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## *Basic Unit with Presserfoot & Chain Cutter*

### **Description about:**

- ..... **Parameters**
- ..... **Programming**
- ..... **Master Reset**
- ..... **Access to Hidden  
Parameters**
- ..... **Display the Program ID**

August 25, 2005 by PETER SCHUELER

#### **Description of outputs:**

1. Presser Foot:                      2- pin MOLEX, pin 1&2

2. Chain Cutter: 9- pin MOLEX, pin 3&6

-- 1 --

## MODES OF OPERATION:

The LCD display can be operated in three (3) different modes.

They are:

1. OPERATING MODE: To operate the machine
2. PROGRAMMING MODE: To change a parameter
3. TEST MODE An easy way to maintain and check the system.

Two different parameter levels are available:

OPERATORS LEVEL  
MECHANICS LEVEL

To use the MECHANICS LEVEL, please see the section 2.0.0 (Access to "HIDDEN PARAMERTERS)

### 1.0.0. HOW TO CHANGE A PARAMETER:

Four parameter groups are available (OPERATORS LEVEL)

SPEEDS  
TIMERS  
COUNTERS  
TOGGLE SWITCHES.

To change a parameter, please proceed the following sequence:

#### STEP 1

Push the 'ARROW ROUND' button repeatedly until the desired parameter group is displayed.

#### STEP 2

Push the 'SET' button repeatedly until the desired parameter is displayed

#### STEP 3

Change the parameter with the buttons:

'ARROW-UP' (increase the value)  
or 'ARROW DOWN' (decrease the value)

In the group 'TOGGLE SWITCHES', either button, "ARROW UP" or "ARROW DOWN" will toggle the parameter.

#### PLEASE NOTE:

To optimize a certain parameter, it may be necessary to go repeatedly from the operation mode back to the same parameter.

It can be easy done by pressing the 'SET' button.

If the program is in the OPERATION MODE, the SET button takes you right back to the last displayed parameter.

If a parameter was changed by accident and the machine doesn't work properly, it is possible to go back to the original factory setup by using the feature of the MASTER RESET (section 3.0.0).

## 2.0.0 ACCESS TO the 'HIDDEN PARAMETERS'

### Step 1:

Turn power OFF

### Step 2:

Press the NEEDLE UP / DOWN and ARROW RIGHT buttons at the same time.

### Step 3:

Turn the power ON while both buttons are held down.  
wait until a string of stars is displayed (\*\*\*\*\*), which are counting down.

### Step 4:

Release both buttons and press the 'SBT' button before the stars disappear.

Go to the programming mode, the "HIDDEN PARAMETERS" follow after the regular parameters.  
The hidden parameters display stars in front of the group name:

Normal parameter: SPEEDS

Hidden parameter: \*\*\*\* SPEEDS

The 'HIDDEN PARAMETER' groups are displayed after going through the OPERATOR level.

Note: Access to HIDDEN PARAMETERS is disabled after power was turned OFF.

HIDDEN PARAMETERS are enabled automatically after proceeding a MASTER RESET.

## 3.0.0 MASTER RESET: (Caution: Overwrites the program memory with the default settings)

### Step 1:

Turn the power off

### Step 2:

Press 'NEEDLE UP / NEEDLE DOWN', 'ARROW RIGHT' and 'ARROW UP' button at the same time.

### Step 3:

Turn the power ON while all three push buttons are held down.  
The display reads: "GO RESET? >9<"  
The number in the message is counting down

### Step 4:

Push the 'SET' button before the number is down to zero (0). The display reads:  
' MASTER RESET '

### Note:

If the 'SET' button is not pushed in time, the program goes to the main menu without executing the MASTER RESET.

## **4.0.0 Operators Parameters:**

### **SPEEDS: rpm (spm, stitches per minute)**

#### **4.1.1 SOFT ST**

Range: 150 to 1000  
Steps: 10  
Default: 700

### **TIMERS ms (milliseconds)**

#### **4.1.1 Strt Del.**

Start Delay

The delay from presser foot down to start.

If the foot is already down, this time will not affect.

