

KEEP FOR FUTURE REFERENCE



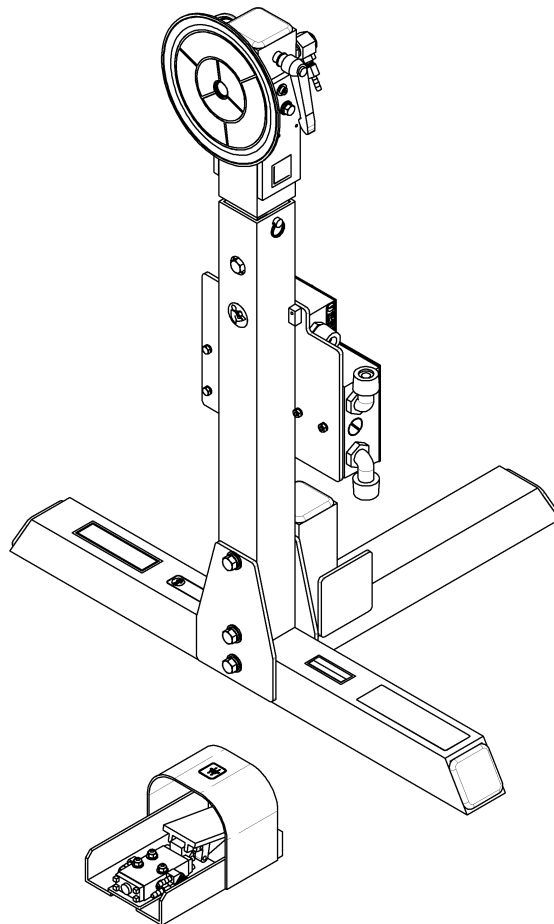
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INSTRUCTIONS

International Version

MODEL NUMBER: POS1P9AC

SERIAL NUMBER: _____
(please see serial label and record number here)



POSITIONER



***READ ALL INSTRUCTIONS AND WARNINGS
BEFORE OPERATING THIS PRODUCT***




DESIGNED FOR THE MATERIALS HANDLING PROFESSIONAL

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SPECIFICATIONS

Model Number:	POS1P9AC (bench-mount)	POS1P9AC (floor-mount)
Product Weight:	35 lbs [16 kg]	58 lbs [27 kg]
Power Source:	See serial number plate for specific AC voltage, frequency and amperage.	
Vacuum Pad:	One 9" [23 cm] nominal diameter (Model P9), standard rubber, with #60 filter screen	
Load Characteristics:	Flat contact surface, measuring more than 9" [23 cm] in shortest dimension (diameter or width)	
Maximum Load Capacity:	150 lbs [70 kg], rated at 16" Hg [-54 kPa] with clean, smooth, nonporous flat load surfaces. ¹	
 WARNING: <i>Materials with rough or porous surfaces may reduce load capacity.</i>		
Load Rotation Capability:	Manual, 360° continuous, with adjustable rotation tension	
Load Tilt Capability:	Manual, 90°, adjustable to four preset angles	
Vacuum Pump:	Rotary vane type, 2.5 SCFM [71 liters/minute] nominal airflow	
Vacuum Gauge:	Dial gauge indicates current vacuum level in positive inches of Hg and negative kPa.	
Operating Elevation:	Maximum = 8000 feet [2438 meters]	
Operating Temperatures:	32° to 104° F [0° to 40° C]	

¹ Maximum Load Capacity is based on a friction coefficient of 1; see MAINTENANCE: VACUUM PAD MAINTENANCE: Friction Coefficient for additional information.

WARNINGS



Powr-Grip is pleased to offer the most reliable vacuum equipment available. Despite the high degree of security provided by the Positioner, certain precautions must be observed to protect the operator and others.

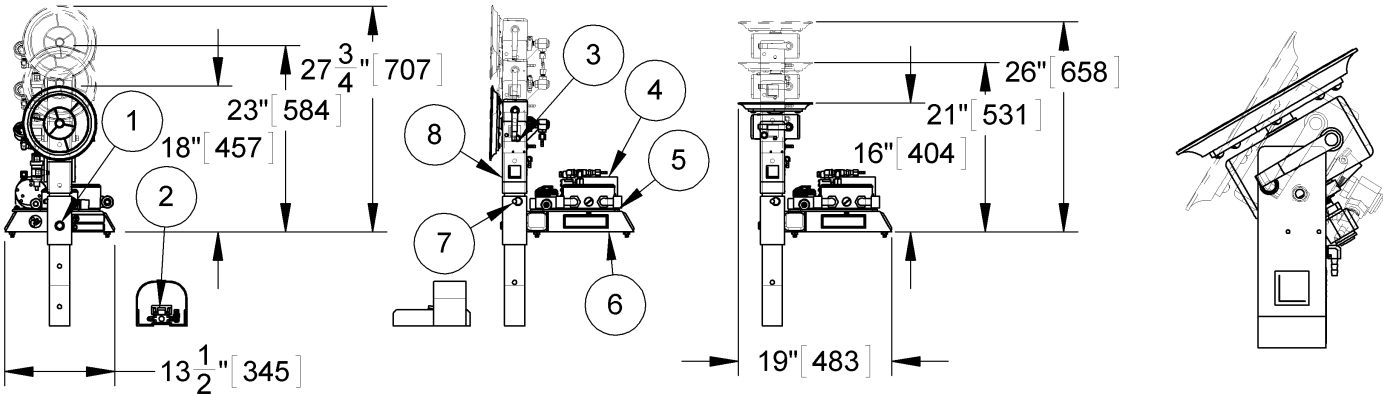


- Always*** wear personal protective equipment that is appropriate for the load material. Follow trade association guidelines.
- Always*** operate the product under conditions approved for its design (see OPERATION: BEFORE USING THE PRODUCT: Evaluating the Intended Use).
- Never*** operate a product that is damaged, malfunctioning, or missing parts.
- Never*** operate a product if the sealing edge of the vacuum pad is cut or otherwise damaged.
- Never*** remove or obscure warning labels.
- Never*** operate a product if the load capacity or any warning appears to be missing or obscured.
- Always*** employ a ground fault circuit interrupter when connecting the power cable to the power source.
- Always*** weight the product's base or securely bolt it to the floor before attaching a load (applicable to floor-mount version).
- Always*** make certain the contact surfaces of the load and the vacuum pad are clean prior to attaching the load to the pad (see MAINTENANCE: VACUUM PAD MAINTENANCE).
- Never*** exceed the load capacity or attempt to support loads the product was not designed for.
- Never*** attempt to attach cracked or broken glass to the product.
- Always*** position the load correctly on the vacuum pad (see OPERATION).
- Always*** support a load manually when the vacuum gauge shows inadequate vacuum.
- Never*** touch the vacuum release pedal while the product is supporting a load. This may result in loss of attaching vacuum and release of the load.
- Never*** leave supported loads unattended.
- Always*** keep other personnel far enough away from the product to avoid injury in the event of an unexpected load release.
- Always*** place the power switch in the "OFF" position and disconnect the power source before working on any part of the product's electrical system.
- Always*** remember that modifications to the product may compromise its safety. Wood's Powr-Grip cannot be responsible for the safety of a product that has been modified by the customer. For consultation, contact Wood's Powr-Grip.

