



**Cleveland Equipment**

# **CAVS-Series**

**Self Contained**

**Retractable Nozzle Vacuum Sealer**

## **Operation Manual**



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## Preface

The following pages of this manual offer full and complete instructions for all the functions and features of your new Vacuum Sealer. Inside these pages, you will find information on and instructions for connecting, operating, and maintaining your chamber vacuum sealer. Please always read all safety instructions and complete directions carefully for safe usage. Proper usage, care, and maintenance will ensure trouble-free operation and the long life of this unit.

## 2-Year Limited Warranty

All CAVS-Series Vacuum Sealers are warranted for two (2) full years from date of delivery against electrical and mechanical defects, excluding normal wear items such as Heating Elements, Element Posts, Teflon, Pressure Bar Pads, Gray/Black Rubbers and Seal Gaskets.

The warranty is voided if the machine is damaged due to improper or negligent use and/or unauthorized repairs. Further, this limited warranty does not cover any Acts of God such as fire, hurricanes, flood, and tornadoes. Any defective machine under warranty that is returned freight prepaid will, at our option, be repaired or replaced by the manufacturer, at no charge.

## Warning

Do not attempt to repair or adjust any electrical or mechanical functions on this product. Doing so will void this warranty.



## Important Safeguards, Tips, & Caution Labels

For your own safety, read and understand the operator's manual and all other safety instructions before using this equipment.

1. When turning on your Vacuum Sealer, the built-in Air Compressor will fill up the internal pressure tank. **Always wait until the Air Compressor stops before stepping on the Foot Switch.**
2. To avoid any injury, disconnect the electrical power, air, and gas supply, press the internal air pressure release push button to remove air pressure, push the nozzle inside the nozzle enclosure, remove the gas supply and allow time for any hot surface to cool down to the touch before doing any servicing.
3. To avoid overheating and to extend the life of the Heating Element, set the Heat Timer to the lowest setting that will result in a strong seal.
4. Avoid activating the vacuum sealer without a bag between the sealing jaws. **At all times, the nozzle must be inside the bag.** Otherwise, the nozzle will deteriorate the Rubber seals and Teflon found between the jaws.
5. Please do not vacuum seal products with liquids or powders only. A Vacuum filter is needed to prevent any tiny amounts of liquids, powders, or other small particles to reach the vacuum pump making the vacuum sealer inoperative. To have a vacuum filter installed, please call your sales representative for further information.
6. The product does not have to be at the bottom of the bag. Keep the product close to the tip of the nozzle for best results. If the nozzle is obstructed by the bag, push the product up using your fingers.



## What is in The Package

In the package, you will find:

- This Operation Manual.
- 
- (1) Vacuum Sealer.
- 
- (1) E- (seal length) Heating Element
- 
- (1) T- (seal length) Teflon Set, in a roll, placed next to this manual.
- 
- A bag vacuum packaged by this very same vacuum sealer which includes:
  - (1) Power cord.



