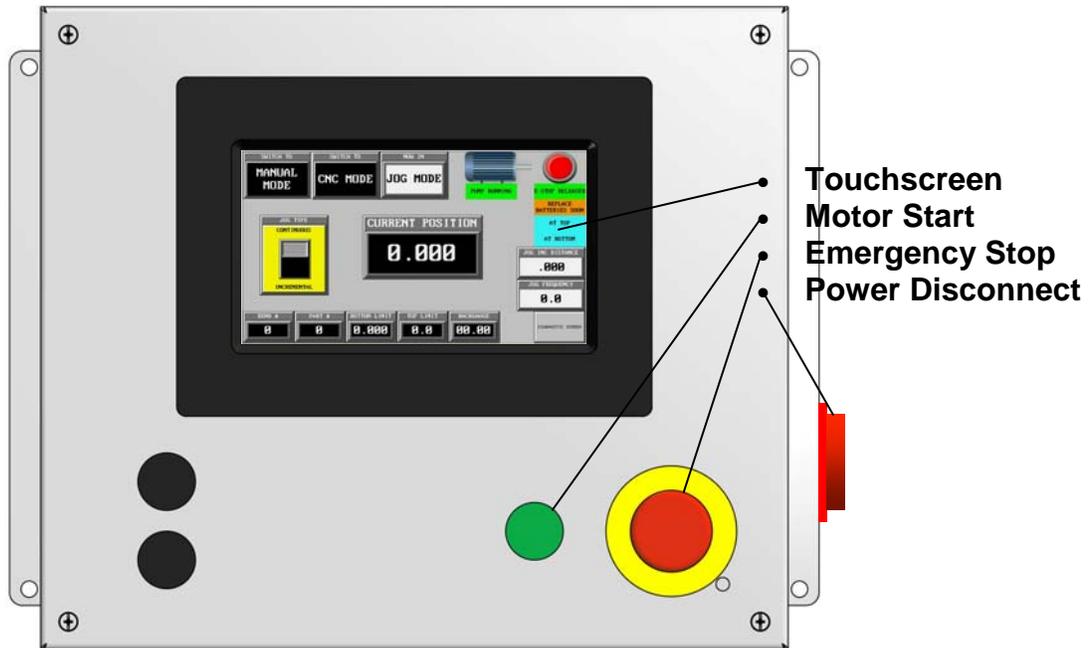




OPTIONAL TOUCH SCREEN CONTROL

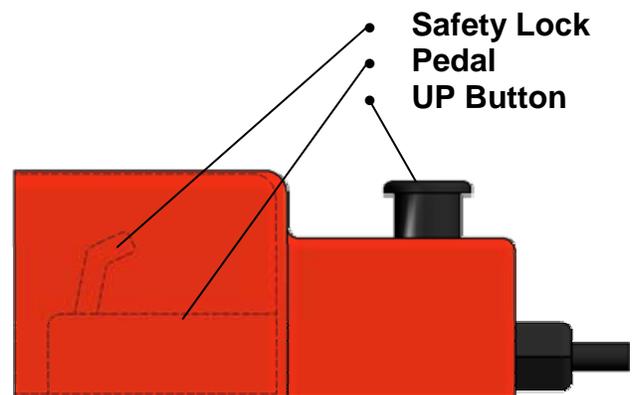


DESCRIPTION OF CONTROL:

This control uses a PLC to read feedback from a position sensor located on the press ram. Position stops and work cycles are programmable using the touch screen interface. Movement and work cycles are initiated using the foot pedal.

FOOT PEDAL:

Once stroke limits are set in MANUAL or CNC modes, press and hold the foot pedal in the down position to make one complete cycle. Releasing the foot pedal mid-cycle will pause the cycle. Press again to continue, or press the UP button to return to top limit.





OPTIONAL TOUCH SCREEN CONTROL

A NOTE ABOUT ADJUSTING MACHINE STROKE

If possible, machine stroke should be limited by the stroke control during all typical air bending operations. Set up for bend using a test piece of the material to be bent. Insert material into press brake, bringing ram down until piece begins to form. Continue bend, manually stopping cycle before desired angle is formed. I.e: If 90 degree bend is desired - stop cycle approx 70-80 degrees. Leaving machine stopped in this position, adjust stroke control to stop cycle at this point. This establishes a starting point. To fine tune desired angle from this point, continue cycling machine up and down, increasing the stroke in small increments until desired angle on the test piece is reached. Recheck angle on first parts as slight additional adjustments may be needed.

A NOTE ABOUT HOMING BACKGAUGE

When the press brake is disconnected from power, the backgauge loses track of its actual position and must be homed prior to operation. When re-powering, turn on the disconnect and release the E-stop button. Depending on the sequence of power up and E-stop button position, you may need to press the "RUN" button on the touch screen to initiate the homing operation. The backgauge will move away from the press brake to the end of its travel. After homing is completed, press "RUN" again to move the backgauge into position.

