

5. Use a chain cut when possible. Starting and stopping the torch is 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.

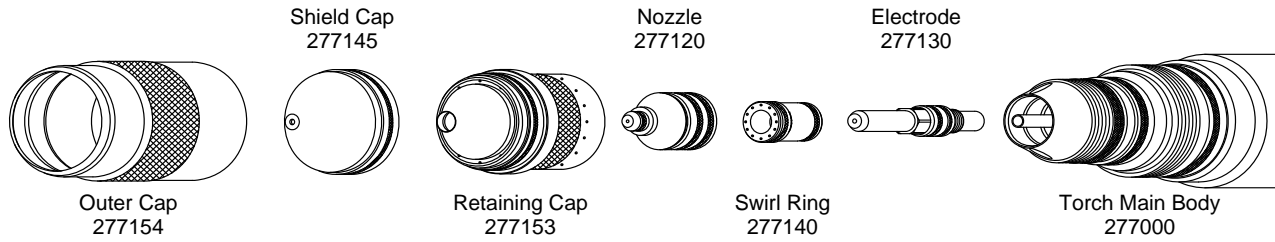
## Cutting Charts

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

<b>Material</b>	<b>Current</b>	<b>Plasma Gas</b>	<b>Shield Gas</b>	<b>Page</b>
Mild Steel	30 Amps	Oxygen	Oxygen	4-21
Mild Steel	50 Amps	Oxygen	Oxygen or Air	4-22
Mild Steel	70 Amps	Oxygen	Air	4-23
Mild Steel	100 Amps	Oxygen	Air	4-24
Mild Steel	150 Amps	Oxygen	Air	4-25
Mild Steel	200 Amps	Oxygen	Air	4-26
Mild Steel	275 Amps	Oxygen	Air	4-27
Stainless Steel	30 Amps	Air	Air	4-28
Stainless Steel	50 Amps	Air	Nitrogen	4-29
Stainless Steel	70 Amps	H17	Nitrogen	4-30
Stainless Steel	70 Amps	Air	Nitrogen	4-31
Stainless Steel	100 Amps	H17	Nitrogen	4-32
Stainless Steel	100 Amps	Air	Nitrogen	4-33
Stainless Steel	150 Amps	H17	Nitrogen	4-34
Stainless Steel	150 Amps	Air	Nitrogen	4-35
Stainless Steel	200 Amps	H17	Nitrogen	4-36
Stainless Steel	200 Amps	Air	Nitrogen	4-37
Stainless Steel	260 Amps	H17	Nitrogen	4-38
Stainless Steel	275 Amps	Air	Nitrogen	4-39
Aluminum	30 Amps	Air	Nitrogen	4-40
Aluminum	50 Amps	Air	Nitrogen	4-41
Aluminum	70 Amps	Air	Nitrogen	4-42
Aluminum	100 Amps	Air	Nitrogen	4-43
Aluminum	150 Amps	Air	Nitrogen	4-44
Aluminum	200 Amps	Air	Nitrogen	4-45
Aluminum	275 Amps	Air	Nitrogen	4-46

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



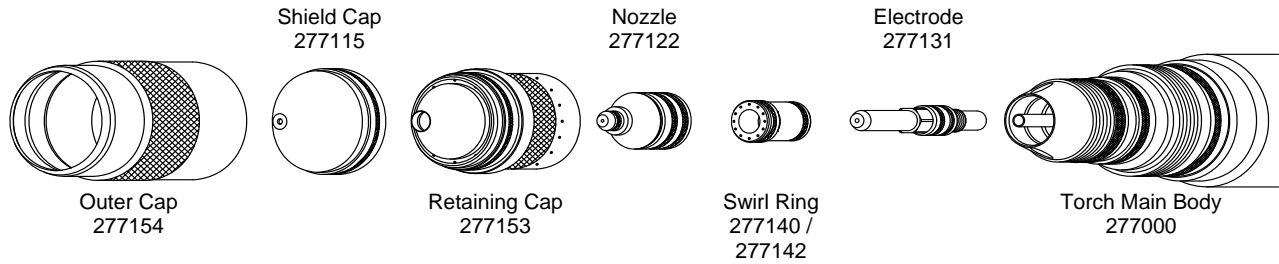
Material Thickness			Prewflow	Plasma	Shield	Postflow	Arc Voltage		Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(ga)	(in)	(mm)					(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)		(in)	(mm)
20	.036	.9	35	85	6	84	120	105	2665	.080	2.0	.110	2.8	100	.062	1.6	
18	.048	1.2					121	97	2465	.090	2.3						
16	.060	1.5					125	78	1980	.105	2.7						
14	.075	1.9					126	65	1650								
12	.105	2.7					127	55	1395	.120	3.0	.125	3.2		.070	1.8	
11	.120	3.0					129	50	1270								
10	.135	3.4					131	40	1015								

**Marking**

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

- 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 5/23/07

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



**Cold-Rolled Steel – Oxygen Shield – Swirl Ring 277140**

Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height	Motion Delay	Kerf Width		
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
12	.105	2.7					123	70	1780	.120	3.0				.075	1.9
11	.120	3.0	25	74	12	73	126	60	1525	.125	3.2	.135	3.4	100		
10	.135	3.4					128	50	1270	.135	3.4				.078	2.0

