

**This Manual is NOT for use on SR3 Type 2 Mode 3 (Totaliser)**

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# SR3 Type 2 MechTool Manual



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**1. Diary of Changes**

- Issue 1.0.....October 2001
- Issue 2.0.....February 2002
  - Applied TMWP v3.0
- Issue 3.0.....27<sup>th</sup> April 2002
  - Added DIL switch pictures

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### 2. MechTool™ DIL Switch Options.

There are a number of options which can be selected via the 6 way DIL switch.

The 6 way DIL switch or Program Switch Bank can be used for field programming the following:

- Enable / disable a specific coin (2 methods available)
- Adjust coin security settings (2 methods available)
- Enable / disable alarm
- **Teach and Run™**
- Erase all windows

*Table 1: DIL Switch Functions*

1	2	3	4	5	6
Program 1	Program 2	Program 3	Program 4	Teach on/off	Security on/off

*Table 2: DIL Switch Guide*

SW1	SW2	SW3	SW4	SW5	SW6	FUNCTION
<b>ON</b>	<b>ON</b>	off	off	off	off	Enable a coin – method 1
off	off	<b>ON</b>	off	off	off	Enable a coin – method 2
<b>ON</b>	<b>ON</b>	off	<b>ON</b>	off	off	Inhibit a coin – method 1
off	<b>ON</b>	<b>ON</b>	off	off	off	Inhibit a coin – method 2
off	off	off	<b>ON</b>	off	off	Disable alarm
<b>ON</b>	off	off	<b>ON</b>	off	off	Enable alarm
off	<b>ON</b>	off	<b>ON</b>	off	off	Erase all windows ( Step 1 )
<b>ON</b>	off	off	off	off	off	Erase all windows ( Step 2 )
W	W	W	W	<b>ON</b>	off	<b>Teach and Run™</b> W = window, SW1 = MSB
S	N	N	N	off	<b>ON</b>	Coin Security Tuning – method 1 S = ON to widen, OFF to narrow. SW2 = MSB
S	N	N	N	<b>ON</b>	<b>ON</b>	Coin Security Tuning – method 2 S = ON to widen, OFF to narrow. SW2 = MSB

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### 3. Accept and Inhibit Configuration

It is possible on the SR3 to inhibit a single coin or any combination of the 12 possible programmed coins by following one of the procedures below.

**Note: If the SR3 contains the same coin twice (i.e. standard security and high security) usually in the same bank then method 1 will disable both coins. Therefore you must use method 2.**

#### 3.1 To Inhibit Specific Coins – Method 1

**Example:-** To Inhibit 50p and 20p.

Switch off the power to the SR3.  
Set the Program DIL switches to:-



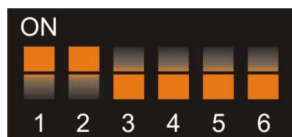
SW1	SW2	SW3	SW4	SW5	SW6
ON	ON	OFF	ON	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will turn RED.  
Insert 50p and 20p and check that they are accepted.  
Press the reject lever to return to normal operational mode.  
The LED will turn GREEN.  
**Return ALL the DIL switches to the OFF position.**  
The inserted coin/s will now be rejected.

#### 3.2 To Enable Specific Coins – Method 1

**Example:-** To Enable 50p and 20p.

Switch off the power to the SR3.  
Set the Program DIL switches to:-



SW1	SW2	SW3	SW4	SW5	SW6
ON	ON	OFF	OFF	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will turn RED.  
Insert 50p and 20p and check that they are accepted.  
Press the reject lever to return to normal operational mode.  
The LED will turn GREEN.  
**Return ALL the DIL switches to the OFF position.**  
The inserted coin/s will now be accepted.

**Note:- It is possible for a single coin to be enabled using the above procedure even though that particular bank has been disabled.**

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### 3.3 To Inhibit Specific Coins – Method 2

**Example:-** To Inhibit 50p [Coin 2](#) and 20p [Coin 3](#).

Switch off the power to the SR3.  
Set the Program DIL switches to:-



SW1	SW2	SW3	SW4	SW5	SW6
OFF	ON	ON	OFF	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will turn RED.  
Set the switches to the desired coin position (refer to [Table 3](#)) i.e. 2.



SW1	SW2	SW3	SW4	SW5	SW6	Coin No.
OFF	OFF	ON	OFF	OFF	OFF	2

Press the reject lever – LED changes colour to GREEN then back to RED.  
Set the switches to the next desired coin position (refer to [Table 3](#)) i.e. 3.