ASSEMBLY: WITH BENCH-MOUNT BASE

Note: Components featured in the following instructions for assembling the product are underlined on their first appearance in each step.

- 1) Open the shipping containers and carefully remove the product's components, taking care to avoid damaging the vacuum pad (see OPERATION illustrations).



Standard POSB1P9AC shown.

- | | | |
|------------------------|--------------------------|----------------------------|
| 1 SOCKET TUBE BOLT | 3 HEAD ADJUSTMENT BOLT | 6 BENCH-MOUNT BASE |
| 2 VACUUM RELEASE PEDAL | 4 POWER UNIT | 7 COTTERLESS HITCH PIN |
| | 5 POWER UNIT SCREWS (4x) | 8 HEAD WITH EXTENSION TUBE |

- 2) Fasten the bench-mount base near the edge of an appropriate support platform (e.g., table or bench), so that the tilt/rotation head with extension tube can slide up or down freely in the socket tube of the base (see step 3).

⚠ WARNING: *Always securely fasten base to support platform before attaching load.*

The base must be fastened securely to the platform to prevent the product from tipping forward when loaded. Remove the rubber end plugs in the base tubes to access the mounting holes.

- 3) Install the tilt/rotation head with extension tube in the bench-mount base as follows: Identify the socket tube bolt (with flat washer) and the cotterless hitch pin; if these parts are installed in the base's socket tube, remove them. Slide the extension tube into the socket tube as illustrated. Set the head height by sliding the extension tube up or down until the side holes align in both tubes at the height desired for using the product; then push the cotterless hitch pin through the holes until the retaining ball emerges on the far side of the socket tube. Secure the extension tube by inserting the socket tube bolt with a flat washer into the front hole of the socket tube and through the extension tube; then thread the bolt into the rear wall of the socket tube and tighten it securely.

- 4) Attach the power unit to the bench-mount base as follows: Identify the 4 power unit screws (with lock washers); if they are installed in the base tubes, remove them. Position the power unit so that the screw holes in its mounting plate align with the holes in the base tubes as illustrated. Thread each screw through one pair of holes and tighten it securely.
- 5) Set the tilt angle of the head as follows: Remove the head adjustment bolt from the head and align the holes for the bolt at the desired load angle; then reinstall the bolt and tighten it securely. Remove the pad cover and save it for use whenever the product is stored.
- 6) Position the vacuum release pedal in a convenient location for using the product.



WARNING: Make sure air hoses are routed to avoid being damaged.

Make certain air hoses are routed to avoid being punctured, kinked, tangled, abraded or otherwise damaged.

- 7) Connect the power cable from the product to the power source as follows: Wire the female connector provided to an appropriate current-protected power source (see serial number plate for power requirements).



WARNING: Wiring must be done by qualified personnel, taking all appropriate safety precautions.

The power source must be equipped with a ground fault circuit interrupter, in order to reduce the risk of electrical shocks.



WARNING: Power source must be equipped with ground fault circuit interrupter.

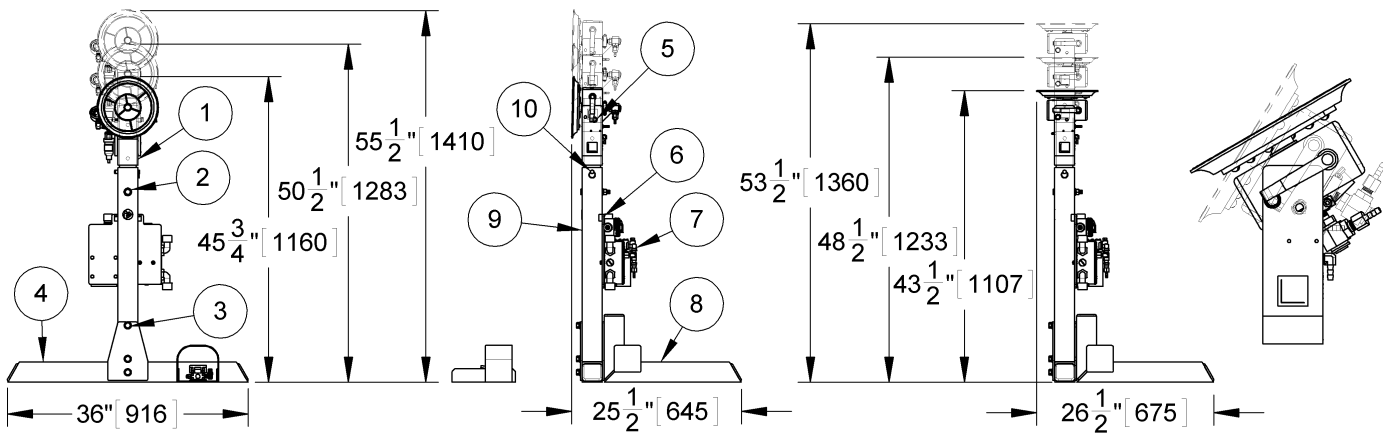
Make certain the power cable is routed so that it does not become tangled while operating the product. Then push the power cable's male connector into the female connector and twist to secure them together. Now the product is operational.

- 8) Test the product as directed in MAINTENANCE: TESTING SCHEDULE.

ASSEMBLY: WITH FLOOR-MOUNT BASE

Note: Components featured in the following instructions for assembling the product are underlined on their first appearance in each step.

- 1) Open the shipping containers and carefully remove the product's components, taking care to avoid damaging the vacuum pad (see OPERATION illustrations).




Standard floor-mounted POS1P9AC shown.

- | | | |
|----------------------------|--------------------------|-------------------------|
| 1 HEAD WITH EXTENSION TUBE | 4 BASE FRONT TUBE | 8 BASE REAR TUBE |
| 2 SOCKET TUBE BOLT | 5 HEAD ADJUSTMENT BOLT | 9 BASE SOCKET TUBE |
| 3 BASE BOLTS (3x) | 6 POWER UNIT SCREWS (4x) | 10 COTTERLESS HITCH PIN |
| | 7 POWER UNIT | |

- 2) Assemble the floor-mount base as follows: Identify the base front tube, base rear tube, base socket tube and base bolts (with flat and lock washers). Slide the socket tube between the two plates of the front tube so that the bolt holes align. Insert a base bolt with lock washer through each set of holes as illustrated. Place a flat washer on the portion of each bolt extending beyond the rear plate of the front tube. Place the rear tube near the front tube as illustrated, in order to thread the bolts into the threaded holes of the rear tube. Tighten all bolts securely.
- 3) Install the tilt/rotation head with extension tube in the floor-mount base as follows: Identify the socket tube bolt (with 2 flat washers, 1 lock washer and 1 nut) and the cotterless hitch pin; if these parts are installed in the base socket tube, remove them. Slide the extension tube into the socket tube as illustrated. Set the head height by sliding the extension tube up or down until the side holes align in both tubes at the height desired for using the product; then push the cotterless hitch pin through the holes until the retaining ball emerges on the far side of the socket tube. Secure the extension tube by inserting the socket tube bolt with a flat washer through the front/rear holes of both tubes as illustrated; then place a flat washer, lock washer and nut on the threaded portion extending beyond the socket tube, and tighten the bolt securely.

