HW1000S/HW2000S
HYDRAWINCH
INSTRUCTIONS
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAFETY</td>
<td>1</td>
</tr>
<tr>
<td>1.1</td>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Safety Definitions</td>
<td>1</td>
</tr>
<tr>
<td>1.3</td>
<td>Safety Labels</td>
<td>1</td>
</tr>
<tr>
<td>1.4</td>
<td>Hoisting Safety Rules</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>SPECIFICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>2.1</td>
<td>Technical Data</td>
<td>3</td>
</tr>
<tr>
<td>2.2</td>
<td>Nameplate And Serial Number Tag</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>INSTALLATION AND SETUP</td>
<td>5</td>
</tr>
<tr>
<td>3.1</td>
<td>Prior To Setup</td>
<td>5</td>
</tr>
<tr>
<td>3.2</td>
<td>Mounting the Winch</td>
<td>5</td>
</tr>
<tr>
<td>3.3</td>
<td>Reeving the Cable</td>
<td>6</td>
</tr>
<tr>
<td>3.4</td>
<td>Raising the HydraPak to the Roof Under Its Own Power</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>OPERATION</td>
<td>11</td>
</tr>
<tr>
<td>4.1</td>
<td>Before Operating The Hoist</td>
<td>11</td>
</tr>
<tr>
<td>4.2</td>
<td>Raising And Lowering The Load</td>
<td>12</td>
</tr>
<tr>
<td>4.3</td>
<td>Hand Signals</td>
<td>14</td>
</tr>
<tr>
<td>4.4</td>
<td>Preparing Hoist For Shutdown</td>
<td>16</td>
</tr>
<tr>
<td>5</td>
<td>DISASSEMBLY</td>
<td>17</td>
</tr>
<tr>
<td>5.1</td>
<td>Prior To Disassembly</td>
<td>17</td>
</tr>
<tr>
<td>5.2</td>
<td>Rewinding The Cable</td>
<td>17</td>
</tr>
<tr>
<td>5.3</td>
<td>Removing The Winch</td>
<td>17</td>
</tr>
<tr>
<td>5.4</td>
<td>Removing Parts From Deck</td>
<td>18</td>
</tr>
<tr>
<td>5.5</td>
<td>Lowering The Power Unit To The Ground</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>INSPECTION AND MAINTENANCE</td>
<td>21</td>
</tr>
<tr>
<td>6.1</td>
<td>General Maintenance Rules</td>
<td>21</td>
</tr>
<tr>
<td>6.2</td>
<td>Wire Rope Inspection Procedure</td>
<td>22</td>
</tr>
<tr>
<td>7</td>
<td>TROUBLESHOOTING</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>PARTS LISTS</td>
<td>27</td>
</tr>
<tr>
<td>8.1</td>
<td>HW1000S HydraWinch</td>
<td>27</td>
</tr>
<tr>
<td>8.2</td>
<td>HW2000S HydraWinch</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>LIMITED WARRANTY</td>
<td>29</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>Typical Winch Product Nameplate</td>
<td>3</td>
</tr>
<tr>
<td>3-1</td>
<td>Winch Mounting Position</td>
<td>6</td>
</tr>
<tr>
<td>3-2</td>
<td>Cable Keeper Operation</td>
<td>7</td>
</tr>
<tr>
<td>3-3</td>
<td>Single Line Operation up to 1000 Pounds</td>
<td>8</td>
</tr>
<tr>
<td>3-4</td>
<td>Double Line Operation up to 2000 Pounds</td>
<td>8</td>
</tr>
<tr>
<td>3-5</td>
<td>Setup for Raising HydraPak to Roof</td>
<td>10</td>
</tr>
<tr>
<td>4-1</td>
<td>HydraPak Controls</td>
<td>12</td>
</tr>
<tr>
<td>4-2</td>
<td>Typical HydraPak/Hoist Positioning</td>
<td>13</td>
</tr>
<tr>
<td>4-3</td>
<td>“Hoist” Signal</td>
<td>15</td>
</tr>
<tr>
<td>4-4</td>
<td>“Lower” Signal</td>
<td>15</td>
</tr>
<tr>
<td>4-5</td>
<td>“Stop” Signal</td>
<td>15</td>
</tr>
<tr>
<td>4-6</td>
<td>“Emergency Stop” Signal</td>
<td>15</td>
</tr>
<tr>
<td>4-7</td>
<td>“Move Slowly” Signal</td>
<td>15</td>
</tr>
<tr>
<td>6-1</td>
<td>Wire Rope Components</td>
<td>22</td>
</tr>
<tr>
<td>8-1</td>
<td>HydraWinch Assembly Drawing</td>
<td>28</td>
</tr>
</tbody>
</table>
PRE-HOISTING CHECKLIST

This checklist or the one supplied in the swing hoist manual must be checked prior to each use of the winch. This checklist must be used in conjunction with the maintenance and inspection procedures outlined in this manual. The winch and related equipment must be thoroughly inspected prior to each use by a trained person. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures. If you do not have such a person in your organization, please contact Reimmann & Geiger Corporation or its distributors and they will assist you in providing such a “trained person.” Do not permit any person who is not fully trained to operate the winch or hoist. This checklist should be maintained as a permanent record.

☐ Discuss work plan, personal protective equipment, and each crew member’s responsibility before starting to set-up. All crew members must be familiar with the use of hand signals.

☐ Insure OSHA compliant fall protection is in place.

☐ Insure the operator fence is lowered.

☐ Insure a competent person (qualified engineer) has determined the structural deck can support the intended loads in hoisting and material handling.

☐ Insure all structural members of the hoist are free of defects and damage that may affect the integrity of the hoist.

☐ Insure hoisting operation will clear all power lines and obstructions.

☐ Insure hoisting area is secured from all unauthorized personnel.

☐ Insure that all hoisting accessories such as forks, buckets, and slings are commercially manufactured, are in good condition, and have a rated load capacity.

