

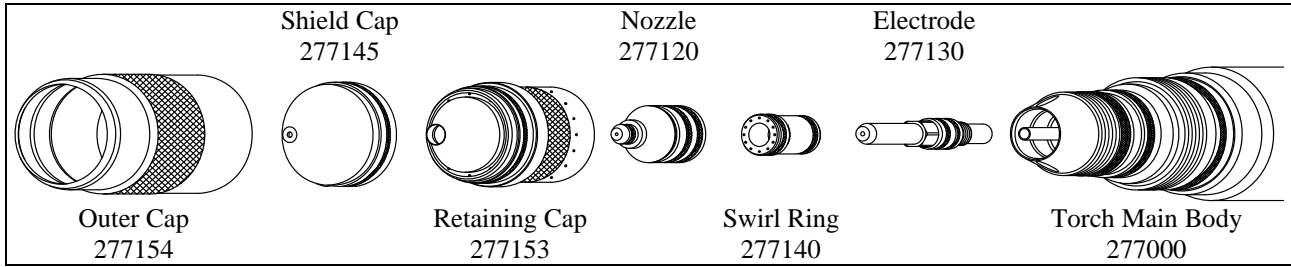
Cutting Charts

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.

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**Mild Steel - Cutting
30 Amps – Oxygen Plasma / Oxygen Shield**



Imperial

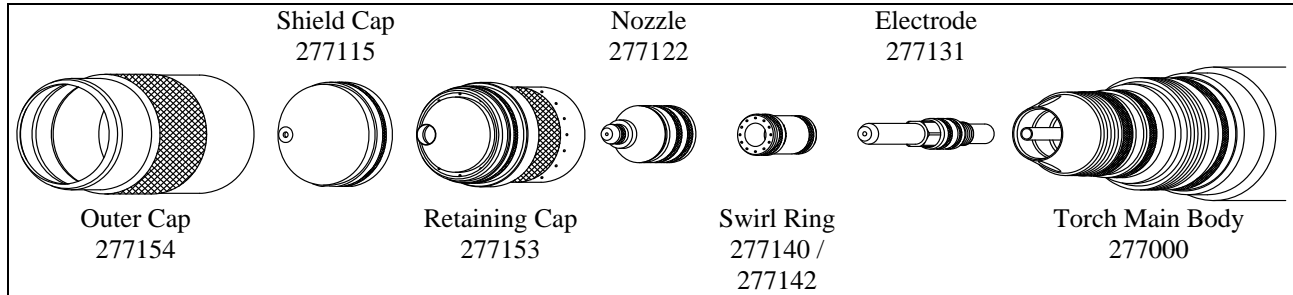
Material Thickness		Prewflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Oxygen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)	
(ga)	(in)											
20	.036	35	85	6	2	120	105	.080	.110	100	.062	
18	.048					121	97					
16	.060					125	78					
14	.075					126	65	.105			.065	
12	.105					127	55					
11	.120					129	50	.120			.125	.070
10	.135					131	40					

Metric

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

1. Revised on 7/2/07

**Mild Steel - Cutting
50 Amps – Oxygen Plasma / Oxygen or Air Shield**



Imperial

Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140

Material Thickness		Preflow (Air)	Plasma (Oxygen)	Shield (Oxygen)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
12	.105	25	74	12	1	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

Material Thickness		Preflow (Air)	Plasma (Oxygen)	Shield (Air)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width		
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)		
14	.075	25	74	19	1	106	200	.100	.135	100	.075		
12	.105						190					.080	
	.125						180						
10	.135					110	170	.110			.140	200	.085
	3/16					113	105	.145					
	1/4					117	75	.165					

Metric

Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140

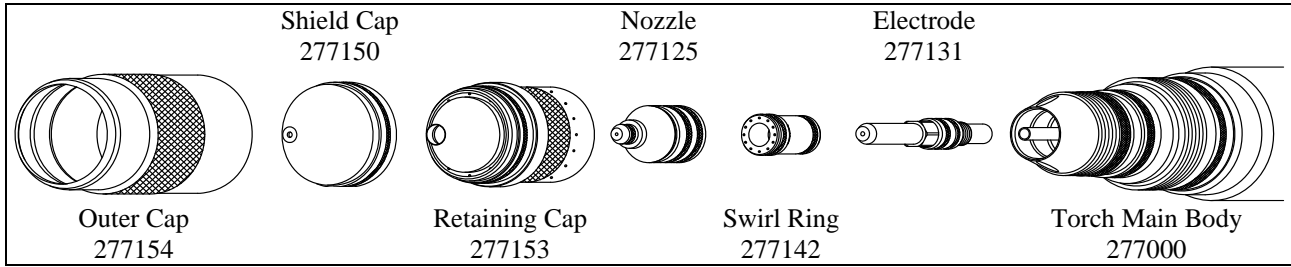
Material Thickness		Preflow (Air)	Plasma (Oxygen)	Shield (Oxygen)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
2.5		25	74	12	1	121	1895	2.9	3.4	100	1.9
3						125	1555	3.1			2.0

Hot-Rolled Steel – Air Shield – Swirl Ring 277142

Material Thickness		Preflow (Air)	Plasma (Oxygen)	Shield (Air)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width	
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)	
2.5		25	74	19	1	106	4885	2.5	3.4	100	1.9	
3							4660				2.0	
5						113	2555	3.6			250	3.7
6						116	2075					4.0

1. Revised on 7/2/07

Mild Steel - Cutting
70 Amps – Oxygen Plasma / Air Shield



Imperial

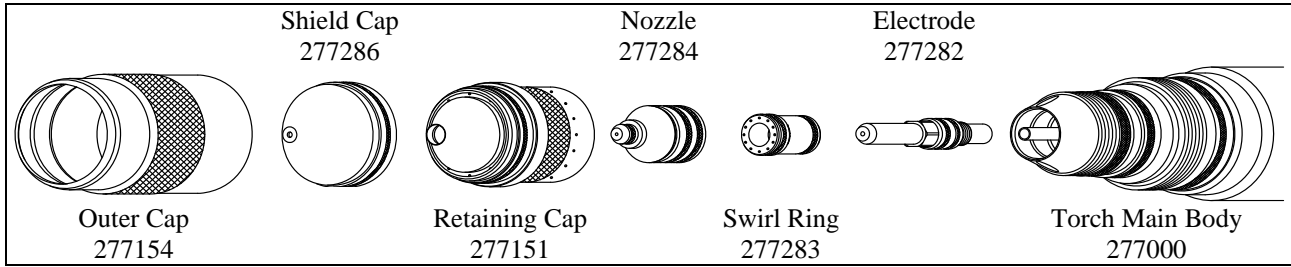
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/8	25	80	35	2	110	190	.100	.100	100	.080
3/16			113		130					
1/4			25		116	120	.110	.125		
3/8			122		75	.140				

