

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.

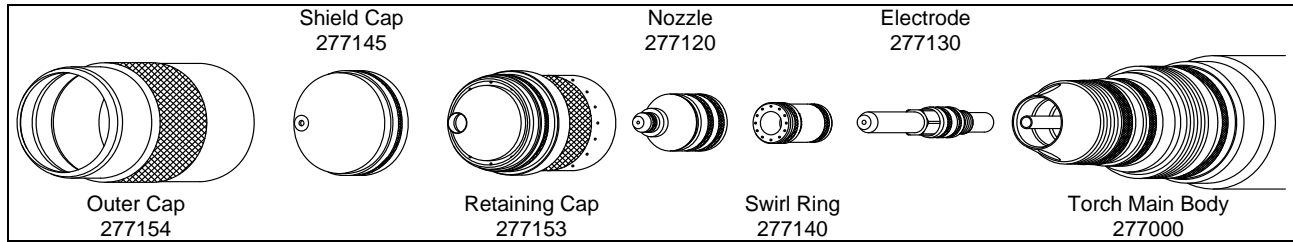
Cutting Charts

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

| Material | Current | Plasma Gas | Shield Gas | Page |
|-----------------|----------------|-------------------|-------------------|-------------|
| 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 |
| | | | | |
| Stainless Steel | 30 Amps | Air | Air | 4-26 |
| Stainless Steel | 50 Amps | Air | Nitrogen | 4-27 |
| Stainless Steel | 70 Amps | H17 | Nitrogen | 4-28 |
| Stainless Steel | 70 Amps | Air | Nitrogen | 4-29 |
| Stainless Steel | 100 Amps | H17 | Nitrogen | 4-30 |
| Stainless Steel | 100 Amps | Air | Nitrogen | 4-31 |
| Stainless Steel | 150 Amps | H17 | Nitrogen | 4-32 |
| Stainless Steel | 150 Amps | Air | Nitrogen | 4-33 |
| | | | | |
| Aluminum | 30 Amps | Air | Nitrogen | 4-34 |
| Aluminum | 50 Amps | Air | Nitrogen | 4-35 |
| Aluminum | 70 Amps | Air | Nitrogen | 4-36 |
| Aluminum | 100 Amps | Air | Nitrogen | 4-37 |
| Aluminum | 150 Amps | Air | Nitrogen | 4-38 |

Mild Steel
30 Amps – Oxygen Plasma / Oxygen 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 | 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 | .120 | .125 | | .070 |
| 11 | .120 | | | | | 129 | 50 | | | | |
| 10 | .135 | | | | | 131 | 40 | | | | |

Metric

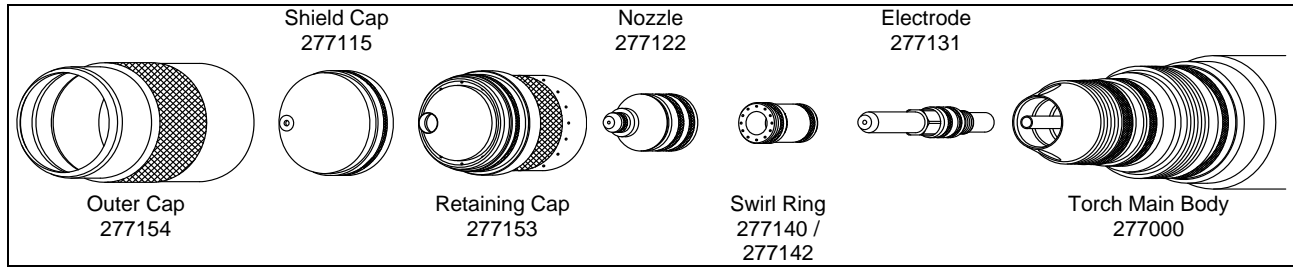
| Material Thickness | | Preflow | Plasma | Shield | Postflow | Arc Voltage | Travel Speed | Cutting Height | Pierce Height | Motion Delay | Kerf Width |
|--------------------|------|---------|--------|--------|----------|-------------|--------------|----------------|---------------|--------------|------------|
| (mm) | (mm) | (psi) | (psi) | (psi) | (psi) | (volts) | (mm/m) | (mm) | (mm) | (msec) | (mm) |
| 1 | | 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 | | | 1.8 |
| 2.5 | | | | | | 1455 | | | | | |
| 3 | | | | | | 128 | 1285 | 2.9 | 3.1 | | |

Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | Travel Speed | | Marking Height | | Initial Height | | Motion Delay |
|--------------------|------|------|---------|--------|--------|----------|--------------|----------|----------------|------|----------------|------|--------------|
| (ga) | (in) | (mm) | (psi) | (psi) | (psi) | (psi) | (ipm) | (mm/min) | (in) | (mm) | (in) | (mm) | (msec) |
| All Thicknesses | | | N/A | 28 | 28 | N/A | 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 | | 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) | | |
| 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 | | | | .080 | | |
| | .125 | | | | | | 180 | | | | | | |
| 10 | .135 | | | | | 110 | 170 | .110 | | | .085 | | |
| | 3/16 | | | | | 113 | 105 | .140 | | | .145 | 200 | .087 |
| | 1/4 | | | | | 117 | 75 | .165 | | | .165 | 250 | |

Metric

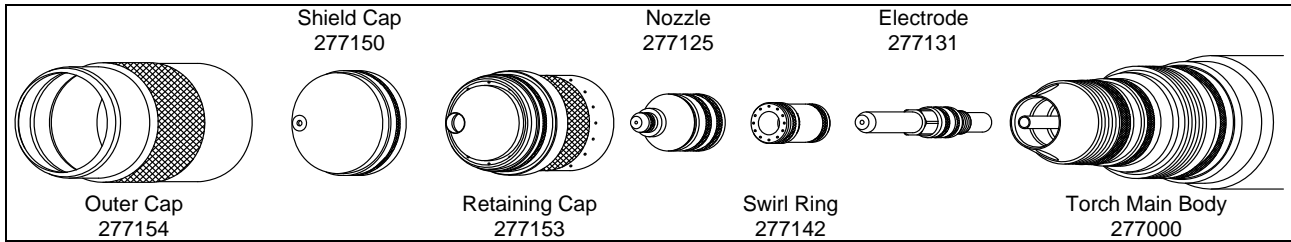
| Material Thickness | | Preflow | Plasma | Shield | Postflow | Arc Voltage | Travel Speed | Cutting Height | Pierce Height | Motion Delay | Kerf Width | | |
|--|------|---------|--------|--------|----------|-------------|--------------|----------------|---------------|--------------|------------|-----|-----|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

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 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 | | | 25 | | 116 | 120 | .110 | .125 | | | 200 |
| 3/8 | | | 25 | | 122 | 75 | | | | | |

Metric

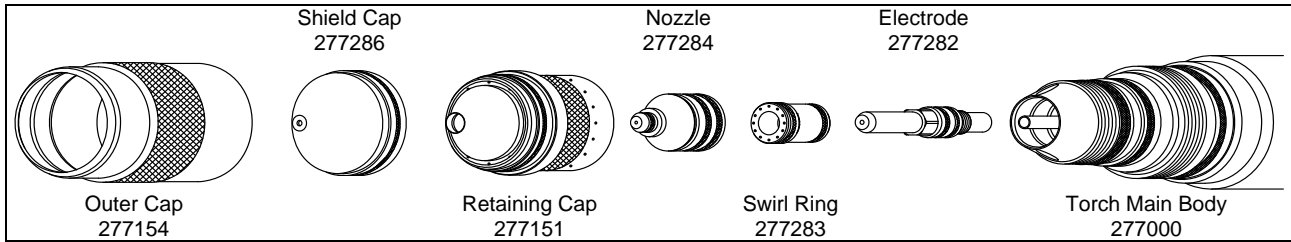
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|------------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

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 | 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 | 900 | .095 | |
| 3/4 | | | | | 145 | 35 | | | | |

