

INTENDED FOR USE BY PROFESSIONAL EQUIPMENT OPERATORS

OPERATING INSTRUCTIONS

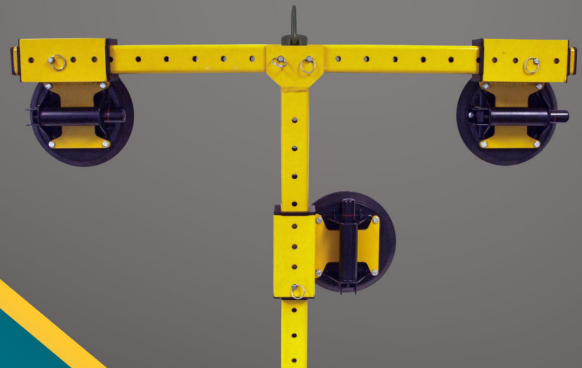


908 W. Main • P.O. Box 368
Laurel, MT USA 59044
(1) 800-548-7341
(1) 406-628-8231
www.wpg.com

 **READ AND UNDERSTAND BEFORE
OPERATING THIS EQUIPMENT**



Compatible
N4000 Hand Cups
from WPG
sold separately



VERTICAL LIFT HAND CUP FRAME

(Available with ADJUSTABLE CENTER ARM)

Model number: VL2MAN

Original Instructions © Wood's Powr-Grip Co., Inc.





TABLE OF CONTENTS

SPECIFICATIONS	3
SAFETY	5
OPERATING FEATURES.....	6
ASSEMBLY	7
TO INSTALL OR REMOVE THE ADJUSTABLE CENTER ARM.....	9
About Asymmetrical Loads	9
INTENDED USE	10
LOAD CHARACTERISTICS.....	10
INDIRECT LOADING	11
OPERATING ENVIRONMENT.....	11
DISPOSAL OF THE LIFTER	11
OPERATION.....	12
BEFORE USING THE LIFTER.....	12
Taking Safety Precautions	12
Performing Inspections and Tests	12
TO ATTACH THE PADS TO A LOAD	13
TO LIFT AND MOVE THE LOAD.....	16
Interpreting Red-Line Vacuum Indicators	16
Watching Red-Line Vacuum Indicators	16
Controlling the Lifter and Load	17
TO RELEASE THE PADS FROM THE LOAD	17
AFTER USING THE LIFTER.....	18
Storing the Lifter	18
Transporting the Lifter	18
INSPECTIONS AND TESTS.....	19
INSPECTION SCHEDULE	19
TESTING	20
Lifter/Load Compatibility Test.....	20
Operational Tests	21
Vacuum Test.....	21
Rated Load Test.....	22
MAINTENANCE	23

TABLE OF CONTENTS

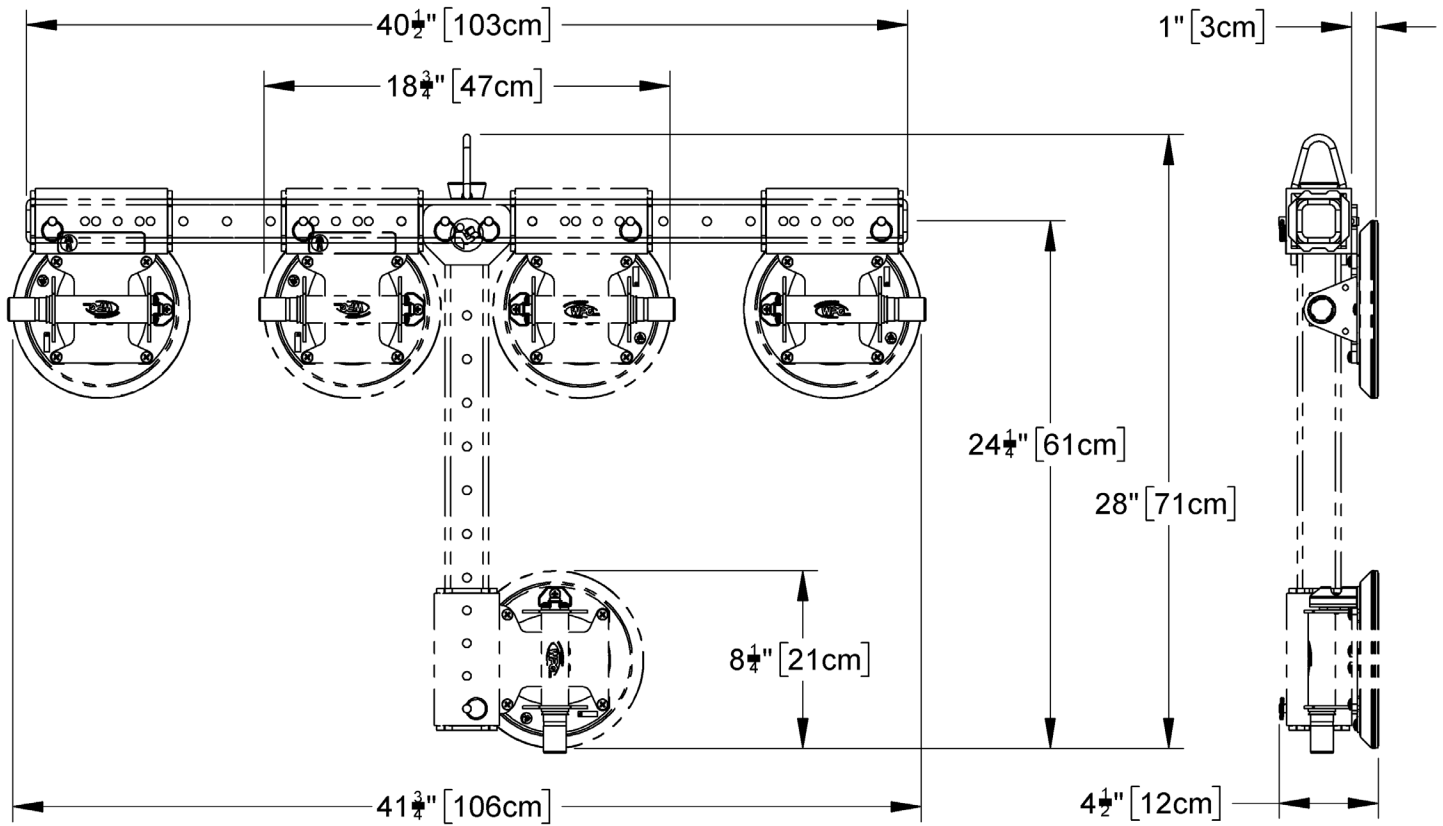
VACUUM PAD MAINTENANCE.....	23
Pad-to-Load Friction Coefficient	23
Pad Inspection	23
Pad Cleaning	24
REPLACEMENT PARTS.....	25
REGISTRATION AND LIMITED WARRANTY	26
TO REGISTER THIS WPG PRODUCT	26
ABOUT THE LIMITED WARRANTY	26
Obtaining Warranty Service or Repair Service.....	26