**Hot-Rolled Steel – Air Shield – Swirl Ring 277142**

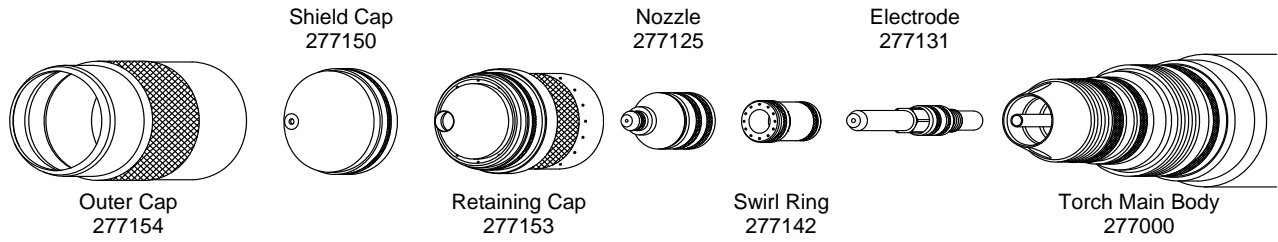
Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height	Motion Delay	Kerf Width		
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
14	.075	1.9					106	200	5080							
12	.105	2.7					106	190	4825	.100	2.5				.075	1.9
	.125	3.2					106	180	4570			.135	3.4	100		
10	.135	3.4	25	74	19	73	110	170	4320	.110	2.8				.080	2.0
	3/16	4.8					113	105	2665			.145	3.7	200	.085	2.2
	1/4	6.4					117	75	1905	.140	3.6	.165	4.2	250	.087	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. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Mild Steel  
70 Amps – Oxygen Plasma / Air Shield**



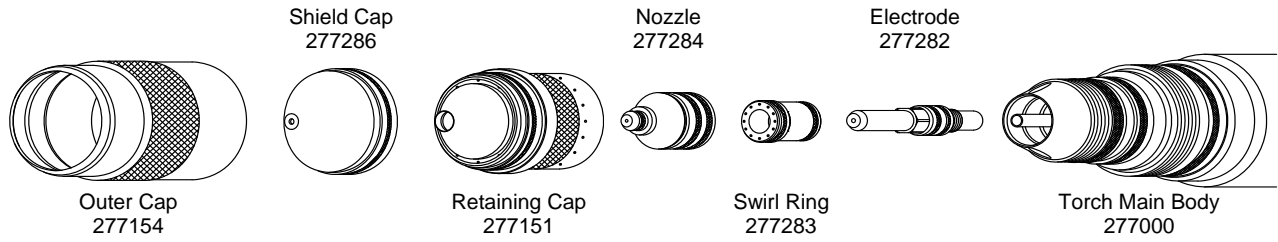
Material Thickness (in) (mm)	Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width		
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)	
1/8 3.2	25	80	35	79	110	190	4825	.100	2.5	.100	2.5	100	.080	2.0	
3/16 4.8			113		130	3300									
1/4 6.4			25		116	120	3050	.110	2.8	.125	3.2	200	.085	2.2	
3/8 9.5			122		75	1905	.140	3.6	.150	3.8	250				

**Marking**

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

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



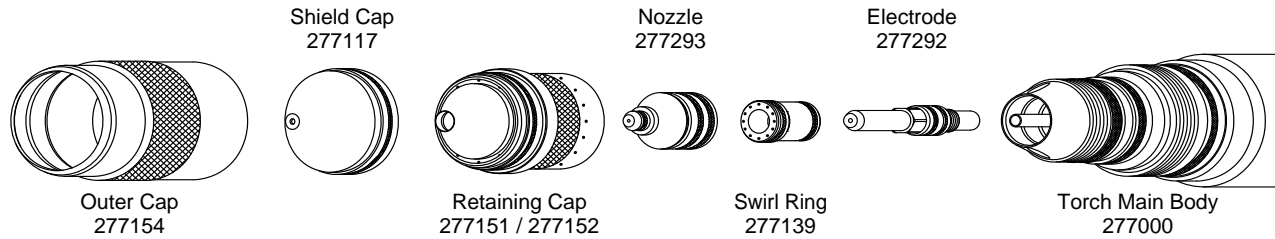
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height	Motion Delay	Kerf Width		
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
1/4	6.4	25	94	26	93	125	150	3810	.090	2.3	.125	3.2	150	.090	2.3
3/8	9.5					130	100	2540	.130	3.3	.175	4.4	200		
1/2	12.7					130	65	1650	.155	3.9	.200	5.1	400		
5/8	15.9					143	47	1195	.185	4.7			600		
3/4	19.1					145	35	890			900	.095	2.4		

**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	130	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Mild Steel**  
**150 Amps – Oxygen Plasma / Air Shield**



**Retaining Cap 277151**

Material Thickness (in) (mm)	Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
1/4 6.4	20	74	30	67	118	165	4190	.105	2.7	.200	5.1	300	.125	3.2
3/8 9.5					123	125	3175	.135	3.4	.225	5.7			
1/2 12.7					125	90	2285	.140	3.6	.250	6.4		400	.130

**Retaining Cap 277152**

Material Thickness (in) (mm)	Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
5/8 15.9	20	74	45	67	127	70	1780	.140	3.6	.300	7.6	600	.130	3.3
3/4 19.1					130	55	1395							
1 25.4					134	40	1015	.150	3.8			1200	.140	3.6
1.25 ** 31.8					145	25	635	.200	5.1			500		
1.5 ** 38.1					155	15	380	.225	5.7					

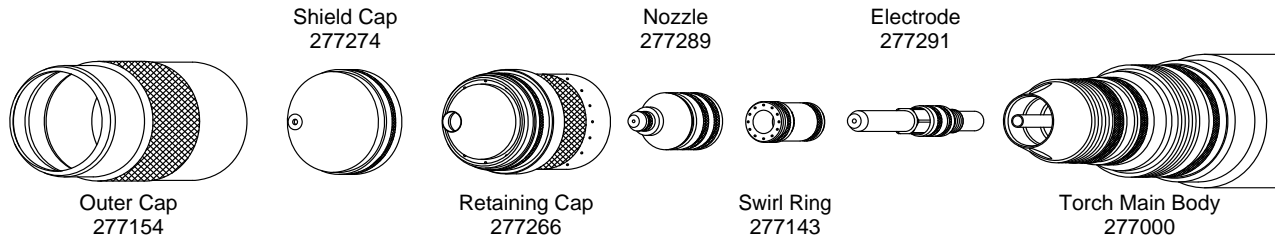
\*\* Edge start or moving pierce recommended

