more detrimental to the consumables than making a continuous cut.

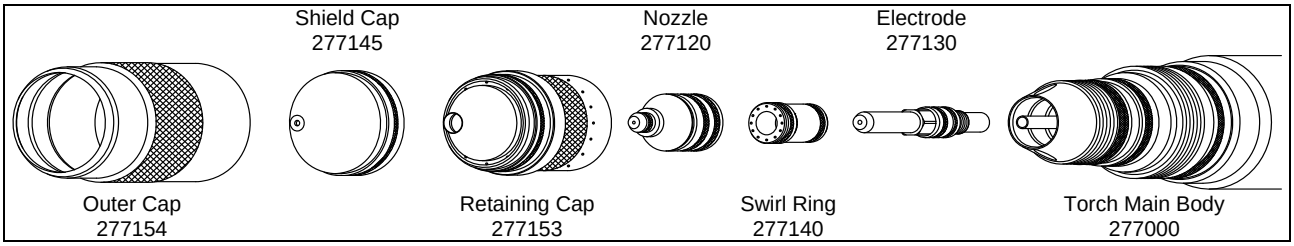
6. Always use the error tracking feature on the automatic gas console to keep track of cut errors. See Section 5 for information on the error tracking feature.

Cutting Charts

The cutting charts shown on the following pages are intended to give the operator the best starting point to use when making a cut on a particular material type and thickness. Small adjustments may have to be made to achieve the best cut. Also, remember that the arc voltage must be increased as the electrode wears in order to maintain the correct cutting height.

Cutting Chart Index

Mild Steel
30 Amps – Oxygen Plasma / Oxygen Shield



Imperial

Material Thickness (ga)	Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
20	.036	35	85	6	84	120	105	.080	.110	100	.062
18	.048					121	97	.090			
16	.060					125	78	.105			.065
14	.075					126	65				
12	.105					127	55				.070
11	.120					129	50	.120	.125		
10	.135					131	40				

Metric

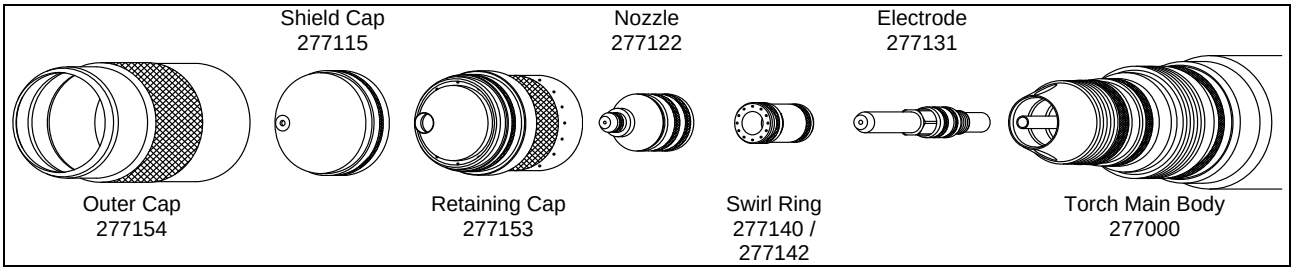
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
1	35	85	6	84	120	2615	2.0	2.8	100	1.6
1.5					124	2020	2.6			1.7
2					126	1615	2.7			
2.5						1455				1.8
3					128	1285	2.9	3.1		

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.177	4.5	.100	2.5	0

1. Revised on 7/2/07

Mild Steel
50 Amps – Oxygen Plasma / Oxygen or Air Shield



Imperial

Material Thickness (ga)	Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140											
12	.105	25	74	12	73	123	70	.120	.135	100	.075
11	.120					126	60	.125			.078
10	.135					128	50	.135			
Hot-Rolled Steel – Air Shield – Swirl Ring 277142											
14	.075	25	74	19	73	106	200	.100	.135	100	.075
12	.105						190				
	.125						180				.080
10	.135					110	170	.110			
	3/16					113	105	.140	.145	200	.085
	1/4					117	75		.165	250	.087