*Figure 1*



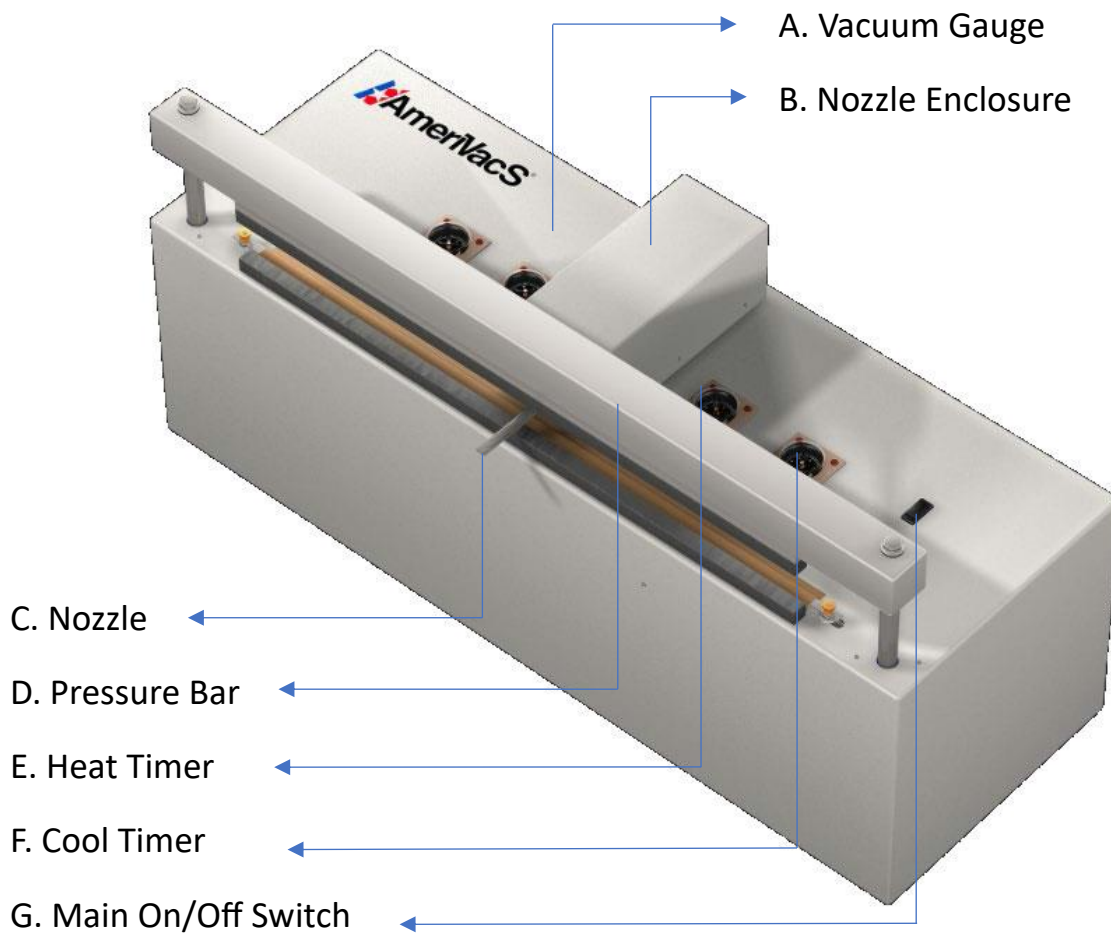
## Specifications

Seal Length:	20", 30"
Seal Width:	¼"
Vacuum Flow:	3 CFM
Max. Vacuum Pressure:	27 inHg
Amps @ 120 Volts A.C.:	10, 15
Amps @ 220 Volts A.C.:	6, 7
Unit Size (in):	28,40L x 10W x 12H
Approx. Weight:	58, 72 lbs.
Approx. Ship Weight:	66, 84 lbs.



## Machine Diagram

Unpack your new Vacuum Sealer and place it on its new home. Place the foot switch on the floor so it is easy to activate with your foot.





**Looking at the top of the unit, you will find from left to right:**

- **Vacuum Gauge** –The Vacuum Gauge will measure the vacuum level during the vacuum cycle only.
- **Nozzle Enclosure** in the middle – Used to house the Vacuum Nozzle.
- **Pressure Bar** at the front of the unit.
- **Heat Timer** – 1st part of the seal cycle, used to heat the bag so it can melt together. Timer should never be set or used for more than 10 seconds per bag or it will cause damage to the bag and vacuum sealer.
- **Cool Timer** – 2nd part of the seal cycle, used to keep the bag under pressure while the heating element and bag cool down. It should be set 50% higher than the Heat Timer setting.
- **Main On/Off power switch.** Can also be used as an ESTOP switch.



**Looking at the back side of the unit, you will find:**

- Electrical Power Receptacle.
- Foot Switch Cable.
- Power specifications and serial number sticker.
- Internal air pressure release push button. Use this to remove the air pressure to service the Pressure Bar or, to lower the Pressure Bar if you will not be using the sealer (Please push nozzle back before letting Pressure Bar rest). Don't forget to remove the power first.
- Exhaust for internal air pressure. Note: Water might be discharged.

If you ordered the Vacuum Regulator and/or Vacuum Filter accessories, you would also find these on the back of the Vacuum Sealer and the instructions included in this manual, see Table of Contents for more details.



## Setting Up Your Vacuum Sealer

To run this unit, you will need the following:

- Standard 120 Volt A.C. outlet or 220-240 Volt A.C. outlet if your unit is made for this higher voltage. See serial number tag next to the Power Receptacle of your Sealer to confirm.

### Getting Connected

#### 1) Power:

- a) **Make sure the Main On/Off switch is set to the “0” position.**

Connect your Power Cord to the Power Receptacle on the back of the Vacuum Sealer and to a Standard 120 Volt A.C. outlet or to a 220-240 Volt A.C. outlet if your unit is made for this higher voltage. See serial number tag next to the Power Receptacle of your Sealer to confirm.



Figure 2



### Warning!

When turning on your Vacuum Sealer, the built-in Air Compressor will fill up the internal pressure tank. **Always wait until the Air Compressor stops before stepping on the Foot Switch.**



## Setting the Seal Part of Your Vacuum Sealer

1. Turn on your Vacuum Sealer by pressing the main on/off (I/O) switch. The built-in Air Compressor will fill up the internal pressure tank. **Always wait until the Air Compressor stops before stepping on the Foot Switch.**
2. Set Heat Timer to four (4) seconds and Cool Timer to six (6).
3. Take one bag and fold it in half. Place your folded bag between the jaws back enough to extend past the Pressure Bar. Placing it above, below or to one side of the nozzle is okay. See figure 3.



Figure 3

4. Hold bag taut on the sides close to the front of the Pressure bar (to avoid any wrinkles in your seal), and keeping fingers away from the Sealing Jaws, press Foot Switch long enough so that the Pressure Bar closes, then release.
5. The Nozzle will retract, the Pressure Bar will close tighter, and the bag will be heat sealed as indicated by the LED lights on the Heat and Cool Timers. Then, the Pressure Bar will rise, releasing your bag and the nozzle will slowly extend outward.





6. Remove the bag and inspect the heat seal. The heat source is from the bottom, so the heat will go upward on your bag. The lower two (2) layers of the bag will be sealed, **but you want to make sure that the upper two (2) layers are also sealed**. This will ensure that if you do seal a wrinkle in your bag (which is four (4) layers of bag material) it will be air tight.
7. Raise Heat Timer setting one half (1/2) second if the seal is weak or lower by one half (1/2) second if the seal is good.
8. Test again by repeating from step #3 onward.
9. Adjust Cool Timer so material has time to set before sealing bar opens, usually about 50% higher than the Heat Timer.

### Tip

To avoid overheating and to extend the life of the Heating Element, set the Heat Timer to the lowest possible setting that will result in a strong seal.



