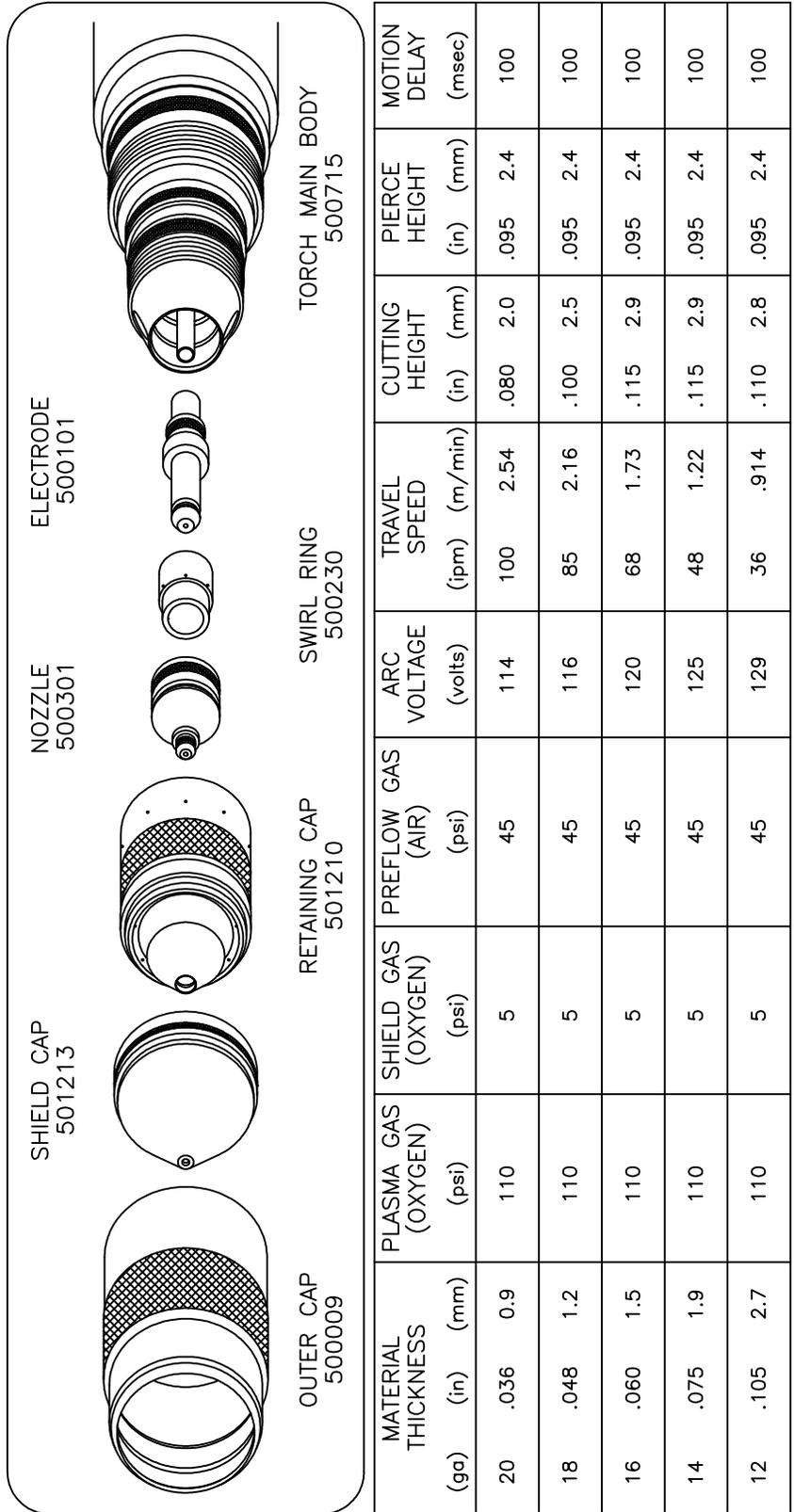


## Cutting Charts

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.

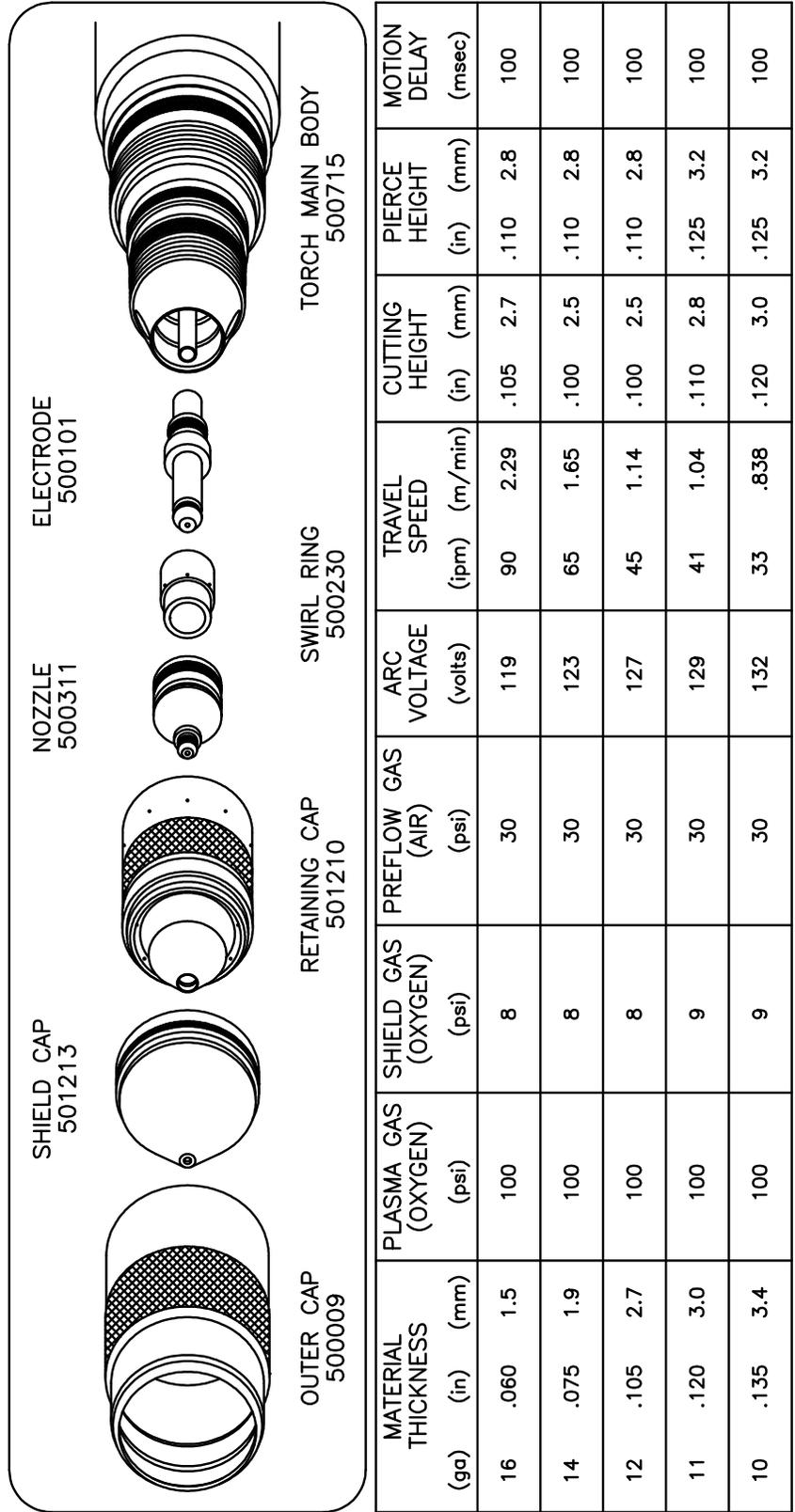
### Cutting Chart Index

Material	Process	Current	Plasma Gas	Shield Gas	Page
Mild Steel	Cutting	15 Amps	Oxygen	Oxygen	4-14
Mild Steel	Cutting	30 Amps	Oxygen	Oxygen	4-15
Mild Steel	Cutting	50 Amps	Oxygen	Air	4-16
Mild Steel	Cutting	70 Amps	Oxygen	Air	4-17
Mild Steel	Cutting	100 Amps	Oxygen	Air	4-18
Stainless Steel	Cutting	30 Amps	Air	Air	4-19
Stainless Steel	Cutting	50 Amps	Air	Nitrogen	4-20
Stainless Steel	Cutting	70 Amps	Air	Nitrogen	4-21
Stainless Steel	Cutting	100 Amps	Air	Nitrogen	4-22
Aluminum	Cutting	15 Amps	Air	Nitrogen	4-23
Aluminum	Cutting	30 Amps	Air	Nitrogen	4-24
Aluminum	Cutting	50 Amps	Air	Nitrogen	4-25
Aluminum	Cutting	70 Amps	Air	Nitrogen	4-26
Aluminum	Cutting	100 Amps	Air	Nitrogen	4-27
Mild Steel	Marking	10 Amps	Nitrogen	Nitrogen	4-28
Stainless Steel	Marking	8 Amps	Nitrogen	Nitrogen	4-29
Aluminum	Marking	10 Amps	Nitrogen	Nitrogen	4-30



