



PROPANE TORCH KITS

Please Read All Instructions and Save These Instructions For Future Reference.

- This device is intended for outdoor use only.
- This torch is designed for a vapor-withdrawal LP-Gas cylinder only.

Operating Instructions and Parts Manual For Models:



Model	BTU	P.S.I.	Normal
VT 2-23 C	100,000	5-25 P.S.I.	18 P.S.I.
VT 2-23 SVC	100,000	5-25 P.S.I.	18 P.S.I.
BP 223 C	100,000	5-25 P.S.I.	18 P.S.I.
BP 223 SVC	100,000	5-25 P.S.I.	18 P.S.I.



IMPORTANT WARNINGS:

DO NOT OPERATE THIS EQUIPMENT IF:

- You are subject to seizures, loss of consciousness, or fainting.
- You have been drinking alcohol, using illicit drugs, or prescription drugs that might effect your judgment or balance.
- You have not read or do not understand the operator's manual.
- You are not capable of safely operating this type of equipment.

DO NOT ALLOW CHILDREN TO OPERATE THIS EQUIPMENT.

FOR YOUR SAFETY!

If You Smell Gas:

1. Shut off gas to the device.
2. Extinguish any open flame.
3. Check the device for leaks using soapy water.
4. DO NOT attempt to relight the device until leaks are repaired and there is no gas smell

DO NOT use this device in areas where gasoline or other liquids having flammable vapor are stored or used.



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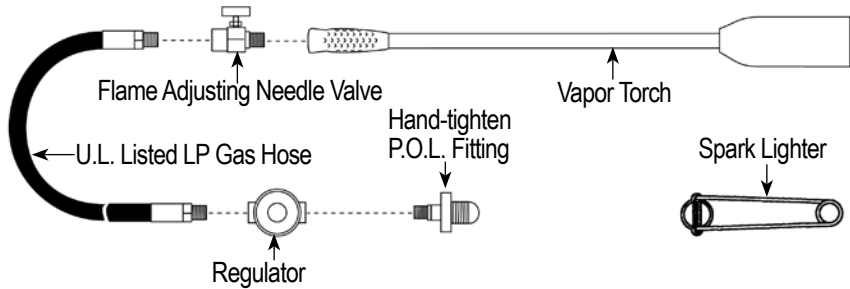
Assembly Instructions:

Note: Unpack and inspect for damage.

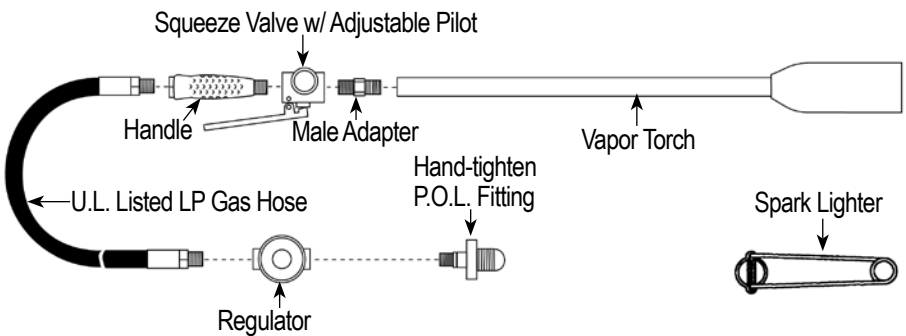
1. The Weed Dragon® Lawn and Garden Weeder is pre-assembled.
2. Take time now to inspect your Weed Dragon®.
3. Make sure all parts are in place as shown on the parts list below.

Parts List Diagrams:

Parts List Diagram for Models: • VT 2-23 C

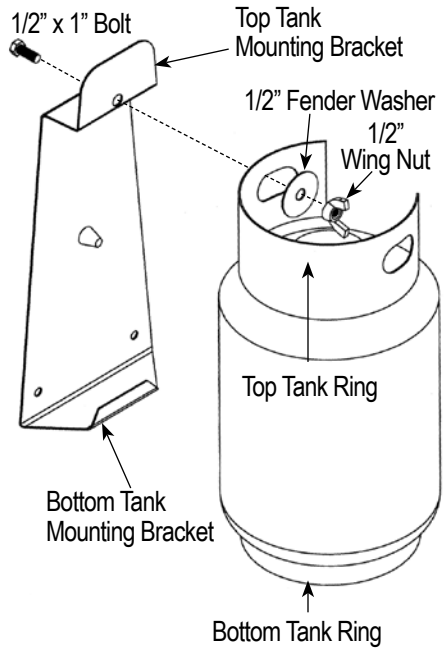


Parts List Diagram for Models: • VT 2-23 SVC



Weed Dragon Back Pack Tank Mounting Instructions For Models: • BP223C • BP223SVC

1. Place Bottom Tank Ring onto Bottom Tank Mounting Bracket.
2. Line up one of the large holes on the Top Tank Ring with the hole on the Top Tank Mounting Bracket on the back pack. Secure with bolt, fender washer and wing nut as shown.



