

Torch Safety Check List

- ▶ Gloves should be used at all times. Long sleeves, long, cuffless pants and boots are recommended.
- ▶ Use vapor torches only 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. Repair all leaks and test for leaks prior to lighting torch.
- ▶ 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 each person operating a torch.

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.

- ▶ 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.

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 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.

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.*



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Daily Equipment Check List

The propane supply cylinder used with this torch should be no less than 20 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 withdraw from the operating cylinder.

1. Inspect the nipple of the P.O.L. connection on the LP-Gas hose. Check for dents or physical damage.
2. Be certain the supply cylinder valve is fully turned off. Remove the protective plug from the cylinder valve outlet connection.
3. Connect the P.O.L. 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. **DO NOT OVER TIGHTEN.**
4. Slowly open the cylinder valve. Check all connections in the gas supply train 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.

Note: Use only vapor withdrawal cylinders with these torch kits.

Model	BTU	P.S.I. Range	Normal Range
RT Twin C	600,000	5-60 P.S.I.	25 P.S.I.
RT 3-20 C	500,000	5-60 P.S.I.	25 P.S.I.
RT 2 ¹ / ₂ -20 C	400,000	5-60 P.S.I.	25 P.S.I.
RT 2 ¹ / ₂ -20 LW C	400,000	5-60 P.S.I.	25 P.S.I.
RT Basic	400,000	5-60 P.S.I.	25 P.S.I.
HSB - 25 C	400,000	5-60 P.S.I.	25 P.S.I.
HSH - 25 C	400,000	5-60 P.S.I.	25 P.S.I.
RT 1 ¹ / ₂ -10 C	50,000	5-60 P.S.I.	15 P.S.I.
RK 5-10 C	50,000	5-60 P.S.I.	15 P.S.I.
HT 1 ¹ / ₂ -10 C R	50,000	5-25 P.S.I.	18 P.S.I.
RT Combo (see RT 2 ¹ / ₂ -20 C and RT 1 ¹ / ₂ -10 C listings)			
RT Combo LW (see RT 2 ¹ / ₂ -20 LW C and RT 1 ¹ / ₂ -10 C listings)			

Red Dragon Torches

Operating and Assembly Instructions Manual



Models:		
RT 1 ¹ / ₂ -10 C	RT Combo	RK 5-10 C
RT 2 ¹ / ₂ -20 C	RT Combo LW	HT 1 ¹ / ₂ -10 CR
RT 2 ¹ / ₂ -20 LWC	RT Twin C	HSB-25 C
RT 3-20 C	RT Basic	HSH-25 C

Please read and retain this information for future reference.

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

WARNING:

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.

Assembly Instructions

Note: Unpack and inspect for damage and or missing parts. (refer to parts list sheet)

1. On the RT Combo and RT Combo LW (all others hose to torch), assemble LP gas hose to female quick connector. Apply thread compound included with kit or any thread compound suitable for use with LP-gas. Tighten fitting securely with a wrench but do not over tighten.
2. Thread LP-gas hose onto the regulator OUT fitting. Use thread compound and tighten securely.
3. Assemble P.O.L. (brass left hand fitting that screws into propane tank) into IN fitting of the regulator. Use thread compound and tighten securely with a wrench.
4. Remove plug from port on side of regulator (not necessary on HT 1¹/₂-10 C R or RT BASIC). Install pressure gauge in port using thread compound sparingly. Tighten securely with a wrench.
5. Attach TB-4 torch stand to extension tube bracket, adjust to desired setting and tighten.
6. Insert the P.O.L. fitting into the propane supply tank (remember this is a left hand fitting) and tighten securely. **DO NOT USE THREAD COMPOUND.** See *Connecting To The Supply Cylinder*.

Refer to parts list included with this torch kit for a complete list of all parts and for visual aid in assembling.



Connecting To Supply Cylinder

The propane supply cylinder used with this torch should be no less than 20 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. This torch is designed for a vapor withdrawal LP-gas cylinder.