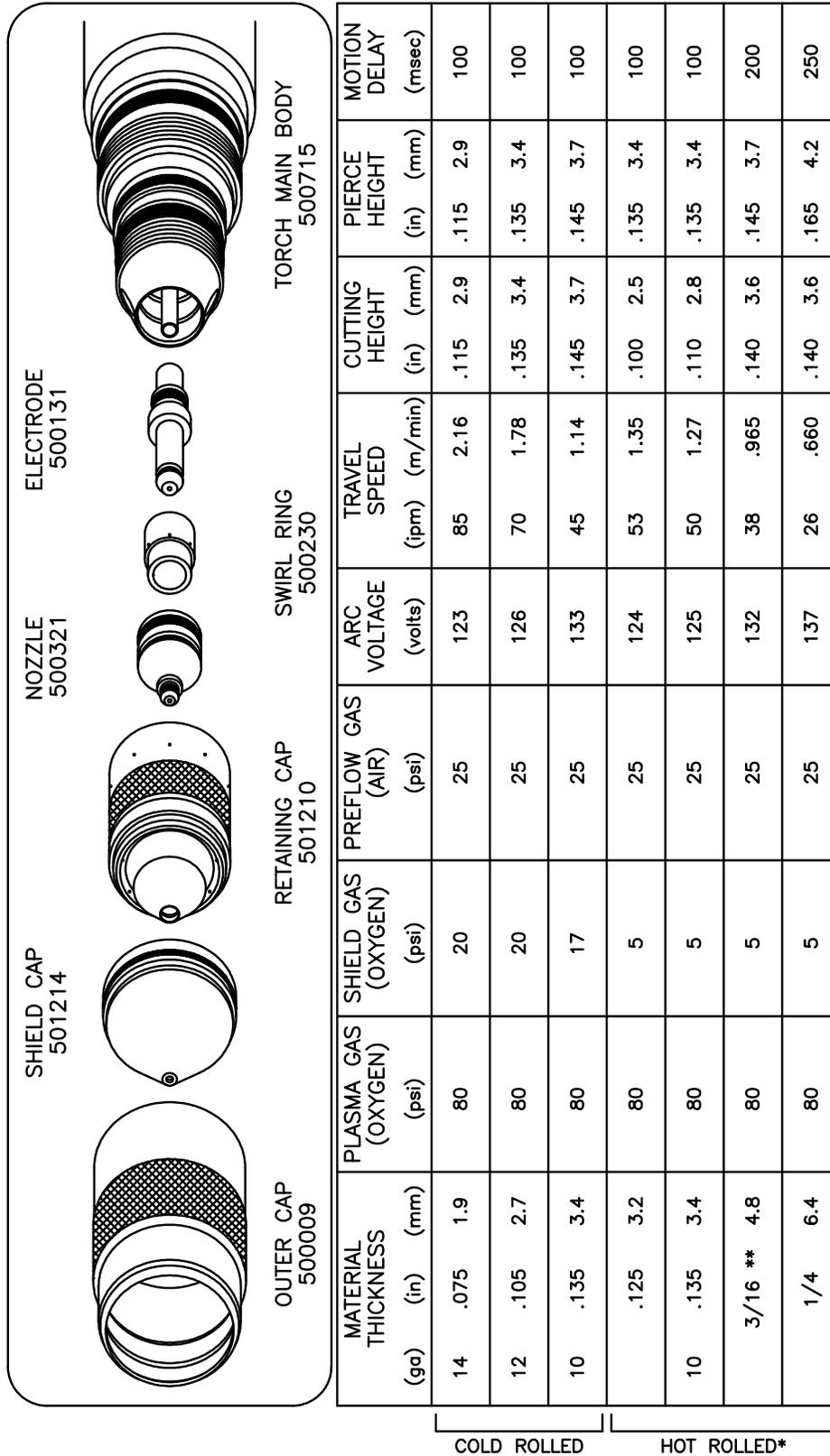
NOTES:  
 1. ARC VOLTAGE TOLERANCE IS ±1 VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.  
 2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:  
 A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.  
 B. USING A LEAD OUT FOR EACH CUT.  
 3. REVISED ON 11/7/03.

Figure 4-10 Mild Steel Cutting Chart - 15A



NOTES:  
 1. ARC VOLTAGE TOLERANCE IS ±1 VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.  
 2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:  
 A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.  
 B. USING A LEAD OUT FOR EACH CUT.  
 3. REVISED ON 12/7/99.

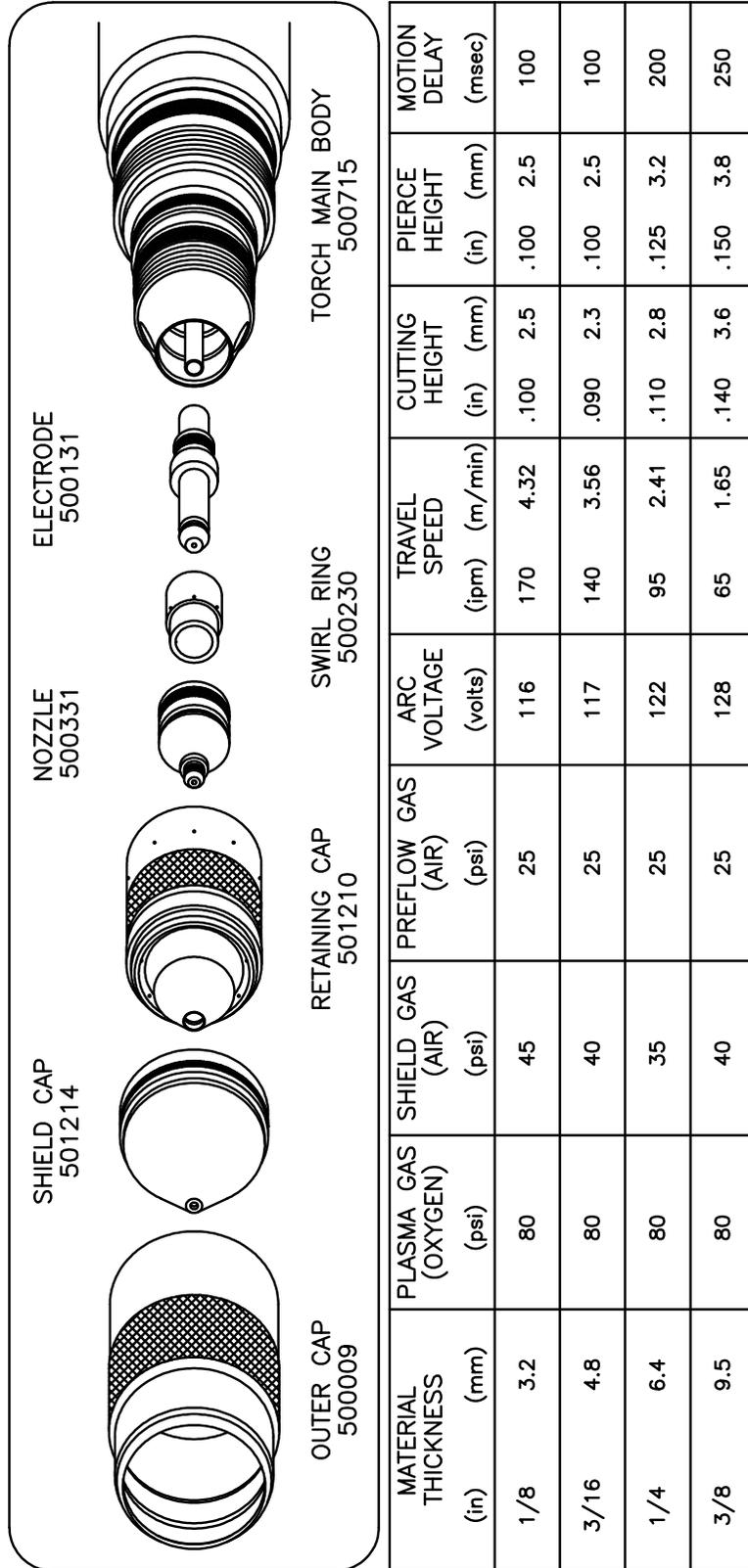
Figure 4-11 Mild Steel Cutting Chart - 30A