SPECIFICATIONS

Product Description	Designed for use with hoisting equipment, the VL2MAN lifter supports loads using vacuum for lifting in the upright orientation.		
Model Number	VL2MAN		
Compatible Hand Cups¹	8" [20 cm]	9" [23 cm]	11" [28 cm]
Pad Spread (to outer edges)			
Height—Maximum	8¼" [21 cm]	9¼" [23 cm]	12" [30 cm]
Minimum	8¼" [21 cm]	9¼" [23 cm]	12" [30 cm]
Width—Maximum	41¾" [106 cm]	42¾" [108 cm]	45½" [116 cm]
Minimum	16¾" [42 cm]	18¾" [47 cm]	24½" [62 cm]
	-----With Optional Center Arm-----		
Height—Maximum	24¼" [61 cm]	25¼" [64 cm]	28" [71 cm]
Minimum	10¾" [27 cm]	10¾" [27 cm]	13½" [34 cm]
Width—Maximum	41¾" [106 cm]	42¾" [108 cm]	45½" [116 cm]
Minimum	18¾" [47 cm]	19¾" [50 cm]	24½" [62 cm]
 Maximum Load Capacity^{2, 3}	Per Pad: 90 lbs [40 kg] Total: 180 lbs [80 kg]	Per Pad: 110 lbs [50 kg] Total: 220 lbs [100 kg]	Per Pad: 150 lbs [68 kg] Total: 300 lbs [135 kg]
 Lifter Weight	25 lbs [12 kg]; 40 lbs [19 kg] w/ Adjustable Center Arm		
Product Options	<i>Available</i> with Adjustable Center Arm. See separate instructions about other options.		
 Operating Elevation	Up to 5,000' [1,524 m]		
 Operating Temperatures	10° — 120° F [-12° — 49° C]		
Service Life	16,000 lifting cycles, when used and maintained as intended ⁴		
ASME Standard BTH-1	Design Category "B", Service Class "0"		

- 1..... Specifications apply to lifters using WPG hand cups, as indicated. If another hand cup is used, consult the manufacturer for specifications. The maximum structural capacity of this lifter is 300 lbs [135 kg], regardless of capacity ratings for any hand cups that may be installed.
- 2..... The Maximum Load Capacity is rated at a vacuum of 16" Hg [-54 kPa] on clean, smooth, nonporous flat surfaces with a friction coefficient of 1. Pad compound, load rigidity, strength, surface conditions, overhang, angle, center of gravity and temperature can also affect the lifting capacity. A "qualified person" should evaluate the effective lifting capacity for each use (see definition under "Rated Load Test").
- 3..... The Per-Pad Load Capacity does not apply to the vacuum pad on the Adjustable Center Arm, because it does not contribute to the lifter's Maximum Load Capacity. In addition, capacities calculated from the Per-Pad Load Capacity may not exceed the Maximum Load Capacities listed above.
- 4..... Vacuum pads and other wear-out items are excluded.

SPECIFICATIONS



Note: A standard VL2MAN with Adjustable Center Arm and 8" [20 cm] hand cups is shown.

SAFETY



Wear personal protective equipment that is appropriate for the load material. Follow trade association guidelines.



Do not remove or obscure safety labels.



Do not make any modifications to the lifter. Modifying the lifter will void the Limited Warranty.



Use the lifter only in an approved "OPERATING ENVIRONMENT" (see "INTENDED USE").



Make sure to consider all possible effects of "INDIRECT LOADING" on lifting capacity (see "INTENDED USE").



Do not use a lifter that is damaged, malfunctioning, or missing parts.



Do not use a lifter if the sealing edge of any vacuum pad is cut or otherwise damaged.



Do not use a lifter to lift cracked or broken glass.



Do not exceed the Maximum Load Capacity or lift loads the lifter is not designed for (see "INTENDED USE").



Do not use a lifter if the Maximum Load Capacity or any safety label appears to be missing or obscured.



Make sure the contact surfaces of the load and vacuum pad are clean before attaching the lifter (see "MAINTENANCE").



Position the vacuum pad correctly on the load before lifting (see "OPERATION").



Do not lift a load if any vacuum indicator shows inadequate vacuum.



Keep unauthorized personnel away from the lifter, to avoid injury in case of an unintended load release.



Do not touch the vacuum release controls during a lift.



Do not allow people to ride on the lifter or the load.



Do not lift a load higher than necessary or leave suspended loads unattended.