**Marking**

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

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



Material Thickness (in) (mm)	Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
1/4 6.4	20	82	58	75	125	230	5840	.040	1.0	.200	5.1	300	.150	3.8
3/8 9.5					130	140	3555	.090	2.3	.225	5.7			
1/2 12.7					133	120	3050	.115	2.9	.250	6.4		500	
5/8 15.9					137	100	2540	.130	3.3			.300		7.6
3/4 19.1					140	75	1905	.150	3.8	.350	8.9		1400	
1 25.4					147	50	1270	.175	4.4			.300		7.6
1.25 31.8					155	25	635	.240	6.1	.500	12.7		.160	
1.5 ** 38.1					165	17	430	.300	7.6			.500		12.7
1.75 ** 44.5					175	12	305	.350	8.9	.500	12.7		.160	
2.0 ** 50.8					185	7	180	.500	12.7			.500		12.7

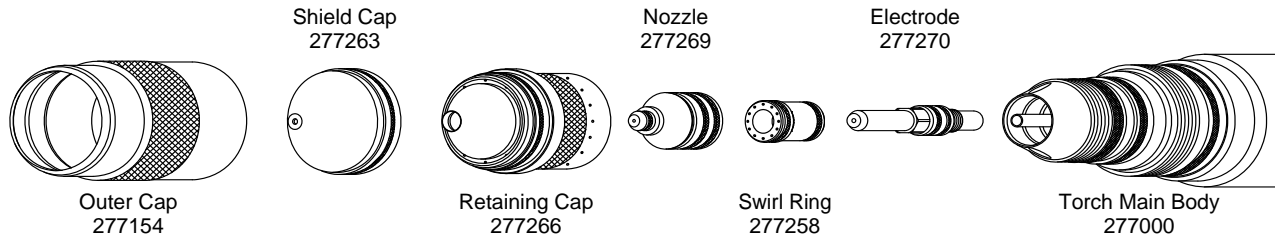
\*\* Edge start or moving pierce recommended

**Marking**

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

- 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Mild Steel**  
**275 Amps – Oxygen Plasma / Air Shield**



Material Thickness (in) (mm)	Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width		
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)	
1/2 12.7	20	93	70	83	139	125	3175	.140	3.6	.275	7.0	300	.165	4.2	
5/8 15.9					139	105	2665	.135	3.4			500			
3/4 19.1					138	90	2285	.120	3.0	.300	7.6	700	.170	4.3	
1 25.4					144	65	1650	.160	4.1			900	.185	4.7	
1.25 31.8					150	45	1145	.175	4.4	.350	8.9	1200	400	.190	4.8
1.5 ** 38.1					163	25	635	.235	6.0						
1.75 ** 44.5					170	20	510	.290	7.4						
2.0 ** 50.8					180	15	380	.350	8.9						

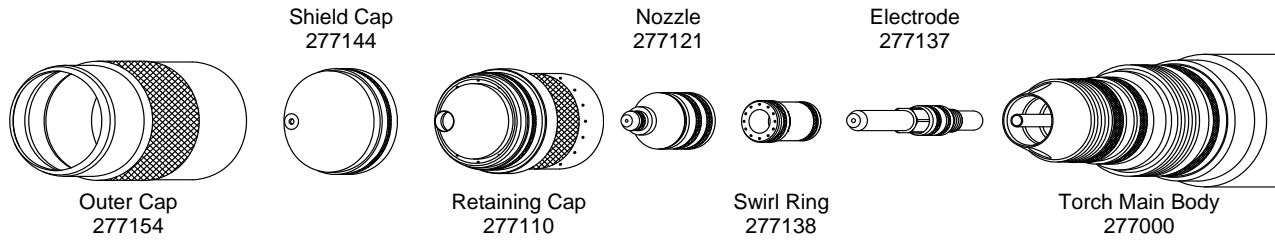
\*\* Edge start or moving pierce recommended

**Marking**

Material Thickness			Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Marking Height		Initial Height		Motion Delay (msec)
(ga)	(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	
All Thicknesses			N/A	28	28	N/A	108	250	6350	.100	2.5	.100	2.5	0

- 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Stainless Steel  
30 Amps – Air Plasma / Air Shield**



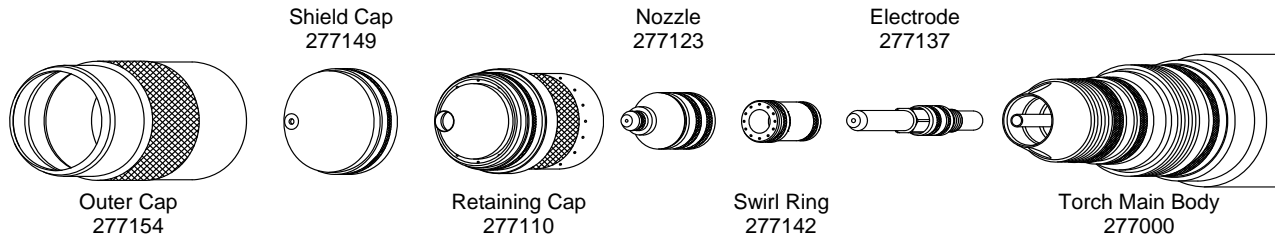
Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height	Motion Delay	Kerf Width		
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
20	.036	.9	30	80	30	80	71	200	5080	.020	0.5	.050	1.3	100	.065	1.7
18	.048	1.2					71	165	4190	.035	0.9					
16	.060	1.5					74	125	3175							
14	.075	1.9					75	90	2285	.025	0.6					