SW1	SW2	SW3	SW4	SW5	SW6	Coin No.
OFF	OFF	ON	ON	OFF	OFF	3

Press the reject lever – LED changes colour to GREEN then back to RED.  
**Return ALL the DIL switches to the OFF position.**  
Press the reject lever to return to normal operational mode.  
The LED will turn GREEN.  
The selected coin/s will now be rejected.

*Table 3: Switch Position v Coin Window*

Coin No.	SW1 MSB	SW2	SW3	SW4 LSB
1	off	off	off	ON
2	off	off	ON	off
3	off	off	ON	ON
4	off	ON	off	off
5	off	ON	off	ON
6	off	ON	ON	off
7	off	ON	ON	ON
8	ON	off	off	off
9	ON	off	off	ON
10	ON	off	ON	off
11	ON	off	ON	ON
12	ON	ON	off	off

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### 3.4 To Enable Specific Coins – Method 2

**Example:-** To Enable 50p [Coin 2](#) and 20p [Coin 3](#).

Switch off the power to the SR3.  
Set the Program DIL switches to:-



SW1	SW2	SW3	SW4	SW5	SW6
OFF	OFF	ON	OFF	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will turn RED.

Set the switches to the desired coin position (refer to [Table 4](#)) i.e. 2.



SW1	SW2	SW3	SW4	SW5	SW6	Coin No.
OFF	OFF	ON	OFF	OFF	OFF	2

Press the reject lever – LED changes colour to GREEN then back to RED.  
Set the switches to the next desired coin position (refer to [Table 4](#)) i.e. 3.



SW1	SW2	SW3	SW4	SW5	SW6	Coin No.
OFF	OFF	ON	ON	OFF	OFF	3

Press the reject lever – LED changes colour to GREEN then back to RED.

**Return ALL the DIL switches to the OFF position.**

Press the reject lever to return to normal operational mode.

The LED will turn GREEN.

The selected coin/s will now be accepted.

*Table 4: Switch Position v Coin Window*

Coin No.	SW1 MSB	SW2	SW3	SW4 LSB
1	off	off	off	ON
2	off	off	ON	off
3	off	off	ON	ON
4	off	ON	off	off
5	off	ON	off	ON
6	off	ON	ON	off
7	off	ON	ON	ON
8	ON	off	off	off
9	ON	off	off	ON
10	ON	off	ON	off
11	ON	off	ON	ON
12	ON	ON	off	off

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### 4. Teach and Run™ Option

The SR3 can have the option to enable **Teach & Run™** on all 12 coins.

This option is selected at the time of order. The specific coin channel to be programmed is selected using switch 1 (MSB) to switch 4 (LSB) on the 6 way DIL switch.

#### 4.1 Programming Steps

To programme a coin/token please follow these 6 Steps:

1. Switch off the power to the SR3.
2. Set the 6 way DIL switch to the relevant coin to be programmed. (See [Table 5](#) and [Table 6](#))
3. Switch on the power to the SR3.
4. Press the reject lever.  
The LED will turn RED.
5. Start entering the coins<sup>1</sup> or tokens<sup>1</sup> you wish to teach until the LED flashes GREEN, typically after 8 to 10 insertions<sup>2</sup>.
6. Press the reject lever and the LED will turn RED then GREEN.

The coin channel is now programmed<sup>3</sup>.

To programme further coin channels, repeat from step 1.

Once you have finished programming return all switches to the OFF position.

The first coin inserted after **Teach & Run™** may reject. Subsequent coins should accept.

#### **Notes:**

- <sup>1</sup> If a large sample of coins/tokens are used, then the coin channel sensor windows will be more accurate and a higher acceptance of true coins/tokens should be seen. If only a single coin/token is used, coin channel sensor windows will be programmed which may not truly reflect the coin/token population.
- <sup>2</sup> If significantly more than 10 coins have been inserted and the LED is still not changing to GREEN, this could be caused by three possible reasons.
  - a) The coins/tokens being used are actually 2 different types although they look the same e.g. 1p old and 1p new.
  - b) The coins/tokens being used are poorly manufactured/minted to such an extent that the **Teach & Run™** is unable to correlate the readings taken.
  - c) The SR3 has a fault.
- <sup>3</sup> Even though a coin/token has been programmed make sure that the coin channel has actually been enabled (see section [3](#)).  
**Teach & Run™** does NOT automatically enable the taught coin/token.

