Jefferson® PROFESSIONAL TOOLS & EQUIPMENT

INFERNO™

USER MANUAL v.1.1

Jefferson Industrial Gas Torch JEFGASTORCHIND

INFERNO
GAS TORCH

WARNING!
Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating.
Failure to follow the safety rules and other basic safety precautions may result in serious personal injury

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SAFERY AND OPERATING INSTRUCTIONS

This Operating Manual has been designed to instruct you on the correct use and operation of this product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore, please take the time to read the entire manual, especially the Safety Precautions. This will help avoid potential hazards that may exist when working with this product.

WARNING
Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing the equipment. While the information contained in this Manual represents the Manufacturer's judgment, the Manufacturer assumes no liability for its use.

SECTION 1: INTRODUCTION

This manual is a guide to the safe and efficient operation of a propane,and MAP Pro brazing / soldering apparatus.
If the torch is not used in a propane, MAP Pro or MAPP brazing & soldering application, the operator must still follow those safety and operating procedures that do apply to that particular application. Read this manual thoroughly and carefully before operating this equipment. A system of notes, cautions, and warnings emphasize important safety and operating information in this manual. These are:

NOTE conveys installation, operation, or maintenance information which is important but not hazard-related.
CAUTION indicates a potentially hazardous situation which, if not avoided, may result in injury.
WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

WARNING DO NOT attempt to use this apparatus unless you are trained in its proper use or are under competent supervision.
For your safety, practice the safety and operating procedures described in this booklet every time you use the apparatus. Deviating from these procedures may result in fire, explosion, property damage, and/or operator injury If at any time the apparatus you are using does not perform in its usual manner, or you have any difficulty in the use of the apparatus, STOP using it immediately. DO NOT use the apparatus until the problem has been corrected!
WARNING The repair and maintenance of this equipment should be carried out by qualified professional engineers, and should strictly comply with the provisions of the manufacturer's product manual on the relevant content. Improper service repair or modification of the product could result in damage to the product or injury to the operator.

SECTION 2: GENERAL SAFETY INFORMATION

GENERAL SAFETY INFORMATION
Read and understand all safety and operating instructions provided before using this apparatus.
RETAIN THESE INSTRUCTIONS NEARBY FOR FUTURE REFERENCE.

FIRE PREVENTION
Welding and cutting operations use fire or combustion as a basic tool. The process is very useful when properly controlled. However, it can be extremely destructive if not performed correctly in the proper environment:

1. The work area must have a fireproof floor.
2. Work benches or tables used during welding or cutting operations must have fireproof tops.
3. Use heat resistant shields or other approved material to protect nearby walls or unprotected flooring from sparks and hot metal.
4. Keep an approved fire extinguisher of the proper size and type in the work area. Inspect it regularly to ensure that it is in proper working order. Know how to use the fire extinguisher.
5. Move combustible materials away from the work site. If you can not move them, protect them with fireproof covers.

WARNING NEVER perform welding, heating, or cutting operations on a container that has held toxic, combustible, or flammable liquids, or vapors. NEVER perform welding, heating, or cutting operations in an area containing combustible vapors, flammable liquids, or explosive dust. NEVER perform welding, heating, or cutting operations on a closed container or vessel, which may explode when heated.

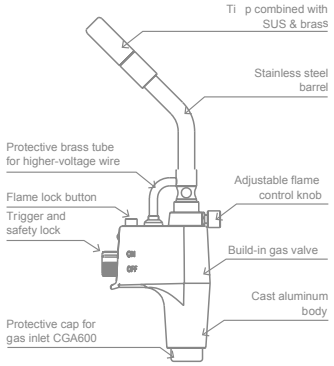
VENTILATION
WARNING Ventilate welding, heating, and cutting work areas adequately to prevent accumulation of explosive or toxic concentrations of gases. Certain combinations of metals, coatings, and gases generate toxic fumes. Use respiratory protection equipment in these circumstances, When welding/brazing, read and understand the Material Safety Data Sheet for the welding/brazing alloy.

PERSONAL PROTECTION
Gas flames produce infrared radiation which may have a harmful effect on the skin and especially on the eyes. Select goggles or a mask with tempered lenses shaded 3 or darker to protect your eyes from injury and provide good visibility of the work. Always wear protective gloves and flame resistant clothing to protect skin and clothing from sparks and slag. Keep collars, sleeves and pockets buttoned, DO NOT roll up sleeves or cuff pants.