Connecting To The Supply Cylinder:

The propane supply cylinder used with this torch should be no less than 10 lb. capacity and must be designed, fabricated, tested and marked in accordance with regulations of the U.S. Department of Transportation, the Canadian Transport Commission or the Interstate Commerce Commission. Supply cylinders must be arranged to provide for vapor withdrawal from the operating cylinder.

1. Inspect the nut/nipple of the P.O.L. connection on the LP-Gas hose. Check for dents or physical damage. The O-ring should be present on nipple fitting. If damage is evident, call for replacement parts.
2. Be certain the supply cylinder valve is fully turned off. Remove the protective plastic plug from the cylinder valve outlet connection.
3. Connect the P.O.L. nut/nipple fitting on the hose to the propane supply cylinder by turning the left hand threaded P.O.L. nut counter clockwise into the cylinder valve outlet. Snug the connection tight with a wrench. **DO NOT OVER TIGHTEN.**
4. Slowly open the cylinder valve. Check all LP-gas connections for leaks using soapy water or suitable leak detection solution. **DO NOT USE MATCHES OR OPEN FLAME TO CHECK FOR LEAKS.** Do not attempt to operate the torch if there is evidence of a leak or at any time the odor of gas is detected.

Lighting Instructions:

IMPORTANT NOTE

The P.O.L. contains an integral flow-check valve. Opening the LP-Gas cylinder valve rapidly can cause the valve to check. If the P.O.L. flow valve checks, close the LP-Gas cylinder valve, wait 10-15 seconds and slowly open the LP-Gas cylinder valve.

- If no leaks are found, proceed with lighting the torch.
- Always use a flint lighter to ignite the torch. **DO NOT USE MATCHES OR CIGARETTE LIGHTER TO IGNITE THE TORCH.**
- Be certain the flame adjusting valve is closed before opening the LP-Gas cylinder valve.

Lighting Instructions For VT 2-23 C and BP 223-C w/ Flame Adjusting Needle Valve.

1. Slowly open the LP-Gas cylinder valve. Check all gas connections to the torch for leaks with a leak detection solution, such as soapy water. Leaks will be indicated by forming bubbles around the source. Please allow one minute for bubbles to appear. Repair all leaks and test for leaks prior to lighting torch.
2. Open the flame adjusting valve 1/8 turn or until a small amount of gas is heard escaping. Using a flint lighter, ignite the torch. Do not place your hand or any part of your body in the path of the burner while lighting or operating the torch. **DO NOT USE MATCHES OR CIGARETTE LIGHTER TO IGNITE THE TORCH.**
3. Adjust the size of the flame by using the flame adjusting valve.

Lighting Instructions For VT 2-23 SVC and BP 223 SVC w/ Squeeze Valve

1. Slowly open the LP-Gas cylinder valve. Check all connections for leaks with a leak detection solution, such as soapy water. Leaks will be indicated by forming bubbles around the source. Allow one minute for bubbles to appear. Repair all leaks and test for leaks prior to lighting torch.
2. Familiarize yourself with the functions of the squeeze valve operations. The round knob, marked with arrows “off” and “on,” is the adjustment valve for lighting the torch and adjusting the pilot flame. Once the desired pilot flame is achieved, the squeeze handle is depressed to give the required working flame pattern.
3. Open the flame adjusting valve (the round knob) 1/8 turn or until a small amount of gas is heard escaping. Using a flint lighter, ignite the torch. **DO NOT PLACE YOUR HAND OR ANY PART OF YOUR BODY IN THE PATH OF THE BURNER WHILE LIGHTING OR OPERATING THE TORCH. DO NOT USE MATCHES OR CIGARETTE LIGHTER TO IGNITE THE TORCH.**
4. Adjust the size of the pilot flame by using the flame adjusting valve. Adjust to a low flame that will keep the torch burning in existing conditions, a small flame is usually adequate. Depress the squeeze valve to achieve full flame.

Torch Shut-Off:

1. Close the LP-Gas cylinder valve.
2. Allow the gas to burn out of hose. After the flame is no longer visible, turn the flame adjusting valve to the closed or “off” position. **TO RESTART** follow lighting instructions.

