



OM-271257D

2018-01

Processes



Oxy-Fuel

Cutting
Heating
Welding

Tips

Cutting, Heating, Welding

Oxy-Propane
Oxy-Propylene
Oxy-Natural Gas



Protect yourself and others from injury – read and follow the safety precautions supplied with the equipment and in Gas Equipment Safety Manual 262 659 (available at MillerWelds.com).

POCKET GUIDE

File: Accessory



SAFETY PRECAUTIONS – READ BEFORE USING


- ⚠** Protect yourself and others from injury – read and follow the safety precautions supplied with the equipment and in Gas Equipment Safety Manual 262659 (available at MillerWelds.com).
 - ⚠** Do not use long gas hoses or hoses with multiple connections. Long hoses and multiple connections restrict gas flow and reduce gas pressure. These conditions can cause backfires and flashbacks, and reduce equipment efficiency.
 - ⚠** When required gas flow exceeds the recommended withdrawal rate from one cylinder, connect additional cylinders by means of a manifold to achieve the required flow rate.
 - ⚠** When using liquid oxygen, tips may require higher gas volume than is attainable from one cylinder. Use external evaporators or connect multiple cylinders by means of a manifold to achieve the required flow rate.
-  *Fuel gas withdrawal rates will vary with cylinder size, the amount of fuel remaining in the cylinder, and the cylinder temperature. The maximum continuous withdrawal rate for a 100 lb propane cylinder at 70 °F (21 °C) is 100 scfh (2832 lph). The maximum continuous withdrawal rate for a 100 lb propylene cylinder at 70 °F (21 °C) is 180 scfh (5097 lph). The maximum continuous withdrawal rate for a half-full 100 lb propane cylinder at 70 °F (21 °C) is 75 scfh (2124 lph). Loss of cylinder pressure will result if withdrawal rates are exceeded. High gas withdrawal rates may require cylinder manifolding. Contact your gas supplier for more information on the proper use of compressed gases.*

Table 1. SC40 Series Heavy-Duty Cutting Tips – Propane (Two Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size Cutting Jet
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			
	in.	mm	Reg.	Torch	Oxygen	Propane			Oxygen	Propane		
SC40-0	1/4	6	30	30	10†	10	.055	40	38	8	22	62
SC40-0	3/8	10	35	35	10†	10	.055	50	38	8	20	62
SC40-1	1/2	13	35	35	10†	10	.080	75	38	8	19	56
SC40-1	5/8	16	40	40	10†	10	.080	85	38	8	17	56
SC40-2	3/4	19	36	35	10†	10	.095	105	38	8	16	54
SC40-2	1	25	41	40	10†	10	.095	115	38	8	14	54
SC40-2	1-1/4	32	51	50	10†	10	.095	135	38	8	13	54
SC40-3	1-1/2	38	42	40	10†	10	.100	170	38	8	12	51
SC40-3	2	51	47	45	10†	10	.100	180	38	8	10	51
SC40-4	2-1/2	64	38	35	12†	10	.125	240	65	15	9	45
SC40-4	3	76	44	40	12†	10	.125	265	65	15	8	45
SC40-4	4	102	54	50	12†	10	.125	315	65	15	7	45

† Listed pressure for 3-hose machine cutting torches only.