**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 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Stainless Steel  
50 Amps – Air Plasma / Nitrogen Shield**



Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
14	.075	1.9	30	70	40	70	87	105	2665	.035	.89	.060	1.5	100	.105	2.7
12	.105	2.7					88	75	1905							
11	.120	3.0					89	65	1650							
10	.135	3.4					90	55	1395							
	3/16	4.8					94	50	1270	.040	1.0	.075	1.9	200	.110	2.8
	1/4	6.4					100	40	1015	.060	1.5	.085	2.2	300	.115	2.9

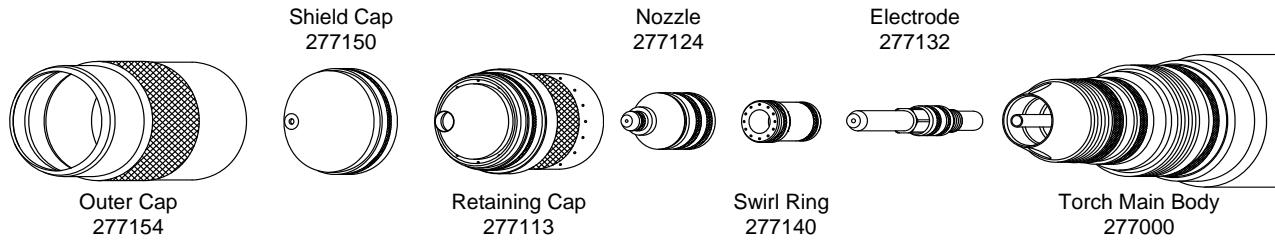
**Marking**

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	.147	3.7	.100	2.5	0

- 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 70 Amps – H17 Plasma / Nitrogen Shield

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



Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
3/16	4.8	35	60	36	60	135	80	2030	.100	2.5	.200	5.1	200	.090	2.3

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

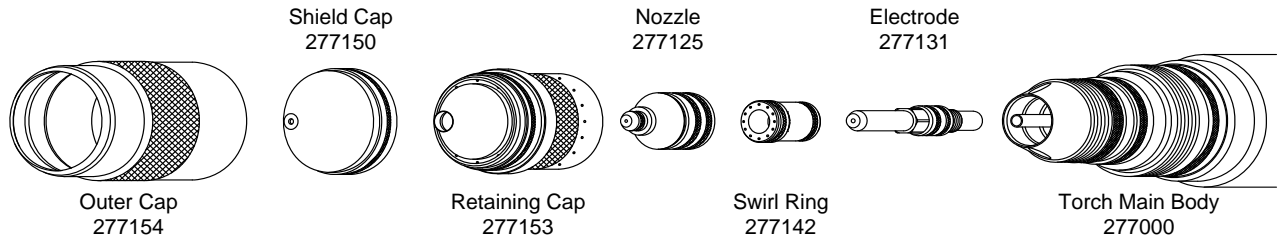
### Marking

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	135	250	6350	.096	2.4	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 70 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Material Thickness			Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(ga)	(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
10	.135	3.4	25	80	25	79	132	120	3050	.060	1.5	.150	3.8	200	.085	2.2
	3/16	4.8					134	100	2540	.070	1.8	.175	4.4			
	1/4	6.4					140	75	1905	.090	2.3	.200	5.1	300	.090	2.3
	3/8	9.5					148	50	1270	.120	3.0	.225	5.7	450		

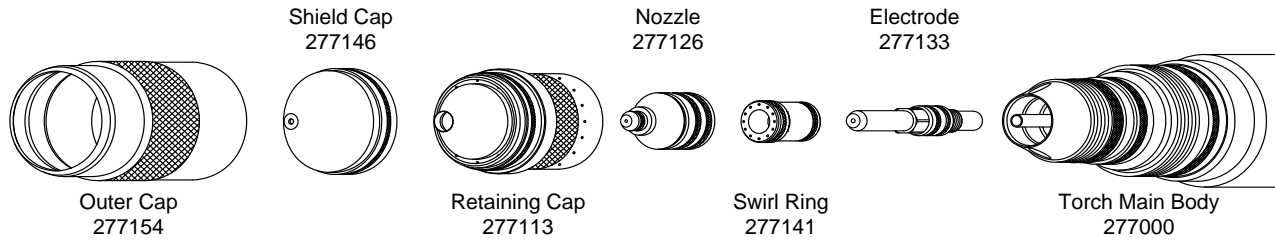
### Marking

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	135	250	6350	.096	2.4	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 100 Amps – H17 Plasma / Nitrogen Shield

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



Material Thickness		Prewlow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
3/16	4.8					138	115	2920	.105	2.7	.200	5.1	200	.100	2.5
1/4	6.4	28	67	46	67	140	100	2540	.125	3.2	.225	5.7	300	.105	2.7
3/8	9.5					152	65	1650	.180	4.6	.250	6.4	400		

