

# THE SWISS TORCH:

## INSTRUCTIONS FOR USE:

It is very important to read and follow all of the instructions laid down below. Failure to do so can result in property damage, severe personal injury or death. These instructions are general in nature, and are not intended to describe every possible application of these products.

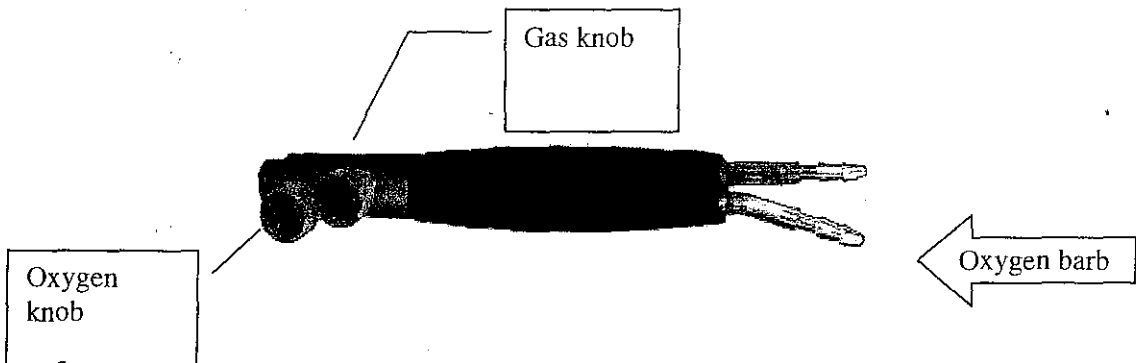
**WARNING:** The Swiss Torch is a piece of advanced soldering equipment that requires a knowledgeable user who has had training in both soldering techniques and safety from a qualified instructor.

## THE SWISS TORCH SYSTEM:

The Swiss Torch combines a lightweight ergonomic body with a selection of torch heads giving the user a variety of applications from casting and general melting of metals to general bench repairs and precision soldering. The Swiss Torch is designed for use with Propane or Natural Gas. The torch does not work with Acetylene.

## SWISS TORCH BODY:

The body is constructed of aluminum with plastic grips, making it lightweight and easy to use. The Oxygen (blue) and Gas knobs (red) fall easily to hand. The lower of the two gas bars is clearly marked with an O for oxygen.



## HOSES:

The Swiss Torch works with Grade T fuel/gas hose. To attach your hoses, press the ends of the hoses over the appropriate GAS or OXYGEN barb. The Oxygen barb is clearly marked with an O and is the lower barb as shown above. Many Grade T hoses are supplied with fittings on both ends, in which case use strong shears to cut the fittings off one end so the fuel/gas hose may slide over the bars.

## GASES:

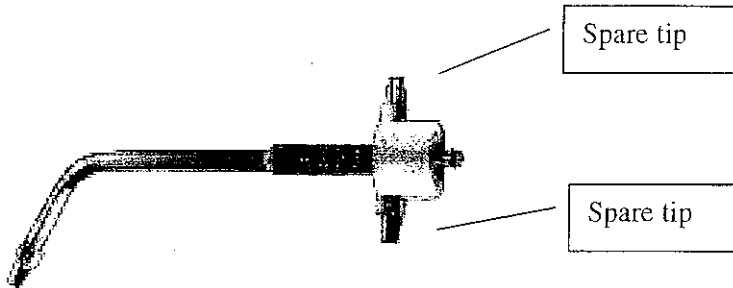
The Swiss Torch is designed for use with either Propane or Natural Gas and oxygen or compressed air depending on the torch head selected. The torch does **NOT** work with Acetylene.

### SWISS TORCH HEADS/TIPS:

Each torch head fits to the body in an identical way, push the head fully into the body and use the locking screw to firmly locate the head in the body. Unless otherwise noted all the tips work with Propane or Natural Gas, and Oxygen or Compressed Air.

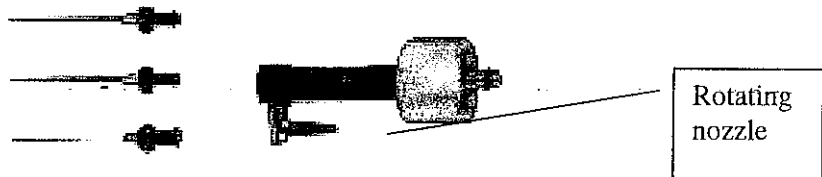
### HOKE HEAD:

This very popular head offers the Jeweller the versatility and practicality of a choice of three burner sizes of fine, medium and large. #1 small is fitted to the head, #2 medium and #3 large are fitted onto the locking nut as shown below. These produce a small intense flame for soldering and shop repair work. Flame temperature range is 2700 – 2850°C 4900 – 5160°F depending on the type of fuel/gas combination used. Approximate flame size 8mm x 6mm Ø Recommended pressure settings oxygen 12 PSI, propane 8 PSI.



### MICROHEAD:

This head gives a choice of three needle flames similar in size to those produced by a water torch. Supplied with three needle tips (0.9mm, 1.2mm & 1.6mm) which slide onto a rotating nozzle giving the user the chance to angle the flame in a direction that suits the task in hand. Recommended pressure settings oxygen 12 PSI, propane 8 PSI.