## Operating your Vacuum Sealer

Before continuing, please read and understand the following steps before doing them, as the process will be fast. Now that your seal parameters are set, let us start vacuum sealing:

1. Set the Gas and Vacuum Timers to one (1) and keep your Heat and Cool Timer settings just as you figured out on the earlier steps.
2. Place your bag, with product inside, stretched out between the jaws and with the nozzle inside the bag. **Holding the bag taut will help avoid wrinkles in your seal.**
3. Position the bag so the bag's open end goes beyond the pressure bar. Keep fingers away from the sealing jaws.



*Figure 4*

### Warning

Do not vacuum seal products with liquids only. The vacuum nozzle will suck tiny amounts of liquids, powders, or other small particles.

**Make sure your Vacuum Sealer has a Vacuum Filter installed on it, or the product will go directly to the vacuum pump making the vacuum sealer inoperative.**



4. Position the product so it is close to the nozzle. This will keep the bag from closing the nozzle and obstructing the air flow to it. **The product does not have to be at the bottom of the bag.** See figure 4.
5. To vacuum, simply:
  - a. After you have followed steps 2, 3, and 4 on this section, press Foot Switch **and hold it**. The pressure bar will close, and the vacuum will start.
  - b. When you see that the package has reached the desired amount of vacuum, release the Foot Switch and the Nozzle will at once retract.
  - c. The Pressure Bar will close tighter, and the bag will be heat sealed as shown by the LED lights on the Heat and Cool Timers. Once the sealing process is completed, the Pressure Bar will rise, releasing your bag and the nozzle will slowly extend, ready for the next cycle.

### Tip

Avoid activating the vacuum sealer without a bag between the sealing jaws. At all times, the nozzle must be inside the bag. Otherwise, the Nozzle will deteriorate the Rubber seals and Teflon found between the jaws.



## Accessories

Enhance the use of your vacuum sealer with accessories. For more information on our accessories, contact your sales representative.

### Vacuum Filter (Optional)

If your unit was fitted with a Vacuum Filter, this will be located at the back side of the nozzle enclosure. The purpose of this filter is to keep the vacuum pump free of any debris that might make your sealer inoperative.

To avoid any damage during shipment, we have removed the filter from its bracket.

To install, simply:

1. Remove both screws on the top of the filter.
2. Position the filter on the bracket so the holes align.
3. Install and tighten the screws.

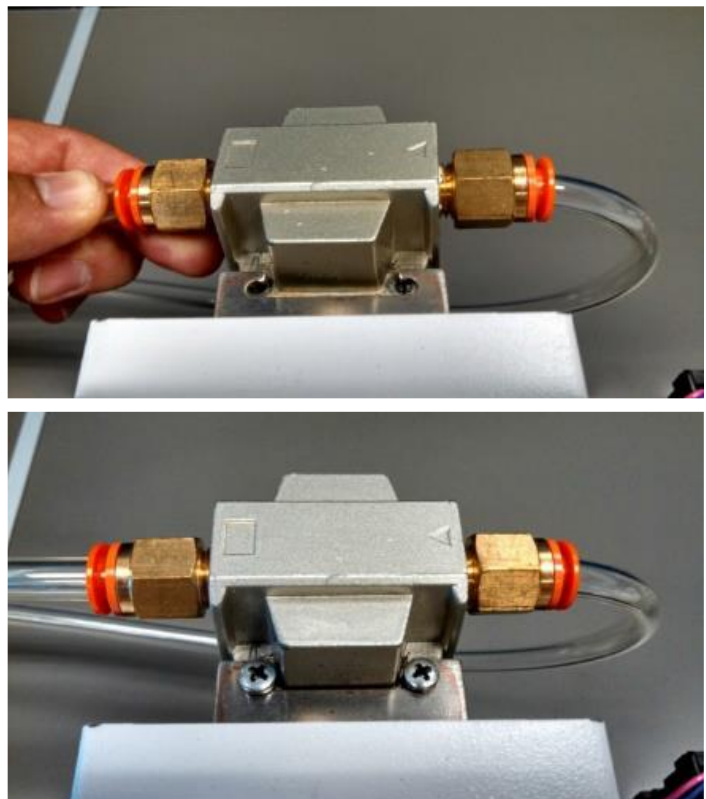


Figure 5



**To clean your vacuum filter:**

1. Simply pull down the clip on the back of the filter and turn the metal jar protector slightly to either side, about 1/8 of a turn. You should be able to pull it down.
2. Pull down the see-through jar, a little force may be needed as it is held by its rubber seal. Clean the jar.
3. If necessary, unscrew the bottom filter holder paying close attention on how the parts are assembled.
4. Clean or replace the element and the filter housing.
5. Re-assemble by following the above steps in reverse.



Figure 6

**To clean your vacuum line:**

1. Remove the tubing on the side of the marked arrow and blow compressed air through that line.
2. Caution should be taken as the compressed air will come out through the nozzle and might “shoot” any debris inside the line.





## Vacuum Regulator (Optional)

If your unit was fitted with a Vacuum Regulator, this will be on the back side of the machine. The purpose of the regulator is to lower the vacuum level exerted on the package.



