Power Tank Instructions

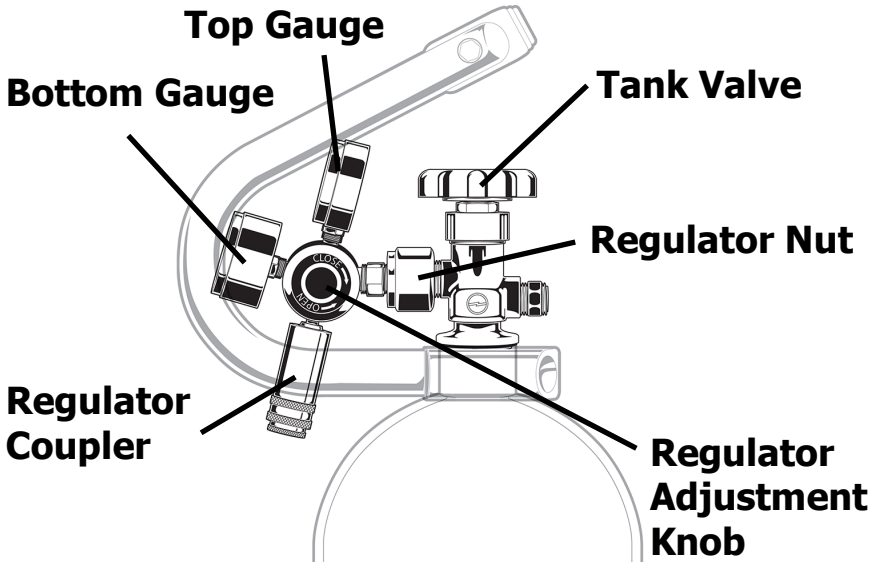
Instructions for use, care instructions, safety considerations, and FAQs for your Power Tank

Thank you for purchasing a Power Tank, the fastest, most powerful, and most reliable portable air system on the market. Do not operate your Power Tank before reading all safety instructions and understand its full operation. If you have any questions, do not hesitate to contact us.

Phone: 209-366-2163

Email: info@powertank.com

Video instructions can be found at www.powertank.com/PTInstructions.



Upon unpacking your Power Tank you will find, at minimum, these main components:

- Power Tank Cylinder (comes in 5 lb, 10 lb, 15 lb, and 20 lb sizes)
- Super Flow HP250i or Super Flow XP400i Regulator
- Power Grip Guard / Handle
- Super-Flex coiled or straight hose
- 1/4" Male Industrial Plug
- Power Flow 3 Female Coupler or Female Super Coupler
- 8 mm (or 5/16) Allen Wrench
- Push-on Air Chuck or Tire Inflator with Gauge (aka "TIG")

Filling your Power Tank

All Power Tanks ship empty so your first step is to fill your bottle with liquid CO2. Liquid CO2 is stored in your Power Tank and is expelled as a vapor much like compressed air. Because CO2 is stored in a liquid form, much more vapor volume ('air') can be stored in a given tank. 1 lb of CO2 has the same energy volume as 40 gallons of compressed air (at 150 psi). CO2 is non-flammable, non-corrosive, and non-toxic. It is the same CO2 that you breath out or that you find in your favorite soda or beer.

To fill your Power Tank, you will have to locate a nearby business that offers on-site CO2 refills. The easiest way to do this is to Google search 'CO2 Refill (your zip code)' and call the first few businesses that appear in your search results. The most common types of businesses that refill CO2 are fire extinguisher service shops, beverage carbonics (soda distributor, beer distributor), homebrew supply stores, and welding supply stores. When calling, ask if they fill personally owned CO2 bottles on-site. Some businesses will offer a tank exchange which is to be avoided. Others will transport multiple customer bottles to an off-site location which risks your bottle being damaged or lost.

We keep our own map of verified on-site CO2 refillers that can be found at www.powertank.com/pages/power-tank-dealer-and-refiller-map. However, it is not a complete list and we are adding to it all the time. If you have found a local business that you would like to share, please email CO2supply@powertank.com so that we may add it to the list.

Before taking your Power Tank to get filled, first record the empty weight of your Power Tank in the white rectangle on the front warning sticker. You can purchase a scale from us if you do not have one at home. (P/N: SCL-1502) This is to check how much CO2 is remaining in your Power Tank at any given time and to verify that your CO2 supplier did not under-fill or over-fill your Power Tank. Your full weight should be at or slightly below the capacity of your tank. (Power Tank empty weight + 10 lbs = full weight) At any time, you can weigh your Power Tank, then subtract the empty weight, to determine how much CO2 you have remaining.

