

INTENDED FOR USE BY PROFESSIONAL EQUIPMENT OPERATORS

# OPERATING INSTRUCTIONS



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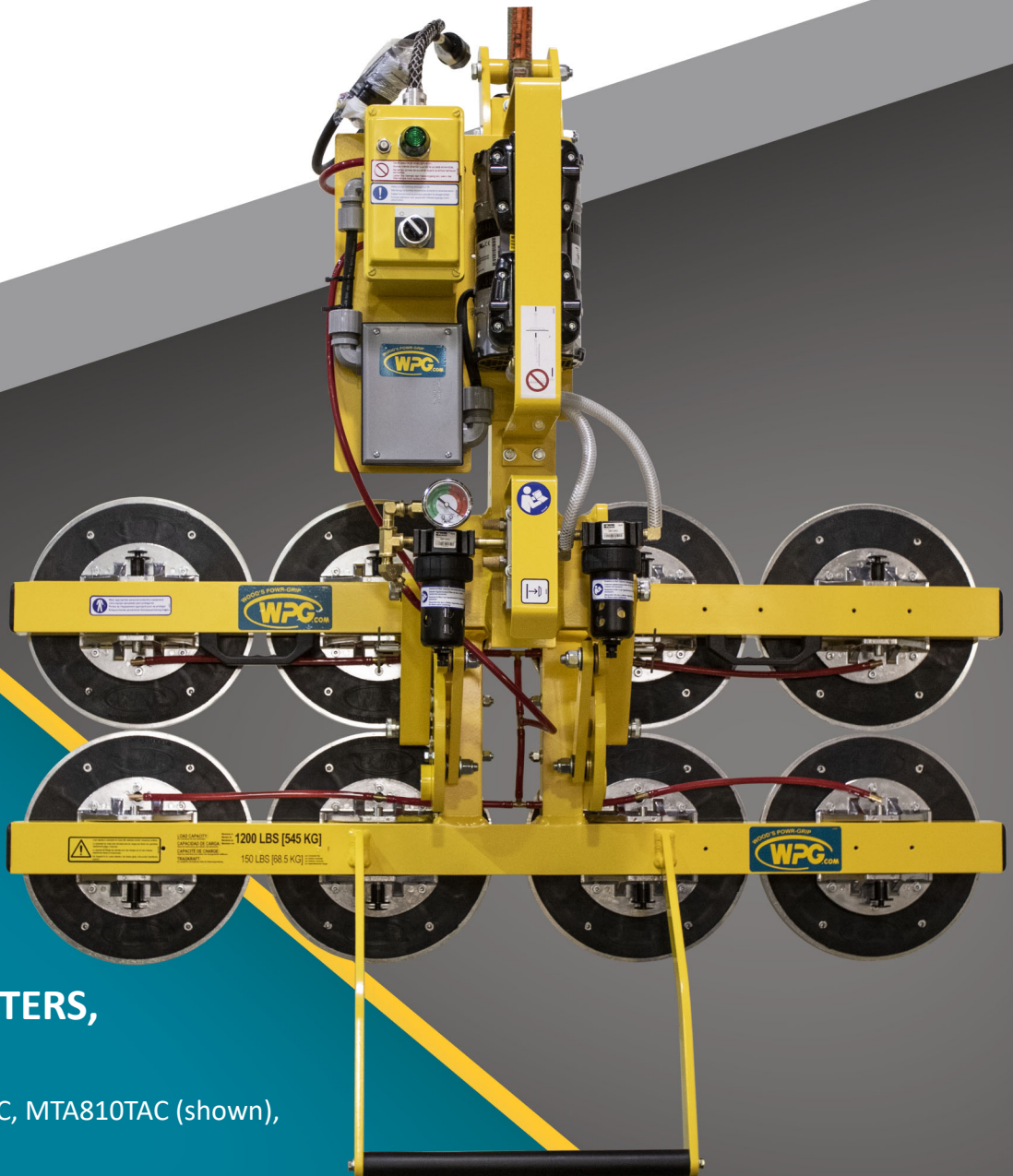
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 **READ AND UNDERSTAND BEFORE  
OPERATING THIS EQUIPMENT**



## QUADRA-TILT LIFTERS, AC-VOLTAGE

Model numbers: MTA49AC, MTA810TAC (shown),  
MTA811LAC

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








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# SPECIFICATIONS

<b>Product Description</b>	Designed for use with hoisting equipment, MTA-AC lifters support loads using vacuum and manipulate loads using mechanically assisted, manual 90° tilt motions.		
<b>Model Number</b>	MTA49AC	MTA810TAC	MTA811LAC
<b>Vacuum Pads</b> (standard rubber <sup>1</sup> )	Four 9" [23 cm] nom. diameter (Model VPFS9)	Eight 10" [25 cm] nom. diameter, with ring (Model VPFS10T <sup>2</sup> )	Eight 11" [28 cm] nom. diameter, lipped (Model G3370)
<b>Maximum Pad Spread</b> (to outer edges)	22" x 47¾" [56 cm x 122 cm] <sup>3</sup>	24¼" x 50" [61 cm x 127 cm]	24½" x 50¼" [62 cm x 128 cm]
 <b>Maximum Load Capacity</b> <sup>4, 5</sup>	Per pad: 125 lbs [56.5 kg] Total: 500 lbs [225 kg]	Per pad: 150 lbs [68 kg] Total: 1,200 lbs [545 kg]	Per pad: 175 lbs [79.5 kg] Total: 1,400 lbs [635 kg]
 <b>Lifter Weight</b>	130 lbs [59 kg]	145 lbs [66 kg]	145 lbs [66 kg]
<b>Power Source</b>	See serial number plate for specific AC voltage, frequency and amperage.		
 <b>Tilt Capability</b>	Manual, 90°, with four-bar tilt linkage that provides mechanical advantage and tilt locks that prevent tilt motion when engaged		
<b>Product Options</b>	Movable Pad Mounts on MTA49AC only. <i>Available</i> with 2" [5 cm] Pad Spacers. <i>Available</i> with Individual Pad Shutoffs. See separate instructions about other options.		
 <b>Operating Elevation</b>	Up to 6,000 feet [1,828 meters]		
 <b>Operating Temperatures</b>	32° — 104° F [0° — 40° C]		
<b>Service Life</b>	16,000 lifting cycles, when used and maintained as intended. <sup>6</sup>		
<b>ASME Standard BTH-1</b>	Design Category "B", Service Class "0"		
<b>Troubleshooting Guide</b>	<a href="#">TST-016_GENERIC_LEAK_TEST_rev_2014-086</a>		

1..... Available with [other rubber compounds](#) for special purposes.

