ENVIRONMENTAL COMPLIANCE STATEMENT: It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE: EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive (WEEE)" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

Suivez les directives de ce guide pour monter la tête de commande sur un support à cardan.

Préparation de l'installation

Lisez complètement les instructions de ce guide pour comprendre les directives avant de commencer l'installation.

Visitez notre site Web à humminbird.com pour plus d'informations et de ressources sur les installations de transducteurs. Visitez également **youtube.com/humminbirdtv** pour des vidéos d'information.

Matériel : En plus du matériel fourni avec la tête de commande, vous avez besoin d'un perceuse électrique et de forets, ainsi que de divers outils à main, tournevis à tête plate, un crayon, des lunettes de sécurité, un masque antipoussières, un agent d'étanchéité à base de silicone de qualité marine, de la graisse diélectrique (facultatif), des câbles de rallonge (facultatif), câbles Ethernet (facultatif), des câbles de l'accessoire (facultatif). Consultez également la section ***Connexion de la alimentation électrique*** pour voir le type de connexion, taille du fusible, et de l'équipement supplémentaire dont vous aurez besoin pour effectuer l'installation.

Accessoires et Ethernet : Les accessoires et l'équipement Ethernet sont disponibles à l'achat sur **humminbird.com**. Les guides d'installation accompagnent le produit ou il est également possible de les télécharger depuis notre site Web.

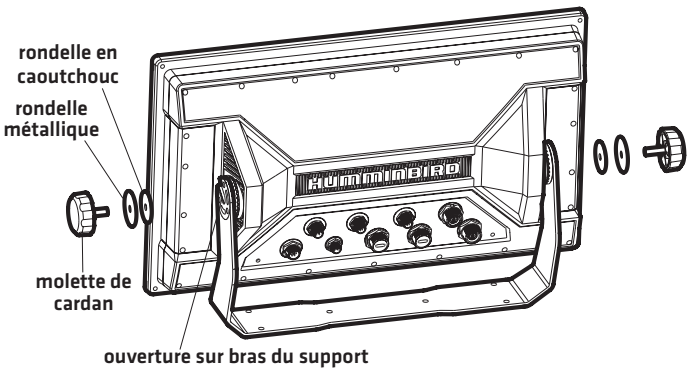
Présentation de l'installation

1 | Préparation de l'emplacement de montage

Assemblez provisoirement la tête de commande et choisissez le meilleur emplacement d'installation.

1. Placez une rondelle métallique sur chaque bouton de cardan.
2. Placez une rondelle en caoutchouc sur chaque molette de cardan.
3. Placez les molettes du cardan (avec rondelles) de chaque côté de la tête de commande. Serrez les molettes juste assez pour pouvoir faire glisser la tête de commande dans les bras du support.
4. Installez la tête de commande dans les bras du support. Confirmer l'ouverture dans les bras du support de cardan face à l'arrière de la tête de commande. Confirmer les cliquets sur le support et la tête de commande ensemble.

Assemblage de la tête de commande et du support

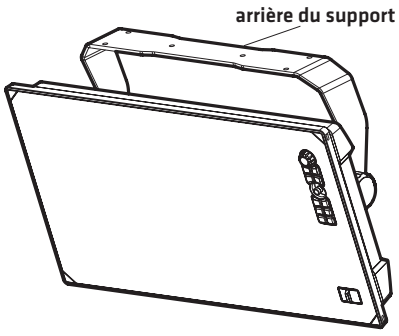


Si vous préférez monter le tête de commande en hauteur, faites pivoter le support au-dessus de la tête. L'ouverture dans les bras de support doit faire face à l'arrière de la tête de commande.

REMARQUE : Une installation sur une surface en hauteur ou très mince peut nécessiter des accessoires de montage supplémentaires (vendus séparément) afin que la tête de commande soit solidement installée.

5. Avec les doigts, serrez les molettes du cardan pour fixer la tête de commande sur le support.

Installation en hauteur



532752-1_A

APEX™ SERIES IN-DASH MOUNTING Installation Guide

Overview

Following are instructions for the in-dash mount installation of the APEX control head. We encourage you to read this guide before starting the installation, so you may understand the installation requirements.

Technical Support: If you find that any items are missing from your installation kit, visit our Web site at **humminbird.com** or call Humminbird® Technical Support at **1-800-633-1468**.

Supplies: In addition to the hardware supplied with your accessory, you will need a drill and various drill bits, a cutting tool for the dashboard material, various hand tools (including a 3/16" (4.78 mm) adjustable wrench and a #2 Phillips screwdriver for the front mount option or a 7/16" (11 mm) adjustable wrench for the rear mount option), safety glasses and dust mask, masking tape, and a towel or cloth.

