



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

- This torch is designed for a vapor-withdrawal LP-Gas cylinder only.
- Maintain cylinder in upright position. NEVER invert torch.

Operating Instructions and Parts Manual For Models:



• This device is intended for outdoor use only.

- This torch is designed for use with standard 1 lb. Propane Cylinders with a minimum 14.0 oz capacity.



Model	BTU	P.S.I.	Normal
VT 1-32 C	25,000	20-90 P.S.I.	50 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.

NEVER 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. NEVER attempt to relight the device until leaks are repaired and there is no gas smell

NEVER use this device in areas where gasoline or other liquids having flammable vapor are stored or used.



PO Box 577 • 230 W. Hwy 4
 LaCrosse, Kansas 67548
 785-222-2873 • FAX 785-222-3619
 Toll Free 800-255-2469
www.FlameEngineering.com

MD-MAN-11-2011

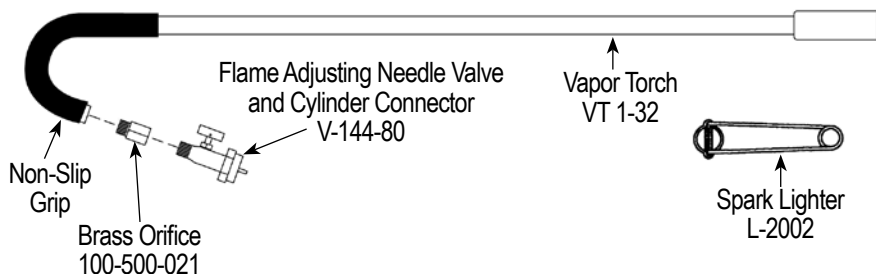
Assembly Instructions:

Note: Unpack and inspect for damage.

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

Parts List Diagrams:

Parts List Diagram for Model VT 1-32 C



Connecting To The Supply Cylinder:

The VT1-32C Mini Dragon torch should only be used with standard 1 pound propane cylinders with no less than a 14.0 ounce capacity.

1. Be certain the VT1-32C Mini Dragon torch needle valve is completely turned off. The needle valve should be turned in a clockwise direction until the valve is completely turned off.
2. Remove the plastic cover of the male fitting of the propane cylinder. Connect the male fitting of the propane cylinder fitting to the female fitting of the VT1-32C Mini Dragon torch by turning the propane cylinder in a clockwise direction. Be careful not to cross thread the connection between the torch and the propane cylinder.
3. Tighten the propane cylinder until it is fully seated by hand tighten. Do not over tighten the torch fitting to the propane cylinder.
4. Slowly open the flame adjustment 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.
5. The VT1-32C hand held torch is designed to be operated at a 6:00 O'clock to 8:00 O'clock position. Never invert the VT1-32C torch past the 8:00 O'clock position.

Lighting Instructions:

IMPORTANT NOTE

- If no leaks are found, proceed with lighting the torch at a 6:00 to 8:00 position.
 - Always use a flint lighter to ignite the torch. **DO NOT USE MATCHES OR CIGARETTE LIGHTER TO IGNITE THE TORCH.**
 - At the initial lighting BLOW-OUT is possible until the mixture of propane to air is achieved, this should only take a few moments.
 - BLOW-OUT is also possible when the torch is held too close to the ground or in windy conditions.
1. Slowly open the flame adjustment valve. Check all fitting connections on the torch and at the cylinder for leaks with a leak detection solution, such as soapy water. Leaks will be indicated by forming bubbles around the source. Repair all leaks and test for leaks prior to lighting torch.
 2. Slowly 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.
 4. In cold weather the pressure in the propane cylinder will be reduced therefore the size of the flame will be smaller.

WARNING:

The VT1-32C hand held torch is designed to be operated at the 6:00 O'clock to 8:00 O'clock position. Never invert this torch past the 8:00 O'clock position. Operating the VT1-32C hand held torch at any position other than the recommended positions in this instruction manual can result in flame blow-out or result in the liquid propane entering the valve and or the U shape of the torch body. If this event does occur immediately close the flame adjustment valve and simultaneously return the torch to the 6:00 O'clock position. Let the VT1-32C hand held torch remain idle for approximately 10 to 15 minutes before attempting to relight the torch. Failure to comply with these instructions and warnings may result in damage or injury to persons, animals, or personal property.

Torch Shut-Off:

1. Turn the flame adjustment valve clockwise to the closed position.
2. Wait until the flame is completely extinguished. This may take up to 60 seconds.
3. Remove the cylinder from the VT1-32C Mini Dragon torch body by rotating it counter clockwise. Select a non-combustible surface to allow the torch bell to cool down before placing the torch in storage. Remember the torch bell will remain hot. Allow a minimum of 30 minutes for the torch bell to cool.

Torch Trouble Shooting:

Following are some operating suggestions as well as solutions to performance issues.

- It is not necessary to open the flame adjusting valve completely to get a useable flame. Opening the valve completely (wide open) could cause rapid fuel consumption leading to frosting of the propane fuel cylinder. Frosting of the propane fuel cylinder can lower the tank pressure and produce an inadequate flame.

If you have a weak flame or abnormal flame:

- The propane cylinder may be getting low on fuel. Replace the propane cylinder.
- The Orifice may be plugged. Remove brass orifice from torch & valve. Tap female end of orifice on hard surface or blow air from male end (reverse from gas flow) to clear. You should be able to see a round very small hole when holding it up to the light. Reassembly the fittings using pipe thread compound or teflon® tape and check for leaks before operating again.

Safety Check List:

- Gloves should be used at all times. Long sleeves, long pants & boots are recommended.
- Use only standard 1 pound propane cylinders with a minimum 14.0 oz capacity.
- Use only vapor withdrawal LP-Gas cylinders with this torch.
- Secure cylinders in a level, upright position. NEVER invert or lay cylinders on their sides.
- NEVER apply flame to cylinders to check for leaks or to increase gas pressure.
- NEVER 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.
- NEVER leave the torch unattended while in operation.
- NEVER 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.
- Use a soapy water solution, check connections and fittings for leaks. NEVER USE A MATCH OR OPEN FLAME TO TEST FOR LEAKS.
- Check the cylinder for dents or damage to the threads of the cylinder.
- The Mini Dragon™ is for outdoor use only.

Storage:

Never attempt to store the torch while it is hot. When the torch is stored indoors, or outdoors, the connection between the propane cylinder and the Mini Dragon torch must be DISCONNECTED and the cylinder 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.

It is the responsibility of the owner of the VT1-32C Mini Dragon torch to follow all local, state, and federal laws when disposing of the used or empty propane cylinder.

Maintenance:

- Surfaces of the torch may be cleaned with soap or detergent and water solutions. NEVER use petroleum-based cleaners to clean any components of the torch or the torch body.
- NEVER use lubricants on any part of the torch.
- Remove any debris and combustible material from the torch. The torch must be kept clear and free from combustible materials, gasoline and other flammable vapor and liquids.

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 the torch flame toward any person or animal.
- NEVER modify this torch or components in any way.
- Do Not Use For Space Heating.

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 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.

6 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.

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 dieing.
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.