OWNER'S MANUAL

FORM: OM-264 371B 2015–01

For Miller® Machine Torches

1. Safety Symbol Definitions

	DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text. Fsafe1 2013-10		Have only trained and qualified persons install, operate, or service this unit. Read the safety information at the beginning of these instructions and in each section. Call your distributor if you do not understand the directions. Oxysafe2 2013-10
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text. Fsafe2 2013-10		Cylinders contain gas under high pressure and can explode if damaged. Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, and sparks. Always secure cylinder to running gear, wall, or other stationary support. Oxysafe1 2013-10
NOTICE ☞	*Indicates statements not related to personal injury.* *Indicates special instructions.* Fsafe3 2013-10		Welding sparks can cause fire or explosion. Move flammables away. Do not weld on closed tanks or barrels, or on containers that have held combustibles – they can explode. Clean tanks or barrels properly. Oxysafe4 2013-10
	Arc rays can burn eyes and skin – wear a welding helmet with correct filter, and cover exposed skin with nonflammable clothing. Oxysafe5 2013-10		Build-up of gas can injure or kill. Shut off compressed gas supply when not in use. Always ventilate confined spaces or use approved air-supplied respirator. Oxysafe3 2013-10

CALIFORNIA PROPOSITION 65 WARNINGS

Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

This product contains chemicals, including lead, known to the state of California to cause cancer, birth defects, or other reproductive harm. *Wash hands after use.*

Fsafe4 2013-10

2. Safety Precautions – Read Before Using

Do not use this equipment unless you are trained in its proper use or are under competent supervision. Follow the procedures described in this booklet every time you use the equipment. Failure to follow these instructions may cause fire, explosion, asphyxiation, property damage, or personal injury. This equipment must be used in accordance with all Federal, State, and local regulations as well as DOT (Department of Transportation) and CGA (Compressed Gas Association) regulations. Contact your gas supplier for more information on the proper use of compressed gases.

Do not use this equipment with gases and pressures other than those for which it is intended. Inspect all equipment before use. Do not use damaged, defective, or improperly adjusted equipment. Do not use if grease or oil is present on equipment or if equipment is damaged. Have equipment cleaned/repaired by a qualified person.

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Use an approved oil-free leak detection fluid to locate possible leaks.

Check every connection and joint from the cylinder valve to the torch tip with an approved leak detection solution. If leaks are detected, eliminate them before proceeding. If leaks cannot be eliminated, do not put the equipment into service until it has been repaired or replaced.

Always purge gas from the system before lighting torch to prevent a possible mixed-gas explosion. Purge gas in a well ventilated area and away from flame or sparks.

3. Procedures For Cutting With 2-Hose And 3-Hose Machine Torches Using Acetylene Or Alternate Fuel Gases

⚠ **Do not use matches or a cigarette lighter to ignite the gas.**

☞ *Select a cutting tip to match the thickness of metal to be cut. Refer to the specification tables in the Safety Manual (OM–262 659).*

Insert the tip into the cutting torch and tighten firmly with a wrench (to seat the tip).

Set up and purge the equipment as instructed in the Safety Manual (OM-262 659).

☞ *Be sure to set the proper pressures for the tip being used, compensating for any obstructions to the gas flow (flashback arrestors, reverse flow check valves, hose splices, extended hose lengths).*

Close all valves on the torch.

Adjust cylinder regulators to the recommended pressures for the tip size. Refer to the specification tables in the Safety Manual (OM–262 659).

☞ *The preheat oxygen pressure for 3-hose machine torches will be adjusted separately as indicated in the tip tables (see OM-262 659).*

Open torch fuel gas valve 1/8 turn. Using an approved friction lighter, ignite the fuel gas. Adjust the flame until it just begins to leave end of tip.

Continue with procedures specific to the fuel gas being used.

Acetylene

Open the preheat oxygen valve until neutral flame is achieved

Readjust regulators to correct pressures when gases are flowing. If necessary, readjust preheat valves.

Lift cutting oxygen lever and inspect jet stream for straightness and and uniformity. If necessary, readjust regulator pressures and/or preheat valves.

Bring the torch to the metal for cutting, keeping a distance of 1/8in (3 mm) between metal and the preheat flames.

When the metal begins to turn red (approximately 1600º F / 871º C), lift oxygen cutting lever. This will inject pure oxygen onto the metal to do the burning or cutting.

Alternate Fuel Gases

Open preheat oxygen valve until preheat flame cones are at their shortest length.

Open torch fuel gas valve until one or two preheat cones leave end of tip.

Further open oxygen preheat valve until preheat flame cones are again reduced to shortest length. Readjust regulators to correct pressure when gases are flowing.

Lift cutting oxygen lever and inspect jet stream for straightness and and uniformity. If necessary, readjust regulator pressures and/or preheat valves.

Bring the torch to the metal, keeping a distance of 1/2–3/4 in. (13–19 mm) between metal and preheat cones.

When the metal begins to turn red (approximately 1600º F / 871º C), lift oxygen cutting lever. This will inject pure oxygen onto the metal to do the burning or cutting.

4. Extinguishing The Torch Flame After Cutting And Shutting Down The System

Extinguishing The Torch Flame

Depress oxygen lever (shut off oxygen cutting jet.)

Turn the fuel gas torch valve to the closed position.

Turn the oxygen preheat valve to the closed position.

Shutting Down The System

Rotate the oxygen cylinder valve (preheat and cutting oxygen valves for 3 hose machine torch) to the closed position.

Rotate the gas cylinder valve to the closed position.

Open oxygen torch valve (preheat and cutting oxygen valves for 3-hose machine torch) 1/2 turn. When the oxygen regulator low pressure gauge/s indicates zero (0), close the oxygen torch valve(s).

Open the fuel torch valve 1/2 turn.

When the fuel gas regulator low pressure gauge indicates zero (0), close the fuel gas torch valve.

Turn the oxygen (preheat and cutting oxygen on 3-hose machine torch) and fuel gas pressure adjusting handles counterclockwise until all spring load is released or the adjusting handle reaches the mechanical stop.