Metric

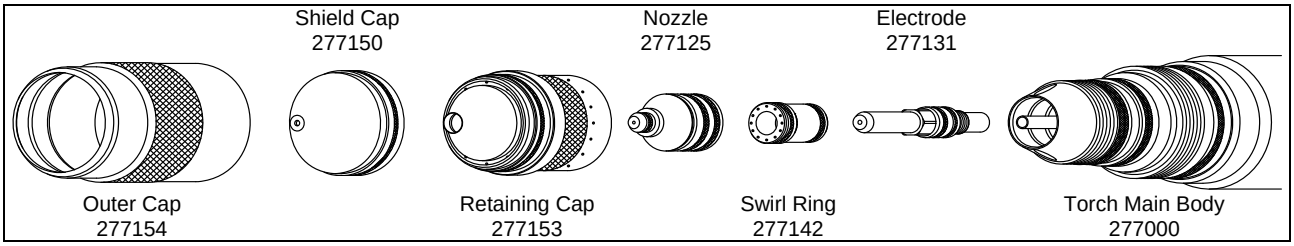
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140										
2.5	25	74	12	73	121	1895	2.9	3.4	100	1.9
3					125	1555	3.1			2.0
Hot-Rolled Steel – Air Shield – Swirl Ring 277142										
2.5	25	74	19	73	106	4885	2.5	3.4	100	1.9
3						4660				2.0
5					113	2555	3.6	3.7	250	2.2
6					116	2075		4.0		

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.147	3.7	.100	2.5	0

1. Revised on 8/30/07

Mild Steel
70 Amps – Oxygen Plasma / Air Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/8	25	80	35	79	110	190	.100	.100	100	.080
3/16			25		113	130				
1/4					116	120	.110	.125	200	.085
3/8					122	75	.140	.150	250	

Metric

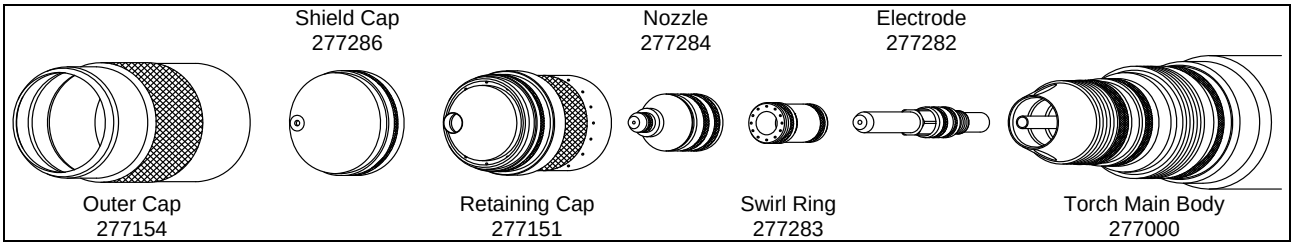
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
3	25	80	35	79	109	4995	2.5	2.5	100	2.0
5			25		113	3265		2.6	200	
6					115	3105	2.7	3.0		2.2

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.096	2.4	.100	2.5	0

1. Revised on 7/2/07

Mild Steel
100 Amps – Oxygen Plasma / Air Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	26	93	125	150	.090	.125	150	.090
3/8					130	100	.130	.175	200	
1/2						65	.155	.200	400	
5/8					143	47	.185		600	.095
3/4					145	35			900	

Metric

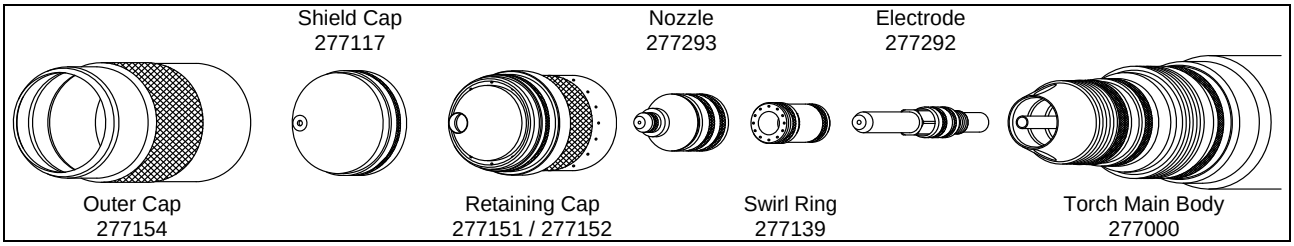
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	26	93	124	3950	2.1	3.0	150	2.3
10					130	2405	3.3	4.5	400	
12						1850	3.7	4.9		
16					143	1180	4.7	5.1	900	2.4
20					145	800				

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	130	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Mild Steel
150 Amps – Oxygen Plasma / Air Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
Retaining Cap 277151										
1/4	20	74	30	67	118	165	.105	.200	300	.125
3/8					123	125	.135	.225	400	
1/2					125	90	.140	.250		.130
Retaining Cap 277152										
5/8	20	74	45	67	127	70	.140	.275	600	.130
3/4					130	55		.300	900	.135
1					134	40	.150		1200	.140
1.25 **					145	25	.200		500	
1.5 **					155	15	.225			

