



## **DIE SENTRY II**

# **INSTALLATION, PROGRAMMING AND USER MANUAL**

### Table Of Contents

[MOUNTING INSTRUCTIONS](#)

[ZEROING THE RESOLVER](#)

[ADDING A NEW TOOL AND PROGRAMMING A SENSOR](#)

[SETTING A CAM SWITCH](#)

[SETTING A BATCH COUNTER](#)

[RESETTING THE TOOL COUNT](#)

[CHANGING A TOOL NUMBER](#)

[DELETING A TOOL NUMBER](#)

## **SPECIFICATIONS**

- NEMA 12 rated
- 120VAC 50/60Hz @ 750ma, +10% -15%
- SPDP relay contacts rated 8A 120VAC continuous and fused with replaceable 2AG 10A fuse
- 32 to 120 degree Fahrenheit operating temperature
- 12Mhz processor speed
- Response = 50 strokes/min. = 1.25 deg.

100 strokes/min. = 2.50 deg.

600 strokes/min. = 15.0 deg.

- 100 + tool storage capacity

- 10 year NV ram life expectancy
- Up to 15 sensor inputs
- 24VDC at .8A built in power supply for sensors
- Can use 2 and 3 wire sensors that include proximity, photoelectric, fiber optic, or probe to growing sensors
- Can use pnp or npn sensors
- Up to 6 programmable SPDT relay outputs that can be programmed twice each cycle
- Designed to conform to UL508

## MOUNTING INSTRUCTIONS

**General information.** A number of general matters should be considered when mounting the REXCON DIE SENTRY II and the REXCON resolver:

**Dirt.** The NEMA enclosure should remain tightly sealed to keep dirt and moisture out. Punched holes must be located and sealed properly to avoid leakage into the enclosure.

**Vibration.** Although REXCON products are designed to thrive in a machine-laden environment, care should be taken to install the DIE SENTRY II in the most vibration-free location available. Rubber shock-absorbing mounts are recommended when mounted in it's own enclosure.

**Electrical Noise.** Every precaution has been taken to eradicate noise-related difficulties, and these additional installation considerations will provide further protection against electrical noise. Noise can enter directly--through wires--or it can be radiated (through the air). Methods for avoiding direct noise are discussed in **Wiring Instructions**. Radiated electrical noise can be lessened if mounting in or on a relay panel is avoided--since relays are a tremendous source of radiated noise. Also, since wires act as antennae they should be kept as short as possible. Coils of unused wire can amplify noise to problem levels. Keeping wires in the enclosure (both in length and number) to a minimum will greatly reduce the risk of radiated noise levels.

### Mechanical Installation

**Mounting the REXCON DIE SENTRY II.** The REXCON DIE SENTRY II is designed to be panel-mounted in a cutout or can be supplied in it's own enclosure. Care should be taken to protect it from spraying or splashing water or oil. The DIE SENTRY II should be mounted as far away from motor starters and control relays as possible to minimize the effects of any potential Electro-matic interference (EMI).

**NOW LETS GET STARTED:**

## INSTRUCTIONS FOR: ZEROING THE RESOLVER

### and setting the password

**THINGS TO KEEP IN MIND:** The arrow up and down buttons are used to change a value, the arrow right and left buttons are used to position the cursor. The enter button is used to store a value or program change. The exit button is used to back up to the main menu.

This manual is set up as a step by step procedure starting as a new installation. After the DIE SENTRY II is set up, this first section can be skipped when further programming is required. As you go through each step, read each screen as it appears. Take note of the prompt at the top of each one.

### **STEP 1:**

After the **DIE SENTRY II** and the resolver have been installed, and all the power connections have been made the unit is ready to power up. When the power is applied and the key switch is in the run position, the following screen should appear. With the press at (T.D.C.) top dead center or "0", please note the angle display. If the display does not show "0" then a OFFSET must be programmed in. To accomplish this, turn the key switch to program or set .



### **STEP 2:**

The following screen should now be displayed. Use the arrow **right or left** to position the cursor on (ZERO MACHINE).



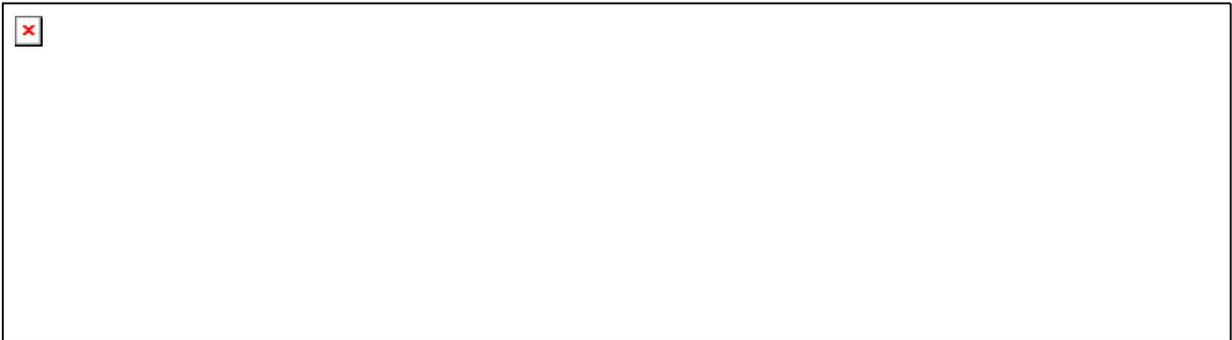
### **STEP 3:**

With the cursor on (ZERO MACHINE) press **ENTER**.



