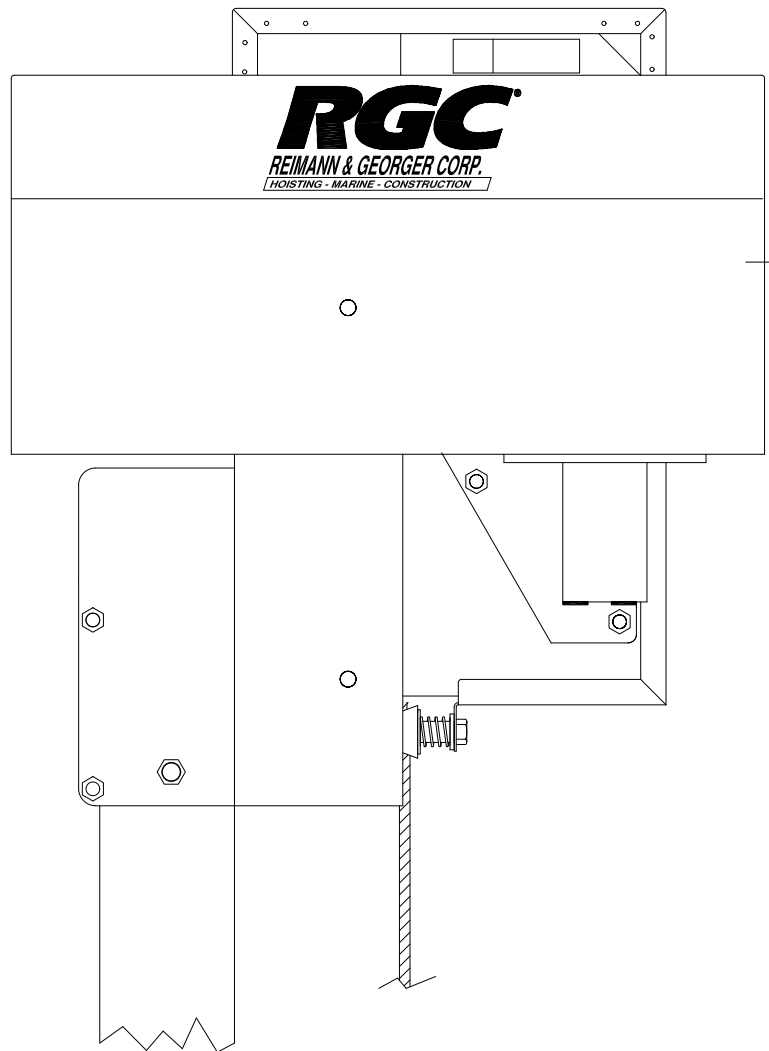




VL DIRECT DRIVE-HD INSTRUCTIONS

(Applies to P/N's 3710100 & 3710200)



REIMANN & GEORGER CORPORATION
MARINE PRODUCTS
P/N 6112038

BUFFALO, NY
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1 SAFETY

1.1 INTRODUCTION

Your Reimann & Georger Corporation Marine Products heavy duty 110V AC direct power drive mounts to the winch side to lift your boat out of the water. The exclusive right angle design minimizes the intrusion of dock space. A Remote Control option is available which is covered in a separate manual for this unit.

Your power drive is well-designed and well-built. However, like any other equipment, it can malfunction or become hazardous in the hands of an inexperienced and/or untrained user. Therefore, read this manual and your related vertical lift manual thoroughly before operating the power drive to provide maximum safety for all operating personnel, and to get the maximum benefit from your equipment.



WARNING:

AN INSTALLED POWER DRIVE BECOMES AN INTEGRAL PART OF THE ASSOCIATED VERTICAL LIFT. THEREFORE, DO NOT USE THE POWER DRIVE TO OPERATE THE LIFT WITHOUT STUDYING BOTH THIS MANUAL AND THE VERTICAL LIFT MANUAL. FAILURE TO DO THIS CAN LEAD TO MISUSE OF THE DRIVE AND/OR LIFT WITH RESULTING DAMAGE AND/OR PERSONAL INJURY. CONTACT YOUR RGC® MARINE DEALER IF YOU HAVE ANY QUESTIONS.

1.2 SAFETY DEFINITIONS

A safety message alerts you to potential hazards that could hurt you or others or cause property damage. The safety messages or signal words for product safety signs are **DANGER**, **WARNING**, and **CAUTION**. Each safety message is preceded by a safety alert symbol and is defined as follows:

DANGER: Indicates an imminently hazardous situation which, if not avoided, **will** cause death or serious injury. This safety message is limited to the most extreme situations.

WARNING: Indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices and property-damage-only accidents.

1.3 EQUIPMENT SAFETY LABELS

These labels warn you of potential hazards that could cause injury. Read them carefully. If a label comes off or becomes illegible, contact a Reimann & Georger Corporation dealer for a replacement.

1.4 INSTALLATION SAFETY

1. Do not install or use the drive if it shows any signs of damage.



WARNING:

THE POWER DRIVE AND SUPPLY LINE MUST BE INSTALLED AND INSPECTED BY A CERTIFIED ELECTRICIAN IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. BECAUSE WATER AND ELECTRICITY ARE POTENTIAL SAFETY HAZARDS, THIS INSTALLATION MUST INCLUDE A PROPERLY WORKING GROUND FAULT CIRCUIT INTERRUPTER. (G.F.C.I.)

2. Insure that all bolts and nuts are fastened securely prior to operation.
3. Do not weld or otherwise modify any part of the drive assembly. Such alterations may damage the drive and/or the winch and void the associated warranties.

1.5 OPERATING SAFETY

1.5.1 General

1. Before allowing anyone to operate the drive, be sure they fully understand the proper operating procedure and the use of all controls and connections for both the drive and the lift.
2. Completely remove any user or dealer installed locking devices before operating the lift.
3. Do not operate the drive and the lift under the influence of drugs, alcohol, or medication.
4. Do not exceed the rated maximum capacity of the lift. This can damage the drive, lift and/or boat with resulting serious personal injury.
5. Never allow anyone into the boat when suspended in the lift.
6. Never operate the drive without the cover installed over the drive assembly. Keep fingers and clothing clear of all moving parts of the lift and direct drive.
7. Do not attempt to make any adjustments on the lift or drive during operation.
8. Disconnect and lock out the power source when not using the drive to prevent unauthorized use.
9. Never use the drive installation or any part of the lift to hang or store any auxiliary equipment such as boating hardware.

