CAPACITIVE HEIGHT CONTROL SETUP

This procedure should be done prior to using the Capacitive Height Control for the first time, and then rechecked as necessary. Regular adjustments to the cutting height setting are a necessary part of machine operation. The cutting height will need to be adjusted any time the material condition changes, or as the sense feet wear.

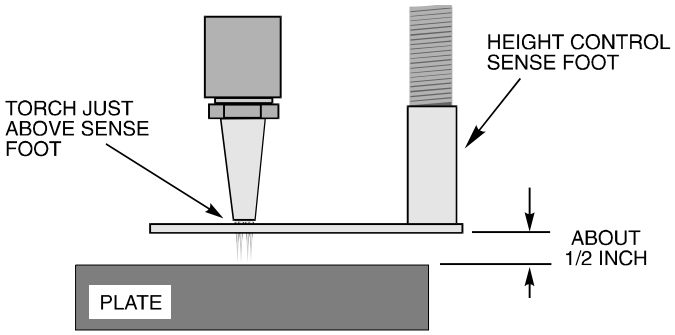
1. Place a sheet of metal on the cutting table, and locate all oxy-fuel torch stations over the material.

2. At the control console, turn on all oxy-fuel stations using the station select buttons on the control console.

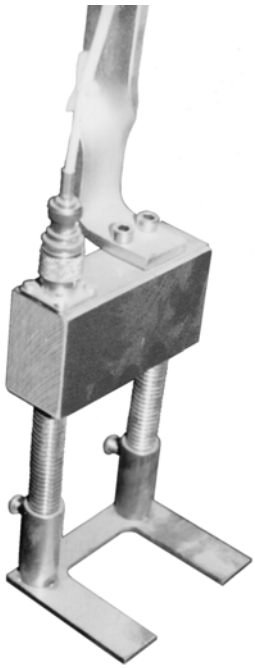
3. Press the GAS AHC button on the control console. The oxy-fuel torch stations should begin to lower toward the plate.

4. At each station Height Control Box, turn the Height Adjust knob to set the desired distance from the plate. This is a multi-turn potentiometer, so it may take several turns to reach the desired height.

Height Control Station Box



5. Test for proper operation by touching the sense foot to cause the station to run up about two (2) inches. When released the station should return to the desired height as set in Step 4.



Capacitive Height Control Sense Foot

NOTE: The plate should be wet for increased accuracy if these procedures are used for a gas station with water spray.

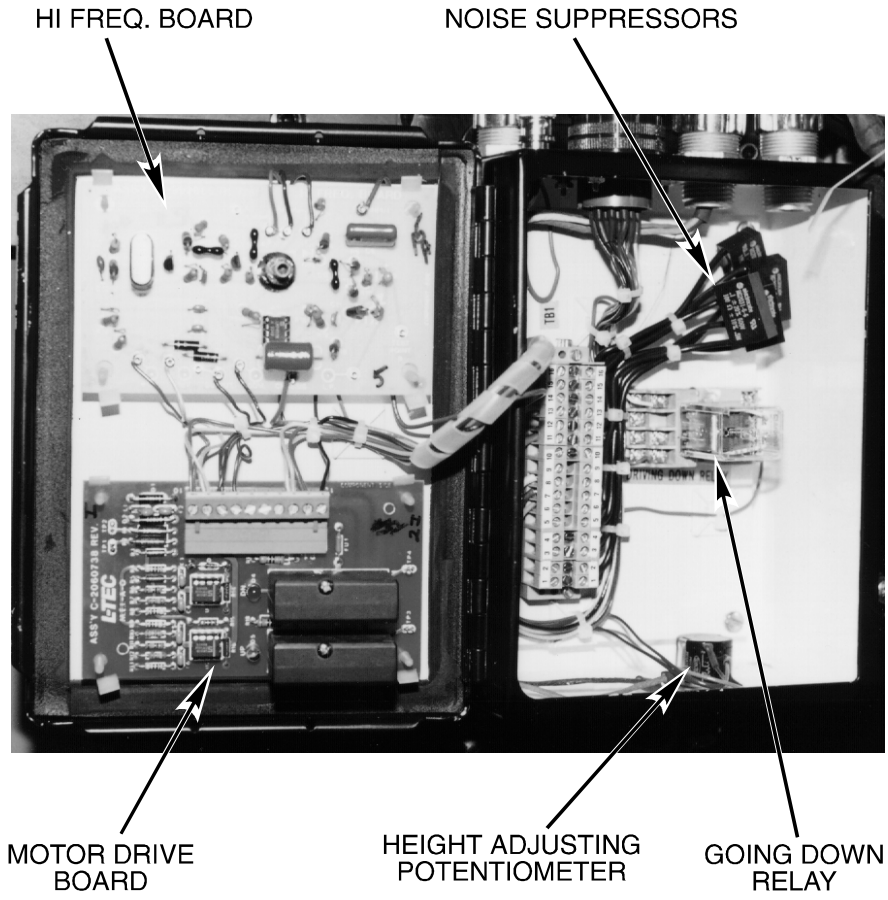
AUTOMATIC HEIGHT CONTROL SYSTEMS

The two most common types of height control are Capacitive Height Control and Arc Voltage Height Control. Both of these systems are described below.

CAPACITIVE HEIGHT CONTROL

Capacitive Height Control is an optional accessory for cutting machines with oxy-fuel torch cutting stations. It is used to provide a means of regulating the working distance between the torch nozzle or punch marker, and the plate surface during the cutting process. A constant distance is accurately maintained without regard to plate thickness, level, or warpage. If the torch-to-plate spacing differs from the desired distance, the automatic height control will sense the error and activate the torch station motor to raise or lower the torch as necessary.

GENERAL DESCRIPTION



Capacitive Height Control Station Box

This system of automatic height control is based on a capacitance principle and involves three major activities: sensing, electronic processing, and motor control. Basically, the system operates by measuring the capacitance between a sensor and the work piece, converting the result to a voltage which is compared to a reference voltage representing the desired height.