



RHODAN
MARINE SYSTEMS

HDGPS ANCHOR+

OWNER'S MANUAL

**Wireless Remote Control
GPS Guided Trolling Motor**

Model GPS-W-BM-80-54

or

Model GPS-W-BM-80-60

**Rhodan Marine Systems
8274 Blaikie Court
Sarasota, Florida
1-800-RHODAN1**

Congratulations on choosing this unique product. The Rhodan Marine Systems _{HD}GPS ANCHOR⁺ should dramatically add to your angling enjoyments.

Powerful and quiet, this precision engineered product will automatically keep your fishing boat positioned at your chosen fishing spot or at your command, maintain the boat on a chosen trolling path, leaving you free to concentrate on the fishing.

<i>Model GPSGW-BM-80 Specifications</i>	
Thrust rating	80 pounds
Operating Voltage	24 Volts DC
Amperage	50 Amps Max
Propeller	3-Blade Weedless
Shaft Length	60" (-60) or 54 " (-54)

Note: This model is designed for use on 17 to 21 foot sport fishing boats. It may be too powerful for smaller boats and may not have sufficient power for larger boats.

FCC Compliance Statement

FCC ID: XA7-RMS-FOB1

FCC NOTICE: 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.
- It is strongly recommended that the TV be plugged into a separate wall outlet.

This equipment has been verified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception.

The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

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.

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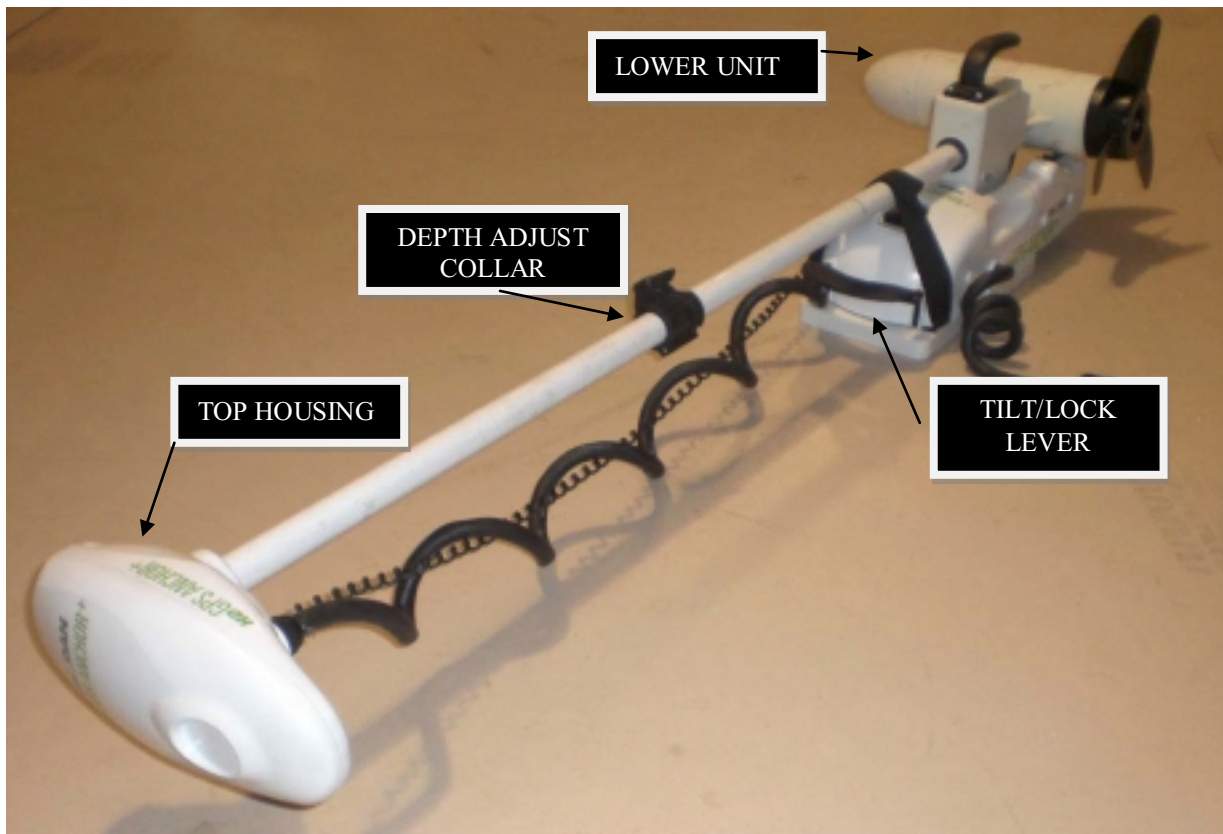
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**Installation procedures will be found in appendix
A.**