Metric

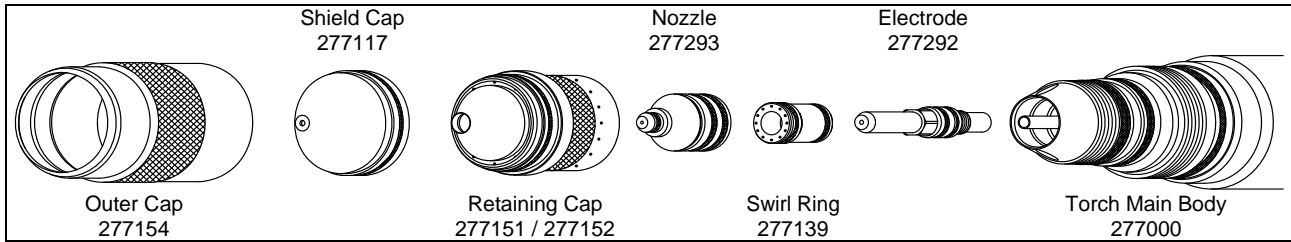
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|-----------------|
| 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 | 900 | 2.4 | |
| 16 | | | | | 143 | 1180 | 4.7 | | | 5.1 |
| 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 | | | | 400 |
| 1/2 | | | | | 125 | 90 | .140 | | | | |
| Retaining Cap 277152 | | | | | | | | | | | |
| 5/8 | 20 | 74 | 45 | 67 | 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

| 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 | |
| Retaining Cap 277152 | | | | | | | | | | | | |
| 16 | 20 | 74 | 45 | 67 | 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 | | | | | |

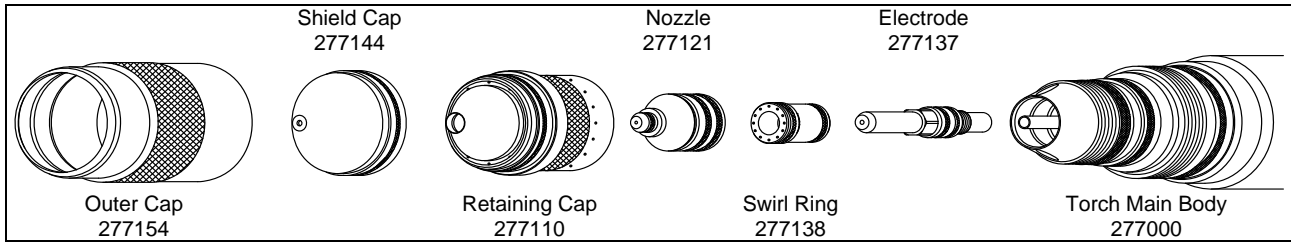
** Edge start or moving pierce recommended

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
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 | | | | | 74 | 165 | .035 | | | .068 |
| 16 | .060 | | | | | 75 | 125 | .025 | | | .070 |
| 14 | .075 | | | | | | 90 | | | | |

Metric

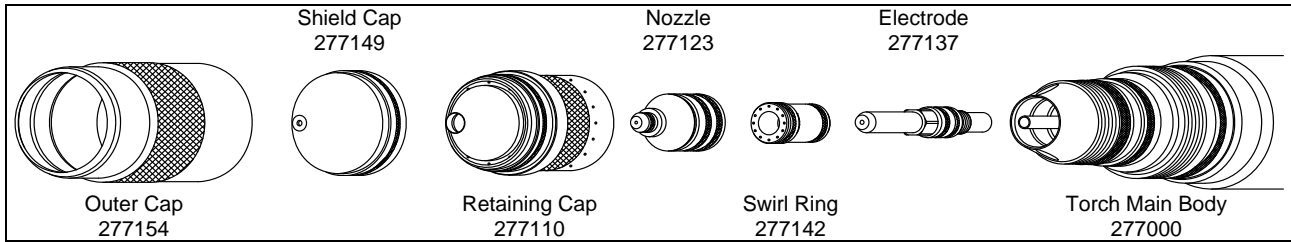
| Material Thickness | | Preflow | Plasma | Shield | Postflow | Arc Voltage | Travel Speed | Cutting Height | Pierce Height | Motion Delay | Kerf Width |
|--------------------|------|---------|--------|--------|----------|-------------|--------------|----------------|---------------|--------------|------------|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

Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | 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 | | 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) |
| 14 | .075 | 30 | 70 | 40 | 70 | 87 | 105 | .035 | .060 | 100 | .105 |
| 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 | | Preflow | Plasma | Shield | Postflow | 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 | | 30 | 70 | 40 | 70 | 87 | 2565 | .9 | 1.5 | 100 | 2.7 |
| 2.5 | 2080 | | | | | | | | | | |
| 3 | 1685 | | | | | | | | | | |
| 5 | 1235 | | | | | 1.0 | 1.9 | 300 | 2.8 | | |
| 6 | 98 | | | | | 1075 | 1.3 | | | 2.1 | |

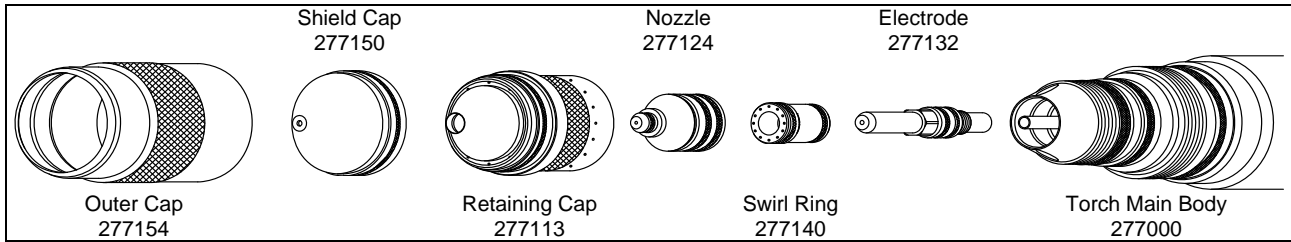
Marking

| 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

**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

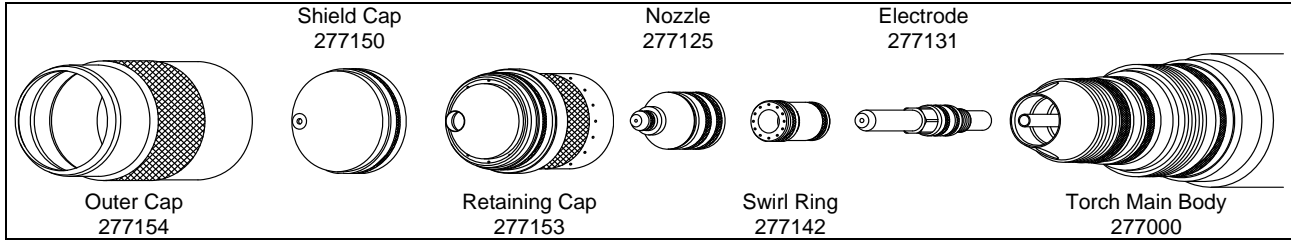
Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | Travel Speed | | Marking Height | | Initial Height | | Motion Delay |
|--------------------|------|------|---------|--------|--------|----------|--------------|----------|----------------|------|----------------|------|--------------|
| (ga) | (in) | (mm) | (psi) | (psi) | (psi) | (psi) | (ipm) | (mm/min) | (in) | (mm) | (in) | (mm) | (msec) |
| All Thicknesses | | | N/A | 28 | 28 | N/A | 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 | | 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) |
| 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 | | Preflow | Plasma | Shield | Postflow | 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) |
| 3 | | 25 | 80 | 25 | 79 | 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 | |