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
3	25	80	35	2	109	4995	2.5	2.5	100	2.0
5			113		3265	2.6				
6			25		115	3105	2.7	3.0		

1. Revised on 7/2/07

**Mild Steel - Cutting
100 Amps – Oxygen Plasma / Air Shield**



Imperial

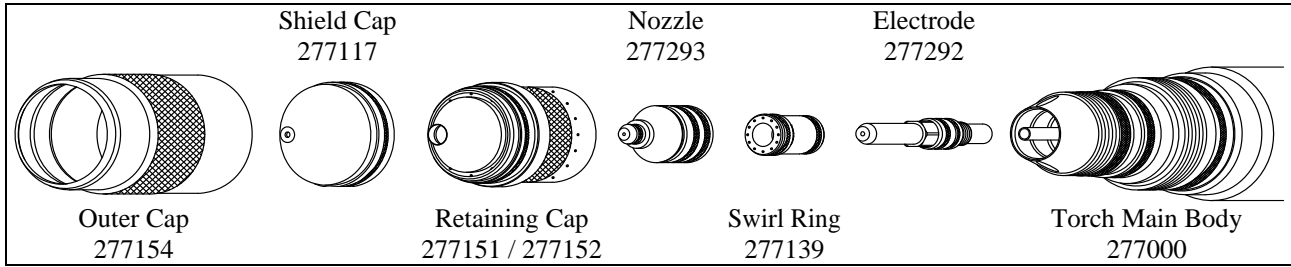
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	26	0	125	150	.090	.125	150	.090
3/8					130	100	.130		200	
1/2					130	65	.155	400		
5/8					143	47	.185	600		
3/4					145	35		900		

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	26	0	124	3950	2.1	3.0	150	2.3
10					130	2405	3.3	4.5	400	
12					130	1850	3.7	4.9		
16					143	1180	4.7	5.1	900	
20					145	800				

1. Revised on 7/2/07

Mild Steel - Cutting
150 Amps – Oxygen Plasma / Air Shield



Imperial

Retaining Cap 277151

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)	
1/4	20	74	30	0	118	165	.105	.200	300	.125	
3/8					123	125	.135				400
1/2					125	90	.140				

Retaining Cap 277152

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
5/8	20	74	45	0	127	70	.140	.300	600	.130
3/4					130	55			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

Retaining Cap 277151

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)	
6	20	74	30	0	117	4305	2.6	5.0	300	3.2	
10					123	3040	3.4				400
12					124	2485	3.5				

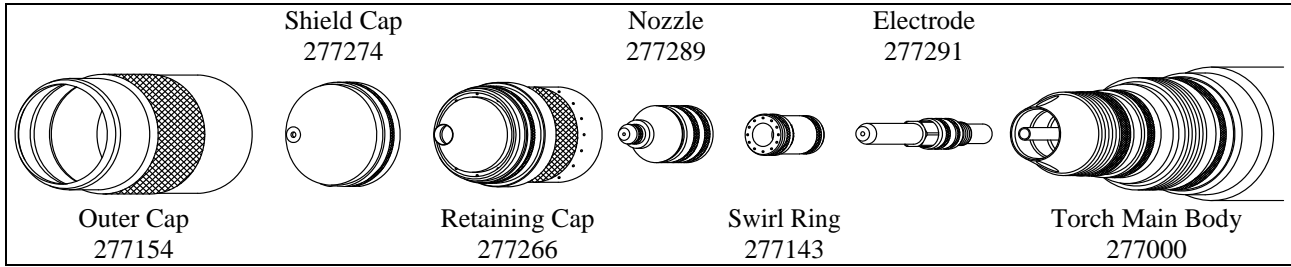
Retaining Cap 277152

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
16	20	74	45	0	127	1760	3.6	7.6	900	3.3
20					130	1340			1200	3.4
25					133	1040	3.7		500	3.6
32 **					145	625	5.1			
38 **					154	385	5.6			

** Edge start or moving pierce recommended

1. Revised on 7/2/07

**Mild Steel - Cutting
200 Amps – Oxygen Plasma / Air Shield**



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	0	125	230	.040	.200	300	.150
3/8					130	140	.090			
1/2					133	120	.115	.250	500	
5/8					137	100	.130			
3/4					140	75	.150	.300	700	.153
1					147	50	.175			
1.25					155	25	.240	.350	1400	.155
1.5 **					165	17	.300			
1.75 **					175	12	.350	.300	400	158
2.0 **					185	7	.500			

** Edge start or moving pierce recommended

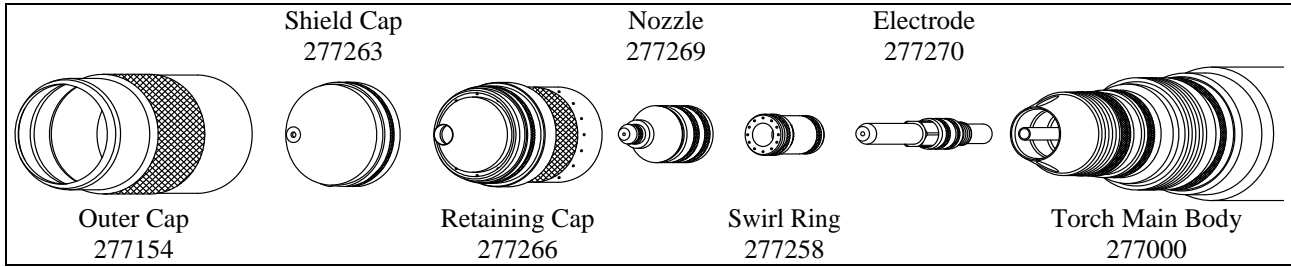
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	0	124	6100	.8	5.0	300	3.8
10					130	3480	2.3	5.8		
12					132	3160	2.7	6.2	500	
16					137	2515	3.3	6.4		
20					141	1810	3.8	7.6	1000	3.9
25					146	1310	4.3			
32					155	610	6.1	8.9	1400	4.0
38 **					164	435	7.5	7.6	400	
45 **					175	295	9.2			
50 **					183	195	12.2			