4) Attach the power unit to the floor-mount base as follows: Identify the 4 power unit screws; if they are installed in the base socket tube, remove them. Position the power unit so that the screw holes in its mounting plate align with the holes in the base socket tube as illustrated. Thread each screw through one pair of holes and tighten it securely.


5) Securely fasten the base to the floor or place weights on it to prevent the product from tipping forward when loaded.

 ***WARNING: Always weight product's base or securely fasten it to floor before attaching load.***

Remove the rubber end plugs in the base tubes to access the mounting holes.


6) Set the tilt angle of the head as follows: Remove the head adjustment bolt from the head and align the holes for the bolt at the desired load angle; then reinstall the bolt and tighten it securely. Remove the pad cover and save it for use whenever the product is stored.

7) Position the vacuum release pedal (see OPERATION illustration) in a convenient location for using the product.

 ***WARNING: Make sure air hoses are routed to avoid being damaged.***

Make certain air hoses are routed to avoid being punctured, kinked, tangled, abraded or otherwise damaged.

8) Connect the power cable from the product to the power source as follows: Wire the female connector provided to an appropriate current-protected power source (see serial number plate for power requirements).

 ***WARNING: Wiring must be done by qualified personnel, taking all appropriate safety precautions.***

The power source must be equipped with a ground fault circuit interrupter, in order to reduce the risk of electrical shocks.

 ***WARNING: Power source must be equipped with ground fault circuit interrupter.***

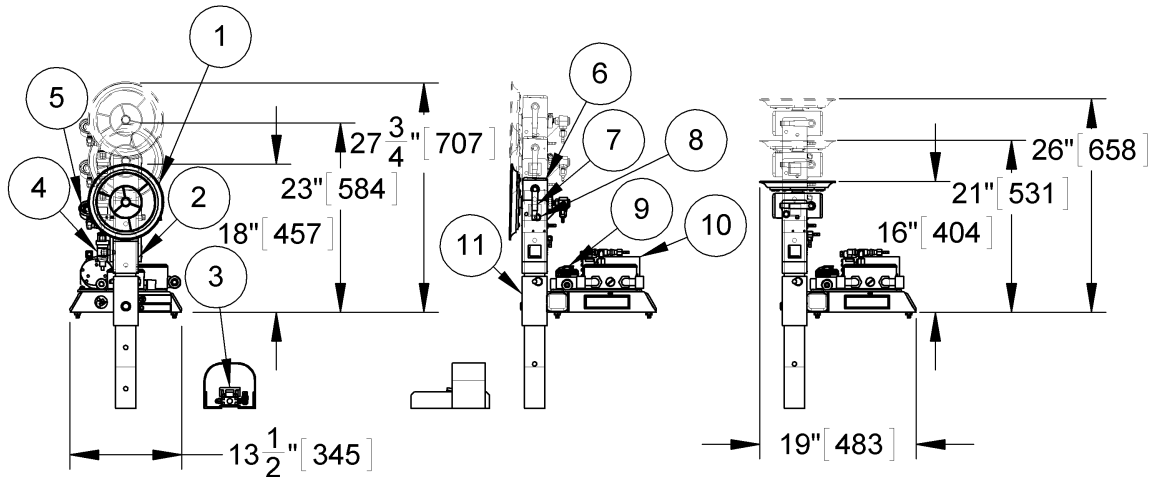
Make certain the power cable is routed so that it does not become tangled while operating the product. Then push the power cable's male connector into the female connector and twist to secure them together. Now the product is operational.

9) Test the product as directed in MAINTENANCE: TESTING SCHEDULE.

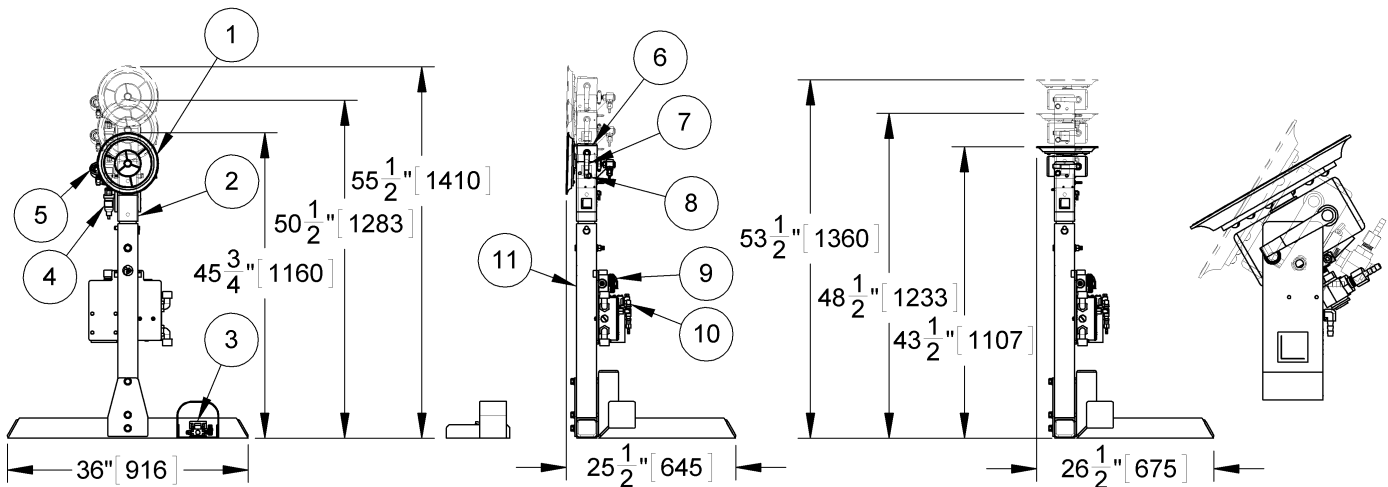
OPERATION

OPERATING FEATURES

Note: Components featured in the following instructions for operating or maintaining the product are underlined on their first appearance in each section.



Standard bench-mounted POS1P9AC shown.



Standard floor-mounted POS1P9AC shown.

- | | | |
|------------------------|--------------------------|----------------------------|
| 1 VACUUM PAD | 5 VACUUM GAUGE | 9 POWER SWITCH |
| 2 EXTENSION TUBE | 6 TILT/ROTATION HEAD | 10 VACUUM PUMP |
| 3 VACUUM RELEASE PEDAL | 7 ROTATION TENSION LEVER | 11 BENCH-/FLOOR-MOUNT BASE |
| 4 AIR FILTER | 8 HEAD ADJUSTMENT BOLT | |

BEFORE USING THE PRODUCT

All of the following preparations must be completed prior to operating the product.

Taking Safety Precautions

The operator must be trained in all relevant industry and regulatory standards for the operation of the product in its geographical location (eg, OSHA standards in the USA).

The operator must read and understand this *INSTRUCTIONS* manual, including all **WARNINGS**, before using the product. If necessary, contact Wood's Powr-Grip or an authorized dealer for assistance.

 **WARNING:** *Always wear appropriate personal protective equipment.*

The operator must wear any personal protective equipment and take any other precautions required to handle the load safely. Consult appropriate trade association guidelines to determine what precautions are necessary for each type of load material.