1.5.2 Safety When Raising the Boat

1. The power drive shaft must turn clockwise to raise the platform. The brake pawl on the winch must click, indicating that the brake is operative.
2. Do not try to raise the boat beyond the maximum lifting height of the platform. This can cause lift and drive damage.



WARNING:

IF THE POWER DRIVE SHAFT TURNS COUNTERCLOCKWISE TO RAISE THE PLATFORM, YOU HAVE REEVED THE WINCH INCORRECTLY. THE DRIVE WILL IMMEDIATELY ENCOUNTER STRONG RESISTANCE WHICH CAN DAMAGE THE DRIVE AND/OR WINCH AND BREAK THE CABLE.

1.5.3 Safety When Lowering the Boat

1. The power drive shaft must turn counter-clockwise when lowering the platform.



WARNING:

IF THE DRIVE SHAFT TURNS CLOCKWISE TO LOWER THE PLATFORM, YOU HAVE REEVED THE WINCH INCORRECTLY. THE BRAKE PAWL WILL NOT BE EFFECTIVE WHICH CAN CAUSE AN UNCONTROLLED SPIN-DOWN OR “FREEWHEEL” OF THE WINCH SHAFT. IF FREEWHEELING OCCURS, NEVER TRY TO STOP IT.

2. Counter-clockwise rotation of the power drive shaft allows the self-activating brake mechanism to provide a controlled lowering of the platform.



WARNING:

NEVER RELEASE THE BRAKE PAWL OF THE WINCH. THIS CAN TRIGGER AN UNCONTROLLED SPIN-DOWN OR “FREEWHEEL” OF THE WINCH SHAFT.

3. Do not continue lowering the platform after the boat floats freely. Excessive slack in winch cable may cause binding.

2 INSTALLATION AND SETUP

The following instructions apply to the direct drive only. Instructions for the optional remote control panel are in the manual specifically for this item.

2.1 PRE-INSTALLATION CHECKS

1. Ensure that the vertical lift has been properly installed as described in your lift manual.
2. Check that the winch is reeved properly. Do not install the direct drive until the winch is reeved as described in your lift manual.
3. Do not install or use the drive if it shows any signs of damage.
4. Do not weld or otherwise modify any part of the drive assembly. Such alterations may damage the drive and/or the winch and void the associated warranties.
5. Two people will be needed to mount this drive onto the winch. The following precautions must be observed when lifting any part of this equipment:
 - a. Be sure of your footing.
 - b. Bend your knees and lift with your legs.
 - c. Hold the equipment section close to your body when lifting.



WARNING:

THE DRIVE IS TOO HEAVY TO SAFELY MOUNT IT SINGLE-HANDEDLY. ATTEMPTING THIS CAN CAUSE EQUIPMENT DAMAGE AND/OR PERSONAL INJURY.

6. Tools required for installing this drive. Two 3/4" wrenches, two 9/16" wrenches, one 1/2" wrench, one 9/32" wrench, one 3/4" deep wall socket with ratchet, and one #2 Phillips screwdriver.



WARNING:

DO NOT REMOVE THE BRASS WASHER FROM THE WINCH INPUT SHAFT. THE SPRING LOADED WINCH BRAKE PAWL MUST REMAIN ENGAGED DURING THE POWER DRIVE INSTALLATION.

2.2 WINCH INPUT COUPLER INSTALLATION

1. **Refer to Figure 2-1**, screw the acme coupler (8) clockwise onto the winch input shaft. The coupler must pinch the brass washer and brake sprocket tightly against the friction disk.
2. Verify that the brake pawl is engaged on the brake sprocket.
3. Install 1/2" washer (E) onto the end of the input shaft.
4. Install and securely fasten the 1/2"-20 locknut (G) onto input shaft. Tighten using a 3/4" socket/ratchet.

2.3 MOUNTING THE DIRECT DRIVE

1. Unpack the drive by removing the 5/16 X 3/4 bolt from the mounting plate to which the motor is attached. Do not remove the 1/4 X 1" bolt from the wood frame.
2. Refer to Figure 2-1, remove the 3/8 X 1" bolt, nut, and washer, from the direct drive mounting bracket.
3. Remove from the winch, the 3/8 nuts and washers off both the 3/8 X 1" carriage bolt that is pressed into the winch wall, and the 3/8 X 6-1/2" bolt that holds the winch wall spacer. DO NOT remove either of the 3/8 bolts.
4. Insert rubber spider onto direct drive coupler.
5. Make sure the fingers on the direct drive and winch shaft couplers are properly aligned. You may need to turn the winch shaft coupler to do this.
6. Lightly moisten rubber spider with water to assist in mating the couplers.
7. Mount the direct drive assembly to the winch as shown. Re-install and hand tighten washers and nuts (removed in step 3) onto the winch supplied bolts. Install the 3/8 x 1" bolt (A), washers (C & D), and nut (F) supplied with mounting bracket, from the inside of winch wall to outside of mounting bracket. Lightly fasten.
8. Position mounting bracket for best alignment, then securely fasten all 3/8 nuts.
9. Using a 9/32" wrench, remove from reducer the installed 1/8" shipping plug (red pipe plug). Install the vent plug (N) supplied with unit.



CAUTION:

FAILURE TO INSTALL SUPPLIED VENT PLUG COULD, IN PROLONGED USE, BLOW THE REDUCER SEALS AND VOID YOUR WARRANTY.