☐ Insure that all slings have a capacity of at least 1000 lbs. for an HS1000 hoist or 2000 lbs. for an HS2000 hoist and are in good condition.

☐ Inspect wire rope for signs of wear and damage. Replace defective wire rope immediately.

☐ Insure that at least three wraps of wire rope are on the winch drum at maximum travel.

☐ Insure bolt securing wire rope end loop to the drum flange is tight and in good condition.

☐ Insure there is sufficient weight on the wire rope to maintain 10-20 lbs. of tension at all times.

☐ Insure wire rope is reeved properly for either one (1) part of line for 1000 lbs. capacity or, on the HS2000 hoist, two (2) parts of line for 2000 lbs. capacity.

☐ Insure the two pins and hairpins between the winch and counterweight leg are connected and in good condition.

☐ Insure upper and lower sections of counterweight legs are bolted together using grade 5 bolts and nuts with shake washers, are tightened to a torque between 60-75 ft.-lbs., and are in good condition.

☐ Insure plywood is placed under counterweight basket to distribute the weight.

☐ Insure vertical leg is vertically plumb.

☐ Insure front leg is mounted to 2” X 6” lumber to distribute load along the roof edge.
PRE-HOISTING CHECKLIST (continued)

☐ Insure all pinned connections are made on the hoist frame and all pins and hairpins are in good condition.

☐ Insure all lock screws are tightened.

☐ Insure boom pins are completely engaged in the front leg sockets.

☐ Insure that either 1000 lbs. (Ontario OSHA: 570 kg.) or 2000 lbs. (Ontario OSHA: 1140 kg.) of Reimann & Georger Corporation approved ballast blocks are secured in the counterweight basket of the HS1000 and HS2000 respectively.

☐ Insure bolt through the pivot sheave is in good condition and is held securely in place with a locknut.

☐ Insure pivot sheave can rotate freely.

☐ Insure bolt through the boom sheave is in good condition and is held securely in place with a locknut.

☐ Insure boom sheave can rotate freely.

☐ Insure the pin through the cable keeper is in good condition and is securely in place.

☐ Insure cable keeper is in the locked position.

☐ Insure the swivel hook on an HS1000 hoist has a rated capacity of at least 1000 lbs. and is in good condition.

☐ Insure the block and swivel hook on an HS2000 hoist have a rated capacity of at least 2000 lbs. and are in good condition.

☐ Insure safety latch on the hook does not support any load.

☐ Insure all shackles have a rated capacity of at least 1000 lbs. for an HS1000 hoist or 2000 lbs. for an HS2000 hoist and are in good condition.

☐ Insure power unit has been properly maintained.

☐ Insure hydraulic hoses are properly connected and in good condition.

☐ Operate hoist with no load to test hoisting operation, controls, and power unit.

INSPECTOR: ___________________________ DATE: _____________
1 SAFETY

1.1 INTRODUCTION

Your Reimann & Georger Corporation HW1000S and HW2000S Hydraulic Winches have been engineered to provide lifting performance, long term economics and safety advantages that no other type can match. However, even a well-designed and well-built winch can malfunction or become hazardous in the hands of an inexperienced and/or untrained user. Therefore, read this manual and related equipment manuals thoroughly before operating your winch to provide maximum safety for all operating personnel, and to get the maximum benefit from your equipment.

1.2 SAFETY DEFINITIONS

A safety message alerts you to potential hazards that could injure 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 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 SAFETY LABELS

Labels are provided with the winch and associated hoist and HydraPak that warn you of potential hazards that can cause injury. Read them carefully. If a label comes off or becomes illegible, contact Reimann & Georger Corporation for a free replacement.

1.4 HOISTING SAFETY RULES

1. Operators must be thoroughly trained before operating the winch and hoist. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures.

2. Prior to setting up the hoist there must be a plan of action outlining the work to be accomplished, individual responsibilities, personal protective equipment, and method of communication.

3. A good line of communication must be maintained between the hoist operator and the ground crew. All crew members must be familiar with hand signals. Hand signals are shown in Chapter 4.

4. Follow the Pre-Hoisting Checklist before operating.

5. Use only Reimann & Georger Corporation concrete filled ballast blocks or factory approved equal as counterweight.

6. Ensure that 1000 lbs. (Ontario OSHA: 570 kg.) of ballast blocks are secured properly in the lower counterweight basket before operating an HS1000 hoist. Ensure that 2000 lbs. (Ontario OSHA: 1140 kg.) of ballast blocks are secured properly in the lower counterweight basket before operating an HS2000 hoist. Tie ballast blocks to basket with rope. No human being shall ever be utilized as ballast.

7. Wear heavy leather gloves when handling wire rope.

8. All personnel shall be protected by OSHA compliant fall protection.

9. Never use the hoist structure to anchor life lines, worker’s harnesses or other attachments.
10. Hoist operator must stand behind the operator fence while the hoist is operating.

11. Hoisting area is to be clear of power lines. Consult power company before you work near power lines.

12. Hoisting area is to be kept clear of unauthorized personnel at all times. Place barricades or secure the area in such a manner that if there were an equipment failure, no personnel would be injured.

13. Keep out from under a raised load.


15. Use the HW1000S winch only on the HS1000 hoist and never exceed the Rated Load Capacity of 1000 lbs. Use the HW2000S winch only on the HS2000 hoist and never exceed the Rated Load Capacity of 1000 lbs. for single line pull or 2000 lbs. for double line pull. The Rated Load Capacity is the maximum load that should ever be applied to the hoist. Rated Load Capacity is for straight line pull; avoid side loads.