Evaluating the Intended Use

The operator must determine whether the product is capable of performing each intended task, in view of specific design limitations: Consult the SPECIFICATIONS to review the Maximum Load Capacity and other product capabilities, as well as the Operating Temperatures and Load Characteristics required to operate the product. Any other use is not recommended. While the minimum load dimensions are determined by the diameter of the vacuum pad, the maximum load dimensions are determined by the allowable overhang, or the amount of material that can extend sideways beyond the pad without breaking or otherwise being damaged.²

 **WARNING:** *Moisture reduces slip resistance of vacuum pad.*

Using the product in wet environments may require the operator to take special precautions: Moisture on contact surfaces of the load or the vacuum pad diminishes slip resistance, thereby reducing the product's effective load capacity. Although the product's exterior surfaces can tolerate some exposure to water vapor, they are not designed to be water-tight. Submerging the product or using it in rain may damage product components; these and similar conditions must be avoided.

CAUTION: *Examine air filter regularly, and empty when necessary.*

The product is equipped with an air filter to help protect the vacuum system from contaminants. In order for a filter to function, the operator must empty the filter bowl before enough liquid accumulates to contact any portion of the filter element (see MAINTENANCE: AIR FILTER MAINTENANCE).

 **WARNING:** *Environmental contaminants could result in vacuum pump failure.*

The product's work environment must be free of metal particles or any other contaminants that could damage product components through airborne contact or any other means of transmission in the environment. If such contaminants cause a vacuum pump failure, they could result in a load release and possible injury to the operator or others nearby.

² The allowable overhang depends on the kind of load material, the thickness of the material, and the angle at which it is handled (if any). Since materials such as glass, stone or sheet metal each have different physical properties, the allowable overhang must be evaluated separately for each type of load. If necessary, contact Wood's Powr-Grip or an authorized dealer for help in determining the recommended overhang in a specific situation.

Note: The vacuum pad can stain or deform load surfaces with light colors or soft coatings. The operator should test such surfaces for detrimental effects before attaching them to the pad.

Performing Inspections and Tests

Perform all inspections and tests required by the INSPECTION and TESTING SCHEDULES (see MAINTENANCE). In addition, if the product has been in storage, always conduct a VACUUM TEST before placing it in service (see MAINTENANCE).

TO ATTACH A LOAD TO THE PAD

Generating Vacuum Flow

Place the power switch in the “on” (I) position. This engages the vacuum pump, causing air to be drawn immediately at the vacuum pad.

 **WARNING:** *Never turn power off during operation; keep pump running while load is attached.*

The product is designed for the vacuum pump to run continuously. Placing the power switch in the “off” (O) position during product operation could result in the release of the load and possible injury to the operator (see In Case of Power Failure to follow).

Positioning the Load on the Pad

Make certain that the contact surfaces of the load and the vacuum pad are free of any contaminants that could prevent the pad from sealing against the load (see MAINTENANCE: VACUUM PAD MAINTENANCE).

 **WARNING:** *Materials with rough or porous surfaces may reduce load capacity.*
(see Vacuum Level with Rough or Porous Load Surfaces to follow.)

Position the load so that its center of gravity is centered on the vacuum pad, because off-center loading can cause the load to rotate unexpectedly. Make sure that the load's contact surface covers the entire face of the pad.


Note: If a hard object has been resting against the pad, it may be slightly distorted. Although initially it may be difficult to seal the pad against a load, this condition should correct itself with continued use.

Reading the Vacuum Gauge

The vacuum gauge indicates the current vacuum level in the product's vacuum system. The *green* range indicates vacuum levels sufficient for supporting the maximum load weight, whereas the *red* range indicates vacuum levels that are **not** sufficient for supporting the maximum load weight. The gauge needle should show a sudden surge in vacuum as the vacuum pad seals against the load. If it takes more than 5 seconds for the vacuum level to reach 5" Hg [-17 kPa], apply firm pressure at the center of the load until the pad seals completely.

Load Capacity and the Vacuum Gauge

The Maximum Load Capacity is rated at a vacuum level of 16" Hg [-54 kPa] (see SPECIFICATIONS). Vacuum higher than this level registers in the green range on the vacuum gauge, to indicate that the product is ready to support the maximum load weight.

 **WARNING:** *Never attempt to support maximum load weight unless vacuum level registers higher than 16" Hg [-54 kPa].*

Do not use the product to support the maximum load weight while vacuum registers lower than 16" Hg [-54 kPa]; this could result in a load release and possible injury to the operator.


Note: Some forces applied to a load can increase the effective load weight and/or break the vacuum seal between the pad and the load. While using the product to support a load, avoid any actions that could result in the release of the load and possible injury to people.

Vacuum Level with Smooth, Nonporous Load Surfaces

When loads with clean, smooth, nonporous load surfaces are attached to the vacuum pad, the product should be able to maintain a vacuum level in the green range on the vacuum gauge, except when used at high elevations (see SPECIFICATIONS: Operating Elevation). If not, perform the VACUUM TEST (see MAINTENANCE) to determine whether there is a deficiency in the vacuum generating system.

Vacuum Level with Rough or Porous Load Surfaces

When loads with rough or porous load surfaces are attached to the vacuum pad, the product may not be able to maintain a vacuum level in the green range on the vacuum gauge, due to leakage in the seal between the pad and the load surface. In such cases, the operator must exercise special care to determine whether the product can safely support a load.

 **WARNING:** *Although pad may seal against load at lower vacuum levels, load capacity decreases proportionally with decreasing vacuum.*

Although the vacuum level may remain below 16" Hg [-54 kPa], the product should be able to support a load ***provided that the load is light enough and the pad seals sufficiently.*** However, be advised that the product's load capacity is proportional to the vacuum level attained: For example, at a vacuum level of 10" Hg [-34 kPa], the product's load capacity is reduced to 62.5% of maximum. Whenever the vacuum level is lower than 16" Hg [-54 kPa], make sure that vacuum is sufficient to support the load's weight ***before using the product to support a load.*** Furthermore, ***never attempt to support a load when the vacuum level is lower than 10" Hg [-34 kPa],*** no matter how light the load may be.

In Case of Power Failure

The product is designed to maintain vacuum temporarily in the event of a power failure. However, the amount of time the product can support the load without electrical power depends on many factors, including the condition of the load and the product's vacuum system (see SPECIFICATIONS: Load Characteristics and MAINTENANCE: VACUUM PAD MAINTENANCE, VACUUM TEST).

⚠ WARNING: *Product may release load without warning during power failure.*

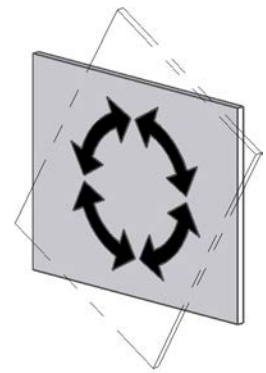
Without electrical power, the product may release the load without warning, particularly if the load has rough, porous or contaminated contact surfaces. If a power failure occurs, keep all personnel clear of a supported load until power is restored. If the pad's seal begins to fail, lower the load to the ground or place a support under it *only if it is possible to do so safely*.