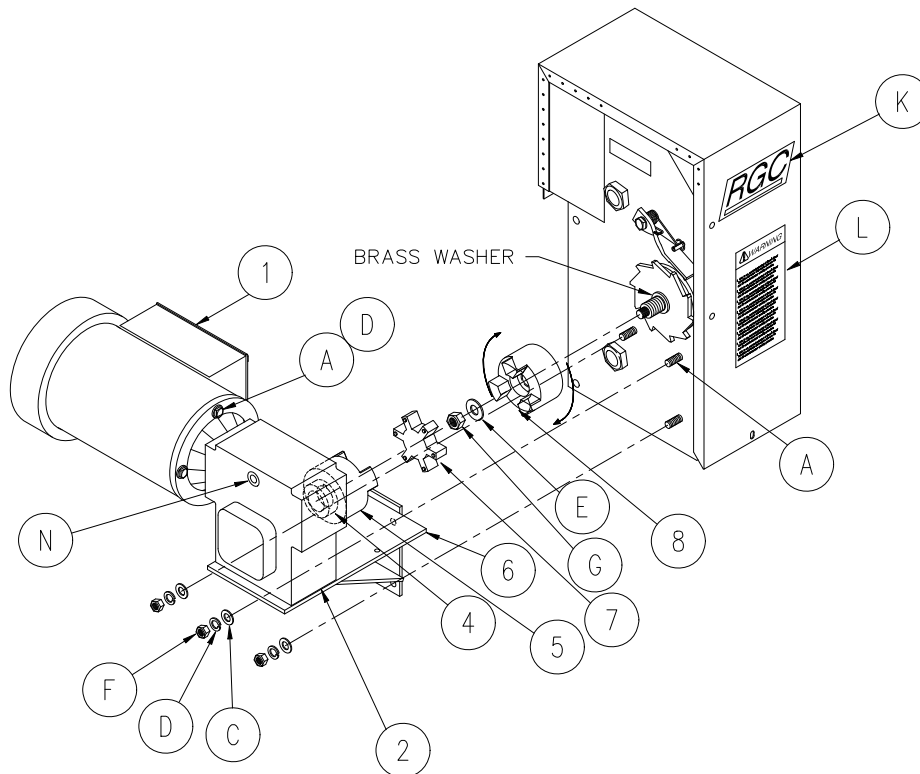


Figure 2-1
Direct Drive Mounting

2.4 COUPLER ALIGNMENT AND GAP ADJUSTMENT

1. Refer to **Figure 2-2**, the centerline of the direct drive coupler must align with the centerline of the winch input shaft coupler. Align if necessary, by loosening the gearbox mounting bolts and positioning the gearbox as required. Re-tighten bolts.



CAUTION:
FAILURE TO PROPERLY ALIGN THESE CENTER LINES CAN CAUSE EQUIPMENT DAMAGE.

2. With the winch shaft coupler threaded tightly against the brake sprocket, measure the gap between the couplers. A 1/8" gap is required to insure proper brake operation.



CAUTION:
FAILURE TO MAKE THE PROPER GAP ADJUSTMENT CAN CAUSE EQUIPMENT DAMAGE.

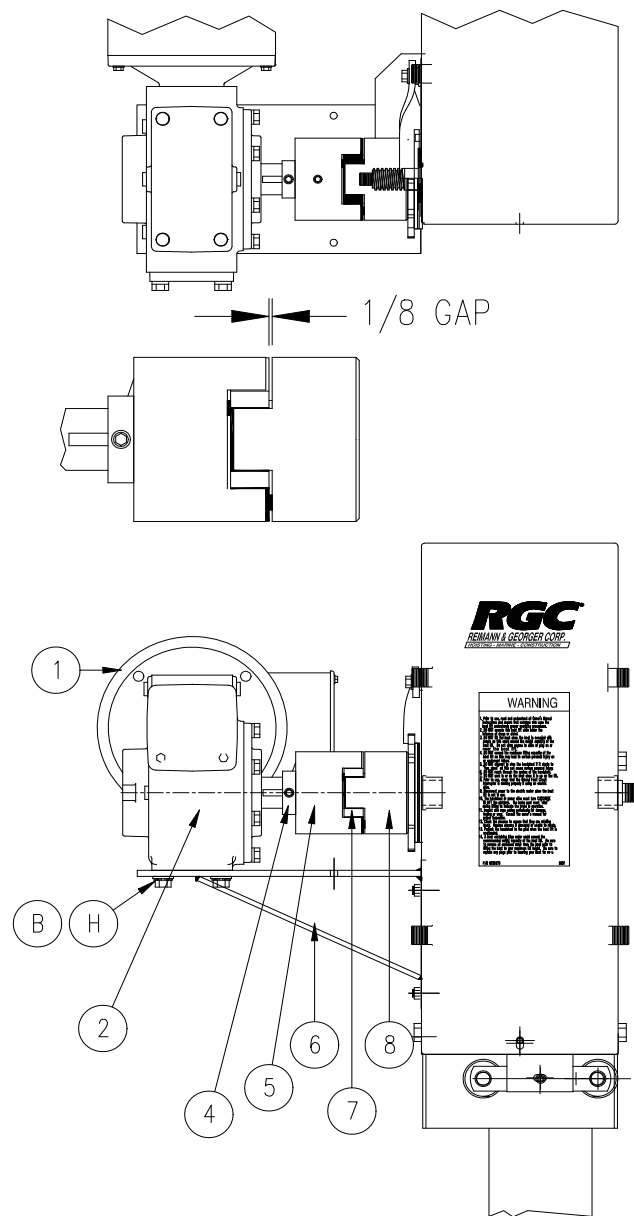


Figure 2-2
Coupler Alignment and Gap Adjustment

3. If adjustments are required to achieve this 1/8" gap, use the supplied Allen wrenches to loosen the coupler and shaft collar set screws on the gearbox output shaft. Make the proper adjustments to this coupler position.
4. Tighten all hardware after making the adjustments.
5. There will be a 1/8" gap between the two couplers when the platform is raised. This gap closes when the brake is released and the platform is lowered.

2.5 VL DIRECT DRIVE HD GUARD / SWITCH INSTALLATION

1. Refer to Figure 2-3, using a #2 Phillips screwdriver, fasten the long winch mounting bracket (14) to the backside of guard (12) with 1/4 -20 x 1/2 machine screws (P).
2. Fasten short mounting bracket (13) to the gearbox mounting plate with 1/4 -20 x 1" machine screws.
3. Remove screws from backside of winch guard and install VL Direct Drive HD Guard over drive assembly. Fasten guard to bracket on gearbox mounting plate with 1/4 -20 x 1/2 machine screws. Fasten guard to winch using previously removed screws.