*Figure 7 – Unlocked Vacuum Regulator*

To adjust the regulator, simply:

1. Pull the Vacuum Regulator knob until it clicks. This will unlock it and the orange/red line will be visible.
2. Set all timers to 0.
3. Turn your Vacuum Sealer on.
4. Keep fingers away from the sealing jaws and press and hold the foot switch so that the vacuum cycle begins.
5. Cover the nozzle tip with your hands so that you can view the vacuum tightness that the unit is reaching on your bag. You can also view the vacuum level shown on the vacuum gauge.
6. Adjust the Vacuum Regulator by turning clockwise to increase vacuum, or counterclockwise to decrease vacuum. Set as desired.
7. Push the Vacuum Regulator knob until it locks into place and release the foot switch to finish.



---

## Tips

Adjust the Vacuum Regulator by turning clockwise to increase vacuum, or counter clockwise to decrease vacuum.

**Keep the product close to the tip of the nozzle for best results.** If the nozzle is obstructed by the bag, push the product up using your fingers.



If you do not know what vacuum level you wish to set it at, then:

1. Adjust the vacuum level to minimum following the instructions above and turning the Vacuum Regulator knob counterclockwise all the way.
2. Keep all timers at 0.
3. Place your bag, with product inside, between the jaws and with the nozzle inside of the bag.
4. Position the bag so the bag open end goes beyond the pressure bar.
5. Position the product so it is close to the nozzle. This will keep the bag from closing the nozzle and obstructing the air flow to it. The product does not have to be at the bottom of the bag.
6. Hold the bag taut on the sides close to the front of the Pressure bar, this is to avoid any wrinkles in your seal, and keeping fingers away from the Sealing Jaws, press and hold the Foot Switch. The Pressure Bar will go down to close, and the vacuum will start.
7. Adjust the Vacuum Regulator as desired by turning clockwise. You will be able to see the vacuum level in the package by what is shown on the Vacuum Gauge.
8. Push the Vacuum Regulator knob until it locks into place and release the foot switch to finish once the vacuum setting has been determined.



Figure 8



## Work Tray (Optional)

An attachable 12" x 20" work shelf that can be adjusted to different heights to support the bagged product for better control when positioning it between the sealing jaws.



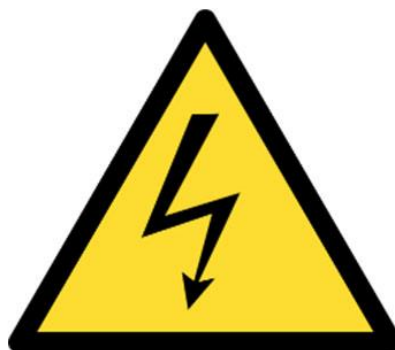
*Figure 9*



## Service & Maintenance

### Warning

To Avoid Any Injury, turn off the Main On/Off (I/O) switch, disconnect the Electrical Power, Air and Gas Supply, push the nozzle inside the nozzle enclosure, and Allow Time for Any Hot Surface to Cool Down to The Touch Before Doing Any Servicing.





## Pressure Bar

***We recommend removing the pressure bar before any servicing.***

To remove the pressure bar, you will need the following:

- A. Turn off the Main On/Off (I/O) switch.
  - B. Do not remove the air pressure from the machine
  - C. Remove the gas supply.
  - D. Use an adjustable Wrench.
  - E. Use Needle-nose pliers
1. To unscrew the pressure bar bolts, use an adjustable wrench or your desired tool, as shown in figure 10, image 1.
    - a. To keep the cylinder rods from rotating along with the pressure bar bolts, hold the cylinder rods by the flat spots located at the top of the rod using the needle-nose pliers, as shown in figure 10, image 3.
  2. Place the pressure bar along with the 2 bolts and the 4 internal tooth washers aside.
  3. Remove the air pressure to the vacuum sealer by pressing the internal air pressure release button.
  4. Carefully, lower the cylinder rods down as shown in figure 10, image 4.
  5. Push the Nozzle inside the Nozzle Enclosure.

