

# INSTRUCTIONS

## Model LJ6VH

Models N4000 N5000 N6000

Models N4300 N5300 N6300

Models N4950 N5450 N6450

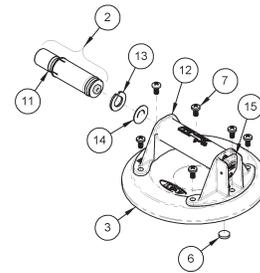
Models N5450CS N5000CS

Rev. 6.5 / 02-13 Instruction Sheet 32612AM **NA**

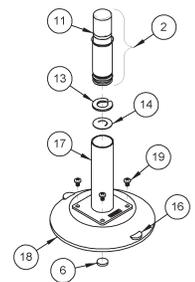
- |     |         |  |
|-----|---------|--|
| 1.  | 90510   | Handle, Metal  |
| 2.  | 90520AM | Plunger Assembly, Metal  |
|     | 90154AM | (for LJ6VH, N4950, N5450, N5450CS, N6450)                            |
|     |         | Plunger Assembly, ABS (for N4000, N4300, N5000, N5300, N6000, N6300) |
| 3.  | 49486T  | Vacuum Pad, 8" Dia., Flat (G0695)                                    |
|     | 49506T  | Vacuum Pad, 8" Dia., Flat (G0725)                                    |
|     | 49520T  | Vacuum Pad, 9" Dia., Concave (VPCS9)                                 |
|     | 49586T  | Vacuum Pad, 10" Dia., Concave (G0750)                                |
| 4.  | 90500   | Valve Block with Release Lever & Guard                               |
| 5.  | 51506   | Valve Guard  |
| 6.  | 60024   | Air Filter   |
| 7.  | 10002   | Screw, 1/4-20 x 1/2"   |
| 8.  | 61552   | Check Ball   |
| 9.  | 61514   | O-Ring   |
| 10. | 10008   | Screw, 10-32 x 3/8"  |
| 11. |         | Red Line   |
| 12. | 90151   | Handle / Valve Assembly, ABS   |
| 13. | 61151   | Check Valve Retainer   |
| 14. | 51100   | Check Valve  |
| 15. |         | Valve Release Lever  |
| 16. |         | Release Tab  |
| 17. | 90115   | Handle, Vertical   |
| 18. | 49416T  | Vacuum Pad, 6" Dia. (LJ6)  |
| 19. | 10006   | Screw, 10-32 x 5/16"   |

- |       |                  |
|-------|------------------|
| 29312 | Not Shown        |
| 29330 | Pad Cover, 6"    |
| 29335 | Case, Yellow, 8" |
| 29334 | Case, Grey, 8"   |
| 29338 | Case, Black, 9"  |
| 29342 | Case, Black, 10" |

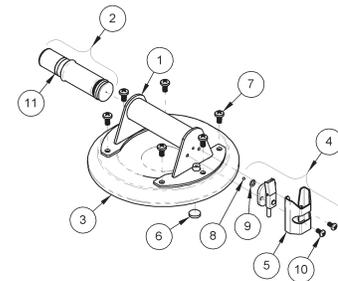
N4000 N5000 N5000CS N6000



LJ6VH



N4300 N5300 N6300 N4950 N5450 N5450CS N6450



## SPECIFICATIONS

### Product Description

Hand cups use vacuum to lift and carry loads, as follows: A manual pump removes air from between the rubber pad and the contact surface; a red line on the pump's plunger serves as a vacuum indicator; a check valve allows the user to repump the cup without removing it from the contact surface; and a release mechanism allows the cup to disengage completely.

Model	Pad	Nominal Dia.	Max. Load Capacity*
LJ6VH	LJ6	6" [15 cm]	70 lbs [32 kg]
N4000, N4300, N4950	G0695	8" [20 cm]	125 lbs [57 kg]
N5000, N5300, N5450	G0725	9" [23 cm]	150 lbs [68 kg]
N5450CS, N5000CS	VPCS9	9" [23 cm]	150 lbs [68 kg]
N6000, N6300, N6450	G0750	10" [25 cm]	175 lbs [79 kg]

\*Maximum Load Capacity includes a 3:1 safety factor and requires the following: attachment on clean, smooth, nonporous flat surfaces; a minimum vacuum level of 17½" Hg [-59 kPa]; and a friction coefficient of 1. This rating is based on tests of new hand cups attached to the upper, horizontal surface of static objects in ideal conditions. Many factors can reduce the capacity, including: lifting a load when the cup is attached to a vertical or inclined surface; or lifting a load that applies leverage to the cup. See [www.powrgrip.com](http://www.powrgrip.com) for more information.