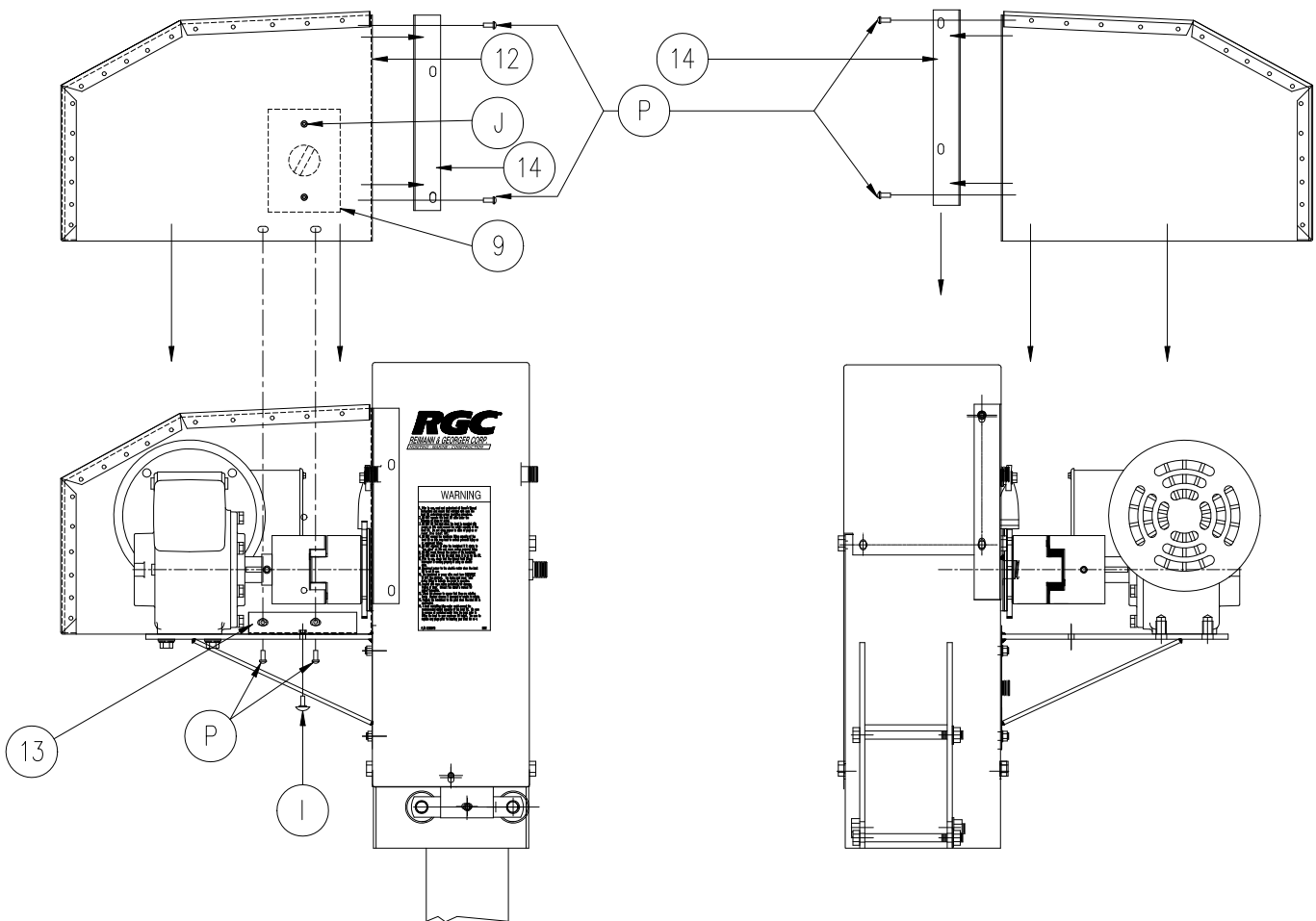


Figure 2-3
VL Direct Drive Guard / Switch Assembly

4. Mount the reversing switch assembly to the guard by removing the cover from switch box and fastening box to guard with 8-32 x 1/2" machine screws (J). Reinstall cover onto switch box.



WARNING:

NEVER OPERATE THE DIRECT DRIVE WITHOUT THE MOTOR GUARD IN PLACE. THIS CAN CAUSE SERIOUS PERSONAL INJURY.

2.6 VL REMOTE CONTROL MOUNTING

2.6.1 PRE-INSTALLATION CHECKS

1. Do not use the RC panel if it shows any signs of damage.
2. Proper function of the RC system is dependent upon several factors that are not controllable by the manufacturer. RGC is not responsible for the following:
 - Improper installation
 - Low battery
 - Natural occurrences
 - Use other than intended
 - Location of panel, receiver, or transmitter too close to interfering metal objects
 - Multiple RC panels within 15 feet of each other
 - Use in area with external interference such as radio, cell phone and TV towers, or a natural magnetic field
 - Blocked or shielded antenna
 - Other transmitter interference from cell phones, cordless phones, wireless systems, CB and mobil transmitters, computer and industrial equipment, electric motors, even fluorescent lights
3. A licensed electrician must do power hookup to the RC panel and make the connections between the panel and the lift motor. All wiring must be done according to the Local Electric Code. Wiring that does not meet these standards voids the panel warranty.



WARNING:

ENSURE THAT THE ELECTRIC DRIVE HAS BEEN INSTALLED AND INSPECTED BY A CERTIFIED ELECTRICIAN IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. THIS INSTALLATION MUST INCLUDE A PROPERLY WORKING GROUND FAULT CIRCUIT INTERRUPTER. (G.F.C.I.)

2.6.2 WIRING PROCEDURE

1. All wires for connection to the electric drive and for incoming power connections must be connected to the leads supplied in the lower portion of the control panel outside the factory barrier. Do NOT tamper with or remove the factory barrier, as this will void your warranty.
2. It is very important to use the correct voltage and run the correct wire size to the RC panel. Wire sizing information is in the National Electric Code book used by most licensed electricians. Wire sizing is determined by the voltage being brought to the panel, the distance from your power source, and the amperage required by the lift motor. The panel is designed for 120V, single phase, 60 Hz or 240V, single phase, 60 Hz. Proceed as follows:
 - a. When connecting to 120V, wire nut the incoming neutral from the power source to the red and white wires labeled POWER from the RC panel. Wire nut the black wire from the RC panel labeled POWER to the incoming 120V line.
 - b. When connecting to 240V, which is recommended, connect the white wire labeled POWER from the RC panel to the incoming neutral, the black wire labeled POWER to the incoming 120V line, and the remaining red wire from the panel labeled POWER to the other leg of the incoming 120V source.