2..... Standard with replaceable sealing rings for rough or textured surfaces (see ["REPLACEMENT PARTS"](#)).

3..... Minimum Pad Spread = 22" x 22¾" [56 cm x 58 cm]

4..... The Maximum Load Capacity is rated and verified at a vacuum of 16" Hg [-54 kPa] on clean, smooth, nonporous flat surfaces with a friction coefficient of 1. Rating is verified by testing on polycarbonate (or metal with a painted surface) with a coefficient of friction similar to plain (non-coated) glass and a surface temperature at approx. 70° F [21° C].

5..... Pad compound, load rigidity, strength, surface conditions, overhang, angle, center of gravity and temperature affect lifting capacity. A "qualified person" should evaluate the effective lifting capacity for each use (see definition under ["Rated Load Test"](#)).

6..... Vacuum pads, filter elements and other wear-out items are excluded.

# 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 pads are clean before attaching the lifter (see "MAINTENANCE").



Position the vacuum pads 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.



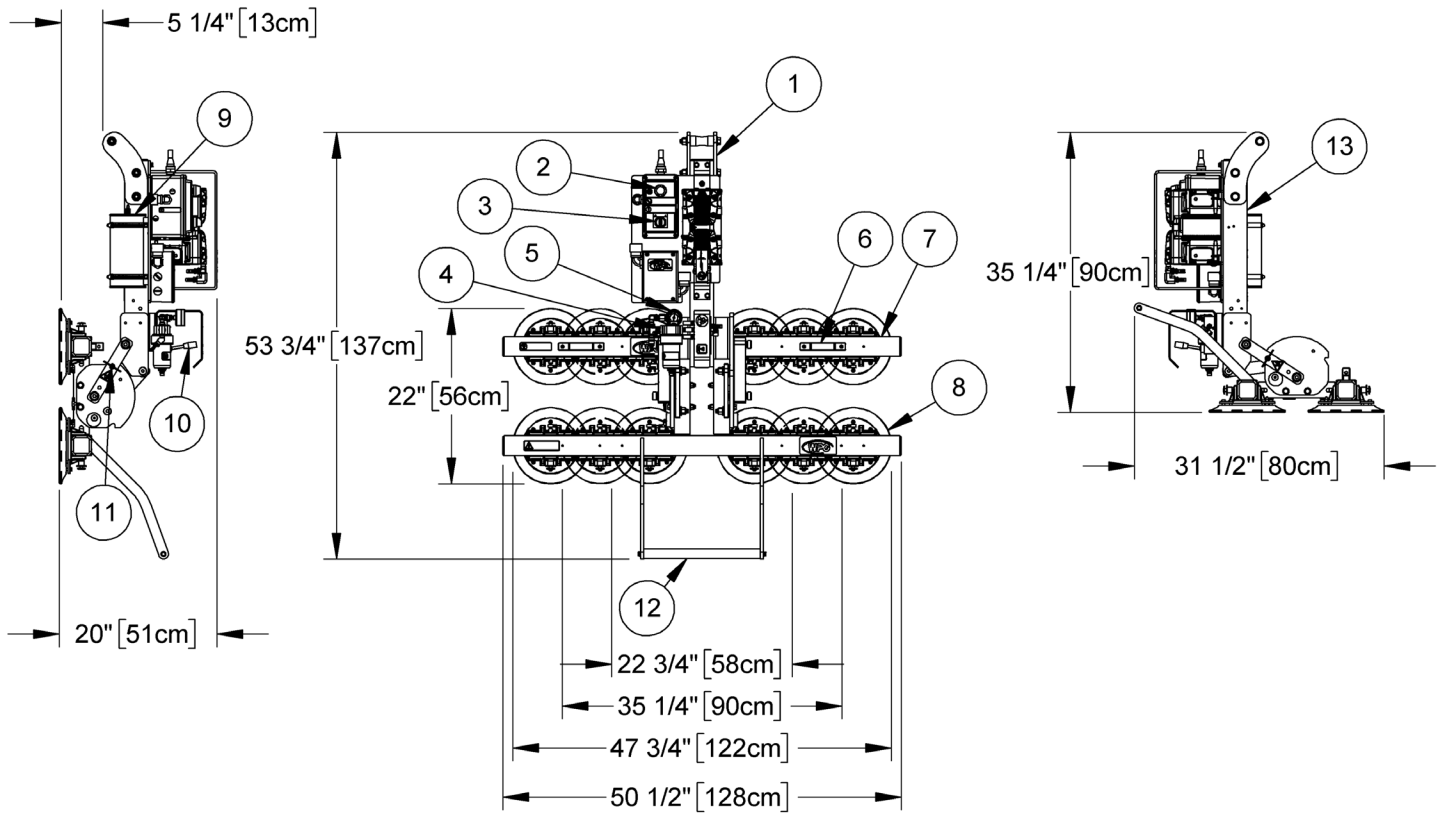
Do not position a loaded or unloaded lifter over people.