Please follow them carefully.

SYSTEM FEATURES



GETTING STARTED

The GPS ANCHOR requires the use of a wireless remote control fob for user control. Please refer to the Wireless Control section for additional information.



It is recommended that you apply power to the GPS ANCHOR early in the trip so that the embedded GPS unit can obtain a navigation fix and download an up-to-date satellite almanac.

The system is equipped with a “Tilt” sensor that prevents the propeller from running in the stowed position.

The system will operate in Manual Mode immediately when powered up and deployed. The Anchor Mode and Tracking Mode will be available after approximately 30 seconds allowing the unit to acquire a GPS fix.



The unit will emit 4 rapid “beeps” to indicate that it has acquired a GPS fix.

The unit will achieve its maximum accuracy after approximately 15 minutes once the GPS has downloaded a new satellite almanac.



DEPLOYING THE UNIT

Release the Velcro-safety strap and step on the Tilt/Lock lever to release the locking collar. Slide the motor forward until the lower unit is out of the mounting bracket.



Carefully tilt the unit forward and lower the motor to the desired depth (about one foot below the surface). The motor should be pointed dead ahead with the prop to the facing the boat's stern. Release the Tilt/Lock Lever.



Verify that unit is securely latched in the deployed position with the Tilt/Lock Lever

Slide the depth-adjusting collar down the shaft until engaged with the steering mechanism then hand tighten the adjusting knob to secure the unit.



STOWING THE UNIT



Always stow the GPS ANCHOR properly on the deck in its latched horizontal position when not in use.

Step on the Tilt/Lock Lever. Grasping the head of the unit, pull it up and towards the boat's stern until the bottom unit rests securely on the ramp.

Release the Tilt/Lock Lever and ensure that it has snapped into place. Use the Velcro safety strap to secure it in place.



Verify that unit is securely latched in the stowed position with the Tilt/Lock Lever. The system will automatically turn off all motors and will not respond to wireless remote commands when stowed.

WIRELESS CONTROL



The HD GPS ANCHOR+ is controlled wirelessly using the 8 buttons on the included Remote Control fobs.

(4) Buttons are directional controls. These buttons can be identified as the up, down, left, and right arrows. See the table below for more information

(3) Buttons are used to dictate the system mode. The “M” button selects Manual Mode, the “A” button selects Anchor Mode, and the “T” button selects Tracking Mode.

The “Off” button cancels any previous mode selection and zeroes the thrust.

Directional Control Button Functions

SEE “OPERATIONAL MODES” SECTION FOR MORE INFORMATION

Manual Mode	Steer unit & Increase/Decrease thrust
Anchor Mode	Jog anchor site in 5-foot increments
Tracking Mode	Adjust GPS Track & Increase/Decrease thrust



The Remote Control Fob is designed to float but it is recommended that it be used with the supplied lanyard to minimize the risk of loss or damage due to dropping. Refer to Appendix C if replacing a fob.

MODES OF OPERATION

The three modes of operation are as follows:

- 1) Manual Mode
- 2) Anchor Mode
- 3) Tracking Mode

Note: The “Off button” will re-center the steering and reduce the trolling motor propeller speed to zero.



The following pages describe the Operational Modes of the _{HD}GPS ANCHOR⁺. It is recommended that all system operators review this manual in its entirety prior to use.



Any mode may be entered at any time while operating the unit in the deployed position. Verify that the unit is securely locked into position before using. Refer to the “Deploying the Unit” section for more information.