To ROTATE THE LOAD

Maintain a firm grip on the load, to keep it under control at all times. Make sure the load will be able to clear any obstacles while rotating.

Before initiating load rotation, use the rotation tension lever to adjust the tension as needed for the load type and product application: Any degree of tension can be applied, from slight resistance to no movement whatsoever. Reduce tension by turning the lever counter-clockwise; increase tension by turning the lever clockwise. After setting an appropriate tension, rotate the load to the desired position. Whenever rotation is not required, stop load movement completely with the rotation lever, to prevent accidental damage to the load and possible injury to the user.

To reset the ratchet position of the rotation lever, pull the lever out from the product's tilt/rotation head, turn the lever as desired, and release the lever.



To RELEASE THE LOAD FROM THE PAD

⚠ WARNING: *Load must be fully supported prior to release.*

Firmly grasp the load and prepare to support its entire weight. When the load is fully supported, depress the vacuum release pedal to force air into the vacuum pad, quickly breaking the vacuum seal. After the load has disengaged completely from the pad, move the load away. Continue to hold the release pedal until the load is well away from the pad; otherwise, the pad would reattach itself to the load.

AFTER USING THE PRODUCT

Place the power switch in the "off" (☐) position. When storing the product, use the cover supplied to keep the vacuum pad clean.

If the product is transported to another location, use the original shipping containers and secure the product so as to protect the vacuum pad and all other components from damage while in transit.

MAINTENANCE



WARNING: *Always make sure power source is disconnected before servicing product.*

Note: One or more wiring/hose routing diagrams may be provided in the final section of this *INSTRUCTIONS* manual for reference when servicing the product or trouble-shooting a deficiency.

INSPECTION SCHEDULE

Perform inspections routinely, according to the following frequency schedule:

Every-Use Inspection

- Examine the vacuum pad and load surface for contamination or debris (see VACUUM PAD MAINTENANCE to follow).
- Examine the vacuum pad, controls and vacuum gauge for visual damage (see VACUUM PAD MAINTENANCE to follow).

If any deficiency is detected during the inspection, correct it before using the product and perform the Frequent Inspection to follow.

Frequent Inspection

(following every 20-40 hours' use; or whenever product is out of service for 1 month or more)

- Examine the product's structure for visual damage.
- Examine the vacuum system for visual damage.
- Examine the air filter for conditions requiring service (see AIR FILTER MAINTENANCE to follow).
- Perform the VACUUM TEST to follow.
- Check for unusual vibrations or noises while operating the product.

If any deficiency is detected during the inspection, correct it before using the product and perform the Periodic Inspection to follow.

Periodic Inspection

(following every 250-500 hours' use; or whenever product is out of service for 1 year or more)

- Examine the entire product for external evidence of looseness, excessive wear, deformation, cracks, excessive corrosion, dents to structural or functional components, cuts, or any deficiency which might constitute a hazard.
- Inspect all parts of the electrical system for damage, wear or contamination that could constitute a hazard, in compliance with all local codes and regulatory standards that are relevant for the geographical region.

CAUTION: *Be sure to use appropriate cleaning methods for each type of electrical component, as specified by codes and standards. Improper cleaning can damage components.*

- Keep a written record of all Periodic Inspections.

If any deficiency is detected during the inspection, correct it before using the product. If necessary, return the product to Wood's Powr-Grip or an authorized dealer for repair (see LIMITED WARRANTY).

Infrequent Use

If a product is used less than 1 day in a 2-week period, perform the Periodic Inspection *each time before using the product*.

TESTING SCHEDULE

Perform these tests when placing the product in service *initially* and *each time following a repair or modification*. Correct any deficiency and retest before using the product.

- Perform the VACUUM TEST to follow.
- Test all features and functions of the product (see ASSEMBLY, OPERATION and MAINTENANCE).

Note: See MAINTENANCE topics to follow for additional directions about inspecting and testing specific product components.

MAINTENANCE SCHEDULE

Although the product does not require maintenance on a routine basis, maintenance must be performed whenever a deficiency is indicated by routine inspections or tests. Any maintenance warranted must be performed before resuming normal operation of the product.

VACUUM PAD MAINTENANCE

Friction Coefficient

The friction coefficient represents the product's ability to resist load slippage when the load is oriented in any position except horizontal. If the contact surface of either the load or the vacuum pad is not clean, dry and in good condition, slippage is more likely to occur.

The Maximum Load Capacity (see SPECIFICATIONS) is based on a friction coefficient of 1. However, the vacuum pad's ability to maintain this friction coefficient is reduced by factors such as contamination, wear, age and exposure to sunlight, as well as the condition of the load's contact surface. A pad that has surface contamination must be thoroughly cleaned (see Cleaning discussion to follow). Over time, the rubber in a pad may experience hardening or leaching of chemicals, resulting in stiffness or surface glaze. A pad that exhibits wear, stiffness or glaze must be replaced.

In addition, every pad should be replaced on a regular basis, preferably after no more than 2 years, to ensure that the friction coefficient is not compromised. If necessary, contact your dealer or Wood's Powr-Grip for more information.

Inspection

Inspect the vacuum pad for the following deficiencies routinely, as directed in the preceding INSPECTION and TESTING SCHEDULES. Correct any deficiency before using the product.


- Contaminates on the pad face or sealing edge: Soil build-up can prevent the pad from sealing adequately or reduce the friction coefficient (see discussion preceding). Follow the directions to clean the pad as necessary (see discussion to follow).
- Filter screen missing from the pad face: This screen helps prevent debris from plugging the vacuum hose and the air filter. Replace a missing screen immediately (see REPLACEMENT PARTS LIST).
- Nicks, cuts or abrasions in sealing edge: Pad damage can reduce the product's load capacity. Replace a damaged pad immediately (see REPLACEMENT PARTS LIST).


 **WARNING:** *Replace vacuum pad if sealing edge has any nicks, cuts or abrasions.*

- Wear, stiffness or glaze: See Friction Coefficient preceding. Replace any pad that exhibits wear, stiffness or glaze (see REPLACEMENT PARTS LIST).

Cleaning

Regularly clean the face of the vacuum pad to remove oil, dust and any other contaminants. Acceptable cleaning agents include soapy water and other mild cleansers. Do *not* use solvents, petroleum-based products (including kerosene, gasoline and diesel fuel) or any harsh chemicals for cleaning. Do *not* use unauthorized rubber cleaners or conditioners, such as those intended for cleaning tires or vinyl surfaces, because those products can leave a hazardous film on vacuum pads which significantly reduces their capacity to support loads (see Friction Coefficient preceding). The use of any unauthorized cleaning agent is prohibited because it could damage the pad and/or create a hazard to the operator or others.

 **WARNING:** *Never use solvents, gasoline or other harsh chemicals to clean vacuum pad.*

 **WARNING:** *Never use unauthorized rubber cleaners or conditioners to clean vacuum pad.*

To prevent liquid from contaminating the vacuum system during cleaning, cover the suction hole in the recess for the filter screen or make sure the pad faces downward. Use a clean sponge or lint-free cloth to apply an authorized cleanser and wipe the pad face clean. A toothbrush (or similar brush with bristles *that do not harm rubber*) may be used to remove contaminants clinging to sealing edges.³ Wipe all residue from the pad face, and allow the pad to dry completely before using the product.