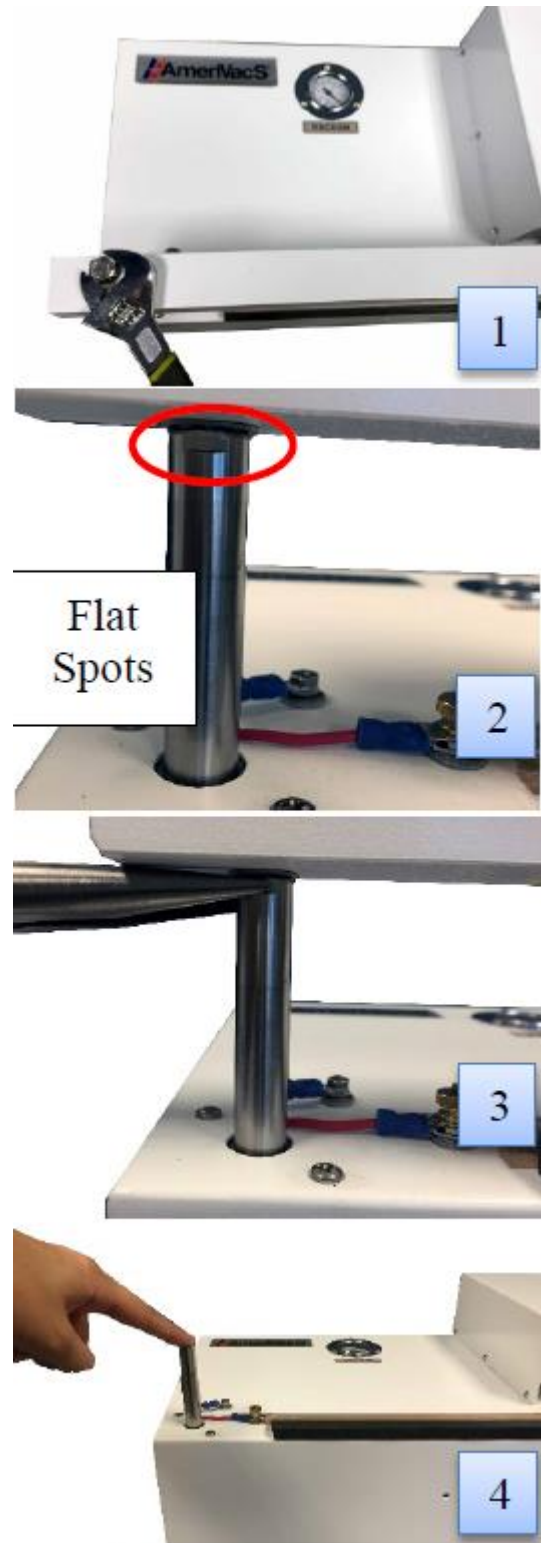


Figure 10

**After servicing, re-install the pressure bar by following these steps:**

- 1) Place a tooth washer on the head of the bolt. Now, place the bolt with the tooth washer on the top-left side of the pressure bar.
- 2) On the bottom-left of the pressure bar, place another tooth washer to the end of the bolt pressed up against the pressure bar.
- 3) Place a tooth washer on the head of the bolt. Now, place the bolt with the tooth washer on the top-right side of the pressure bar.
- 4) On the bottom-right of the pressure bar, place another tooth washer to the end of the bolt pressed up against the pressure bar.
- 5) Now that steps 1- 4 have been completed, place the pressure bar aside and leave for later.
- 6) Turn on the Main On/Off (I/O) switch just long enough so the cylinder rods go up. Once up, turn off the machine
- 7) Holding the bottom washers on each side, place and **hold** the pressure bar over the cylinder rods. Carefully slide the bolts into the rods. Turn the pressure bar bolts clockwise all the way using your hands. Do not use tools.
- 8) Now, press the internal air pressure release push button to remove air pressure and when able, push the nozzle inside the nozzle enclosure. Slowly lower the pressure bar with the cylinder rods.
- 9) Tighten the pressure bar bolts with a wrench. **Do not overtighten.**
- 10) Turn on the Main On/Off (I/O) switch. The built-in Air Compressor will fill up the internal pressure tank. **Wait until the air compressor stops.** Set all timers to zero (0). Press the foot switch and check to see if the pressure bar goes up and down evenly and smoothly. If the pressure bar gets stuck at an angle continue pressing the foot switch 5 times more. If it still gets stuck after this, loosen the pressure bar bolts and try again.





## The Heating Element & Teflon Set (Part No. E- and T-)

### Step 1. Remove the broken/burned Heating Element & Teflon set.

1. Remove the Pressure Bar. See table of contents for page details.
2. Very carefully to avoid, remove the gray rubber from the machine and any leftover adhesive. Please save for later if it is in good condition.
3. Remove 1½" Teflon that covers the old Heating Element.
4. Remove thumb nuts and washers from the element posts on both sides.
5. To remove the heating element, press the right element post assembly inward. You can use a large flat screwdriver to hold it in the compressed position (see figure 11). In a compressed position, remove old heating element from the left side and the washer below it, then the right side. If you have a 30" sealer or bigger, make sure to compress both posts while removing the heating element.

**Keep the right post in a compressed position until you finish installing the new heating element.**

6. Remove the ½" Teflon placed on the ½" wide aluminum flat bar, underneath the heating element that was just removed.

### Tip

Using a large flat screwdriver, keep the right post in a compressed position until you finish installing the new heating element.





## Step 2. Installing the New Element & Teflon Set.

When installing the new heating element, make sure there is no space between the thumb nuts, washers, and the heating element. Otherwise, the heating element will start to overheat from the ends and eventually break. See figure 11.

The last step **after** you installs the new heating element, will be to remove the large screwdriver that is pushing the Right-Element-Post Assembly inward.

1. Remove backing on new ½" Teflon. Center over the ½" wide aluminum flat bar and press to adhere.

**a. Leave an extra ½" of Teflon tape extending past each end of the aluminum flat bar to avoid electrical grounding with the Heating Element.**

2. Place one washer on each post.

- **Thumb nuts should be placed above the top washers.**
- **Washers should be placed at the top and the bottom of the heating element, on each post.**
- **There should not be any space between the thumb nuts, washers, and the heating element.**



## Warning

**Please read carefully. Not doing so, will result in a short-life element, breaking on the left side post.**

Keep the right post in a compressed position using a large screwdriver. This will keep the element without tension through the steps. See Figure 12.





3. Place the new Heating Element over the Right-Element-Post Assembly. The folded side of the heating element goes downward but make sure the folded side rests on top of the 1/2" Teflon tape. Make sure you have the Right-Element-Post Assembly in a compressed position for this step. See figure 12.
4. Still on the Right-Element-Post Assembly, add a washer on top of the heating element and firmly hand tighten the Right-Element-Post Assembly with a thumb nut. Double check there is no space between the washers, heating element, and thumb nut before continuing to the next step.