It is also good practice to remove your regulator before handing it off to the filler shop. You can do this by simply using a wrench on the *regulator nut* (see diagram).

The supplied 8mm allen wrench is used to loosen the bolts that clamp your Power Grip Guard / Handle to the Power Tank so that you may rotate it out of the way. Some CO2 refilling equipment is too large to fit between the arms of the Power Grip Guard Handle.

Once you receive your full Power Tank back from your CO2 supplier, rotate your handle back into its original position if needed and reattach your regulator.

Warning: Before installation of your regulator, ALWAYS inspect for damaged threads, dirt, dust, oil, or grease. Remove any debris with a clean cloth. DO NOT ATTACH THE REGULATOR IF OIL, GREASE, OR DAMAGE IS PRESENT.

Ensure a never-lose seal is present within your regulator nut. It looks like a tan or yellow semi-transparent washer. Screw on the regulator nut with about 15 ft-lbs of force or the amount of force you can apply to the end of a wrench with two fingers. You need enough torque to prevent leaks but too much can damage the seal.

Assembling your Power Tank

Your Power Tank arrives nearly fully assembled. The only assembly required by you is to attach fittings to the hose. Power Tank hoses feature high-pressure swivels at both ends. When using a wrench on the swivel, make sure your wrench goes over both swivel hexes to avoid damaging the swivel. Improper hose assembly is not covered under warranty. The threads on the end of your hose are pre-impregnated with thread sealant and no further thread sealant or Teflon tape is required.

Using your Power Tank

Ensure your *Regulator Adjustment Knob* is closed (clockwise). Connect the male plug end of your hose into the *Regulator Coupler*. Standing with the regulator facing away from you, slowly open he *Tank Valve* and give it a few turns like a water faucet (counter-clockwise). Your *Top Gauge* should be showing pressure in the normal range.

Tip: CO2 Vapor maintains a constant pressure in the bottle between 500-800 psi, regardless of whether your Power Tank is full or nearly empty. This is a benefit because all of the CO2 in your Power Tank is usable and you always have full power to run air tools or air up tires until it is empty. To determine your remaining CO2 level, you must check the weight of CO2 left in your Power Tank.

You can now open your *Regulator Adjustment Knob* (counter-clockwise). You will begin to see the *Bottom Gauge* show your output pressure. The first time you use your Power Tank, go slowly and listen for leaks. If there are no leaks, continue to open your *Regulator Adjustment Knob* until you hit the natural stop. Never apply more than a minimal amount of force when turning your *Regulator Adjustment Knob*. The *Bottom Gauge* may be showing slightly above 250 psi when fully open. This is normal. (400 psi on XP400i regulator).

Airing up tires

Attach your tire chuck (basic package, package A) or TIG (all other packages) to the QR coupler on your hose.

Power Flow 3 Coupler (black and red) is auto-lock and you do not need to pull back the red collar when coupling. When locked in, the red collar will be fully in the 'up' position. If you have trouble connecting your tool, close your *Regulator*

Adjustment Knob a few turns to release some of the pressure in your hose which will be released as a 'hissing' sound. Once connected, open your regulator back up to full pressure.

Super Coupler (black and silver) is auto-lock and you do not need to pull back the silver collar when coupling. When the silver collar is in the 'up' position, you can then slide the black collar to the 'up' position. The silver collar is used to lock the air tool in. The black collar acts as an 'on/off' switch for the pressure in your hose. Both must be fully in the 'up' position before starting to use your air tool.

When airing up tires, it is recommended to set the regulator pressure fully open to maximize air up speeds. Attach your push-on air chuck or TIG to your valve stem and get ready for the fastest inflation speeds you've ever experienced. The first few times you use your Power Tank, check your tire pressure often as you air up to avoid over inflating your tires.