³ If these cleaning methods are not successful, contact Wood's Powr-Grip or an authorized dealer for assistance.

VACUUM TEST

Test the vacuum system for leakage routinely, as directed in the preceding INSPECTION and TESTING SCHEDULES.

- 1) Clean the face of the vacuum pad as previously directed (see VACUUM PAD MAINTENANCE: Cleaning).
- 2) Attach to the pad a test load with a clean, smooth, flat and nonporous contact surface. The test load must be fully and independently supported; do not rely on the product to support the test load during the vacuum test.
- 3) When the vacuum level registers above 16" Hg [-54 kPa] on the vacuum gauge, turn the power off and leave the load attached to the pad.
- 4) Monitor the vacuum gauge: *The vacuum level should not decrease by more than 4" Hg [-14 kPa] in 10 minutes.*

 **WARNING:** *If product fails vacuum test, discontinue use immediately.*

Correct any deficiency in the vacuum system before using the product. Contact Wood's Powr-Grip or an authorized dealer for assistance.

AIR FILTER MAINTENANCE — SMALL

(for 1 oz [30 ml] bowl size filters)

Filter Function and Conditions Requiring Service

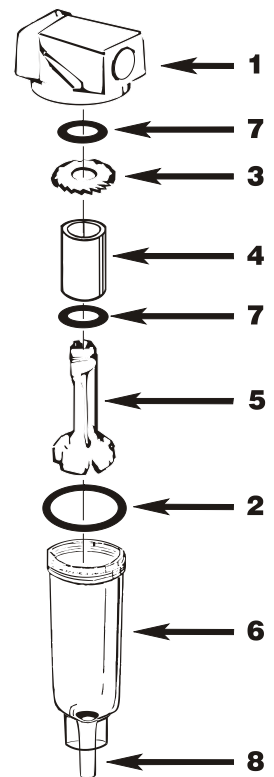
An air filter prevents solid particles and liquid from contaminating components in the vacuum system.

CAUTION: *Examine air filter regularly and empty when necessary.*

Liquid must not contact any portion of the filter element; remove trapped liquid regularly. Replace the element if it has an overall dirty appearance, or if there is a noticeable increase in the time required to attain full vacuum. (Refer to REPLACEMENT PARTS LIST for filter element kit.)

Filter Service Procedures

- 1) Unscrew the bowl (6) from the body (1). Support the body while twisting the bowl, to protect the vacuum line fittings from being damaged.
- 2) Determine whether the filter element (4) needs to be replaced (see Conditions Requiring Service preceding). *If so*, proceed to step 3.
If not, remove any liquid or contaminants from the bowl; clean the old bowl seal (2) with mild soap and water; and skip to step 7.
- 3) Unscrew the element holder (5) and remove all internal parts.
- 4) Set aside the element, element gaskets (7) and bowl seal for disposal later.
- 5) Clean all other internal parts and the bowl, using mild soap and water only. *Do not* use any other cleansing agents.
- 6) Place the new element gaskets and element, along with the old deflector (3), on the element holder, and screw the assembly back into the filter body (tighten gently, finger tight).
- 7) Lubricate the new or cleaned bowl seal (2)⁴, using a mineral base oil or grease (such as the lubricant furnished in the filter element kit). *Do not* use synthetic oils, such as esters, and *do not* use silicones.
- 8) Place the bowl seal around the rim of the bowl. Then screw the bowl back into the body, taking care to avoid contaminating the filter element with lubricant. Hand-tighten only.
- 9) Test the vacuum system to be certain the air filter does not leak (see VACUUM TEST preceding, if applicable).



⚠ WARNING: When the air filter is being used on a *vacuum* system, rather than with pressure, using the twist drain (8) to remove liquid from the bowl is **not** recommended. **Never** disturb the twist drain, as contaminants could lodge in the drain seal and cause a vacuum leak.

⁴ The filter element kit may contain two sizes of bowl seals (O-ring type gaskets). If so, use the smaller bowl seal; or if in doubt, compare the old bowl seal to determine the appropriate size.

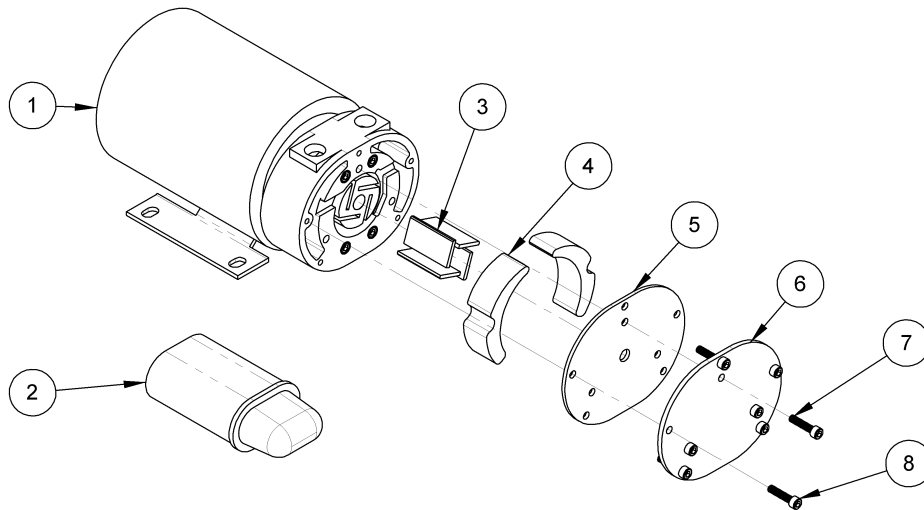
VACUUM PUMP MAINTENANCE – GAST 3032 & 2032

(for Gast pump nos. 3032-101A-G609X and 2032-101-G616X)

⚠ WARNING: *Before proceeding with any maintenance, disconnect power source; allow pump to cool; and vent any vacuum or pressure remaining in vacuum system.*

If the vacuum pump takes too long to attain full vacuum, it may require maintenance, as directed in the following disassembly/reassembly procedure. Service or replace air filters and vanes as necessary to obtain acceptable pump performance (see service kit in REPLACEMENT PARTS LIST). Note: Inspect air filters after no more than 500 hours of operation; dirty filters must be cleaned or replaced.

1) Remove the retainer bolts (7 & 8) from the vacuum pump.