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 LIFT POINT          | 2 VACUUM LIFT LIGHT        |
| 3 POWER SWITCH        | 4 AIR FILTER               |
| 5 VACUUM GAUGE        | 6 PAD FRAME CONTROL HANDLE |
| 7 PAD FRAME           | 8 VACUUM PAD               |
| 9 VACUUM RESERVE TANK | 10 VACUUM CONTROL VALVE    |
| 11 TILT LOCK          | 12 TILT CONTROL HANDLE     |
| 13 LIFT BAR           |                            |

*Note: A standard MTA49AC is shown. Although some of the following photos do not show this specific lifter, they all illustrate how this kind of lifter functions.*

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) Connect the power cable:



***Make sure power source has ground fault circuit interrupter.***

- 2.1) Wire the female connector provided to an appropriate power source, as indicated on the label attached.



***Wiring must be performed by qualified service personnel, taking all appropriate safety precautions.***

- 2.2) Route the power cable so that it does not become damaged during operation.
- 2.3) Insert the power cable's male connector into the female connector and twist to secure them together (figs. 2A-B).

**2A**

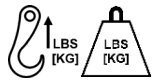


**2B**



- 3) Suspend the lifter from appropriate hoisting equipment:

- 3.1) 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.*

**3A**



**3B**



**3C**



- 3.2) Disengage any tilt locks or latches, and raise the lift bar (figs. 3A-C).



# ASSEMBLY

- 3.3) Attach the hoisting hook to the lift point (fig. 3C).



***Make sure hook has restraining latch (see arrow in fig. 3D).***



*Note: Use rigging (fig. 3E) as needed to make sure the hook does not interfere with the load.*



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

- 3.4) Use the hoisting equipment to remove the lifter from the shipping container. Avoid damaging the vacuum pads.

- 4) Remove the pad covers (fig. 4A) and save them for future use.

**4A**



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

## 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 relatively nonporous material with a flat and relatively smooth contact surface.<sup>1, 2</sup> 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.<sup>3</sup>
- 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.<sup>4</sup>
- 1½" [3.8 cm] is the allowable thickness at Maximum Load Capacity.<sup>5</sup> The load must be positioned correctly on the lifter and either tilt locks or latches, if present, must be used when appropriate (see “OPERATION”). If not, the allowable load thickness would be reduced.<sup>6</sup>



*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.<sup>7</sup>*

- 
- 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..... **Pad Spacers can reduce the stability of upright loads and allowable load thickness.** Contact WPG for more information.
  - 7..... Alternative rubber compounds are available for these purposes. Contact WPG or an authorized dealer for more information.

## 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.

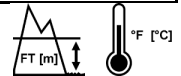


**Never use lifter in dangerous environments.**



**Metal particles and similar environmental contaminants could result in vacuum pump failure.**

- The work environment is limited by the Operating Elevation and Operating Temperatures.<sup>1, 2</sup>



- The lifter is not designed to be watertight. Do not use it in rain or other unsuitable conditions.



**Moisture can reduce lifting capacity.**

**CE/UKCA** — A secondary positive holding device is required to lift loads on constructions sites or in other “high risk zones” (see EN 13155).

## 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..... Although lifter use may be possible at higher elevation, lifting capacity is reduced whenever the lifter is unable to attain vacuum in the green range on the vacuum gauge. Contact WPG for more information.

2..... Special provisions may allow the lifter to operate outside the specified temperature range. 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](#)”.
- Service the air filter(s) whenever a bowl contains liquid or other contaminants, or an element appears dirty (see “AIR FILTER MAINTENANCE” in [SERVICE MANUAL](#)).<sup>1</sup>



***Examine air filters regularly and service when needed.***

1..... Lifters used on wet load surfaces must be equipped with 2 or more filters connected *in series*. See “[OPERATING ENVIRONMENT](#)” for restrictions.

# OPERATION

## TO USE OPTIONAL PAD SHUTOFFS

Each pad shutoff on the pad frame controls the vacuum line to the adjacent vacuum pad. Activating or deactivating the airflow at specific pads enables the lifter to handle loads with different weights and dimensions (see “SPECIFICATIONS”) or to avoid holes in the load surface.

To support the maximum load weight and larger load dimensions, all pads must be activated; for smaller weights and dimensions, some pads may be deactivated, ***provided that the lifter still has sufficient capacity to support the load*** (see “LOAD CHARACTERISTICS”).



***Closing any pad shutoff reduces lifting capacity.***

To activate a pad, open the shutoff valve (ie, place lever *parallel* with vacuum line — fig. 1A).



To deactivate a pad, close the shutoff valve (ie, place lever *perpendicular* to vacuum line — fig. 1B).



To calculate the lifting capacity when some pads are deactivated, consult the Per-Pad Load Capacity and multiply by the number of pads currently activated. Always activate pads in a symmetrical configuration and use as many pads as possible for each load being lifted, to maximize lifting capacity and to minimize load overhang.

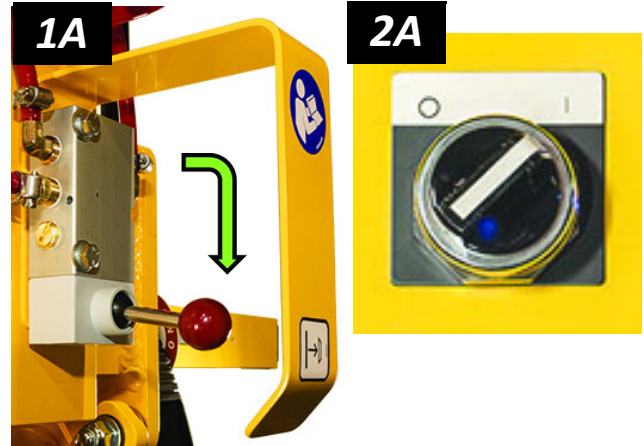


# OPERATION

## TO ATTACH THE PADS TO A LOAD

### Generating Airflow

- 1) Make sure the lever on the vacuum control valve is in the “release” position (|→ — fig. 1A).
- 2) Place the power switch in the “on” position (| — fig. 2A), to engage the vacuum pump.