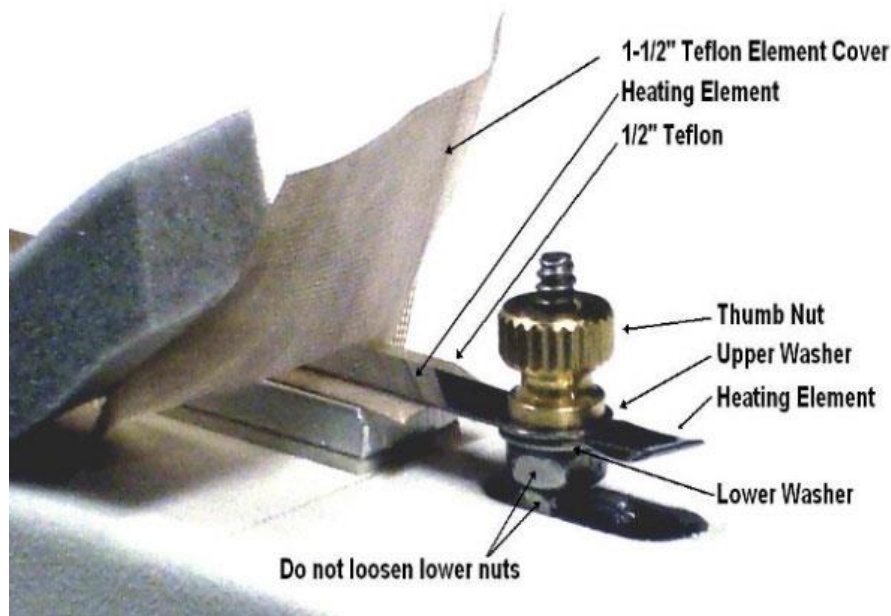


Figure 11

## Warning!

Check each post to ensure there is no space between the thumb nut, washers, and the heating element. If there is any space between the above parts, the heating element will start burning from the ends and eventually break.



5. Keeping the Right-Element-Post Assembly pushing inward, install the other end of the Heating Element over the Left- Element post, add a washer above the heating element, and firmly hand-tighten with a thumb nut. The folded side of the heating element goes downward but make sure the folded side rests on top of the ½" Teflon tape. Double check there is no space between the washers, heating element, and thumb nut before continuing to the next step.
  - a. If you have a 30" sealer or bigger, compress the Left- Element-Post Assembly inward as well using a large flat screwdriver to install the new heating element. Both posts must be in a compressed position to install the new heating element.
6. Release the assembly on the right-hand side by removing the large flat screwdriver (or both sides if 30" or larger sealer).
7. Remove both backings from 1½" Teflon Cover.
8. Center Teflon so that the non-adhesive middle part covers the Heating Element.
9. Smooth out on each side so adhesive sets on the chassis.
10. Re-apply the gray rubber you removed in the first step from section The Heating Element & Teflon Set, see table of contents, or replace with a new one if it is not in good condition.

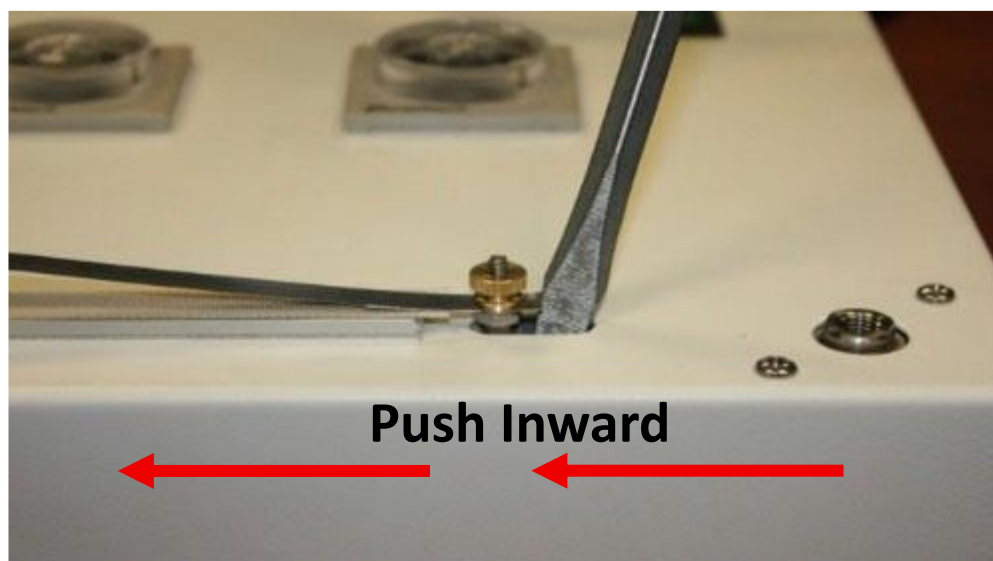


Figure 12



## The Pressure Bar Pad (Part No. PBK-)

1. Remove the Pressure Bar. See table of contents for page details.
2. From the pressure bar, remove the old Teflon cover, red rubber strip, and any adhesive left on the sides of the Aluminum Bar. Do not remove the green gasket pasted to the bottom of the Aluminum bar.
3. Remove backing from the new red rubber and press lightly onto the Pressure Bar without stretching. Once in place, press firmly on the red rubber so that the adhesive sticks to the pressure bar.
4. Remove backing from the new 1½" Teflon cover. Center Teflon on top of the red rubber, press the Teflon on the red rubber smoothing out to each edge, and then fold over each side. See Figure 13.