- 1 MOTOR W/ROTOR HOUSING
- 2 CAPACITOR
- 3 VANES (4x)
- 4 AIR FILTERS (2x)
- 5 INSERT PLATE
- 6 RETAINER PLATE
- 7 LONG RETAINER BOLT (3x)
- 8 SHORT RETAINER BOLT (5x)

- 2) Remove the retainer plate (6) and insert plate (5) by lightly tapping on them with a small hammer. Note: Do not use a screwdriver to remove these plates, because it could damage them.
- 3) Before removing the existing vanes (3), note the direction of the beveled edge, in order to install the new vanes in the same orientation. Do not try to remove the rotor, because it can only be serviced by the manufacturer.
- 4) Spray the bore and rotor with a suitable, nonpetroleum-based flushing solvent. Use a clean, dry cloth to remove flushing solvent from these parts.
- 5) Place the new vanes (3) in the rotor slots with the beveled edge in the correct orientation (see step 3). Note: Vanes may become damaged or broken if installed incorrectly.
- 6) If the air filters (4) appear dirty, clean them with soapy water or replace them all together, depending on their condition. After cleaning the filters, dry them with compressed air. Since moisture can damage the pump, be sure to avoid introducing any moisture into the pump. When the filters are completely dry, reinstall them in the rotor housing. Otherwise, install new filters.
- 7) Place a sheet of fine emery cloth on a smooth, flat surface and rub both sides of the insert plate (5) on the emery cloth to remove any burrs. Use a clean, dry cloth to remove any dust from the insert plate. Reinstall the insert plate, placing the unused side facing the pump vanes.
- 8) Repeat step 7 with the face of the retainer plate (6). Use a clean, dry cloth to remove any dust from the retainer plate and reinstall it.
- 9) Reinstall the retainer bolts (7 & 8) and tighten them to 28-36 in-lbs [3.1-4.1 N-m] of torque.

REPLACEMENT PARTS LIST

Stock No.	Description	Qty.
66207	Pump Service Kit - 240 V AC (including vanes and filters)	1
66205	Pump Service Kit - 120 V AC (including vanes and filters)	1
66142AM	Vacuum Pump - Rotary Vane Type - 2.5 SCFM [71 liters/minute] - 240 V AC	1
66142	Vacuum Pump - Rotary Vane Type - 2.5 SCFM [71 liters/minute] - 120 V AC	1
65234	Solenoid Valve - 240 V AC - 6 W	1
65226	Solenoid Valve - 120 V AC - 6 W	1
64355	Adjustable Time Delay Relay - 18-240 V AC - 1.5 A	1
65432	Vacuum Hose - 1/4" [6.3 mm] ID (approx. 246" [625 cm] in length)	1
65270	Vacuum Release Valve w/Foot Pedal	1
65212AM	Check Valve - 1/4 NPT - 0.15 PSI Cracking Pressure	1
59282	Rotation Brake Pad	2
59280	Rotation Tension Lever Assembly	1
49544T	Vacuum Pad - Model P9 / 9" [23 cm] Diameter	1
49180	End Plug - 3" x 3" x 1/4" [76.2 mm x 76.2 mm x 6.4 mm] Tubing Size	6
49150	End Plug - 2 1/2" x 2 1/2" x 1/4" [63.5 mm x 63.5 mm x 6.4 mm] Tubing Size	3
29353	Pad Cover	1
16134	Filter Element Kit (for 1 oz [30 ml] bowl size air filter)	1
15930	Vacuum Gauge - 1/4 NPT - LM Type	1
15650	Rotating Union - 1/4 NPT	1
15630	Pad Filter Screen - Large	1

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

LIMITED WARRANTY

Powr-Grip products are carefully constructed, thoroughly inspected at various stages of production, and individually tested. They are warranted to be free from defects in workmanship and materials for a period of one year from the date of purchase.

If a problem develops during the warranty period, follow the instructions hereafter to obtain warranty service. If inspection shows that the problem is due to defective workmanship or materials, Powr-Grip will repair the product without charge.

WARRANTY DOES NOT APPLY WHEN:

Modifications have been made to the product after leaving the factory.

Rubber portions have been cut or scratched during use.

Repairs are required due to abnormal wear and tear.

The product has been damaged, misused, or neglected.

If a problem is not covered under warranty, Powr-Grip will notify the customer of costs prior to repair. If the customer agrees to pay all repair costs and to receive the repaired product on a C.O.D. basis, Powr-Grip then will proceed with repairs.

TO OBTAIN REPAIRS OR WARRANTY SERVICE

For purchases in *North America*:

Contact the Technical Service Department at Wood's Powr-Grip Co. When factory service is required, ship the complete product--prepaid--along with your name, address and phone number to the street address hereafter.

For purchases in *all other localities*:

Contact your dealer or the Technical Service Department at Wood's Powr-Grip Co. for assistance.