WARNING:

THE RC PANEL IS NOT A TRANSFORMER AND DOES NOT CHANGE ITS VOLTAGE INPUT. THE LIFT MOTOR MUST BE THEREFORE BE JUMPED FOR THE SAME VOLTAGE AS THE RC PANEL. FAILURE TO DO THIS CAN CAUSE EQUIPMENT DAMAGE AND POSSIBLE PERSONAL INJURY.

- 3. All electrical connections must be wire nutedted securely in the junction box area. The wire colors used for the motors generally correspond to the colors used in the motor terminal boxes by the major manufacturers.
- 4. The following RC / Motor wiring instructions applies to motors listed:

❖ Marathon – 1-1/2 HP

REMOTE CONTROL WIRES

- BLACK
- ORANGE
- WHITE
- RED
- GREEN

MOTOR WIRES

- BLUE & ORANGE
- WHITE & YELLOW
- BLACK
- RED
- GREEN

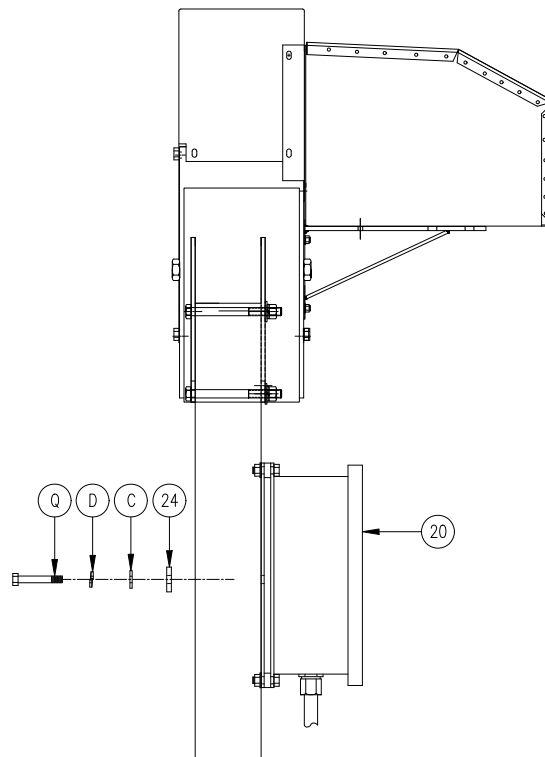
2.6.3 MOUNTING REMOTE CONTROL PANEL

- 1. **Refer to Figures 2-4 and 2-5.** Mount the remote control to the winch mounting bracket as shown in figure 2-6. Wire the remote control motor wires to the VL motor junction box wires as noted above. When mounting the remote control to the vertical leg, the remote control may be positioned below the direct drive or above if the lift is equipped with a canopy extension leg. For canopy equipped lifts it is preferred that the remote control be mounted to the winch mounting brackets to provide greater protection from rainwater runoff from canopy.

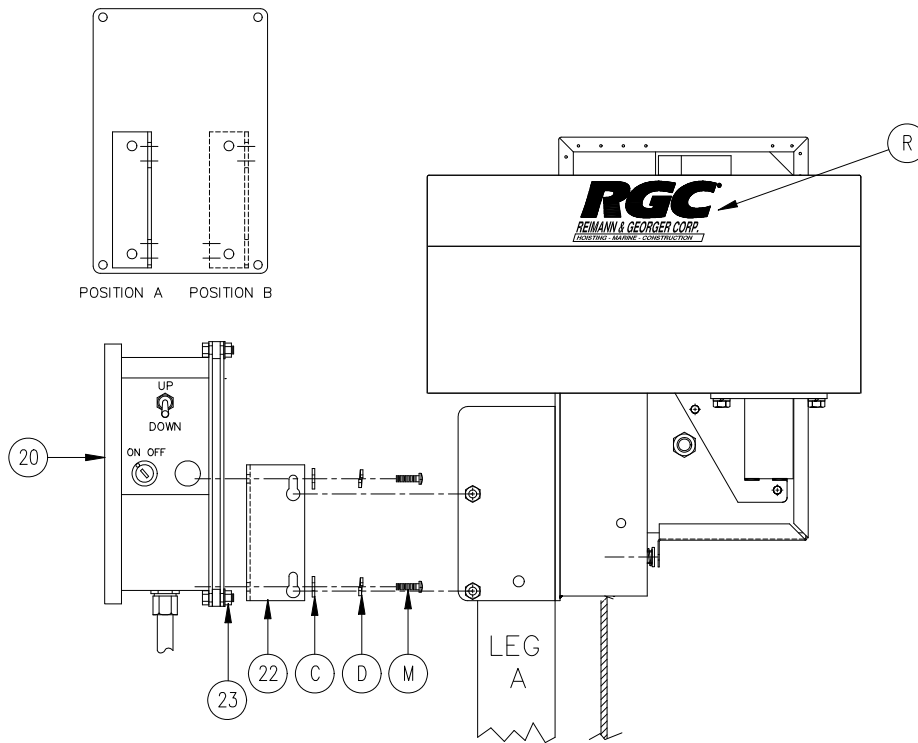


CAUTION:

IF THE RC PANEL IS EQUIPPED WITH AN EXTERNAL ANTENNA, THE ANTENNA SHOULD BE MOUNTED AS FAR AS POSSIBLE FROM THE ELECTRIC MOTOR.

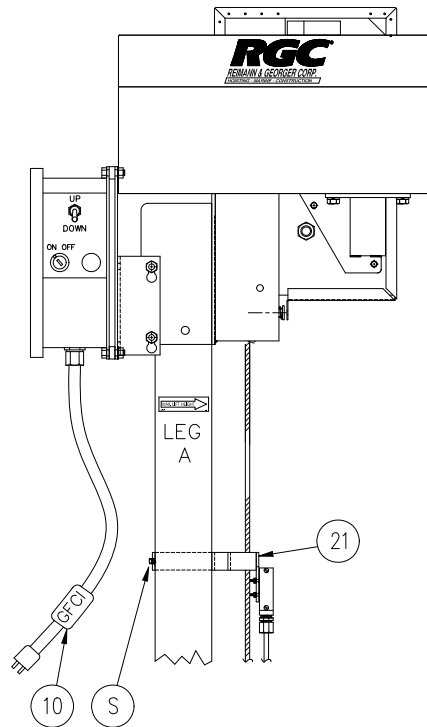


**Figure 2-4
Vertical leg mounting**



**Figure 2-5
Winch Bracket Mounting**

2. Refer to Figure 2-6. Attach limit switch bracket assembly onto vertical leg A, approximately 10 inches below “Maximum Lift Height” decal. Fasten securely.



