

PRESS BRAKE CONTROL

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1. Overview of Operation

There are a few items concerning the operation of the system which must be appreciated before the system is put into commission.

1. The Y axis must be scaled to move the deadstops in mm.
2. The movement of the depth stops is negative for down i.e. more depth.
3. The backlash is always negative (if set)

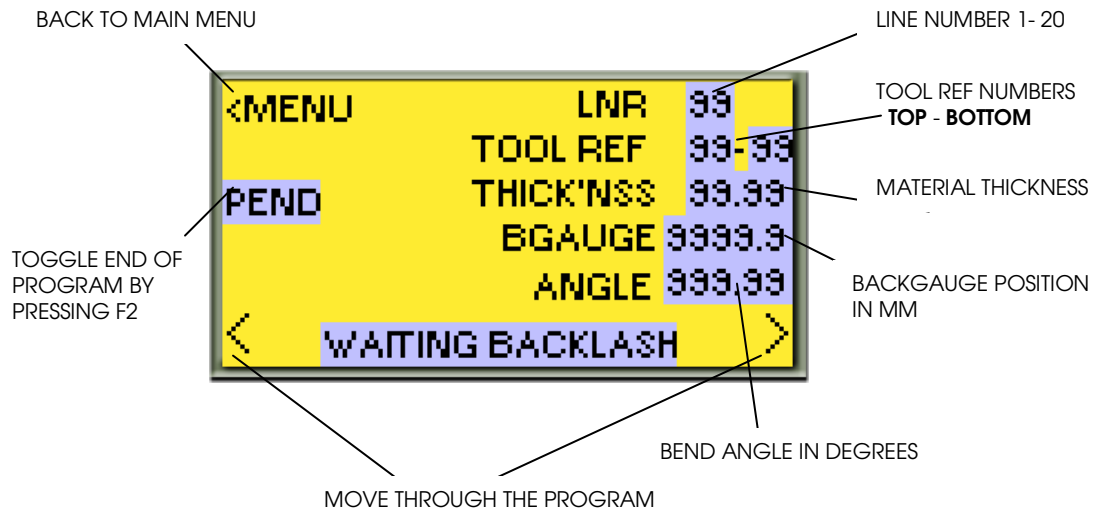
2. POWER UP

The Main Menu to access all the features of the system.

< RUN	MANUAL >
< PROGRAMS	SET REF >
< TOOLS	PARAMS >

3. RUN

RUN - Allows programming and running of the programs



Function Keys

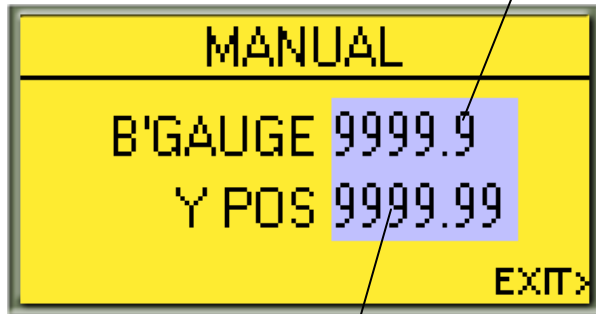
- F1 – Return to Main Menu
- F2 – Toggle the Program End point
- F3 – Step line number back
- F4 – Start Movement
- F5 – Stop movement
- F6 – Step Line Number forward