** Edge start or moving pierce recommended

1. Revised on 7/2/07

Mild Steel - Cutting
275 Amps – Oxygen Plasma / Air Shield



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)	
1/2	20	93	70	0	139	125	.140	.275	300	.165	
5/8						105	.135		500		
3/4					138	90	.120	.300	700	.170	
1					144	65	.160		900		
1.25					150	45	.175	.350	1200	400	.185
1.5 **					163	25	.235				
1.75 **					170	20	.290				
2.0 **					180	15	.350				

** Edge start or moving pierce recommended

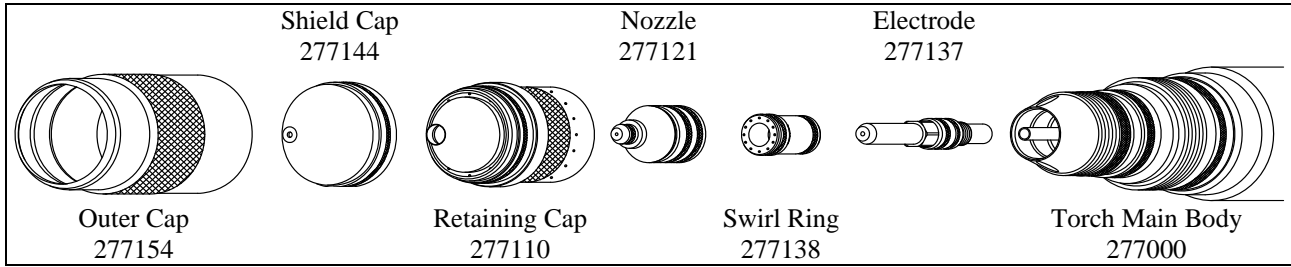
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Oxygen) (psi)	Shield (Air) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
12	20	93	70	0	139	3290	3.6	7.0	300	4.2
16						2650	3.3		700	
20					138	2190	3.1	7.6	900	4.3
25					143	1690	4.0		1200	
32					150	1120	4.4	8.9	400	4.8
38 **					162	645	5.9			
45 **					170	495	7.5			
50 **					178	395	8.7			

** Edge start or moving pierce recommended

1. Revised on 7/2/07

Stainless Steel - Cutting
30 Amps – Air Plasma / Air Shield



Imperial

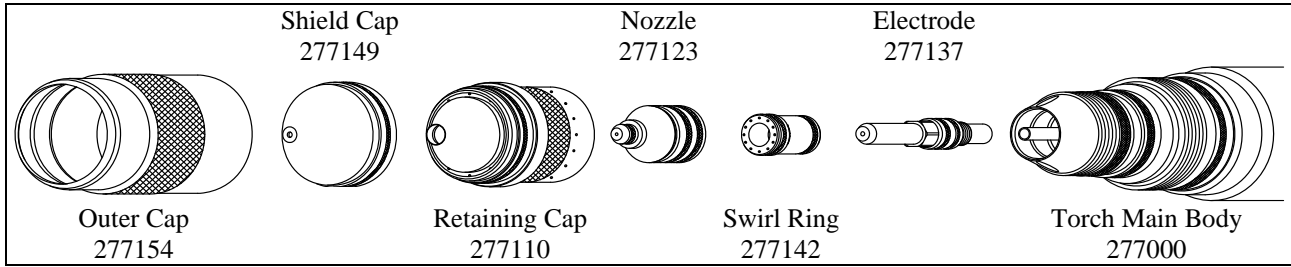
Material Thickness		Preflow (Air)	Plasma (Air)	Shield (Air)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(ga)	(in)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(in)	(in)	(msec)	(in)
20	.036	30	80	30	14	71	200	.020	.050	100	.065
18	.048					74	165	.035			
16	.060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

Metric

Material Thickness		Preflow (Air)	Plasma (Air)	Shield (Air)	Postflow (Air)	Arc Voltage	Travel Speed	Cutting Height	Pierce Height	Motion Delay	Kerf Width
(mm)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(mm/m)	(mm)	(mm)	(msec)	(mm)
1		30	80	30	14	71	4855	0.6	1.3	100	1.7
1.5						73	3260	0.9			

1. Revised on 7/2/07

Stainless Steel - Cutting
50 Amps – Air Plasma / Nitrogen Shield



Imperial

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

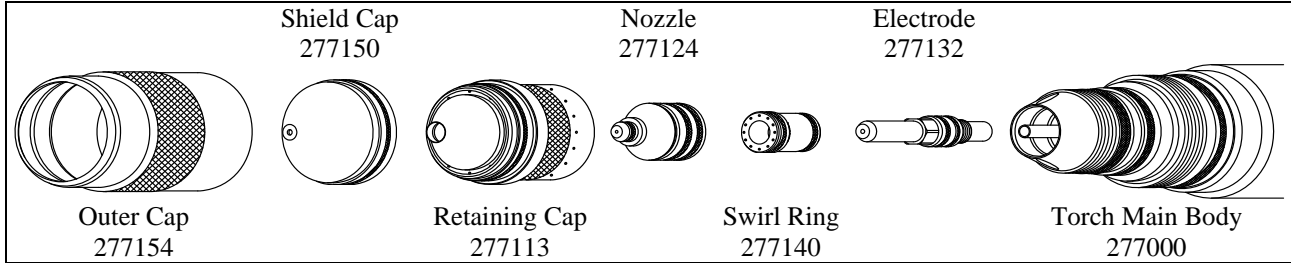
Metric

Material Thickness (mm)	Prewflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
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				

1. Revised on 7/2/07

Stainless Steel - Cutting
70 Amps – H17 Plasma / Nitrogen Shield

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



Imperial

Material Thickness (in)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (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

Metric

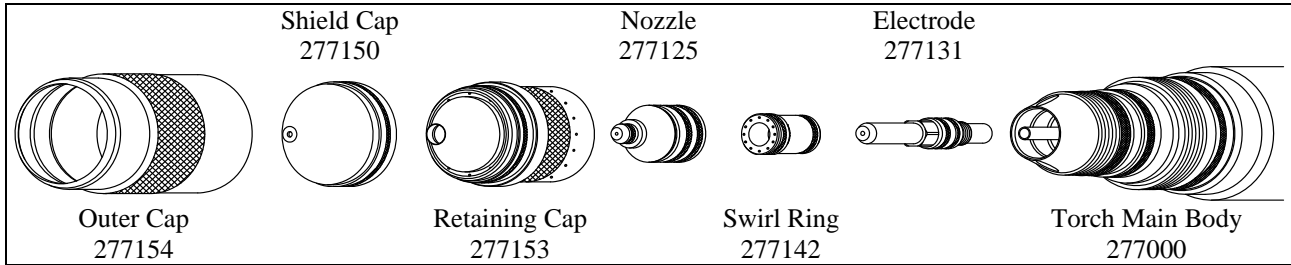
Material Thickness (mm)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
5	35	60	36	13	135	2030	2.5	5.1	200	2.3

