

Owner's Manual & Safety Instructions

Important !

Save This Manual

It is very important that you keep this manual in a safe place. It includes safety warnings, precautions, assembly, operating, inspection, maintenance and cleaning procedures for this Torch Kit.



Portable Torch Kit

With Oxygen and Acetylene Tanks



Part# 555-84500

CUTTING OUTFIT

READ ALL INSTRUCTIONS BEFORE USE

TERMINOLOGY

PURGING - The practice of opening and closing cylinder valves quickly to remove debris before attaching regulators.

CUTTER - A piece of equipment that facilitates the mixing and control of the gases to perform a welding or cutting operation.

REGULATOR - A device fitted to the cylinder outlet to reduce the cylinder pressure that is required by the cutter.

HOSE ASSEMBLIES - Used to connect the regulator to the cutter. Hoses are color coded to match the gas type.

FLASHBACK ARRESTER - (Hose Check Valve) Quenches a flame front and prevents it from reaching the Cylinder.

PRESSURE RELIEF VALVE - Vents excess pressure from the regulator when the system pressure exceeds a predetermined level.

BACKFIRE - Return of the flame into the cutter usually accompanied by a hissing sound or a bang.

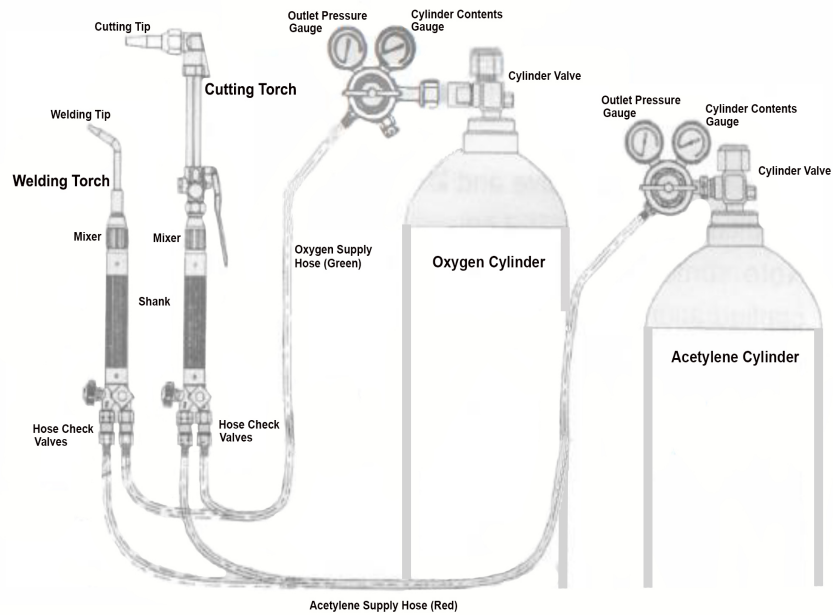
IMPORTANT SAFEGUARDS

When using Oxy-Acetylene Gas Torches, these basic safety precautions should always be followed.

- Never use Acetylene gas at a pressure over 15psig.
- Never use damaged equipment.
- Never use oil or grease on or around Oxygen equipment.
- Never use Oxygen or Acetylene gas to blow dirt or dust off closing or equipment.
- Never light a torch with matches or lighter, Always use a striker.
- Always wear the proper welding goggles, gloves and clothing when operating Oxy-Acetylene equipment. Pants should not have cuffs
- Do not carry lighters, matches or other flammable objects in pockets when welding or cutting.
- Always be aware of others around you when using a torch.
- Never let welding hoses come into contact with flame or sparks from cutting.

CONNECTION OF THE SYSTEM

- * Check the cylinder valves to be sure they are clean and the threads are in good condition. Purge the valve to remove debris from the valve seat (Never Purge Hydrogen cylinders).
- * Connect the pressure regulator to the cylinder, ensure the regulator is the correct type for the gas and cylinder pressure you are using.
- * Ensure the regulator knob is fully unscrewed.
- * Connect the oxygen (green) hose and acetylene (red) hose to the regulators. Each hose end has different thread types and are not interchangeable, oxygen has right-hand threads, and acetylene has left-hand threads with notches in the nut area for clarification.
- * Connect the oxygen and acetylene check valves to the torch inlet tubes. The check valves are stamped with oxygen and acetylene for identification. Each has different thread types and are not interchangeable, oxygen has right-hand threads, and acetylene has left-hand threads with notches in the nut area for clarification.



- * Connect the oxygen (green) hose and acetylene (red) hose to the check valves. Each hose end has different thread types and are not interchangeable, oxygen has right-hand threads, and acetylene has left-hand threads with notches in the nut area for clarification.
- * Slowly open each cylinder valve (only open acetylene cylinder valves 1 turn) and adjust the regulator to the correct operating pressure for the operation (turn clockwise to increase pressure).
- * **NEVER STAND IN FRONT OF THE REGULATOR WHEN OPENING THE CYLINDER VALVE.**
- * Check the system for leaks using a suitable leak detection fluid. Recheck the pressures with the gas flowing.
- * Purge each hose to ensure the hoses and torch are primed with gas. Ensure this is conducted in a well-ventilated place away from sources of ignition. Purging should be carried out after each.

