Swift-Class
Educational Program

Contents

*CERTIFICATE PROVIDED FOR COURSE COMPLETION*

OVERVIEW

In recognition of the importance and global resurgence of trade and technical schools, Swift-Cut is proud to introduce its Educational Curriculum – Swift-Class Education.

Our goal is to introduce the finest, light industrial CNC plasma tables to all of the future business owners, operators, managers and fabricators. We're confident that our program will provide the tools to make it as easy as possible for instructors and educators to provide the proper experience to their students.

We at Swift-Cut, feel that our PRO Series Plasma table provides the most advanced features and capabilities on the market today. Together, with a very intuitive and user-friendly operator's interface, educators now have a common-sense tool to provide to students, with exposure to the latest technology.

We have tapped into over 50 years of experience in the Educational field, from Massachusetts to Texas by speaking directly with Mr. Tony McIntosh of Keefe Technical School and Mr. Scott Guidry formerly with the Texas Educational system. Their real-life experience in both the classroom and shop environments, were critical to the development of the program.
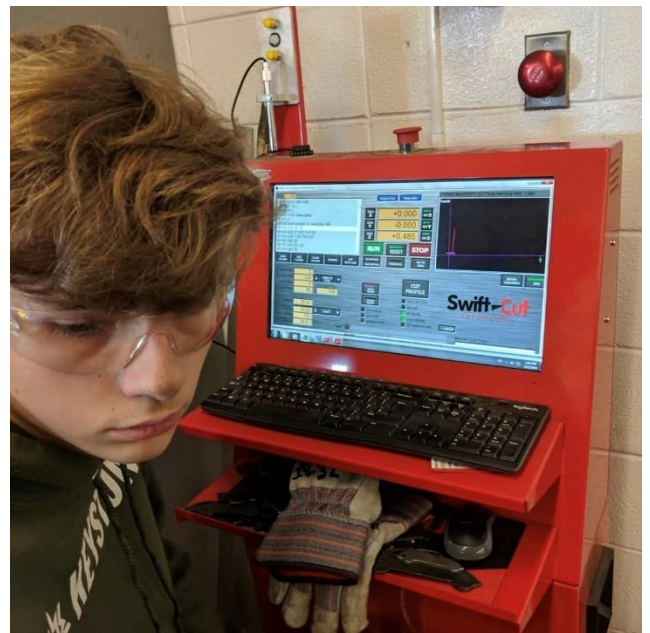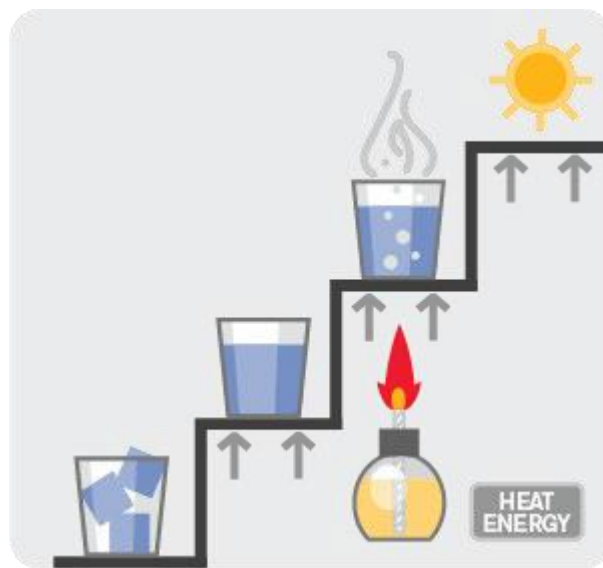
Module 1 – Basics of plasma and system components

I.   Introduction to Plasma (By Hypertherm – "What is Plasma?")

What is plasma?

Plasma is the fourth state of matter. We normally think of three states of matter: solid, liquid and gas. For a common element, water, these three states are ice, water and steam.

The difference between these states is their relative energy levels. When you add energy in the form of heat to ice, the ice melts, and forms water; if you add more energy, the water vaporizes and becomes steam. If you were to add considerably more energy to the steam – heating it to about 11,700° C – the steam would break up into several component gases, and would become electrically conductive, or ionized. This high energy ionized gas is called plasma.

A plasma cutting system uses a plasma stream to transfer energy to a conductive work material. The plasma stream is typically formed by forcing a gas such as nitrogen, oxygen, argon — or even air — through a narrow nozzle. An electric current produced by an external power supply adds enough energy to the gas flow to ionize it, turning it into a plasma arc with temperatures approaching 40,000˚F. The plasma arc cuts the workpiece by melting it and blows away the molten metal.

Module 6 – Student Test Case #1 ID/OD Bolt Hole Pattern
(Cutting & Marking Options)

I. **Each student required to program and cut a specific ID, OD and number of holes. (If Swift-Mark engraving option is available, further student assignments are available – marking and cutting various numbers.)**