SECTION 3: TORCH ASSEMBLY

1. Be sure the Trigger Lock is in the “OFF” position (Figure 1).
2. Install a Propane,MAP//Pro or Mapp container into the inlet connections of the torch. Hold torch and tank upright; install tank into torch inlet connection by turning tank counter-clockwise until it is attached securely (Figure 2). Check connection for leaks.

Figure 1
Hand Torch
Identification



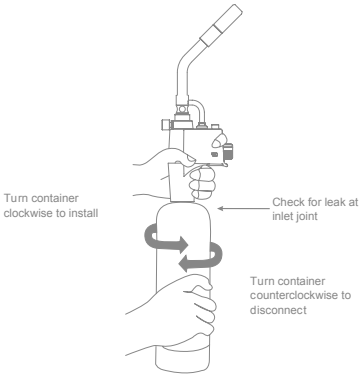


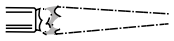
Figure 2
Assembly &
Disassembly

WARNING - This is a flame producing device using liquefied fuel gas under pressure. Improper assembly, abuse, or misuse may allow the fuel to leak. Before using, check all connections for leaks using a soapy-water solution. Do this away from flames, sparks or spark producing devices. DO NOT use flames to test for leaks. Test with pressure on low for no more than 30 seconds at a time. If a leak is detected, re-tighten and check again. DO NOT use if the leak can not be corrected. Return to place of purchase. When disconnecting equipment from a fuel cylinder, do so away from flames, sparks or smoking materials.
NOTE The use of acetylene or any fuel gas other than MAPP, MAP Pro, or Propane with this torch may cause a fire or explosion, Use either 14,1 oz. Propane, 14,1 oz, MAP Pro, or 16oz. MAPP cylinder with the torch. Read and follow the instructions on the cylinder labels before using.

SECTION 4: LIGHTING THE TORCH

1. Squeeze trigger slowly, allowing gas to flow into tube. Continue to squeeze trigger until torch lights.
2. If torch does NOT light, squeeze trigger again.
3. Adjust the gas flow after ignition until a satisfactory flame size (see Figure 3)
WARNING - Torch lights instantly and can ignite combustibles and / or cause severe burn.
NOTE : Extremely low or high flame settings are hard to ignite. A low flame setting will cause the tube to overheat (see Figure 3).

CORRECT ADJUSTMENT:
Compact flame-dark blue points extending from tip about 1" ~1-1/4" beyond end of tip. Tip remains cool.



TOO LITTLE GAS:
Soft flame-pressure too low to achieve proper mix. Tip will overheat. Darker blue portion of flame barely visible from end of tip. Flame pink in colour.

TOO MUCH GAS:
Darker blue portion of flame comes out from tip. Combustion taking place beyond flame tube.

Figure 3:
Flame Settings

SECTION 5: OPERATING THE TORCH

1. **Flame setting:** This equipment is an oxygen-free combustion supporting welding torch. All the oxygen required during combustion is sucked in by itself near the nozzle. The flame has formed about 25mm inside the nozzle of the torch barrel, and the cooling of the barrel is completely maintained by the air sucked in by itself. The opening degree of the gas volume valve determines the flame intensity. Lower flame intensity will not meet the cooling requirements of the barrel, and in severe cases, it will cause the nozzle of the barrel to burn red or even burn out the automatic ignition system (this is completely different from oxygen combustion supporting torches, such as oxygen-acetylene welding, where the flame is formed outside the barrel, and the oxygen required for combustion is provided by the combustion supporting oxygen cylinder).

2. **Heating Technique:** The maximum heat zone is very concentrated. It is located between 10-20mm away from the end of the tip (Figure 4). If you hold the torch too close or too far away, there will be noticeably less heat. Adjusting the appropriate heating angle can also increase the heat of the target (Figure 5).

SECTION 5: OPERATING THE TORCH CONT.

3. Temperature Control: To reduce the heating temperature, several approaches are recommended: Move the flame further away from the target. Use propane fuel instead of MAPP fuel.

NOTE: DO NOT lower regulator pressure to reduce heat output. This will cause the tip to overheat, even burn out the automatic ignition system
WARNING - Remember the torch tip may be HOT and can cause a burn if touched.