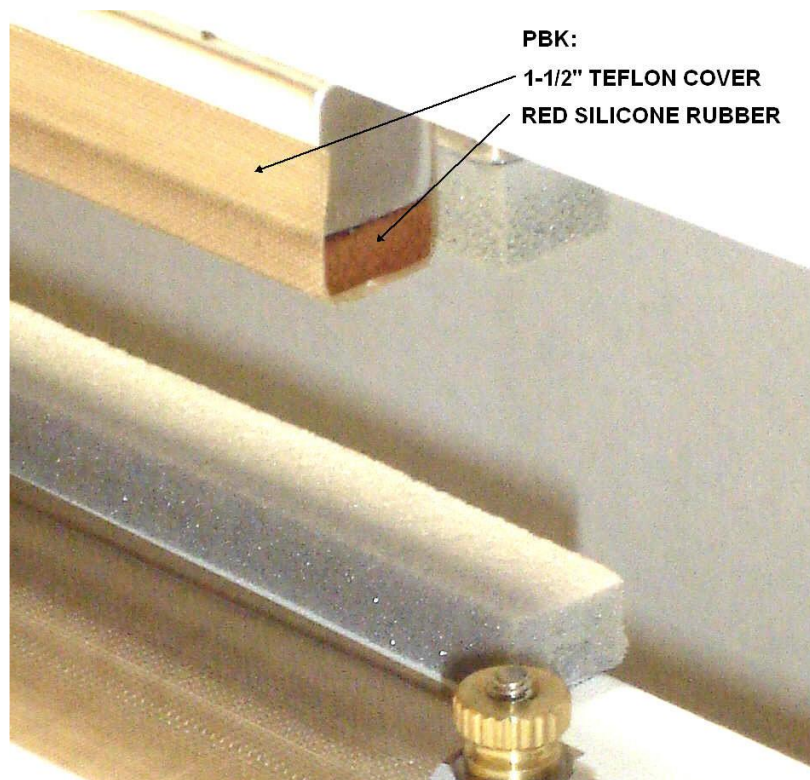


Figure 13



## The Gray or Black Rubber (Part No: GR-)

1. Remove the two-old gray/black rubber strips from the body of the machine and the pressure bar. Remove any leftover adhesive.
2. Remove backing from one of the new rubbers (both rubbers given are the same) and press lightly onto the Pressure Bar **without stretching**. Once in place, press firmly on the new rubber so that the adhesive sticks to the pressure bar.
3. Remove backing from the remaining rubber strip and **line up with the front edge of the machine body**. Press into place without stretching. Do not align with the upper rubber on the pressure bar. See Figure 14.

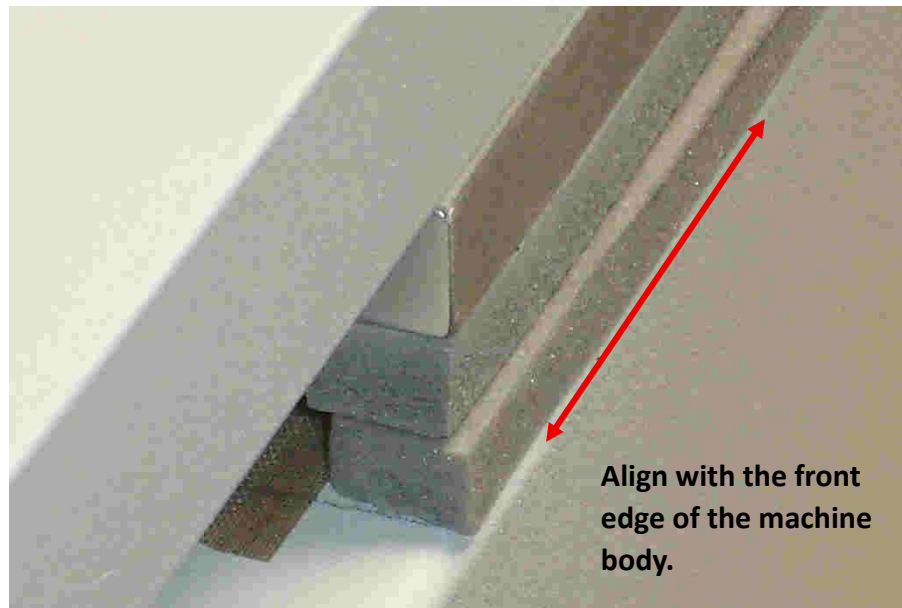


Figure 14

## Warning!

Align the bottom rubber with the front edge of the machine body only. Do not align bottom rubber with the upper rubber on the pressure bar.



## Blown Fuse

A spare fuse is found on the power receptacle.