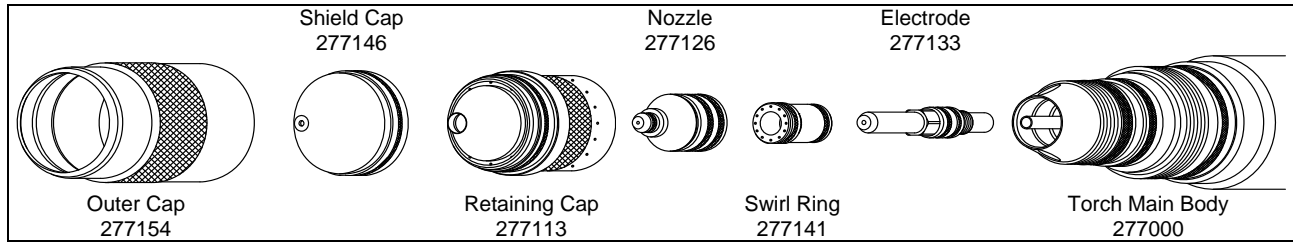
Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | Travel Speed | | Marking Height | | Initial Height | | Motion Delay |
|--------------------|------|------|---------|--------|--------|----------|--------------|----------|----------------|------|----------------|------|--------------|
| (ga) | (in) | (mm) | (psi) | (psi) | (psi) | (psi) | (ipm) | (mm/min) | (in) | (mm) | (in) | (mm) | (msec) |
| All Thicknesses | | | N/A | 28 | 28 | N/A | 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 | .105 |
| 1/4 | | | | | 140 | 100 | .125 | .225 | 300 | |
| 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

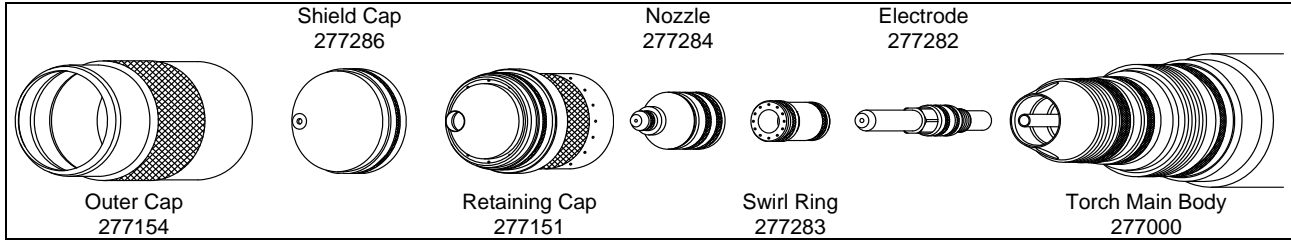
Marking

| 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 | |
| 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 | |
| 12 | | | | | 152 | 1540 | 5.0 | 6.2 | | |

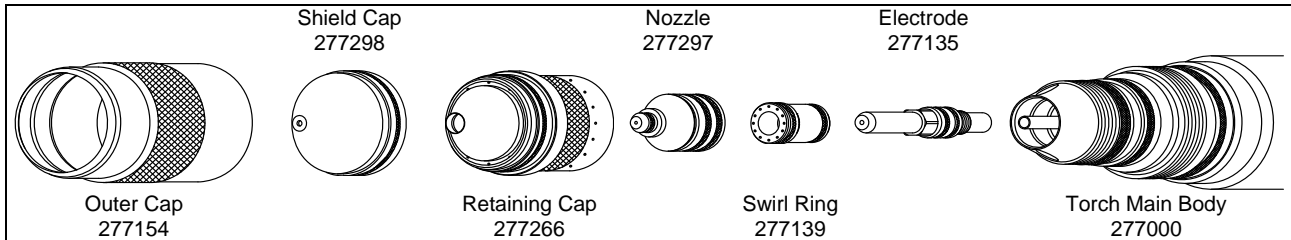
Marking

| 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 | | | | | 75 | .150 | 500 | | | |
| 1/2 | | | | | 60 | .165 | 600 | .140 | | |
| 5/8 | | | | | 50 | .185 | 800 | | | |
| 3/4 | | | | | 165 | 40 | .250 | .300 | 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 | 1000 | 3.7 | |
| 20 | | | | | 167 | 940 | 6.9 | | | |