** Edge start or moving pierce recommended

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
Retaining Cap 277151										
6	20	74	30	67	117	4305	2.6	5.0	300	3.2
10					123	3040	3.4	5.8	400	
12					124	2485	3.5	6.2		3.3
Retaining Cap 277152										
16	20	74	45	67	127	1760	3.6	7.0	900	3.3
20					130	1340		7.6	1200	3.4
25					133	1040	3.7			3.6
32 **					145	625	5.1		500	
38 **					154	385	5.6			

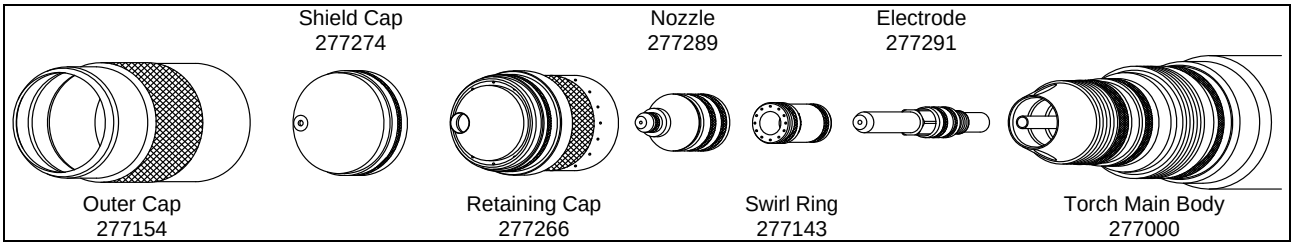
** Edge start or moving pierce recommended

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Mild Steel
200 Amps – Oxygen Plasma / Air Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	75	125	230	.040	.200	300	.150
3/8					130	140	.090	.225		
1/2					133	120	.115	.250	500	
5/8					137	100	.130			.152
3/4					140	75	.150	.300	700	.153
1					147	50	.175		1000	.155
1.25					155	25	.240	.350	1400	
1.5 **					165	17	.300	.300	400	158
1.75 **					175	12	.350			
2.0 **					185	7	.500			.160

** Edge start or moving pierce recommended

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	75	124	6100	.8	5.0	300	3.8
10					130	3480	2.3	5.8	500	
12					132	3160	2.7	6.2		
16					137	2515	3.3	6.4	700	3.9
20					141	1810	3.8	7.6	1000	
25					146	1310	4.3			
32					155	610	6.1	8.9	1400	
38 **					164	435	7.5	7.6	400	4.0
45 **					175	295	9.2			
50 **					183	195	12.2			4.1

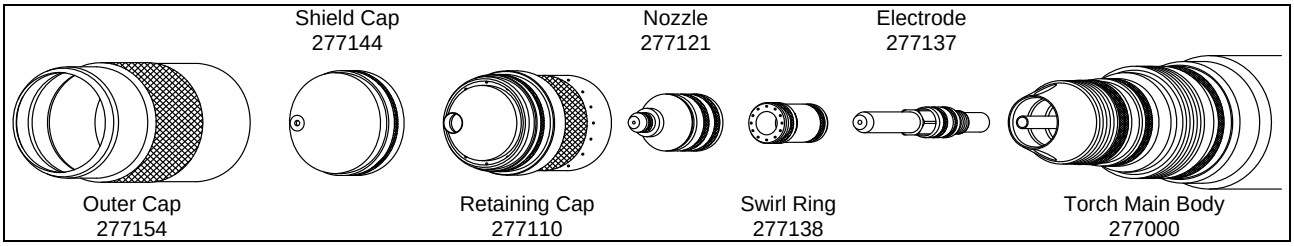
** Edge start or moving pierce recommended

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	120	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
30 Amps – Air Plasma / Air Shield



Imperial

Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
20	.036	30	80	30	80	71	200	.020	.050	100	.065
18	.048						165	.035			
16	.060					74	125				.068
14	.075					75	90	.025			.070

Metric

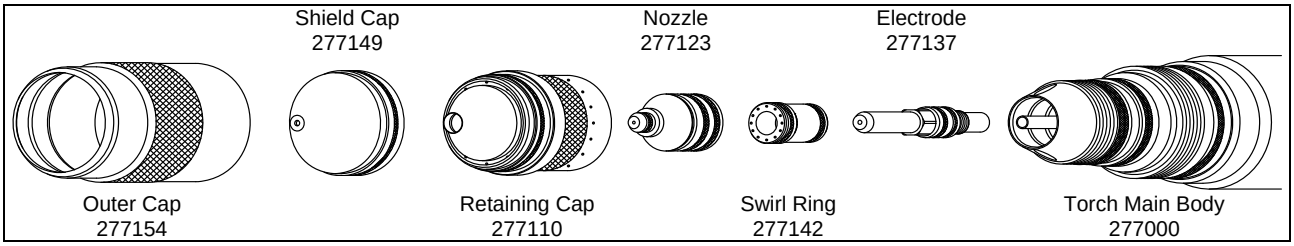
Material Thickness	Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
1	30	80	30	80	71	4855	0.6	1.3	100	1.7
1.5					73	3260	0.9			