**Figure 2-6
Limit Switch Bracket Mounting**

3. Reposition limit switch bracket assembly after maximum lift height has been established for your boat and lift installation. Your maximum lift height must include rough water conditions and rising water tables.

2.7 POWER SUPPLY CONNECTIONS

1. Ensure power supply is compatible with motor nameplate ratings. The motor must be connected to a properly rated branch circuit to help minimize voltage drops during operation.



WARNING:

THE POWER DRIVE AND SUPPLY LINE MUST BE INSTALLED AND INSPECTED BY A CERTIFIED ELECTRICIAN IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. BECAUSE WATER AND ELECTRICITY ARE POTENTIAL SAFETY HAZARDS, THIS INSTALLATION MUST INCLUDE A PROPERLY WORKING GROUND FAULT CIRCUIT INTERRUPTER. (G.F.C.I.)

2. Use the following guide in wiring the power drive.

WIRE SIZING GUIDE FOR REFERENCE ONLY

Distance → Motor amps ↓	50 feet	100 feet	150 feet	200 feet	250 feet	300 feet	350 feet	400 feet
5 amp	#12 awg	#12 awg	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg
7.5 amp	#12 awg	#12 awg	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg
10 amp	#12 awg	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg
12.5 amp	#12 awg	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg
15 amp	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg	#4 awg
17.5 amp	#10 awg	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg	#4 awg
20 amp	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg	#4 awg	#2 awg
22.5 amp	#10 awg	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg	#4 awg	#2 awg
25 amp	#8 awg	#8 awg	#6 awg	#6 awg	#4 awg	#4 awg	#2 awg	#2 awg

awg = American Wire Gauge

amp = Motor Full Load Current

feet = Distance From MAIN Breaker Box to Control Panel



CAUTION:

THE ABOVE CHART IS ONLY A REFERENCE FOR WIRE SIZING. DO NOT USE THIS INFORMATION TO ACTUALLY SIZE THE WIRE TO YOUR POWER DRIVE. YOU MUST CONSULT A LICENSED ELECTRICAL CONTRACTOR WHO WILL DETERMINE THE ACTUAL WIRE SIZE REQUIRED TO SUIT YOUR PARTICULAR APPLICATION.

3. Use plastic zip ties and any other supplies needed to tie off the electrical cords. This protects the cords from abrasion, sharp objects, water contact and other harm.

3 OPERATION

3.1 PRE-OPERATIVE CHECKS

1. Review the following Pre-Lifting Checklist. Only those who have read and understood this manual, the vertical lift manual, and related equipment manuals are qualified to do this inspection.
 - Ensure the lift installation will clear all power lines and obstructions.
 - Ensure all structural members of the lift are free of defects and damage that may affect the integrity.
 - Ensure that the power drive has been inspected and installed by a certified electrician in accordance with local electrical codes. A Ground Fault Circuit Interrupter (G.F.C.I.) must be installed by your electrician and work properly.
 - Ensure that any user or dealer installed locking devices have been removed before operating the lift.
 - Operate the lift first without, and then with, your boat on the platform to test the operation of both the lift and the winch.
 - Ensure the boat is properly positioned on the lift before doing any raising or lowering.
 - Ensure the lift is not being used beyond its rated capacity.
 - Ensure any drain plug is in place on the boat before launching.
 - Conduct the wire rope inspection procedure described in your vertical lift manual at least monthly.
 - Ensure the leg pins connect the vertical legs to the adjustable legs. Ensure the leg height has been properly adjusted according to the water depth.
 - Ensure the frame and platform fastenings are tight.
 - Ensure the lower diagonal braces are installed in each corner.
 - Ensure the frame is level and square according to the dimensions shown in the installation chapter of the vertical lift manual.
 - Ensure the cable end loops of the load and spreader tubes are fastened to the bracket at the bottom of each vertical leg.
 - Ensure the cable studs opposite the cable end loops in the platform assembly are tight. If tightening is needed, follow the sequence described in the installation chapter of the vertical lift manual. Then tighten the jam nuts to the cable nuts to lock the position.
 - Ensure the winch is securely fastened to vertical leg "A".
 - Ensure the centerlines of the couplers on the winch input shaft and gearbox output shaft are properly aligned.
 - Ensure that the coupler on the winch input shaft is pinching the brass washer and brake sprocket tightly against the friction disk.
 - Ensure that there is a 1/8" gap between the winch input shaft and gearbox output shaft couplers with the platform in the raised position.
 - Ensure set screw securing wire rope end to the drum is tight and in good condition.
 - Ensure the guards are in place before operating the winch.

- Ensure the cover is installed over the direct drive assembly.
- Ensure the vent plug is installed on the gearbox.
- Ensure the plastic caps are installed onto the tops of the vertical legs and the ends of the upper short horizontal tubes.
- Read the lift manual and insure that everyone understands the proper operating procedure.
- Understand the use of all controls and connections provided with the direct drive.
- Do not use the lift or direct drive if either shows any signs of damage.
- Ensure that all bolts and nuts are fastened securely prior to operation.
- Check that the winch is reeved properly. See the reeving instructions in your vertical lift manual.
- Never try lifting anything other than a boat with this lift.
- Do not operate the lift under the influence of drugs, alcohol, or medication.
- Never try to lift or launch your boat in rough water conditions. This can damage your boat and/or the lift.

3.2 TESTING WINCH OPERATION

After the lift installation is complete, it is important that the winch functions properly. Test the winch operation as follows:

1. Turn and hold the switch in the UP position to raise the empty platform about one-fourth the way up. Then release the switch. If the winch is functioning properly, the brake mechanism will hold the platform at any position. The direct drive must turn clockwise when raising the platform. The brake pawl must click, indicating that the brake is operative.



WARNING:

IF THE DIRECT DRIVE SHAFT MUST TURN COUNTERCLOCKWISE TO RAISE THE PLATFORM, YOU HAVE REEVED THE WINCH INCORRECTLY. THE DRIVE WILL IMMEDIATELY ENCOUNTER STRONG RESISTANCE WHICH CAN DAMAGE THE DRIVE AND/OR WINCH AND BREAK THE CABLE.