16. Avoid sudden stops and shock loads.

17. All hoisting accessories such as forks, buckets and slings must be commercially manufactured.

18. All hooks, slings, shackles, and other hoisting accessories must be properly maintained and installed.


20. Tag lines shall be used to control all loads.

21. No person shall be allowed to ride on the hoist.

22. Do not climb the hoist; use only a step ladder using OSHA compliant fall protection. Do not use an extension ladder.

23. Check the hoist periodically during operation.

24. Do not disconnect hydraulic hoses or fittings while hydraulic power source is running.

25. Do not attempt to make adjustments while the hoist is being operated.

26. Keep all body parts clear of moving parts.

27. At end of operation, the hoist should be secured to prevent unauthorized use. Never assume you will find the hoist in the same condition in which you left it.

28. Do not weld or otherwise modify the winch or hoist.

29. Only trained personnel are authorized to do repairs.

30. Do not operate hoist when under the influence of drugs, alcohol, or medication.
2 SPECIFICATIONS

2.1 TECHNICAL DATA

The following specifications apply to the HydraWinch. Detailed specifications for the hoist assembly and the HydraPak are in the separate manuals for these items.

<table>
<thead>
<tr>
<th></th>
<th>HW1000S</th>
<th>HW2000S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winch capacity</td>
<td>1000 lbs.</td>
<td>1000/2000 lbs.</td>
</tr>
<tr>
<td>Maximum lifting speed</td>
<td>up to 165 fpm</td>
<td>up to 165 fpm</td>
</tr>
<tr>
<td>Winch cable supplied</td>
<td>150 ft.</td>
<td>200 ft.</td>
</tr>
<tr>
<td>Winch cable—maximum length*</td>
<td>300 ft.</td>
<td>300 ft.</td>
</tr>
<tr>
<td>Weight</td>
<td>100 lbs.</td>
<td>110 lbs.</td>
</tr>
</tbody>
</table>

* Consult factory for longer cable lengths.

2.2 NAMEPLATE AND SERIAL NUMBER TAG

It is important to identify your winch completely and accurately whenever ordering spare parts or requesting assistance in service. The winch has a product nameplate that shows the model and serial numbers and capacity rating. The winch label should appear as the sample nameplate shown in Figure 2-1. Record the model and serial numbers, and capacity rating for future reference.

![Nameplate Image]

Figure 2-1.
Typical Winch Product Nameplate

MODEL ____________________________

SERIAL NUMBER ______________________

CAPACITY RATING ___________________
3 INSTALLATION AND SETUP

3.1 PRIOR TO SETUP

1. Insure the hoist frame has been assembled as detailed in the HS1000 or HS2000 manual.

   **WARNING:**
   ENSURE ALL STRUCTURAL MEMBERS OF THE HOIST ARE FREE OF DEFECTS AND DAMAGE THAT MAY AFFECT THE INTEGRITY OF THE UNIT.

2. Insure that the proper HydraWinch is being installed on the hoist. The HW1000S is used only on the HS1000 hoist and the HW2000S is used only on the HS2000 hoist.

   **WARNING:**
   ENSURE THE HOISTING AREA IS SECURED FROM ALL UNAUTHORIZED PERSONNEL. ENSURE THAT OSHA COMPLIANT FALL PROTECTION IS IN PLACE.

   **WARNING:**
   A COMPETENT PERSON MUST DETERMINE THAT THE STRUCTURAL DECK CAN SUPPORT THE INTENDED LOADS IN HOISTING AND MATERIAL HANDLING IN ADDITION TO THE WEIGHT OF THE COUNTERWEIGHT ON THE ROOF DECK. FAILURE TO DO THIS CAN RESULT IN DEATH, SERIOUS PERSONAL INJURY OR EQUIPMENT FAILURE.

   **WARNING:**
   PRIOR TO SETTING UP THE HYDRAWINCH FOR HOISTING, THERE MUST BE A PLAN OF ACTION OUTLINING THE WORK TO BE ACCOMPLISHED, INDIVIDUAL RESPONSIBILITIES, PERSONAL PROTECTIVE EQUIPMENT, AND THE METHOD OF COMMUNICATION. FAILURE TO DO THIS CAN RESULT IN DEATH, SERIOUS PERSONAL INJURY OR EQUIPMENT FAILURE.

3.2 MOUNTING THE WINCH

1. Insure hydraulic hoses are disconnected from winch before mounting.

2. Place the winch in position on the counterweight leg as shown in Figure 3-1.

3. Secure winch to counterweight leg using the two pins and hairpins.

   **WARNING:**
   ENSURE THE TWO PINS AND HAIRPINS BETWEEN THE WINCH AND COUNTERWEIGHT LEG ARE PROPERLY CONNECTED AND IN GOOD CONDITION.

4. Do not connect the hydraulic hoses until you are ready to reeve the cable.
3.3 REEVING THE CABLE

1. Insure that the HydraPak is fully operational and that you have read the separate operating instructions for the HydraPak.

2. Ensure that the bolt securing the wire rope end loop to the drum flange is tight and in good condition. Pull out at least 5 feet of cable manually off the winch to prevent any accidental drawing of the operator's hand into the winch during HydraPak operation.

\[ \text{CAUTION:} \]
\[ \text{INSURE THE WIRE ROPE IS UNWINDING FROM THE TOP AND NOT THE BOTTOM OF THE WINCH DRUM. IF THE CABLE FEEDS ONTO THE BOTTOM OF THE DRUM, THE HYDRAPAK UP/DOWN WINCH CONTROL LEVER WILL OPERATE IN THE REVERSE SENSE. THE WINCH WILL OPERATE WITH AN AUDIBLE RATCHETING NOISE AND WILL NOT FUNCTION PROPERLY.} \]

![WINCH](image)

\[ \text{Figure 3-1.} \]
\[ \text{Winch Mounting Position} \]

3. Attach the 1/2” hydraulic hoses from HydraPak to the winch. Attach the 1/4” hydraulic hoses from HydraPak to the cylinder.

\[ \text{WARNING:} \]
\[ \text{ENSURE HYDRAULIC HOSES ARE PROPERLY CONNECTED AND IN GOOD CONDITION.} \]

4. If using the HS1000 hoist, start the HydraPak and run at an idle. “Feather” the winch control lever downward to unwind about 25 feet of cable for 1 part reeving. This length will place the lifting hook at about eye level at the completion of the reeving procedure.