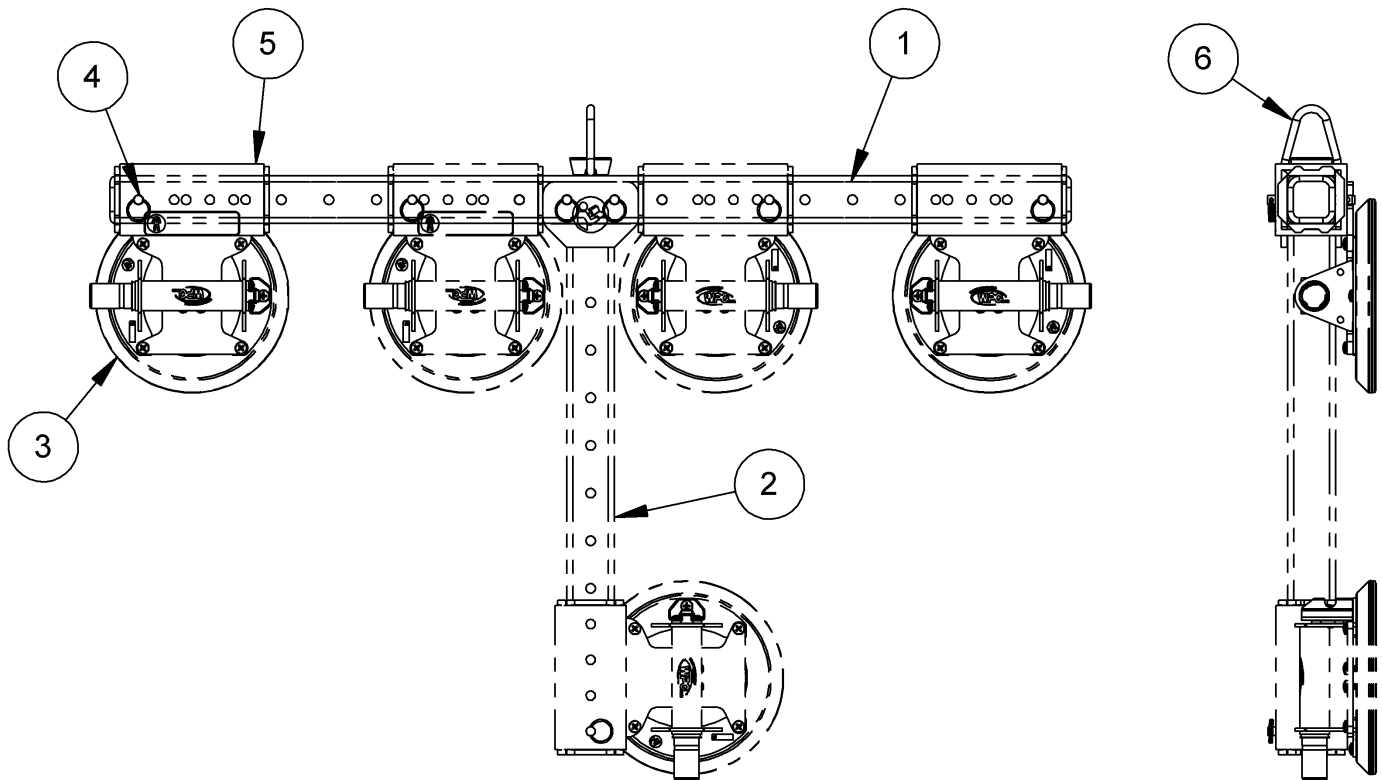
Do not position a loaded or unloaded lifter over people.



Before servicing a powered lifter, place the power control in the inactive position and, when possible, disconnect the power source.

OPERATING FEATURES

Features shown here are underlined> on their first appearance in each section following.



- | | | | | | |
|---|----------------------|---|----------------------------------|---|--------------------------|
| 1 | PAD FRAME | 2 | ADJUSTABLE CENTER ARM (optional) | 3 | HAND CUP with VACUUM PAD |
| 4 | COTTERLESS HITCH PIN | 5 | SLIDING HAND CUP MOUNT | 6 | LIFT POINT |

Note: A standard VL2MAN with Adjustable Center Arm and 8" [20 cm] hand cups is shown.

For information about specific parts, see ["REPLACEMENT PARTS"](#) and/or any separate instructions for Product Options.

ASSEMBLY

- 1) Remove all shipping materials and save them with the shipping container for future use.
- 2) If the lifter has the adjustable center arm, install or remove this option as needed to support anticipated load dimensions (see [“TO INSTALL OR REMOVE THE ADJUSTABLE CENTER ARM”](#)).
- 3) When necessary, attach a Powr-Grip® hand cup to each sliding hand cup mount:¹

3.1) Remove the 4 screws from the corners of the hand cup’s handle base.

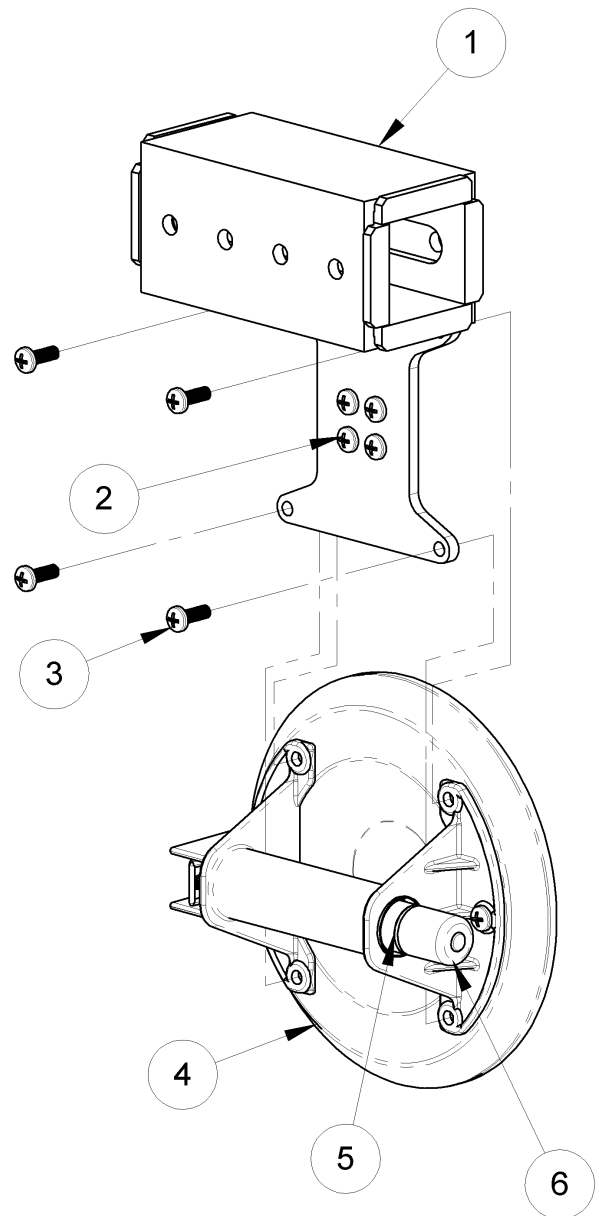
3.2) Remove the 4 longer screws from the center of the cup mount. Insert the 4 hand cup screws into the center of the cup mount. Then tighten the screws securely.

3.3) Position the hand cup onto the cup mount and align the screw holes.

3.4) Insert the longer screws through the cup mount and into the hand cup. Then tighten the screws securely.

3.5) Repeat these steps for all cup mounts in use.

Note: Make sure all vacuum pads are facing the same direction.



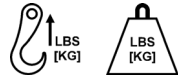
- 1 SLIDING HAND CUP MOUNT
- 2 HAND CUP SCREWS
- 3 LONGER SCREWS
- 4 VACUUM PAD
- 5 RED-LINE VACUUM INDICATOR
- 6 PLUNGER

1..... Other manufacturers' hand cups may reduce load capacity or be incompatible. Use the same model of hand cups in all cup mounts.

ASSEMBLY


4) Suspend the lifter from appropriate hoisting equipment:

- 4.1) Select a crane and/or hoist rated for the Maximum Load Capacity plus the Lifter Weight.