4. **MANUAL**

Jog control using the Keypad

BACKGAUGE MANUAL CONTROLS

1.23 +/-



DEPTH MANUAL CONTROLS

7.8.9.0

F6 – Returns to Main Menu

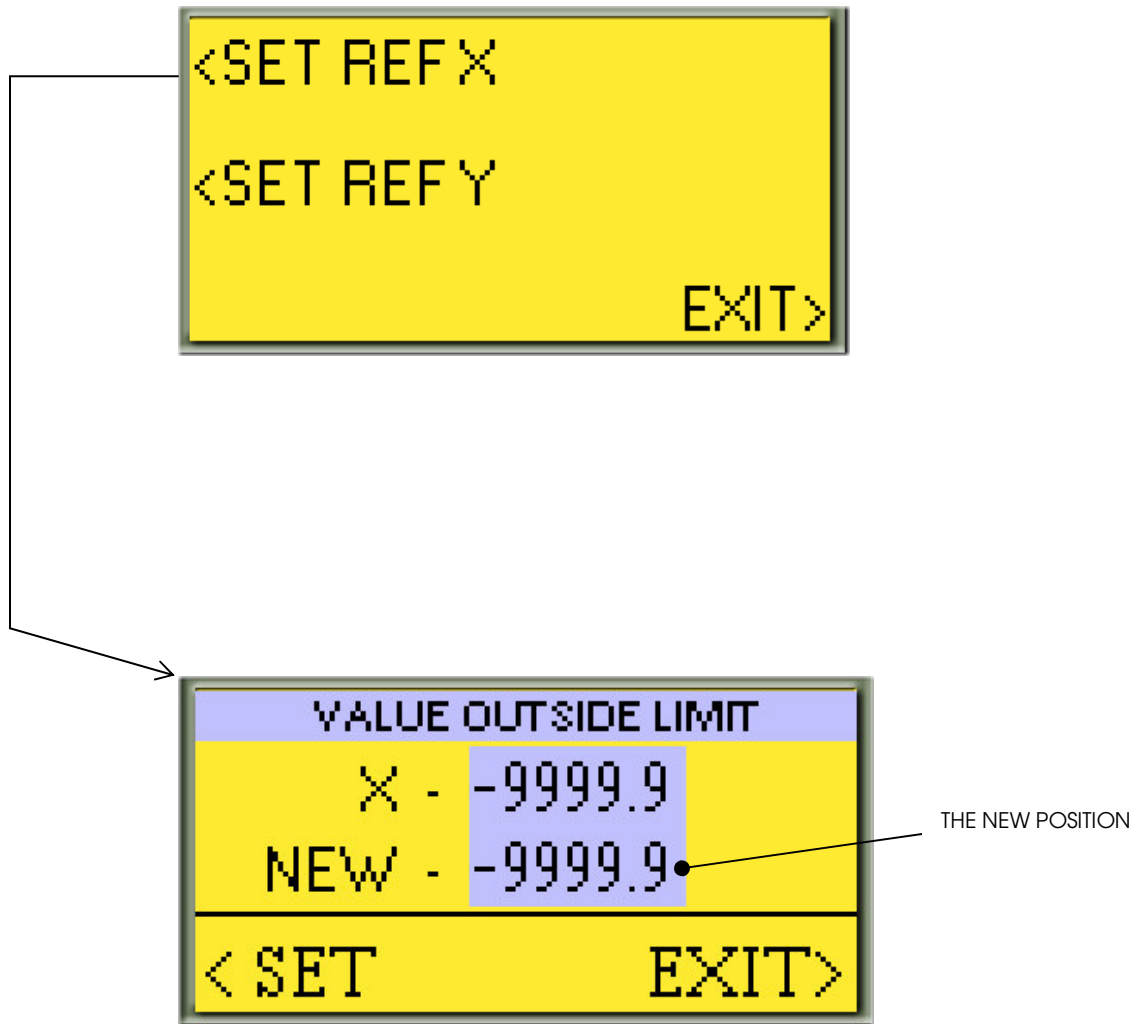
5. **PROGRAMS**

Select the program number to use. There are 200 available 0 – 999.



6. SET REF

Set the reference points of the axis to known positions. Note the Y axis is calibrated to 0.01 of a mm resolution.



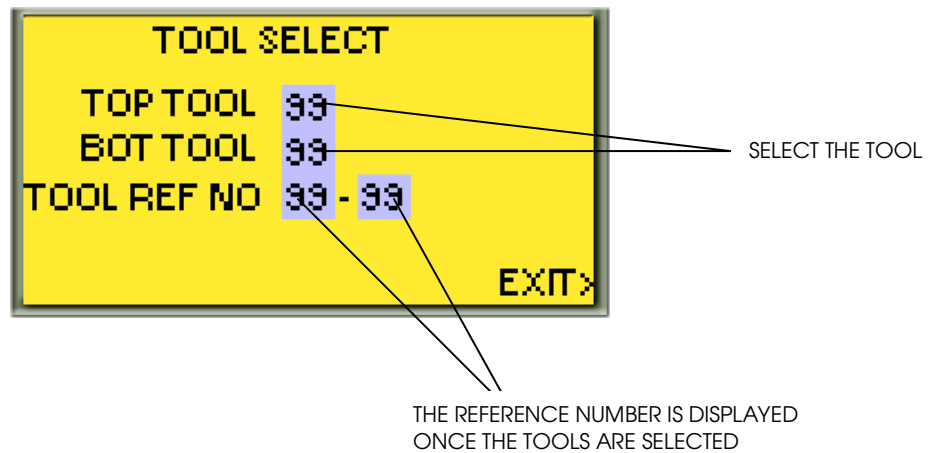
F3 – Set the new position
F6 – Return to Main Menu