The lifter is designed for the pump to run continuously. Placing the power switch in the “off” position (○) during lifter operation could result in a load release and personal injury (see “[In Case of a Power Failure](#)”).



**Keep pump running throughout lift.**

### Positioning the Lifter on the Load

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



- 2) Center the pad frame on the load (fig. 2B).<sup>1</sup>



- 3) Make sure all vacuum pads will fit on the load and will be loaded evenly (fig. 3B). Consult the Per-Pad Load Capacity.

1..... The lifter is designed to handle the maximum load weight when the load’s center of gravity is positioned within 2" [5 cm] of the pad frame’s center point.



# OPERATION

- 4) Place the vacuum pads in contact with the load surface.

## Sealing the Pads on the Load

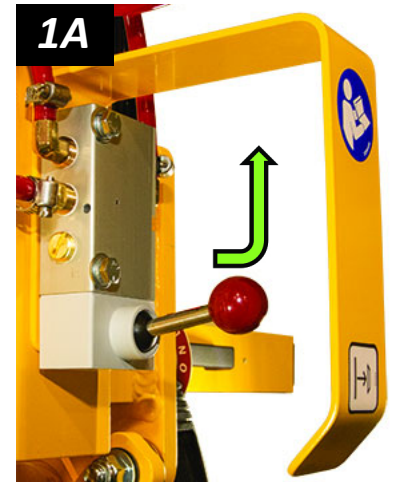
- 1) Place the lever on the vacuum control valve in the “attach” position (⤵ — fig. 1A), to draw air immediately at the vacuum pads.<sup>1</sup>



**Keep valve lever in “attach” position throughout lift.**

Any interruption of airflow during lifter operation could cause a load release and personal injury.

- 2) Make sure the vacuum pads seal completely against the load.<sup>2</sup>



## Reading the Vacuum Gauge

A vacuum gauge shows the current vacuum level in positive inches of Hg and negative kPa:

- **Green range** ( $\geq 16$ " Hg [ $\leq -54$  kPa]): Vacuum level is sufficient to lift the maximum load weight (fig. 1B).
- **Red range** ( $< 16$ " Hg [ $> -54$  kPa]): Vacuum level is **not** sufficient to lift the maximum load weight (fig. 1C).

If it takes more than 5 seconds for the vacuum level to reach 5" Hg [-17 kPa], press on any vacuum pad that has not yet sealed.

Once the pads have sealed, the lifter should be able to maintain sufficient vacuum for lifting, except when used above the maximum Operating Elevation.<sup>3</sup> If it does not, perform the “Vacuum Test”.

**1B**



**1C**



1..... Do not place the valve lever in the “attach” position until the pads are contacting the load.

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

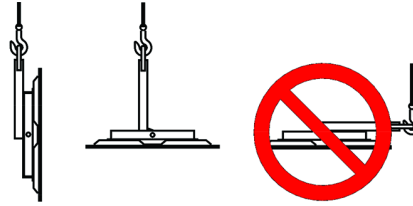
3..... If the lifter is used above the maximum Operating Elevation (see “SPECIFICATIONS”), it may not be able to maintain sufficient vacuum for lifting. Contact WPG for more information.

# OPERATION

## TO LIFT AND MOVE THE LOAD



***Lift bar must be vertical to lift load.***



The tilt linkage minimizes operator effort and automatically holds a balanced load in either the upright or the flat position. However, an unbalanced load may tilt unexpectedly, resulting in load damage or personal injury.



***Unbalanced loads may tilt unexpectedly during lifter operation.***



***Make sure load is positioned correctly on lifter.***

To minimize these risks, make certain ***before lifting any load*** that it has appropriate “LOAD CHARACTERISTICS” and is attached to the vacuum lifter as previously directed.



# OPERATION

## Engaging or Disengaging Tilt Locks

Tilt locks prevent tilt movement due to wind loads or other unexpected forces. They should be used whenever the operator cannot maintain control of the load directly (eg, when using the lifter to install glass in multi-story buildings).<sup>1</sup>

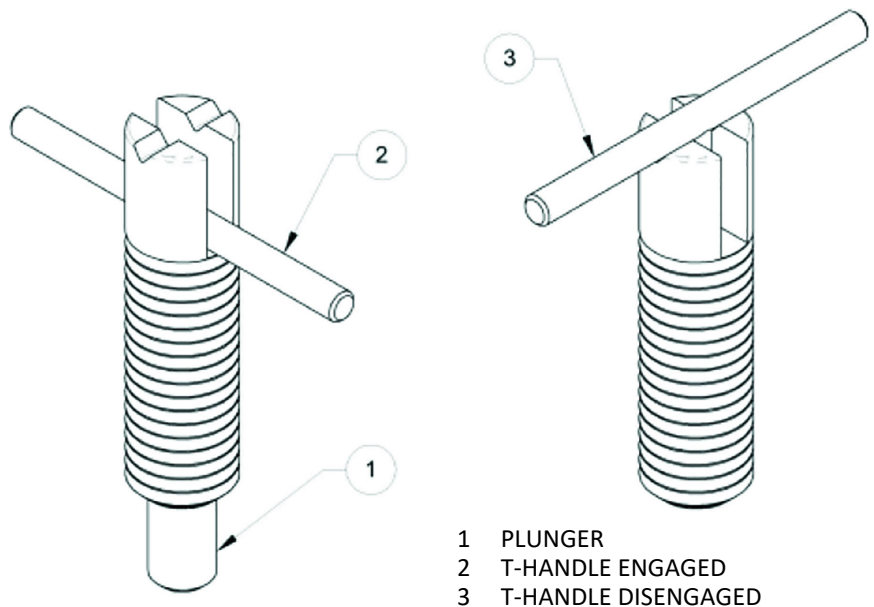
**Caution:** Failure to load lifter correctly may damage tilt locks or other lifter components.