#### **STEP 4:**

The following screen should now be displayed. This is a password protected function and the master password must be entered at this time to proceed. Use the arrow right or left to position the cursor under the digit you want to set. When the cursor is under the digit, use the arrow up or down to change the number. After all the numbers have been set, press the enter button to accept the number. Refer to the drawings in the back of **this book for the master password.**



#### **STEP 5:**

At this time a second or standard password may be programmed into the unit. This password then should be used any time a password request appears. **(Note that the master password may be used at any time to override the standard password.)** After the second or standard password has been set, **press enter to proceed.**



### **STEP 6:**

After the passwords have been entered, the following screen should be displayed. If the press is at a known top of stroke and the current angle is not at **zero**, use the **arrow up or down** to change the machine offset until the current angle display is at zero (o) . Now press the enter button to store the offset and return to the menu.



### **STEP 7:**

Turn the key switch back to the run position and the following screen should be displayed. Please note the strokes/min and the angle windows. Stroke the press while watching the display to see if the numbers are running forward. If the numbers are running backwards, refer to the resolver wiring diagram in the back of this book. This will show the two (2) wires that must be swapped to obtain proper rotation on the display. After the wires have been changed, stroke the press again to verify that the numbers are running forward. If you are satisfied that the DIE SENTRY II is working properly, you can proceed to the next step.



## INSTRUCTIONS FOR: ADDING A NEW TOOL AND PROGRAMMING A SENSOR

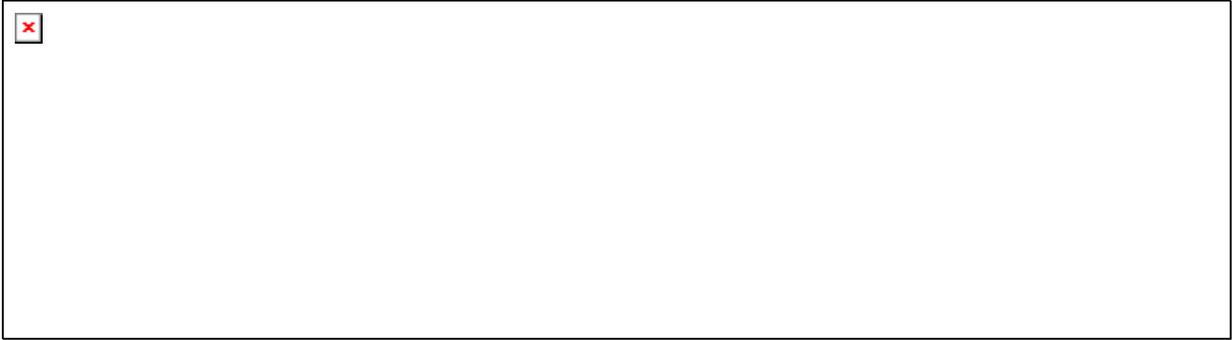
### STEP 1:

Turn the key switch to program and the following screen should be displayed. The cursor should be on <ACTIVATE/ADD/EDIT TOOL>. Now press enter.



### STEP 2:

The following screen should now be displayed and the cursor should be on <ADD NEW TOOL>. If the cursor is not in the proper position, use the arrow right or left to position the cursor. Now press enter.



### **STEP 3:**

After completing step 2, the following screen will be displayed. At this point the arrow right or left buttons must be used to position the cursor under the digit that you want to change. All or one of the digits can be set. The far right hand digit is a blank and can be used to add a letter suffix. With the cursor under the digit you want to change, use the arrow up or down to scroll the numbers. When all the numbers are set, press enter.



### **STEP 4:**

After completing step 3, the following screen will be displayed. The past steps that you have done placed a new tool number in memory and now you must activate the tool. With the cursor on <ACTIVATE TOOL>, PRESS ENTER.



## STEP 5:

After completion of step 4, the following screen will be displayed. Use the arrow up or down to browse the tool numbers. If this is the first tool number to be entered, then only one will be displayed. The tool count is how many tools are in memory, and the slot is the position in memory. If more than one tool is in memory, the tool number will be displayed under **LOCATE TOOL NUMBER TO ACTIVATE**. After the proper tool is displayed, press enter to activate this tool.



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## STEP 6:

After completing step 5, the following screen will be displayed. With the cursor on <EDIT TOOL SETTINGS>, press enter.