Table 2. SC50 Series Heavy-Duty, Heavy-Preheat Cutting Tips – Propane (Two Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size Cutting Jet	Recm'd No. Of Cylinders*
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat				
	in.	mm	Reg.	Torch	Oxygen	Propane			Oxygen	Propane			
SC50-00	3/16	5	20	20	10†	10	.050	24	47	13	26	68	1
SC50-0	1/4	6	30	30	10†	10	.055	40	47	13	22	62	1
SC50-0	3/8	10	35	35	10†	10	.055	50	47	13	20	62	1
SC50-1	1/2	13	35	35	10†	10	.080	75	70	15	19	56	1
SC50-1	5/8	16	40	40	10†	10	.080	85	70	15	17	56	1
SC50-2	3/4	19	36	35	10†	10	.095	105	70	15	16	54	1
SC50-2	1	25	41	40	10†	10	.095	115	70	15	14	54	1
SC50-2	1-1/4	32	51	50	10†	10	.095	135	75	16	13	54	1
SC50-3	1-1/2	38	42	40	10†	10	.100	170	75	16	12	51	1
SC50-3	2	51	47	45	10†	10	.100	180	75	16	10	51	1
SC50-4	2-1/2	64	38	35	10†	10	.125	240	75	16	9	45	1
SC50-4	3	76	44	40	10†	10	.125	265	75	16	8	45	1
SC50-4	4	102	54	50	10†	10	.125	315	80	17	7	45	1
SC50-5	5	127	56	50	10†	10	.150	420	80	17	7	41	1
SC50-5	6	152	67	60	10†	10	.150	485	80	17	6	41	1
SC50-5	8	203	78	70	10†	10	.150	550	90	20	5	41	1
SC50-6	10	254	83	70	40†	10	.230	750	230	50	5	32	1
SC50-6	12	304	125	90	40†	12	.230	975	280	60	4.5	32	1
SC50-7	14	354	125	90	60†	20	.250	1250	330	62	4.0	28	1
SC50-8	16	406	125	90	60†	18	.300	1500	375	80	3.5	17	2
SC50-8	18	457	125	90	60†	20	.340	1800	400	85	3.5	17	2
SC50-9	20	508	125	90	60†	23	.350	2150	420	90	3.0	3	2

† Listed pressure for 3-hose machine cutting torches only.

* Cylinders required, based on 100 lb cylinders.

Table 3. SC50 Series Heavy-Duty, Heavy-Preheat Cutting Tips – Natural Gas (Two Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size Cutting Jet
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			
	in.	mm	Reg.	Torch	Oxygen	Natural Gas			Oxygen	Natural Gas		
SC50-00	3/16	5	20	20	6†	5	.050	24	58	36	26	68
SC50-0	1/4	6	30	30	6†	5	.055	40	62	38	22	62
SC50-0	3/8	10	35	35	6†	5	.055	50	62	38	20	62
SC50-1	1/2	13	35	35	8†	6	.080	75	70	40	19	56
SC50-1	5/8	16	40	40	8†	6	.080	85	70	40	17	56
SC50-2	3/4	19	36	35	8†	6	.095	105	70	40	16	54
SC50-2	1	25	41	40	8†	6	.095	115	70	40	14	54
SC50-2	1-1/4	32	51	50	8†	6	.095	135	70	40	13	54
SC50-3	1-1/2	38	42	40	8†	6	.100	170	70	40	12	51
SC50-3	2	51	47	45	8†	6	.100	180	70	40	10	51
SC50-4	2-1/2	64	38	35	8†	6	.125	240	75	45	9	45
SC50-4	3	76	44	40	8†	6	.125	265	75	45	8	45
SC50-4	4	102	54	50	8†	6	.125	315	75	45	7	45
SC50-5	5	127	56	50	8†	6	.150	420	82	50	7	41
SC50-5	6	152	67	60	8†	6	.150	485	82	50	6	41
SC50-5	8	203	78	70	8†	6	.150	550	82	50	5	41
SC50-6	10	254	83	70	10†	8	.230	750	120	75	5	32
SC50-6	12	304	125	90	15†	12	.230	975	165	100	4.5	32
SC50-7	14	354	125	90	20†	16	.250	1250	200	120	4	28
SC50-8	16	406	125	90	20†	18	.300	1500	220	135	3.5	17
SC50-8	18	457	125	90	25†	23	.340	1800	250	150	3.5	17
SC50-9	20	508	125	90	25†	23	.350	2150	250	150	3	3

† Listed pressure for 3-hose machine cutting torches only.

