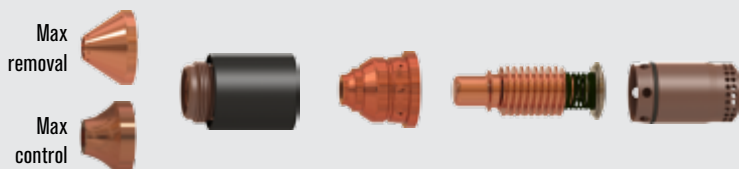


# Hypertherm®

## Powermax® gouging consumables

for Duramax™ Hyamp™ torches



Standard gouging						
Amps	Gouging shield		Retaining cap	Nozzle	Electrode	Swirl ring
65-125 A	Max removal	Max control				
	420112	420509	220977	420001	220971	220997

### Max removal gouging shield

Designed for aggressive metal removal, achieving deep gouge profiles and extreme metal washing applications.

### Max control gouging shield

Designed for more precise metal removal, achieving shallow gouge profiles and light material washing applications.

# Recommended gouging shield

By application and depth profile



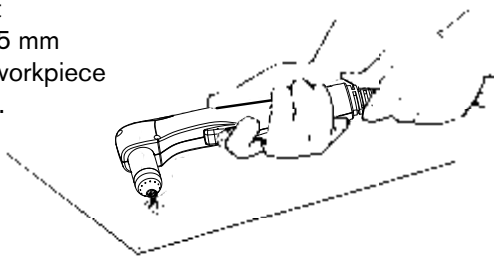
## WARNING

**SPARKS AND HOT METAL CAN INJURE EYES AND BURN SKIN.** When firing the torch at an angle, sparks and hot metal will spray out from the nozzle. Point the torch away from yourself and others.

## Gouge a workpiece

Steps:

1. Hold the torch so that the nozzle is within 1.5 mm (1/16 inch) from the workpiece before firing the torch.



## Application

## Depth of gouge profile

	1/4 inch (6 mm)	3/8 inch (9.5 mm)	1/2 inch (12 mm)	3/4 inch (20 mm)
Washing	▼	▼	●	●
Back gouging	▼	▼	●	●
Weld repair	▼	▼ ●	▼	●

▼ 420509 Max control

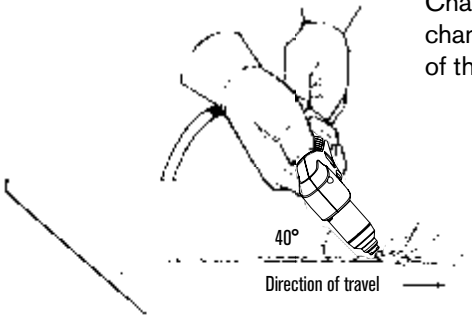
● 420112 Max removal

2. Hold the torch at a  $40^\circ$  angle to the workpiece with a small gap between the torch tip and the workpiece. Press the trigger to obtain a pilot arc. Transfer the arc to the workpiece.

3. Maintain an approximate  $40^\circ$  angle to the workpiece as you feed into the gouge.

In other words, push the plasma arc in the direction of the gouge you want to create. Keep a small distance between the torch tip and the molten metal to avoid reducing consumable life or damaging the torch.

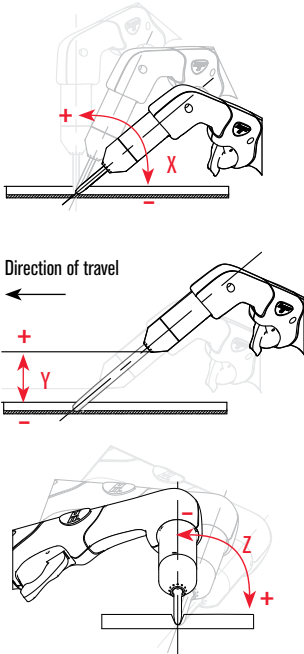
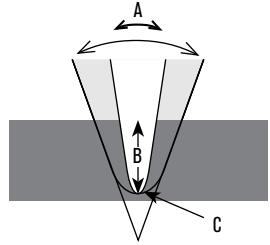
Changing the torch angle changes the dimensions of the gouge.



Note: A heat shield is available for added hand and torch protection (428348).

# Impact to gouge profile parameters

- X = vertical angle
- Y = arc stretch\*
- Z = horizontal angle
- \* Dependent on amperage



X, Y, Z adjustments		A	B	C
X	Increase vertical angle	↪	↕	∪
	Decrease vertical angle	↩	↕	∩
Y	Increase arc stretch	↩	↕	∪
	Decrease arc stretch	↪	↕	∩
Z	Increase horizontal angle	↩	↕	∪
	Decrease horizontal angle	↪	↕	∩

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One of Hypertherm's long-standing core values is a focus on minimizing our impact on the environment. Doing so is critical to our, and our customers' success. We are always striving to become better environmental stewards; it is a process we care deeply about.

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