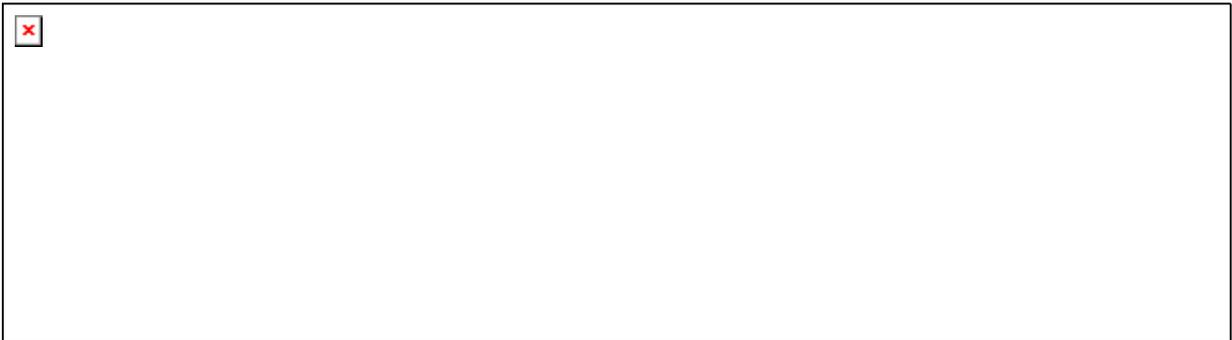
## STEP 7:

After completing step 6, the following new menu will be displayed. With the cursor on <SENSOR>, press enter.



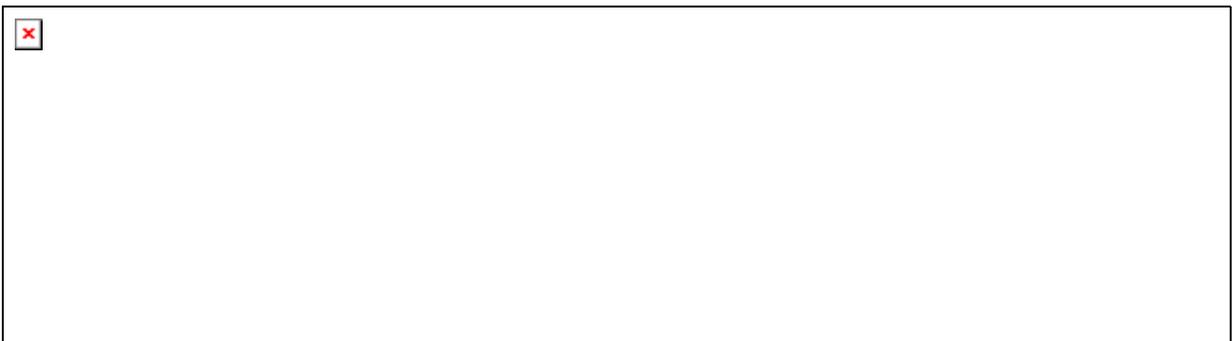
## STEP 8:

After completing step 7, the following screen will be displayed. The first thing that you must choose, is the sensor number that you want to set. Use the arrow up or down to scroll the numbers 1 - 15.



## STEP 9:

After selecting the sensor number, you must turn the sensor on by moving the cursor to the right and then use the arrow up or down to choose **NO**, **NC**, or **OFF**.



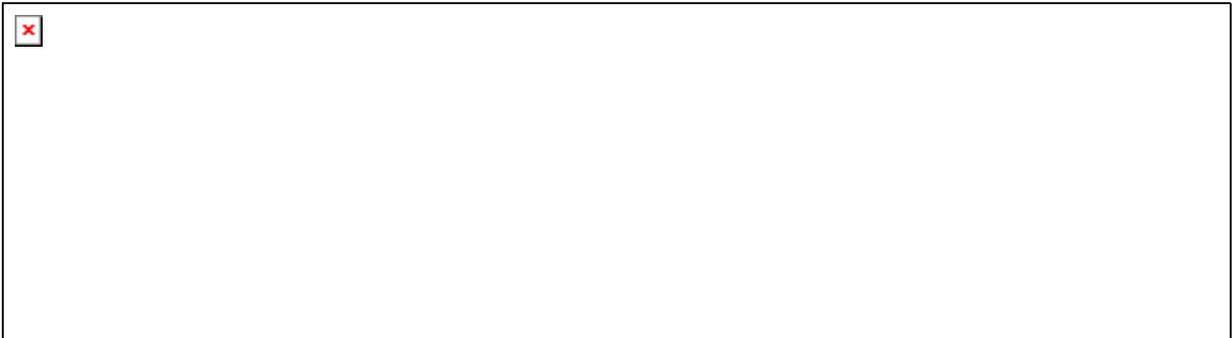
## STEP 10:

The next step is to move the cursor right again and choose the fault relay that you want to activate when the sensor detects a fault. You must choose between **E STOP**, or **T STOP**.



## STEP 11:

The next step is to move the cursor right again to select the mode that you want the probe to function in. Use the arrow up or down to scroll the different modes. Please read the explanation at the top of the display as you scroll the modes.



- **MODE A** is the standard probe mode and is used most often.
- **MODE B** could be used to check for slugs that are caught in the upper half of the die. This window would be set around top dead center. The sensor would not be active during the window, but it would show activity outside of the window.
- **MODE C** would be used to check that the part did arrive and did not pull away from the sensor until the window was closed.
- **MODE D** is a static mode (no window required) and could be used as part buckle.
- **MODE E** could be used as a part exit sensor.
- **MODE F** is similar to mode b, but does not need to be active outside the window.