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

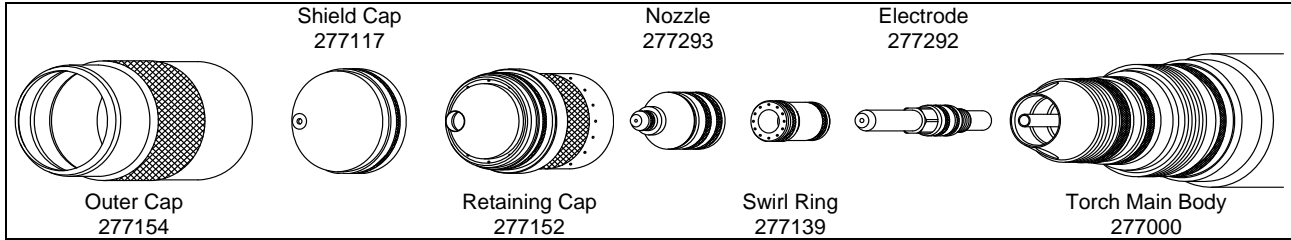
Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | Travel Speed | | Marking Height | | Initial Height | | Motion Delay | |
|--------------------|------|------|---------|--------|--------|----------|--------------|----------|----------------|------|----------------|------|--------------|---|
| (ga) | (in) | (mm) | (psi) | (psi) | (psi) | (psi) | (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. 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 | | 500 | |
| 1/2 | | | | | 155 | 85 | .210 | 600 | .130 | |
| 5/8 | | | | | 160 | 60 | .220 | 800 | | |
| 3/4 | | | | | 168 | 45 | .240 | 1000 | .135 | |

Metric

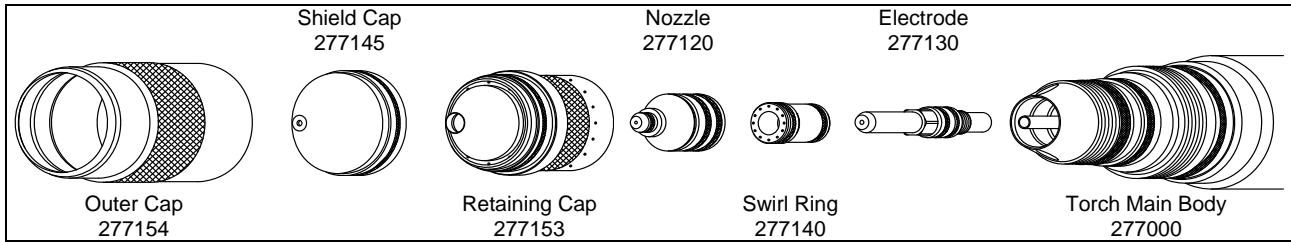
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|-----------------|
| 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 | 7.6 | 1000 | 3.3 |
| 16 | | | | | 160 | 1510 | 5.6 | | | |
| 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

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

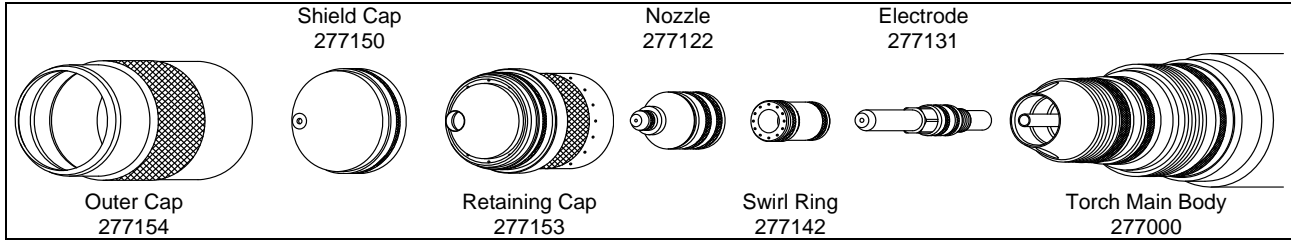
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|------------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

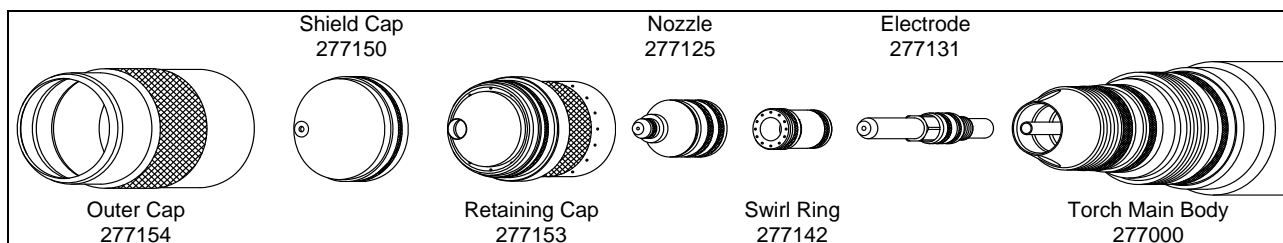
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|------------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