### To engage tilt locks:

- 1) Make sure the pad frame is oriented in either the horizontal or the vertical position.
- 2) Turn both T-handles to the engaged position. Make sure both plungers fully engage the corresponding notches on the lifter.

### To disengage tilt locks:

- 1) Use the control handle to keep the load under control and to relieve any weight resting on the tilt locks.
- 2) Pull both T-handles outward and turn them to the disengaged position (figs. 2A-B). Make sure both plungers fully disengage from the notches before attempting to tilt the lifter.



1..... These secondary safety devices do not eliminate the need to load the lifter correctly. Failure to do so could damage tilt locks or other lifter components.

# OPERATION

## Interpreting the Lift Light



When vacuum is sufficient to lift the Maximum Load Capacity, the vacuum lift light turns on automatically.



**Never lift load unless lift light is illuminated, because premature lifting could result in load release and personal injury.**

## Monitoring Vacuum Indicators

Monitor the vacuum lift light and the vacuum gauge (fig. 1A) throughout the entire lift.

The vacuum pump runs continuously to maintain sufficient vacuum for lifting the maximum load weight.

However, if the lift light turns off and the ***vacuum gauge shows a level less than 16" Hg [greater than -54 kPa]***:



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



**Stay clear of any suspended load while indicators warn of low vacuum.**

- 2) Stop using the lifter until the cause of the vacuum loss can be identified: Conduct the “[Pad Inspection](#)” and perform the “[Vacuum Test](#)”.
- 3) Correct any faults before resuming normal operation of the lifter.

# OPERATION

## Controlling the Lifter and Load

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

Use a control handle (circled in fig. 1A) to keep the lifter and load in the required position.

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



***Never allow any pad shutoff to be opened or closed while lifting, because this could result in a load release and personal injury.***

## In Case of a Power Failure

A vacuum reserve tank helps maintain vacuum temporarily in the event of a power failure. Although the lifter is designed to support the load for at least 5 minutes without power, this depends on many factors, including the “[LOAD CHARACTERISTICS](#)” and the condition of the vacuum pads (see “[VACUUM PAD MAINTENANCE](#)”).

If a power failure occurs, keep everyone away from a suspended load until it can be safely lowered to a stable support. Correct any faults before resuming normal operation of the lifter.



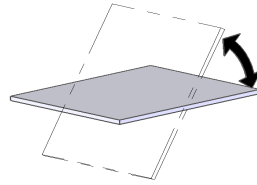
***Stay clear of any suspended load during power failure.***

# OPERATION

## TO TILT THE LOAD



**Keep hands and fingers away from tilt linkage.**

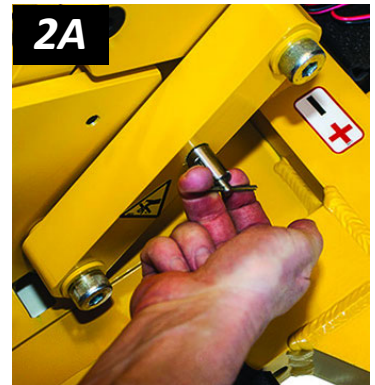


- 1) Make sure the load has enough clearance to tilt without contacting anyone or anything.
- 2) Use the tilt control handle (fig. 3A) to keep the load under control at all times.

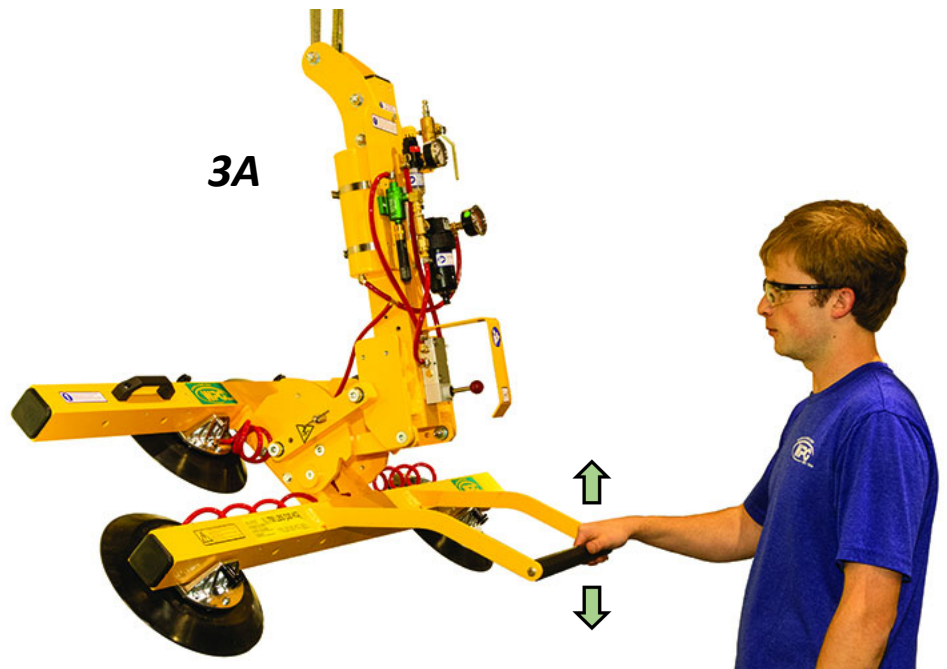


**Unbalanced loads may tilt unexpectedly.**

Make sure the tilt locks (fig. 2A) are disengaged as previously directed.