Securely stow the unit when not in use. Refer to the “Stowing the Unit” section for more information. The system will automatically turn off all motors and will not respond to wireless remote commands when stowed.

MANUAL MODE

In the Manual Mode the GPS ANCHOR behaves much like a conventional trolling motor.

The Manual Mode allows the user to control the trolling motor's direction and thrust level using the directional controls on the wireless fob. To place the system in Manual Mode, press the button with the "M" symbol on the wireless fob.



The unit will emit 1 "beep" to indicate that it has entered Manual Mode.

FORWARD OPERATION

Pressing the Up-Arrow button when the unit is stopped places the unit in "Forward" and begins to increase the thruster's forward speed. The Down-Arrow button decreases the thruster's forward speed.



The unit will "beep" when the thruster reaches 100% forward speed or when it is stopped.

REVERSE OPERATION

Pressing the Down-Arrow button when the unit is stopped places the unit in "Reverse" and begins to increase the thruster's reverse speed. The Up-Arrow button decreases the thruster's reverse speed.



The unit will "beep" when the thruster reaches 100% reverse speed or when it is stopped.

STEERING

Pressing the Left-Arrow and Right-Arrow buttons cause the trolling motor to turn left or right respectively. The steering travel is limited to avoid wrapping up the system power cord.

ANCHOR MODE

The Anchor Mode automatically controls the steering and thruster speed to maintain the position of the boat's bow, acting as a "Virtual Anchor". The operator can easily move the "Anchor Location" by using the directional controls on the wireless fob. To place the system in Anchor Mode, press the button with the "A" symbol on the wireless fob.



The unit will emit 1 "beep" to indicate that it has entered Anchor Mode. The unit will emit 2 "beeps" and exit this mode if there is no GPS fix.

Note: *The boat will slowly swing downwind or down current and go into trail with the bow generally pointed into the disturbing wind or current. Slowly approaching the desired location from downwind or down current prior to pressing the Anchor button is recommended.*

MOVING "JOGGING" THE ANCHOR LOCATION

Pressing any of the directional controls on the wireless fob (Up, Down, Left, or Right) moves the "Anchor Location" in 5-foot increments relative to the boat's heading. For example, pressing the Up-Arrow once moves the "Anchor Location" 5-feet out in front of the boat's bow.



The unit will emit 1 "beep" each time the Anchor location is moved



The embedded system computer will be operating the trolling motor causing the bow of the boat to move as needed to maintain its location in this mode. Unexpected movement of the boat may tend to unbalance you. Be cautious until you have become familiar with the system dynamics.

TRACKING MODE

The Tracking Mode automatically controls the steering to maintain a constant course track, acting as an “Autopilot”. The operator can adjust the speed or track heading by using the directional controls on the wireless fob. To place the system in Tracking Mode, press the button with the “T” symbol on the wireless fob.



The unit will emit 1 “beep” to indicate that it has entered Tracking Mode. The unit will emit 2 “beeps” and exit this mode if there is no GPS fix.

Note: The direction the boat is pointed when this mode is selected will become the “Tracking Course”. The thruster will pull the bow of the boat along this course in a straight line. The boat itself may seem to point somewhat “off track” due to cross-wind or cross-track currents.

ADJUSTING THE TRACKING SPEED

The unit will maintain its previous speed if Tracking Mode is selected while the unit is in Manual Mode. Otherwise, the unit will gradually ramp to 50% forward speed to maintain the track. Pressing the Up-Arrow button increases the thruster’s forward speed. The Down-Arrow button decreases the thruster’s forward speed. Reverse operation is disabled in this mode.



The unit will “beep” when the thruster reaches 100% forward speed or when it is stopped.

ADJUSTING THE TRACKING COURSE

The “Tracking Course” may be adjusted in 10-degree increments by pressing the Left or Right Arrow buttons on the wireless fob.