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 | 200 | .085 |
| 1/4 | | | | | 150 | 50 | .060 | .150 | | |
| 3/8 | | | | | 155 | 40 | .075 | .175 | | |
| 1/2 | | | | | 162 | 30 | .115 | .200 | 400 | .090 |

Metric

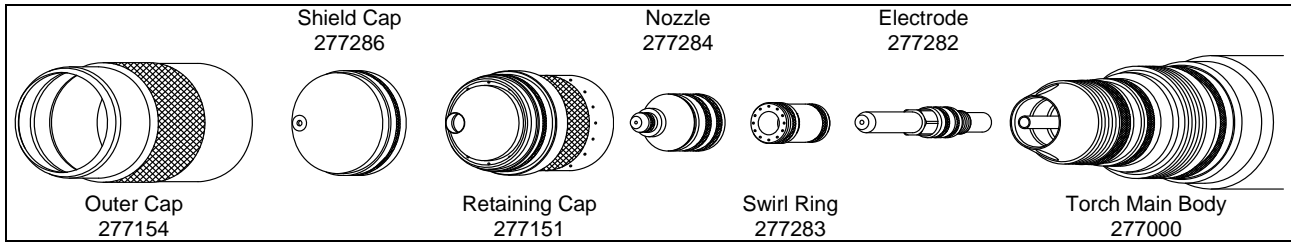
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|-----------------|
| 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 | | |
| 12 | | | | | 160 | 820 | 2.6 | 4.9 | 400 | 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

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

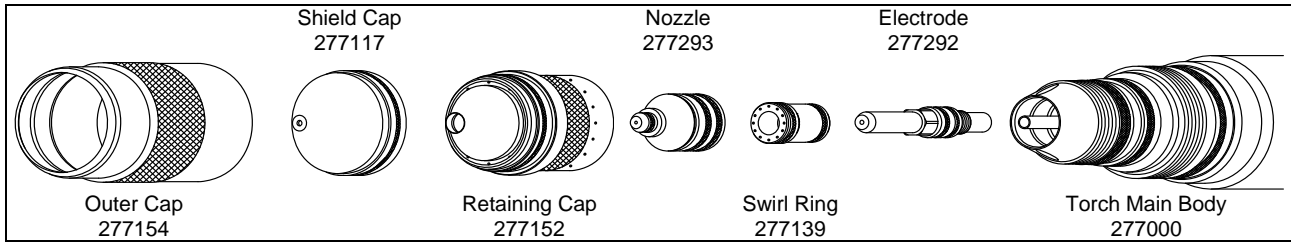
| Material Thickness (mm) | Preflow (psi) | Plasma (psi) | Shield (psi) | Postflow (psi) | Arc Voltage (volts) | Travel Speed (mm/m) | Cutting Height (mm) | Pierce Height (mm) | Motion Delay (msec) | Kerf Width (mm) |
|-------------------------|---------------|--------------|--------------|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|-----------------|
| 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 | | 500 | |
| 1/2 | | | | | 165 | 90 | .230 | .275 | 600 | .130 |
| 5/8 | | | | | 170 | 65 | .250 | | 800 | |
| 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 | | 600 | |
| 12 | | | | | 162 | 2430 | 5.5 | 7.0 | | 3.4 |
| 16 | | | | | 170 | 1630 | 6.4 | | 1000 | |
| 20 | | | | | 170 | 990 | | 8.6 | | |

Marking

| Material Thickness | | | Preflow | Plasma | Shield | Postflow | Travel Speed | | Marking Height | | Initial Height | | Motion Delay | |
|--------------------|------|------|---------|--------|--------|----------|--------------|----------|----------------|------|----------------|------|--------------|---|
| (ga) | (in) | (mm) | (psi) | (psi) | (psi) | (psi) | (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. Revised on 7/2/07