

Welder Shut-down Procedure:

Rev. 11/2018

To shut off individual welders:

Airless Welder:

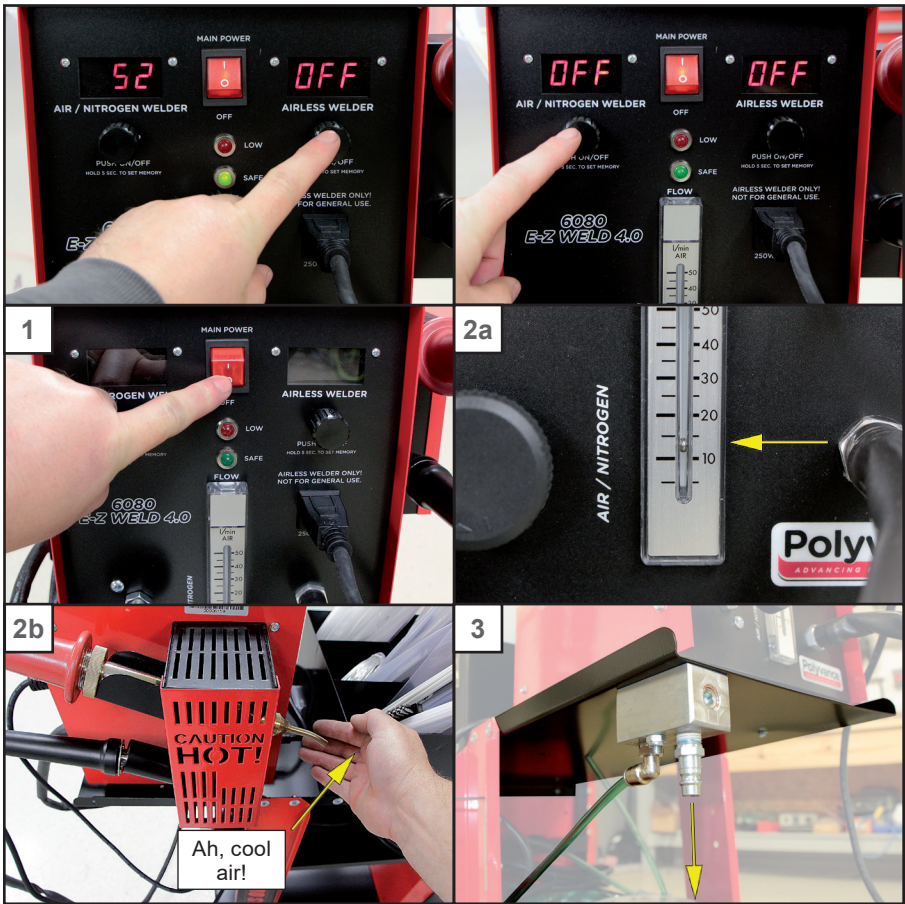
Press the airless welder control knob one time. "OFF" will show on the display indicating power to airless welder is no longer being supplied.

Nitrogen Welder:

Place welder into the top holster and press the nitrogen welder control knob one time. "OFF" will show on the display indicating power to the nitrogen welder is no longer being supplied. Allow the welder to completely cool before disconnecting the air supply.

System Shut-down:

1. Shut off main power
2. Allow the nitrogen welder to completely cool.
3. Disconnect the shop air supply.



The shutdown procedure is **VERY IMPORTANT** for maximizing the life of your heating element. You **MUST** maintain airflow through the heating element until it is completely cool. **You are in control of your heating element's life!** Polyvance cannot warrant the heating elements for this reason.

Diagnostics:

Welder will not turn on.

- Check wall outlet for 120V.
- Make sure power strip is on.
- Check circuit breaker on the back of the welder.
- Check that all cords going to the welder are plugged in.
- Check power cords for electrical continuity with a multimeter.

Circuit breaker trips.

- Check heating elements for shorts. Remove the hot air element and unplug the airless welder from the control panel. Check the resistance of the elements using an Ohm meter.
 - Hot air welder: 26.0 ± 1.0 Ohm
 - Airless welder: 53 ± 3.0 Ohms
- If out of range, or an open circuit is indicated, replace the faulty heating element.
- If the elements are within specification, turn the unit on with no elements installed. If circuit breaker continues to trip, contact Polyvance. If unit appears to function normally without the elements installed, plug in the airless welder only and test. If unit continues to operate normally, shut power off, then reinstall the hot air element and test. If unit trips circuit during either test, it's safe to assume the fault lies within the last device installed.

Nitrogen welder does not heat or is not hot enough.