Disconnecting From The Supply Cylinder:

1. Be certain supply cylinder valve is turned off.
2. Disconnect the P.O.L. nut/nipple fitting on the LP hose to the propane supply.
3. Replace the protective plastic plug into the cylinder valve outlet.

Safety Check List:

- Gloves should be used at all times. Long sleeves, long pants & boots are recommended.
- Use only vapor torches on cylinders equipped with vapor withdrawal valves.
- Secure cylinders in a level, upright position. Do not invert or lay cylinders on their sides.
- Do not apply flame to cylinders to check for leaks or to increase gas pressure.
- Keep torches, open flame and sources of ignition away from cylinders, regulators and hose.
- Do not operate torches or any equipment if the odor of LP-Gas is evident. Immediately shut off all valves and, using soapy water, check all equipment for leaks.
- Cylinder valves must be protected. Do not hoist a cylinder by the valve.
- Do not leave the torch unattended while in operation.
- Do not stand or prop the torch on the burner end while in operation.
- This equipment is for outdoor use only with adequate ventilation.
- Have a type ABC fire extinguisher on the job site, easily accessible to the person operating the torch.

Daily Equipment Check List:

- Visually inspect all parts of the torch equipment for damage and wear. If the hose shows excessive abrasion or wear, or if the hose is cut, replace it before operating the torch. Replace torch hose assembly with test laboratory listed LP-Hose, 350 P.S.I. working pressure.
- Using a soapy water solution, check all connections and fittings for leaks.
DO NOT USE A MATCH OR OPEN FLAME TO TEST FOR LEAKS.
- Check LP cylinders for dents, damage to collar, damage to valve, or corroded foot ring. Do not use damaged cylinder. Know if you are using liquid or vapor withdrawal. **USE ONLY VAPOR WITHDRAWAL CYLINDER WITH THE VT 2-23 C, VT 2-23 SVC, BP 223 C and BP 223 SVC TORCH KITS.**
- For outdoor use only.
- Ignite torch. Check operation of valve and other adjustable parts. *Note: when extinguishing a torch, shut-off cylinder valve first and allow gas to burn out of lines.*

WARNING:

Use extreme caution at all times. You are using an intense open flame. This torch produces an extremely hot and nearly invisible flame. Read and follow the Safety Check List and Daily Equipment Check List before attempting to operate this torch.

CAUTION

- Propane is heavier than air which can cause it to accumulate in low areas. Be certain all areas are well ventilated.
- Propane has a distinct ODOR. If you smell it, IMMEDIATELY discontinue work, extinguish all flames, locate the leak and correct it, ventilate area before lighting torch.
- Use extreme caution at all times. This device has an intense open flame. Disregard of safe practices can result in severe fire damage, personal injury, or possible death.
- Never direct torch flame toward any person or animal.

Important Safeguards:

When using torches, basic safety precautions should always be followed:

A. READ ALL INSTRUCTIONS.

B. Before using, check all parts for proper function and damage to components parts.

C. Do not use this torch to heat, mold or bend plastic sheets, moulding or tubing.

D. Hidden areas such as behind walls, ceilings, floors, soffit boards and other panels may contain flammable materials that could be ignited by the heat gun when working in these locations. The ignition of these materials may not be readily apparent and could result in property damage and injury to persons.

When working in these locations, keep the torch moving in a back-and-forth motion. Lingering or pausing in one spot could ignite the panel or the material behind it.

E. Do not use this torch to remove paint (if the torch can be used to remove paint, items (F) and (G) below shall be used.

F. WARNING: Extreme care should be taken when stripping paint. The peelings residue and vapors of paint may contain lead, which is poisonous. Any pre-1977 paint may contain lead and paint applied to homes prior to 1950 is likely to contain lead. Once deposited on surfaces, hand to mouth contact can result in the ingestion of lead. Exposure to even low levels of lead can cause irreversible brain and nervous system damage; young and unborn children are particularly vulnerable. Before beginning any paint removal process you should determine whether the paint you are removing contains lead. This can be done by your local health department or by a professional who uses a paint analyzer to check the lead content of the paint to be removed. **LEAD-BASED PAINT SHOULD ONLY BE REMOVED BY A PROFESSIONAL AND SHOULD NOT BE REMOVED USING A TORCH.**

G. Persons removing paint should follow these guidelines:

1. Move the work piece outdoors. If this is not possible, keep the work area well ventilated. Open the windows and put an exhaust fan in one of them. Be

Important Safeguards Continued

sure the fan is moving the air from inside to outside.