Speed may need to be increased to overcome cross-winds and cross-currents to stay “on-track”

APPENDIX A

INSTALLATION PROCEDURE

REFER TO APPENDIX B AFTER SYSTEM INSTALLATION FOR RECOMMENDED CALIBRATION PROCEDURES



The GPS-W-80 model has been designed for use on 16 to 21 foot sport fishing boats. Boats larger than 21-feet may require higher thrusting motors. Installations on boats smaller than 16-feet may result in overly aggressive movements which can lead to injury or even death.



It is recommended that a trained technician install the GPS Anchor. Contact Rhodan Marine Systems for a list of approved installers. Improper installation can lead to injury or even death. It is the responsibility of the installer to verify proper installation.



DO NOT connect the _{HD}GPS ANCHOR⁺ to a power source until installation is completed.



The _{HD}GPS ANCHOR⁺ utilizes sensors which can be affected by nearby magnetic fields. DO NOT install unit with or near anything that produces a magnetic field (steel, magnets, etc.)

Mechanical Installation Procedures:

1) Remove the Plastic Side Panels:

- a. Each panel is secured with (2) #3 Phillips stainless steel screws.
- b. Remove the screws and panels then set them aside.

2) Remove the Rear Plastic Cover:

- a. The rear cover is secured using (2) #3 Phillips stainless steel machine screws.
- b. Remove the screws and gently lift the cover off being careful not to damage the black cable between the cover and the black encapsulated computer module.
- c. If connected, unscrew the black cable from the computer module by grasping the gold connector and rotating counter-clockwise.
- d. Set the cover aside.



Take care to not damage the black cable during this process!

3) Determine the Mounting Plate Position:

- a. **STOWED POSITION:** Verify that the trolling motor head and shaft do not block any more deck area than necessary. The mounting plate is typically mounted about 30 degrees on the “port” side of the vessel.
- b. **DEPLOYED POSITION:** Verify that the shaft is vertical and as near the centerline of the boat. Ensure that there is ample clearance between the shaft and the bow when the unit is in the deployed position (1-2”).
- c. Mark the location of (4) mount holes using the mounting plate as a template. Remove the unit from the boat’s deck and set aside.



Verify that the mounting hole locations are placed in a location on the deck with enough room to install the mounting screws and washers without penetrating the hull.

4) Drill Mounting Holes:

- a. **Use a 5/16" (8mm) drill bit to drill through the deck at each mounting hole location.**
- b. **Clear the holes of any debris.**



Rhodan Marine recommends using trolling motor isolation bolts. Verify that hole is large enough to accommodate isolation bolts if used.

5) Fasten the Mounting Plate to the Boat:

- a. **If isolation bolts are used, push (4) isolation nuts through each of the mounting holes.**
- b. **Place the trolling motor back on the deck and align the holes on the mounting plate with the holes (isolation nuts) on the deck.**
- c. **Install the (4) stainless steel bolts through each mounting hole (isolation nut) using a #3 phillips screwdriver.**
- d. **If isolation bolts are NOT used, install (4) stainless steel washers and nuts on the bottom side of the deck.**
- e. **Tighten each bolt securely.**

6) Reinstall the Plastic Covers:

- a. **Reconnect the black cable on the Rear Plastic Cover to the computer module by screwing the cable's gold connector onto the module's gold connector. Hand tighten the connection.**
- b. **Reinstall the Rear Plastic Cover on the trolling motor being careful to not damage any of the wires.**

RHODAN _{HD}GPS ANCHOR⁺

- c. Secure the cover onto the motor using the (2) #3 Phillips stainless steel machine screws.**
- d. Reinstall the (2) plastic side panels. Each panel is secured with (2) #3 Phillips stainless steel machine screws.**

Electrical Installation Procedures:



The _{HD}GPS ANCHOR⁺ requires 24 Volts DC to Operate. Typically, (2) 12V deep-cycle marine batteries are used. Batteries produce and contain harmful materials that may result in personal injury and/or property damage if improperly used. Refer to your battery manufacturer's guidelines for charging, discharging, storage and care instructions.



Be sure all switches/circuit breakers are in the OFF position and fuses are removed when making battery connections. Failure to do so may result in personal injury and/or property damage.



DO NOT connect the trolling motor batteries to any other device, including the main outboard engine.