4. Trigger Lock - Engage:
- Make sure the trigger is in the “ON” position (see Figure 6).
- Pull the Trigger fully inward and push the Lock Button downward.
- Hold the Lock Button and release the Trigger.

Trigger Lock - Disengage:
- Pull the Trigger inward and the Lock Button will pop up.
- Turn the trigger to Off

NOTE - NEVER leave the torch unattended with flame burning.

5. Flaring: Operating the torch in an upside down position is not recommended. Increased flame size, known as “flaring” can occur when the torch is operated in an upside down position over a period of time at cold temperatures (below 4C). Liquid fuel requires heat to change to a gaseous state and upside down operation causes the regulator to cool rapidly, thus liquid may enter the torch causing flaring. This can happened with 16OZ Mapp gas.

NOTE - Flaring is usually preceded by noticeable sputtering or spitting of the flame.
Please follow steps 1-3 of Disassembly in Section 6

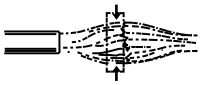


Figure 4:Maximum Heat Zone

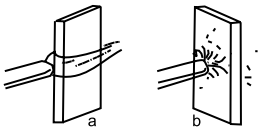


Figure 5:Heat Angle
a)To obtain maximum target heat
b)Less effective heating angle

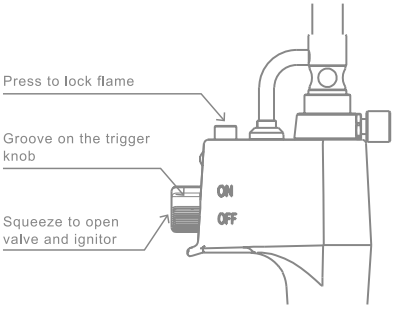


Figure 6:Trigger Lock and Safety Lock

SECTION 6: TORCH DISASSEMBLY AND STORAGE

DISASSEMBLY
1. Release the trigger to extinguish the flame.
2. In a well-ventilated area away from flame or source of ignition, disconnect the fuel container by turning it counter-clockwise.
3. Slightly pull the Trigger to vent the remaining fuel inside the torch.

NOTE - Torch may light and momentarily burn the remaining gas.

STORAGE
1. After disassembly, position the Lock Button in the “OFF” position.

WARNING - Store the torch and fuel container in a well-ventilated area away from any flame of source of ignition. Always separate torch and fuel container after use. DO NOT store the tanks in a room used for habitation, closed or confined space, near open flames, heaters, or in direct sunlight. Protect tank and torch from damage. Keep out of the reach of children.

SECTION 7: TORCH CLEANING

The Tip end and nozzle may required periodic cleaning. This condition is noticeable when the flame softens or has a change in appearance.

NOTE - Make sure there is no remaining gas inside torch.
Torch cleaning or parts replacement should be carried out by a professional organization authorized in writing by the manufacturer. DO NOT attempt to clean nozzle with a wire or other object. Nozzle hole may become enlarged which will cause air/fuel tip to operate improperly.

1. Users can replace appropriate torch head according to their needs.
2. Using an S=2mm allen wrench to remove the set screw what fix the barrel assembly, remove the barrel assembly as a whole, clean or replace the orifice kit.
3. In the case of replacing the high-voltage ignition wire, refer to Figure 7.
4. Once you replace parts of the torch, you must re-check connections for leaks.