Note: Any lifter use must comply with all statutory or regulatory standards for hoisting equipment in your region.

- 4.2) Attach the hoisting hook to the lift point (fig. 4A).

 **Make sure hook has restraining latch (see arrow in fig. 4A).**

Use rigging (fig. 4B) as needed to make sure the hook does not interfere with the load.

 **Only use rigging rated for Maximum Load Capacity plus Lifter Weight.**



- 4.3) Use the hoisting equipment to suspend the lifter.

- 5) Perform tests as required under “**TESTING**”.

ASSEMBLY

TO INSTALL OR REMOVE THE ADJUSTABLE CENTER ARM

 **Center arm does NOT increase lifting capacity.**

If the lifter has an adjustable center arm, install this option as needed to support the load's dimensions before attaching the lifter to a load (see ["TO ATTACH THE PADS TO A LOAD"](#)):^{1, 2}

- 1) Remove the cotterless hitch pins (circled in fig. 1A) from the mount of the center arm.
- 2) Slide the pad frame into the mount, so that the holes below the lift point align for the hitch pins.



Use BOTH hitch pins to secure center arm on the pad frame.

- 3) Reinstall the hitch pins through the holes, to secure the center arm on the pad frame.

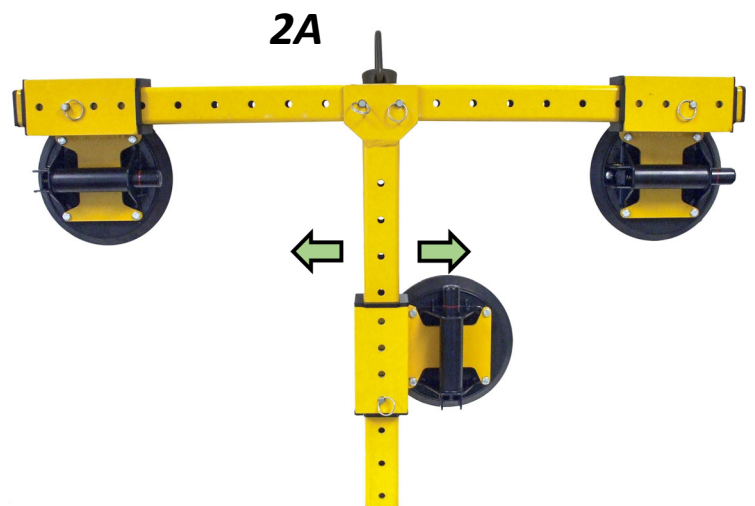


To remove the center arm, reverse these steps. Store the center arm in a clean, dry location.

About Asymmetrical Loads

If the load has an asymmetrical shape (eg, L-shaped loads), you can move the adjustable center arm along the lifter's pad frame to provide better support (fig. 2A):

- 1) Remove the cotterless hitch pins from the center arm's mount.
- 2) Slide the center arm to the desired location on the pad frame and align the holes for the hitch pins.
- 3) Reinstall the hitch pins, to secure the center arm.



1..... To support the maximum load dimensions, the center arm must be installed on the lifter.

2..... To support smaller dimensions, the center arm may be removed, provided that load overhang can be minimized sufficiently (see ["LOAD CHARACTERISTICS"](#)).

INTENDED USE

LOAD CHARACTERISTICS

Make sure the vacuum lifter is intended to handle each load according to these requirements:



Do NOT lift explosives, radioactive substances or other hazardous materials.



- The load weight must not exceed the Maximum Load Capacity.
- The load must be a single piece of nonporous material with a flat and relatively smooth contact surface.^{1, 2} To determine whether the load is too porous or rough, perform the “[Lifter/Load Compatibility Test](#)”.
- The load's contact surface must be able to obtain a friction coefficient of 1 with the lifter's vacuum pads (see “[Pad-to-Load Friction Coefficient](#)”). Otherwise, the capacity should be derated appropriately.
- The load's surface temperature must not exceed the Operating Temperatures.³
- The load's *minimum* length and width are determined by the current Pad Spread (see “SPECIFICATIONS”).
- The load's *maximum* length and width are determined by its allowable overhang.⁴
- 1" [2.5 cm] is the allowable thickness at Maximum Load Capacity.⁵



Do NOT lift rough or porous materials, such as unfinished wood or rough-cut stone.



Note: Standard vacuum pads can stain or deform load surfaces with light colors or soft coatings. Test such surfaces for damaging effects before using the lifter on them.⁶

1..... Although concave vacuum pads can also attach to some curved loads, curvature can reduce lifting capacity. Contact WPG for more information.

2..... A “single piece” of material includes curtainwall assemblies, unitized glazing systems and similar construction units.

3..... Vacuum pads made from a heat-resistant rubber compound can enable you to lift loads with higher surface temperatures. Contact WPG or an authorized dealer for more information.

4..... The allowable overhang is the amount of load material that can extend sideways beyond the vacuum pad without breaking or otherwise being damaged. This depends on the load material, its thickness, and the angle of handling (if any). Since every material has different physical properties, the allowable overhang must be evaluated separately for each load type. Contact WPG or an authorized dealer for more information.

5..... However, the allowable thickness increases as load weight decreases. Contact WPG for more information.

6..... Alternative rubber compounds are available for these purposes. Contact WPG or an authorized dealer for more information.

INTENDED USE

INDIRECT LOADING

Make sure to account for dynamic loading or other inadvertent loading that can negatively affect lifting capacity, such as:

- Weight amplification that results when a loaded vacuum lifter abruptly starts/stops moving, changes direction or bounces up and down (eg, when a telehandler transports a loaded lifter across rough terrain).
- External force that effectively increases the weight of a lifter's attached load (eg, when a load of sheet material reacts to wind gusts).



Indirect loading can reduce lifting capacity.

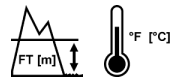
OPERATING ENVIRONMENT

Make sure the lifter is suitable for each work environment, given the following restrictions:

- This lifter is not intended for any environment that is dangerous to the operator or damaging to the lifter. Avoid environments containing explosives, caustic chemicals and other dangerous substances.
- The work environment is limited by the Operating Elevation and Operating Temperatures.¹
- The lifter is not designed to be watertight. Do not use it in rain or other unsuitable conditions.



Never use lifter in dangerous environments.



Moisture can reduce lifting capacity.

CE/UKCA — A secondary positive holding device is required to lift loads on construction sites.