- 3) Lift upward or press downward on the tilt control handle to tilt the load as desired (see arrows in fig. 3A).<sup>1</sup>



*Note: See “[LOAD CHARACTERISTICS](#)” about allowable load overhang.*

<sup>1</sup>..... Due to the tilt linkage design, load force on the control handle changes direction during the tilt.

# OPERATION

A load with overhang may force you to release the control handle as the load approaches the flat position. In this case, use a hand cup (circled in fig. 1A) or other appropriate means to control the load.

**1A**





# OPERATION

## TO RELEASE THE PADS FROM THE LOAD



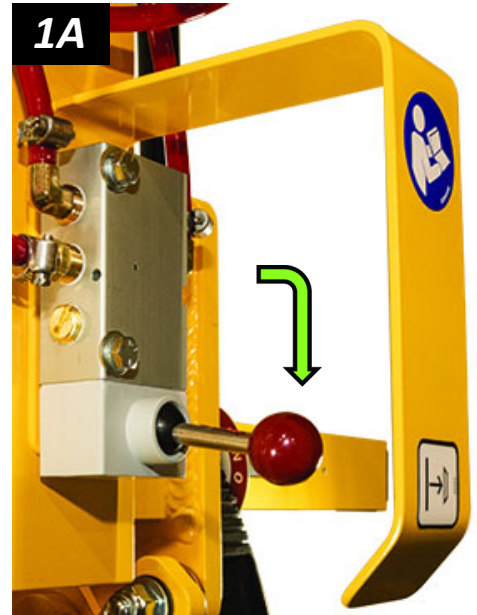
***Make sure load is at rest and fully supported before releasing vacuum pads.***

- 1) Move the lever on the vacuum control valve to the “release” position (|→ — fig. 1A), to break the vacuum seal.



***Do not move lifter until pads release completely, because such movement could result in load damage or personal injury.***

- 2) After the load is successfully released, move the lifter away.
- 3) Before you lift another load, perform the Every-Lift Inspection (see “[INSPECTION SCHEDULE](#)”).



## AFTER USING THE LIFTER

- 1) Place the power switch in the “off” position (○ — fig. 1B).
- 2) Use the hoisting equipment to lower the 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. If the lifter has VPFS10T pads, protect their sealing rings by making sure each pad rests on spacers.<sup>1</sup>

**1B**

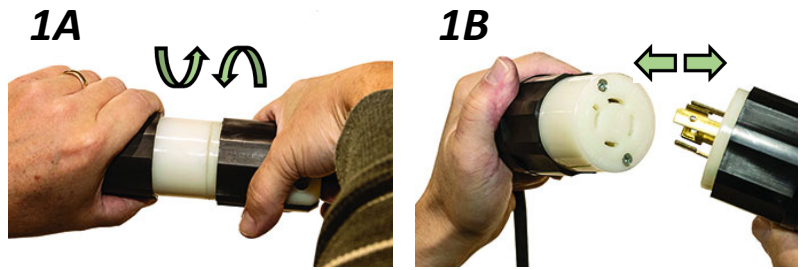


1..... The original shipping container has integrated spacers. Similarly shaped spacers should be used when setting the lifter on other surfaces.

# OPERATION

## Storing the Lifter

- 1) Disconnect the power cable (fig. 1A-1B).



- 2) Use the covers supplied to keep the vacuum pads clean (fig. 2A).

**CE/UKCA** — To prevent the lifter from tipping over on relatively horizontal surfaces, place the vacuum pads facedown on a clean, smooth, flat surface. Then lower the lift bar and place a support under the lift point.



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

## Transporting the Lifter

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

# INSPECTIONS AND TESTS

## INSPECTION SCHEDULE

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 <sup>1</sup> (every 20-40 hrs)	Periodic <sup>2</sup> (every 250-400 hrs)
Examine <u>vacuum pads</u> for contaminants or damage (see <a href="#">“Pad Inspection”</a> ).	✓	✓	✓
Examine load surface for contaminants or debris.	✓	✓	✓
Examine controls and indicators for damage.	✓	✓	✓
Examine lifter’s structure for damage.		✓	✓
Examine vacuum system for damage (including <u>vacuum pads</u> , fittings and hoses).		✓	✓
Examine <u>air filters</u> for conditions requiring service (see “AIR FILTER MAINTENANCE” in <a href="#">SERVICE MANUAL</a> ).		✓	✓
Perform <a href="#">“Vacuum Test”</a> .		✓	✓
Check for unusual vibrations or noises while operating lifter.		✓	✓
Examine entire lifter for evidence of: <ul style="list-style-type: none"> <li>• looseness, excessive wear or excessive corrosion</li> <li>• deformation, cracks, dents to structural or functional components</li> <li>• cuts in vacuum pads or hoses</li> <li>• any other hazardous conditions</li> </ul>			✓
Inspect entire electrical system for damage, wear or contamination that could be hazardous, in compliance with all local codes and regulatory standards. <b>Caution:</b> Use appropriate cleaning methods for each electrical part, as specified by codes and standards. Improper cleaning can damage parts.			✓

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

Perform the following test to determine whether or not a load surface is too porous or rough:

### Lifter/Load Compatibility Test<sup>1</sup>

- 1) Make sure the vacuum generating system is 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) After the vacuum level appears in the green range on the vacuum gauge, place the power switch in the “off” position (○).
- 6) Raise the load a minimal distance, to make sure it is supported by the lifter.
- 7) Watch the vacuum gauge: ***Starting from a vacuum level of 16" Hg [-54 kPa], the lifter must maintain a vacuum level greater than 12" Hg [less than -41 kPa] for 5 minutes.***<sup>2</sup> If not, lifting this load requires additional precautions (eg, a load sling). Contact WPG for more information.
- 8) Lower the load *after* 5 minutes or *before* the vacuum level diminishes to 12" Hg [increases to -41 kPa].