\* USE COLD ROLLED DATA FOR HOT ROLLED STEEL UNDER .125".  
 \*\* THIS CONDITION GIVES THE LEAST AMOUNT OF BOTTOM DROSS BUT REQUIRES A 1/2" LEAD-IN. USE 133V, 45IPM, 15PSI SHIELD IF A SHORTER LEAD-IN IS REQUIRED.

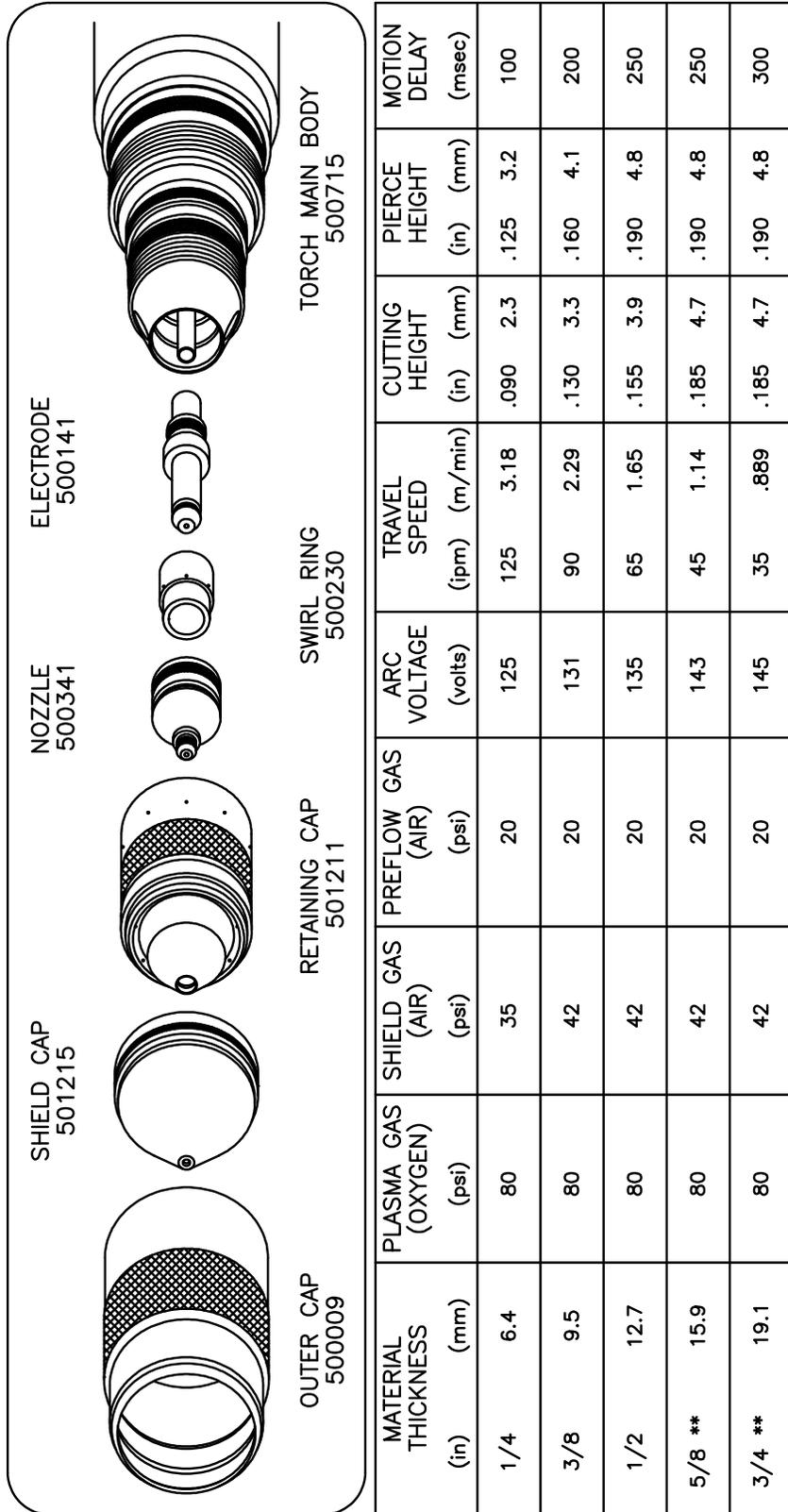
- NOTES:
1. ARC VOLTAGE TOLERANCE IS ±1 VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - B. USING A LEAD OUT FOR EACH CUT.
  3. REVISED ON 12/7/99.

Figure 4-12 Mild Steel Cutting Chart - 50A



- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-13 Mild Steel Cutting Chart - 70A