## STEP 12:



**STEP 13:**



**STEP 14:**



**STEP 15:**



**STEP 16:**

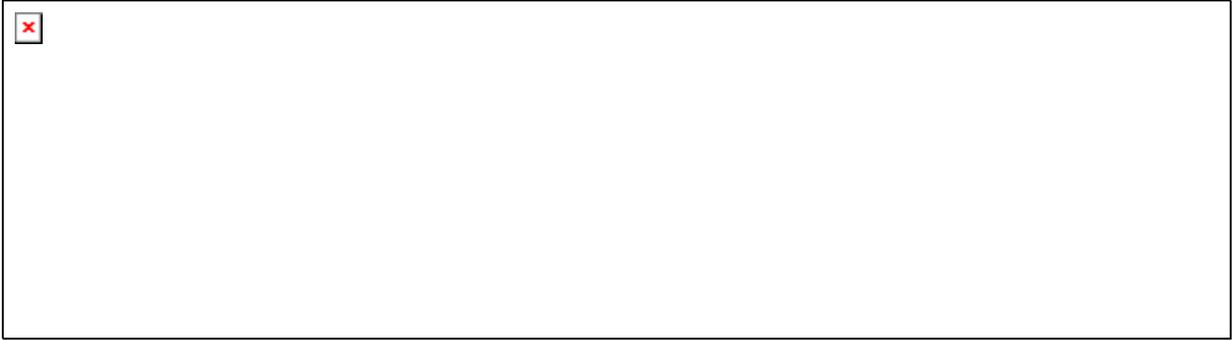


**STEP 17:**

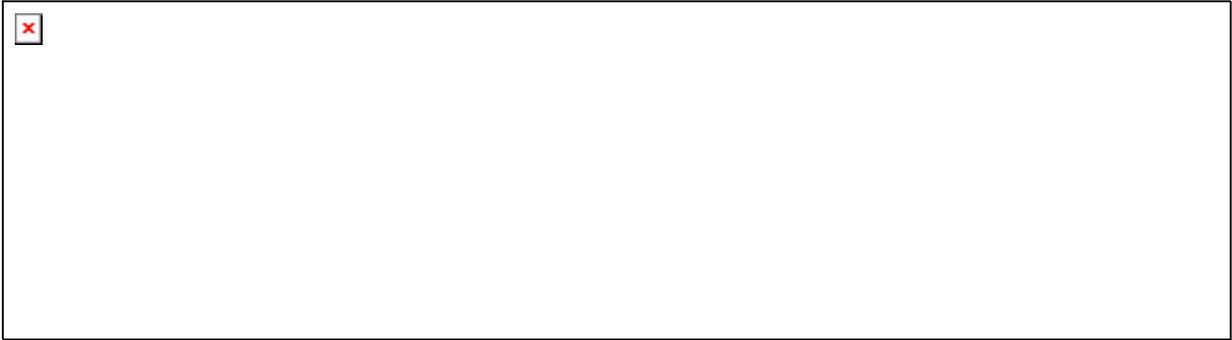


INSTRUCTIONS FOR SETTING A: **CAM**  
**SWITCH**

**STEP 1:**



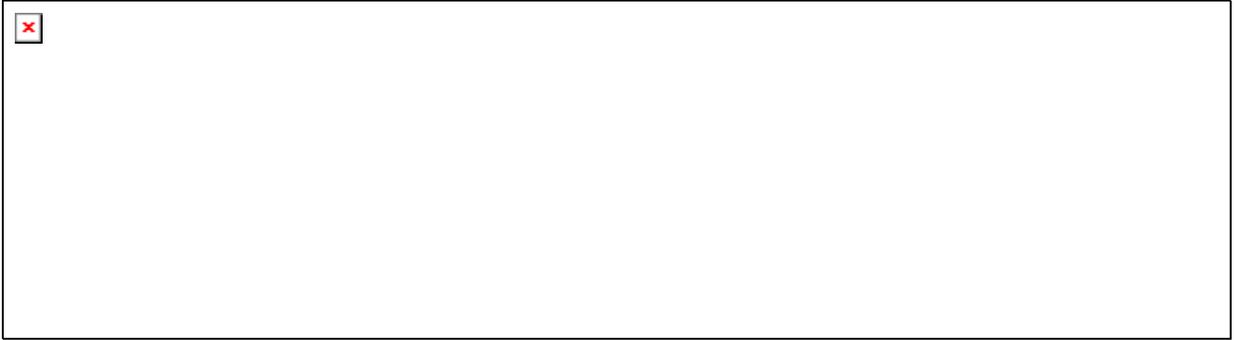
**STEP 2:**



**STEP 3:**



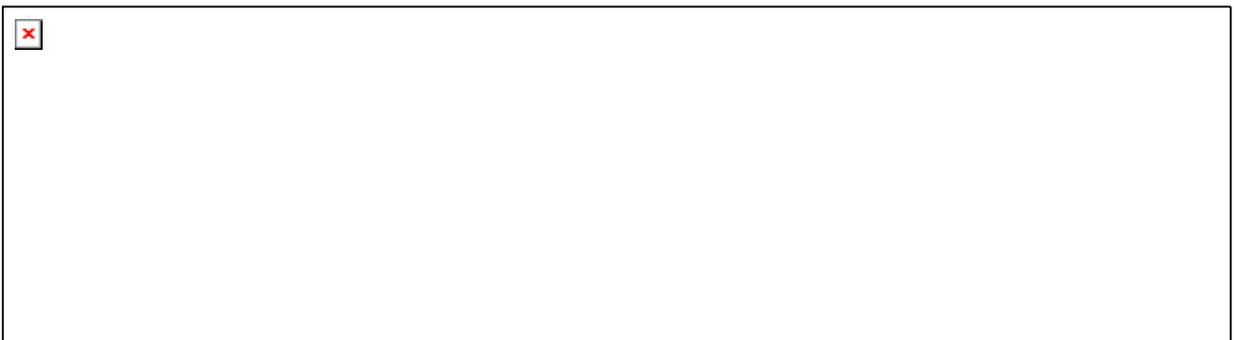
**STEP 4:**



**STEP 5:**



**STEP 6:**



**STEP 7:**



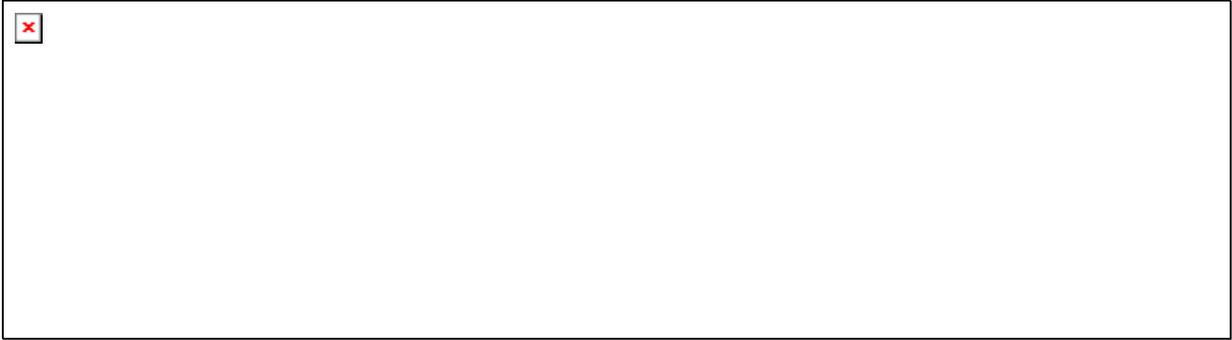