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

1. Revised on 7/2/07

Stainless Steel - Cutting
70 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum cross levels



Imperial

Material Thickness (ga) (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
10 .135	25	80	25	2	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	

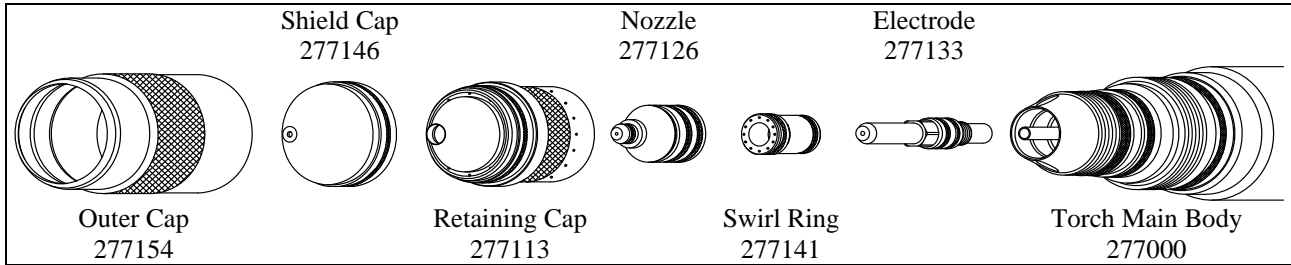
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
3	25	80	25	2	131	3210	1.4	3.6	200	2.2
5					134	2445	1.8	4.5		
6					138	2050	2.1	4.9	300	2.3

1. Revised on 7/2/07

Stainless Steel - Cutting
100 Amps – H17 Plasma / Nitrogen Shield

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



Imperial

Material Thickness (in)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/16	28	67	46	13	138	115	.105	.200	200	.100
1/4					140	100	.125	.225	300	
3/8					152	65	.180	.250	400	

Metric

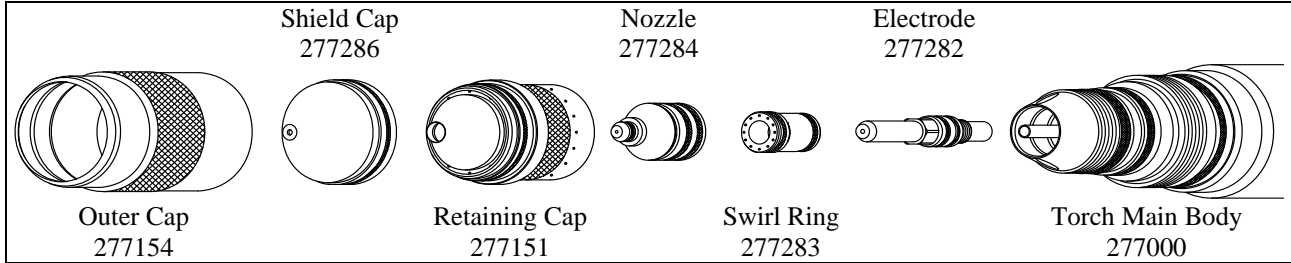
Material Thickness (mm)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
5	28	67	46	13	138	2865	2.7	5.1	300	2.5
6					139	2625	3.0	5.5		2.7

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

1. Revised on 7/2/07

Stainless Steel - Cutting
100 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	35	0	141	100	.135	.200	250	.092
3/8					147	80	.170	.225	350	
1/2					154	55	.210	.250	450	

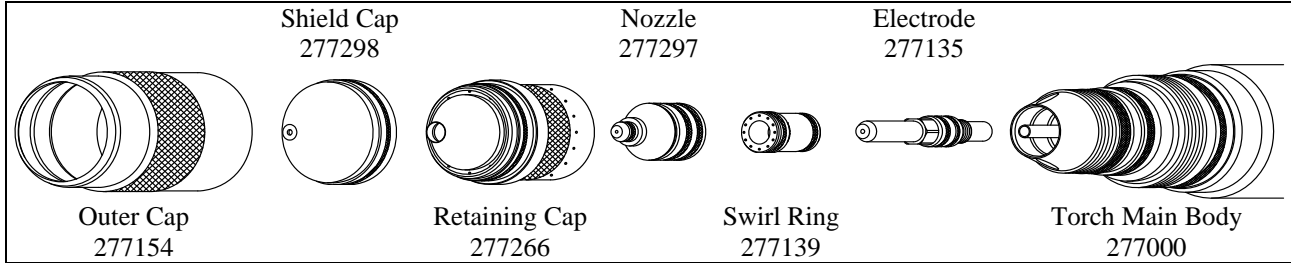
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	35	0	140	2595	3.2	5.0	250	2.3
10					148	1935	4.4	5.8	450	
12					152	1540	5.0	6.2		

1. Revised on 7/2/07

Stainless Steel - Cutting
150 Amps – H17 Plasma / Nitrogen Shield

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



Imperial

Material Thickness (in)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	81	75	13	165	95	.250	.250	400	.135
3/8					75	.150	500			
1/2					155	60	.165	600	.140	
5/8					50	.185	800			
3/4					165	40	.250	1000	.145	

Metric

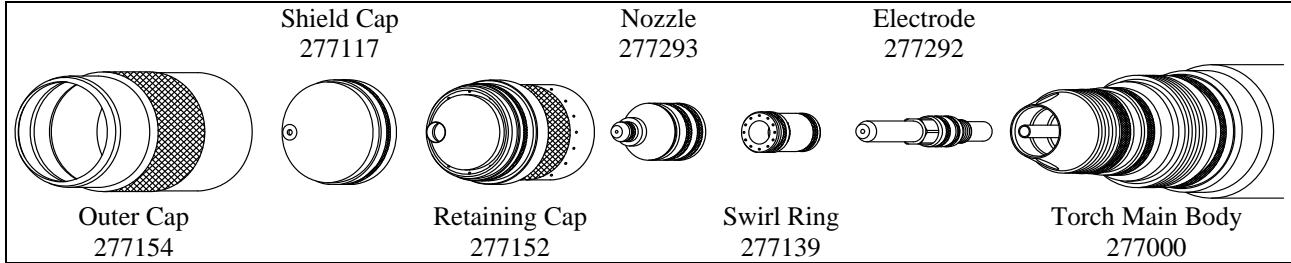
Material Thickness (mm)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	25	81	75	13	155	1845	3.8	7.0	600	3.4
12						1610	4.1			
16						1260	4.7	7.6	1000	3.7
20					167	940	6.9			