WARNING! Do NOT use power tools to secure the hardware. We encourage you to read the installation instructions so you may understand the installation requirements.

NOTE: Product supplies and features are subject to change without notice.

1 | Plan the Mounting Location

Start by locating a suitable, flat area of the dashboard for mounting. Consider the following to find the best mounting location:

- **Interference:** The mounting location must provide adequate distance from electric motors or any equipment that may cause electronic interference.
- **Stability:** The mounting area should be protected from waves, shock, vibration, and water.
- **Depth:** The mounting area should have a depth of 4" (102 mm) for the front-mount installation and 5.5" (139.7 mm) for the rear-mount installation to allow space for the control head and cables.
- **Ventilation:** The area beneath the mounting surface should be well-ventilated.
- **Accessibility:** The location should be easily accessible for all cables to reach the ports on the back of the control head.
- **Multiple Control Heads:** If you plan to install more than one control head side by side, leave a minimum space of 1 7/16" (36.2 mm) between mounting holes. This will allow for 1/4" (7 mm) between control heads with the covers installed and space for the bracket under the dashboard. Take your measurement from the front, left or right side of the control head cut line. **See the template for more information.**

  NOTE: If a cable is too short for your application, extension cables are available. For assistance, contact Humminbird Technical Support.

2 | Cut the In-Dash Mounting Hole

To in-dash mount the APEX control head, start by placing the components on the surfaces where you intend to install them.

1. Review the instructions, measurements, and cutting options indicated on the In-dash Mounting Template.
2. Tape the template to the chosen in-dash mounting location.
3. Using the template, select the cutting method that is best for your boat:
   - Drill one entry hole away from the main cut line that is large enough to insert the blade of your cutting tool.

     OR
   - Using a 7/16" drill bit, drill the 4 corner holes (inside the main cut line) as shown on the template. Use one of the corner holes as an entry hole, or drill an additional entry hole away from the main cut line.

4. Carefully begin cutting toward the cut line, and continue cutting to the **inside of the line** around the template.
5. **Test the Mounting Hole:** Install the control head in the mounting hole to test the fit. Make adjustments to the mounting hole as needed. Remove the template when finished.
6. Thoroughly clean and deburr the mounting hole.

3 | Install the Control Head

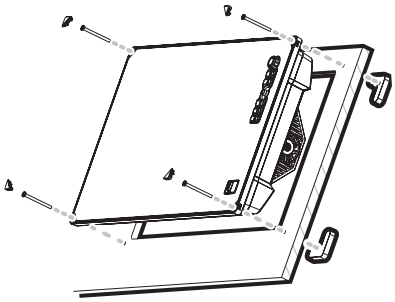
Follow the instructions in this section based on whether you are going to complete a front mount or rear mount installation.

Front Mount Installation

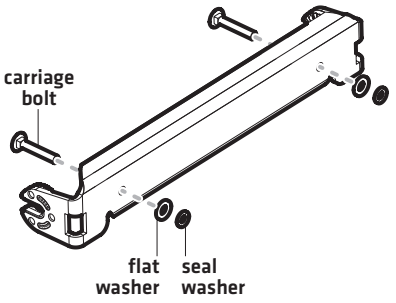
1. Insert a small tool (tip: a paper clip works well) behind each corner piece to pop out the corner cover (see the illustration ***Front Mount In-Dash Installation***). Set the corner covers aside.
2. From the front of the dashboard, with the control head screen facing out, carefully lower the control head into the mounting hole.
3. Press down lightly on the control head. Confirm the control head is seated flush against the dashboard. Make adjustments, as needed.
4. With the control head in place, use a transfer punch or pencil to mark the four corner screw holes to the dash.
5. Remove the control head from the dash and set it aside.
6. Use a 3/16" (4.78 mm) drill bit to drill the four corner-mount screw holes.
7. Insert a bolt into the drilled corner hole. Remove the tape backing from the L-bracket nut. From under the dashboard, begin to fasten the bolt to the L-bracket nut. Make sure the L-bracket nut is aligned with the dash cut-out, and lift the bolt to bring the L-bracket nut to the underside of the dash. Apply pressure to the L-bracket nut for 30 seconds to activate the adhesive tape, and then remove the bolt.
8. Repeat for the other 3 L-bracket nuts.
9. From the front of the dashboard, with the control head screen facing out, carefully lower the control head back into the mounting hole.
10. Apply a small amount of anti-seize to each bolt. Fasten a bolt into each corner hole on the control head until it contacts the bottom of the nut. **Hand-tighten only!**
11. Use a #2 Phillips screwdriver to tighten each bolt an additional 3/4 turn. **Hand-tighten only!**
12. Replace the four corner covers.

⚠ **WARNING!** Do NOT use power tools to secure the hardware.