- Turn the controller power "ON" by pushing the control knob once and make sure the power is not set too low. Must be on for the element to heat. If the airflow is at 12, set the temp to 52 as a starting point.
- Check air flow to the hot air welder. If the green "safe" light does not flash, power will not be sent to the heating element. Turn up airflow until the green light illuminates. It should illuminate at approximately 10 LPM, if it doesn't, call Polyvance.
- If it still does not heat, check the heating element. (See above.)

Airless welder does not heat.

- Set the temp to 100. Low settings will produce very little heat.
- If still no heat, check the heating element. (See above.) Replace if out of specification.

LED display malfunction.

- If both displays malfunction, the main control board is at fault.
- If one display malfunctions, the display board is generally at fault.

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6080-CG Nitro Fuzer Welding Cart - Quick Start Guide

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Congratulations on purchasing the easiest-to-use nitrogen plastic welder on the market. Prior to powering up the welder, please read and follow the directions outlined in this booklet on the set-up and use of your plastic welder. Scan the included QR codes sheet using your smart phone to see how to use the welder. Failure to read and fully understand these instructions or failure to watch the instructional videos will potentially cause damage to your welder, will increase your risk of injury, and may cause the welder to become a fire hazard. Videos are also accessible on our website at: <http://www.polyvance.com/videos>

Getting started:

1. Unpack the accessories box. Place the welding rod boxes and accessories into the bins on top of the welding cart.

2. Thread the welding tips into the appropriate welder. The nitrogen welder may already have the tip installed. If so remove the tape securing the tip for shipping.

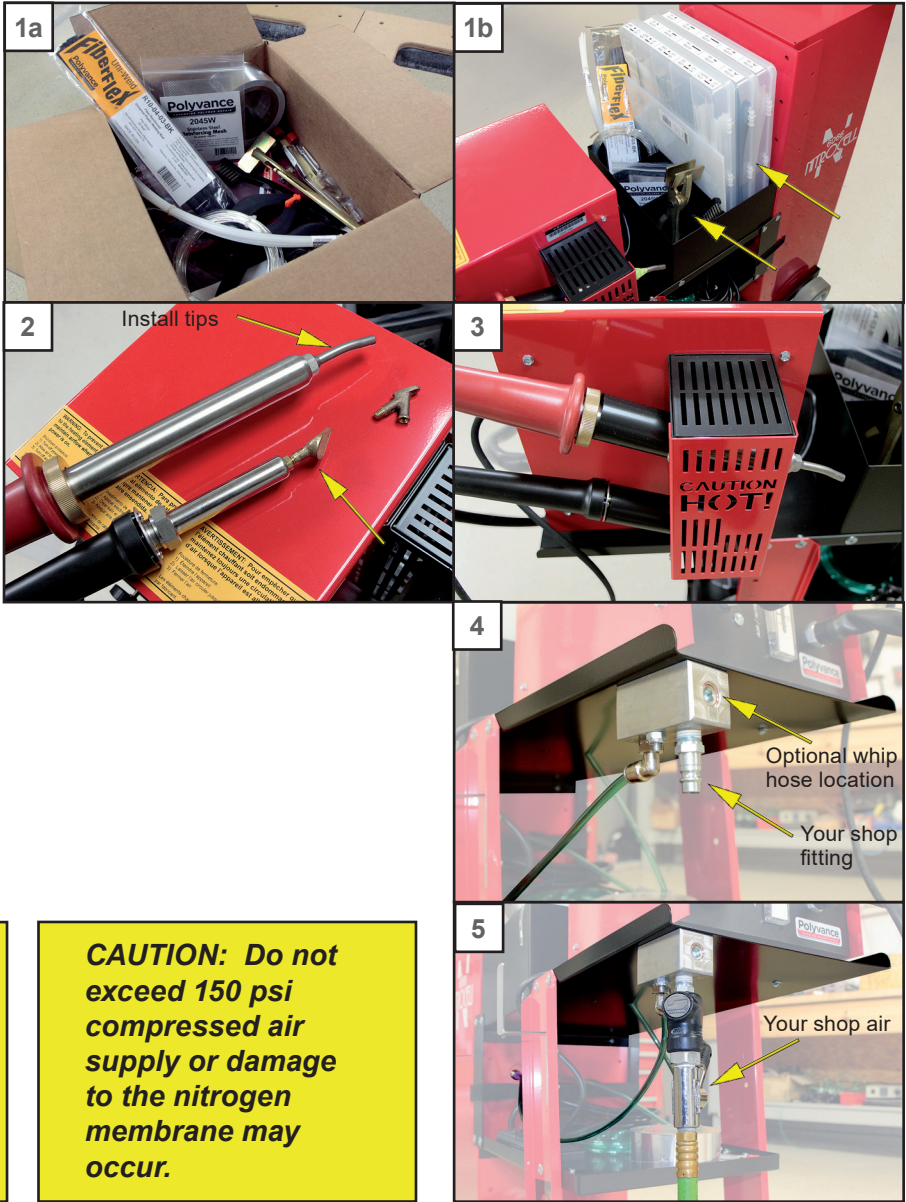
3. Place the welders into the holster on the right side of the welder. Be sure to place the nitrogen welder into the upper holster and make sure there is nothing flammable near the welder exhaust.