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

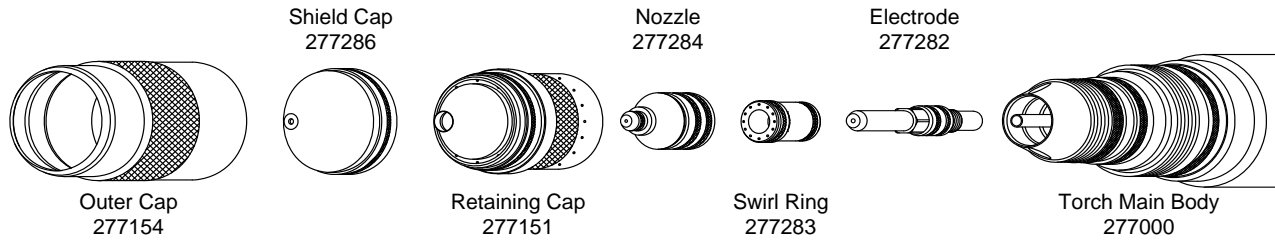
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 100 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Material Thickness		Prewflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
1/4	6.4					141	100	2540	.135	3.4	.200	5.1	250	.092	2.3
3/8	9.5	25	94	35	93	147	80	2030	.170	4.3	.225	5.7	350	.095	2.4
1/2	12.7					154	55	1395	.210	5.3	.250	6.4	450		

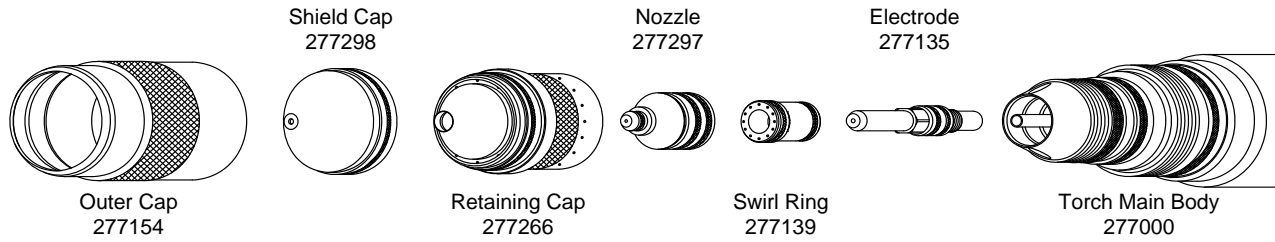
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 150 Amps – H17 Plasma / Nitrogen Shield

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



Material Thickness		Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
1/4	6.4	25	81	75	81	165	95	2415	.250	6.4	.250	6.4	400	.135	3.4
3/8	9.5					155	75	1905	.150	3.8					
1/2	12.7					155	60	1525	.165	4.2	.275	7.0			
5/8	15.9					155	50	1270	.185	4.7					
3/4	19.1					165	40	1015	.250	6.4				800	.140
							1000	.145	3.7						

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

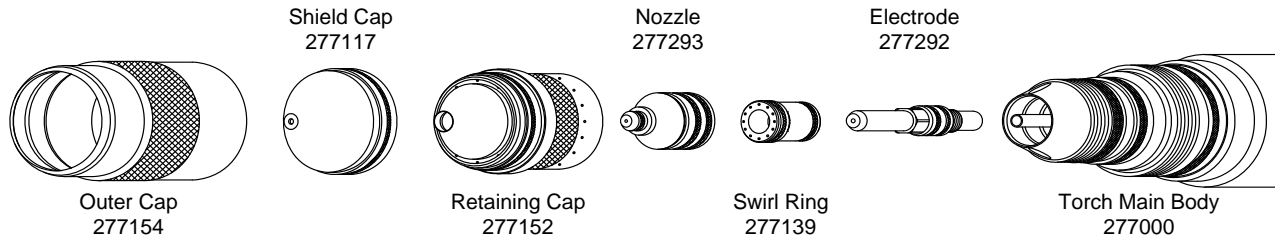
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 150 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Material Thickness		Prewflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
1/4	6.4	25	75	70	67	145	150	3810	.160	4.1	.225	5.7	400	.125	3.2
3/8	9.5					150	115	2920	.180	4.6	.275	7.0			
1/2	12.7					155	85	2160	.210	5.3			600		
5/8	15.9					160	60	1525	.220	5.6			800		
3/4	19.1					168	45	1145	.240	6.1	.300	7.6	1000	.135	3.4

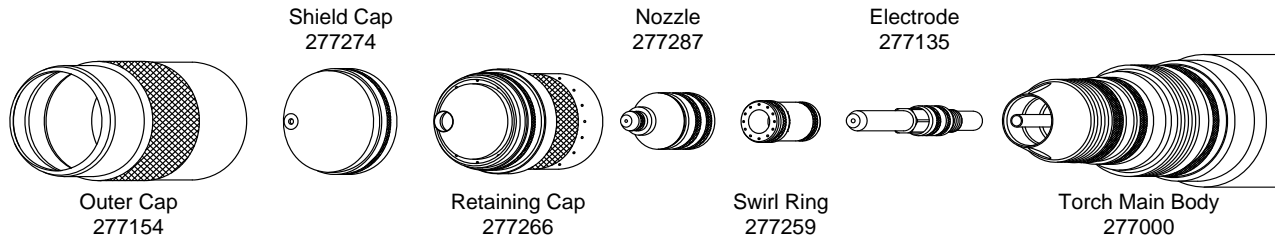
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

## Stainless Steel 200 Amps – H17 Plasma / Nitrogen Shield

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



Material Thickness		Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
3/8	9.5	37	68	85	68	156	80	2030	.195	5.0	.250	6.4	300	.150	3.8
1/2	12.7					148	75	1905	.130	3.3	.275	7.0			
5/8	15.9					155	60	1525	.190	4.8			700		
3/4	19.1					160	50	1270	.200	5.1			.300	7.6	900
1.0	25.4					170	35	890	.240	6.1	.325	8.3	1300	.160	4.1