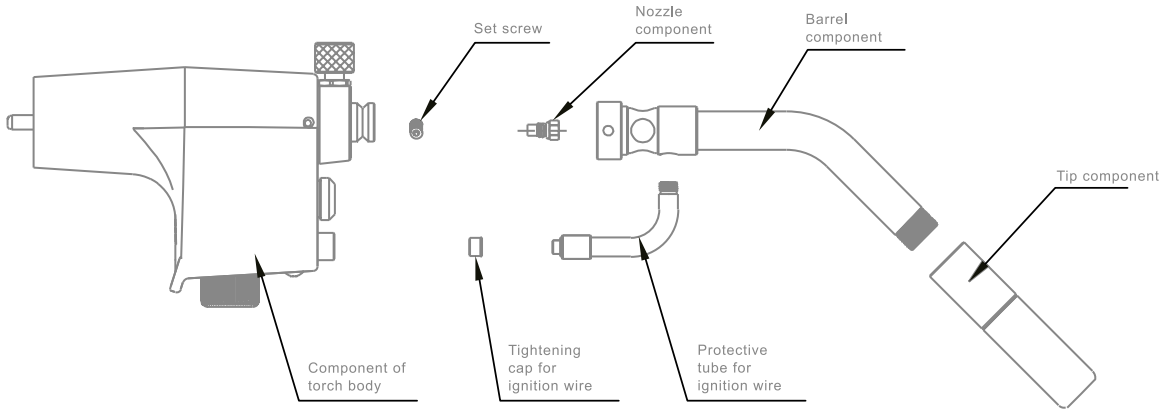


Figure 7:Accessories exchange

SECTION 8: TROUBLE SHOOTING

Symptom:	Possible Cause:	Remedy:
Torch will not light.	Regulator pressure incorrectly set. Activating Trigger too rapidly. Fuel cylinder empty. Orifice, Filter Screen, or Tip End clogged with debris. Excessive moisture.	Set the flame control knob opening at 1/4 ~ 1/2. Pull Trigger slowly and steadily, let the fuel gas flow to the tip before ignition. Replace with full cylinder. Clean clogged components. Remove tip end to dry all parts.
Flame softens, turns yellow, or does not heat effectively	Orifice, Filter Screen, or Tip End Clogged with debris.	Clean clogged components.
Tip End overheats or turns red	Regulator pressure set too low, Orifice, Filter Screen, or Tip End clogged with debris. Fuel supply nearing empty.	Set the flame control knob opening more than 2/3 Clean clogged components. Replace with full cylinder.
Unstable or erratic flame	Torch operated in extreme wind. Leak present.	Avoid operating torch in areas of extreme ambient air movement. Check for leaks and correct if necessary.

SECTION 9: STATEMENT OF WARRANTY

LIMITED WARRANTY: The manufacturer guarantees that the product is free from defects in workmanship or materials. Any fault that does not meet the scope specified in the quality warranty is not covered by the warranty:

1. Users do not store, install, operate, and maintain in accordance with Jefferson Tool's specifications, instructions, recommendations, and recognized industry standards;

2. Abuse of our products;

3. Failure to use our components or parts designated or recognized by our Corporation for appropriate repairs when repairing,modifying, or replacing relevant components in an accident;

The above items will be considered as user usage defects and not covered by the warranty.
After a fault occurs, the user should send the product to the our company's designated dealer or repairer for confirmation of the warranty, and the dealer or repairer will resolve the maintenance issues.

Limitation of liability: We are not responsible for special or indirect losses under any circumstances, and the scope of liability is limited to: direct losses to users caused by quality defects caused by products that do not comply with national mandatory product standards or the company's product standards (including but not limited to user damage caused by unqualified product quality defects, but excluding the expanded scope of losses caused by user reasons); Defects need to be identified and confirmed by a third-party testing agency.

"The replacement of components that are not legally authorized by our company may damage safety or the performance , and this warranty will become invalid". The user referred to in the preceding paragraph refers to a customer who purchases this product from a legally authorized distribution entity of our Corporation. Customers who purchase this product through other channels are not entitled to this guarantee.

This warranty shall take effect from the date on which the authorized dealer provides the product to the buyer, with a period of one year; We are responsible for maintenance during the product validity period, and only costs are charged. The transportation costs incurred in sending the product to the authorized warranty repair facility shall be the responsibility of the buyer. All returned goods shall be at the risk and expense of the Buyer. This warranty statement supersedes all previous warranty statements.

The design service life of this product is three years. We shall not be responsible for compensation for failures and related losses beyond the service life.

EU DECLARATION OF CONFORMITY

We, Jefferson Professional Tools & Equipment, as the authorised European Community representative of the manufacturer, declare that the following equipment conforms to the requirements of the following:

CE

Directives: **Machinery Directive 2006/42/EC**	**Standards:** **EN ISO 12100:2010**
Notified Body:	UDEM, Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No:10 Çankaya, Ankara , TURKEY

Product Name:	Jefferson Industrial Gas Torch JEFGASTORCHIND
Signed by:	Stephen McIntyre Operations Manager
Date:	29 October 2023
Name and address of manufacturer or authorised representative	Jefferson Professional Tools & Equipment 24 Lisgorgan Lane, Upperlands, BT46 5TE Tel: +44 (0)1244 646 048 (UK) +353 (0)1473 0300 (ROI) Email: info@jeffersontools.com

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