Wood's Powr-Grip Co., Inc.
908 West Main St. / P.O. Box 368
Laurel, MT USA 59044

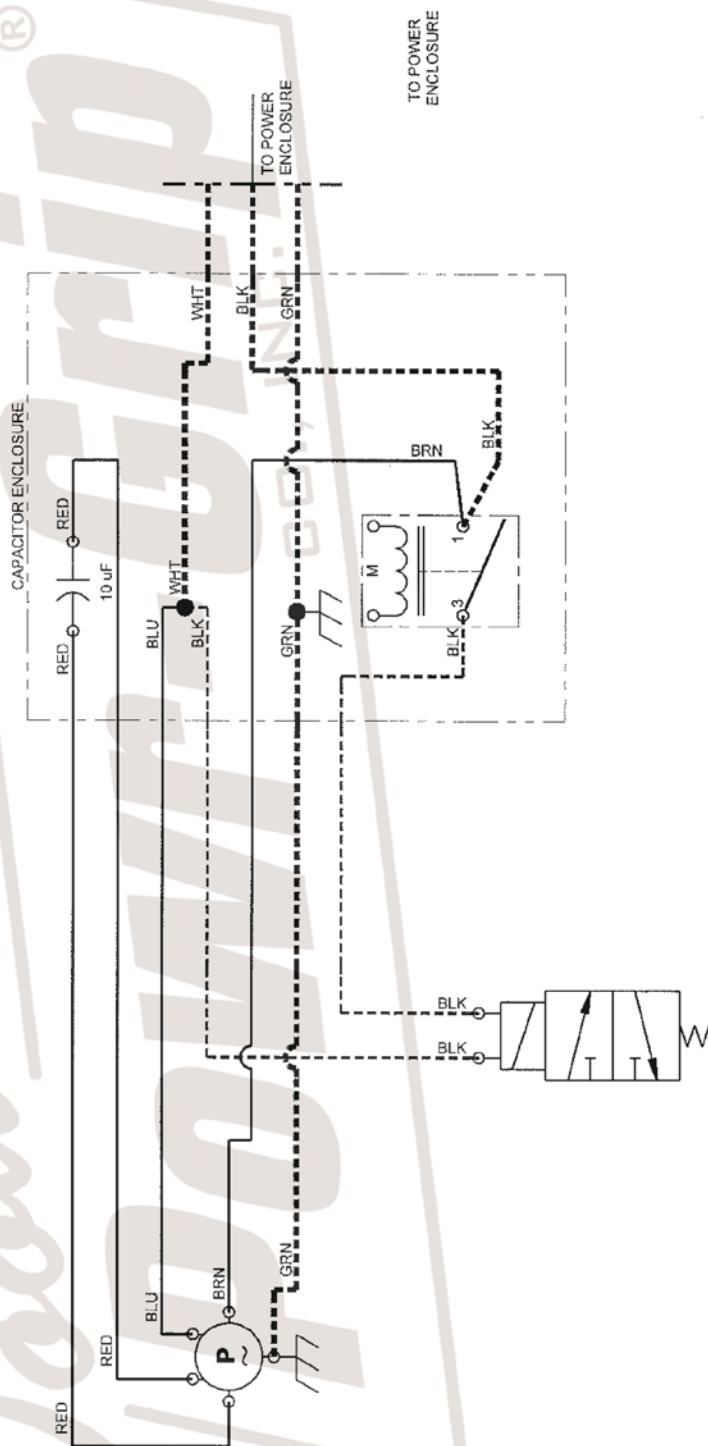
phone 800-548-7341

phone 406-628-8231

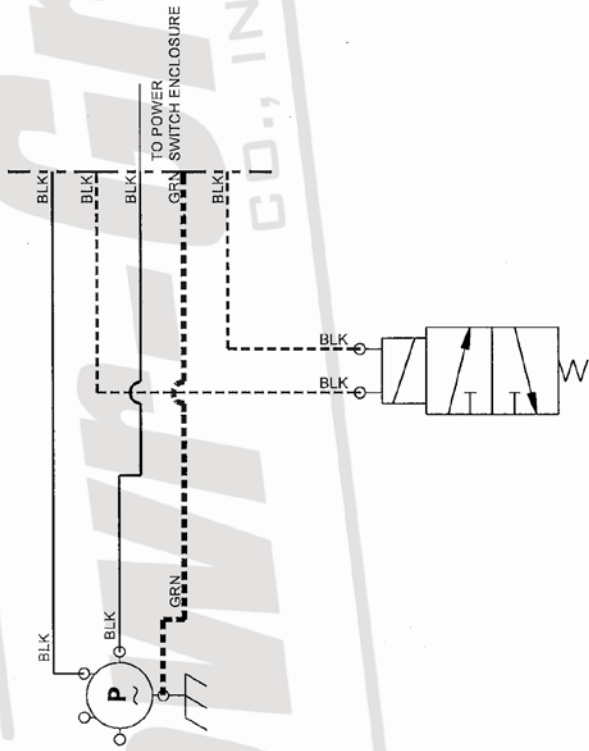
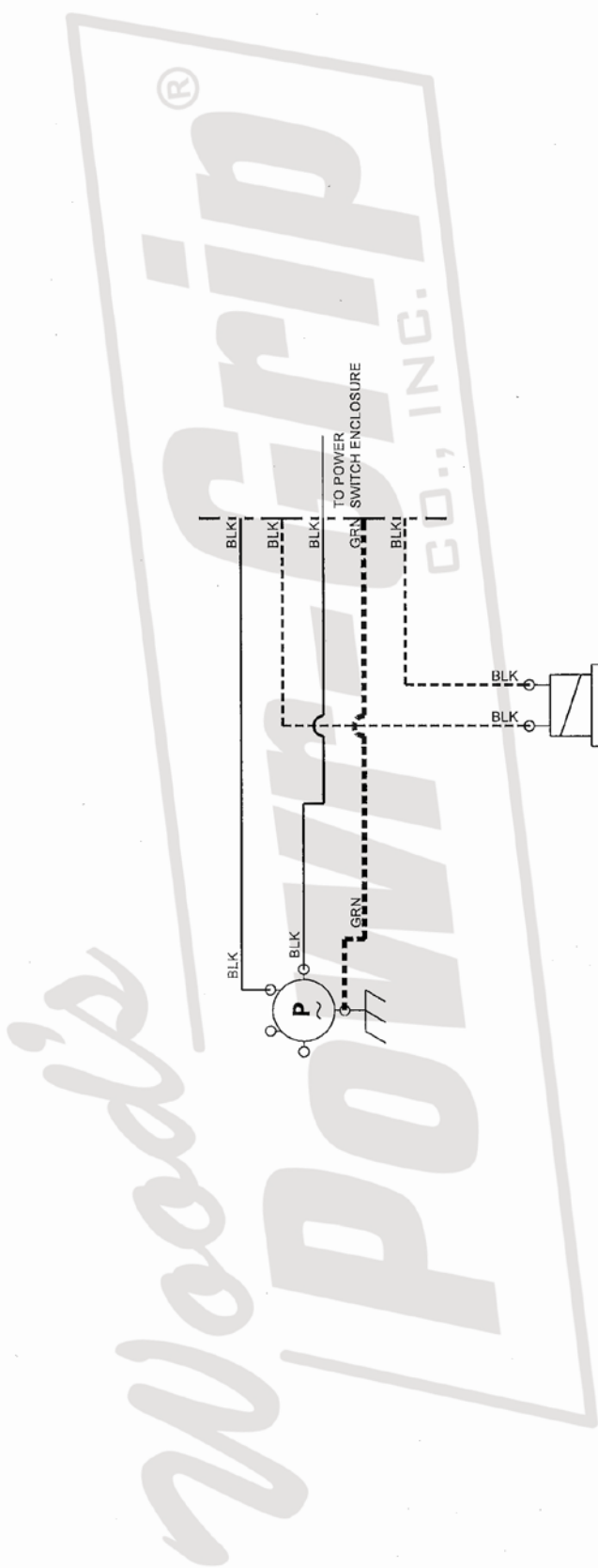
fax 406-628-8354

WIRE LEGEND: CONTROLLED BY WIRING SYMBOLS DRAWING EXCEPT AS NOTED AND BELOW.		DATE: 01/07/2011	
LINE STYLES AND WIDTHS FOR WIRE UNLESS NOTED OTHERWISE.		PRODUCT MANAGER: ADRIEN L.	
--- 20AWG --- --- 18AWG --- --- 16AWG --- --- N/A ---		CHECKED: CR	
		APPROVED: <i>Adrien</i>	
		12-15-14	
		12-15-14	

1) USE THIS DRAWING WHEN THE PUMP AND CAPACITOR ENCLOSURE ARE LESS THAN 10" APART.



WIRE LEGEND: CONTROLLED BY WIRING SYMBOLS DRAWING EXCEPT AS NOTED AND BELOW. LINE STYLES AND WIDTHS FOR WIRE UNLESS NOTED OTHERWISE. --- 20AWG --- --- 18AWG --- --- 16AWG --- --- N/A ---		TYPE: STANDARD DIRECTORY: 708B-W01 [B-W03] THIS DRAWING IS THE PROPERTY OF WOOD'S POWR-GRIP CO., INC. IT IS LOANED WITH THE UNDERSTANDING THAT NEITHER IT NOR ANY INFORMATION CONTAINED THEREIN WILL BE COPIED, PUBLISHED OR TRANSMITTED TO OTHERS WITHOUT EXPRESS WRITTEN PERMISSION. LAUREL, MONTANA U.S.A.	
DRAWN: L. RENNER CHECKED: <i>CR</i> APPROVED: <i>Chen</i>		3 SCFM AC VACUUM PACKAGE COMPACT ROTARY VANE 240VAC GAST 2032 VAC PUMP WIRING DIAGRAM D708B-W01 [B-W03]	
DATE: 12/08/2011 01-11-12 1-11-12		SIZE: A SCALE: NONE REV: 0 ECN NUMBER: 2761 REL. FOR PROD. 12/08/2011 BY: LER	



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CHECKED: <i>CH</i>		DATE: 08-08-11		SWITCH AND PLUG WIRING SCHEMATIC D870-W01 [W01]	
APPROVED:		SIZE: A	SCALE: NONE	REV.: 1	ECN NUMBER: 2536
				DATE: 04/19/2011	BY: LER