1. Inspect the P.O.L. Check for dents or physical damage and see that the O-ring is in place.
2. Be certain the supply cylinder valve is turned off. Remove the protective plastic plug from the cylinder valve outlet.
3. Connect the P.O.L. fitting 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. **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 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 (except for torches equipped with Piezo Ignitor). **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 Continued

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.
- 2a. 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 (all models except the HT 1¹/₂-10 C R. See 2b). Once the desired pilot flame is achieved, the squeeze handle is depressed to give the required working flame pattern.
- 2b. Familiarize yourself with the functions of the valve operations. The HT 1¹/₂-10 C R has a flame adjustment valve with a round knob marked “off” and “on.”
3. Familiarize yourself with the functions of the adjustable regulator (HT 1¹/₂-10 C R is not adjustable). The regulator is set at approximately 40 P.S.I. To adjust the regulator for more pressure loosen the lock nut a few revolutions and turn the hand knob clockwise to increase pressure. To decrease pressure turn the hand knob counterclockwise. Using the pressure gauge installed on the side port of the regulator (see assembly instructions) adjust the regulator to the desired P.S.I. and retighten the lock nut.
4. 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 (or Piezo Ignition Button on HSH & HSB models), 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.**

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. Use same valve to adjust the working flame on the HT 1¹/₂-10 C R.

Lighting Instructions Continued

If it becomes necessary to readjust the working flame, squeeze handle and adjust the regulator to the desired working flame. **TURNING THE REGULATOR CLOCKWISE INCREASES THE WORKING FLAME. TURNING IT COUNTER-CLOCKWISE REDUCES THE WORKING FLAME.**

See chart with B.T.U. and operating range for your torch.

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. fitting on the LP hose from the propane supply.
3. Replace the protective plastic plug into the cylinder valve outlet.

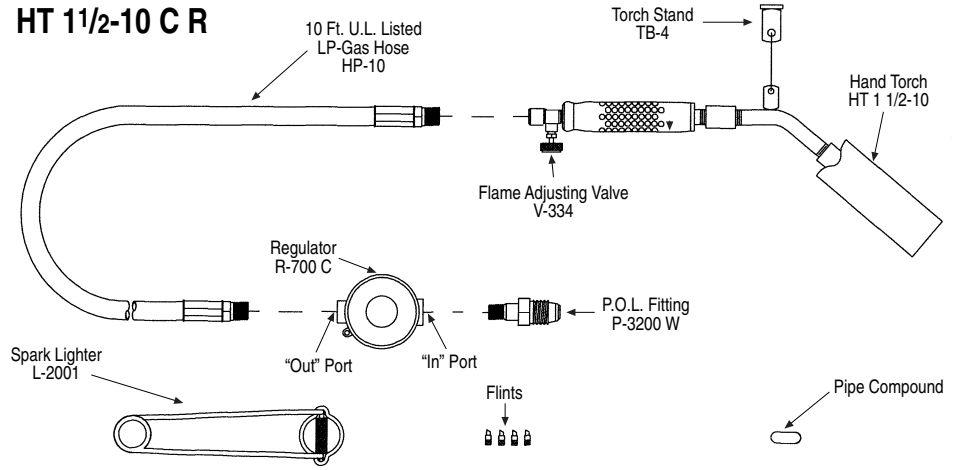
Storage

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.