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Motion Delay
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.177	4.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
50 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (ga)	Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
14	.075	30	70	40	70	87	105	.035	.060	100	.105
12	.105					88	75				
11	.120					89	65				
10	.135					90	55				.110
	3/16					94	50	.040	.075	200	
	1/4					100	40	.060	.085	300	.115

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
2	30	70	40	70	87	2565	.9	1.5	100	2.7
2.5						2080				
3					88	1685				
5					94	1235	1.0	1.9	300	2.8
6					98	1075	1.3	2.1		2.9

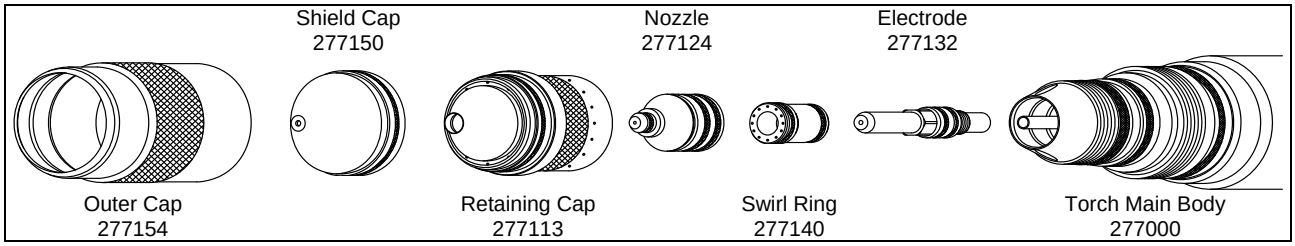
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.147	3.7	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
70 Amps – H17 Plasma / Nitrogen Shield

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/16	35	60	36	13	135	80	.100	.200	200	.090

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
5	35	60	36	13	135	2030	2.5	5.1	200	2.3

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

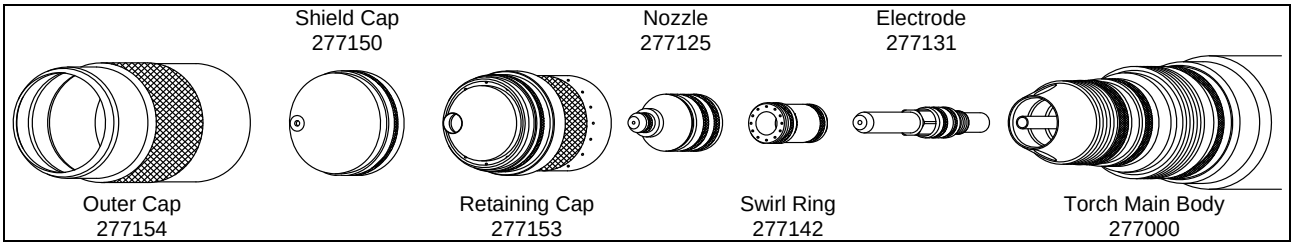
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.096	2.4	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
70 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (ga)	Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
10	.135	25	80	25	79	132	120	.060	.150	200	.085
	3/16					134	100	.070	.175		
	1/4					140	75	.090	.200	300	.090
	3/8					148	50	.120	.225	450	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
3	25	80	25	79	131	3210	1.4	3.6	200	2.2
5					134	2445	1.8	4.5	300	
6					138	2050	2.1	4.9		2.3

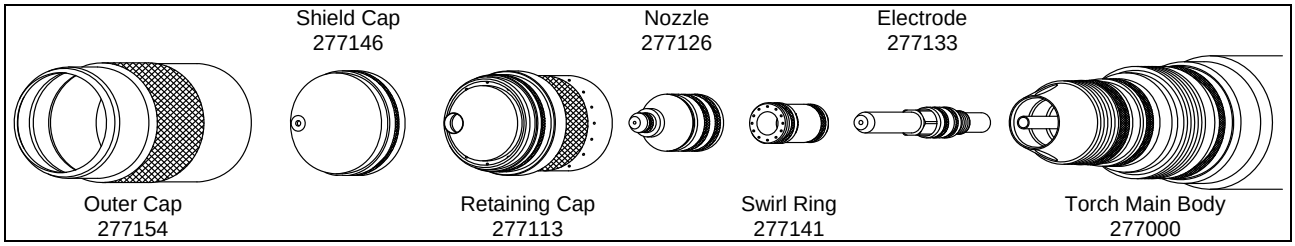
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.096	2.4	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
100 Amps – H17 Plasma / Nitrogen Shield