***Take precautions in case load should fall during test.***

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

2..... Under CE and UKCA requirements, the lifter must maintain a vacuum level ***greater than 8" [less than -27 kPa]***.


# 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 faces of the vacuum pads (see “*Pad Cleaning*”).
- 2) Use a test load with weight equal to the Maximum Load Capacity, a clean, smooth, nonporous surface and other appropriate “*LOAD CHARACTERISTICS*”.<sup>1</sup> 
- 3) Attach the lifter to the test load as previously directed.
- 4) After the vacuum level appears in the green range on the vacuum gauge, raise the load a minimal distance and place the power switch in the “off” position (○). 

 ***Take precautions in case load should fall during test.***
- 5) Watch the vacuum gauge: *The vacuum level should not decrease by more than 4" Hg [increase by more than 14 kPa] in 5 minutes.*
- 6) Lower the load after 5 minutes or whenever a lifter fails the test, and release the load as previously directed. 

 ***Never use lifter that has failed test.***
- 7) Qualified service personnel must correct any fault in the vacuum system before returning the lifter to service. 


 ***This service must be performed by qualified service personnel.***

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

# INSPECTIONS AND TESTS

## Rated Load Test<sup>1</sup>

The following steps must be performed or supervised by a qualified person:<sup>2</sup>

- 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 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.

Note: Refer to **SERVICE MANUAL #35275** when applicable.

## 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.***<sup>1</sup>



Long-term exposure to heat, chemicals or UV light can damage vacuum pads. Replace pads and sealing rings (if applicable) every 2 years or more often when necessary.

### Pad Inspection

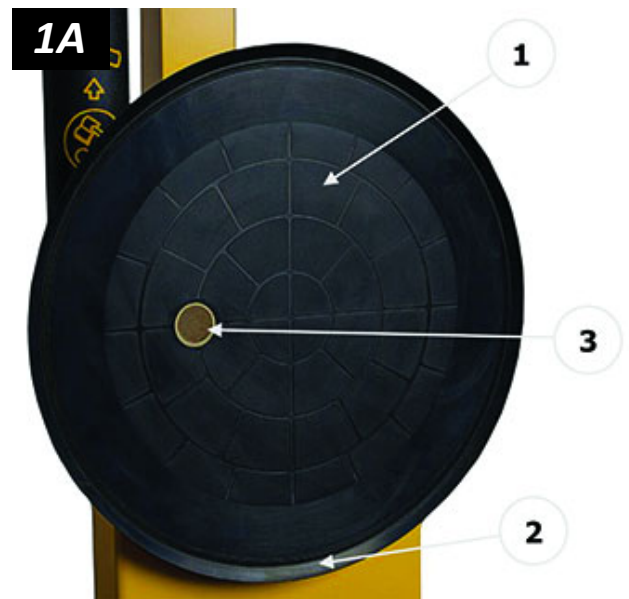
Inspect each vacuum pad (fig. 1A) according to the “**INSPECTION SCHEDULE**” and correct the following faults before using the lifter (see “**REPLACEMENT PARTS**”, when applicable):

- Contaminants on the face (item 1 in fig. 1A) or sealing edges (item 2 in fig. 1A).
- Filter screen (item 3 in fig. 1A) missing from face.



***Replace any pad that has damaged sealing edges.***

- Nicks, cuts, deformation or abrasions in sealing edges.<sup>2</sup>
- 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.

2..... If the lifter has VPFS10T pads, the replaceable sealing ring is the sealing edge.

## 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 system through the suction hole on the pad face.
- 3) Wipe each pad face clean, using a clean sponge or lint-free cloth to apply the cleanser.<sup>1</sup>
- 4) Allow each pad to dry completely before using the lifter.

**1A**



<sup>1</sup>..... 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.

# MAINTENANCE

## TO REPLACE SEALING RING IN VPFS10T PADS

If the lifter has VPFS10T vacuum pads, replace sealing rings (**#49724RT** or **#49724TT**) as follows:

- 1) Remove the old sealing ring (fig. 1A).

*Note: Make sure the entire vacuum pad is clean, including the mounting groove.*

- 2) Place the inside edge of a new sealing ring against the inside edge of the mounting groove (fig. 2A).

- 3) Push the sealing ring into the mounting groove, beginning in 4 locations as shown circled in fig. 3A.

- 4) Push gently and firmly on the outside edge of the sealing ring until the flat side fits flush against the bottom of the mounting groove (fig. 4A). A pad ring installation tool (circled in fig. 4A) makes this step easier (see “REPLACEMENT PARTS”).

- 5) Make sure the sealing ring seats securely in the mounting groove, all the way around the vacuum pad (fig. 5A).

*Note: If any part of the sealing ring comes out of the mounting groove, inspect the sealing ring for damage and reinstall an undamaged sealing ring.*