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

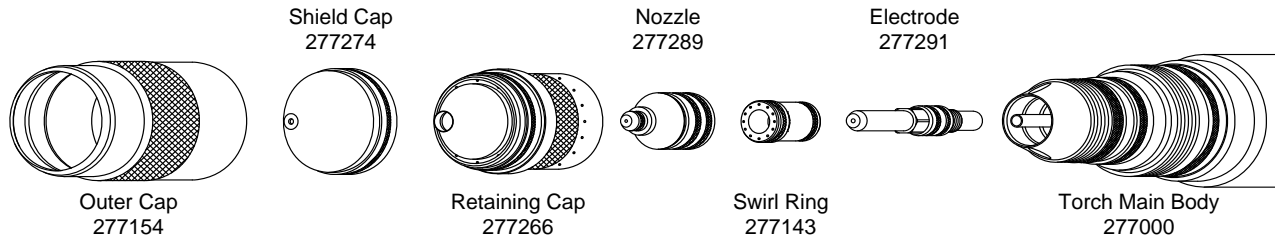
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 200 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Material Thickness		Prewflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)						(psi)	(psi)	(psi)	(ipm)	(mm/min)	(in)		(mm)	(in)
1/4	6.4	20	82	58	75	130	200	5080	.070	1.8	.200	5.1	200	.150	3.8
3/8	9.5					133	150	3810	.225	5.7	300				
1/2	12.7					140	110	2795	.115	2.9		.250			
5/8	15.9					146	75	1905	.150	3.8	.300	7.6	600	.155	3.9
3/4	19.1					153	60	1525	.190	4.8			800		
1.0	25.4					158	40	1015	.210	5.3	.325	8.3	1200	.160	4.1
1.25 **	31.8					170	20	510	.250	6.4			300		
1.5 **	38.1					180	10	255	.275	7.0					

\*\* Edge start or moving pierce recommended

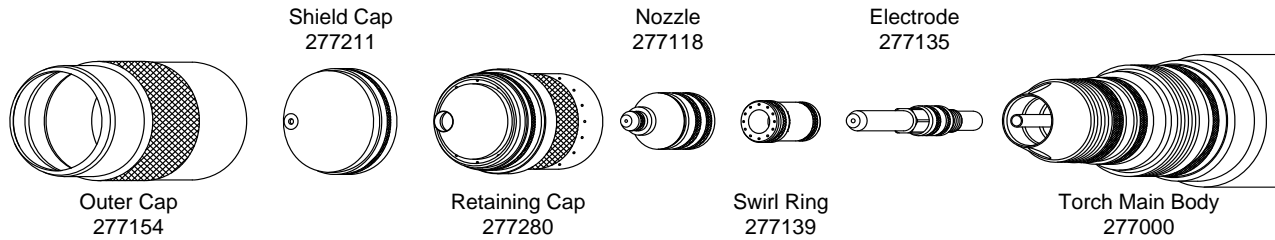
### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 260 Amps – H17 Plasma / Nitrogen Shield

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



Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
3/8	9.5	40	63	70	63	145	85	2160	.160	4.1	.275	7.0	500	.190	4.8
1/2	12.7					142	80	2030	.140	3.6					
5/8	15.9					145	65	1650	.185	4.7					
3/4	19.1					150	55	1395	.225	5.7	.300	7.6	800	.195	5.0
1.0	25.4					160	33	840	.250	6.4	.325	8.3	1000		
1.25 **	31.8					170	26	660	.280	7.1	.300	7.6	500		

\*\* Edge start required – some dross evident

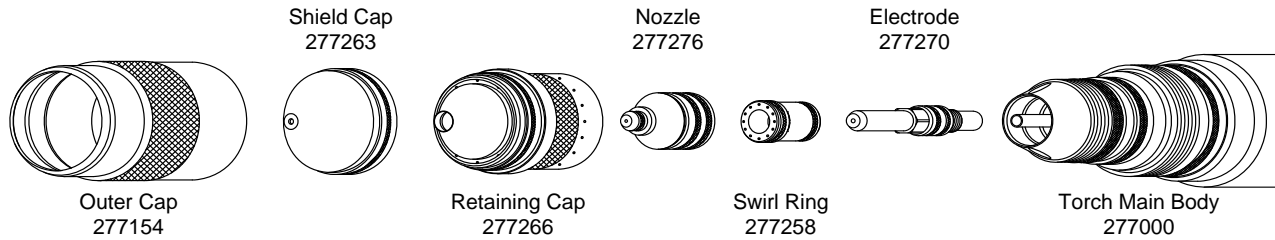
### Marking

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	108	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Stainless Steel 275 Amps – Air Plasma / Nitrogen Shield

This gas combination gives medium cut quality and minimum dross levels



Material Thickness		Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width		
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)	
1/2	12.7	20	93	70	83	143	120	3050	.125	3.2	.250	6.4	400	.165	4.2	
5/8	15.9					148	90	2285	.140	3.6	.275	7.0				600
3/4	19.1					152	80	2030	.180	4.6	.300	7.6	800	1000	.170	4.3
1.0	25.4					165	55	1395	.210	5.3	.325	8.3	400			
1.25 **	31.8					175	35	890	.250	6.4			400			
1.5 **	38.1					185	25	635	.300	7.6						

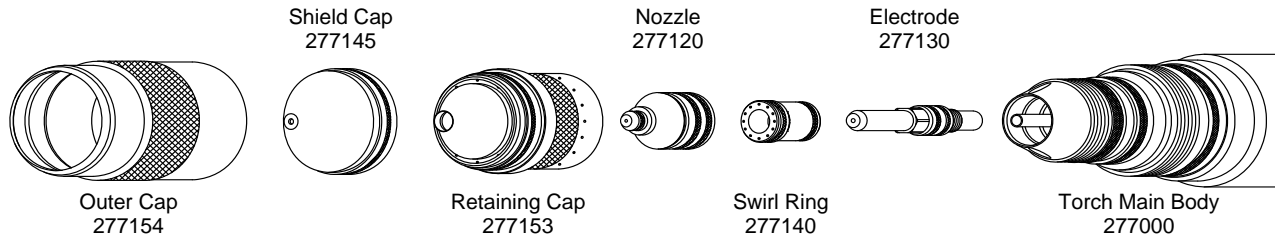
\*\* Edge start or moving pierce recommended