Range: 30 to 2500  
Steps: 10  
Default: 80

#### **4.1.2 VENTdel**

Venturi delay

Range: 0 to 2500  
Steps: 10  
Default: 350

### **COUNTERS (Stitches)**

#### **4.2.1 SOFT ST**

Soft Start

Range: 1 to 50  
Steps: 1  
Default: 3

## **4.5.1 TOGGLE SWITCHES**

4.5.1	PF/EOC	Presser Foot End of Cycle Default: DOWN	UP / DOWN
4.5.2	PF/seam	Presser foot in the seam Default: DOWN	UP / DOWN
4.5.3	Nedle/seam	Needle Position in the seam Default: DOWN	UP / DOWN
4.5.4	SOFT ST	Soft start Default: OFF	ON/OFF

## **5.0.0 HIDDEN PARAMETER**

### **5.1.0 \*\*\*\*\* SPEEDS (rpm)**

5.1.1	TRM/POS	Trim and Positioning Speed Range: 30 to 1000 Steps: 10 Default: 200	
5.1.2	MAXIMUM	Maximum Speed Range: 500 to 9000 Steps: 100 Default: 3500	
5.1.3	POS.TL	Position Tail This is the speed before the machine stops in the position program Range: 50 to 200 Steps: 1 Default: 200	
5.1.4	BACK	This is not a speed, this is the brake time. It should be set to ten (10) Milliseconds. Range: 5 to 200 Steps: 1 Default: 50	

-- 5 --

### **5.2.0 \*\*\* MOT GAIN Motor Gain**

**Please do not change this parameter!**  
**These parameters will change the response of the P-I-D Controller!**  
**Please Note: The lower the number, the higher the gain**

- 5.2.1 I-PART**      **The Integration Part of the speed control**  
**Range**            **10 to 150**  
**Steps:**           **1**  
**Default:**        **70**
- 5.2.2 P-PART**      **The Proportional Part of the speed control**  
**Range**            **10 to 150**  
**Steps:**           **1**  
**Default:**        **60**
- 5.2.3 current**      **The increase of current**  
**Range**            **10 to 150**  
**Steps:**           **1**  
**Default:**        **30**
- 5.2.4 D-PART**      **The Differential Part of the speed control**  
**Range**            **10 to 150**  
**Steps:**           **1**  
**Default:**        **30**

### **5.3.0 \*\*\* POSITIONS Adjustment of the needle positions**

Before these parameters, please read 6.1.0 "Teach-in Mode"

- 5.3.1 NEED.UP**      **Needle up Position**  
**This parameter can be changed by:**  
    a) **Arrow-Up / Arrow-down Buttons**  
    b) **Teach-in mode (recommended)**
- 5.3.2 NEED.dwn**    **Needle Down Position**  
**This parameter can be changed by:**  
    a) **Arrow-Up / Arrow-down Buttons**  
    b) **Teach-in mode (recommended)**

-- 6 --

### **5.4.0 \*\*\* MISCEL            Miscellaneous Parameters**

- 5.4.3 PF.-DUTY Presser foot duty cycle  
Due the voltage is too high to turn on a solenoid valve permanent,  
the current has to be chopped.  
If the duty cycle is too low, the solenoid will not stay on.  
If too low, the solenoid will turn too hot!  
Range 3 to 10  
Steps: 1  
Default: 5 (50%)

## 5.5.0 \*\*\*\*TOGG SW TOGGLE SWITCHES

- 5.5.1 DIRECTN Direction of Rotation (CCW / CW)  
Default: CW (Clockwise )
- i. POW-ON-DET. Power-on detection (YES/NO)  
Default: YES (recommended)
- 5.5.3 POSITION Positions ramp (normal/fast)  
Default: normal

## 6.0.0 Setting the Needle Positions by using the Teach-in Mode:

Installing the motor:

Please make sure, the index signal of the motor does not match with any position.

1. Go to the desired position parameter in the group “\*\*\*\*POSITIONS”
2. Turn the hand wheel to the correct position
3. Press the “NU/ND” button (left hand side)  
The displayed number should change to the new position

### IMPORTANT:

Any displayed position should not be higher then 480 and lower then 10 counts!

If this happens, please take the motor off and move it

-- 7 --

Teach-in Mode cont.

**After selecting the parameter (TRIM- ON, TEN. REL or STOP), turn the handwheel to** the desired position. Push the “NEEDLE-UP / NEEDLE- DOWN” button. The machine turns one motor revolution and the location is stored in the memory. Sew one cycle and check the position.

If it is not correct, go back to the parameter by using the “SET” button (short cut).

Repeat the procedure- or even better- to correct small amounts, use the ARROW- UP Or the ARROW- DOWN button.