1. Pry open fuse drawer with small flat screwdriver.
2. Fuse drawer has the spare included. See figure 15.

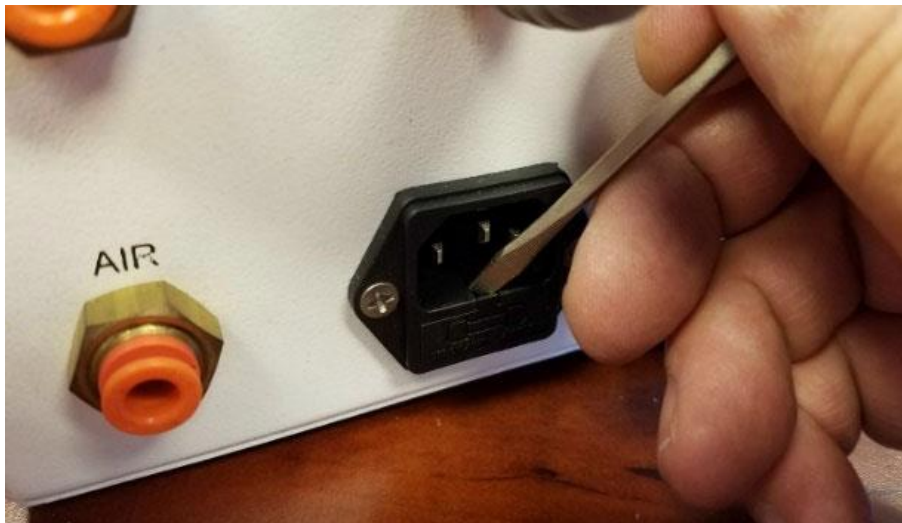


Figure 15





## Nozzle Extension

If your Vacuum Sealer experiences a slow extension of the nozzle at the end of the cycle, it is because of minerals that flow from your compressed air source that have clogged the air passage to the nozzle cylinder. To correct this, simply follow these steps:

1. Remove the nozzle enclosure by unscrewing the 6 screws (3 on each side) with a #1 Philips screwdriver. See figure 16, image 1. Refer to the Machine Diagram of this manual to find the nozzle enclosure. See table of contents.



2. Find the flow control fitting on the back of the cylinder and loosen the knob locking nut using needle nose pliers as shown, turning counter clockwise. See figure 16, image 2.



3. Loosen the knob on the tip, found next to the knob locking nut, by just turning counterclockwise. See Figure 16, image 3.



Figure 16



This will adjust how fast the nozzle pushes out. The looser the knob, the faster the nozzle will push out.

- a. **You want the nozzle to extend between two (2) and three (3) seconds.**
4. Set all timers to 0 and activate the machine by pressing the foot switch just long enough for the jaws to close, then release the foot switch. Let your machine cycle through and see the nozzle extension speed.
    - a. If it is necessary to make another adjustment:
      - i. Adjust the flow control knob (step #3) by **turning** counterclockwise. See Figure 16.
    - b. If the nozzle extends between two (2) and three (3) seconds, then:
      - i. Gently tighten the knob locking nut using the needle nose pliers. (**Do not overtighten**)
      - ii. Install the nozzle enclosure that was removed in step 1.



## Vacuum Bags

A variety of vacuum bags including stand up pouches with zipper (optional) are available for your vacuum sealer. For additional information on our bags or to place an order please contact your sales representative.

Prices subject to change without notice.

\$350 min order to one destination.

FOB factory.

3-mil Vacuum Bags, Clear								
Size	Case Qty	Price / Case	Size	Case Qty	Price / Case	Size	Case Qty	Price / Case
5x7	2000	\$50	10x13	1000	\$82	14x16	500	\$71
6x8	1000	\$33	10x15	1000	\$90	14x20	500	\$89
6x10	1000	\$41	10x18	500	\$51	14x24	500	\$96
6x12	1000	\$49	10x22	500	\$57	16x20	500	\$101
6x15	1000	\$61	10x30	500	\$77	16x24	500	\$121
7x9	1000	\$43	12x12	1000	\$89	16x26	250	\$64
7x11	1000	\$52	12x14	1000	\$106	16x28	250	\$65
8x10	1000	\$54	12x15	500	\$58	18x22	250	\$67
8x12	1000	\$65	12x16	500	\$61	18x28	250	\$77
8x15	1000	\$76	12x18	500	\$68	20x28	250	\$76
10x10	1000	\$66	12x20	500	\$87	22x34	250	\$114
10x12	1000	\$77	12x24	500	\$100	24x36	250	\$140

4-mil Vacuum Bags, Clear								
Size	Case Qty	Price/ Case	Size	Case Qty	Price/ Case	Size	Case Qty	Price/ Case
6x8	1000	\$43	8x15	1000	\$107	14x20	500	\$125
6x12	1000	\$64	10x15	1000	\$134	16x20	250	\$72
7x11	1000	\$69	12x14	500	\$75	20x28	200	\$100
8x10	1000	\$72	12x16	500	\$86	24x36	200	\$154
8x12	1000	\$86	12x18	500	\$96			





## Problems and Solutions

In the unlikely event that you experience a problem with your machine, please take a couple of minutes to check these probable causes prior to contacting customer service.

Bag is not sealed in the middle	Red Rubber might be indented providing less seal pressure	Replace Red Rubber and Teflon (Pressure Bar Kit).
	Low air pressure	Make sure air pressure is set to 100 to 110 psi, free air flow of 6 CFM is needed.
Bag is not being Vacuumed	Low air pressure	Make sure air pressure is set to 100 to 110 psi, free air flow of 6 CFM is needed.
	Bag is closing around the tip of the nozzle	Move the product upwards and keep it as close to the tip of the nozzle as possible
Bag loses its vacuum after time	Bag material might be porous	Use a bag made for vacuum. Do not use channel bags.
	Sharp corner might have punctured the bag	Use thicker bag or lower vacuum level. (A vacuum regulator might be needed)
Element sparks or breaks on the left side	The post is not holding the element tightly Between and by the washers	In the Table of Contents, look for "The Heating Element" under "Service and Maintenance."
Machine does not turn on	Blown fuse	In the Table of Contents, look for "Blown Fuse" under "Service and Maintenance."
Slow extension of the nozzle	Nozzle cylinder needs adjustment	In the Table of Contents, look for "Nozzle Extension" under "Service and Maintenance"