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

1. Revised on 7/2/07

Stainless Steel - Cutting
150 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	75	70	0	145	150	.160	.225	400	.125
3/8					150	115	.180		500	
1/2					155	85	.210	.300	600	.130
5/8					160	60	.220		800	
3/4					168	45	.240		1000	

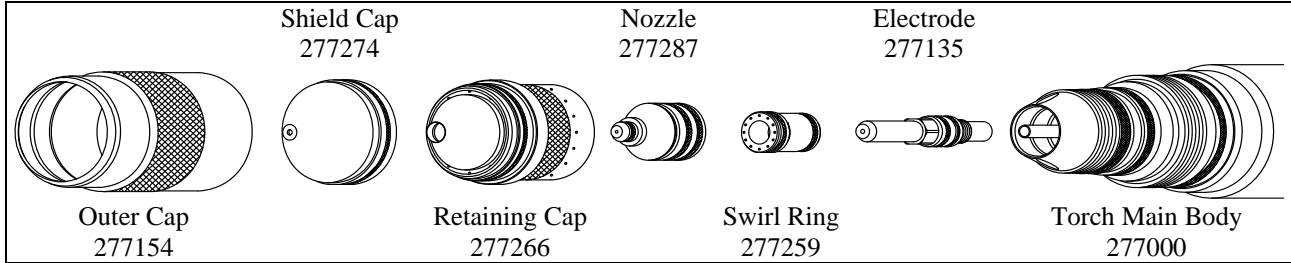
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)	
6	25	75	70	0	144	3910	4.0	5.5	400	3.2	
10					150	2805	4.7	7.0	600		
12					153	2330	5.1		7.6	1000	3.3
16					160	1510	5.6				
20					170	1030	6.2	3.4			

1. Revised on 7/2/07

Stainless Steel - Cutting
200 Amps – H17 Plasma / Nitrogen Shield

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



Imperial

Material Thickness (in)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/8	37	68	85	13	156	80	.195	.250	300	.150
1/2					148	75	.130		500	
5/8					155	60	.190	700	.155	
3/4					160	50	.200	900		
1.0					170	35	.240	1300		.160

Metric

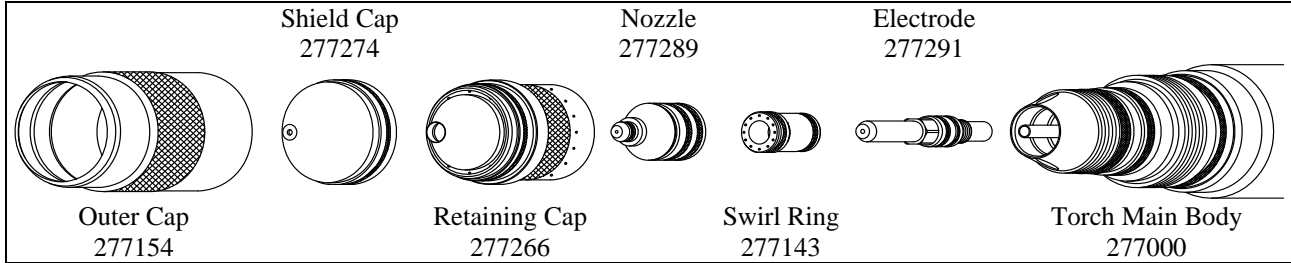
Material Thickness (mm)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	37	68	85	13	154	2010	4.7	6.4	500	3.8
12					149	1935	3.6	6.8		
16					155	1515	4.8	7.0	900	3.9
20					161	1215	5.2	7.7		
25					169	915	6.0	8.2		

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

1. Revised on 7/2/07

Stainless Steel - Cutting
200 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum cross levels



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	0	130	200	.070	.200	200	.150
3/8					133	150	.225	300		
1/2					140	110	.250	600	.152	
5/8					146	75	.300	800		
3/4					153	60	.190	1200		.155
1.0					158	40	.210	300		
1.25 **					170	20	.250	1200	.160	
1.5 **					180	10	.275	300		.165

** Edge start or moving pierce recommended

Metric

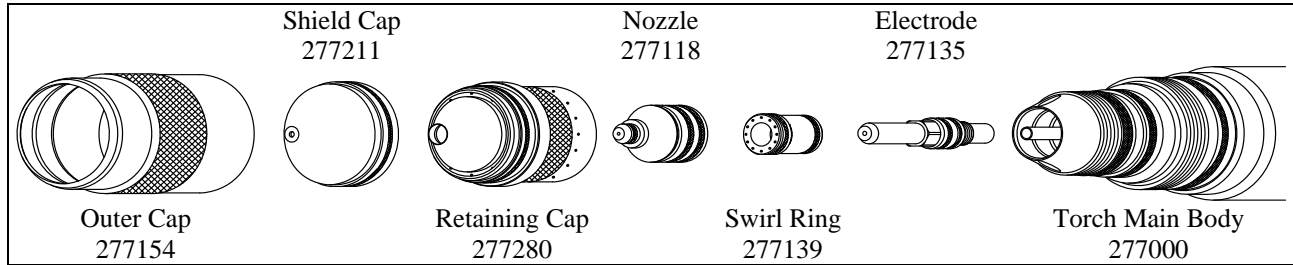
Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	0	129	5220	1.8	5.0	200	3.8
10					134	3655	1.9	5.8	300	
12					138	3020	2.6	6.2	800	
16					146	1890	3.8	7.6	1200	
20					153	1450	4.8	7.7	300	4.1
25					157	1050	5.2	8.2	300	
32 **					170	495	6.4	8.3	300	
38 **					179	260	6.9	8.3	300	4.4

** Edge start or moving pierce recommended

1. Revised on 7/2/07

Stainless Steel - Cutting
260 Amps – H17 Plasma / Nitrogen Shield

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



Imperial

Material Thickness (in)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/8	40	63	70	14	145	85	.160	.275	500	.190
1/2					142	80	.140			
5/8					145	65	.185			
3/4					150	55	.225	.300	800	.195
1.0					160	33	.250	.325	1000	
1.25 **					170	26	.280	.300	500	.205