7. TOOLS

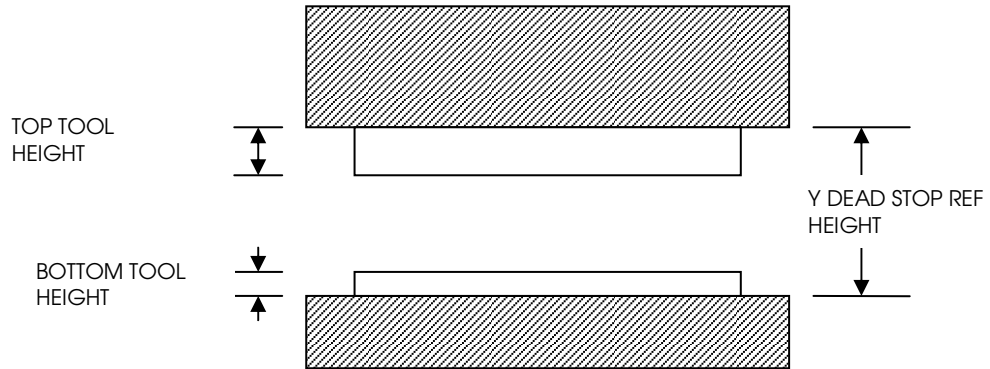
There are two types of tools. Top and Bottom. Each can be given a reference number as well as tool measurements. This number is used only as a reference to the operator and does not affect positioning.



You must select the tool that you want to use. This means that any bottom and top tool combination can be used.



8 SETTING THE TOOLS



The above reference points will allow the correct calculation of the deadstop position for the bend angle.

```
< TOP TOOL PAGE 99 >
OPERATOR REF 99
HT OF TOP TOOL 999.99
EXIT>
```

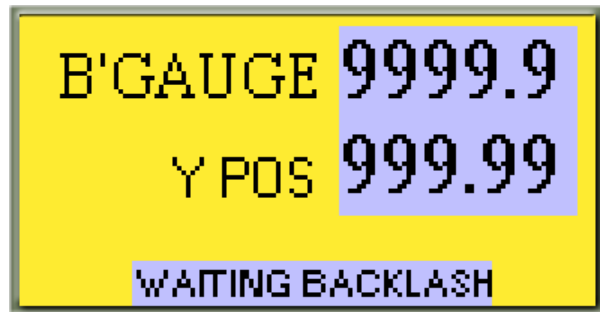
```
< BOTTOM TOOL PAGE 99 >
OPERATOR REF 99
HT OF BOTOM TOOL 999.99
WIDTH OF VEE 999.99
```

The OPERATOR REF is a number between 0 and 99 which can be used for a reference for the type of tool.

There are 20 top and bottom tools 0 – 19.

10. Running

When running the screen will show the backgauge position and the Y position in mm. You can exit this screen with F5 or F6 which will stop movement.



11. INPUTS

0	X - ENCODER A CHANNEL
1	X - ENCODER B CHANNEL
2	Y - ENCODER A CHANNEL
3	Y - ENCODER B CHANNEL
4	STOP MOVEMENT
5	START MOVEMENT
6	INCREMENT PROGRAM
7	
8	X - HARD LIMIT FORWARD (POSITIVE)
9	X - HARD LIMIT REVERSE (NEGATIVE)
10	Y - HARD LIMIT FORWARD (POSITIVE)
11	Y - HARD LIMIT REVERSE (NEGATIVE)

12. OUTPUTS

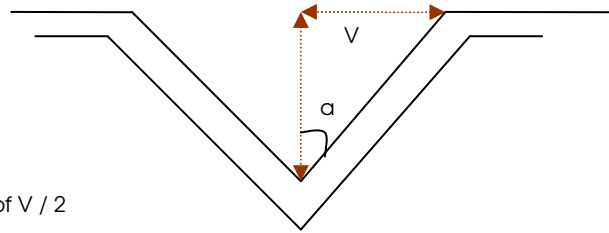
0	MACHINE BLOCKED
1	X - FWD
2	X - REV
3	X - FAST
4	UNUSED
5	Y - FWD
6	Y - REV
7	Y - RAST
8	
9	

13. PARAMETERS

Generally the parameter menus are the same as on the original units but there are some considerations to take into account:-

1. The Y backlash, when set to zero switches the backlash off. If on it is always in a negative direction.
2. The hard limits can be disabled in the General Menu.
3. The STOP input can be selected as either "Active Stop" or "Inactive Stop".

BEND ANGLE CALCULATION FOR DC SERVICES ONLY



V = Width of V / 2

$$\alpha = \text{TAN} \left[\frac{\text{Outer Angle}}{2} \right]$$

Depth = v/α