Reseating tires

Power Tanks excel at reseating tire beads. To reseat a tire, first lift it in the air while still mounted onto the vehicle using a jack. Follow all safety precautions when lifting your vehicle. Raise the tire just enough to get it off of the ground. Then follow the instructions above for airing up tires. Most tire reseats can be done through the standard valve stem. For larger tires (40+ inches) or if you are having difficulty, you can push or pull the tire to the unseated side to help the tire get a good seal. As a last resort you can wrap a ratchet strap around the circumference of the tire which will help push the tire bead out to the edge of the wheel. Removing the valve core of the valve stem will also aid by providing a higher air flow rate. Be very careful not to lose or damage the valve core during this process. In most cases, these added steps are unnecessary.

Running air tools

Power Tanks have more than enough power and flow rate to run any air tool on the trail. Open your *Tank Valve* as if you were airing up tires. Open your *Regulator Adjustment Knob* until the *Bottom Gauge* needle is within the "Tools" section. Adjust pressure up or down as necessary.

Tip: Power Tank regulators have a 'static pressure and a 'flow pressure.' 'Static pressure' is shown on the Bottom Gauge *when air tool is off and no CO2 is flowing. During air tool use, you will see the needle on the* Bottom Gauge *drop to 'flow pressure.' Adjust your* Regulator Adjustment Knob *until the flow pressure matches your air tools recommended input pressure. 'Static pressure' is typically about 20% higher than 'flow pressure.'*

Powering air lockers, pneumatic sway-bar disconnects

See instructions included in our ARB Manifold Kit (P/N: ARB-2010-5, ARB-2010-6) or Power Tank to ARB Connection Kit (P/N: ARB-0120, ARB-0121).

Shutting off your Power Tank

When you are finished using your Power Tank, first shut off the *Tank Valve* (clockwise) until it's shut. Do not use excessive force. The next step is to purge the remaining CO2 in your hose and regulator. You can do this by running the attached air tool until the *Top Gauge* and *Bottom Gauge* show 0 psi. Alternatively, you can utilize the self-purge feature built into your Super Flow Regulator. If there is remaining pressure in your hose, it will purge out through the regulator as you close it. Shut the *Regulator Adjustment Knob* closed (clockwise) just until it stops. Do not use excessive force.

Tip: If you used the regulator self-purge method, your Top Gauge *may still show normal pressures. This is measuring the small amount of CO2 trapped between your main tank valve and the regulator. This is safe IF both the* Tank Knob *and* Regulator Adjustment Knob *have been shut properly.*

When there is no more pressure in the hose, it is safe to disconnect it from your regulator by pulling back on the red collar on your *Regulator Coupler*. Safely put your hose, tools, and accessories away. Keep your hose out of direct sunlight when stored.

Caring for your Power Tank

- Secure the Power Tank to a solid surface or store tightly in a secured and ventilated box away from potential damage and excessive heat (150°+ F).
- Wear eye protection and leather gloves during regulator installation. Inspect the cylinder for damaged threads, dirt, dust, oil, or grease. Remove any and all contaminants with a clean cloth before assembly. DO NOT INSTALL THE REGULATOR IF YOU NOTICE DAMAGED THREADS.
- Crack open the *Tank Knob* for an instant and close quickly before reinstalling the regulator. This will blow out any foreign matter that may be inside the valve port. CAUTION: If the *Tank Knob* is opened too much, the cylinder may tip due to the force of the escaping gas. Do not stand in front of the valve port and keep a tight grip on the knob and cylinder.
- Keep the *Tank Knob* closed at all times except when in use.
- The operating temperature range shall be no greater than 130° F (55° C) and no less than 0° F (-18° C). If temp is 40° F or colder, extra heat may be required to maintain tank pressure. You can add heat by placing the tank in front of a vehicle heater vent. DO NOT use flame or extreme heat source.
- Never over-fill your Power Tank. E.g. a 10 lb Power Tank will contain no more than 10 lbs of CO2. This is why it is important to record your empty weight. An over-filled Power Tank may activate the safety pressure burst disc prematurely.
- Never use your Power Tank in a horizontal position or less than 30° from the ground unless your tank contains a 'snorkel tube' (P/N: VLV-0601). This will ensure liquid CO2 will not enter your valve or regulator. You may store and transport your Power Tank securely in any position but it must be upright to use.
- If leaks are heard, shut the *Tank Knob* (clockwise). Use soapy water or leak detector to test for leaks. Make sure all fittings are tight. If leak persists, contact Power Tank and we will instruct you with next steps.
- During use in hot weather, the *Top Gauge* may show above 1000 psi. This is normal, especially with full or nearly full Power Tanks.
- All CO2 cylinders in the USA, including Power Tanks, must be recertified (hydro-tested) every five years from the date of manufacture or last test date. This date is a numerical month and year stamped into the surface of the tank. We guarantee your Power Tank will pass the recertification or we will replace it unless failure is due to physical damage, mis-use, modification, or heat damage. For testing facility locations, ask your CO2 supplier.