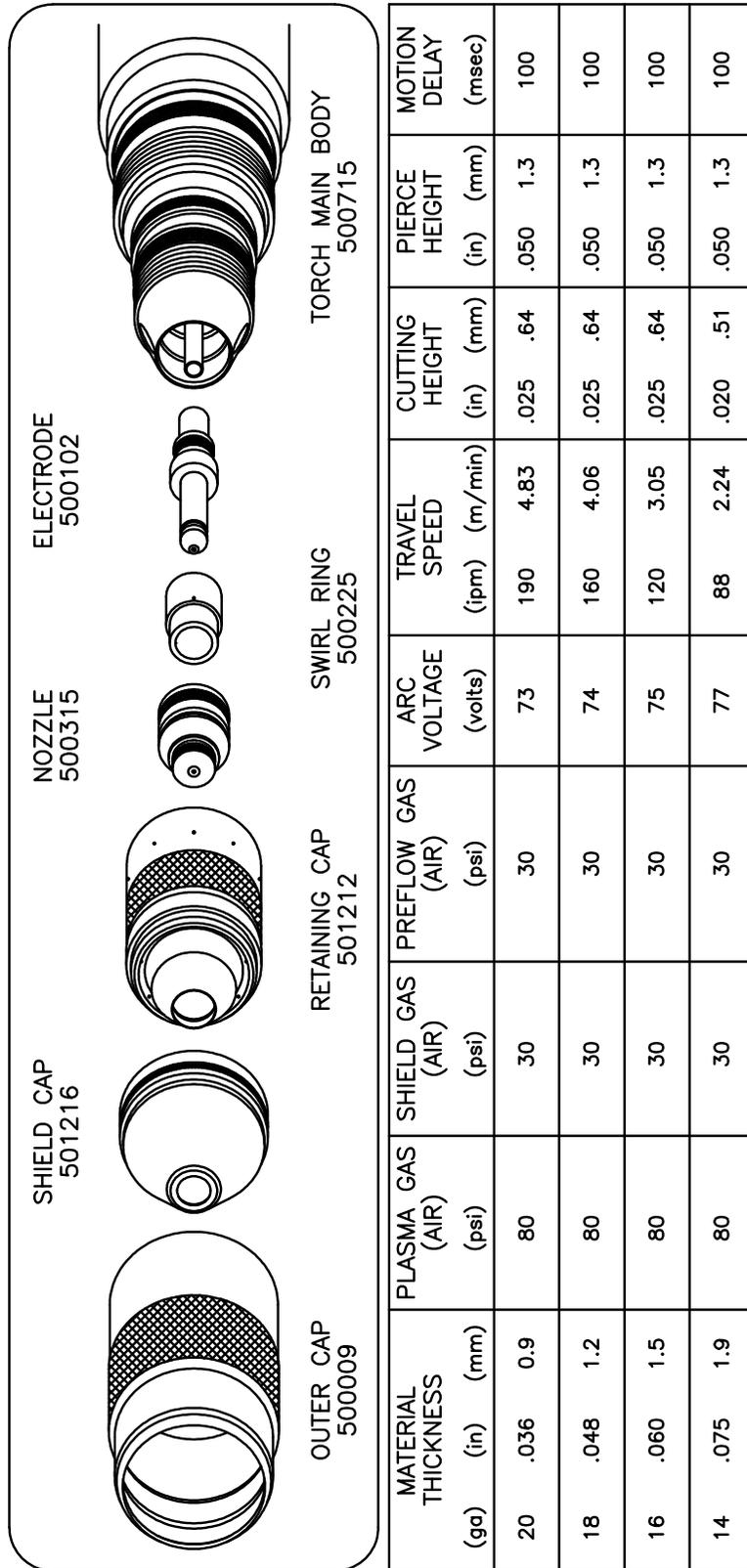


\*\* EDGE START OR MOVING PIERCE RECOMMENDED.

NOTES:

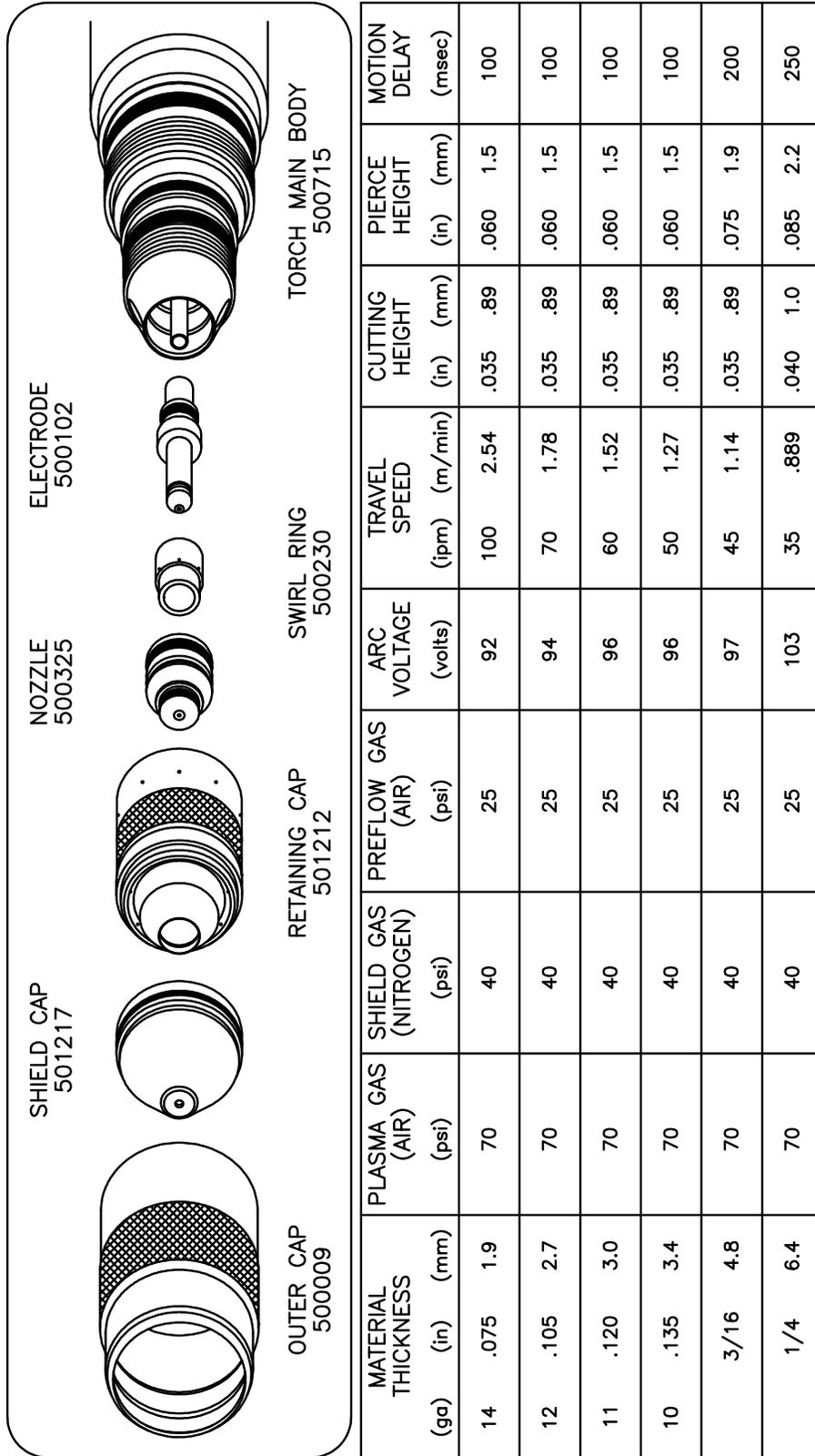
1. ARC VOLTAGE TOLERANCE IS ±1 VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
  - A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
  - B. USING A LEAD OUT FOR EACH CUT.
3. REVISED ON 12/7/99.

Figure 4-14 Mild Steel Cutting Chart - 100A



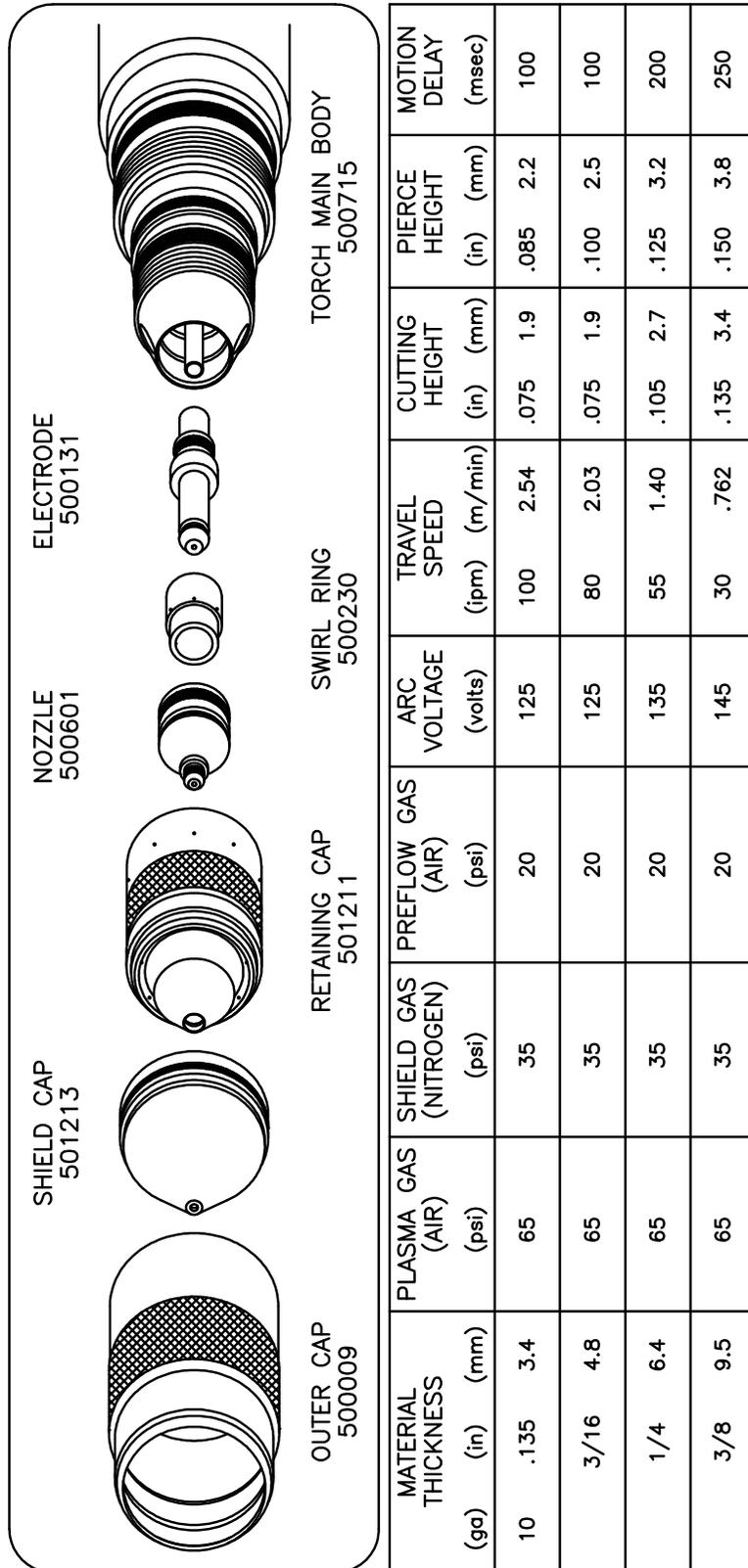
- NOTES:
1. ARC VOLTAGE TOLERANCE IS ±1 VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - B. USING A LEAD OUT FOR EACH CUT.
  3. REVISED ON 12/7/99.