### Load and Environmental Conditions

Use the cup on clean, relatively smooth, nonporous surfaces, at temperatures from 10° to 120° Fahrenheit [-12° to 49° Celsius]. Moisture or contaminants can reduce the slip resistance of the cup. The red-line indicator may not perform reliably at elevations above 5000 feet [1524 meters]; see Service.

## OPERATION

### To Attach

- 1) Position the hand cup on the contact surface so the red line will be visible if it should appear while lifting the load. CAUTION: Test the cup for staining or deformation of load surfaces with light colors or soft coatings.
- 2) Pump the plunger until the cup attaches completely. When the red line is hidden, vacuum is sufficient for lifting.
- 3) Check the plunger frequently to make sure the cup remains securely attached. If the red line appears while lifting, set down the load immediately and pump the plunger until the red line is hidden again (see WARNINGS).

### To Release

- 1) Set the load on a secure support.
- 2) Pull one of the release tabs (on 6" [15 cm] cups) or press the valve release lever (on other cups) until the cup disengages completely. CAUTION: Remove the cup when not in use.

## MAINTENANCE

### Service

Since aging and wear reduce the capacity of the rubber pad, it should be replaced at least once every 2 years or whenever damage is discovered (see Inspection).

If the hand cup does not function normally, the cup face may be dirty or the cup may require service. First clean the cup face according to the directions to follow. If the condition persists, contact an authorized dealer or visit [www.powrgrip.com](http://www.powrgrip.com) for assistance.

### Cleaning

- 1) Remove the air filter from the cup face.
- 2) Use a clean sponge or lint-free cloth to apply soapy water or another mild cleanser to the cup face; see WARNINGS and [www.powrgrip.com](http://www.powrgrip.com) for more information. CAUTION: To prevent liquid from contaminating the pump, hold the cup face-down or cover the suction hole in the filter recess.
- 3) Wipe all residue from the cup face.
- 4) Allow the cup to dry and reinstall the air filter.

### Inspection

Examine and test the cup regularly to make sure it does not exhibit the following faults:

- cuts or damage to sealing edges of rubber pad.
- cracks or dents in handle or pump.
- reappearance of red line soon after attaching cup.
- sluggishness or dramatic changes in pump action.
- excessive glaze or stiffness of rubber pad.
- air filter missing from cup face.

Correct any faults before using the cup (see Service).

### Storage

Store the cup in clean, dry condition within its protective carrying case.

## WARNINGS

Failure to observe WARNINGS could damage the hand cup or the load, or cause injury to the user.

- Do not use the cup to lift loads that exceed the Maximum Load Capacity or the effective capacity (see SPECIFICATIONS).
- Do not use the cup to support a person.
- Do not place the cup face against surfaces which could damage the sealing edges.
- Avoid conditions that could cause the cup to slip or to disengage prematurely, such as: contaminants, cuts or scratches in the cup face or contact surface; applying the cup to porous materials; or applying pressure against the cup edge.
- Do not use the cup to lift when the red line is visible. If the red line reappears frequently, discontinue use and see Service.
- Do not allow anything to interfere with free movement of the plunger while the cup is attached.
- Do not touch the release tabs (on 6" [15 cm] cups) or the valve release lever (on other cups) while lifting.
- Do not attach 10" [25 cm] diameter cups to thin, fragile materials.
- Do not use harsh chemicals (such as solvents or gasoline) or unauthorized rubber cleaners and conditioners to clean the cup.

## Guide to Maintenance, Troubleshooting, and Repair



**N4000, N4100,  
 N5000, N6000,  
 N4000TS,  
 N5000CS,  
 N6000NBP  
 ABS HANDLE  
 HAND CUPS**

**THE ORIGINAL  
 & TRUSTED NAME  
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Products are manufactured under an  
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Rev. 0.8/ 03-14 ABS Troubshooter **1LTS**

## General Maintenance

For maximum reliability, **INSPECT THE HAND CUP REGULARLY**: Make sure the air filter is in place; if not, discontinue use until the filter is replaced. Examine the plunger and handle for cracks or other damage. Examine the face of the vacuum pad for excessive glaze (a polished, glossy appearance) and for cuts or roughness on the sealing edges. Periodically test the cup for excessive leakage, sluggishness in plunger action or radical changes in the number of strokes needed to keep the red line hidden. If the cup does not function normally, review the Troubleshooting Guide (overleaf) to determine what corrective action is needed.

To **CLEAN THE VACUUM PAD**, remove the air filter from the pad face. Use a clean sponge or lint-free cloth to apply soapy water or another mild cleanser to the cup face. **Never use solvents or rubber conditioners as a cleaning agent** (see WARNINGS). To prevent liquid from contaminating the pump during cleaning, hold the cup face-down or cover the suction inlet in the filter recess. For 8" [20 cm] pads, be careful not to dampen the felt strip at the pad's edge. Wipe all residue from the pad face and allow the cup to dry. Then reinstall the air filter.

