

## **Pierce Height Adjustment**

Dialing in your pierce height is the cornerstone to successful plasma cutting. Ideally, the pierce height should be 1/8" off of the material surface you are cutting, to allow the plasma to penetrate, but more importantly when using Arc Voltage Height Control systems, to help maintain the height of the torch tip while the voltage is being read, and maintained.

Open your Torchmate driver software (versions 1.42, 1.61, 2.09, or 2.10), turn on your driver box, signal generator, and when all are powered up go to the Controller menu in the software and establish a communication link by choosing Online. Power up your AVHC unit, but leave the plasma torch unit OFF.

Make these setting adjustments to the four switches on the height control unit, SET, MAN, CUT. Dial the small knob on the front of the height control unit so that the indicator line is pointing straight up at "High Noon". Flip the first switch on the left to READ. Now go to your driver software's main screen window, and toward the lower right area, click on the AUX button. AUX stands for Auxiliary, and is the manual control for turning your plasma On & Off. Once you have clicked the AUX button, the screen will change showing you a grey colored button that displays "1- Plasma (Off)". Click on this button once, where a precautionary window will appear alerting you that the plasma cutter is about to turn on, and is it safe to proceed. If you are, press OK. The torch should lower to the material to sense it, and then back off to the pierce height. Since our switch is flipped to MANual, the torch will stay at the pierce height position until you manually turn the torch off. Measure the distance that the torch tip now rests away from the material surface. It may be as high as 1/4" to 3/8" off the material surface.

To adjust the height of the pierce position, click on the "1-Plasma (On)" button which is now yellow, to raise the torch back to its normal resting position. Now, flip the first switch on the left from READ to SET, dial the small knob to the left to about the "11 o'clock position", flip the switch back to READ, and then retest the pierce height using the method described above. Continue testing the pierce height control until the pierce height adjustment rests at 1/8" off the material. If you find that you are as far to the left as the small adjustment knob will go, and the pierce height is still above 1/8 inch, contact Torchmate Tech Support for more information.

Once the pierce height is precisely configured, it is time to run a manual test cut to find the voltage that is being read through the height control, and then configure the voltage settings to provide the best possible cut for the material your are cutting, at the speed and amperage recommended by your Plasma cutters manual. For more information on this subject please contact Torchmate Tech Support.