5. If using the HS2000 hoist, start the HydraPak and run at an idle in the 5 GPM position. “Feather” the winch control lever downward to unwind about 23 feet of cable for 1 part reeving or about 30 feet of cable for 2 part reeving. These lengths will place the lifting hook at about eye level at the completion of the reeving procedure.

6. Rotate the boom in over the roof deck to reeve the cable.
7. Using OSHA compliant fall protection, use a step ladder (not an extension ladder) to reeve cable through guide on winch and then through pivot block or sheave. At top of boom, unlock cable keeper by pulling out handle and rotating it counterclockwise as shown in Figure 3-2. Insert cable between cable keeper and sheave. Lock cable keeper in position by pulling out handle and rotating it clockwise as shown in Figure 3-2. This handle is spring loaded and has to be pulled out to rotate in either direction.

**WARNING:**
NEVER CLIMB ON THE HOIST FRAME. THIS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH.

![Diagram of cable keeper operation](image)

**Figure 3-2.** Cable Keeper Operation

8. Before applying any load, inspect the cable for damage and wear. See Chapter 6 for detailed inspection procedures.

**WARNING:**
USING DEFECTIVE CABLE CAN CAUSE EQUIPMENT DAMAGE, SERIOUS PERSONAL INJURY, OR DEATH.

9. For single line lifting, attach shackle and safety hook as shown in Figure 3-3. For double line lifting, reeve cable through block and attach shackle and safety hook. Secure to lifting hook on boom as shown in Figure 3-4.

**WARNING:**
ENSURE BLOCK, SHACKLE, AND HOOK HAVE AT LEAST THE SAME RATED CAPACITY AS THE HOIST AND ARE IN GOOD CONDITION.
3.4 RAISING THE HYDRAPAK TO THE ROOF UNDER ITS OWN POWER

If a freight elevator or other transporting medium is not available to raise the power unit to the roof, it may be done under its own power as follows.

![Diagram of Single Line Operation Up to 1000 Pounds](image1)

**Figure 3-3.**
Single Line Operation Up to 1000 Pounds (HS2000 shown)

![Diagram of Double Line Operation Up to 2000 Pounds](image2)

**Figure 3-4.**
Double Line Operation Up to 2000 Pounds (HS2000 only)

1. Before raising the HydraPak to the roof, check the following:
   a. Read and thoroughly understand the pre-hoisting checklist in the front of this manual before attempting to use the equipment.
   b. Read and thoroughly understand the hoist and HydraPak manuals before attempting to use the equipment.
   c. The hoist should be fully assembled except for the winch and cylinder. If the cylinder is installed, remove it because the boom will be locked in position.
   d. Insure that either 20 ballast blocks (1000 lbs.) for the HS1000 hoist or 40 ballast blocks (2000 lbs.) for the HS2000 hoist are secured in lower counterweight basket.
WARNING:
WHEN RAISING THE POWER UNIT, TWENTY (20) BALLAST BLOCKS (1000 LBS.) OR FORTY (40) BALLAST BLOCKS (2000 LBS.) MUST BE SECURED IN THE LOWER COUNTERWEIGHT BASKET. FAILURE TO DO THIS CAN CAUSE EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY OR DEATH.

2. Connect the winch to the lifting eye on the HydraPak using the hook and cable supplied with the winch automatic lowering attachment. Inspect the wire rope for signs of wear and damage. Replace defective wire rope immediately. Insure the hook fastens securely to the lifting eye. See Figure 3-5.

3. Unwind enough wire rope to attach it to the hoist boom hook on the roof. Using OSHA compliant fall protection, use a step ladder (not an extension ladder) on the roof to connect the hook. Inspect wire rope for signs of wear and damage. Replace defective wire rope immediately. Wear heavy leather gloves when handling wire rope.

WARNING:
NEVER CLIMB THE HOIST FRAME TO ATTACH THE CABLE TO THE BOOM. A STEP LADDER (NOT AN EXTENSION LADDER) MUST BE USED.

4. Run a light weight rope from the roof down through the HydraPak lifting eye to the winch control lever “D” ring. Tie it to the “D” ring. Run the rope down through the “D” ring on the HydraPak. See Figure 3-5. Insure there is enough rope on the ground to manipulate the winch control lever with the HydraPak on the roof.

5. Attach a tag line to the HydraPak frame to control swaying during the raising of the power unit.

6. Set throttle to about 1/3 open. With HydraPaks that have a 5/8 lever, set to 5 gpm. With HydraPaks having the “auto idle” feature, put the “auto idle” toggle switch in “bypass” (3600 rpm) position to prevent stalling of the HydraPak during the lift.

7. The operator on the roof pulls the light weight rope to move the winch control lever to the up position, causing the winch to pull the HydraPak and itself up. Constant tension is required for smooth ascent.

WARNING:
ALWAYS STAND CLEAR OF THE SUSPENDED UNIT. THE OPERATOR ON THE ROOF MUST REMAIN BEHIND THE OPERATOR FENCE. FAILURE TO DO THIS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH.

8. Use the boom tether to swing the HydraPak over to the roof top.

9. The HydraPak is lowered to the roof by having the roof operator pull the light weight rope down. This reverses the winch direction and lowers the winch and HydraPak. Keep a steady pull on the lever to prevent jerking.

WARNING:
THE GROUND OPERATOR CANNOT SEE THE UNIT WHILE IT IS ON THE ROOF AND THEREFORE MUST NOT BE ALLOWED TO CONTROL THE HYDRAPAK LOWERING PROCEDURE ONTO THE DECK. DOING THIS CAN CAUSE EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY.