Verify that all conductors and connectors are rated for at least 50 Amperes and 24VDC. All circuits MUST be protected using a 50A fuse or circuit breaker in series with the positive lead. Failure to do so may result in personal injury and/or property damage.

1) Install Power Conductors:

- a. Determine the battery mounting location. Space must be large enough to house at least (2) 12VDC deep-cycle marine batteries. Batteries should be positioned so that they do not unbalance the boat.**
- b. Refer to your battery manufacturer's guidelines for more information.**
- c. Hook batteries up as shown below using #6 to #8 AWG marine grade conductors. All connectors, splices, switches, and conductors should be rated for at least 50A at 24VDC.**



Install a 50A fuse/circuit breaker in-line with the positive lead as shown. Rhodan Marine Systems suggests using a 50A circuit breaker with a manual switch as a disconnecting means.

2) Install the 24V 50 Amp Receptacle:

- a. Determine location on the deck for receptacle installation. The location of the receptacle should be close to the trolling motor so that the plug can easily mate with the receptacle. Verify that there is enough room and accessibility to install the receptacle without penetrating the hull.**
- b. Mark the receptacle hole location on the deck.**
- c. Using a hole saw, bore the required hole in the deck.**
- d. Route wiring conductors (#6 to #8 AWG) from the batteries to the receptacle hole location. Feed wires up through the deck.**
- e. Securely connect conductors to the back of receptacle as shown.**
- f. Install the receptacle in the hole. Using the plastic nut and washer, secure it in place on the backside of the deck.**



The _{HD}GPS ANCHOR⁺ comes equipped with a marine trolling motor connector rated for 24VDC at 50A. Rhodan Marine Systems recommends using this plug and receptacle for battery connections. Always connect the unit to the batteries through an accessible plug or switch rated for 24VDC at 50A.

PROPELLER INSTALLATION

INCLUDED:

1. Three Bladed Propeller
2. Propeller Nut
3. Shear Pin
4. Propeller Nut Key



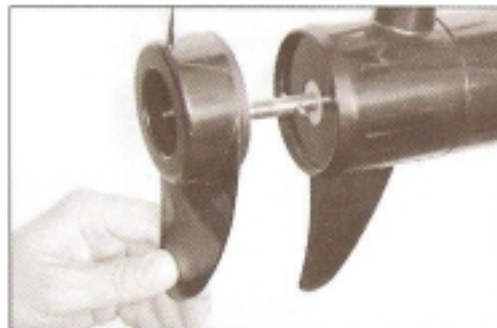
Always verify that the trolling motor power is disconnected before installing or cleaning the propeller. Failure to do so may result in personal injury.



Never strike any part of the motor with a hammer. This may cause damage to the motor armature, which is not covered by the warranty.

INSTALLING THE PROPELLER:

1. Slide the Three Bladed Propeller onto the motor's shaft so that it rests against the motor housing.
2. Install the Propeller Nut by threading it onto the motor's shaft.
3. Tighten the Propeller nut using the Propeller Nut Key.
4. Install the Shear Pin in the hole near the end of the motor's shaft.



APPENDIX B

SYSTEM CALIBRATION



For optimal system performance, it is recommended that these procedures be conducted at least once after installation; however, the _{HD}GPS ANCHOR⁺ will perform adequately without these calibrations.

MOUNTING ANGLE CALIBRATION:

This calibration records the installed mounting angle of the unit.

1. Select the Manual Mode
2. Use the Left and Right Arrow buttons on the wireless fob to steer the unit so that the thruster is aimed dead-ahead.
3. Simultaneously press both the Up and Down Arrow buttons.



The unit will emit (8) rapid “beeps” to indicate that it has updated the system mounting angle and has returned to Manual Mode.

HARD IRON COMPASS CALIBRATION:

This calibrates the system for stray magnetic fields around the unit.

1. Select the Manual Mode
2. Use the directional arrows on the wireless fob to increase the speed to a modest thrust level and steer to 90 degrees in either direction.
3. Simultaneously press the Left and Right Arrow buttons.