Data Entry

Each of the machines control modes have different values you will wish to set to control movement, positioning, stroke limits, and cycles.

To change these values, you will press the corresponding button on the main control screen (for example, you may press "Set Bottom Limit"). When one of these buttons is pressed, the control will display an edit screen like those shown on the opposite page.

Data Entry is accomplished via a pop up keypad that displays in the edit screens. To access this keypad, simply touch the number you wish to edit and it will pop up.

To save your new settings, press "ENTER NEW SETTING". To leave without changing or to discard the changes, press "CANCEL & RETURN".



OPTIONAL TOUCH SCREEN CONTROL

Press Number fields to access keypad

This screen shows the 'NEW BOTTOM LIMIT' setting. At the top, there are five buttons: 'LESS BEND' (two), 'NEW BOTTOM LIMIT' (displaying 0.000), and 'MORE BEND' (two). Below these are three main sections: 'OLD BOTTOM LIMIT' (displaying 0.000) with a 'CANCEL & RETURN' button below it; a large yellow 'ENTER NEW SETTING' button; and 'LAST STOP' (displaying 0.000) with an 'ENTER LAST STOP' button below it.

This screen shows the 'NEW TOP LIMIT' setting. At the top is a 'NEW TOP LIMIT' display showing 0.0. Below are three main sections: 'OLD TOP LIMIT' (displaying 0.0) with a 'CANCEL & RETURN' button below it; a large yellow 'ENTER NEW SETTING' button; and 'CURRENT POSITION' (displaying 0.0) with an 'ENTER CURRENT POSITION' button below it.

This screen shows the 'NEW BACKGAUGE DIMENSION' setting. At the top is a 'NEW BACKGAUGE DIMENSION' display showing 0.000. Below are two main sections: 'OLD BACKGAUGE DIMENSION' (displaying 0.000) with a 'CANCEL & RETURN' button below it; and a large yellow 'ENTER NEW SETTING' button.

A pop-up keypad for editing the 'NEW BOTTOM LIMIT'. It features a numeric keypad with digits 0-9, a 'Clear' button, and 'Cancel' and 'Enter' buttons at the bottom. The display shows 'NEW BOTTOM LIMIT' and '0.000'. Below the display, it lists 'MINIMUM 0.000', 'MAXIMUM 9.999', and 'CURRENT 3.145'.

Pop Up Keypad



OPTIONAL TOUCH SCREEN CONTROL

Your new Iroquois Touch Screen Control has three modes of operation:

- JOG MODE
- MANUAL MODE
- CNC MODE



Select the desired mode by pressing the corresponding button on the touch screen.

- JOG MODE **Jog mode** is used for setup. Ram can be moved up or down in slow speed without auto-returning.
- MANUAL MODE **Manual mode** is used to quickly accomplish the forming of a non-memorized, single bend part.
- CNC MODE **CNC mode** is used to memorize and retain the settings for production parts with up to ten bends.



OPTIONAL TOUCH SCREEN CONTROL



Jog Mode screen.

JOG MODE

Jog mode is used for setup. Ram can be moved up or down in slow speed without auto-returning. Movement is initiated using the foot pedal. Pressing the pedal DOWN moves the ram down. Pressing the UP button located on top of the pedal moves the ram up. You may select continuous or incremental motion on the touch screen. When "Incremental" is selected, you may set the desired increment distance and the frequency of incremental movements when the pedal is held.

Jog mode may also be used for test bending parts as described on page 12.



OPTIONAL TOUCH SCREEN CONTROL



Manual Mode screen.

MANUAL MODE

Manual mode is used to quickly accomplish the forming of a non-memorized, single bend part. Enter Bottom Limit and Backgauge position by pressing the corresponding “SET” button. Top limit may also be adjusted if desired.