DISPOSAL OF THE LIFTER

After the Service Life of the lifter has ended (see "SPECIFICATIONS"), dispose of it in compliance with all local codes and applicable regulatory standards.

¹..... Lifting capacity is reduced whenever the red-line indicators are visible. Contact WPG for more information.

BEFORE USING THE LIFTER

Determine whether the vacuum lifter is capable of each intended task (see “SPECIFICATIONS” and “[INTENDED USE](#)”). Then complete the following preparations:

Taking Safety Precautions

- Be trained in all industry and regulatory standards for lifter operation in your region.
- Follow trade association guidelines about precautions needed for each load material.



Read all directions and safety rules before using lifter.



Always wear appropriate personal protective equipment.

Performing Inspections and Tests

- Follow the “[INSPECTION SCHEDULE](#)” and “[TESTING](#)”.

OPERATION

To ATTACH THE PADS TO A LOAD

Caution: Attach this lifter only to vertically oriented loads.

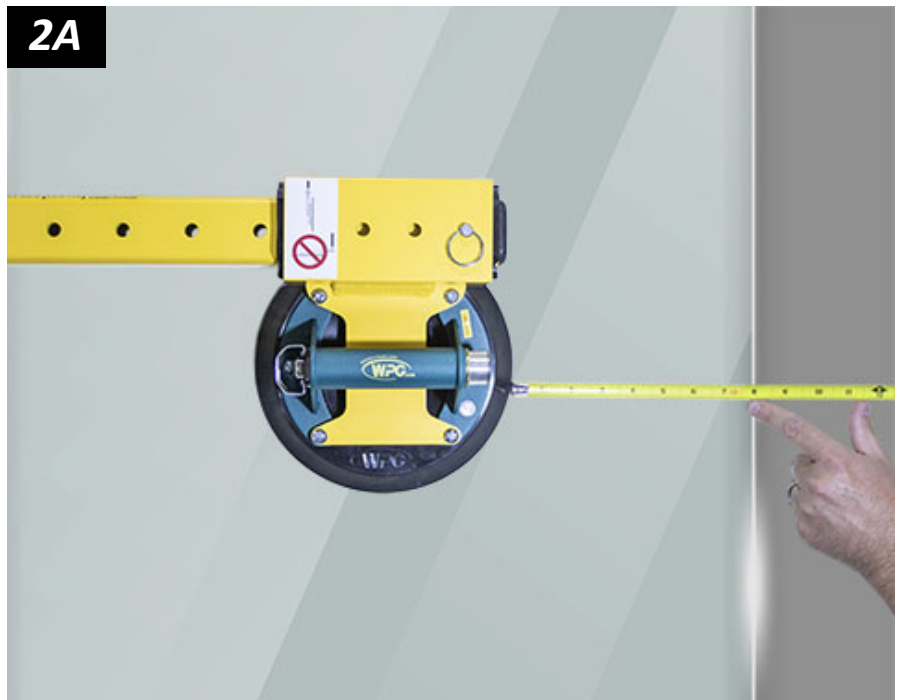
- 1) Make sure the contact surfaces of the load and vacuum pads (fig. 1A) are clean (see “[Pad Cleaning](#)”).



- 2) Center the pad frame from left to right on the load and position the (uppermost) pads near the top edge, to maximize stability. Make sure all pads will fit on the load and will be loaded evenly (fig. 2A).



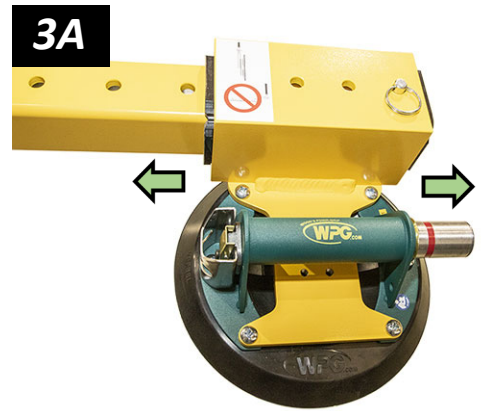
Consult the Per-Pad Load Capacity.



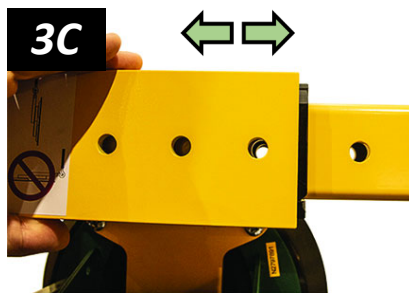
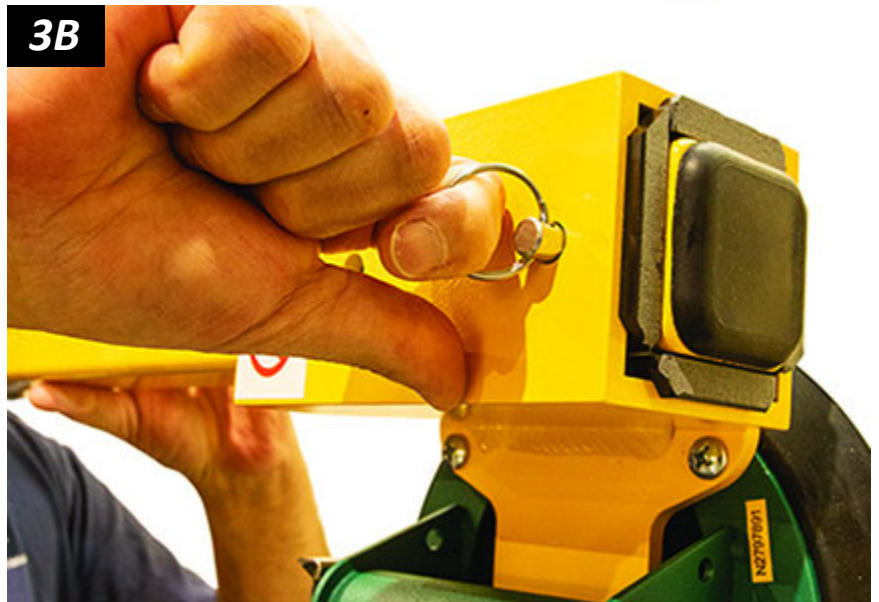
OPERATION

- 3) Position the sliding hand cup mounts to optimize load support and minimize load overhang (fig. 3A):

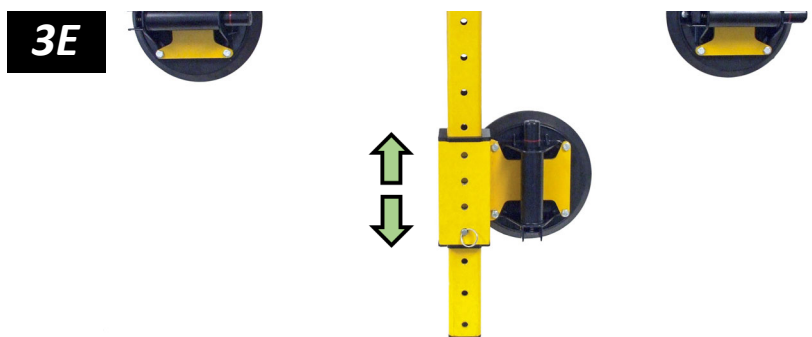
Note: Adjacent vacuum pads must not contact one another.