2. Repeat Step 1 in the half, three-quarters, and full lift positions.
3. Lower the empty platform to repeat steps 1 and 2 with your boat on the lift. The direct drive shaft must turn counter-clockwise when lowering the platform. This counter-clockwise rotation allows the self-activating brake mechanism to stop the platform lowering as soon as the operator releases the switch from the DOWN position. Make sure this brake mechanism is operative.



WARNING:

IF THE DRIVE SHAFT MUST TURN CLOCKWISE TO LOWER THE PLATFORM, YOU HAVE REEVED THE WINCH INCORRECTLY. THE BRAKE PAWL WILL NOT BE EFFECTIVE WHICH CAN CAUSE AN UNCONTROLLED SPIN-DOWN OR “FREEWHEEL” OF THE WINCH SHAFT. IF FREEWHEELING OCCURS, NEVER TRY TO STOP IT. DO NOT USE THE LIFT IN THIS CONDITION.

4. Contact your authorized dealer if the winch mechanism fails to perform as described in this section. Do NOT tamper with the winch mechanism.

3.3 RAISING AND LOWERING THE PLATFORM

1. Raise the platform by turning and holding the switch in the UP position until the platform is at the desired level. The switch can be released any time to stop the platform movement and the self-activating brake mechanism will hold the platform at that height. Do not try to raise the boat beyond the maximum lifting height of the platform. This can cause lift and direct drive damage.
2. Platform should be raised a minimum of 1 foot between bottom of boat and highest potential water table height for your geographic area.



WARNING:

DO NOT STAND OR WALK ON THE LIFT PLATFORM OR SIT IN THE BOAT WHILE THE PLATFORM IS IN ANY RAISED POSITION. THIS CAN CAUSE SERIOUS PERSONAL INJURY.

3. Lower the platform by turning and holding the switch in the DOWN position. The switch can be released any time to stop the platform movement. Do not continue lowering the platform after the boat floats freely from it. Excessive winch cable slack may cause cable, lift, and winch damage.



WARNING:

NEVER RELEASE THE BRAKE PAWL OF THE WINCH. THIS CAN TRIGGER AN UNCONTROLLED SPIN-DOWN OR “FREEWHEEL” OF THE WINCH SHAFT.

4. Check the lift periodically for frayed cables and/or binding pulleys.
5. Never operate the direct drive from inside the boat or lift.
6. Keep fingers and clothing clear of all moving parts of the lift and power drive. Keep people clear during operation of the lift.

3.4 SECURING LIFT WHEN NOT IN USE

At the end of operation, secure the lift to prevent unauthorized use. Proceed as follows:

1. Raise the platform to the desired height.
2. Disconnect and lock out the power source to prevent unauthorized use of the lift when it is unattended.

4 TROUBLESHOOTING

The following chart is intended to assist with troubleshooting the power drive. While not all inclusive, the chart outlines the most common causes of a problem and the recommended course of action.

The troubleshooting guide for the associated vertical lift is in the vertical lift instruction manual.

SYMPTOM	CAUSE AND CORRECTIVE ACTION
Power drive does not start when switch is turned to either the UP or DOWN position.	<p>Poor electrical connection—clean as required and insure that all connections are tight.</p> <p>Faulty GFCI cord – inspect / replace</p> <p>Power drive wired improperly—do NOT tamper with either electrical supply or the power line connections at either the drive or the main breaker. Consult a licensed electrical contractor.</p>
Power drive starts, but winch resists platform raising.	<p>Winch has been reeved incorrectly—winch must turn clockwise to raise platform. See Chapter 3 of the vertical lift manual.</p> <p>Shaft bearings corroded - inspect/lubricate/replace.</p> <p>Sheaves binding—inspect/lubricate/replace.</p> <p>Winch cable is rubbing against the winch frame—repeat winch reeving if necessary as described in Chapter 3 of your vertical lift manual.</p>
Power drive is turning winch, but platform raising is either difficult or impossible.	<p>Platform is binding because frame is either not square or not set level in the water—refer to Chapter 3 of the vertical lift manual.</p> <p>One or more cables are broken—replace as required.</p> <p>Sheaves binding—inspect/lubricate/replace.</p> <p>One or more cables are excessively worn—replace as required and follow monthly wire rope inspection procedure described in Chapter 5 of your vertical lift manual.</p> <p>Load exceeds rated capacity—the rated capacity in pounds is the first two digits of your lift number times 100. For example, a VL100148 has a rated capacity of 100 x 100 or 10,000 lbs. Reduce load weight as needed.</p> <p>Broken winch chain - replace</p> <p>User or dealer installed locking devices are in place—remove these.</p> <p>Auxiliary equipment such as boating hardware is being improperly hung on lift—remove this equipment permanently.</p>

4.1 REMOTE CONTROL INFORMATION

The remote transmitter can de-program due to either a power loss (dead RC battery) or electrical interference, which will require re-programming of the transmitter.

Proper function of the RC system is dependent upon several factors that are not controllable by the manufacturer. RGC is not responsible for the following: Improper installation, Low battery, Natural occurrences, Use other than intended, Location of panel, receiver or transmitter too close to interfering metal objects, Multiple RC panels within 15 feet of each other, Use in area with external interference such as radio, cell phone, and TV towers or a natural magnetic field, Blocked or shielded antenna, Other transmitter interference from cell phones, cordless phones, wireless systems, CB and mobile transmitters, computer and industrial equipment, electric motors, even fluorescent lights.

Reprogramming Your Remote Control (Seco-Larm Receiver only)

In the event that you may need to reprogram your remote control unit, please follow these step instructions:

1. The RC unit is located in the control box. Locate the #1 button on the RC unit. Hold down the #1 button until the GREEN LED (located on the RC unit next to wire terminals) on the RC unit is flashing rapid. Then press the 'I' button on the remote, the GREEN LED will flash slower to indicate button programming. Release the remote button. The GREEN LED will go out, then test the remote by pressing the 'I' button. Note: If multiple remotes are used, you must reprogram all remotes when 'GREEN LED' is flashing rapidly.
2. Locate the #2 button on the RC unit. Hold down the #2 button until the RED LED (located on the RC unit next to wire terminals) on the RC unit is flashing rapid. Then press the 'II' button on the remote, the RED LED will flash slower to indicate button programming. Release the remote button. The RED LED will go out, then test the remote by pressing the 'II' button. Note: If multiple remotes are used, you must reprogram all remotes when 'RED LED' is flashing rapidly.