10. If the power unit engine stalls during the hoisting of the winch and HydraPak under its own power, the automatic lowering attachment on the winch allows the load to descend at about 1 foot per minute.
11. After lowering the HydraPak to the roof, shut the engine off.

Figure 3-5.
Setup for Raising HydraPak to Roof
4 OPERATION

4.1 BEFORE OPERATING THE HOIST

WARNING:
ONLY TRAINED PERSONNEL SHALL OPERATE THIS EQUIPMENT. A TRAINED PERSON IS ONE WHO HAS READ AND THOROUGHLY UNDERSTANDS THIS INSTRUCTION MANUAL AND RELATED EQUIPMENT MANUALS AND, THROUGH TRAINING AND EXPERIENCE, HAS SHOWN KNOWLEDGE REGARDING THE SAFE OPERATIONAL PROCEDURES.

WARNING:
FOLLOW THE PRE-HOISTING CHECKLIST IN THE FRONT OF THIS MANUAL BEFORE OPERATING.

1. Read the safety labels provided with your hoist and HydraPak. These labels warn you of potential hazards that can cause serious injury. If a label comes off or becomes hard to read, contact Reimann & Georger Corporation for a free replacement.

2. Before starting operation, you must thoroughly read your HydraPak and hoist instruction manuals for complete safety, operating and maintenance information.

WARNING:
THE HOISTING OPERATION MUST BE CLEAR OF ALL ELECTRICAL LINES AND OBSTRUCTIONS TO PREVENT EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY. CONSULT POWER COMPANY BEFORE WORKING NEAR POWER LINES.

3. Hoisting area is to be kept clear of unauthorized personnel. Place barricades or secure the area in such a manner that if there were an equipment failure, no personnel would be injured.

4. Ensure that all hoisting accessories such as forks, buckets and slings are commercially manufactured, are in good condition, and have a rated load capacity. When using a sling, note that its capacity decreases as the angle increases.

WARNING:
NEVER EXCEED THE RATED LOAD CAPACITY. THE RATED LOAD CAPACITY IS THE MAXIMUM LOAD WHICH SHOULD EVER BE APPLIED TO THE HOIST. RATED LOAD CAPACITY IS FOR STRAIGHT LINE PULL; AVOID SIDE LOADS, SHOCK LOADS, AND SUDDEN STOPS.

5. Before making any hydraulic connections, inspect all hoses for leaks and risks of rupture as follows:
   a. Inspect each hose for cuts, cracks, worn spots, bulges, chemical attack, kinks or any other damage. Never stop any detected leak with your hand.
   b. Replace a damaged hose immediately. Never repair the hose.

WARNING:
LIQUID UNDER HIGH PRESSURE CAN PIERCE THE SKIN, CAUSING SERIOUS INJURY OR DEATH. IN CASE OF INJURY, GET IMMEDIATE MEDICAL ATTENTION.
6. Connect the hydraulic hoses from the HydraPak to the HydraWinch. To connect, retract sleeve on the female coupling and insert male coupling. To disconnect, retract sleeve on female coupling and remove male coupling.

7. Ensure hydraulic hoses are connected from the HydraPak to the cylinder.

8. Use caution when handling fuel for the HydraPak. Make sure the gas caps on the HydraPak and fuel can are properly tightened. Move the HydraPak at least 10 feet from the fueling point before starting the engine.

4.2 RAISING AND LOWERING THE LOAD

**WARNING:**

EITHER 1000 LBS. (ONTARIO OSHA: 570 KG.) FOR AN HS1000 HOIST OR 2000 LBS. (ONTARIO OSHA: 1140 KG.) FOR AN HS2000 HOIST OF REIMANN & GEORGER CORPORATION APPROVED BALLAST BLOCKS MUST BE SECURED PROPERLY IN THE LOWER COUNTERWEIGHT BASKET WITH ROPE BEFORE OPERATING THE HOIST. AN INADEQUATE COUNTERWEIGHT CAN CAUSE TOPPLING OF EQUIPMENT, RESULTING IN SERIOUS PERSONAL INJURY OR DEATH.

**WARNING:**

USE ONLY REIMANN & GEORGER CORPORATION BALLAST BLOCKS FILLED PROPERLY WITH CONCRETE OR FACTORY APPROVED EQUAL AS COUNTERWEIGHT. THIS MACHINE IS NOT DESIGNED TO HAVE HUMAN BEINGS USED AS COUNTERWEIGHT. THIS IS AN ABSOLUTE MISUSE OF THE EQUIPMENT WHICH CAN RESULT IN SERIOUS INJURY OR DEATH.

1. Determine what HydraPak output you will need, if applicable:
   a. The 5/8 lever determines the pump output. See Figure 4-1. An output of 5 or 8 GPM is available at full engine rpm. This selection allows the hydraulic winch to operate at two different speed ranges. Within these ranges, engine speed can be varied to further adjust hoisting speeds. Speeds are variable to about 165 fpm with a single part of line. A speed of up to 80 fpm is available when using the HS2000 with two parts of line. As cable is wound onto the drum, the diameter of the cable on the drum increases which increases lifting speed but decreases lifting capacity.

   ![Figure 4-1. HydraPak Controls](image)

   b. If using an HS1000 hoist, use 8 GPM for light loads (under 750 lbs.). For heavy loads (up to 1000 lbs. capacity), use 5 GPM. To further slow lifting speed, run the engine at reduced throttle.
c. If using an HS2000 hoist, use 8 GPM for light loads, less than 1000 lbs. with two parts of line or 500 lbs. with single part of line. For heavy loads (up to 2000 lbs. capacity), use 5 GPM and two parts of a line. To further slow lifting speed, run the engine at reduced throttle. One and two part of a line reeving is illustrated in Chapter 3.

2. For HydraPaks with a fixed 6 GPM output, control lifting speed by running the engine at partial throttle.

3. HydraPak operation to control both load hoisting and boom rotation can be done in safety and comfort. However, when handling loads at the roof edge, all personnel must be protected by OSHA compliant fall protection. The operator must remain behind the operator fence while using the hoist. See Figure 4-2.