### Marking

Material Thickness			Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Marking Height		Initial Height		Motion Delay (msec)
(ga)	(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	
All Thicknesses			N/A	28	28	N/A	108	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 30 Amps – Air Plasma / Nitrogen Shield



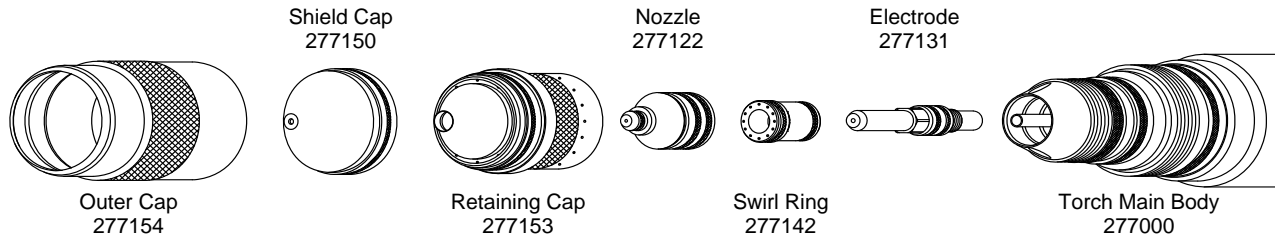
Material Thickness (in) (mm)	Preflow (psi)	Plasma (psi)	Shield (psi)	Postflow (psi)	Arc Voltage (volts)	Travel Speed		Cutting Height		Pierce Height		Motion Delay (msec)	Kerf Width	
						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(in)	(mm)
.040 1.0	30	92	20	90	135	150	3810	.030	0.8	.065	1.7	100	.065	1.7
.050 1.3					135	120	3050			.075	1.9			
.063 1.6					135	90	2285			.085	2.2			

### Marking

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

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 50 Amps – Air Plasma / Nitrogen Shield



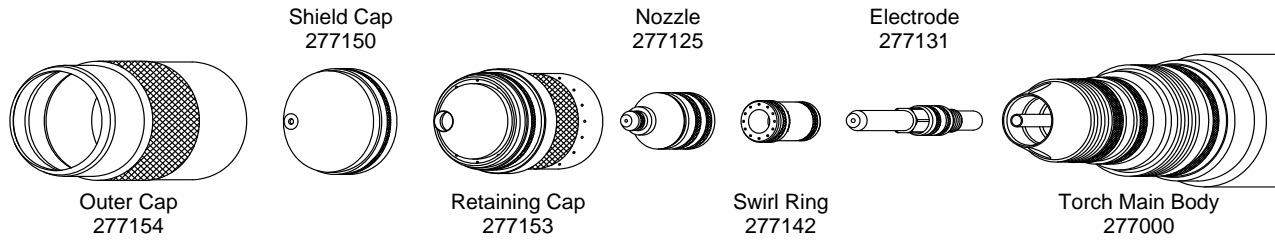
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height	Motion Delay	Kerf Width		
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
.050	1.3					135	180	4570	.050	1.3				.080	2.0
.063	1.6	25	74	19	73	138	140	3555	.065	1.7	.100	2.5	100	.082	2.1
.080	2.0					143	90	2285	.075	1.9				.085	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. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 70 Amps – Air Plasma / Nitrogen Shield



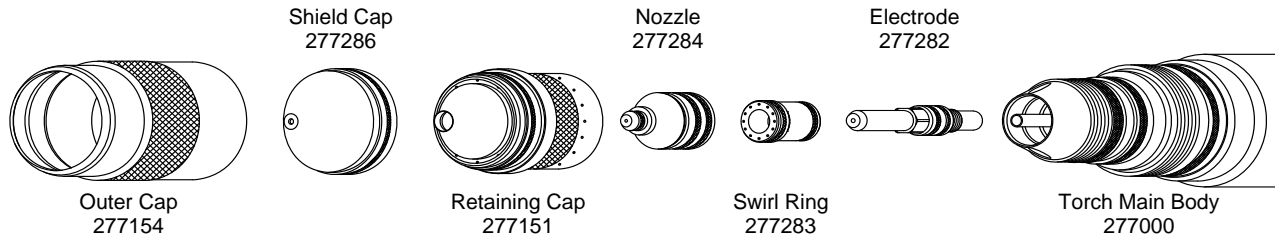
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width		
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)	
.080	2.0	25	80	25	79	130	250	6350	.050	1.3	.100	2.5	100	.080	2.0	
1/8	3.2					135	160	4065	.070	1.8						
3/16	4.8					145	80	2030	.100	2.5						.125
1/4	6.4					150	50	1270	.060	1.5	.150	3.8		200	.085	2.2
3/8	9.5					155	40	1015	.075	1.9	.175	4.4		300		
1/2	12.7					162	30	760	.115	2.9	.200	5.1		400	.090	2.3

### 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	135	250	6350	.096	2.4	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