- 3.1) Remove the cotterless hitch pin from one cup mount (fig. 3B).
3.2) Slide the cup mount to the desired position and align the holes for the hitch pin (fig. 3C).
3.3) Reinstall the hitch pin to secure the cup mount (fig. 3D).
3.4) Repeat these steps for each cup mount.

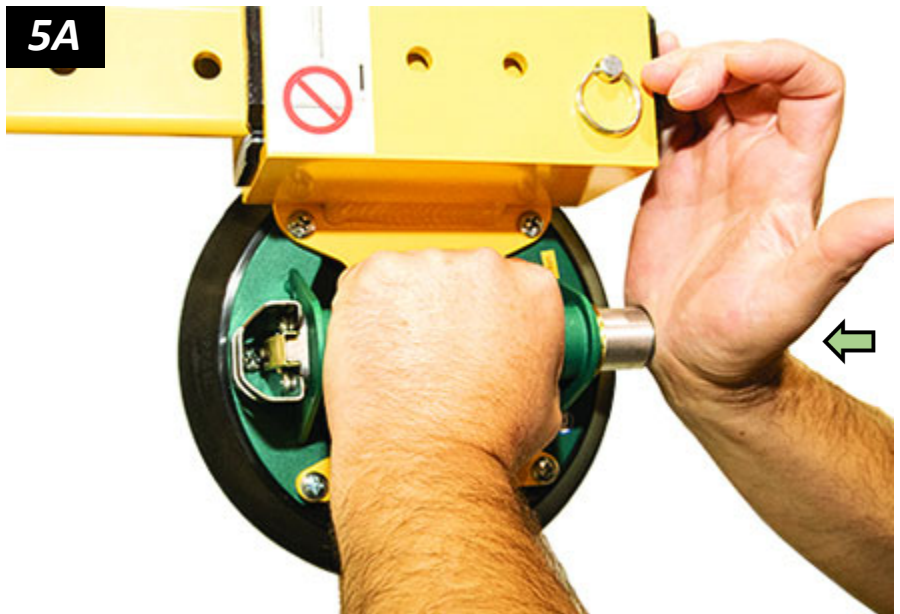


Note: If the lifter has an adjustable center arm, repeat these steps for the cup mount on it, too (fig. 3E).



OPERATION

- 4) Place the vacuum pads on the load surface. Make sure the entire sealing edge of each pad is in contact with the surface.¹
- 5) Pump the plunger of each hand cup (figs. 5A-B) until the red-line vacuum indicator stays hidden (see [“Watching Red-Line Vacuum Indicators”](#)). Repeat this with all hand cups in use.



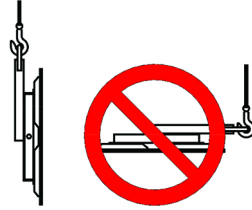
1..... Although a vacuum pad may become distorted during shipping or storage, this condition should correct itself with continued use.

OPERATION

TO LIFT AND MOVE THE LOAD



Never lift load when lifter is in horizontal orientation.

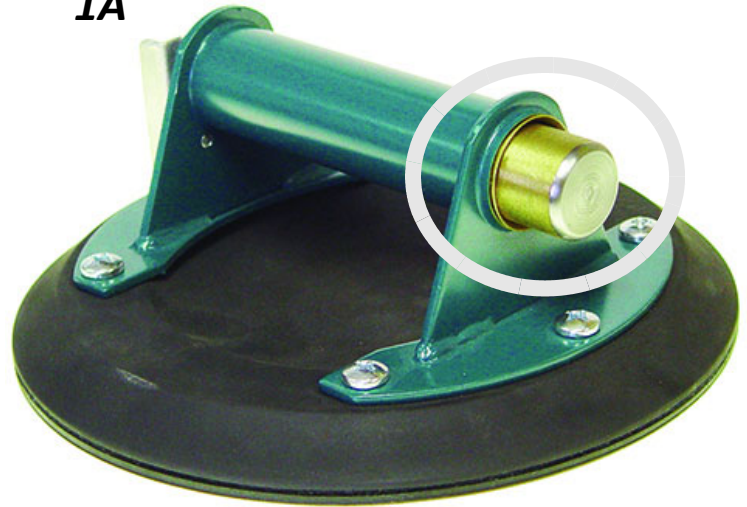


Interpreting Red-Line Vacuum Indicators

A red line on the plunger of each hand cup serves as a vacuum indicator. When the red-line vacuum indicator is hidden (circled in fig. 1A) on all hand cups in use, vacuum is sufficient for lifting.

If air leaks back into any hand cup, its red-line indicator will become visible, to signal the reduction in vacuum.

1A



Never lift load when any red-line indicator is visible, because this action could result in load release and personal injury.

Watching Red-Line Vacuum Indicators

The plungers on all hand cups must remain completely visible to the operator throughout the entire lift.

Check all red-line vacuum indicators

frequently to make sure the vacuum pads remain securely attached. If a red-line indicator becomes visible on any hand cup:

- 1) Keep everyone away from a suspended load until it can be safely lowered to a stable support.

- 2) Stop using the lifter until the cause of the vacuum loss is identified: Conduct the “[Pad Inspection](#)” and perform a “[Vacuum Test](#)”.

- 3) Correct any deficiency before resuming normal operation of the lifter. Consult the hand cups’ *INSTRUCTIONS* for service information.



Always monitor red-line vacuum indicators; never leave suspended loads unattended.



Stay clear of suspended load while any red-line indicator is visible.

OPERATION

Controlling the Lifter and Load

When the lifter is ready, use the hoisting equipment to raise the lifter and load as needed.

Use the pad frame, additional hand cups or other appropriate means to keep the lifter and load in the required position.