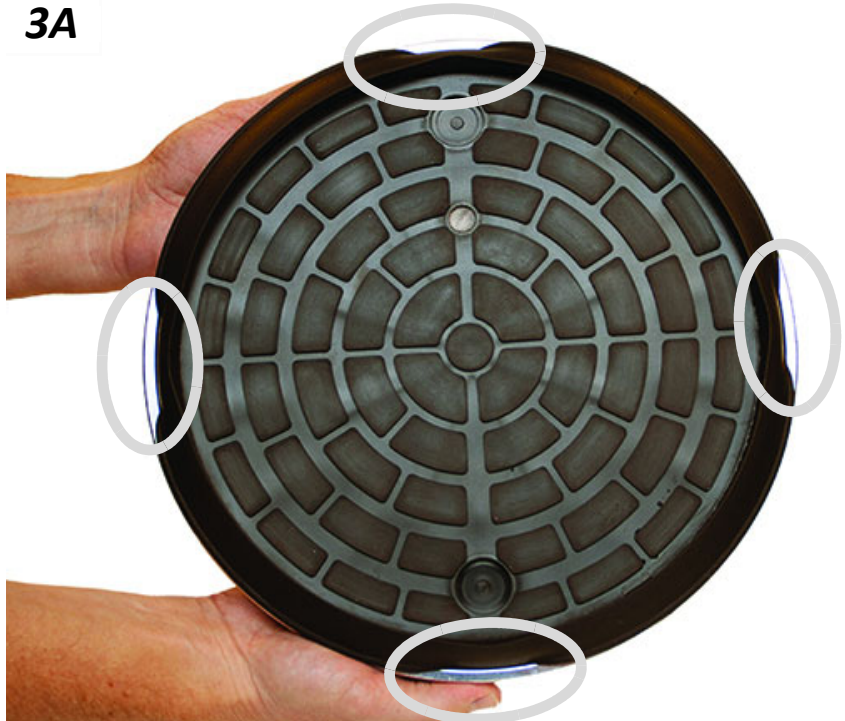
1A



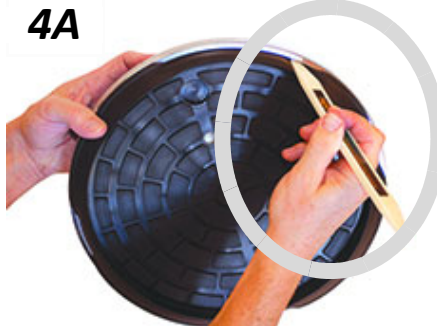
2A



3A



4A



5A





# REPLACEMENT PARTS

Stock No.	Description	Qty.
93012	Pad Shutoff Valve Assembly (optional)	4 / 8
93011	Pad Shutoff Valve Retrofit Kit (optional)	4 / 8
65443	Vacuum Hose – 3/8" ID x 5/8" OD – Clear	*
65441	Vacuum Hose – 0.245" ID x 3/8" OD x 48" – Coiled – Red (for MTA49AC)	4
65440	Vacuum Hose – 0.245" ID x 3/8" OD – Red	*
65438	Vacuum Hose – 1/8" ID x 1/4" OD – White	*
65010	Pad Spring – Coil Type	4 / 8
64262	Bulb – 6.3 V – Bayonet (for vacuum lift light)	1
64236	Green Lens (for vacuum lift light)	1
53132	Hose Fitting – Tee – 5/32" ID	3
53128	Pad Fitting – Tee – 5/32" ID (for MTA810TAC & MTA811LAC)	4
53122	Pad Fitting – Elbow – 5/32" ID	4
49724TT	Sealing Ring – Model VIFS10T2 – Closed Cell Foam (for VPFS10T pads)	8
49724RT	Sealing Ring – Model VIFS10T3 – Heat-Resistant Rubber (for VPFS10T pads)	8
49672FT	Vacuum Pad – Model VPFS10T / 10" [25 cm] Diameter – w/Replaceable Sealing Ring (for MTA810TAC)	8
49646T	Vacuum Pad – Model G3370 / 11" [28 cm] Diameter – Lipped (for MTA811LAC)	8
49506TA	Vacuum Pad – Model VPFS9 / 9" [23 cm] Diameter (for MTA49AC)	4
49180	End Plug – 3" x 3" x 1/4" Tubing Size	1
49150	End Plug – 2-1/2" x 2-1/2" x 1/4" Tubing Size	4
35275	Service Manual – AC	1
29353	Pad Cover	4 / 8
20050	Pad Ring Installation Tool (for VPFS10T pads)	1
15632	Pad Filter Screen – Small (for VPFS9 & VPFS10T pads)	4 / 8
15630	Pad Filter Screen – Large (for G3370 pad)	8
10900	Shoulder Bolt – Socket Head – 5/16" x 1/2" x 1/4-20 Thread (for mounting pads)	24 / 48

\* — Length as required; sold by the inch (approx 2.5 cm).

See **SERVICE MANUAL #35275** for additional parts.

**SERVICE ONLY WITH IDENTICAL REPLACEMENT PARTS,  
AVAILABLE AT [WPG.COM](http://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	<a href="mailto:contactus@wpg.com">contactus@wpg.com</a>	(1) 800-548-7341 (1) 406-628-8231



INTENDED FOR USE BY QUALIFIED SERVICE PERSONNEL

# ENGINEERING DRAWINGS



**READ AND UNDERSTAND BEFORE ROUTING,  
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**QUADRA-TILT LIFTERS,  
AC-VOLTAGE**

Model numbers: MTA49AC, MTA810TAC, MTA811LAC

WIRE LEGEND: CONTROLLED BY WIRING SYMBOLS DRAWING EXCEPT AS NOTED AND BELOW.		TYPE: <b>STANDARD</b>		DIRECTORY: FILE [SHEET]:		HVVWorkingISTD1708-ACPP/ECN 3554/	
LINE STYLES AND WIDTHS FOR WIRE UNLESS NOTED OTHERWISE: --- 20AWG --- --- 16AWG --- --- 14AWG ---		SIZE: <b>A</b>		SCALE: <b>NONE</b>		708A-W01 [A-W01]	
PRODUCT MANAGER: ADRIEN L.		REV: <b>3</b>		ECN NUMBER: <b>3554</b>		WOOD'S POWR-GRIP CO., INC. LAUREL, MONTANA U.S.A.	
CHECKED: <i>CR</i>		DATE: <b>09-24-14</b>		DATE: <b>09/16/2014</b>		BY: <b>LER</b>	
APPROVED: <i>Chm</i>		DATE: <b>09-24-14</b>		EST. WEIGHT: <b>N/A</b>			

- NOTES:
- 1) SEE PUMP WIRING SCHEMATIC FOR SPECIFIC WIRE GAUGE.
  - 2) BREAKER RATING VARIES AS REQUIRED
  - 3) POWER CONNECTORS SHOWN FROM WIRE CONNECTION END.