2. Remove or cover any carpets, rugs furniture, clothing, cooking utensils and air ducts.
3. Place drop cloths in the work area to catch any paint chips or peelings. Wear protective clothing such as extra work shirts, overalls and hats.
4. Work in one room at a time. Furnishings should be removed or placed in the center of the room and covered. Work areas should be sealed off from the rest of the dwelling by sealing doorways with drop cloths.
5. Children, pregnant or potentially pregnant women and nursing mothers should not be present in work area until the work is done and all clean up is complete.
6. Wear a dust respirator mask or a dual filter (dust and fume) respirator mask which has been approved by the Occupational Safety and health Administration (OSHA), the National institute of Safety and Health (NIOSH), or the United States Bureau of Mines. These masks and replaceable filters are readily available at major hardware stores. Be sure the mask fits. Beards and facial hair may keep masks from sealing properly. Change filters often. DISPOSABLE PAPER MASKS ARE NOT ADEQUATE.
7. Use caution when operating the heat gun. Keep the heat moving, as excessive heat will generate fumes, which can be inhaled by the operator.
8. Keep food and drink out of the work area. Wash hands, arms and face and rinse mouth before eating or drinking. Do not smoke or chew gum or tobacco in the work area.
9. Clean up all removed paint and dust by wet mopping the floors. Use a wet cloth to clean all walls, sills and any other surface where paint or dust is clinging. DO NOT SWEEP, DRY DUST OR VACUUM. Use a high phosphate detergent or trisodium phosphate (TSP) to wash and mop areas.
10. At the end of each work session put the paint chips and debris in a double plastic bag, close it with tape or twist ties and dispose of properly.
11. Remove protective clothing and work shoes in the work area to avoid carrying dust into the rest of the dwelling. Wash work clothes separately. Wipe shoes off with a wet rag that is then washed with the work clothes. Wash hair and body thoroughly with soap and water.

H. SAVE THESE INSTRUCTIONS.

Storage:

Never attempt to store the torch while it is hot. When the torch is stored indoors, the connection between the LP-Gas supply cylinder and the torch must be disconnected and the cylinder removed from the torch and stored in accordance with Chapter 5 of ANSI/NFPA 58, the standard for storage and handling of liquefied petroleum gases. Do not store the torch in locations where it may be damaged.

WARNING

The gas supply hose shall be protected from traffic, building materials and contact with hot surfaces during use and while in storage.

Maintenance:

- Surfaces of the torch may be cleaned with soap or detergent and water solutions. Do not use petroleum-based cleaners to clean any components of the torch or the torch body.
- Remove any debris and combustible material from the torch. The torch must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- The supply hose assembly shall be visually inspected prior to each torch use. If there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to the torch being put into operation. The replacement hose assembly shall be specified by Flame Engineering, Inc. Contact Flame Engineering for further information.
- This torch is designed to operate on a preset 18 P.S.I. LP-Gas Regulator. Replace only with regulator set for 18 P.S.I. Check with your LP-Gas dealer or Flame Engineering Inc. for assistance.

Weeding Tips:

1. Most generally it is not necessary to reduce weeds and undesirable plants to ashes. Your Torch will generate sufficient heat to kill at a slow walk. Within hours you will witness green weeds wilting and dying.
2. Flaming is not a cure-all. It may be necessary to repeat weeding several times per year, depending on the plant species and whether seeds germinate during the growing season. Some weeds are more heat resistant than others and may require several flamings. Always remain a safe distance from flowers, desirable plants and trees. In time you will determine the range of your torch and may operate in and around plants with ease. Practice makes perfect!
3. If in doubt, don't. This philosophy will save your lawn, garden and peace of mind.
4. Always keep a type ABC fire extinguisher handy.
5. Avoid desirable lawn and garden plants as the torch does not distinguish between desirable and undesirable growth.
6. To determine effectiveness, press flamed weed leaf between thumb and forefinger. A fingerprint usually indicates a good kill.
7. Whenever possible, flame small weeds - the more tender, the easier to kill.
8. Always remain a safe distance from evergreens, pine needles, and all conifers. Highly flammable and easily ignited, pine needles are a fire hazard.
9. Do not flame poison oak, ivy or any plant capable of causing a skin rash. Smoke will contain skin irritants if plants are flamed.

For More Information:

Consult your local LP Dealer, Flame Engineering, NPGA, or NFPA Pamphlet 58. This information is provided as a general guide for safe LP-Gas use and in no way constitutes a complete safety program.