

CBX DIGITAL DISPLAY

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CBX 3D DIGITAL DISPLAY



MOUNTING CONSIDERATIONS

- Make sure that the rack is parallel with the ways. The holes in the rack supports are deliberately oversize to allow for some adjustment after the holes are drilled and tapped in the machine.
- 2. Remember that the spacers for each end of the rack may not be the same length, due to variations in the lathe or mill casting.
- The readout head must be able to move without binding.
 Binding will cause premature wear, and will appear as backlash in measuring. (See next page for diagram)
- 4. Don't remove the rack support which is pinned onto the rack.

- 5. Make sure the rack is not rotated with respect to the readout head.
- 6. Install the rack so that the slit in the plastic cover is downward.
- 7. Install the rack so that coolant doesn't pour directly on it.
- 8. We strongly suggest the user install his own mechanical cover over the rack assembly to protect it from dropped vises, chucks, etc., and to protect from hot chips melting the plastic cover.
- 9. Install the Digital Display case with 10-32 x 3/4 screws extending no more than 3/8 inch into the case.
- 10. Note that the spacers can be shortened by user to appropriate length for mounting on the rack.

Readout Head Mounting.

It is important to eliminate binding between the rack and the bushing on the encoder head. This is complicated by the fact that due to manufacturing process tolerances, the bore in the bushing is not necessarily perfectly parallel in any plane to the mounting surfaces on the encoder head. We suggest that the rack be mounted first. Then mount the encoder head. As the screws are tightened on the encoder head, watch for deflection of the rack as shown with a dial test indicator. If it deflects more than 0.005 inch, this indicates a bind between the bushing and the rack, and the encoder head mount must be adjusted accordingly. Usually judicious use of shim stock is all that's required to correct for the slight misalignment.

At the factory, the jig that is used to drill and ream the rack hole, keys on the two mounting screw holes, not the sides of the brass bushing. Therefore, the sides of the bushing may look 'out' to the eye, but it is the bore that is important.



RACK MOUNTING EXAMPLES

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CBX ENCODER HEAD

Mounting holes and rack position

SHORTENING A RACK

1. Measure carefully the amount to shorten. Measure it again! Plan to cut the end of the rack which is not pinned to the rack support. Note that the rack fits <u>inside</u> the rack supports, but not so far as to block the screw hole. Do not take the readout head off the rack.



2. Peel back the cover. Slip off the rack support.



3. Cut the rack with a hack saw. Be careful not to mar the rack. Snip off the cover an equal amount.



4. The cover should be a little short of the rack support. Stretch the cover over the rack supports so the grooves on the rack support engage the grooves in the cover. Secure with a plastic tie.



TO CLEAR AN AXIS Method One



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Normal Display



Press selected axis. Display screen will clear and decimal will flash.



Press clear (clr) and display returns to zeros.

TO CLEAR AN AXIS Method Two



Normal Display



Press clear (clr) and all 3 displays will flash.



Press X, Y, or Z, and the corresponding axis will clear.

PRESETTING AN AXIS



Press selected axis button. (X, Y, or Z)



Selected display will have a flashing decimal.



Enter your preset numbers. Preset numbers will flash.

PRESETTING AN AXIS CONT'D



Press selected axis button (X, Y, or Z) to lock in your numbers. The numbers will stop flashing once they are locked in.



To make an axis negative when presetting use (DIA/-) button before entering numbers

INCREMENTAL / ABSOLUTE MODES

Incremental absolute is a two coordinate system with separate zeros for each axis. This allows the user to, for example, set a zero at the corner of the work pieces, and set the other zero to locate a pattern of holes.

To choose Absolute (ABS), press the 6 key. To choose Incremental (INC), press the 9 key. Remember that the numeric keypad is used to enter numbers when in Preset mode, therefore, when the display is flashing after X, Y, or Z is pressed, the 6 and 9 keys will <u>not</u> switch to INC / ABS modes.

If you choose not to use the INC / ABS feature, just use your CBX-3d normally - the default is in the ABS mode.

REVERSIBLE COUNT DIRECTION

Reversible count direction is changing the direction that the numbers count. For example, if your CBX-3d counts positively when you move to the right, reversing the count direction will make the CBX-3d count negatively when you move to the right. You can change the X axis, the Y axis, the Z axis, or any combination. When you turn the CBX-3d on, you will notice that the digits flash for a few seconds. The only time the count directions can be changed is when the digits are flashing when the unit is first turned on. The CBX-3d will remain reversed even after the unit is turned off, so this process only has to be done once.

To reverse an axis

X axis:	Press the "7" button while the digits are flashing.
Y axis:	Press the "4" button while the digits are flashing.
Z axis:	Press the "1" button while the digits are flashing.

CENTERING BUTTON

The centering feature provides a convenient way to find the center of an odd-sized part with no arithmetic.

First clamp the part on the table, or in a vise. Touch off one side of the part with an edge finder. Zero that axis. Then touch off the other side. Hit the center button, and then the axis key you want to center. (X, Y, or Z) That axis will instantly halve its value, thus centering the part in the axis. In other words, the zero for that axis is now in the middle of the part. Notice that you don't have to know the diameter of the edge finder. This means you can even use an end mill that has been sharpened (with a new, unknown diameter) to touch off and center the part.

PREVIOUS STATUS FEATURE

The CBX-3d now has the ability to remember the user settings after the unit has been turned off. It will remember if the unit is set in "DIA" (diameter) mode, whether it's in INCH or MM mode, or whether it's in INC or ABS mode. The CBX-3d will also remember the display brightness setting.

*Please note!! The previous status feature does not include co-ordinates left on the display when the unit is turned off. The display will always turn on reading all zeros.

ADJUSTABLE DISPLAY BRIGHTNESS

The user now has the ability to change the brightness of the CBX-3d display L.E.D.'s. There are 5 different brightness levels to choose from. To change the brightness, press the "0" key when the display is not flashing. The changes will simply cycle through from brightness levels 1-5, and then start back at 1 again. The CBX-3d will remember the setting it was left at even if the unit has been turned off.

DIAMETER / NEGATIVE BUTTON



Note that the "DIA" light lights up when the Y axis is in diameter mode.



Press the DIA/button to change the Y axis to diameter.

SWITCHING FROM INCHES TO MILLIMETERS



The CBX 3Ds' default is in "inch" mode. Pressing the "inch/mm" button toggles the readout from inches to mm.



Pressing the inch/mm button toggles the display from inches to millimeters. OOPS!



If you accidently press the X, Y, or Z button.....



and your numbers disappear.....



Simply press X, Y, or Z again and your number will reappear.

WARRANTY

Shooting Star Technology warrants that this product is free from defective material and workmanship. Shooting Star Technology warrants that if this product fails to operate properly within the warranty period of five years and the failure is due to improper workmanship or defective material, Shooting Star Technology will repair or replace the product. All warranty repairs must be performed by Shooting Star Technology. Shooting Star Technology also offers a 60 day money back satisfaction guarantee.

EXCLUSIONS

This warranty does not cover damage due to accident, fire, flood and/or other acts of God: misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, or damage that occurs in shipping. Only the original purchaser of this unit is covered under this guarantee.

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