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/16	28	67	46	67	138	115	.105	.200	200	.100
1/4					140	100	.125	.225	300	.105
3/8					152	65	.180	.250	400	

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
5	28	67	46	67	138	2865	2.7	5.1	300	2.5
6					139	2625	3.0	5.5		2.7

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

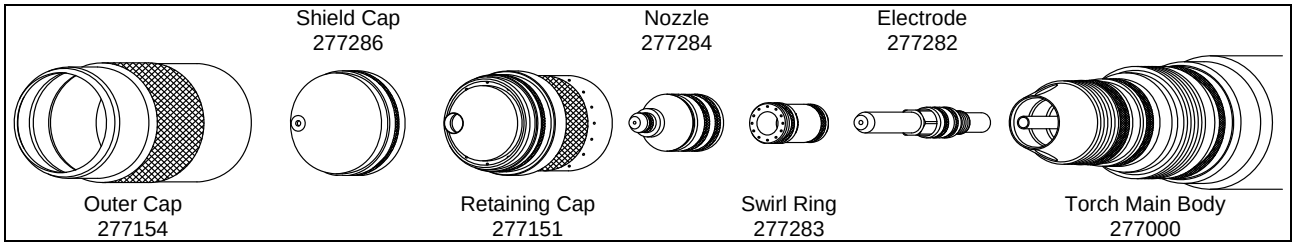
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	130	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
100 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	35	93	141	100	.135	.200	250	.092
3/8					147	80	.170	.225	350	.095
1/2					154	55	.210	.250	450	

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	35	93	140	2595	3.2	5.0	250	2.3
10					148	1935	4.4	5.8	450	2.4
12					152	1540	5.0	6.2		

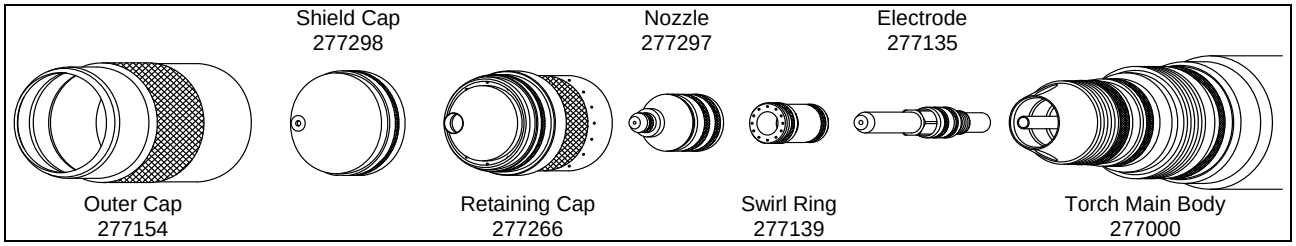
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	130	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
150 Amps – H17 Plasma / Nitrogen Shield

This gas combination gives the best cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	81	75	81	165	95	.250	.250	400	.135
3/8					155	75	.150	.275	500	
1/2						60	.165		600	.140
5/8						50	.185	.300	800	
3/4					165	40	.250		1000	.145

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	25	81	75	81	155	1845	3.8	7.0	600	3.4
12						1610	4.1			3.6
16						1260	4.7	7.6	1000	
20					167	940	6.9			3.7

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

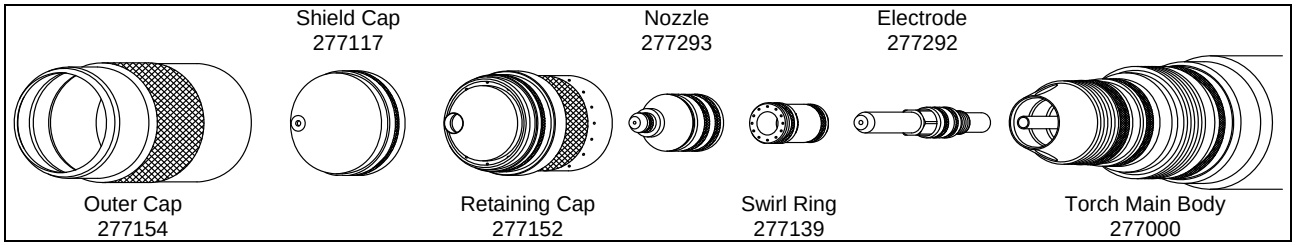
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
150 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	75	70	67	145	150	.160	.225	400	.125
3/8					150	115	.180	.275	500	
1/2					155	85	.210		600	.130
5/8					160	60	.220	.300	800	
3/4					168	45	.240		1000	.135