**STEP 8:**



**STEP 9:**



**STEP 10:**



**STEP 11:**



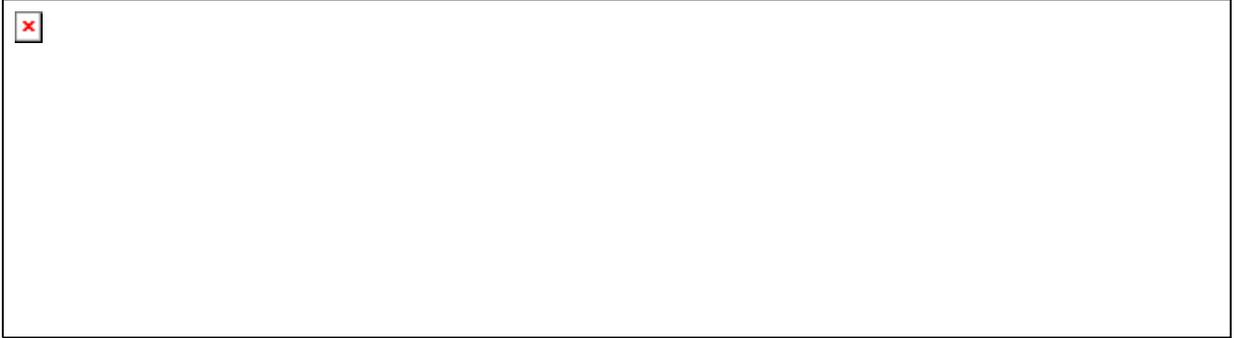
**STEP 12:**



INSTRUCTIONS FOR: **SETTING THE BATCH**

# COUNTER

**STEP 1:**



**STEP 2:**



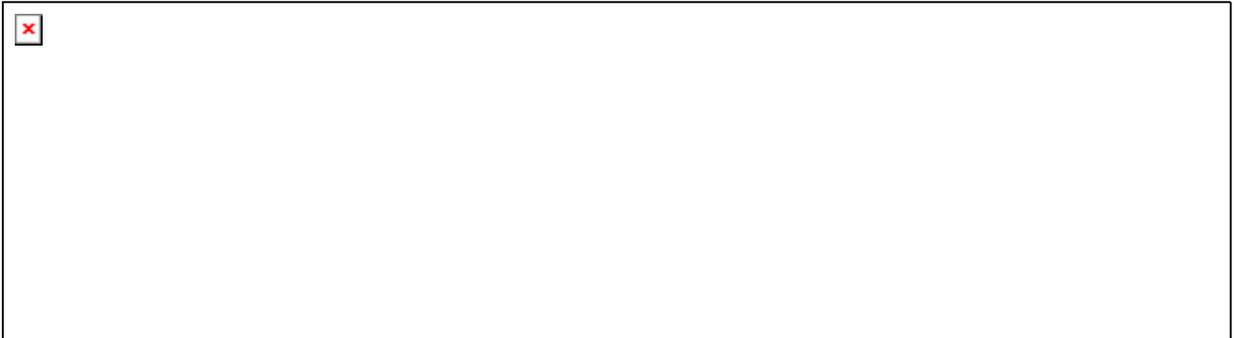
**STEP 3:**



**STEP 4:**

A large empty rectangular box with a black border. In the top-left corner, there is a small square icon containing a red 'x'.