Figure 4-15 Stainless Steel Cutting Chart - 30A



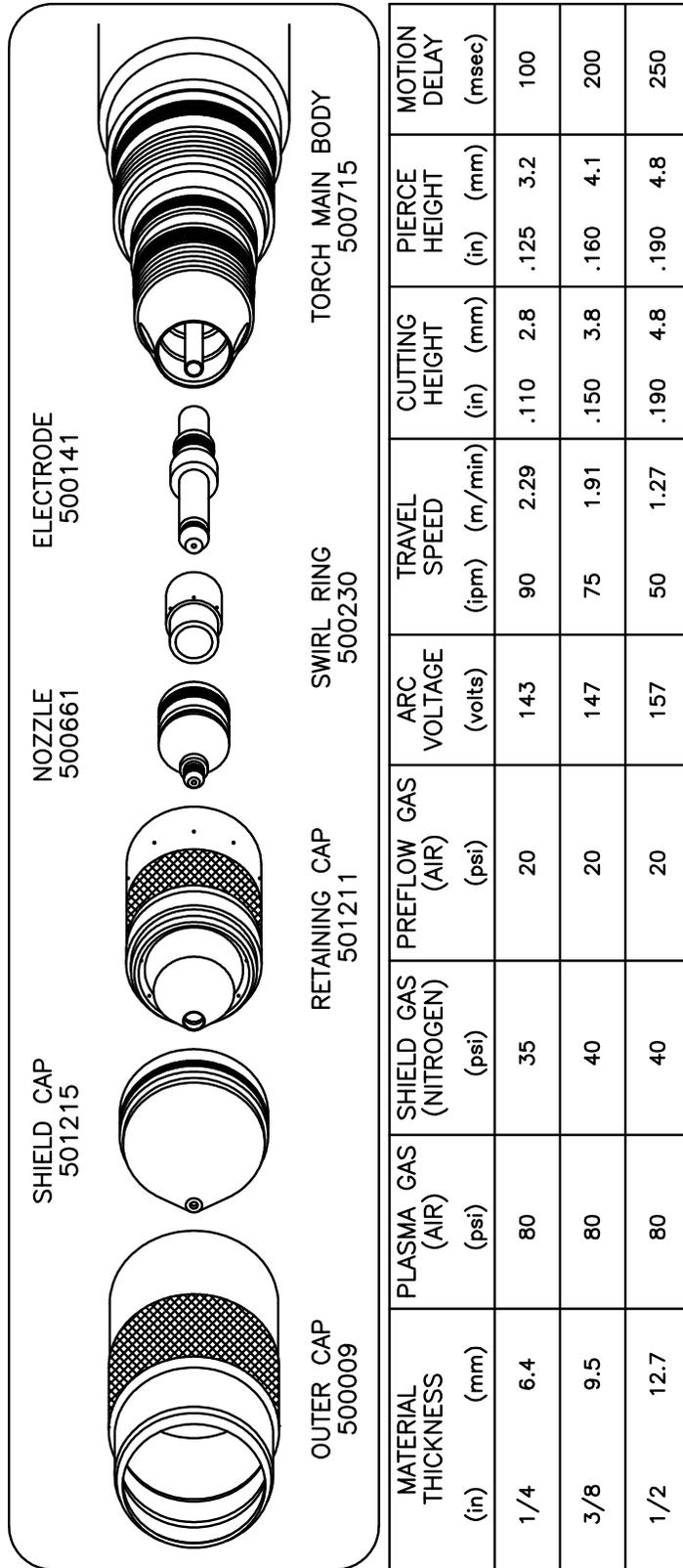
- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-16 Stainless Steel Cutting Chart - 50A



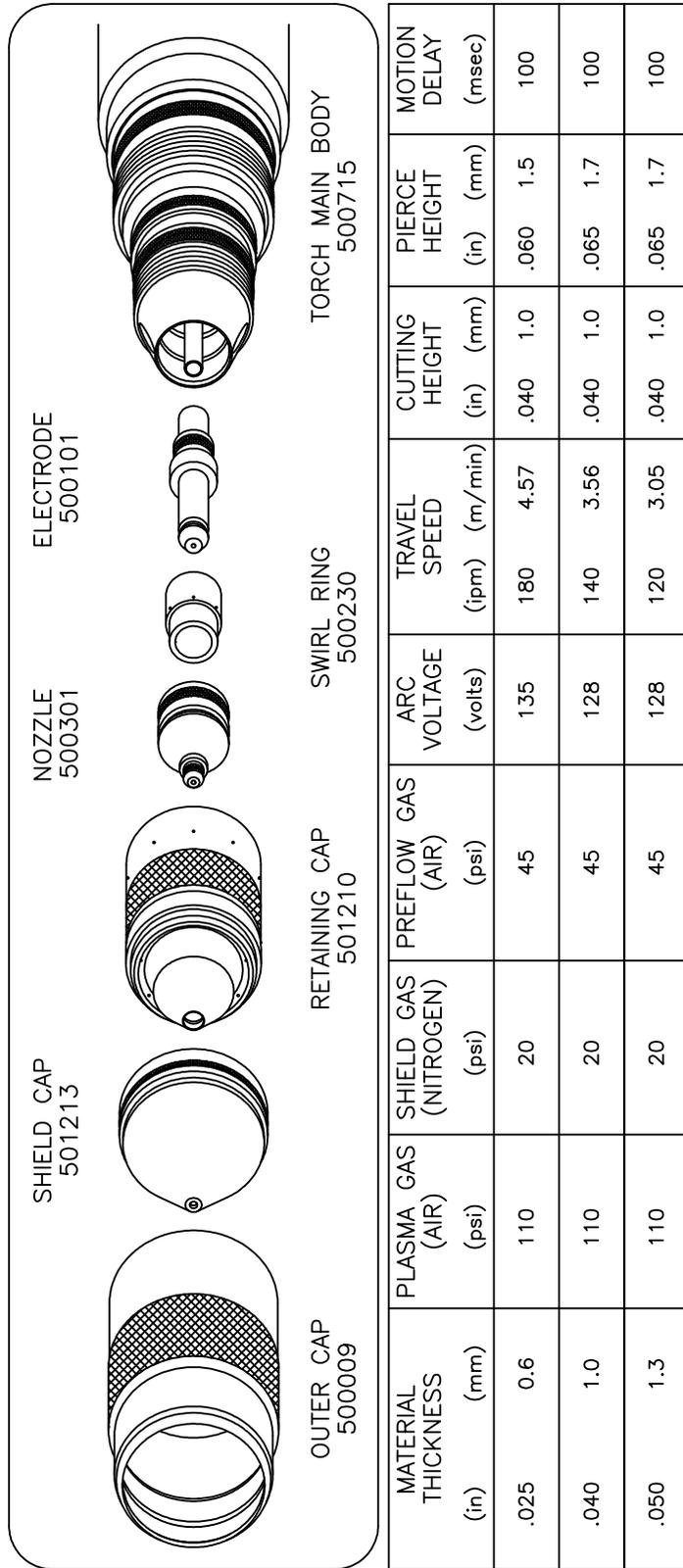
- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-17 Stainless Steel Cutting Chart - 70A