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	75	70	67	144	3910	4.0	5.5	400	3.2
10					150	2805	4.7	7.0	600	
12					153	2330	5.1			3.3
16					160	1510	5.6	7.6	1000	
20					170	1030	6.2			3.4

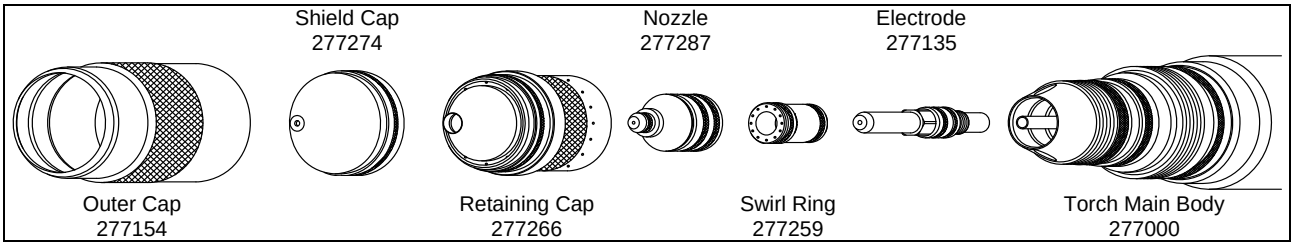
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
200 Amps – H17 Plasma / Nitrogen Shield

This gas combination gives the good cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/8	37	68	85	68	156	80	.195	.250	300	.150
1/2					148	75	.130	.275	500	
5/8					155	60	.190		700	.155
3/4					160	50	.200	.300	900	
1.0					170	35	.240	.325	1300	.160

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	37	68	85	68	154	2010	4.7	6.4	500	3.8
12					149	1935	3.6	6.8		
16					155	1515	4.8	7.0	900	3.9
20					161	1215	5.2	7.7	1300	
25					169	915	6.0	8.2		4.1

* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

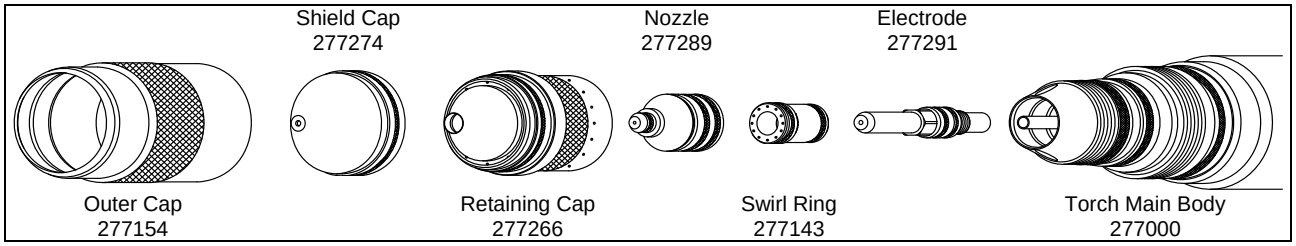
Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	120	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Stainless Steel
200 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	75	130	200	.070	.200	200	.150
3/8					133	150		.225	300	
1/2					140	110	.115	.250		.152
5/8					146	75	.150	.300	600	.155
3/4					153	60	.190		800	
1.0					158	40	.210	.325	1200	.160
1.25 **					170	20	.250		300	.165
1.5 **					180	10	.275			.175

** Edge start or moving pierce recommended

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	75	129	5220	1.8	5.0	200	3.8
10					134	3655	1.9	5.8	300	
12					138	3020	2.6	6.2		3.9
16					146	1890	3.8	7.6	800	
20					153	1450	4.8	7.7	1200	
25					157	1050	5.2	8.2		4.1
32 **					170	495	6.4	8.3	300	4.2
38 **					179	260	6.9			4.4