![Diagram of HydraPak/Hoist Positioning](image)

**Figure 4-2.**
Typical HydraPak/Hoist Positioning

**WARNING:**
PERSONNEL MUST NEVER SECURE A SAFETY HARNESS LINE TO THE FRAME STRUCTURE.

**WARNING:**
FAILURE TO REMAIN BEHIND THE PROTECTIVE FENCE DURING HOIST OPERATION CAN LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

4. With control levers in neutral, start the HydraPak and allow to warm up.
5. Put the throttle in the middle position when starting and slow when stopping the engine. This provides a warming and cooling period. Know how to stop your HydraPak quickly in case of emergency. Consult the engine manual for detailed operation of engine controls.

6. Pull winch control lever up to raise a load and down to lower a load. See Figure 4-1. Never allow anybody to ride on the hoist. Make a few “dry runs” (without load, but with ballast) to become familiar with operation, controls, and power unit and to test hoisting clearance. Always maintain 10-20 pounds of cable tension with a cable weight. Do NOT attempt to make any equipment adjustments during operation.

7. Before lifting, secure the load from shifting and insure the safety latch on the hook is not supporting any load. Use tag lines to control all loads. Never hoist over an open doorway.

![WARNING:]
AVOID SUDDEN STOPS AND SHOCK LOADS WHEN HANDLING A LOAD.

![WARNING:]
KEEP OUT FROM UNDER A RAISED LOAD.

8. Use the boom control lever shown in Figure 4-1 to swing the boom 135° to load or unload material on the roof deck where you are working.

9. When lowering the load, gradually decelerate the lowering speed as it nears the ground.

![CAUTION:]
THE WINCH DRUM MUST ALWAYS HAVE AT LEAST THREE TURNS OF WIRE ROPE WHEN THE LOAD IS AT THE LOWEST POINT OF TRAVEL.

4.3 HAND SIGNALS

Hand signals have an important advantage over voice commands in high noise environments. Using hand signals insures proper synchronization of actions between the roof personnel and the ground operator and can give immediate warning of a potentially unsafe condition. All persons must be familiar with hand signals. Use the hand signals as shown in Figures 4-3 through 4-7.

![WARNING:]
A GOOD LINE OF COMMUNICATION MUST BE MAINTAINED BETWEEN THE HOIST OPERATOR AND ALL PERSONNEL FOR SAFETY. AT THE MINIMUM, ALL CREW MEMBERS MUST BE FAMILIAR WITH HAND SIGNALS.
With forearm vertical, forefinger pointing up, move hand in small horizontal circle.

**Figure 4-3.**
"Hoist" Signal

With arm extended downward, forefinger pointing down, move hand in small horizontal circle.

**Figure 4-4.**
"Lower" Signal

Arm extended, palm down, hold position rigidly

**Figure 4-5.**
"Stop" Signal

Arm extended, palm down, move hand rapidly right and left.

**Figure 4-6.**
"Emergency Stop" Signal

Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist Slowly shown as example.)

**Figure 4-7.**
"Move Slowly" Signal
4.4 PREPARING HOIST FOR SHUTDOWN

At the end of operation, secure the equipment to prevent unauthorized use. Never assume you will find the equipment in the same condition that you left it. Proceed as follows:

1. Swing the Boom to the 135° position over rooftop. Insure that all lifting tension has been removed from the cable.

2. Shut off HydraPak and take necessary action to prevent its unauthorized use.

3. If the hoist is being permanently disassembled, at the end of a project for example, follow the detailed disassembly procedures in Chapter 5.
5 DISASSEMBLY

5.1 PRIOR TO DISASSEMBLY

WARNING:
ONLY TRAINED PERSONNEL SHALL DISASSEMBLE ANY PART OF THIS HOIST. A TRAINED PERSON IS ONE WHO HAS READ AND THOROUGHLY UNDERSTANDS THIS INSTRUCTION MANUAL AND RELATED EQUIPMENT MANUALS AND, THROUGH TRAINING AND EXPERIENCE, HAS SHOWN KNOWLEDGE REGARDING THE SAFE DISASSEMBLING PROCEDURES.

WARNING:
ENSURE THAT OSHA COMPLIANT FALL PROTECTION IS IN PLACE.

5.2 REWINDING THE CABLE

1. Swing boom to the 135° position over rooftop.

2. Insure that all lifting tension has been removed from the cable.

3. Using OSHA compliant fall protection, use a step ladder (not an extension ladder) to unlock the cable keeper at the top of the boom by pulling out on the handle and rotating it in the direction shown in Figure 3-2. Remove the cable block (if used in two part of line applications), shackle and safety hook. Remove cable between cable keeper and sheave. Lock cable keeper in position by pulling out on handle and rotating handle in the direction shown in Figure 3-2. This handle is spring loaded and has to be pulled out to operate.

WARNING:
NEVER CLimb ON THE FRAME FOR ANY REASON.

4. Tie a safety line at least 5 feet long to the cable end to prevent any accidental drawing of the operator’s hand into the winch during rewinding.

5. Start the HydraPak and put it at an idle in 5 gpm mode, if applicable. “Feather” the winch control lever upward to rewind cable. Insure that the cable is rewinding evenly on the drum.

6. Insure that the cable end does not get caught as it passes through the pivot sheave. As the cable end approaches the drum, handle the cable only by the safety line.

7. When the cable end reaches the winch, release winch control lever, shut off the HydraPak and remove the safety line. Safely anchor the cable end for convenient access.