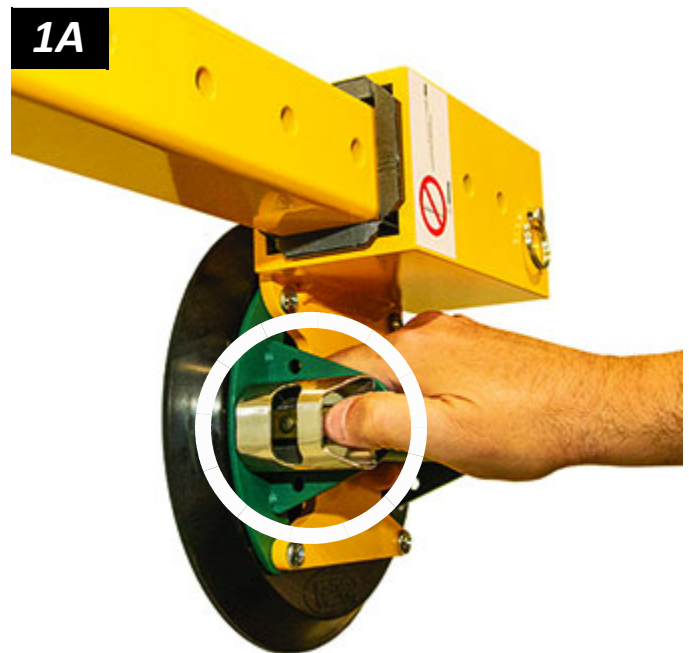
Once there is enough clearance, you may move the load as required.

TO RELEASE THE PADS FROM THE LOAD



Make sure load is at rest and fully supported before releasing vacuum pads.

- 1) Press the valve release lever (circled in fig. 1A) on each hand cup until all the vacuum pads disengage completely from the load.
- 2) Before you lift another load, perform the Every-Lift Inspection (see “[INSPECTION SCHEDULE](#)”).



OPERATION

AFTER USING THE LIFTER

Use the hoisting equipment to lower the vacuum lifter gently onto a stable support. Then detach the hoisting hook from the lift point.

Caution: Do not set the lifter on surfaces that could soil or damage vacuum pads.

Storing the Lifter

- 1) Use the covers (when available) to keep the vacuum pads clean (fig. 1A).

CE/UKCA — To prevent the lifter from tipping over on relatively horizontal surfaces, place the vacuum pads facedown on a clean, smooth, flat surface.

- 2) Store the lifter in a clean, dry location.

Note: If hand cups are removed from the lifter, store them in their original cases (fig. 2A), if applicable.



Transporting the Lifter

Secure the lifter in the original shipping container with the original shipping materials or equivalent.

INSPECTIONS AND TESTS

INSPECTION SCHEDULE

Consult hand cup INSTRUCTIONS for additional inspection requirements.

Perform inspections according to the following frequency schedule. If any fault is found, correct it and perform the next most frequent inspection before using the vacuum lifter.

Note: If a lifter is used less than 1 day in a 2-week period, perform the Periodic Inspection before using it.

Action	Every Lift	Frequent ¹ (every 20-40 hrs)	Periodic ² (every 250-400 hrs)
Examine <u>vacuum pads</u> for contaminants or damage (see "Pad Inspection").	✓	✓	✓
Examine load surface for contaminants or debris.	✓	✓	✓
Examine lifter's structure for damage.		✓	✓
Examine <u>hand cups</u> for damage.		✓	✓
Perform "Vacuum Test" .		✓	✓
Examine entire lifter for evidence of: <ul style="list-style-type: none"> • looseness, excessive wear or excessive corrosion • deformation, cracks, dents to structural or functional components • any other hazardous conditions 			✓

1..... The Frequent Inspection is also required whenever the lifter has been out of service for 1 month or more.

2..... The Periodic Inspection is also required whenever the lifter has been out of service for 1 year or more. Keep a written record of all Periodic Inspections. If necessary, return the lifter to WPG or an authorized dealer for repair (see ["REGISTRATION AND LIMITED WARRANTY"](#)).

TESTING

Lifter/Load Compatibility Test¹

- 1) Make sure the hand cups are functioning correctly (see “[Vacuum Test](#)”).
- 2) Thoroughly clean the load surface and the vacuum pads (see “[Pad Cleaning](#)”).
- 3) Place the load in the upright position on a stable support.
- 4) Attach the vacuum pads to the load as previously directed.
- 5) Raise the load a minimal distance, to make sure it is supported by the lifter.
- 6) Watch the red-line vacuum indicators: **All of them must remain hidden for 5 minutes**. If not, the load is not compatible with this lifter. Contact WPG for more information.
- 7) Lower the load *after* 5 minutes or *whenever* any red-line indicator begins to appear.



Take precautions in case load should fall during test.

1..... The “[Pad-to-Load Friction Coefficient](#)” can affect the outcome of this test.

INSPECTIONS AND TESTS

Perform the following tests before placing the lifter in service *initially, following any repair,* when directed in the “*INSPECTION SCHEDULE*”, or *whenever necessary*:

Operational Tests

Test all features and functions of the lifter (see “OPERATING FEATURES” and “OPERATION”).

Vacuum Test

- 1) Clean the face of each vacuum pad (see “*Pad Cleaning*”).
- 2) Attach the vacuum pads as previously directed to a clean, smooth, scratch-free piece of glass or metal.¹ ***Do not lift the test material during the test.***
- 3) Monitor the hand cups' red-line vacuum indicators: ***All red-line indicators must remain hidden for 2 hours.*** If not, service the hand cup(s) as directed in their *INSTRUCTIONS* and repeat the test.
- 4) Correct any fault before resuming normal operation of the lifter.




Never use lifter with hand cup that has failed test.

1..... The material should have either a flat surface or no more curvature than the lifter is designed for, if any.

INSPECTIONS AND TESTS

Rated Load Test¹

The following steps must be performed or supervised by a qualified person:²

- 1) Use a test load that weighs 125% ($\pm 5\%$) of the Maximum Load Capacity and has the appropriate “LOAD CHARACTERISTICS”. 
- 2) Attach the vacuum pads to the load as previously directed.
- 3) Position the load to produce the greatest stress on the lifter consistent with “INTENDED USE”.
- 4) Raise the load a minimal distance and leave it suspended for 2 minutes.
- 5) Once the test is completed, lower the load for release as previously directed.
- 6) Inspect the lifter and hand cups for any stress damage, and repair or replace components as necessary to successfully pass the test.
- 7) Prepare a written report of the test and keep it on file.



Take precautions in case load should fall during test.