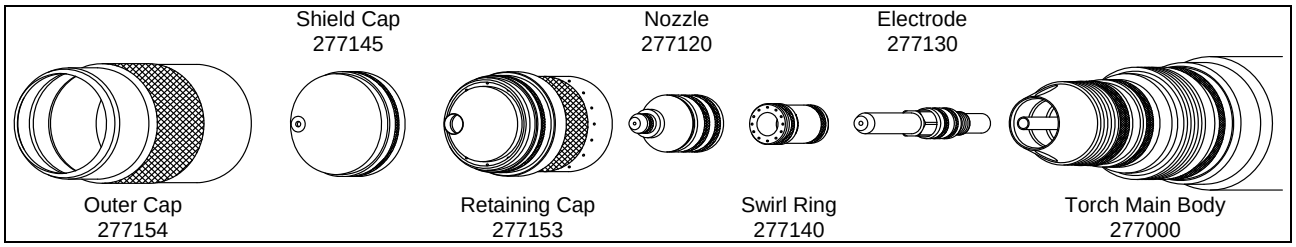
** Edge start or moving pierce recommended

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	120	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Aluminum
30 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
.040	30	92	20	90	135	150	.030	.065	100	.065
.050						120		.075		
.063						90		.085		.070

Metric

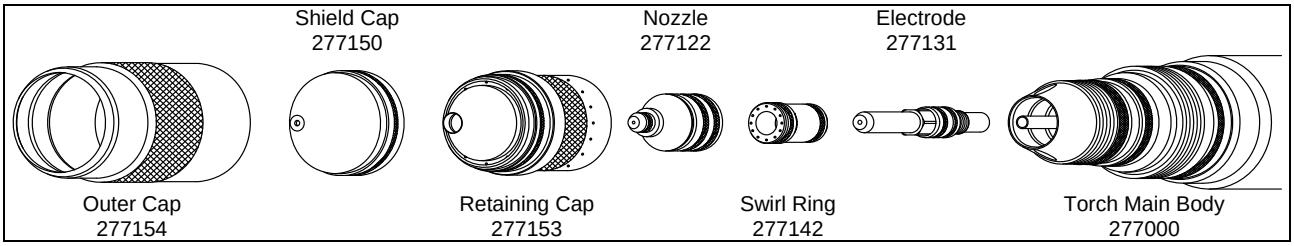
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
1	30	92	20	90	135	3885	0.8	1.6	100	1.7
1.5					135	2520		2.1		1.8

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.177	4.5	.100	2.5	0

1. Revised on 7/2/07

Aluminum
50 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
.050	25	74	19	73	135	180	.050	.100	100	.080
.063					138	140	.065			.082
.080					143	90	.075			.085

Metric

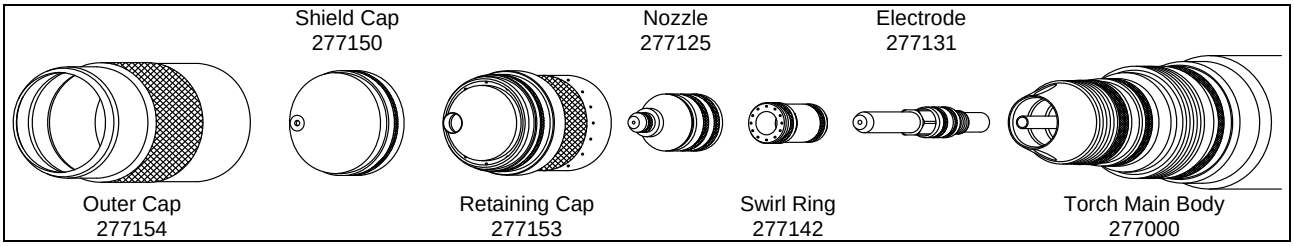
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
1.5	25	74	19	73	137	3870	1.5	2.5	100	2.1
2.0					142	2360	1.8			2.2

Marking

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Motion Delay
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)
All Thicknesses			N/A	28	28	N/A	145	250	6350	.147	3.7	.100	2.5	0

1. Revised on 7/2/07

Aluminum
70 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
.080	25	80	25	79	130	250	.050	.100	100	.080
1/8					135	160	.070			
3/16					145	80	.100	.125		.085
1/4					150	50	.060	.150	200	
3/8					155	40	.075	.175	300	.090
1/2					162	30	.115	.200	400	

Metric

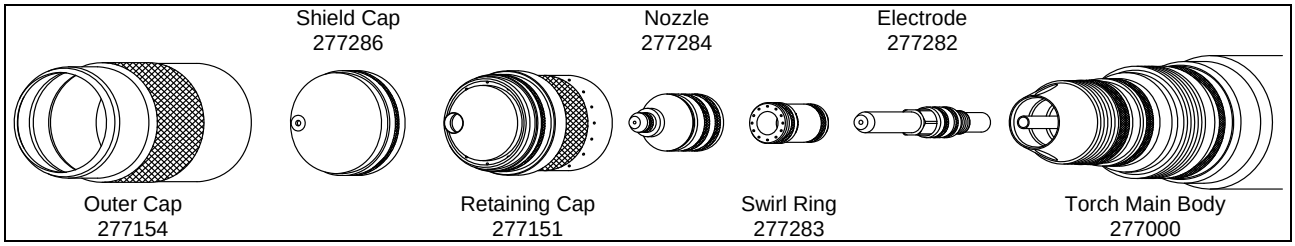
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
2	25	80	25	79	129	6400	1.2	2.5	100	2.0
3					134	4420	1.7			
5					145	1920	2.3	3.2	200	2.2
6					148	1440	1.7	3.6		
10					156	975	2.0	4.5	400	2.3
12					160	820	2.6	4.9		