** Edge start or moving pierce recommended

Metric

Material Thickness (mm)	Preflow (Nitrogen) (psi)	Plasma (H17) (psi)	Shield (Nitrogen) (psi)	Postflow (Nitrogen) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	40	63	70	14	144	2140	4.0	7.0	500	4.8
12					142	2060	3.7			
16					145	1640	4.7			
20					151	1315	5.8	7.7	1000	5.0
25					159	875	6.3	8.2		
32 **					170	650	7.1	7.5	500	5.2

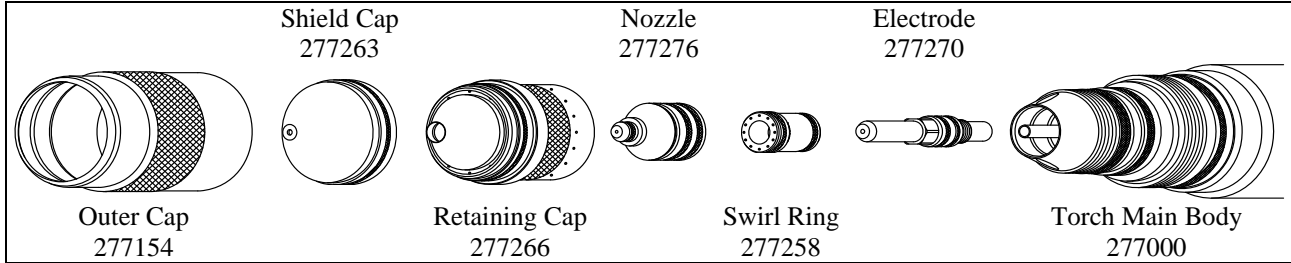
* H17 = 17.5% Hydrogen / 32.5% Argon / 50% Nitrogen

** Edge start required – some dross evident

1. Revised on 7/2/07

Stainless Steel - Cutting
275 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/2	20	93	70	0	143	120	.125	.250	400	.165
5/8					148	90	.140		600	
3/4					152	80	.180		800	
1.0					165	55	.210	1000	.170	
1.25 **					175	35	.250			
1.5 **					185	25	.300	400	.180	

** Edge start or moving pierce recommended

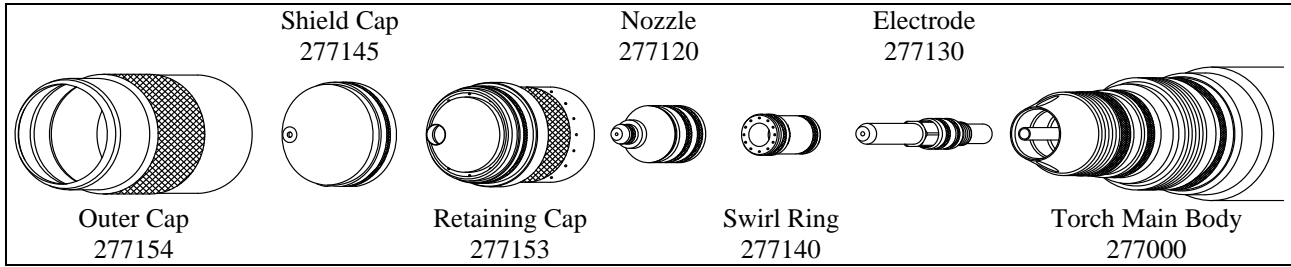
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
12	20	93	70	0	141	3220	3.1	6.2	400	4.2
16					148	2275	3.6	7.0	800	
20					153	1940	4.7	7.7	1000	4.3
25					164	1435	5.2	8.2		
32 **					175	880	6.4	8.3	400	4.6
38 **					184	640	7.5			

** Edge start or moving pierce recommended

1. Revised on 7/2/07

Aluminum - Cutting
30 Amps – Air Plasma / Nitrogen Shield



Imperial

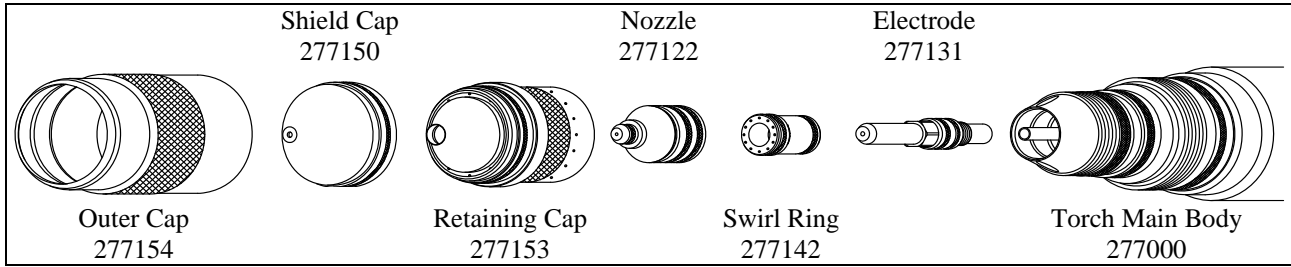
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
.040	30	92	20	2	135	150	.030	.065	100	.065
.050						120		.075		
.063						90		.085		

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
1	30	92	20	2	135	3885	0.8	1.6	100	1.7
1.5					135	2520		2.1		1.8

1. Revised on 7/2/07

Aluminum - Cutting
50 Amps – Air Plasma / Nitrogen Shield



Imperial

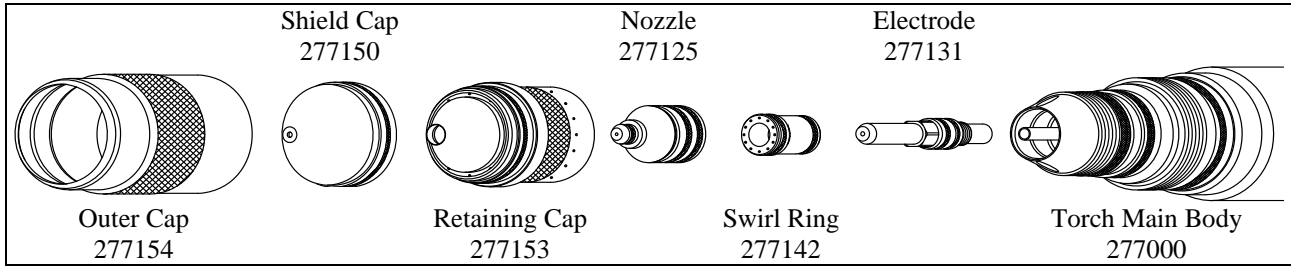
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
.050	25	74	19	1	135	180	.050	.100	100	.080
.063					138	140	.065			.082
.080					143	90	.075			.085

