



ADI 1853-G

811-1913

811-2033

Size No. 13

SAFETY

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

FUEL GAS SUPPLY

To assure proper operation, check that there is ample fuel and that the available pressure is slightly higher than shown on operating data. To provide adequate gas flows, use:

- Manifolds for cylinders where required;
- Regulators that provide required flow capacity;
- Hose size as recommended in operating data;
- Minimum hose lengths with minimum couplings; and
- Fittings (and check valves) with a minimum flow passage diameter of ¼-inch for B size.

IGNITION PROCEDURE

1. Avoid ignition delays. Be sure you have a sparklighter in good working order.
2. Ignite with average fuel flow and NO oxygen.
3. Increase fuel flow substantially.
4. Carefully start oxygen flow and increase until flame goes from strongly carburizing to neutral.
5. For large tips, alternately repeat steps 3 and 4 until full flow rate 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 flow rates in guide. Reducing flow rates or allowing flames to backwash over tip (by blind hole, etc.) will raise temperature. Severe backwash 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 both torch valves to extinguish flame. Do not touch mixer, extension tube, or tip until they are cool.

FOR EFFICIENT LOW COST HEATING

1. Use proper size tip. Too small takes excessive time to reach desired temperature. 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 flow rate 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 flow rate, 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 pressure and light torch as outlined above. When torch valves are wide open (1½ to 2 turns), alternately increase gas pressure on delivery regulators until flame cone is in ratio and of recommended length.

ADJUSTING WITH TEST GAUGES

Install test gauges (stock numbers: 831-2840 for oxygen and 831-2841 for fuel) between hose and torch valves. Adjust delivery pressures as recommended in guide. Follow ignition procedure steps 1-4 and then adjust delivery pressures while observing test gauges until recommended levels are reached.

NOTE

The regulator gauges 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.



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OPERATING DATA

Number of Heating Orifices: 12 • Drill Number 54 • Minimum Hose Size 1.D for 25 feet length: 3/8
 Style 756 Stock Number 811-1913 • Style 757 Stock Number 811-2033

FUELS	OXY TO FUEL RATIO	TORCH INLET PRESSURE (PSIG) [†]		PRIMARY CONE LENGTH (inch)	FUEL FLOW RATE (CFH)	CONTINUOUS OPERATION [‡] (NUMBER OF CYLINDERS)
		STYLE 800 TORCH & 811-0899 MIXER ONLY				
		FUEL	OXY			
Acetylene*	1:1:1	10.5	20	1/2	230	4
MAPP® Gas/	2.5:1	10	35	3/4	150	4
Propylene	4:1	9	38	9/16	115	3
Propane	4:1	9	40	3/4	110	5
Natural Gas	2:1	9	38	3/4	210	Pipeline

*Acetylene is limited to 15 PSIG maximum. Withdrawal rate is limited to 10% of the cylinder contents for intermittent withdrawal and 6% for continuous use.
 †Torch pressure given as a guide to set regulator with the torch valves wide open. Set the oxygen:fuel ratio to neutral flame with primary cones is to length listed.
 ‡Use cylinders with manifold and comply with withdrawal limits.

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CAUTION

Use RMA-CGA grade T hose for all fuel gases to prevent hose failure. Use grades R and RM for acetylene only.

CHECK VALVES

Check valves prevent the reverse flow of mixed gas. Regulator Check Valve 'B' size: 830-4199 (Oxy), 830-4200 (Fuel) Torch Check Valves 'B' size: 831-4146 (Oxy), 831-4138 (Fuel)

Regulator Mounted Model 78 Resettable	Regulator Mounted Model 53	Torch Mounted Model 460
801-0786 'B' Size (Oxy)	801-0536 'B' Size (Oxy)	801-1466 'B' Size (Oxy)
801-0789 'B' Size (Fuel)	801-0539 'B' Size (Fuel)	801-1469 'B' Size (Fuel)
UL Listed	Meets OSHA Requirements	Comply with ISO 5175

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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