5.3 REMOVING THE WINCH

1. Disconnect the hydraulic hoses between the winch and HydraPak.

2. Remove the two pins and hairpins securing the winch to the counterweight leg. Then remove the winch from its mounting position.
5.4 REMOVING PARTS FROM DECK

When removing any parts from the deck, observe the following safety rules:

1. Use a hoist beam, swing beam or freight elevator to lower the disassembled parts of the hoist to the ground.

2. A gasoline powered HydraPak and winch can be lowered to the ground under its own power if a freight elevator is not available. The hoist must be fully assembled except for the winch and cylinder.

3. Safely secure the hoist parts on the transporting medium without overloading before lowering to the ground.

WARNING:
INADEQUATE SECURING OR OVERLOADING OF THE HOIST PARTS ON THE TRANSPORTING MEDIUM CAN CAUSE PARTS SPILLAGE IN TRANSIT. THIS CAN RESULT IN EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY.

5.5 LOWERING THE POWER UNIT TO THE GROUND

WARNING:
EITHER 1000 LBS. (ONTARIO OHSA: 570 KG.) FOR AN HS1000 HOIST OR 2000 LBS. (ONTARIO OHSA: 1140 KG.) FOR AN HS2000 HOIST OF REIMANN & GEORGER CORPORATION APPROVED BALLAST BLOCKS MUST BE SECURED PROPERLY IN THE LOWER COUNTERWEIGHT BASKET WITH ROPE BEFORE LOWERING THE HYDRAPAK. USE ONLY REIMANN & GEORGER CORPORATION BALLAST BLOCKS FILLED PROPERLY WITH CONCRETE OR FACTORY APPROVED EQUAL AS COUNTERWEIGHT.

1. Before starting, the roof personnel and the ground operator must be familiar with the hand signals described in section 4.3. Using hand signals insures proper synchronization of actions and can give immediate warning of a potentially unsafe condition.

2. Insure the cylinder has been removed as described in the hoist manual.

3. Insure that the boom is in the 135° position. Install a tether line to the boom for swinging it into the hoisting position for lowering the HydraPak to the ground.

4. Insure the HydraPak is off. Place the winch on top of the HydraPak and install the hydraulic hoses.

5. Insure the HydraPak control levers are in their neutral positions before starting the HydraPak. Insure power unit has been properly maintained.

6. Start engine and allow to warm for 10 minutes.

7. Connect the winch to the lifting eye on the HydraPak using the hook and cable supplied with the winch automatic lowering attachment. Insure the hook is fastened securely to the lifting eye. See Figure 3-5 in Chapter 3.

8. Unwind enough wire rope to attach it to the hoist boom hook. Insure OSHA compliant fall protection is used. Inspect the wire rope for signs of wear and damage. Wear heavy leather gloves when handling wire rope. Replace defective wire rope immediately.

9. Run a light weight rope from the roof down through the HydraPak lifting eye to the winch control lever “D” ring. Tie it to the “D” ring. Run the rope down through the “D” ring on the HydraPak. See Figure 3-5, Chapter 3. Insure there is enough rope on the ground to manipulate the winch control lever with the HydraPak on the roof.
10. Attach a tag line from the HydraPak frame to the ground operator to control swaying.

11. Set throttle to about 1/3 open. If HydraPak has the “5/8” lever, set to the 5 gpm setting. With 16 hp HydraPaks, put the “auto idle” toggle switch in “bypass” (3600 rpm) position to prevent stalling of the HydraPak during the lowering procedure.

12. The roof operator pulls the light rope up to actuate the lever. This turns the winch and raises the HydraPak and winch enough for the HydraPak to be suspended over the roof.

**WARNING:**
ALWAYS STAND CLEAR OF THE SUSPENDED UNIT. THE ROOF OPERATOR MUST REMAIN BEHIND THE OPERATOR FENCE. FAILURE TO DO THIS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH.

13. The roof operator uses the boom tether to swing the boom over the roof edge to lower the HydraPak to the ground.

14. The HydraPak is lowered to the ground by having the ground operator pull the light rope down. This lowers the winch and HydraPak.

15. If the engine stalls while lowering the winch and HydraPak under its own power, the automatic lowering attachment on the winch allows the load to descend at about 1 foot per minute.

16. After lowering the HydraPak to the ground, shut the engine off.

17. Complete the dismantling of the hoist by disassembling the frame as described in the hoist manual.
6 INSPECTION AND MAINTENANCE

6.1 GENERAL MAINTENANCE RULES

Maintenance information for the associated HydraPak and hoist is in the respective specific manuals for these units.

1. Proper maintenance of the winch and related equipment consists of adhering to all the guidelines given in this chapter and in the Pre-Hoisting Checklist in the front of this manual. Proper maintenance is required to maintain the system in good condition, which is defined as each part being free of rust or other corrosion, bends, breaks, or other defects.

2. Review and follow all the safety rules before attempting any maintenance.

3. Only authorized personnel should be allowed in the maintenance area. Authorized personnel are the trained people as defined below and their supervision. Place barricades or secure the area in such a manner that if there was an equipment failure, no personnel would be injured.

4. Repairs must be made only by trained personnel. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational and maintenance procedures.

5. All authorized maintenance personnel should be wearing, as a minimum, safety glasses and safety shoes.

**WARNING:**

WEAR HEAVY LEATHER GLOVES WHEN HANDLING WIRE ROPE. INSUFFICIENT HAND PROTECTION WHEN HANDLING WIRE ROPE CAN CAUSE SERIOUS PERSONAL INJURY.

6. Do not weld or otherwise modify the winch or any other part of the hoist. Such alterations may weaken the structural integrity of the winch or hoist and invalidate your warranty.

**WARNING:**

DURING ANY INSTALLATION, MAINTENANCE, OR REPAIR PROCEDURES, DO NOT ATTEMPT ANY HOISTING. THIS CAN CAUSE EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY.