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (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	1	137	3870	1.5	2.5	100	2.1
2.0					142	2360	1.8			2.2

1. Revised on 7/2/07

Aluminum - Cutting
70 Amps – Air Plasma / Nitrogen Shield



Imperial

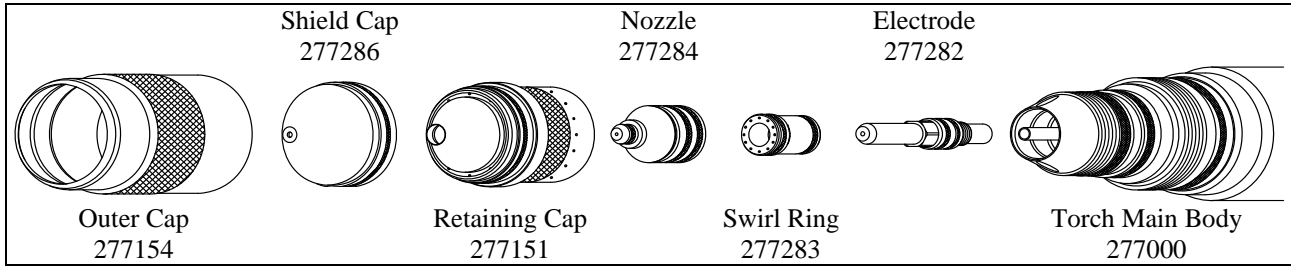
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)	
.080	25	80	25	2	130	250	.050	.100	100	.080	
1/8					135	160	.070				
3/16				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

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)	
2	25	80	25	2	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			

1. Revised on 7/2/07

Aluminum - Cutting
100 Amps – Air Plasma / Nitrogen Shield



Imperial

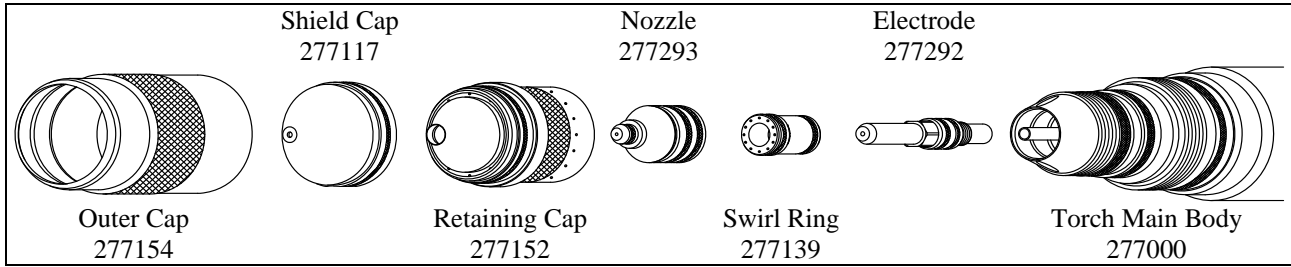
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	94	26	0	145	105	.155	.200	200	.095
3/8					156	90	.180	.250	300	.098
1/2					157	70	.195	.275	400	.100

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	94	26	0	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		

1. Revised on 7/2/07

Aluminum - Cutting
150 Amps – Air Plasma / Nitrogen Shield



Imperial

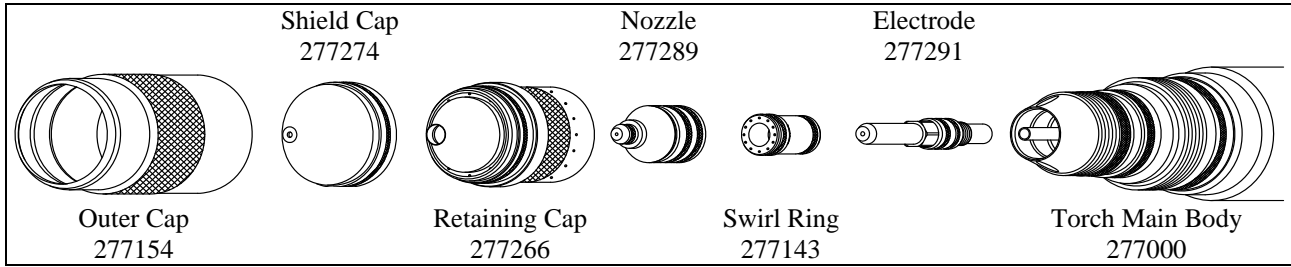
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	25	75	50	1	145	145	.130	.225	400	.125
3/8					155	115	.185		500	
1/2					165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

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	25	75	50	1	143	3770	3.1	5.5	400	3.2
10					156	2825	4.8		600	
12					162	2430	5.5	1000	3.3	
16					170	1630	6.4		3.4	
20					170	990		8.6	3.6	

1. Revised on 7/2/07

Aluminum - Cutting
200 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
1/4	20	82	58	0	150	190	.135	.200	200	.150
3/8					155	145	.140	.250	300	
1/2					110	.135	.300	400	.155	
5/8					95	.150	.350	500		
3/4					65	.200	600	.160		
1.0 **					175	35	400	.170		

** Edge start or moving pierce recommended

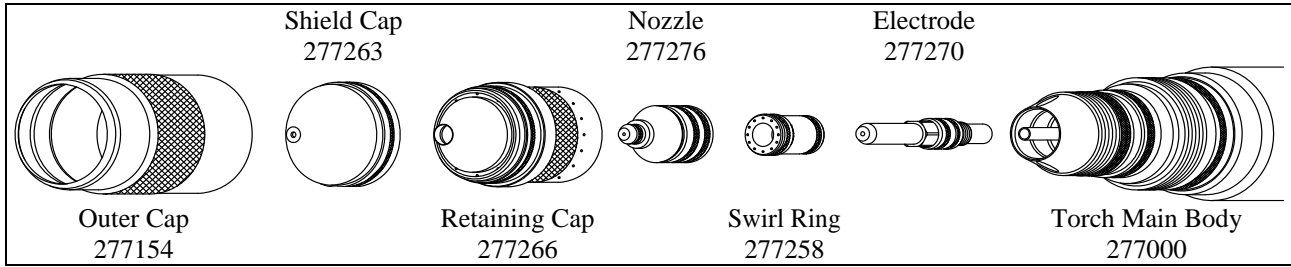
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
6	20	82	58	0	149	4955	3.3	4.9	200	3.8
10					155	3545	3.5	6.5	400	
12					2995	3.4	7.3	600	3.9	
16					160	2380	7.6			
20					162	1575	3.9		8.9	4.1
25 **					174	940	5.0	400	4.3	