## Inspecting and Testing the Cup for Leakage

To **INSPECT THE SEALING EDGES** of the vacuum pad for roughness or foreign material, slowly draw your finger along the entire length of the sealing edges. Examine the sealing edges for cuts by bending the edge of the pad face towards you to create a hump, turning the hand cup as necessary. If cuts or cracks are present in a sealing edge, a V-shaped gap will appear. Any pad that exhibits a gap or excessive roughness in a sealing edge must be replaced.

To **LEAK-TEST THE HAND CUP**, attach it to a clean, smooth, scratch-free piece of glass or metal for approximately 2 hours. The red line on the plunger serves as a vacuum indicator: If the red line *does not* appear during the test period, the cup is usable; if the red line *does* appear, perform general maintenance and repeat the test. If the problem persists, check the Troubleshooting Guide (overleaf) to identify possible causes and appropriate corrective actions. If these measures do not restore the cup to normal performance, contact the Wood's Powr-Grip Customer Service department or an authorized dealer for assistance.

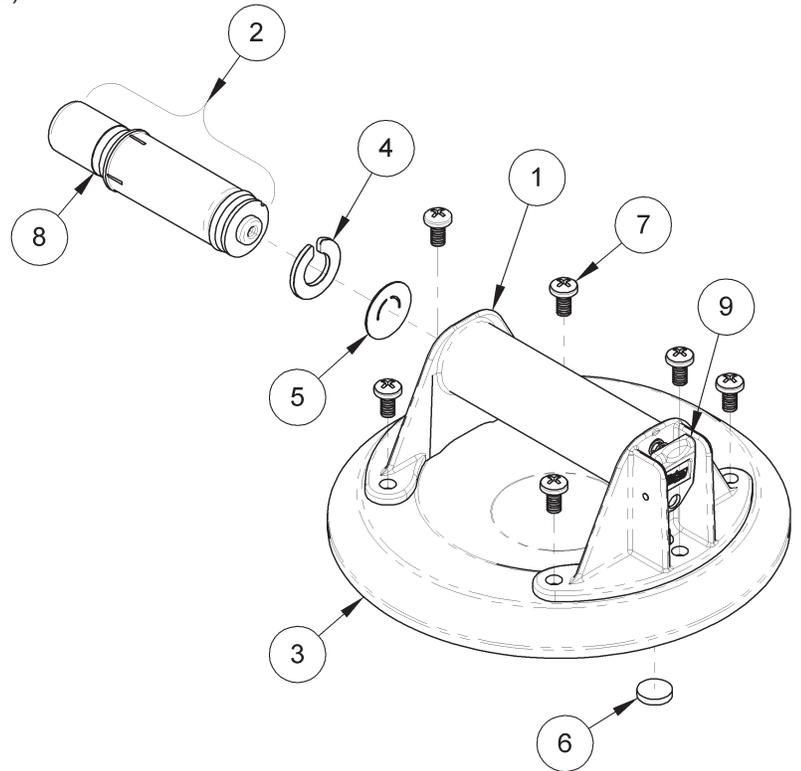
Environmental conditions can affect product performance and longevity; consult the product instructions on  
[www.WPG.com](http://www.WPG.com) or contact a Technical Sales Representative for more information.

Based on product information at time of publication.

## PARTS AND ASSEMBLY

- 1 90151 Handle / Release Valve Assembly
- 2 90154AM Plunger Assembly
- 90158AM Plunger Assembly, High Elevation (for N4100)
- 90524AM Plunger Assembly, with Audio Alarm (WBP)
- 3 49486T Vacuum Pad, 8" [20 cm] Dia., Flat (G0695)
- 49488T Vacuum Pad, 8" [20 cm] Dia., Textured Surface (G0695TS)
- 49506T Vacuum Pad, 9" [23 cm] Dia., Flat (G0725)
- 49520T Vacuum Pad, 9" [23 m] Dia., Concave (VPCS9)
- 49586T Vacuum Pad, 10" [25 cm] Dia., Concave (G0750)
- 4 61151 Check Valve Retainer
- 5 51100 Check Valve
- 6 60024 Air Filter
- 7 10002 Handle Screws (6)
- 8 Red Line
- 9 Valve Release Lever

- Not Shown
- 29330 8" [20 cm] Case
  - 29335 8" [20 cm] Case, Grey
  - 29338 9" [23 cm] Case
  - 29342 10" [25 cm] Case
  - 28502 Plunger Lube



## TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
<b>Slow leakage</b>	Cuts on sealing edge	Replace vacuum pad.
	Dirt or lint inside pump	Wipe inside of handle with a soft cloth. Check for contamination on U-cup or button.
	Dry pump	Apply a light coating of plunger lube inside handle.
	Scratches inside handle (between mid-point and closed end)	Replace handle.
	Release valve pad contamination	Open release valve and blow valve pad clean with air hose.
	Contaminated pad face	Clean vacuum pad.
<b>Severe leakage</b>	Severe contamination	Clean plunger assembly and inside of handle.
	Gouges or cuts on sealing edge	Replace vacuum pad.
	Broken handle or release valve	Replace handle / release valve assembly.
<b>Jammed or sluggish pump</b>	Dry pump	Apply a light coating of plunger lube inside handle.
	Obstructed valve stem	Remove obstruction (through suction inlet behind air filter).
	Severe contamination	Clean plunger assembly and inside of handle.
<b>Pad slips when attached</b>	Contaminated load surface	Wipe surface clean. If necessary, wash and allow to dry.
	Contaminated pad face	Clean vacuum pad.
	Excessive glaze or wear on pad face	Replace vacuum pad (at least once every two years).
<b>More than 10 strokes needed to apply</b>	Any of the above	Perform general maintenance.
	Dirt or lubricant on check valve	Remove, clean and reinstall plunger assembly, retainer and check valve as directed in Disassembly and Assembly sections (on facing page).

## Disassembly Procedures



### Remove Plunger Assembly from Handle

Grasp the head of the plunger assembly and pull it straight out from the handle. Be careful to keep the plunger assembly clean and free from contaminants. It is advisable to cover the plunger assembly with a clean, lint-free towel when it is not in the handle.



### Remove Handle from Vacuum Pad

Remove the 6 handle screws, and separate the handle from the pad. Carefully remove the valve stem from the rubber nipple on the pad by gently pulling on the handle and twisting it back and forth.



### Remove Retainer and Check Valve from Handle

Being careful not to scratch the inside of the handle, remove the retainer and check valve using a hooked scribe or similar tool. With a soft, lint-free cloth, carefully clean these parts, as well as the plunger assembly, paying particular attention to the U-cup and button. Wrap a small dowel or rod with a soft, lint-free cloth and gently wipe the inside of the handle, to make sure it is clean and dry (lubricant-free).

## Assembly Procedures



### Inspect Handle and Reinstall Check Valve and Retainer

Carefully examine the inside of the handle for scratches and contaminants, using a flashlight for illumination. Scratches between the mid-point and the closed end of the handle can cause leakage. Scratches near the open end of the handle rarely present a problem. Make sure that no lubricant remains inside the handle. Drop the check valve inside the handle so that it lays flat against the closed end. Using a dowel or other tool that will not scratch the sides of the handle, push the retainer all the way into the handle to hold the check valve securely in place.



### Attach Handle to Vacuum Pad

Apply a light coating of plunger lube to the valve stem of the handle, and insert the valve stem into the pad nipple. Place the handle on the pad so its nipple fits through the large hole in the base plate near the closed end of the handle. Align the screw holes and reinstall the handle screws.



### Reinsert Plunger Assembly into Handle

Apply lubricant all the way around the exposed surface of the U-cup, while being careful to keep lubricant off the button. Plunger lube is recommended and available in appropriate quantities by contacting Wood's Powr-Grip Customer Service. **Do not use improper lubricants in the handle.**



While making certain the button, check valve and retainer remain free of lubricant, insert the U-cup end of the plunger assembly into the handle. Push the plunger assembly until it begins to tighten; then seat the plunger assembly with one strong, swift motion. Operate the plunger to spread the lubricant, thoroughly coating the outside of the U-cup by twisting the plunger as it moves. Now the cup is assembled and ready for testing.

# WARNINGS

Wood's Powr-Grip has taken great care to produce the most reliable vacuum-operated handling device available. Nevertheless, mistreatment or misuse may damage a hand cup or otherwise create conditions which could cause the hand cup to fail, resulting in an unexpected release. The following warnings are offered to help users avoid most potential hazards.

**Failure to observe WARNINGS could damage the cup or the load, or cause injury to the user.**

- Do not use the cup with loads that exceed the load capacity.
- Do not use the cup to support a person.
- Do not place the pad face against surfaces which could damage the sealing edges.
- Avoid conditions that could cause the cup to slip or to disengage prematurely, such as: contaminants, cuts or scratches in the pad face or load surface; applying the cup to porous materials; or applying pressure against the pad edge.
- Do not use the cup to lift when the red line is visible. If the red line reappears frequently, discontinue use and follow the instructions for general maintenance and testing.
- Do not allow anything to interfere with free movement of the plunger while the cup is attached. This could prevent the red line from warning the user of vacuum loss.
- Do not touch the valve release lever while lifting.
- Do not attach 10" [25 cm] diameter cups (models N6000 and N6000NBP) to thin, fragile materials.
- Do not use harsh chemicals (such as solvents or gasoline) or unauthorized rubber cleaners and conditioners to clean the cup. See [www.WPG.com](http://www.WPG.com) for more information.