The unit will emit (8) rapid “beeps” to indicate that it has entered the calibration

4. Steer the boat to make two complete circles.
5. Simultaneously press the Left and Right Arrow buttons.



The unit will emit (8) rapid “beeps” to indicate that it has compensated for hard iron compass effects and has returned to Manual Mode.

MAINTENANCE AND STORAGE



It is recommended that the following steps be taken after each use. Adhering to these recommendations can greatly increase the life of the unit. Failure to properly maintain the unit may void the warranty and can result in system damage, personal injury, and property damage.

- Ø **Rinse off any salt water deposits and wipe the motor down with a clean cloth soaked in warm water. Do not use a pressure washer to clean the unit.**
- Ø **Check that the propeller is clear of any fishing line or weeds.**
- Ø **Use the prop nut tool to ensure the prop nut is properly secured.**
- Ø **Lubricate all moving parts with a non-aerosol lubricant.**
- Ø **Clean battery terminals regularly and check for loose terminal nuts.**
- Ø **Store in a well-ventilated, dry area**
- Ø **Do not leave the motor outside in the elements, especially in cold winter and/or saltwater environments. Long exposure to sub-zero temperature will reduce the strength of the permanent magnets of the motor and result in reduced thrust.**
- Ø **Never use chemicals (alcohol, solvents, and acids) on any of the system components.**
- Ø **Use a Vinyl UV protector periodically on the power cables to avoid excessive sun damage.**
- Ø **Periodically check for loose connections and/or excessive corrosion.**

REPLACING A WIRELESS REMOTE CONTROL FOB



Your _{HD}GPS ANCHOR⁺ was shipped with (2) fobs that are preprogrammed to work exclusively with your unit. If you have lost both Fobs, you may order replacements by contacting Rhodan Marine Systems. The following procedure must be performed to program a new fob to your _{HD}GPS ANCHOR⁺

TO PROGRAM A NEW WIRELESS FOB:

- 1) Power up the unit in the stowed position**
- 2) Within 10 seconds, deploy the unit**
- 3) Within 10 seconds, stow the unit**
- 4) Within 10 seconds, deploy the unit once again**



The unit will begin “beeping” indicating that it is ready to learn new wireless fobs

- 5) Press any button on the new fob within 20 seconds**
- 6) When the unit stops beeping, the new fob will be learned by your system and is ready to be used.**

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES AND/OR SOLUTIONS
Motor is shaking	<ul style="list-style-type: none"> ∅ Check for line or weed fouling of the propeller. ∅ Check Prop and Prop Nut ∅ Check to see if propeller shaft is bent ∅ The motor bearings or bushings may be worn out.
Loss of Speed	<ul style="list-style-type: none"> ∅ Check battery condition. Recharge and test for a bad cell. ∅ Check battery connections for corrosion ∅ The power wiring from the battery to the motor may be too small. Use #6 AWG.
System does not respond to wireless commands	<ul style="list-style-type: none"> ∅ Verify that unit is locked in the deployed position ∅ Cycle power off & back on ∅ Replace battery in wireless fob ∅ Follow Wireless Fob replacement procedures ∅ Contact Rhodan Customer Support
System will not Anchor or Track	<ul style="list-style-type: none"> ∅ Allow at least 1-minute for system to acquire a GPS fix. Listen for (4) beeps indicating good GPS signal. ∅ Make sure that nothing is blocking the sky view of the GPS antenna
After selecting a mode, system beeps twice and then does nothing	<ul style="list-style-type: none"> ∅ Battery voltage is low ∅ Check all connections ∅ Recharge battery and test for a bad cell
Battery Drains	<ul style="list-style-type: none"> ∅ A small drain will be imposed on the system batteries if powered-up when not in use ∅ Always unplug the system when not in use

RHODAN MARINE SYSTEMS 12 MONTH WARRANTY

Product Warranty

All _{HD}GPS ANCHOR⁺ Trolling motors produced by Rhodan Marine Systems that have been under normal and proper usage are warranted to be free of manufacturing defects for a period of one year after date of purchase.

CUSTOMER SERVICE

Have your unit serial number ready and call

1-800-RHODAN1 1-800-746-3261

We take pride in providing good service!

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