**STEP 5:**

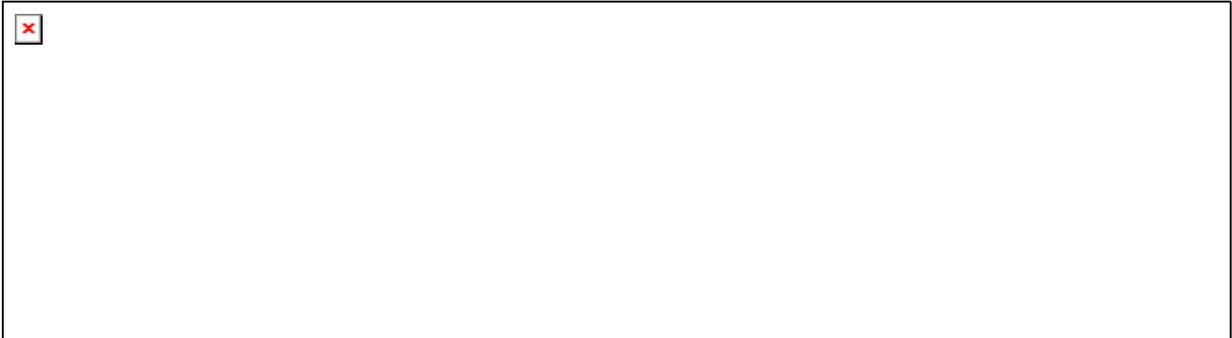
A large empty rectangular box with a black border. In the top-left corner, there is a small square icon containing a red 'x'.

**STEP 6:**

A large empty rectangular box with a black border. In the top-left corner, there is a small square icon containing a red 'x'.

INSTRUCTIONS FOR: **RE-SETTING THE  
TOOL COUNT**

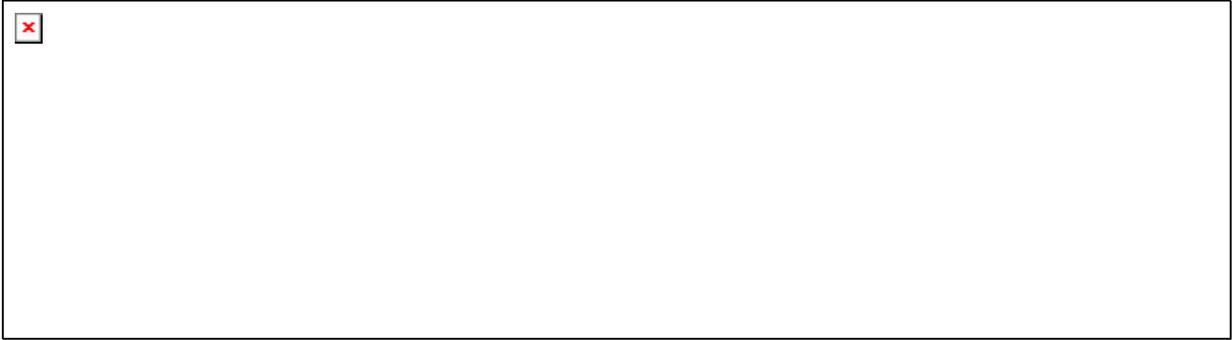
**STEP 1:**

A large empty rectangular box with a thin black border. In the top-left corner, there is a small square icon containing a red 'x'.

**STEP 2:**

A large empty rectangular box with a thin black border. In the top-left corner, there is a small square icon containing a red 'x'.