RUN BUTTON

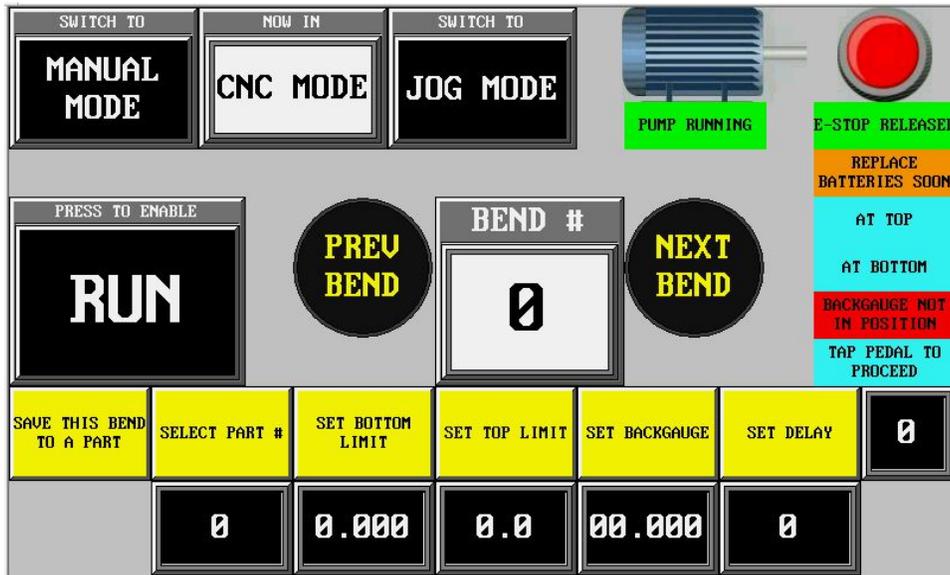
After changing run modes, or entering a new setting or part, press “RUN” to activate program again in MANUAL and CNC modes.

BACKGAUGE IN MANUAL MODE

If new backgauge position is entered, pressing the “RUN” button will cause the backgauge to move to the new position.



OPTIONAL TOUCH SCREEN CONTROL



CNC Mode screen.

CNC MODE

CNC mode is used to memorize and retain the settings for production parts with up to ten bends.

CNC OPERATION

Select part # 1-150. Machine will cycle through each bend (that has a value set), rotating to the next bend in sequence after each complete cycle. You may repeat, skip, or select bends in any sequence by using the PREV/NEXT BEND buttons to scroll through the bends. To set up each bend, select the bend number (using the arrow keys), then enter the settings. If you would like to change the time (5 seconds going forward, 1 second going back is default) that the backgauge pauses (after the end of the previous cycle) before moving to its' next position, press "SET DELAY". Setting the time delay to zero will cause the backgauge to hold its position until the foot pedal is tapped.



OPTIONAL TOUCH SCREEN CONTROL

MULTI-STAGE BENDS

There may be occasions when you wish to perform a single bend in stages. This may be accomplished using multiple bend set ups back to back. Setting the top limit lower than the bottom limit causes the ram not to retract after the bend cycle is finished. This may be used as a “pause” in the cycle and then the next cycle can be used to complete the bend.

For example, a OFFSET BEND, with a leg protruding under the backgauge stop, may be accomplished in this fashion:

First bend setup - set the back gauge for the dimension of the bend. Set the bottom limit where the ram will just come down tight against the work piece to hold it in place. Set the top limit *lower* than bottom limit, so the ram will not move up when foot pedal is released.

Second bend setup: Set the back gauge so it will move back far enough to clear work piece. Set the bottom limit for correct amount of bend. Set top limit so ram will move back up far enough to remove part.

Other examples:

HANDS FREE BENDING The operator may wish to bring the ram down just far enough to secure the part into position for bending. The operator may then remove his hands from the work area to safely complete the bend.

VISUAL POSITIONING Some parts require visual positioning and alignment in the dies. You may use one bend sequence to bring the ram to a position just above the part, then the second to complete the bend.

PAUSING RAM AT BOTTOM OF STROKE

You may also wish to pause the ram at the bottom of the stroke before the ram retracts. For example, you may be bending a large part that you want to secure or take hold of before the ram releases and potentially drops it. This pause is activated automatically in both Manual and CNC modes anytime the foot pedal is released and then re-activated mid-cycle. In this case, when the bottom limit is reached and the cycle pauses, you will need to press and hold the UP button to retract the ram. In CNC mode you will need to hold the button until the top limit is reached to cycle to the next bend.

Additionally, you may set up this pause in CNC mode using two bend sequences (setting top limit lower than bottom limit) as described above. Using this method, the ram will return to the top limit automatically when the main foot pedal is tapped again after the pause.



OPTIONAL TOUCH SCREEN CONTROL

Additional CNC Data Entry

SAVE THIS BEND TO A PART
This feature allows you to copy your current bend cycle to another part.

CURRENT PART #	CURRENT BEND #
0	0
COPY TO PART #	COPY TO BEND #
1	1
COPY TO & EXIT	
CANCEL CHANGES	

SELECT PART #
Enter new or existing part number. Numbers 1 - 150

NEW PART #
1
PREVIOUS PART #
0
GO TO NEW PART
CANCEL & RETURN

SET BACKGAUGE DELAY
Default delay is 5 seconds before coming forward, 1 second before reversing.

NEW SECONDS DELAY
0
IF DELAY IS SET TO 0, BACKGAUGE WILL NOT MOVE UNTIL FOOT PEDAL IS PRESSED AND RELEASED.
OLD SECONDS DELAY
0
ENTER NEW SETTING
CANCEL & RETURN