OPERATING INSTRUCTIONS
FOR HOKE·Jewel® JEWELERS TORCHES

NOTICE

DO NOT ATTEMPT TO OPERATE THIS EQUIPMENT UNTIL YOU READ AND FULLY UNDERSTAND THESE INSTRUCTIONS INCLUDING SAFETY PRECAUTIONS. KEEP THESE INSTRUCTIONS HANDY FOR READY REFERENCE AND REVIEW.

These torches were designed for the constant use and fine control required by professional jewelers in soldering, melting and annealing operations. Each type is engineered to give the best performance using a particular gas in combination with oxygen.

WARNING

An oxygen pressure regulator must be used on the oxygen tank, as well as the proper regulator for acetylene, when using that gas. Follow the instructions supplied with each regulator. The guide shows the recommended oxygen pressure for the various torch tips.

CAUTIONS!!

- Avoid dangling neckties, loose clothing or hair coming into contact with the flame. Wear protective hair covering to contain long hair.
- Keep work area free of flammable materials.
- Always wear safety goggles with filter lenses.
- Before starting work, always check for leaks by brushing a thick soap solution on all connections. Open valve and watch for bubbles to appear at points of leakage. Tighten loose connections with a wrench.
- Never use a flame to check for gas leaks.
- Do not use a hose that is worn, or any equipment that is in need of repair.
- Never lay a torch down or leave it unattended, unless the gas has been shut off and the flame is out. When putting it aside while it is still hot, support it in a holder.
- Never use a tank with a leaky valve.
- Never allow full tank pressure to enter the hose. Always use a regulator when using fuel gas that comes in a non-disposable tank.

SETTING UP

Use 1/4" I.D. braid reinforced rubber hose to connect the torch selected to the oxygen and gas supplies. If the hose is new, make sure it is clean. To blow it out, use air or oxygen but never a fuel gas! Put proper hose clamps on the hose ends and push hose ends on to the torch. The torch is clearly marked indicating which side to use for gas and oxygen. If using red and green hoses, use red for gas and green for oxygen. Do not cross the hoses and be certain the hose is pushed far enough on the knurled edges and properly secured with the hose clamps.

The other end of the hoses is connected to the outlet fittings of the oxygen regulator and gas regulator or supply nipple. Use the proper fittings for whatever system you have. Your gas supplier will provide these.

TO OPERATE TORCHES

GENERAL INSTRUCTIONS

(Also see **"Special Instructions"** on following page)

1. Make sure the "oxy" and "gas" needle valves on the torch are closed. Both are kept closed until the oxygen pressure is set.
2. To set the oxygen pressure, open oxygen cylinder valve slowly and set pressure regulator to deliver approximately 4 pounds. (More pressure may be required when using #3 or #5 torch tips).
3. Open the cock on the gas supply line and the gas needle valve on the torch. Light the gas.
4. Open the oxygen needle valve on the torch until the desired flame intensity is obtained.
5. The length of the flame may be shortened or lengthened by decreasing or increasing the supply of oxygen and gas in proportionate amounts. This is done by manipulating the two needle valves on the torch (can be done with one hand). Both valves are usually turned in the same direction to change the length of the flame.
6. The intensity and size of the flame is altered by changing the torch tip size. Torch tips are numbered, the larger the number the larger the flame.

TO CEASE OPERATION

7. Shut the oxygen first, then the gas, using the torch valves. Torches using artificial gas are provided with a small permanent leak that keeps a pilot light burning, upon closing the torch gas valve.
8. To shut down completely, shut off the gas supply line and the oxygen cylinder valves. When the pilot light has ceased burning, open the oxygen needle valve on the torch and allow the oxygen trapped between this point and the cylinder valve to escape to the atmosphere. Do not forget to relieve the tension on the regulator adjusting screw by turning the latter counter-clockwise so that it no longer compresses the spring.

SPECIAL INSTRUCTIONS

For Oxygen and Artificial (City) Gas

Since artificial (city) gas burns with a stable flame, simply follow the **"General Instructions"** on the preceding page.

For Oxygen and Acetylene

Before opening the tank valves on the oxygen and acetylene cylinders make sure both regulators are set for zero pressure. That way you are sure full tank pressure will not enter the hose.

1. Set the oxygen tank pressure with both torch valves closed, as explained in (2) of the general instructions on page 2.
2. Slowly open the acetylene tank valve and set the acetylene regulator to 5 lbs. pressure or less.
3. Crack the oxygen torch valve slightly and only then turn on the acetylene torch valve. Light the resultant mixture. This will prevent the soot which forms when acetylene burns alone.
4. To cease operation turn off the acetylene torch valve first and then the oxygen torch valve.
5. When shutting down for the night, close the two cylinder valves and allow the residual acetylene to escape into the air first and then the oxygen.

For Oxygen and Natural Gas

Natural gas does not burn with a flame as stable as city gas and the result is that the range of flame is not as great as with artificial gas and oxygen. It may be necessary to use a larger size tip to produce a stable flame.

For Oxygen and Liquified (Bottled) Petroleum Gas

When using liquified petroleum gas, it may not be necessary to open the gas valve wide, even when using the larger size tips, as bottled gas is usually furnished at higher pressure and has a higher heating value than city gas. If the flame shows a tendency to flicker, increase the oxygen supply by opening the oxygen valve or increasing the pressure at the oxygen regulator. It is proper to do this to increase flame stability until the two inner flame cones just coincide. Addition of further oxygen will cool the flame or blow it out.

CHECK THE FOLLOWING IF TROUBLE DEVELOPS

1. Be sure the gas line is open and enough oxygen is coming from the cylinder.
2. Be careful not to use too much oxygen, because this cools the flame and may blow it out.
3. Be sure the tip is clean.
4. The oxygen ejector may be clogged. Loosen the hex nut with a wrench and pass a small wire (1/64 inch diameter or smaller) through the ejector to clean it out.

GUIDE FOR MAXIMUM OXYGEN PRESSURE

OXYGEN AND LIQUIFIED (BOTTLED) GAS AND OXYGEN AND ARTIFICIAL (CITY) GAS

TIP NO.	P.S.I.
1	2 to 4
2	2 to 4
3	6 to 10
5	15 to 20

OXYGEN AND NATURAL GAS

TIP NO.	P.S.I.
35-1	2 to 3
35-2	3 to 4
35-3	4 to 5

OXYGEN AND ACETYLENE

TIP NO.	P.S.I.
01	10 to 12
02	6 to 10
03	4 to 6
04	2 to 4

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