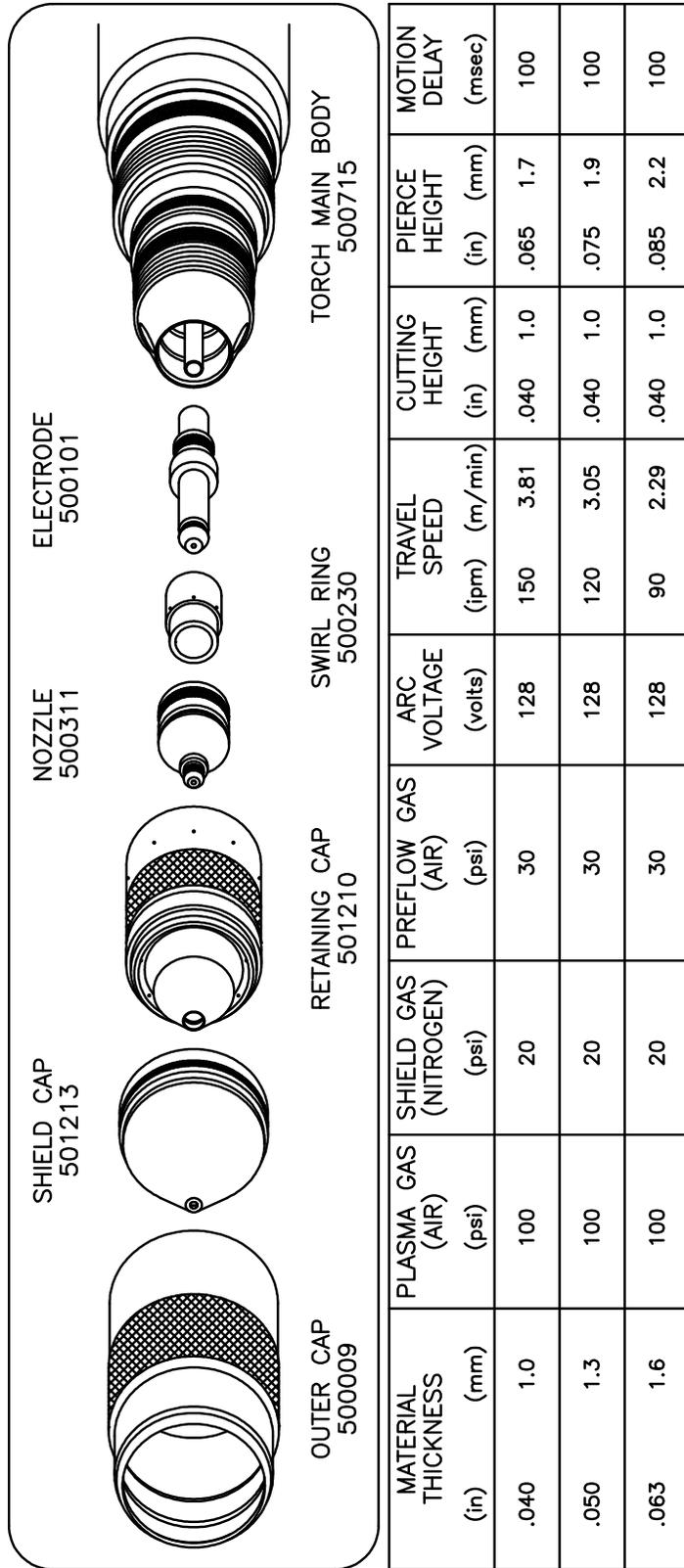
- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-18 Stainless Steel Cutting Chart - 100A



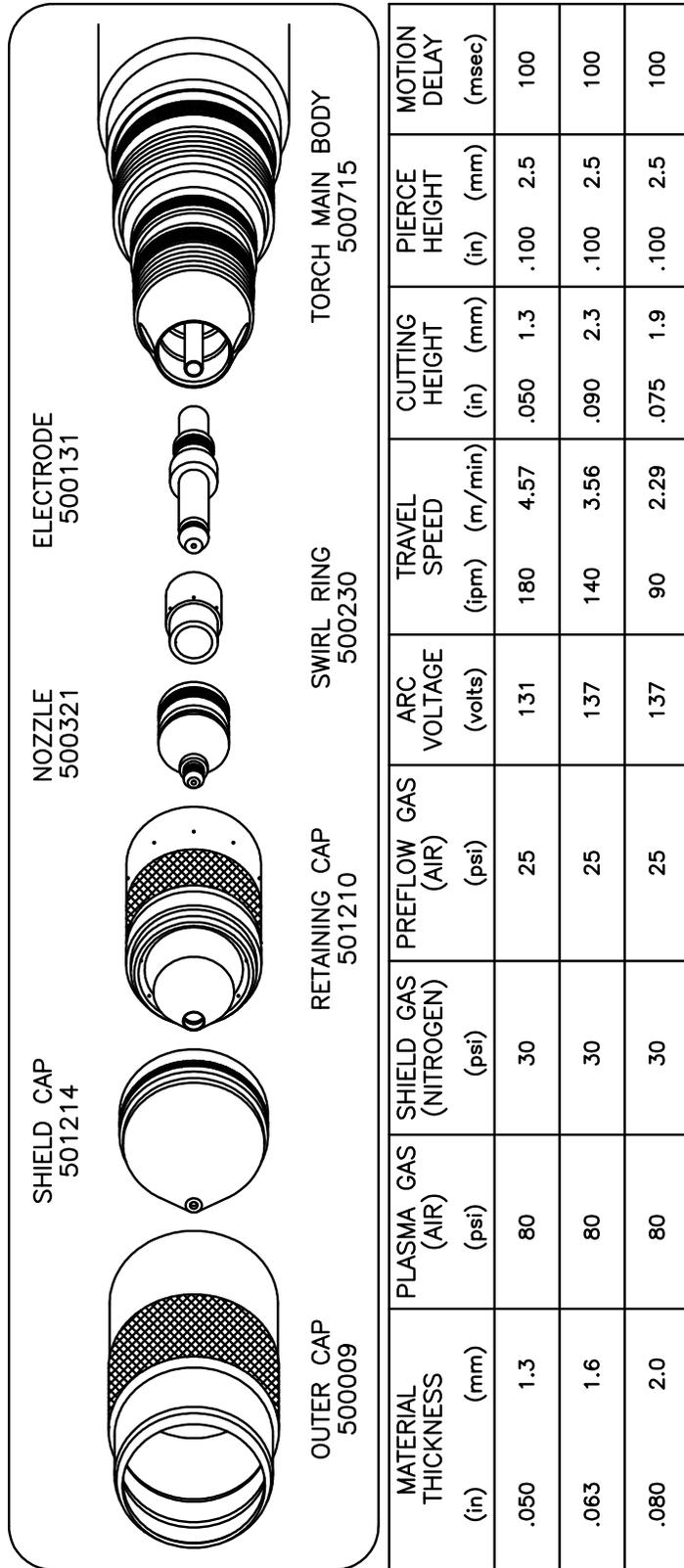
- NOTES:
1. ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - B. USING A LEAD OUT FOR EACH CUT.
  3. REVISED ON 11/7/03.