Front Mount In-Dash Installation



Installing the Bolts

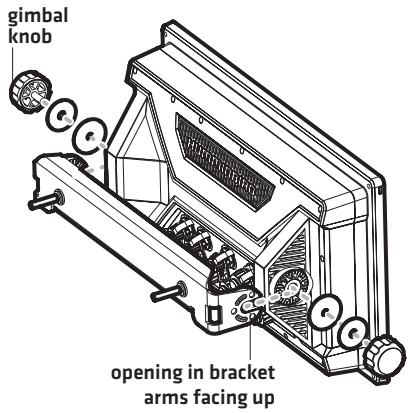


Rear Mount Installation

To install the in-dash mount bracket, you will need the gimbal knobs included with your control head.

1. Place the control head on a towel or cloth, with the screen facing down, on a stable and level surface.
2. See the illustration ***Installing the Bolts***. Install the carriage bolts (1/4" - 20) onto the bracket with the flat washer (1/4" x 3/4") and seal washer (1/4" x 1/2") in the order shown in the illustration. Hand tighten the washers fully until they are flat and secure on the bracket.
3. Line up the bracket arms with the ratchets on the side of the control head. The opening in the bracket arms should face up (away from the control head ports). Adjust the bracket so it is parallel with the control head screen. See the illustration ***Installing the Bracket***.
4. Install the gimbal knobs into each side of the control head. **Hand-tighten only!** See the illustration ***Installing the Bracket***.

Installing the Bracket



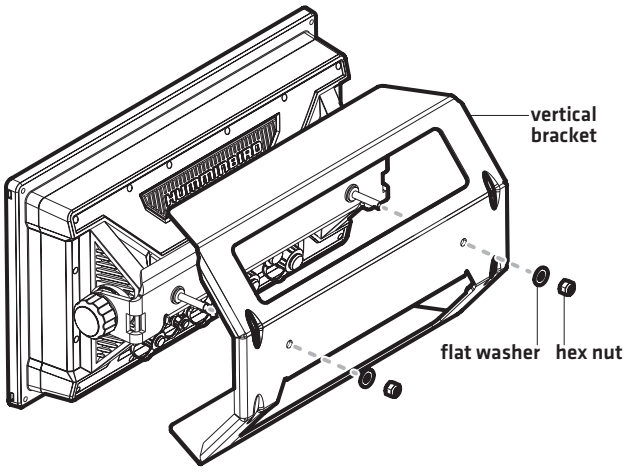
5. From the front of the dashboard, with the control head screen facing out, carefully lower the control head into the mounting hole.

   NOTE: If the control head will not fit through the mounting hole, remove one of the gimbal knobs and angle the control head into the mounting hole. Replace the gimbal knob before proceeding to step 6.

6. Press down lightly on the control head. Confirm the control head is centered and flush against the dashboard. Make adjustments, as needed.
7. From under the dashboard, insert the vertical bracket holes over the bolts. Ensure the top and bottom of the vertical bracket is evenly aligned and flush against the dash. See the illustration ***Installing the Vertical Bracket***.
8. Install a flat washer (1/4" x 3/4") and hex nut (1/4" - 20) onto each carriage bolt. See the illustration ***Installing the Vertical Bracket***. Use a 7/16" adjustable wrench to hand-tighten the nuts until the assembly is secured. Then tighten no more than 2 additional turns. **Hand-tighten only!**

   Do NOT over-tighten the hex nuts. The bracket should remain straight without bending.

Installing the Vertical Bracket



4 | Connect the Cables

In this step, you will route the cables to the control head connector panel.

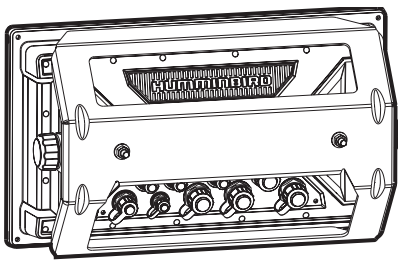
CAUTION! Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

1. Route the cables to the control head through the bottom opening in the vertical bracket. See the illustration ***Routing Cables to the Control Head***.
2. Connect each cable to the appropriate ports on the control head. The ports are labeled, and the connectors are keyed to prevent incorrect installation.
3. Hand-tighten the screw nut on each cable to secure the connection. See the illustration ***Hand-Tightening the Screw Nut***.

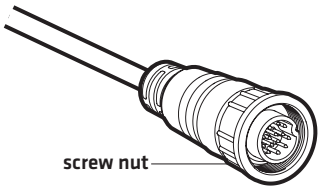
   Cover any unused ports with the tethered caps to prevent potential damage.

