

ADI 1848-F CONCOA STYLE 759 #7 Heating Tip 8100977-00-1

### 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 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 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 -- NO oxygen.
- 3. Increase fuel flow to maintain carburizing flame.
- 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 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 oxygen and (without delay) fuel valves tightly to extinguish flame. Do not touch mixer, extension tube, or tip until they are cool.

#### FOR EFFICIENT LOW COST HEATING

- 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 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 of recommended length and ratio.

## ADJUSTING WITH TEST GAUGES

Install test gauges (stock numbers: 803-0503 for oxygen and 803-0504 for fuel) 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 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.



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- · 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 a minimum flow passage diameter of 1/4-inch for B size.

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- 2. Ignite with average fuel flow -- NO oxygen.
- 3. Increase fuel flow to maintain carburizing flame.
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## 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. (GGA G1)

Withdrawal rate is limited to 10% of the cylinder contents for intermittent withdrawal and 6% for continuous use. <sup>†</sup> Torch pressure is given as a guide to set regulator with the torch valves wide open. Set the oxygen:fuel ratio to neutral flame with primary cones to length listed. <sup>‡</sup> Use cylinders with manifold and comply with withdrawal limits.	Natural Gas	Propane	Propylene	Acetylene*		FUELS			Number of H	
re is limit re is give n:fuel rati s with mau	2:1	4:1	2.5:1	1.1:1		FUEL RATIO	7 <sup>7</sup> 0		eating Ori	#7 HE/
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for intermitt ne torch val- nes to lengtl limits.	2	7	9	10	FUEL	Mixer 8110881 or 8110890	STYLE 800 TORCH 8190800-01-1 with Mixer Listed Below	TORCH INLET PRESSURE (PSIG) <sup>†</sup>	Minimum H	DNCOA ST
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en.	1/4	1/2	9/16	1/2		LENGTH (inch)	CONE		3/16 in • Maxi	#7 HEATING TIP OPERATING DATA: CONCOA STYLE 759 PART NO. 8100977-00-1
for contir	15	15	25	50		RATE (CFH)	FUEL		mum Hos	0977-00-
nuous use.	_		1	1		CONTINUOUS	CYLINDERS		Number of Heating Orifices: 7 • Drill Number: 67 (ø.032") • Minimum Hose Size: ø3/16 in • Maximum Hose Length: 25 feet	1

### FLASHBACK ARRESTORS/CHECK VALVES Flashback arrestors with integral check valves prevent the

reverse flow of mixed gas and flame flashback into the gas supply lines.

For Regulators	Resettable for Regulators	For Torches
801-7003 "B" Size, Fuel 801-7004 "B" Size, Oxygen	801-7001 "B" Size, Fuel 801-7002 "B" Size, Oxygen	801-7007 "B" Size, Fuel 801-7008 "B" Size, Oxygen
Meets OSHA Requirer	nents Compl	ies 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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Number of He   FUELS   Acetylene*   Propylene   Propane	#7 HE eating Ori OXY TO FUEL RATIO 1.1:1 2.5:1 4:1	ATING TIP OPE       fices: 7 • Drill Nu       TOR       STYLE 800 TO       Mixer 8110899       FUEL     OXY       10     12       6     9       7     10	IP OPER       Drill Num       TORC       TORC       110899       0XY       12       9       10	ATING DATA: C hber: 67 (ø.032") H INLET PRESS CH 8190800-01-1 - Mixer 8110891 FUEL OXY 11 13 8 14 5 10	ATA: CC Ø.032")• PRESSL 000-01-1 wi 000-01-1 wi 110891 11 13 13 14	NG TIP OPERATING DATA: CONCOA STYLE 759TORCH INLET PRESSURE (PSIG)*TORCH 8190800-01-1 with Mixer Listed BelowSTYLE 800 TORCH 8190800-01-1 with Mixer Listed BelowINIXER 8110899Mixer 8110891Mixer 8110891Mixer 8110891R 110881 or 81108OUELOXYFUELOXY10121113101469814915710510714	NCOA STYLE 759 PA       linimum Hose Size: ø3       RE (PSIG)†       RE (PSIG)†       n Mixer Listed Below       Mixer       8110881 or 8110890       FUEL       0       10       14       7       14	#7 HEATING TIP OPERATING DATA: CONCOA STYLE 759 PART NO. 8100977-00-1ting Orifices: 7 · Drill Number: 67 (ø.032") · Minimum Hose Size: ø3/16 in · Maximum HoseTORCH INLET PRESSURE (PSIG)'PRIMARY OXYFUEL STYLE 800 TORCH 819080-01-1 with Mixer Listed BelowMixer 8110899Mixer 8110891Mixer Listed BelowPRIMARY CONE LENGTH RATE ATIOFUELOXYFUELOXFUELOXFUELOXFUELOX<	0977-00- mum Hos FUEL FLOW RATE (CFH) 50 25 15	#7 HEATING TIP OPERATING DATA: CONCOA STYLE 759 PART NO. 8100977-00-1       Number of Heating Orifices: 7 • Drill Number: 67 (Ø.032") • Minimum Hose Size: Ø3/16 in • Maximum Hose Length: 25 feet       OXY TO TO TO FUELS     TORCH INLET PRESSURE (PSIG)*       PRIMARY TO TO FUEL     STYLE 800 TORCH 819080-01-1 with Mixer Listed Below     PRIMARY CONE     FUEL CONE     PRIMARY FUEL     PRIMARY FUEL     NO. OF 100 LB CONE     NO. OF 100 LB CYLINDERS       Mixer 8110899     Mixer 8110891     PRIMARY B10881 or 8110890     PRIMARY CONE     NO. OF 100 LB CYLINDERS       Mixer 8110899     Mixer 8110891     PRIMARY B10081 or 8110890     PRIMARY CONE     NO. OF 100 LB CYLINDERS       FUEL     OXY     FUEL     OXY     PRIMARY CONE     NO. OF 100 LB CONE       FUEL     OXY     FUEL     OXY     PRIMARY CONTINUOUS CONTINUOUS       OXY     FUEL     OXY     1/2     50     1     1
	FUEL	Mixer 8	110899	Mixer 8	110891	0 1880118 110881	xer or 8110890	LENGTH (inch)	RATE (CFH)	CONTINUC
		FUEL	ОХҮ	FUEL	ΥХΟ	FUEL	ОХҮ			
Acetylene*	1.1:1	10	12	11	13	10	14	1/2	50	1
Propylene	2.5:1	6	9	8	14	9	15	9/16	25	1
Propane	4:1	7	10	5	10	7	14	1/2	15	1
Natural Gas	2:1	1.5	3	2	3	2	8	1/4	15	1
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