OPERATING PROCEDURES

Torch

Lighting up

- * Check all valves on the torch are closed.
- * Open the acetylene gas knob and light the gas using a striker, adjust the gas flow until the flame stops smoking.
- * Open the Oxygen valve and adjust the flame to a neutral condition.
- * Press the cutting lever and adjust the flame as necessary.

Shutting down

- * Close the acetylene gas control valve on the torch.
- * Close the oxygen gas control valve on the torch.
- * Close both cylinder valves.
- * Re-open the control valves on the torch to purge the gas in the system.
- * Unscrew the pressure adjusting knobs on the regulators, and when the system is fully relieved of pressure, close the acetylene control knobs on the torch.

CUTTING OUTFIT

TORCH HANDLE WITH WELDING OR HEATING TIP

Lighting up

- * Check all valves on the torch are closed.
- * Open the acetylene gas knob and light the gas using a striker, adjust the gas flow until the flame ceases to smoke.
- * Open the Oxygen valve and adjust the flame to a neutral condition.
NOTE SOME OPERATIONS MAY REQUIRE DIFFERENT FLAME CONFIGURATION AS DETAILED IN FIGURE 1 BELOW.

Shutting Down

- * Close the acetylene gas control valve on the torch.
 - * Close the oxygen gas control valve on the torch.
 - * Close both cylinder valves.
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- * Re-open the control valves on the blowpipe to vent the gas in the system.
 - * Unscrew the pressure adjusting knobs on the regulators, and when the system is fully relieved of pressure, close the gas control knobs on the torch.

TORCH HANDLE WITH CUTTING ATTACHMENT AND TIP

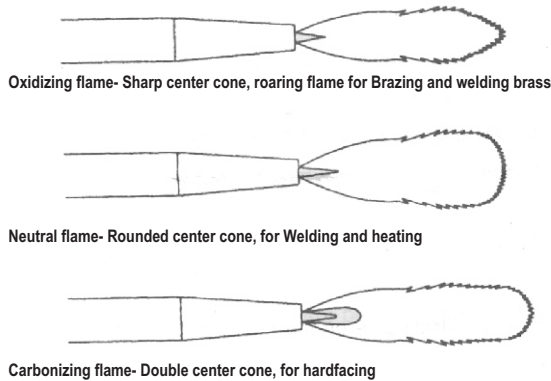
Lighting up

- * Check all valves on the torch are closed.
- * Open the acetylene gas knob and light the gas using a striker, adjust the gas flow until the flame ceases to smoke.
- * Open the Oxygen valve on the shank fully, and adjust the flame to a neutral condition using the oxygen valve on the cutting attachment.
- * Press the cutting lever and readjust the flame accordingly.

Shutting Down

- * Close the acetylene gas control valve on the torch.
- * Close the oxygen gas control valve on the torch.
- * Close both cylinder valves.

FIGURE 1: FLAME TYPES



Flashback Arrester

- * Ensure the flashback arrestor is fitted in the direction of gas flow arrow on the unit.
- * Ensure the Flashback arrestor is the correct type for the gas in use.

TROUBLE SHOOTING

- * Torch Bangs or snaps out during ignition
 - A- Ensure hoses are purged correctly.
 - B- Increase fuel gas flow before lighting.
 - C- Check tip is properly seated.
 - D- Ensure sufficient flow of Acetylene for the tip size in use.
- * Torch bangs or snaps during use
 - A- Check gas flow and pressure is correct for the tip size.
 - B- Check the tip is not blocked, clean with tip cleaners.
 - C- Replace tip.
- * Torch bangs when switching off
 - Ensure the fuel gas supply is switched off first.

MAINTENANCE

Daily

- * Check the condition of all equipment checking for damage, especially hose sets.

Weekly

- * Pressure test the system and check the system for leaks using a 0.5% teepol detergent solution in water (or other oil free leak detection fluid).

WELDING TIP FLOW DATA

THICKNESS OF METAL IN INCHES	SIZE OF TIPS	SIZE OF WELDING ROD	OXYGEN PRESSURE P.S.I.	ACETYLENE PRESSURE P.S.I.
3/64"	1	1/16"	4	4
1/16"	3	1/16"	5	5
3/32"	5	3/32"	9	7
1/8"	5	1/8"	9	7
3/16"	7	5/32"	12	9
1/4-3/8"	9	3/16-1/4"	14	10

CUTTING TIP FLOW DATA

THICKNESS OF METAL IN INCHES	SIZE OF TIPS	OXYGEN PRESSURE P.S.I.	ACETYLENE PRESSURE P.S.I.
1/8-1/4"	00	25-35	6
3/8"	0	25-35	6
1/2-1"	1	35-45	6
2"	2	45-50	6
3-4"	3	45-55	6
5-6"	4	55-65	6

* Tip size and pressure may vary according to operator choice. This chart should serve as a guide or reference.