5 PARTS LISTS

5.1 VL MANUAL CONTROL DIRECT DRIVE ASSEMBLY / R18HD WINCH

REF #	PART #	QTY	PART DESCRIPTION
1	6537110	1	MOTOR 1-1/2HP
2	6737820	1	GEAR REDUCER 20:1
4	5837105	1	COLLAR 1-1/4 I.D. (REDUCER OUTPUT SHAFT)
5	6737815	1	COUPLER (REDUCER OUTPUT SHAFT)
6	3710735	1	MOUNTING BRACKET R18HD
7	6704731	1	RUBBER SPIDER
8	3777290	1	ACME COUPLER – VL DIRECT DRIVE
9	5403261	1	REVERSING SWITCH
10	5406987	1	GFCI 20A IN-LINE CORDSET
A	5896247	5	3/8 X 1 HHCS (MOTOR MTG & WINCH WALL)
B	5896280	4	1/2 X 1 HHCS (REDUCER MTG)
C	5896406	1	3/8 WASHER FLAT SAE (REDUCER MTG & WINCH WALL)
D	5806243	5	3/8 WASHER SPLIT LOCK
E	5806410	1	1/2 WASHER FLAT USS (COUPLER ACME)
F	5896377	1	3/8 NUT HEX
G	5816153	1	1/2-20 LOCKNUT (COUPLER ACME)
H	5806244	4	1/2 SPLIT LOCK WASHER
	5806187	1	3/16 ALLEN WRENCH (COUPLERS)
	5806184	1	5/32 ALLEN WRENCH (COLLAR)
	NA	1	1/4 X 1/4 X 1 KEY (REDUCER OUTPUT SHAFT)
	NA	1	3/16 X 3/16 X 1-1/4 KEY (MOTOR SHAFT)
	NA	3	PLASTIC ZIP TIES
N	NA	1	VENT PLUG - REDUCER
K	6206974	1	DECAL “ RGC LOGO OFFICIAL ” (WINCH GUARD)
	3710635	1	VL DIRECT DRIVE-HD GUARD KIT (see Sec. 5.3)

5.2 VL REMOTE CONTROL PANEL ASSEMBLY

REF #	PART #	QTY	PART DESCRIPTION
10	5406987	1	GFCI 20A IN LINE CORD & PLUG
20	3670604	1	RC PANEL (INTERNAL ANT)
21	3710315	1	VL LIMIT SWITCH ASSEMBLY W / BRACEKT 10K
S	5896957	1	1/4-20 X 1/2 HHCS
23	5033370	1	RC MOUNTING PLATE ASSEMBLY
	3710410	1	VL RC MOUNTING BRACKET KIT 10K
			Consisting of:
22	3610656	1	VL RC MOUNTING BRACKET 10K
24	3606922	1	TWO HOLE PLATE 5”
M	5896246	2	3/8 X 3/4 HHCS SS
C	5896406	2	3/8 SAE FLAT WASHER
D	5806243	2	3/8 WASHER SPLIT LOCK SS
Q	5896262	2	3/8 X 4-1/2 HHCS SS

5.3 VL REMOTE CONTROL DIRECT DRIVE ASSEMBLY / R18HD WINCH

REF #	PART #	QTY	PART DESCRIPTION
1	6537110	1	MOTOR 1-1/2HP
2	6737820	1	GEAR REDUCER 20:1
4	5837105	1	COLLAR 1-1/4 I.D. (REDUCER OUTPUT SHAFT)
5	6737815	1	COUPLER (REDUCER OUTPUT SHAFT)
6	3710735	1	MOUNTING BRACKET R18HD
7	6704731	1	RUBBER SPIDER
8	3777290	1	COUPLER ACME – VL DIRECT DRIVE
A	5896247	5	3/8 X 1 HHCS (MOTOR MTG & WINCH WALL)
B	5896280	4	1/2 X 1 HHCS (REDUCER MTG)
C	5896406	1	3/8 SAE FLAT WASHER (REDUCER MTG & WINCH WALL)
D	5806243	5	3/8 SPLIT LOCK WASHER
E	5806410	1	1/2 USS FLAT WASHER (COUPLER ACME)
F	5896377	1	3/8 HEX NUT
G	5816153	1	1/2-20 LOCKNUT (COUPLER ACME)
H	5806244	4	1/2 SPLIT LOCK WASHER
	5806187	1	3/16 ALLEN WRENCH (COUPLERS)
	5806184	1	5/32 ALLEN WRENCH (COLLAR)
	NA	1	1/4 X 1/4 X 1 KEY (REDUCER OUTPUT SHAFT)
	NA	1	3/16 X 3/16 X 1-1/4 KEY (MOTOR SHAFT)
	NA	3	PLASTIC ZIP TIES
N	NA	1	VENT PLUG – REDUCER
K	6206974	1	DECAL “ RGC LOGO OFFICIAL ” (WINCH GUARD)
	3710635	1	VL DIRECT DRIVE-HD GUARD KIT (see Sec. 5.3)

5.4 VL DIRECT DRIVE GUARD KIT R18HD

REF #	PART #	QTY	PART DESCRIPTION
12	3710940	1	VL DD GUARD-R18HD
13	3710945	1	VL DD-R18HD PLATE MOUNTING ANGLE
14	3710555	2	WINCH MTG ANGLE R18
P	5806241	11	1/4-20 X 1/2" MACHINE SCREW (GUARD MTG)
J	5896240	2	8-32 X 1/2" MACHINE SCREW (SWITCH MTG)
R	6206976	1	DECAL “ RGC LOGO REFLECT ” (DRIVE GUARD)
L	6206970	1	DECAL “WARNING VL”

TWO YEAR LIMITED WARRANTY

Reimann & Georger Corporation Marine Products

This product is warranted by RGC® Marine Products to the original purchaser to be free from defects in material and workmanship under normal use for a period of two years from the date of purchase.

During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or similar model) at our option, without charge for either parts or labor when serviced at RGC® Marine Products.

Upon completion of repair, the unit will be returned to the customer freight prepaid. The warranty will not apply to this product if it has been misused, abused, or altered.

NEITHER THIS WARRANTY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, SHALL EXTEND BEYOND THE WARRANTY PERIOD. NO RESPONSIBILITY IS ASSUMED FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.