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.096	2.4	.100	2.5	0

1. Revised on 7/2/07

Aluminum
100 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	26	93	145	105	.155	.200	200	.095
3/8					156	90	.180	.250	300	.098
1/2					157	70	.195	.275	400	.100

Metric

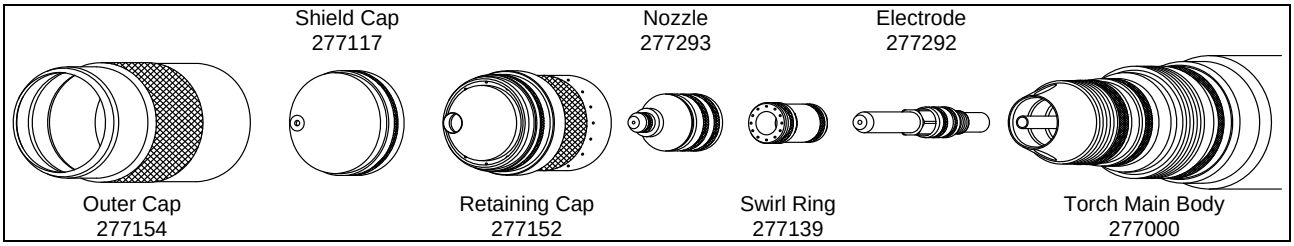
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	26	93	143	2710	3.8	4.9	200	2.4
10					156	2210	4.6	6.4	400	2.5
12					156	1890	4.9	6.8		

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	130	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Aluminum
150 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	75	50	67	145	145	.130	.225	400	.125
3/8					155	115	.185	.275	500	
1/2					165	90	.230		600	.130
5/8					170	65	.250		800	.135
3/4						45		.325	1000	.140

Metric

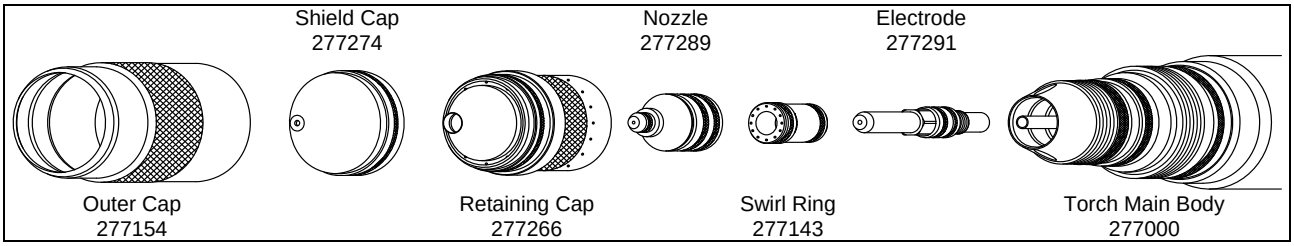
Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	75	50	67	143	3770	3.1	5.5	400	3.2
10					156	2825	4.8	7.0	600	
12					162	2430	5.5			3.3
16					170	1630	6.4		1000	3.4
20					170	990		8.6		3.6

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	135	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07

Aluminum
200 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	75	150	190	.135	.200	200	.150
3/8					155	145	.140	.250	300	
1/2						110	.135	.300	400	.155
5/8					160	95			500	
3/4						65	.150	.350	600	.160
1.0 **					175	35	.200		400	.170

** Edge start or moving pierce recommended

Metric

Material Thickness (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	75	149	4955	3.3	4.9	200	3.8
10					155	3545	3.5	6.5	400	
12						2995	3.4	7.3		3.9
16					160	2380		7.6	600	
20					162	1575	3.9	8.9		4.1
25 **					174	940	5.0		400	4.3

** Edge start or moving pierce recommended

Marking

Material Thickness (ga)	(in)	(mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed (ipm)	(mm/min)	Marking Height (in)	(mm)	Initial Height (in)	(mm)	Motion Delay (msec)
All Thicknesses			N/A	28	28	N/A	120	250	6350	.100	2.5	.100	2.5	0

1. Revised on 7/2/07