

Safety

Install pressure regulators on cylinders (or pipeline branch). Read and follow procedures in CONCOA manual "Safe Practices in Welding & Cutting," ADE 872, and torch and regulator instruction manuals.

Fuel Gas Supply

Proper operation requires sufficient fuel and pressure. Be sure available pressures and flows are as required in the operating manual. To provide adequate gas flows, use:

- Manifolds for cylinders where required.
- Regulators that provide required flow capacity.
- Hose size as recommended in operating manual.
- Minimum hose lengths with minimum couplings. Use RMA-CGA Grade T Hose for fuel gas (including acetylene) to prevent hose failure. Grades R and RM are for use with acetylene only.
- Fittings (and check valves) with minimum flow passage diameter of 1/4 in. for B size.

Ignition Procedure

1. Avoid ignition delays. Ensure sparklighter is in good working order.
2. Ignite with average fuel flow --- NO oxygen.
3. Increase fuel flow to maintain carburizing flame.
4. Carefully start oxygen flow and increase until flame goes from strongly carburizing to slightly carburizing.
5. For tips Size 10 and above, alternately repeat steps 3 and 4 until full flowrate is reached.
6. Trim flame to proper ratio by appearance (see guide for fuel being used).

To Prevent Tip Burnout

Keep the tip cool by using prescribed flowrates. Reducing flowrates or allowing flames to backwash over tip (by blind hole, etc.) will raise temperature. Severe back wash will burn tip.

WARNING

A flashback (oxygen-fuel mixture burning inside extension tube) can cause a severe burn hazard. To avoid injury in case of flashback, immediately close oxygen and (without delay) fuel valves tightly to extinguish flame. Do not touch mixer, extension tube or tip until they are cool.

Check Valves

Prevent the reverse flow of mixed gases, by using check valves on either regulator or torch, depending upon type of work and fuel gas in use. Regulator Check Valve 'B' size: 830-4199 (Oxy), 830-4200 (Fuel) Torch Check Valves 'B' size: 831-4146 (Oxy), 831-4138 (Fuel).

Flashback Arrestors

For maximum safety, use either regulator or torch mounted flashback arrestors, depending upon type of work and fuel gas in use.

For Efficient Low Cost Heating

1. Use proper size tip. A tip too small takes excessive time to reach desired temperature. A tip too large wastes fuel and oxygen without substantially reducing heating time. Make trial heats with different tips, comparing fuel consumption (CFH x elapsed time) to determine most economical tip.
2. Use the flowrate recommended in this guide. This rate gives the most efficient flame velocity, an important factor in transferring heat to the work. If heat is too small or too great, do not change flowrate, change to smaller or larger tip.

Visually Adjusting Flame

Experienced operators making frequent tip changes can take advantage of this simple method. See the recommended gas pressures and light torch as outlined above. When torch valves are wide open (1½ to 2 turns), alternately increase gas pressures on regulators until flame cone is of recommended length and ratio.

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Adjusting With Test Gauges

Install test gauges between hose and torch valves. Adjust delivery pressures as recommended in guide. Follow ignition procedure steps 1-4 and adjust delivery pressures while observing test gauges until recommended levels are reached.

NOTE: The regulator gauge will always show a higher pressure than the test gauges because of loss, or drag, in the hoses. A large disparity results from too small a diameter, too long a hose or old hose with too many splices.

Make final ratio adjustment while keeping recommended flame cone length and record regulator delivery pressures for future use. After shutdown, remove test gauges and reconnect hoses and check valves.

WARNING

Use in well-ventilated area. Operation in closed area can result in oxygen deficient atmosphere.

CAUTION

Acetylene should not be withdrawn at a rate of more than 1/10 of the cylinder capacity intermittent and 1/15 of capacity for continuous withdrawal. (CGA G1)

Fuel	Oxy. To Fuel Ratio	Torch Inlet Pressure (PSIG)												Primary Fuel Flow Rate (CFH)	Continuous Operation # of Cylinders
		850 Torch & Mixer Stock Numbers			850 Torch			400 Torch			400 Torch				
Acetylene	1.1:1	Fuel 10	Oxygen 12	Fuel 11	Oxygen 13	Fuel 10	Oxygen 14	Fuel 10.5	Oxygen 15	Fuel 18	Oxygen 18	1/2	50	1	
MAPP Gas	2.5:1	6	9	8	14	9	15	9	16	14	27	9/16	25	1	
Propane	4:1	7	10	5	10	7	14	7	14	9	20	1/2	15	1	
Natural Gas	2:1	1.5	3	2	3	2	8	2	8	2	9	1/4	15	1	

Regulator/Mounted		Regulator/Mounted		Torch Mounted	
Model 78 Resettable	801-0786 B Size (Oxy)	Model 53	801-0536 B Size (Oxy)	Model 460	801-1468 B Size (Oxy)
	801-0789 B Size (Fuel)		801-0539 B Size (Fuel)		801-1469 B Size (Fuel)
UL Listed	Meets OSHA Requirements	UL Listed	Meets OSHA Requirements	UL Listed	Meets OSHA Requirements

For Maximum Safety Use Flashback Arrestors

OPERATION DATA
Number of Heating Offices 7 • Drill Number 67
Minimum Hose Size I.D. 3/8 in. Length 25 feet
Sylve 759 Stock No. 810 0977

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Propane	4:1	7	10	5	10	7	14	7	14	9	20	1/2	15	1	
Natural Gas	2:1	1.5	3	2	3	2	8	2	8	2	9	1/4	15	1	

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CUSTOMER ASSISTANCE

In the event of equipment failure, call the CONCOA Customer Assistance Line: 1-800-225-0473. Please be prepared to provide the model number and serial number of the equipment involved, in addition to details regarding its application.



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