

# WOOD'S POWR-GRIP® GUIDE TO MAINTENANCE, TROUBLESHOOTING, AND REPAIR



N4000, N4100, N5000,  
N6000, N4000TS,  
N5000CS, N6000NBP  
Industrial-Grade  
Plastic Handle  
Hand Cups

## General Maintenance

### 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.
- Make sure the face of the vacuum pad feels grippy (not slick). Otherwise, replace the pad.
- Examine the vacuum pad for cuts or roughness on the sealing edges (see Inspect the Sealing Edges below).
- Periodically test the cup for excessive leakage (see Leak-Test the Hand Cup below), 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 which corrective action is needed.

### 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 pad 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 facedown or cover the suction inlet in the filter recess.
- If the pad has a felt strip at the edge, be careful not to dampen it.
- Wipe all residue from the pad face and allow the cup to dry.
- Reinstall the air filter.

## Inspecting and Testing the Cup for Leakage

### Inspect the Sealing Edges:

- Slowly draw your finger along the entire length of the sealing edges, to check for roughness or foreign material.
- 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.

### Leak-Test the Hand Cup:

- Attach the cup 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.

Based on product information at time of publication. 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.



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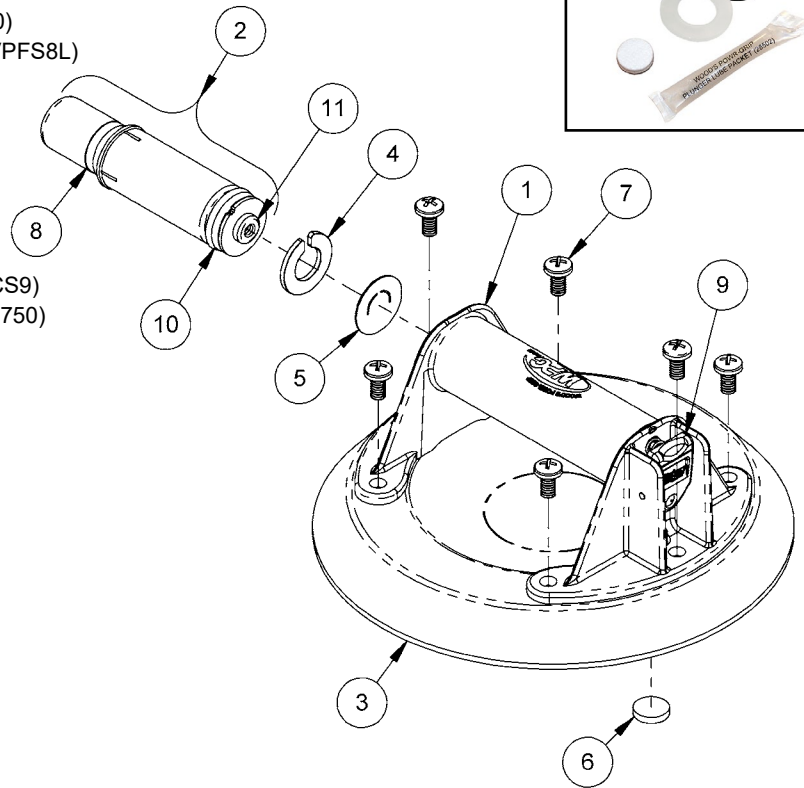
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Wood's Powr-Grip products are sold  
through authorized dealers.

# PARTS AND ASSEMBLY

\*Repair Kit #90160

- 1 [90151AM](#) Handle / Release Valve Assembly
- 2 [90154AM](#) Plunger Assembly
- [90158AM](#) Plunger Assembly, High Elevation (for N4100)
- 3 [49480T](#) Vacuum Pad, 8" [20 cm] Dia., Flat, Lipped (VPFS8L)
- [49478T](#) Vacuum Pad, 8" [20 cm] Dia., Flat, Lipped, Low-Marking (VPFS8L)
- [49495T](#) Vacuum Pad, 8" [20 cm] Diameter - for IMP & Cladding Surfaces (VPFS8C)
- [49488T](#) Vacuum Pad, 8" [20 cm] Dia., for Textured Surfaces (G0695TS)
- [49506T](#) Vacuum Pad, 9" [23 cm] Dia., Flat (G0725)
- [49520T](#) Vacuum Pad, 9" [23 cm] Dia., Concave (VPCS9)
- [49586T](#) Vacuum Pad, 10" [25 cm] Dia., Concave (G0750)
- 4 Check Valve Retainer\*
- 5 Check Valve\*
- 6 Air Filter\*
- 7 [10002](#) Handle Screws (6)
- 8 Red Line
- 9 Valve Release Lever
- 10 U-Cup
- 11 Button
  
- Not Shown
- [29330](#) 8" [20 cm] Case, Yellow
- [29335](#) 8" [20 cm] Case, Grey
- [29338](#) 9" [23 cm] Case, Black
- [29342](#) 10" [25 cm] Case, Black
- 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 or release-valve assembly.
<b>Jammed or sluggish pump</b>	Dry pump	Apply a light coating of plunger lube inside handle.
	Obstructed release 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.
	Slick or worn pad face	Replace vacuum pad (at least once every 2 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 of contaminants 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

- Remove the retainer and check valve using a hooked scribe or similar tool.  
**Be careful not to scratch the plastic!**
- 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



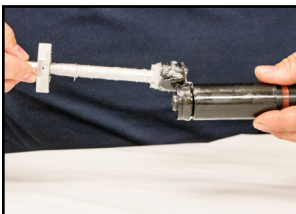
### Inspect Handle, and Reinstall Check Valve and Retainer

- Carefully examine the inside of the handle for scratches and contaminants, using a flashlight for illumination:
  - Scratches between the midpoint 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 lies 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 on the handle.
- Insert the valve stem into the pad nipple and place the handle on the pad.
- Align the screw holes and reinstall the handle screws.



### Reinsert Plunger Assembly into Handle

- Apply plunger lube all the way around the exposed surface of the U-cup. **Be careful to keep lubricant off the button!**
- Plunger lube is recommended; contact Wood's Powr-Grip Customer Service to order this.
- **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, turning it to spread the plunger lube thoroughly on the U-cup.
- 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 that 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 release-valve 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.