4. Your control head is ready for operation. See the Quick Start Guide to get started and download the APEX/SOLIX Operations Manual from our Web site at **humminbird.com**.

Routing Cables to the Control Head



Hand-Tightening the Screw Nut



1-Year Limited Warranty

We warrant the original retail purchaser that products made by Humminbird have been manufactured free from defects in materials and workmanship. This warranty is effective for one year from the date of original retail purchase. Humminbird products found to be defective and covered by this warranty will be repaired or replaced free of charge at Humminbird's option and returned to the customer freight prepaid. Humminbird's sole responsibility under this warranty is limited to the repair or replacement of a product that has been deemed defective by Humminbird. Humminbird is not responsible for charges connected with the removal of such product or reinstallation of replaced or repaired parts; or shipping charges to the factory or authorized service center (if outside the U.S.).

This warranty does not apply to a product that has been:

- Improperly installed;
- Used in an installation other than that recommended in the product installation and operation instructions, including commercial applications;
- Damaged or has failed because of an accident or abnormal operation;
- Repaired or modified by entities other than Humminbird.

Please retain your original receipt as a proof of the purchase date. This will be required for in-warranty service.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES ON THE PART OF HUMMINBIRD AND WILL BE THE CUSTOMER'S EXCLUSIVE REMEDY, EXCEPT FOR ANY APPLICABLE IMPLIED WARRANTIES UNDER STATE LAW WHICH ARE HEREBY LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. IN NO EVENT WILL HUMMINBIRD BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THE PRODUCTS.

Some states do not allow limitations on an implied warranty, or the exclusion of incidental or consequential damages, so the above exclusions may not apply to you. You may also have other rights, which vary from state to state.

Humminbird Service Policy

Even though you'll probably never need to take advantage of our incredible service policy, it's good to know that we back our products this confidently. We do it because you deserve the best. We will make every effort to repair your unit within three business days from the receipt of your unit at our factory. This does not include shipping time to and from our factory. Units received on Friday are typically shipped by the following Wednesday, units received Monday are typically shipped by Thursday, etc.

All repair work is performed by factory-trained technicians to meet exacting factory specifications. Factory-serviced units go through the same rigorous testing and quality control inspections as new production units.

After the original warranty period, a standard flat rate service charge will be assessed for each repair (physical damage and missing parts are not included). Any repairs made after the original warranty will be warranted for an additional 90 days after service has been performed by our factory technicians. You can contact Technical Support or visit our Web site to verify the flat rate repair fee for your product (visit the Product Support section):

http://www.humminbird.com

We reserve the right to deem any product unserviceable when replacement parts are no longer available or impossible to obtain. This Service Policy is valid in the United States only. This applies only to Humminbird products returned to our factory in Eufaula, Alabama. This Service Policy is subject to change without notice.

DOMESTIC (USA) CUSTOMERS:
PLEASE DO NOT RETURN THIS PRODUCT TO STORE FOR SERVICE

For all technical issues please call **1-800-633-1468**
or visit **humminbird.com**, click **SUPPORT**.

Please reference product serial number and
model number when contacting Humminbird.

Returning Your Unit for Service

Before sending your unit in for repair, please contact the factory, either by phone or by email, to obtain a Repair Authorization Number for your unit.

NOTE: Please do not return your Humminbird to the store for service.

Please have your product model name and serial number available before calling the factory. If you contact the factory by e-mail, please include your product model name and serial number in the e-mail, and use Request for Repair Authorization Number for your e-mail subject header. You should include your Repair Authorization Number in all subsequent communications about your unit.

For IN-WARRANTY service, complete the following steps:

- Obtain a Repair Authorization Number from Humminbird Technical Support.
- Tag product with your name, street address, phone number and your assigned Repair Authorization Number.
- Include a brief written description of the problem.
- Include a copy of your receipt (to show proof and date of purchase).
- Return product freight prepaid to Humminbird, using an insured carrier with delivery confirmation.

For OUT-OF-WARRANTY service, complete the following steps:

- Obtain a Repair Authorization Number from Humminbird Technical Support.
- Include payment in the form of credit card number and expiration date, or a money order. Please do not send cash.
- Tag product with your name, street address, phone number and your assigned Repair Authorization Number.
- Include a brief written description of the problem.
- Return product freight prepaid to Humminbird, using an insured carrier with delivery confirmation.

Contact Humminbird

Web site:	humminbird.com
E-mail:	service@humminbird.com
Telephone:	1-800-633-1468
Direct Shipping:	Humminbird Service Department 678 Humminbird Lane Eufaula, AL 36027 USA

WARNING! Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.

NOTE: Product specifications and features are subject to change without notice.

ENVIRONMENTAL COMPLIANCE STATEMENT: It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE: EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive (WEEE)" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.