Figure 4-19 Aluminum Cutting Chart - 15A



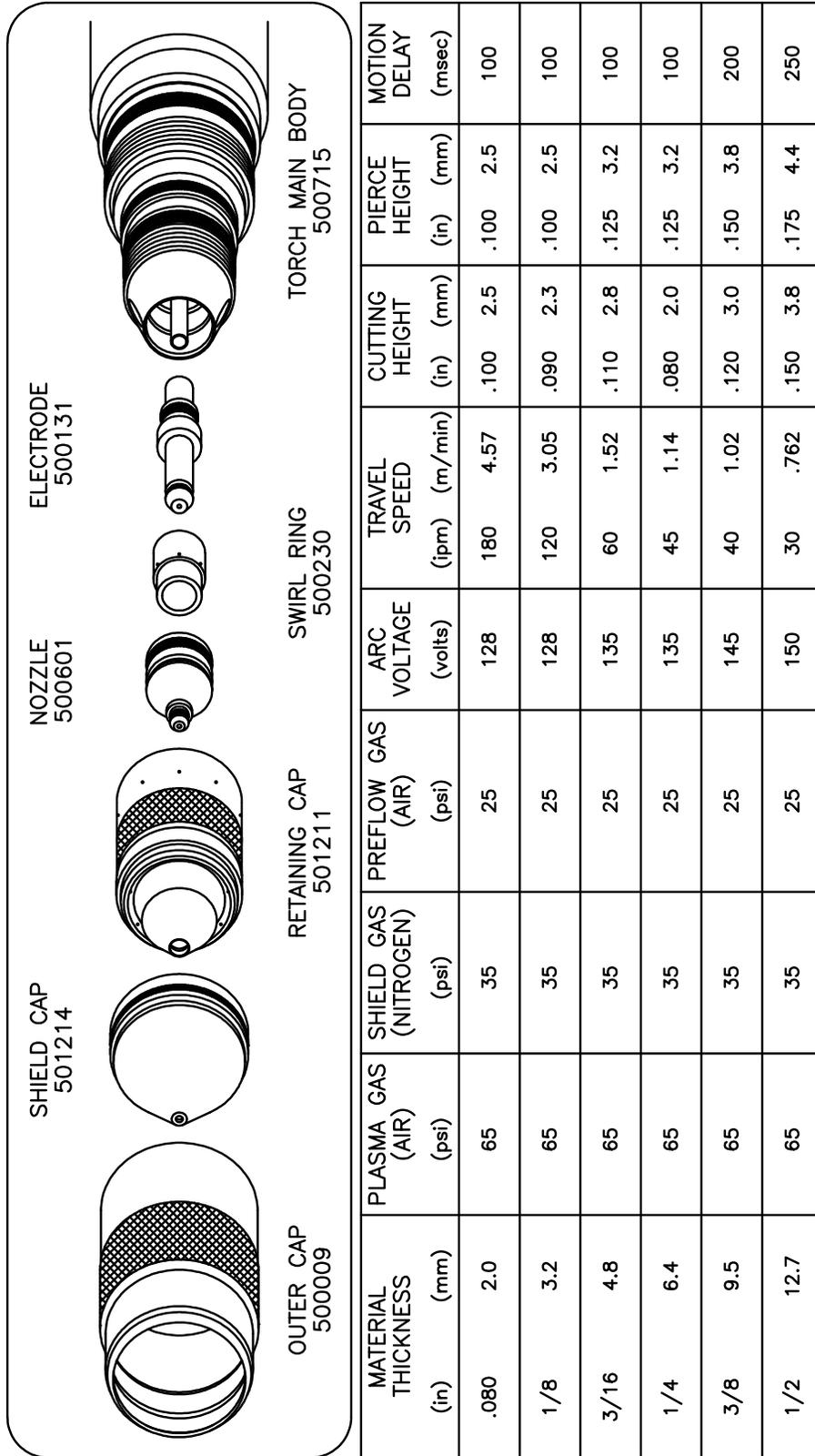
- NOTES:
1. ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - B. USING A LEAD OUT FOR EACH CUT.
  3. REVISED ON 12/15/99.

Figure 4-20 Aluminum Cutting Chart - 30A



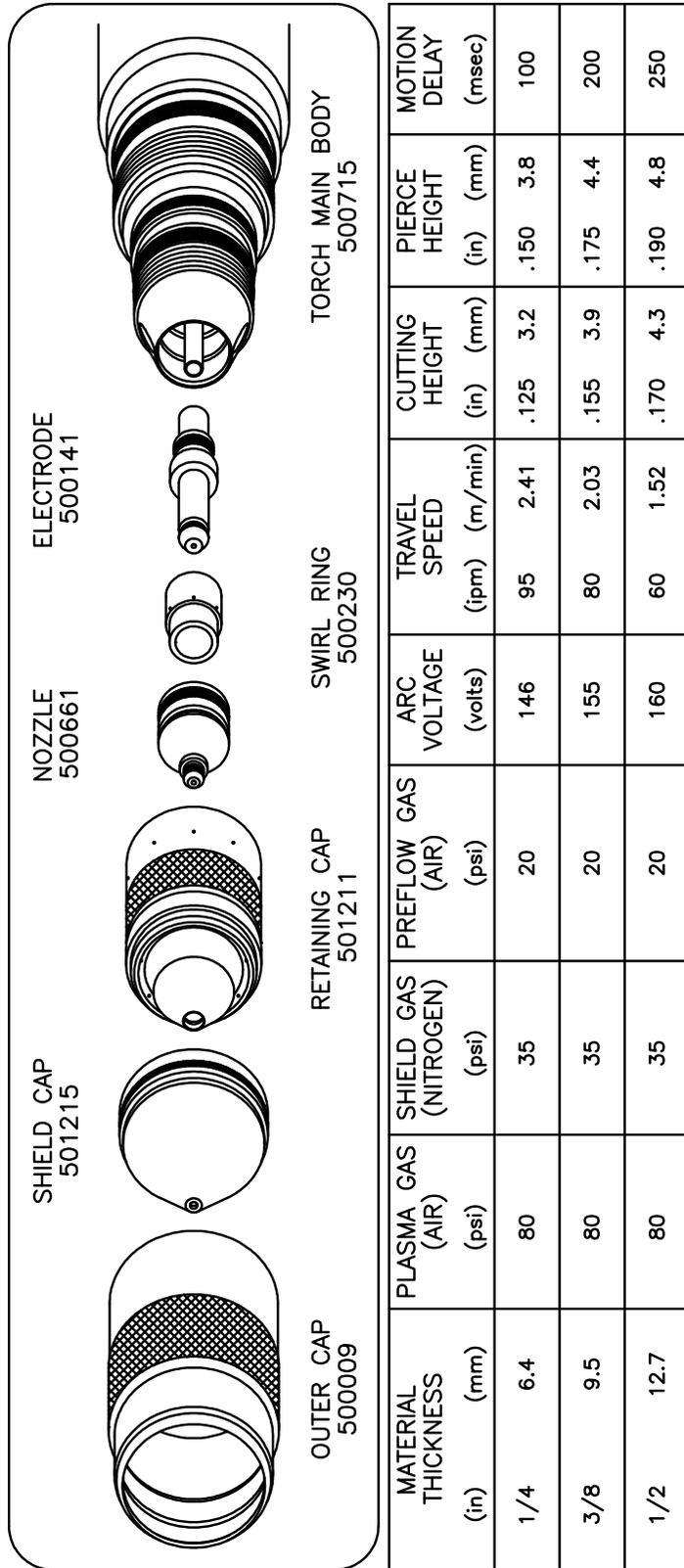
NOTES:  
 1. ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.  
 2. CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:  
 A. USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.  
 B. USING A LEAD OUT FOR EACH CUT.  
 3. REVISED ON 12/7/99.

Figure 4-21 Aluminum Cutting Chart - 50A



- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-22 Aluminum Cutting Chart - 70A



- NOTES:
- ARC VOLTAGE TOLERANCE IS  $\pm 1$  VOLT. NOTE THAT THE ARC VOLTAGE WILL HAVE TO BE INCREASED AS THE ELECTRODE WEARS.
  - CONSUMABLE LIFE CAN BE MAXIMIZED BY THE FOLLOWING:
    - USING THE CORRECT PIERCE HEIGHT AND CUTTING HEIGHT.
    - USING A LEAD OUT FOR EACH CUT.
  - REVISED ON 12/7/99.