Red Dragon CSA Certified Torch Kits



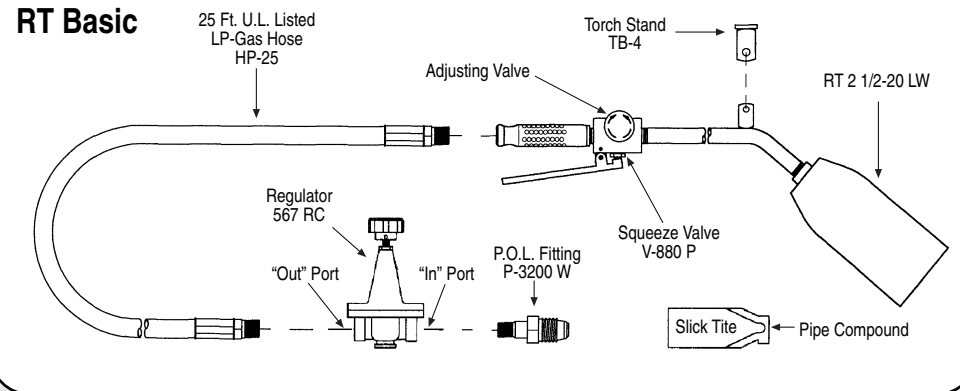
HT 1 1/2-10 C R



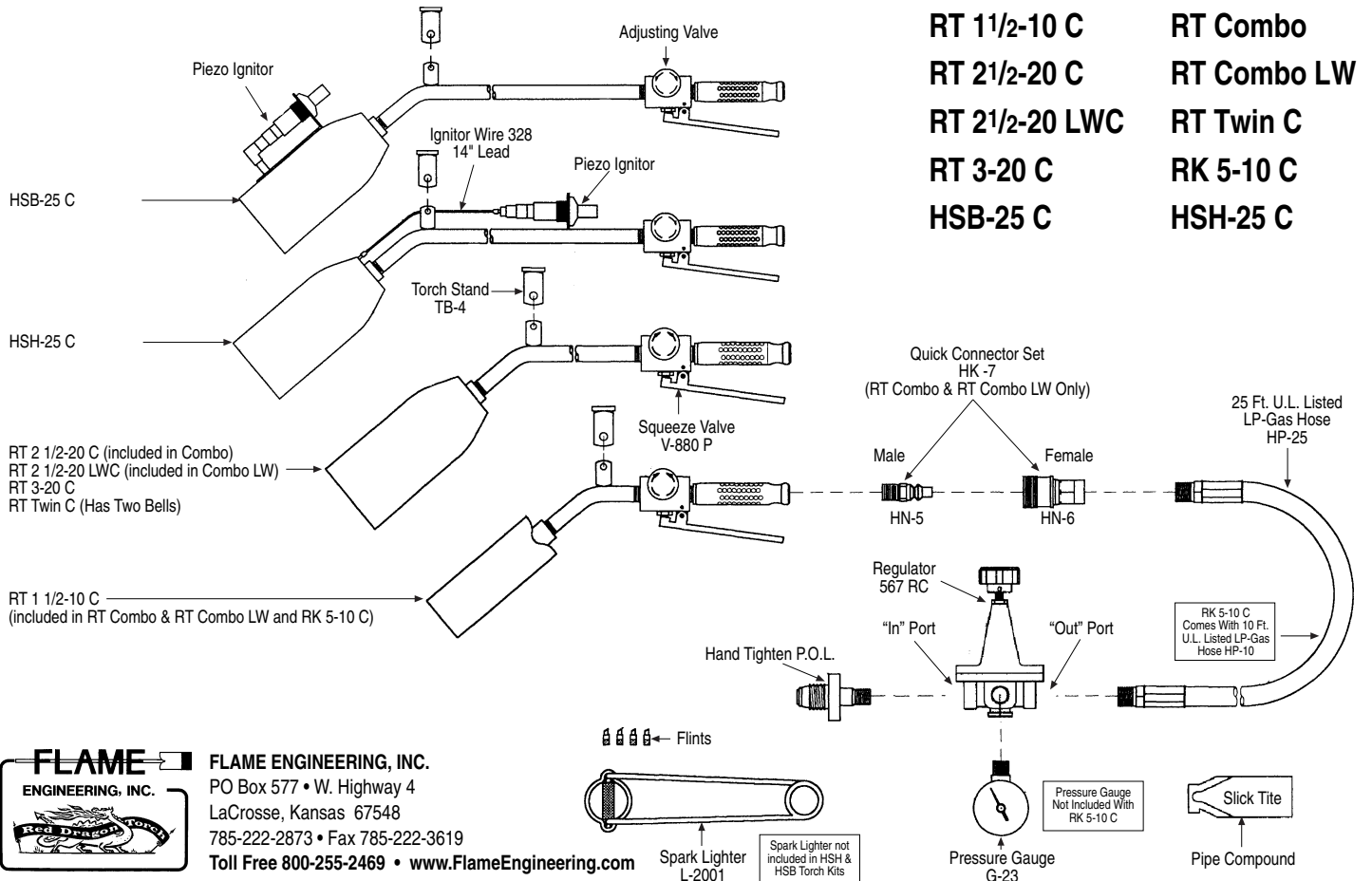
Parts List For Models:

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|-----------------|-----------------|
| RT 1 1/2-10 C | RT Combo |
| RT 2 1/2-20 C | RT Combo LW |
| RT 2 1/2-20 LWC | RT Twin C |
| RT 3-20 C | RT Basic |
| RK 5-10 C | HT 1 1/2-10 C R |
| HSB-25 C | HSH-25 C |

RT Basic



- | | |
|-----------------|-------------|
| RT 1 1/2-10 C | RT Combo |
| RT 2 1/2-20 C | RT Combo LW |
| RT 2 1/2-20 LWC | RT Twin C |
| RT 3-20 C | RK 5-10 C |
| HSB-25 C | HSH-25 C |



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