Table 4. SC46 Series Heavy-Duty Cutting Tips – Propane (One Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size	
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			Cutting Jet	Preheat
	in.	mm	Reg.	Torch	Oxygen	Propane			Oxygen	Propane			
SC46-2	3/4	19	36	35	20†	10	.095	105	70	15	16	54	56
SC46-2	1	25	41	40	20†	10	.095	115	70	15	14	54	56
SC46-2	1-1/4	32	51	50	20†	10	.095	135	70	15	13	54	56
SC46-4	2-1/2	64	38	35	20†	10	.125	240	70	15	9	45	56
SC46-4	3	76	44	40	20†	10	.125	265	70	15	8	45	56
SC46-4	4	102	54	50	20†	10	.150	315	70	15	7	45	56
SC46-5	5	127	56	50	20†	10	.150	420	105	22	7	41	54
SC46-5	6	152	67	60	20†	10	.150	485	105	22	6	41	54
SC46-5	8	203	78	70	20†	10	.150	550	105	22	5	41	54
SC46-6	10	254	83	70	20†	12	.200	750	105	22	5	32	54
SC46-6	12	305	125	90	20†	12	.230	975	105	22	4.5	32	54

† Listed pressure for 3-hose machine cutting torches only.

Table 5. SC46 Series Heavy-Duty Cutting Tips – Natural Gas (One Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size	
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			Cutting Jet	Preheat
	in.	mm	Reg.	Torch	Oxygen	Natural Gas			Oxygen	Nat. Gas			
SC46-2	3/4	19	36	35	20†	10	.095	105	70	41	16	54	56
SC46-2	1	25	41	40	20†	10	.095	115	70	41	14	54	56
SC46-2	1-1/4	32	51	50	20†	10	.095	135	70	41	13	54	56
SC46-4	2-1/2	64	38	35	20†	10	.125	240	70	41	9	45	56
SC46-4	3	76	44	40	20†	10	.125	265	70	41	8	45	56
SC46-4	4	102	54	50	20†	10	.150	315	70	41	7	45	56
SC46-5	5	127	56	50	20†	10	.150	420	90	52	7	41	54
SC46-5	6	152	67	60	20†	10	.150	485	90	52	6	41	54
SC46-5	8	203	78	70	20†	10	.150	550	90	52	5	41	54
SC46-6	10	254	83	70	20†	12	.200	750	90	52	5	32	54
SC46-6	12	305	125	90	20†	12	.230	975	90	52	4.5	32	54

† Listed pressure for 3-hose machine cutting torches only.

Table 6. SC60 Series Heavy-Duty Cutting Tips – Propylene (Two Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size Cutting Jet
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			
	in.	mm	Reg.	Torch	Oxygen	Propylene			Oxygen	Propylene		
SC60-0	1/4	6	30	30	10†	10	.053	40	38	9	22	62
SC60-0	3/8	10	35	35	10†	10	.055	50	38	9	20	62
SC60-1	1/2	13	35	35	10†	10	.080	75	38	9	19	56
SC60-1	5/8	16	40	40	10†	10	.080	85	38	9	17	56
SC60-2	3/4	19	36	35	10†	10	.095	105	38	9	16	54
SC60-2	1	25	41	40	10†	10	.095	115	38	9	14	54
SC60-2	1-1/4	32	51	50	10†	10	.095	135	38	9	13	54
SC60-3	1-1/2	38	42	40	10†	10	.100	170	38	9	12	51
SC60-3	2	51	47	45	10†	10	.100	180	38	9	10	51
SC60-4	2-1/2	64	38	35	12†	10	.125	240	58	15	9	45
SC60-4	3	76	44	40	12†	10	.125	265	58	15	8	45
SC60-4	4	102	54	50	12†	10	.125	315	58	15	7	45
SC60-5	5	127	56	50	12†	10	.150	420	58	15	7	41
SC60-5	6	153	67	60	12†	10	.150	485	58	15	6	41
SC60-5	8	203	78	70	12†	10	.150	550	58	15	5	41
SC60-6	10	254	83	70	12†	10	.230	750	58	15	5	32
SC60-6	12	305	125	90	12†	10	.230	975	58	15	4.5	32

† Listed pressure for 3-hose machine cutting torches only.