**STEP 3:**



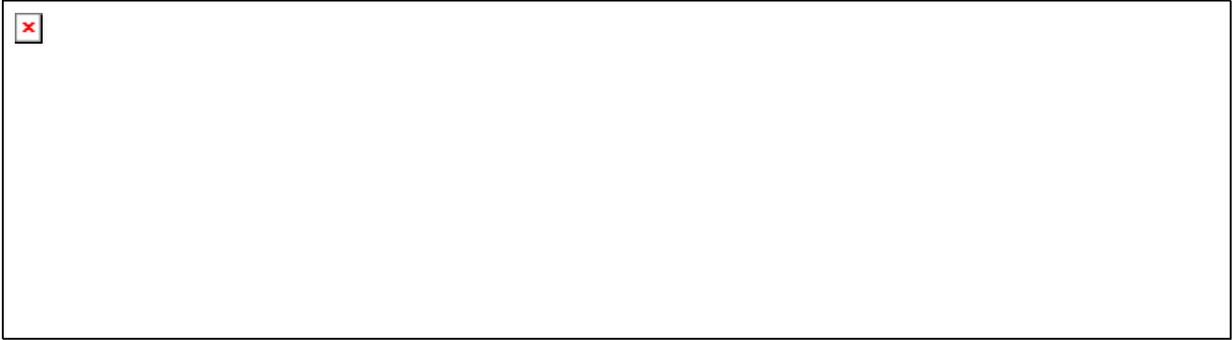
**STEP 4:**



**STEP 5:**



**STEP 6:**



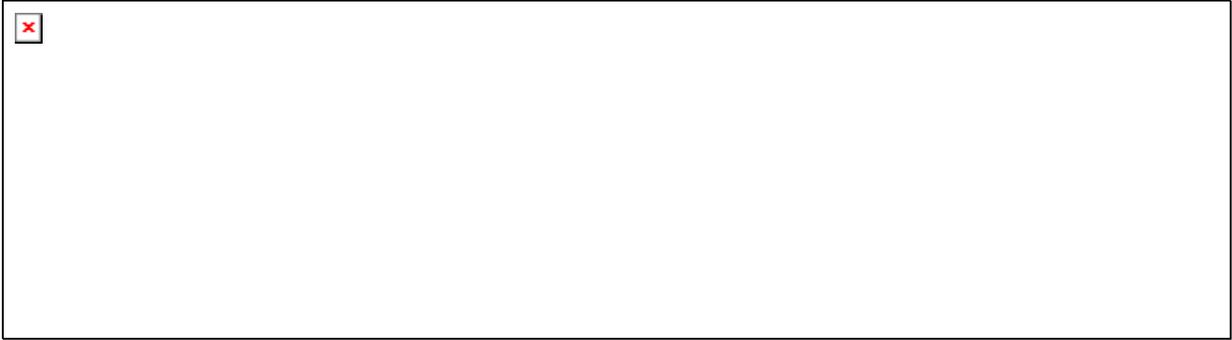
**STEP 7:**



**STEP 8:**



**STEP 9:**

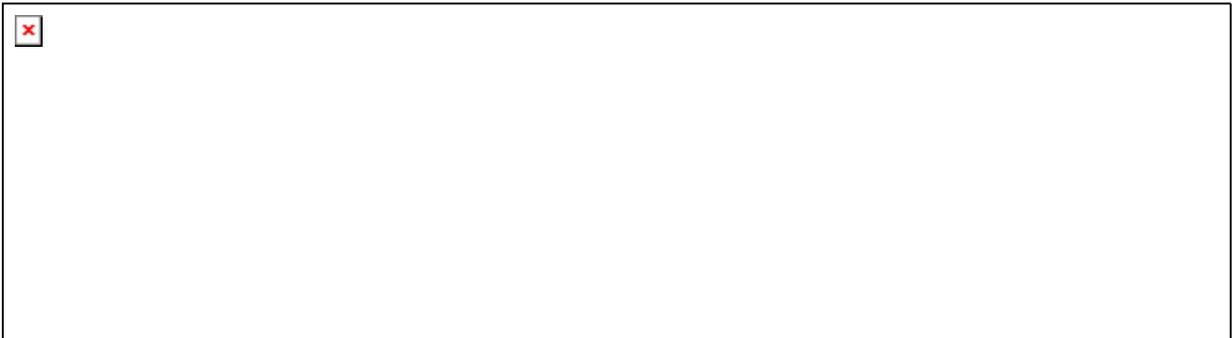


## INSTRUCTIONS FOR: CHANGING A TOOL NUMBER

### OR DELETING TOOL NUMBERS

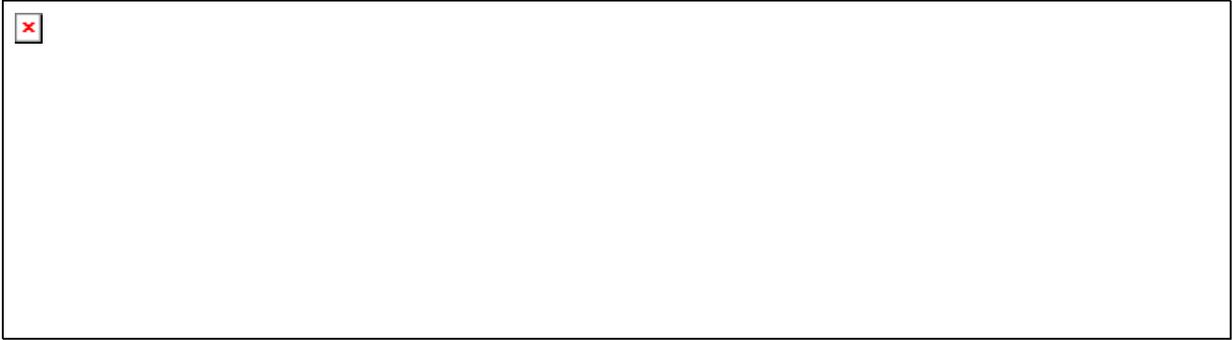
#### **STEP 1:**

Starting with the key switch in run mode, the main screen should be displayed.