Safety Considerations

- A leak at the valve or regulator can cause asphyxiation. When your Power Tank is not in use, ALWAYS make sure the *Tank Knob* is closed. Always store in a safe place away from curious children.
- DO NOT use your Power Tank while the tank is horizontal or less than 30° from the ground unless it has a properly installed 'snorkel tube' (P/N: VLV-0601). Liquid CO2 flowing through the regulator will damage it and other fittings and/or hoses in your system and void your warranty.
- Mount your Power Tank in a smart location where it can not get punctured, overheated, smashed, or hit with road debris or where the valve or regulator can be easily damaged.
- Make sure all fittings and bolts are tight.
- The #1 job of the Power Grip Guard / Handle is to protect the regulator assembly. It is made from billet aluminum and solid rod. The ONLY REASON to rotate or remove the Power Grip Guard Handle from its primary position is when necessary to fill your Power Tank. Otherwise it is always to be in its primary position during use. Use of your Power Tank without the Power Grip Guard / Handle installed properly will void your warranty. NO EXCEPTIONS.
- When your Power Tank is used extensively at one time, the valve and regulator area can get extremely cold. Be careful of this when handling during use.
- DO NOT heat your Power Tank with a flame or extreme heat to increase pressure or otherwise
- If the Power Tank is full (or overfilled) and is exposed to a substantial ambient temperature (+130° F) it may cause pressure to build and be released from the safety pressure relief disk on the main tank valve. If this happens, you will experience a loud noise and sudden sub-freezing fog of CO2. DO NOT be alarmed. It will cease on its own. Be aware of this and try to store your Power Tank away from objects that might be affected by this. If this occurs, take your tank to your CO2 supplier and have the safety pressure relief disk replaced and the tank refilled. This process does not damage any component of your Power Tank and it will be safe to use once the pressure relief disk is replaced by a certified gas technician.
- You may remove and replace the regulator with a wrench but DO NOT remove the main valve from the cylinder.
- Make sure the never-lose seal washer is in place when reinstalling the regulator to the main valve.
- DO NOT attach the regulator if oil, grease, or damage is present on the male or female threads.
- DO NOT use oil or lubricant of any kind on cylinders, valves, gauges, regulators, or any other fittings, as such use is dangerous.
- DO NOT disassemble the regulator.
- Always make sure the *Regulator Adjustment Knob* is in the closed position before opening the *Tank Knob* when using your Power Tank.
- Stand to the side of the Power Tank opposite the regulator when opening the main valve, keeping the tank between you and the regulator. Never stand in front of the regulator.

Frequently Asked Questions

Can I refill my Power Tank with Nitrogen (N2), High-pressure-air (HPA), etc.

Power Tanks can only be refilled with liquid CO2. That is what the bottles have been manufactured and tested for. They use a CO2-specific CGA-320 valve that is not compatible with other gases. You can, however, use your Super Flow regulator on a N2 Tank using a CO2 to N2 adapter (P/N: FIT-0002).

Can I use my air compressor to fill my Power Tank?

Power Tank cylinders use a CO2-specific CGA-320 valve so you will be physically unable to connect your compressor to your Power Tank. Furthermore, liquid CO2 has about 200 times the energy density of compressed air (at 150 psi) so you would be defeating the point of a Power Tank.

How do I refill it?

This question is answered at the beginning of your instructions. Do not operate your Power Tank before reading all safety instructions and understand its full operation.

How much does it cost to refill?

Depending on your area and the type of business you frequent, costs vary. For a 10 lb Power Tank, average prices range from $15-$25 but can go as high as $35. It is important to call around to multiple businesses to compare pricing. Fire Extinguisher Safety shops typically have the lowest prices.

Can it be mounted sideways?

Yes, it can be mounted sideways or even upside down but the tank must be upright or at least at a 30° angle while being used unless you have a properly installed 'snorkel tube' (P/N: VLV-0601) in your tank. This is because you want the liquid use only the vapor at the top while using your Power Tank. We highly recommend that you mount your Power Tank in a vertical position or have a snorkel tube installed, if mounted horizontally so it does not need to be removed from its mounting bracket for use and so it is never mistakenly used in a horizontal position.