Table 7. SC36 Series Heavy-Duty Cutting Tips – Propylene (One Piece)

Tip Number	Metal Thickness		Pressure – psig				Kerf Width	Consumption – scfh			Speed IPM	Drill Size	
			Cutting Oxygen		Preheat			Cutting Oxygen	Preheat			Cutting Jet	Preheat
	in.	mm	Reg.	Torch	Oxygen	Propylene			Oxygen	Propylene			
SC36-1	1/2	13	35	35	20†	10	.080	75	70	15	19	56	56
SC36-1	5/8	16	40	40	20†	10	.080	85	70	15	17	56	56
SC36-2	3/4	19	36	35	20†	10	.095	105	70	15	16	54	56
SC36-2	1	25	41	40	20†	10	.095	115	70	15	14	54	56
SC36-2	1-1/4	32	51	50	20†	10	.095	135	70	15	13	54	56
SC36-3	1-1/2	38	42	40	20†	10	.100	170	70	15	12	51	56
SC36-3	2	51	47	45	20†	10	.125	180	70	15	10	51	56
SC36-4	2-1/2	64	38	35	20†	10	.125	240	70	15	9	45	56
SC36-4	3	76	44	40	20†	10	.125	265	70	15	8	45	56
SC36-4	4	102	54	50	20†	10	.150	315	70	15	7	45	56
SC36-6	10	254	83	70	20†	12	.200	750	105	22	5	32	54
SC36-6	12	305	125	90	20†	12	.230	975	105	22	4.5	32	54

† Listed pressure for 3-hose machine cutting torches only.

Table 8. SC Series Heavy-Duty Special Purpose Tips – Propane/Propylene

Tip Number	Purpose	Capacity (Width x Depth)		Fuel Gas	Pressure – psig		Consumption – scfh		Oxygen Drill Size	Fuel Gas Configuration	Recm'd No. Of Cylinders**
		in.	mm		Oxygen	Fuel Gas	Oxygen	Fuel Gas			
SC2-2	Gouging (General)	5/16 x 1/8	8 x 3	Propane	60	22	389	53	53 31	Slots	1
SC2-4	Gouging (General)	3/8 x 1/4	10 x 6	Propane	75	22	564	53	44 28	Slots	1
SC112*	Heating	289,000 BTUs	N/A	Propane	60	25	495	125	N/A	Slots	2
SC23-3	Gouging (Heavy)	3/8 x 1/4	10 x 6	Propane	50–60	12–18	174	31	50 29	Slots	1
SC23-3M	Gouging	3/8 x 1/4	10 x 6	Propylene	50–60	10–15	174	31	50 29	Slots	1

* Use with hand (straight) torches only. Do not use in cutting attachments.

** Cylinders required, based on 100 lb cylinders.

Table 9. MC40 Series Medium-Duty Cutting Tips – Propane (Two Piece)

Tip Number	Metal Thickness		Pressure – psig		Kerf Width	Consumption – scfh			Drill Size Cutting Jet
						Cutting Oxygen	Preheat		
	in.	mm	Oxygen	Propane			Oxygen	Propane	
MC40-00	3/16	5	30*	10	.050	24	35	7	68
MC40-0	1/4	6	35*	10	.055	40	35	7	62
MC40-0	3/8	10	40*	10	.055	46	35	7	62
MC40-1	1/2	13	45*	10	.080	75	35	7	55
MC40-1	5/8	16	50*	10	.080	81	35	7	55
MC40-2	3/4	19	50*	10	.095	107	35	7	54
MC40-2	1	25	55*	10	.095	118	35	7	54
MC40-2	1-1/4	32	60*	10	.095	133	35	7	54
MC40-3	1-1/2	38	55*	10	.100	170	35	7	51
MC40-3	2	51	60*	10	.100	181	35	7	51
MC40-4	2-1/2	64	65*	10	.125	249	35	7	51
MC40-4	3	76	70*	10	.125	267	35	7	51
MC40-4	4	102	75*	10	.125	320	35	7	51

* Increase pressure 10–15 psig when using AC305 or AC309 cutting attachment.