**CAUTION:**

EXCEPT FOR MAINTENANCE AND REPAIRS THAT CANNOT BE DONE OTHERWISE, BRING THE LOAD TO ITS LOWEST POSITION WHEN WORKING ON ANY PART OF THE HOIST. SHUT DOWN AND LOCK OUT THE HYDRAPAK TO PREVENT ACCIDENTAL STARTUP. RELIEVE OR RENDER SAFE ALL THE POTENTIALLY HAZARDOUS ENERGY.

**WARNING:**

NEVER CLIMB THE HOIST TO DO MAINTENANCE. THIS CAN LEAD TO SERIOUS PERSONAL INJURY.
7. It is important that all the maintenance procedures outlined in the Pre-Hoisting Checklist in the front of this manual be done daily. Details on inspecting the wire rope are given in Section 6.2. All broken, worn or defective parts must be repaired or replaced before startup.

6.2 WIRE ROPE INSPECTION PROCEDURE

Inspect the wire rope prior to each use and at least daily for signs of wear and damage. Inspect the entire wire rope working length. Thoroughly inspect the rope sections that pass over sheaves or drums, or that make opposing turns. Inspect wire rope and end attachments carefully. While inspecting, examine sheaves, guards, guides, drums, flanges, and other surfaces contacting wire rope during operation. Correct any condition harming the rope in use or other damage or worn surfaces at this time.

Remove or replace immediately wire rope with one or more of the following defects:

1. Corrosion
2. Broken wires:
   (a) One or more valley breaks. A valley break is a wire break occurring in the valley between two adjacent strands.
   (b) Six randomly distributed broken wires in one rope lay. A rope lay is the length of rope along which one strand makes a complete revolution around the rope. See Figure 6-1. Keeping the rope clean and wound evenly on the drum will increase its life and efficiency.

![Figure 6-1. Wire Rope Components](image)

3. Abrasion: Scrubbing, flattening or peening causing loss of more than one-third of the original diameter of the outside wires.
4. Kinking: Severe kinking, crushing, bird caging or other damage causing distortion of the rope structure. Bird caging is a bulging in the cable caused by the individual wires becoming untwisted. This untwisting of individual wires is usually caused by impact loading on the cable (such as a sudden stop).

5. Heat damage: Evidence of any heat damage caused by a torch or by contact with electrical wires.

6. Reduction of more than 1/64 inch from a nominal 5/16-inch or less diameter cable. Marked reduction in diameter indicates core deterioration.
7 TROUBLESHOOTING

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

Troubleshooting guides for the associated HydraPak and swing hoist are in the instruction manuals specifically for these units.

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>CAUSE AND CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winch operating slowly or not at all—HydraPak</td>
<td>Hoses from HydraPak to winch leaking fluid in line or have a poor connection.</td>
</tr>
<tr>
<td>engine operating normally.</td>
<td>HydraPak hydraulic system malfunctioning—refer to Troubleshooting chapter in HydraPak manual.</td>
</tr>
<tr>
<td>Load drifts down.</td>
<td>Cable is coming off bottom of drum instead of top.</td>
</tr>
<tr>
<td>Hoist won’t lift load or is lifting it very slowly.</td>
<td>Engine speed too slow—increase throttling.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic oil flow too high for load—reduce flow from 8 gpm to 5 gpm.</td>
</tr>
<tr>
<td></td>
<td>Load not moving freely—check for block or cable malfunctions.</td>
</tr>
<tr>
<td></td>
<td>Single line operation being attempted for more than a 1000 pound load—use double line operation for loads up to 2000 pounds with an HS2000 hoist.</td>
</tr>
<tr>
<td></td>
<td>Problem with HydraPak hydraulics or related engine operation—refer to Troubleshooting chapter of the HydraPak manual for details.</td>
</tr>
<tr>
<td></td>
<td>Too much cable on drum—hoisting capacity decreases as wire rope diameter increases.</td>
</tr>
<tr>
<td></td>
<td>Hoist attempting to lift more than stated capacity of unit—check capacity rating and reduce load weight as needed.</td>
</tr>
</tbody>
</table>
8 PARTS LISTS

The following parts lists apply to the HydraWinch units only. The parts lists for the associated HS1000, HS2000, and HydraPak units are in the separate manuals for these items. Each item number on these parts lists can be matched with the item number shown on the Figure 8-1 assembly drawing.

8.1 HW1000S HYDRAWINCH

<table>
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<th>PART #</th>
<th>QTY</th>
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<td>1000785</td>
<td>1</td>
<td>WINCH FRAME</td>
</tr>
<tr>
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<td>1000790</td>
<td>1</td>
<td>CABLE GUARD</td>
</tr>
<tr>
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<td>1006589</td>
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<td>6205680</td>
<td>1</td>
<td>DECAL HYDRAWINCH 1000 LB. CAPACITY</td>
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8.2 HW2000S HYDRAWINCH

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Figure 8-1.
HydraWinch Assembly Drawing
LIMITED WARRANTY

Reimann & Georger Corporation
RGC CONSTRUCTION EQUIPMENT

For one (1) year from purchase, Reimann & Georger Corporation, hereafter called the Corporation, will replace, or at its option, repair for the original purchaser, free of charge, any product or part thereof described in our RGC Construction Equipment product catalog, found upon examination by the Corporation to be defective in material or workmanship or both, provided that written notice is given to the Corporation at P.O. Box 681, Buffalo, New York 14240, within a reasonable time. The purchaser shall be responsible for all transportation charges and any cost of removing any part submitted for replacement under this warranty. THERE IS NO OTHER EXPRESS WARRANTY.

IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM PURCHASE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. THIS IS THE EXCLUSIVE REMEDY AND LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES UNDER ANY AND ALL WARRANTIES IS EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

In addition, the Corporation shall be relieved of its performance of the duties under this warranty if any defect of any warranted product is caused by damage (not resulting from defect) while in the possession of the consumer, or by unreasonable use (including failure to provide reasonable maintenance), or if such defect is attributable to an Act of God or such other event beyond the control of the Corporation. This warranty excludes any component of our product that is not manufactured by the Corporation.

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