### MELTING/CASTING HEAD SHORT:

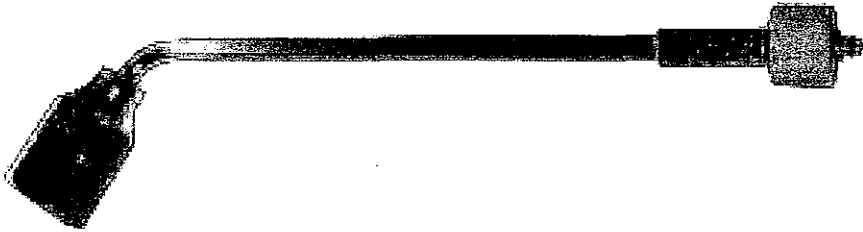
This head is the perfect choice for casting. Unlike the other heads the melting head works only with compressed air and propane/natural gas. It burns slightly cooler and produces a large flame that will cover an open crucible completely reducing risk of oxidation and improving overall melt. Flame temperature range is 1875 – 1925°C or 3400 - 3495°F depending on the type of Fuel/Gas combination used. Approximate flame size 5mm x 20mm Ø For use with compressed air at 2bar/30psi

**CAUTION:** This head ONLY works with compressed air and propane/natural gas.



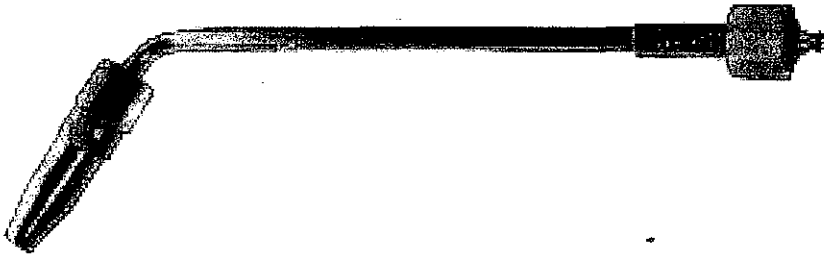
### **MELTING HEAD LONG:**

This head has a wide circular flame, and is good for casting and working on larger pieces. It burns hotter than the standard melting head and works best with propane as the gas. Flame temperature range is 2700 – 2850°c 4900 – 5160°f . Approximate flame size 5mm x 20mm Ø Recommended pressure settings oxygen 12 PSI, propane 8 PSI.



### **PLATINUM HEAD:**

This head produces a small circular intense flame, making it suitable for small casting work, and excellent for melting platinum. Flame temperature range is 2700 – 2850°c 4900 – 5160°f depending on the type of gas/fuel combination used. Approximate flame size 9mm x 10mm Ø Recommended pressure settings oxygen 12 PSI, propane 8 PSI



### **EYE PROTECTION:**

Always wear safety glasses with filtered eye protection when soldering with the Swiss Torch

### **CLOTHING:**

Loose clothing and hair must be tied back when soldering. Protective clothing such as gloves and a fireproof apron should be worn.

### **WORK AREA:**

Your workplace must be clear of combustible materials, have a fireproof floor, and the immediate work area requires a fireproof top. An approved fire extinguisher must always be nearby.

### **GASES:**

When using the Swiss Torch, you will be working with pressurised gases and oxygen. Use

## **RESPIRATORY PROTECTION:**

Respiratory Protection may be required during certain applications. Refer to ANSI Standard Z49-1.

## **LEAK TESTING:**

You must test the equipment for leaks, both at first set up and at regular afterwards.

- Only use an approved oil free leak detection fluid. This will be available from your local welding supply company.
- To test the system, ensure the torch body valves are closed, pressurise the system checking all connections for leaks.
- If any leaks are detected you must NOT use the equipment. Re-check all the connections to make sure they are tight and free of debris.
- If the torch is going to be idle for more than 30 minutes, it is best to turn the preset regulators to the off position.

## **LIGHTING THE TORCH:**

When you have completed your leak tests and are ready to light your torch.

- Check the handle control knobs are shut (rotate clockwise)
- Open the gas control on the gas bottle a  $\frac{1}{8}$ <sup>th</sup> to  $\frac{1}{4}$  turn anti-clockwise
- Open the Oxygen tank all the way till the valve stops
- Open the gas knob on the torch handle a  $\frac{1}{2}$  turn, use an approved ignitor to light the flame (hold the ignitor over the torch like an inverted cup)
- When the gas is alight slowly feed in the oxygen in the same manner – this may well blow the torch out, in which case you will have to repeat the earlier steps.
- Once lit adjust the gas and oxygen controls on the torch handle until the desired flame is achieved.

## **EXTINGUISHING THE TORCH:**

- Turn the oxygen control on the torch handle fully clockwise to the closed position
- Turn the gas control on the torch handle fully clockwise to the closed position
- Turn off the Oxygen tank/compressor
- Turn off the Propane/Natural gas source

## **TO BLEED THE SYSTEM:**

Starting with everything in the “off” or “closed” position. CAUTION – ensure the torch is cold before changing tips.

- Remove the torch tip
- Open the oxygen control on the torch handle  $\frac{1}{2}$  turn until all pressure has gone from the hose and regulator – then close it fully.
- Open the gas control knob on the torch handle  $\frac{1}{2}$  turn until all pressure has gone from the hose and regulator – then close it fully.