** Edge start or moving pierce recommended

1. Revised on 7/2/07

Aluminum - Cutting
275 Amps – Air Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Cutting Height (in)	Pierce Height (in)	Motion Delay (msec)	Kerf Width (in)
3/8	20	93	65	0	160	160	.160	.250	400	.160
1/2					165	125	.180	.275	500	
5/8					168	105	.190	.300	600	.165
3/4					172	85	.200	.325	800	
1 **					180	60	.240	.350	400	.170
1.25 **					185	45	.260			
1.5 **					190	25	.270			

** Edge start or moving pierce recommended

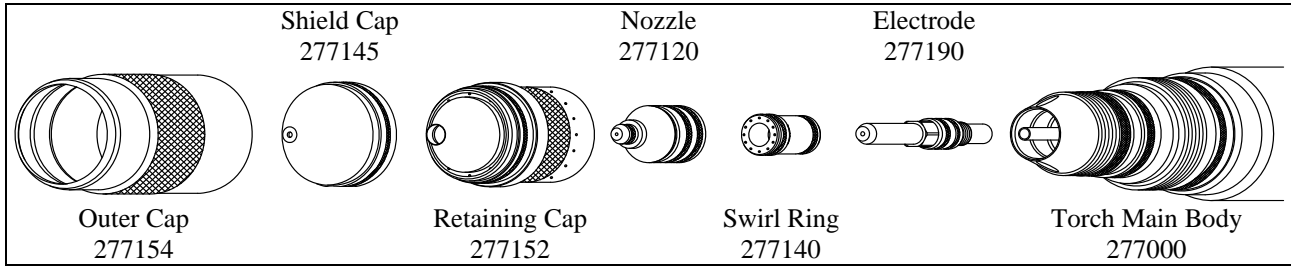
Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Air) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Cutting Height (mm)	Pierce Height (mm)	Motion Delay (msec)	Kerf Width (mm)
10	20	93	65	0	160	3930	4.1	6.4	500	4.1
12					163	3375	4.4	6.8		
16					168	2645	4.8	7.6	800	4.2
20					173	2055	5.3	8.3		
25 **					179	1565	6.0	8.8	400	4.3
32 **					185	1120	6.6	8.9		
38 **					189	645	6.8			

** Edge start or moving pierce recommended

1. Revised on 7/2/07

**Mild Steel - Marking
10 Amps – Nitrogen Plasma / Nitrogen Shield**



Imperial

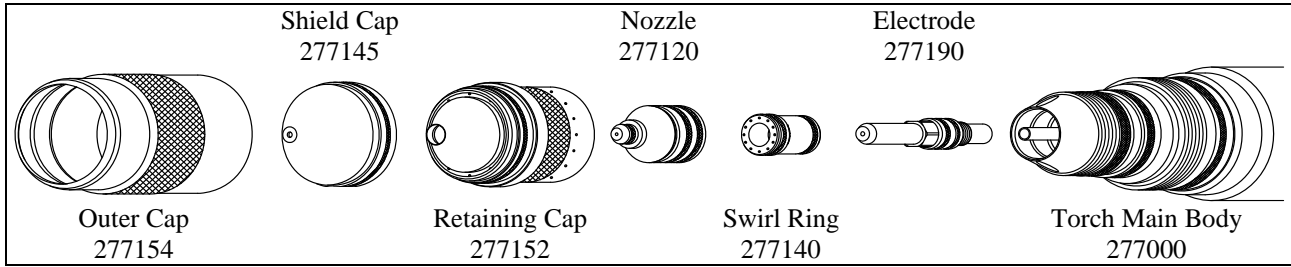
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Marking Height (in)	Initial Height (in)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	250	.177	.100	0

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Marking Height (mm)	Initial Height (mm)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	6350	4.5	2.5	0

1. Revised on 10/12/07

**Stainless Steel - Marking
10 Amps – Nitrogen Plasma / Nitrogen Shield**



Imperial

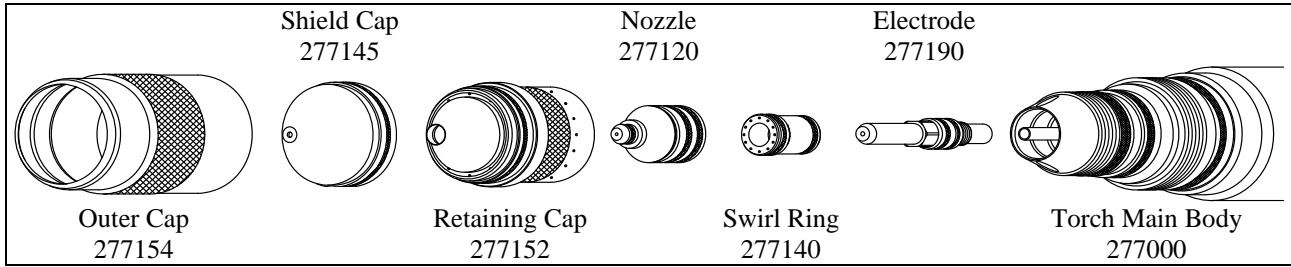
Material Thickness (in)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Marking Height (in)	Initial Height (in)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	250	.177	.100	0

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Marking Height (mm)	Initial Height (mm)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	6350	4.5	2.5	0

1. Revised on 10/12/07

Aluminum - Marking
10 Amps – Nitrogen Plasma / Nitrogen Shield



Imperial

Material Thickness (in)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (ipm)	Marking Height (in)	Initial Height (in)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	250	.177	.100	0

Metric

Material Thickness (mm)	Preflow (Air) (psi)	Plasma (Nitrogen) (psi)	Shield (Nitrogen) (psi)	Postflow (Air) (psi)	Arc Voltage (volts)	Travel Speed (mm/m)	Marking Height (mm)	Initial Height (mm)	Motion Delay (msec)
All Thicknesses	28	28	28	2	145	6350	4.5	2.5	0

1. Revised on 10/12/07