Never use lifter that has failed test.

1..... An equivalent simulation may also be used. Contact WPG for more information.

2..... A “qualified person” has successfully demonstrated the ability to solve problems relating to the subject matter and work, either by possessing a recognized degree in an applicable field or a certificate of professional standing, or by possessing extensive knowledge, training and experience.

MAINTENANCE

Notes: Maintenance must be performed whenever a deficiency is indicated by “INSPECTIONS AND TESTS” and completed before resuming normal operation of the lifter. Consult the hand cup INSTRUCTIONS for additional maintenance information.

VACUUM PAD MAINTENANCE

Pad-to-Load Friction Coefficient

The friction coefficient represents the lifter's ability to resist load slippage. The Maximum Load Capacity is based on a friction coefficient of 1, as determined by testing of clean, new, standard rubber vacuum pads on clean, dry, regular glass. *If the lifter is used under any other conditions, a qualified person must first determine the effective lifting capacity.*¹

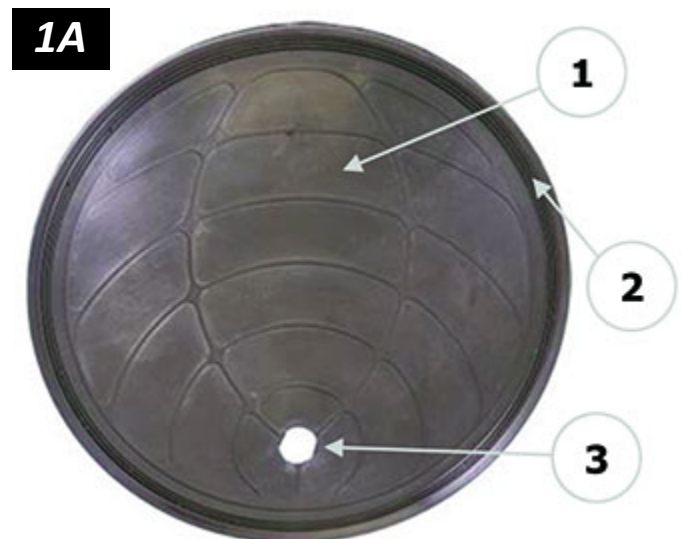


Long-term exposure to heat, chemicals or UV light can reduce the friction coefficient of vacuum pads. Replace pads every 2 years or more often, when necessary.

Pad Inspection

Inspect each vacuum pad (fig. 1A) according to the “INSPECTION SCHEDULE” and correct the following faults before using the lifter (see hand cup INSTRUCTIONS, when applicable):

- Contaminants on the face (item 1 in fig. 1A) or sealing edges (item 2 in fig. 1A).
- Air filter (item 3 in fig. 1A) missing from face.
- Nicks, cuts, deformation or abrasions in sealing edges.



Replace any pad that has damaged sealing edges.

- Wear, stiffness or glaze.

1..... A “qualified person” has successfully demonstrated the ability to solve problems relating to the subject matter and work, either by possessing a recognized degree in an applicable field or a certificate of professional standing, or by possessing extensive knowledge, training and experience.

Pad Cleaning

- 1) Regularly clean the face of each vacuum pad (fig. 1A), using soapy water or other mild cleansers to remove oil, dust and other contaminants.



Never use harsh chemicals on vacuum pad.

Solvents, petroleum-based products (including kerosene, gasoline and diesel fuel) or other harsh chemicals can damage vacuum pads.



Never use rubber conditioners on vacuum pad.

Many rubber conditioners can leave a hazardous film on vacuum pads.

- 2) Prevent liquid from entering the vacuum pump through the suction hole on the pad face.
- 3) Remove the air filter and wipe the pad face clean, using a clean sponge or lint-free cloth to apply the cleanser.¹
- 4) Allow the pad to dry completely and reinstall the air filter.

Repeat steps 1-4 for all vacuum pads before using the lifter.

1A



¹..... A brush with bristles *that do not harm rubber* can help remove contaminants clinging to sealing edges. If these cleaning methods are not successful, contact WPG or an authorized dealer for assistance.

REPLACEMENT PARTS

Stock No.	Description	Qty.
91820	Hand Cup – Model N6292 / 11" [28 cm] Diameter	2-3
91620	Hand Cup – Model N5450 / 9" [23 cm] Diameter	2-3
91500	Hand Cup – Model N4950 / 8" [20 cm] Diameter	2 / 3
91400	Hand Cup – Model N4000 / 8" [20 cm] Diameter	2 / 3
65334	Hoist Ring – 180° Pivot	1
49110	End Plug – 2" x 2" x 3/16" Tubing Size	2
29353	Pad Cover (optional)	2 / 3
13522	Cotterless Hitch Pin – 3/8" x 3-1/2"	2
13520	Cotterless Hitch Pin – 3/8" x 3" (for Center Arm option)	2
10003	Machine Screw – 1/4-20 x 3/4" (for Sliding Hand Cup Mounts)	8 / 12

**SERVICE ONLY WITH IDENTICAL REPLACEMENT PARTS,
AVAILABLE AT WPG.COM OR THROUGH AN AUTHORIZED WPG DEALER**

REGISTRATION AND LIMITED WARRANTY

TO REGISTER THIS WPG PRODUCT

Go to the [PRODUCT REGISTRATION](#) page at [wpg.com](#) and complete the form. Registration keeps you advised of important updates and notifications, and simplifies inquiries to WPG regarding your product. Registration is **not** required to activate your Limited Warranty (see next section).

ABOUT THE LIMITED WARRANTY



Note: Read the [WARRANTY RETURN FORM](#) at [wpg.com](#) for important details about the Limited Warranty.

Wood's Powr-Grip® (WPG) products are warranted to be free from defects in manufacturing and materials for 1 year from the date of purchase.

If a problem develops during the warranty period, follow the instructions below to obtain warranty service. If inspection shows that the product has a defect, WPG will repair or replace the product without charge.



Obtaining Warranty Service or Repair Service

For customers in the U.S. and Canada: Go to the [EXCHANGES, REPAIRS, & WARRANTIES](#) page at [wpg.com](#) and click the applicable link. Alternatively, you may contact the WPG Technical Service Department (see contact information below).

For customers in all other localities: Contact the WPG Technical Service Department (see contact information below) or your dealer for assistance.

ADDRESS	EMAIL	PHONE
Wood's Powr-Grip Co., Inc. 908 West Main St. Laurel, MT USA 59044	contactus@wpg.com	(1) 800-548-7341 (1) 406-628-8231