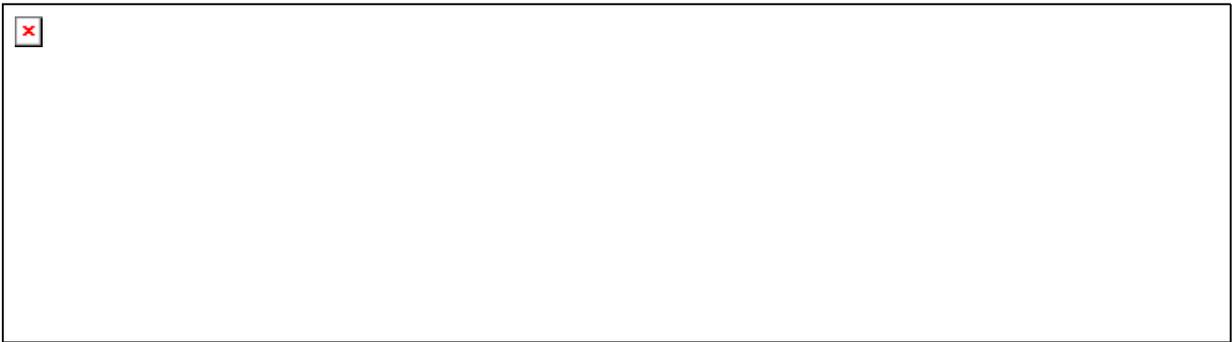
#### **STEP 2:**

Turn the key switch to program mode and this screen should be displayed.



### **STEP 3:**

Position the cursor on <ACTIVATE/ADD/EDIT TOOL> and press **ENTER**.



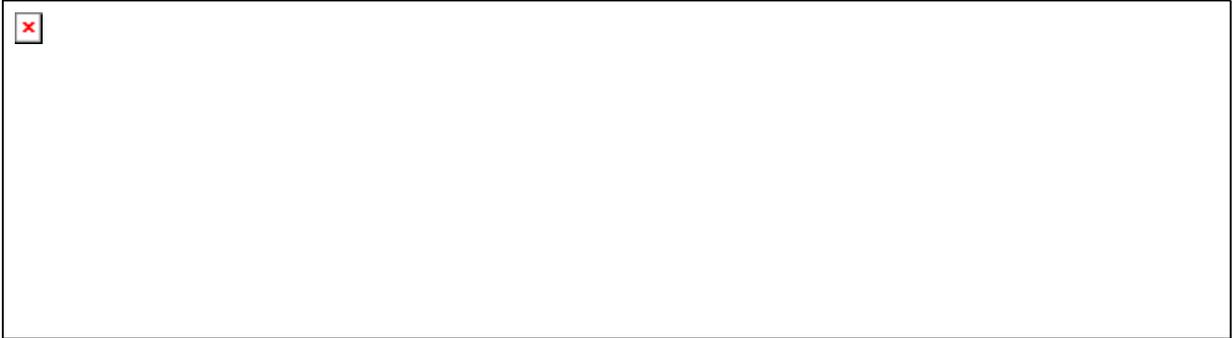
### **STEP 4:**

Position the cursor on <EDIT/DELETE TOOL> and press **ENTER**.



### **STEP 5:**

At this point you will have the option to <EDIT TOOL NUMBER> or, <DELETE TOOL NUMBER>. Position the cursor on <EDIT TOOL NUMBER> and press **ENTER**.



## **STEP 6:**

At this point you can browse the current tool numbers by using the arrow up or down keys to find the tool number to change. After you have found the tool number to change, press **ENTER**.



## **STEP 7:**

This screen should now be displayed. The top number is the tool number that was selected to change, and the bottom number is the new number. Place the cursor under the digit you want to change and use the arrow up or down to set the digit. After all digits have been set, press **ENTER**. **This will take you back to step 3. At that point you can activate the new tool number. REFER TO ADDING A NEW TOOL AND PROGRAMMING A SENSOR STEP 4: page 9.**



## **STEP 8: DELETING A TOOL NUMBER**

Place the cursor on <EDIT/DELETE TOOL> and press ENTER.



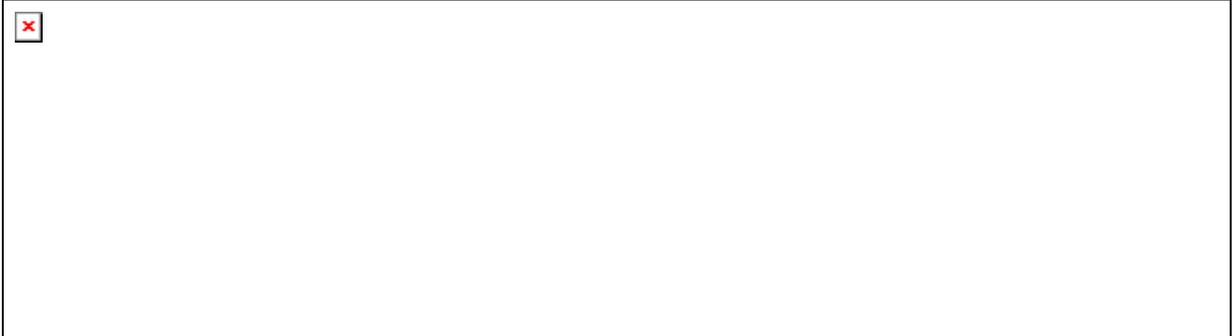
## **STEP 9:**

This screen should now be displayed. Place the cursor on<DELETE TOOL NUMBER> and press ENTER.



## STEP 10:

At this time you will be asked for your security code. Set the digits to the proper numbers and press ENTER.



## STEP 11:

Now you may browse the tool numbers to find the one that you wish to delete by using the arrow up or down buttons. With the proper tool number being displayed, press ENTER and the tool will be deleted from memory. If at this time you want to exit without making any changes, press EXIT or turn the key switch back to RUN.