Table 10. MC60 Series Medium-Duty Cutting Tips – Propylene (Two Piece)

Tip Number	Metal Thickness		Pressure – psig		Kerf Width	Consumption – scfh			Drill Size Cutting Jet
						Cutting Oxygen	Preheat		
	in.	mm	Oxygen	Propylene			Oxygen	Propylene	
MC60-0	1/4	6	35*	10	.055	40	26	7	62
MC60-0	3/8	10	40*	10	.055	46	26	7	62
MC60-1	1/2	13	45*	10	.080	75	26	7	55
MC60-1	5/8	16	50*	10	.080	81	26	7	55
MC60-2	3/4	19	50*	10	.095	107	26	7	54
MC60-2	1	25	55*	10	.095	118	26	7	54
MC60-2	1-1/4	32	60*	10	.095	133	26	7	54
MC60-3	1-1/2	38	55*	10	.100	170	42	11	51
MC60-3	2	51	60*	10	.100	181	42	11	51
MC60-4	2-1/2	64	65*	10	.125	249	42	11	45
MC60-4	3	76	70*	10	.125	267	42	11	45
MC60-4	4	102	75*	10	.125	320	42	11	45

* Increase pressure 10–15 psig when using AC305 or AC309 cutting attachment.

Table 11. Heavy-Duty Heating Tips -Propane/Propylene

Stock Number	No. Of Flames	Uses	Pressure – psig		Consumption – scfh		Average BTU/Hr	Recm'd No. Of Cylinders*	Overall Length		Head Part No.
			Oxygen	Fuel Gas	Oxygen	Fuel Gas			in.	mm	
ST800	Fluted	Propane	30–40	20–25	107–108	22–24	58,000	1	15-1/2	394	16317
		Propylene	30–40	20–25	118–138	31–34	75,000	1			
ST815	Fluted	Propylene	37–77	13–37	390–655	120–235	273,000	1–2	15-1/2	394	4642
ST825	Fluted	Propylene	60–110	20–35	580–1500	225–525	830,000	2–5	31	787	4639

* Cylinders required, based on 100 lb cylinders.

Table 12. Heavy-Duty Heating Tips – Natural Gas/Propane

Stock Number	No. Of Flames	Uses	Pressure – psig		Consumption – scfh		Average BTU/Hr	Recm'd No. Of Cylinders*	Overall Length		Head Part No.
			Oxygen	Fuel Gas	Oxygen	Fuel Gas			in.	mm	
ST615	Fluted	Propane	23–65	10–28	225–535	70–160	244,000	1–2	15-1/2	394	1495
		Natural Gas	18–55	10–28	175–450	96–267	155,145	N/a			
ST625	Fluted	Propane	50–110	17–28	480–1000	140–280	455,000	2–3	31	787	1504
		Natural Gas	43–80	18–28	390–785	200–450	313,950	n/a			
ST635		Propane	70–115	18–40	670–1580	185–480	614,195	2–5	31	787	1499

* Cylinders required, based on 100 lb cylinders.

Table 13. Medium-Duty Heating Tips – Propane/Propylene/Natural Gas

Stock Number	No. Of Flames	Uses	Pressure – psig		Consumption – scfh		Average BTU/Hr	Fuel Cylinders Required*	Overall Length		Head Part No.
			Oxygen	Fuel Gas	Oxygen	Fuel Gas			in.	mm	
MT800	Fluted	Propylene	30–40	20–25	135–146	51–56	123,000	1	14	356	16317
		Propane	30–40	20–25	119–121	36–38	93,000	1			
MT805	Fluted	Propylene	50–60	20–25	242–270	120–135	280,000	1	14	356	4642
MT615	Fluted	Propane	20–60	10–25	225–535	70–160	269,000	1–2	14	356	1495
		Natural Gas	15–50	10–25	175–450	96–267	182,000	N/a			

* Cylinders required, based on 100 lb cylinders.

Table 14. Brazing Tips

Tip Number	Welding Range		Pressure – psig		Consumption – scfh	
	in.	mm	Oxygen	Propane	Oxygen	Propane
MW411	1/2–5/8	13–16	11	11	52	13



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