Is this just a Scuba tank?

No, we only use top-of-the-line CO2 certified equipment. Scuba tanks are completely different in cylinder and valve design and are not interchangeable with CO2 tanks. Our regulators will not work on Scuba tanks.

Can I run air lockers, pneumatic sway bar disconnect, etc. with my Power Tank?

Yes, and there's no annoying compressor noise or waiting for the compressor to build pressure. As a precaution, you MUST run a pressure release valve before the solenoid, set to a maximum of 150 psi. We recommend our Power Tank to ARB Connection Kit (P/N: ARB-0120, ARB-0121) or you can go fully pneumatic using our various air toggle options. You will hardly use any of your CO2 even after several activations.

How safe is a Power Tank in a vehicle?

Power Tanks use liquid CO2 gas as its energy source. CO2 is a great energy source because it is an inert, non-toxic, non-corrosive, non-flammable vapor gas. Our aluminum tanks are Department of Transportation (D.O.T.) approved. The tank pressure is relatively low (less than a third of the pressure of a full Scuba or N2 tank and less than a quarter of the pressure of a HPA tank), yet holds more cubic feet of energy in the same size tank. CO2 goes through an evaporation process as it releases its energy. This evaporative process slows the energy release rate meaning that a CO2 tank will not become a high speed rocket like a Scuba, N2, or HPA tank would in the rare event of a valve decapitation. All Power Tanks use a stout Power Grip Guard / Handle to further protect the regulator and valve assembly from damage.

What if my Power Tank is caught in a vehicle fire? Will it explode?

No, there is a built-in safety pressure release valve on the main tank valve which releases pressure well below the burst pressure of the tank if it gets too hot.

Will CO2 blow out my tires if they get too hot?

No, the thermal expansion value of CO2 vapor is the same as N2 (nitrogen).

Is the CO2 gas safe for tires?

Yes, CO2 vapor is inert (non-toxic, non-corrosive). Some seem to think that CO2 vapor will damage your tires and wheels. It will not. CO2's thermal expansion value is similar to air (~1 psi change per 17° F temp. change). CO2 is considered a 'wet' gas because it is in dense state in the tank however, like N2 vapor, there is absolutely no liquid water in CO2 vapor.

Is the CO2 gas safe for air tools?

Yes, see above. Maintain your air tools to the manufacturers' recommendations with proper air tool oil and use CO2 just like it is air from a compressor.

Will CO2 leak out of my tires faster than air?

When air escapes your tire through the pores of the rubber this is called permeation. Permeation rate of air in car tires is normally very slow. This goes for CO2 as well. There is no appreciable difference in permeation rate in car tires between CO2 and air.

Why use CO2 instead of N2?

CO2 will give you three times the energy of N2 in a given tank size. Having one tank of CO2 is like carrying three tanks of N2. And the cost of CO2 is much more cost effective.

Does the Top Gauge *(high-pressure gauge) tell me how much CO2 I have left?*

No, it will only give you a rough indication of when you are nearing the end of the CO2. The only way to get an accurate read on how much CO2 you have left is to measure the weight of the CO2 left in your Tank. See above, under 'Filling your Power Tank,' for weighing instructions.

My regulator, hose, etc. is leaking. What do I do?

The first step is to find the source of the leak. This can be done with soapy water or leak detector. Take a picture of what you find and submit a warranty request form, found at www.powertank.com/pages/warranty-request-form. We will reach out to you with further instructions.

Will my Power Tank lose CO2 if I don't use it for an extended period?

No, if your *Tank Valve* is properly shut, the CO2 will remain inside indefinitely.

I only got X tire fills out of my Power Tank when I should have gotten Y.

Was your Power Tank completely full when you filled it? Did you weigh it to make sure? A 10 lb Power Tank should weigh 10 lbs more when full than when completely empty. We give you a small spot at the bottom of your tank to write down the empty weight so you're always able to weigh your tank after a fill to ensure you got a proper fill.

Have you checked for leaks? CO2 does not lose its charge over time but if the main valve is not closed all the way, you can have a slow leak. This isn't dangerous but will cause you to lose CO2 over time.