4. Install your shop's male air fitting in the bottom of the air manifold on the front of the cart. If desired, you can install a whip hose to the front of the manifold to power air tools or a blower.

5. With the welder off, connect CLEAN, DRY, and OIL-FREE shop air to the manifold. (100-150 psi recommended.) The nitrogen generator will immediately begin to remove oxygen and carbon dioxide from the air supply.

CAUTION: Always use CLEAN, DRY, and OIL-FREE air for the nitrogen welder. Water and/or oil inside the nitrogen generator or heating element will permanently damage the membrane and heating element

CAUTION: Do not exceed 150 psi compressed air supply or damage to the nitrogen membrane may occur.



6. Note the location of the three stage air filter system behind the side door of the generator cabinet. Check filters daily for contamination. If any contamination is present, correct the source of the contamination and purge the filter bowls. If the filters appear dirty, wet, or oily replace the filter(s). Irreversible damage will occur if dirt, water, oil, or oil vapors reach the nitrogen membrane resulting in a significant and permanent loss of nitrogen purity. Note: Filter styles may vary in appearance from the picture. Stacked filters may also be used, which look like a single filter housing.

7. Turn on the welder with the main power switch. Both nitrogen and airless welders will show “OFF.” Do not turn the nitrogen welder on until the nitrogen flow is set correctly.

8. Using the regulator on the front of the welder, adjust the flow of nitrogen so the flow gauge reads 12 LPM. At this setting, the ball on the flow gauge will float halfway between the 10 and 15 LPM lines. Note: Nitrogen will flow even with the main power off, as long as compressed air is connected to the welder.

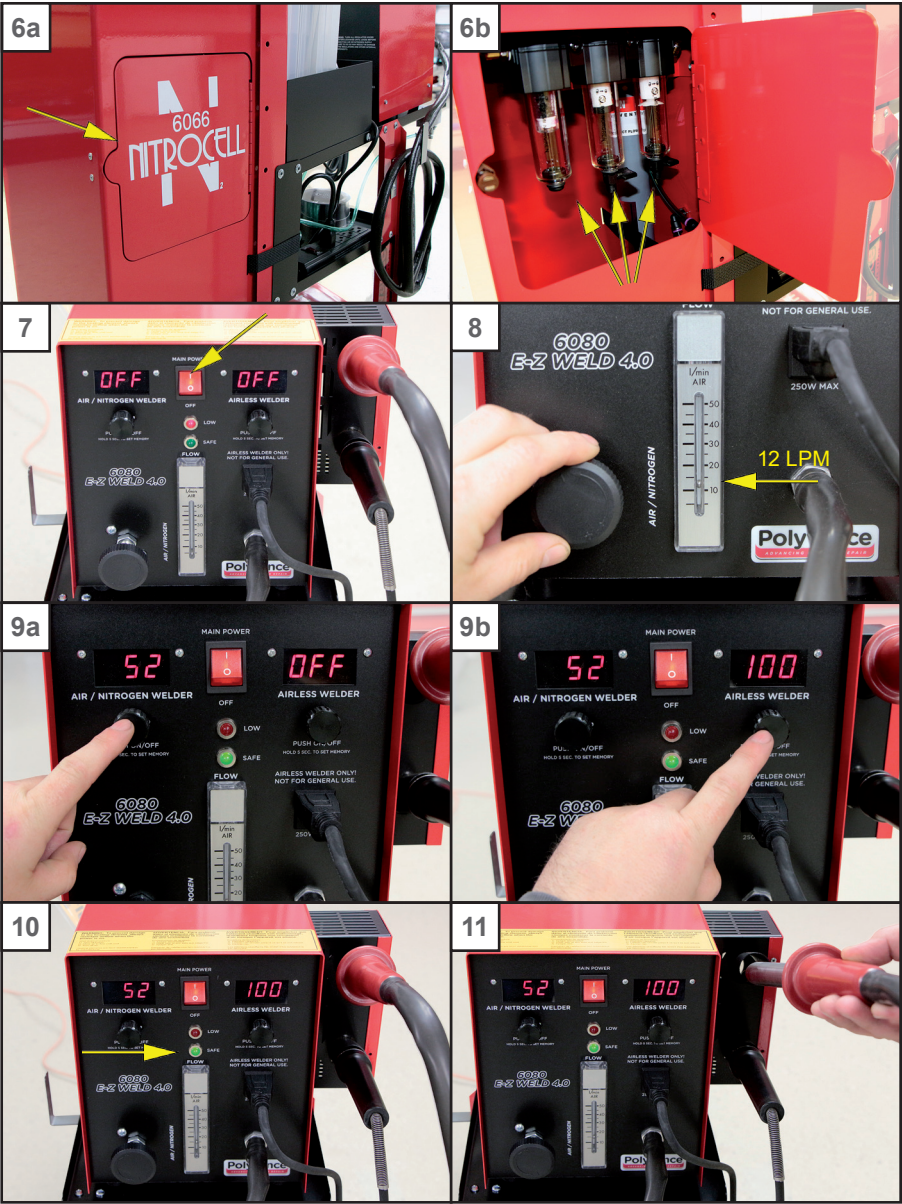
9. Turn on the nitrogen and airless welders by pushing their respective control knob once. The nitrogen welder is preset to 52 and the airless welder is preset to 100. These temperature settings are a starting point for most polypropylene welding with the air flow set at 12 LPM. If desired, the set-point can be changed by rotating the dial and a new initial set-point can be programmed into the controller by pressing and holding the control knob until the display flashes.