**Aluminum**  
**100 Amps – Air Plasma / Nitrogen Shield**



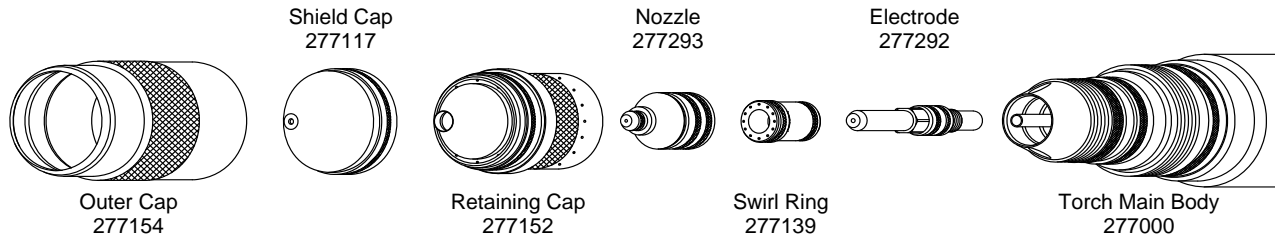
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
1/4	6.4					145	105	2665	.155	3.9	.200	5.1	200	.095	2.4
3/8	9.5	25	94	26	93	156	90	2285	.180	4.6	.250	6.4	300	.098	2.5
1/2	12.7					157	70	1780	.195	5.0	.275	7.0	400	.100	2.5

**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	130	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 150 Amps – Air Plasma / Nitrogen Shield



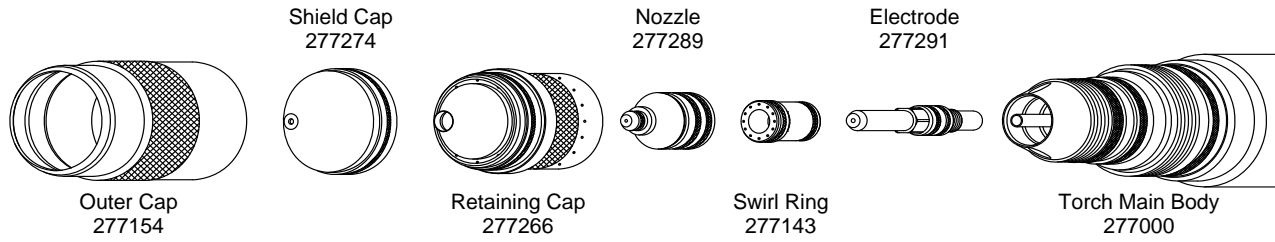
Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
1/4	6.4	25	75	50	67	145	145	3680	.130	3.3	.225	5.7	400	.125	3.2
3/8	9.5					155	115	2920	.185	4.7	500				
1/2	12.7					165	90	2285	.230	5.8	600	.130	3.3		
5/8	15.9					170	65	1650	.250	6.4	800	.135	3.4		
3/4	19.1					170	45	1145			1000	.140	3.6		

### 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	135	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 200 Amps – Air Plasma / Nitrogen Shield



Material Thickness		Preflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)	(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)	(msec)	(in)	(mm)
1/4	6.4	20	82	58	75	150	190	4825	.135	3.4	.200	5.1	200	.150	3.8
3/8	9.5					155	145	3685	.140	3.6	.250	6.4	300		
1/2	12.7					155	110	2795	.135	3.4	.300	7.6	400	.155	3.9
5/8	15.9					160	95	2415					500		
3/4	19.1					160	65	1650	.150	3.8	.350	8.9	600		
1.0 **	25.4					175	35	890	.200	5.1			400	.170	4.3

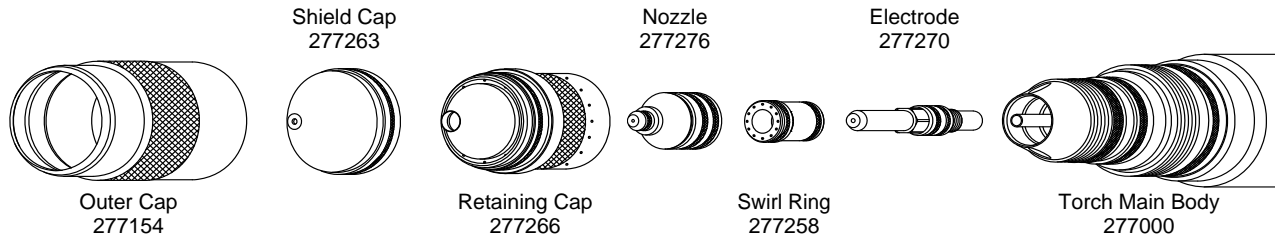
\*\* Edge start or moving pierce recommended

### 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	120	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07

### Aluminum 275 Amps – Air Plasma / Nitrogen Shield



Material Thickness		Prewflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Cutting Height		Pierce Height		Motion Delay	Kerf Width	
(in)	(mm)						(ipm)	(mm/min)	(in)	(mm)	(in)	(mm)		(msec)	(in)
3/8	9.5	20	93	65	83	160	160	4065	.160	4.1	.250	6.4	400	.160	4.1
1/2	12.7					165	125	3175	.180	4.6	.275	7.0			
5/8	15.9					168	105	2665	.190	4.8	.300	7.6	600		
3/4	19.1					172	85	2160	.200	5.1	.325	8.3	800		
1 **	25.4					180	60	1525	.240	6.1	.350	8.9	400	.170	4.3
1.25 **	31.8					185	45	1145	.260	6.6					
1.5 **	38.1					190	25	635	.270	6.9				.180	4.6

\*\* Edge start or moving pierce recommended

### Marking

Material Thickness			Prewflow	Plasma	Shield	Postflow	Arc Voltage	Travel Speed		Marking Height		Initial Height		Motion Delay
(ga)	(in)	(mm)						(psi)	(psi)	(psi)	(psi)	(volts)	(ipm)	
All	Thicknesses		N/A	28	28	N/A	108	250	6350	.100	2.5	.100	2.5	0

1. 1 inch = 25.4 mm; 1 scfh = 28.316 l/h; 1 psi = .0689 bar = 6.895 KPa
2. Revised on 4/10/07