Figure 4-23 Aluminum Cutting Chart - 100A

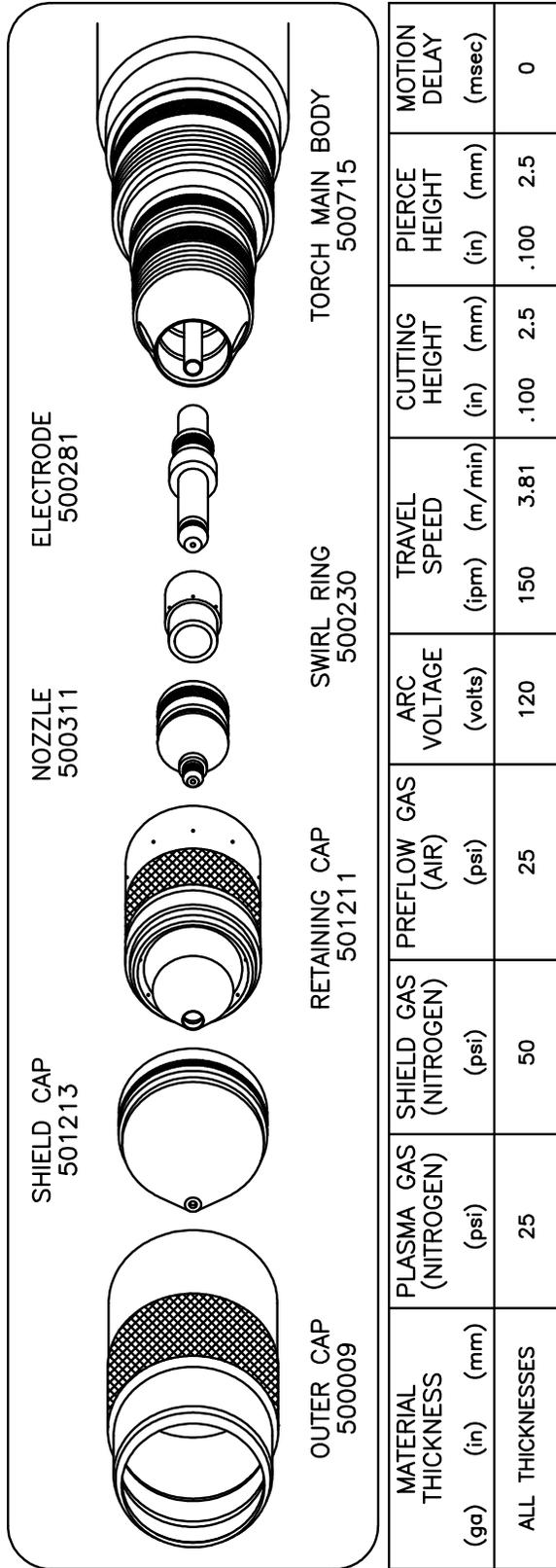


Figure 4-24 Mild Steel Marking Chart - 10A

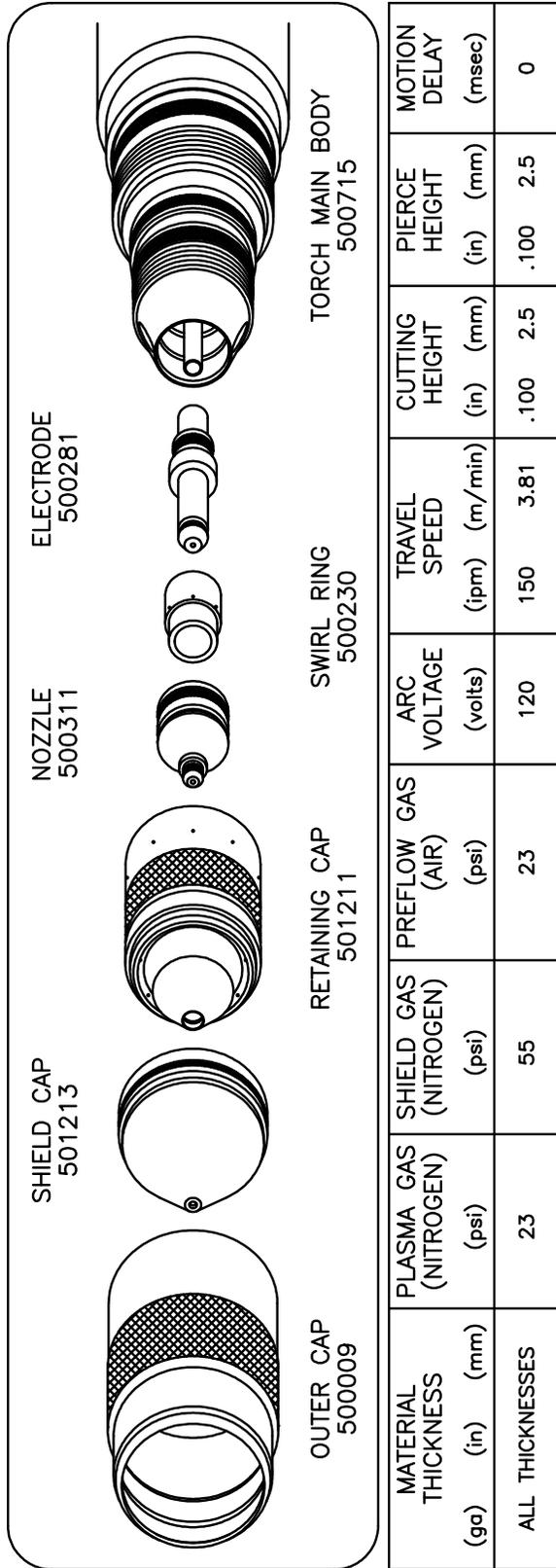


Figure 4-25 Stainless Steel Marking Chart - 8A

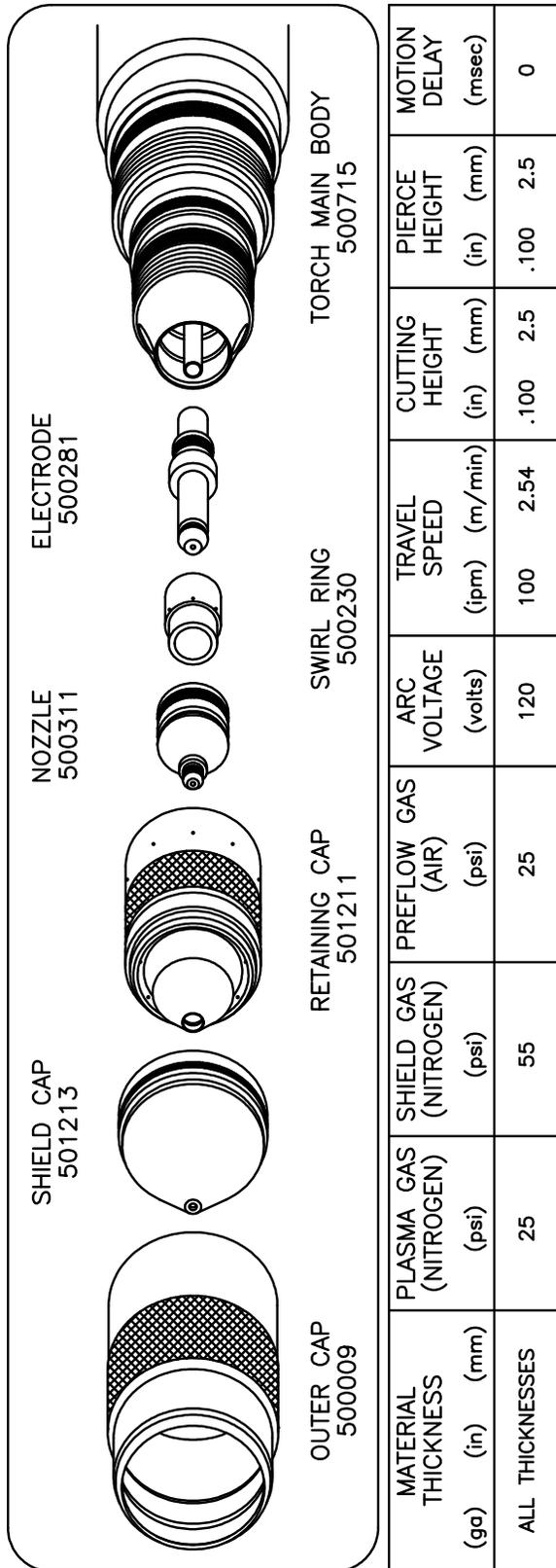


Figure 4-26 Aluminum Marking Chart - 10A