10. Check that the green “SAFE” light is flashing. If the “SAFE” light is not on and flashing, power is not going to the heating element and the welder will not heat. If the green “SAFE” light does NOT illuminate when the airflow is over 10 LPM, contact Polyvance tech support for the adjustment procedure.

11. With the green light flashing, allow the welders to warm up 5 minutes before using.

Note: The green “Safe” light flashes in direct relation to the power setting; the higher the heat setting, the longer the flash duration, the lower the setting, the shorter the flash duration.

CAUTION: ALWAYS maintain airflow through the welder while it is hot or the power is on. Failure to do so will burn out your heating element. Polyvance DOES NOT WARRANT the heating element because its life is completely under YOUR control.



Temperature Setting Suggestions*

Type of Plastic	Melting Temp.	Series of Welding Rod	Recommended Temperature Setting on Nitrogen Welder	Air Flow
Polyurethane (RIM, PUR)	N.A.	R01	52-68 (AIRLESS WELDER ONLY)	N.A.
Polypropylene (PP)	160-166 °C (320 -331 °F)	R02	52-68	12
ABS	105 (221°F)	R03	44-56	12
Polyethylene (LDPE)	105-115 °C (221-239 °F)	R04	44-56	12
TPO	177°C (350°F)	R05	52-64	12
Nylon (PA)	269°C (516°F)	R06	60-68	12
Polycarbonate (PC)	155°C (311°F)	R07	44-52	12
PVC	177°C (350°F)	R09	44-52	12
Polyethylene (HDPE)	190°C (375°F)	R12	56-64	12
PET	254°C (490°F)	R13	56-64	12
ASA	220°C (428°F)	R14	44-52	12
GTX	275-300°C (527-572°F)	R15	60-68	12

* Most welding operations will be at the recommended settings. Welding outside the recommended range may be needed if the plastic being welded is very thin or thick or if a higher or lower airflow is used. Extreme care must be taken to avoid overheating the element.

Welding Basics:

1. Most bumper repair can be done using the factory pre-set temperature settings with the air/nitrogen flow set at 12 LPM, however the chart above may be used to aid in fine-tuning the nitrogen welder for use on different materials.

Going outside the range on the chart is generally not needed, unless you are welding unusually thin or thick material or if the material you are welding has an unusually high or low melting point. It’s important to note that when increasing the temperature without increasing the nitrogen flow, the heating element can be over-heated, causing a dramatic reduction in the life-span of the element. Over-heating is indicated by a glowing outer steel torch barrel. If this happens, immediately turn down the temperature and turn up the nitrogen flow. If an over-heat condition continues uncorrected for any length of time, a fire hazard will result, the heating element will burn out, and the handle of the torch may be destroyed by the excessive heat.

2. Once the welder has warmed up remove the torch from the holster.

3. Welding is accomplished by directing the heated nitrogen to the intersection of the base material and the welding rod. Start by melting the tip of the welding rod, then the surface of the substrate. The substrate should begin to gloss over in 3 to 5 seconds after applying the heat. The welding rod should be applied perpendicular to the base material with the welder aimed at approximately a 45° angle between the two.

4. Once the base material glosses over, begin pressing the rod downward onto the surface, rolling it towards the heat. Be sure the surface of the rod and the surface of the substrate are both melted when pushing the two materials together. If the base material or the welding rod surface melts faster than the other, adjust the torch angle so both surfaces melt at the same rate.

For more information on welding plastic, please watch the instructional videos on Polyvance’s website at www.polyvance.com.