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### 4.2 BANK 1

*Table 5: Teach and Run™ Programming - Bank 1*

Coin Number	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
1	off	off	off	ON	ON	off
2	off	off	ON	off	ON	off
3	off	off	ON	ON	ON	off
4	off	ON	off	off	ON	off
5	off	ON	off	ON	ON	off
6	off	ON	ON	off	ON	off

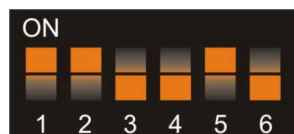
### 4.3 BANK 2

*Table 6: Teach and Run™ Programming - Bank 2*

Coin Number	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
7	off	ON	ON	ON	ON	off
8	ON	off	off	off	ON	off
9	ON	off	off	ON	ON	off
10	ON	off	ON	off	ON	off
11	ON	off	ON	ON	ON	off
12	ON	ON	off	off	ON	off

**Example:-** To teach coin channel 12 for £1

Switch off the power to the SR3.  
Set the Program DIL switches to:-



MSB SW1	SW2	SW3	LSB SW4	Total	SW5	SW6
ON	ON	OFF	OFF	12	ON	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will turn RED.  
Start entering £1 coins until the LED flashes GREEN, typically after 8 to 10 insertions.  
Press the reject lever and the LED will turn GREEN.  
The coin channel has been programmed.

Set ALL switches to the OFF position.

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**Note: if a fault condition occurs (flashing RED), either power off, power on and restart teaching or press the reject lever, this will exit Teach and Run™, the LED will change colour from flashing RED to GREEN.**

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### 5. Erase All Windows

This function allows you to erase all the windows previously programmed, whether they were programmed by **Teach and Run™**, programmed using a programming device or programmed by Money Controls Ltd.

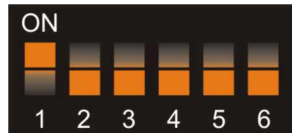
Because of the severity of this procedure, two steps are required, which reduces the risk of this being done accidentally.

Switch off the power to the SR3.  
Set the Program DIL switches to:-



SW1	SW2	SW3	SW4	SW5	SW6
OFF	ON	OFF	ON	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will flash RED / GREEN.  
Set the Program DIL switches to:-



SW1	SW2	SW3	SW4	SW5	SW6
ON	OFF	OFF	OFF	OFF	OFF

Press the reject lever again.  
The LED will flash GREEN.  
**Set ALL the DIL switches to the OFF position.**  
Press the reject lever to return to operational mode.  
LED will change to constant GREEN.

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### 6. Adjust Coin Security

The security of an individual coin/token can be adjusted using the 6 way DIL switches. Two methods are available on the SR3 Type 2.

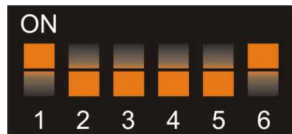
Switch 1	Allows sensor windows to be increased or decreased. (ON = increase windows / decrease security, OFF = decrease windows / increase security)
Switches 2, 3, 4	Determines the number of counts to be added or removed from the sensor windows (SW2 = MSB, SW4 = LSB). See <a href="#">Table 7</a> and <a href="#">Table 8</a> below.
Switch 5	Not used for adjusting coin security settings = OFF.
Switch 6	Enables coin security mode = ON.

#### 6.1 Method 1 – coin required

**Example:-** To increase the sensor windows / decrease the security on a £1 coin<sup>4</sup> by 2 counts<sup>5,6</sup> the following procedure should be followed:

Switch off the power to the SR3.

Set the 6 way DIL switches to:- (widen, 2 counts, security)



SW1	SW2	SW3	SW4	SW5	SW6
ON	OFF	ON	OFF	OFF	ON

Switch on the power to the SR3.

Press the reject lever within 20 seconds and check the LED turns RED.

Insert a £1 coin and check it accepts.

The LED should now turn GREEN.

**Set ALL the switches to the OFF position.**

Press the reject lever again to return to operational mode.

The security has now been saved to EEPROM.

#### Notes:

- <sup>4</sup> The coin channel must be ENABLED for changes to be programmed.
- <sup>5</sup> +n counts will add n counts to the upper limits of the sensor windows and subtract n counts from the lower limits of the sensor windows for the coin channel selected. i.e. +2 counts will actually make the sensor windows a total of 4 counts wider on the coin channel selected.  
-n counts will subtract n counts from the upper limits of the sensor windows and add n counts to the bottom limits of the sensor windows for the coin channel selected. i.e. +3 counts will actually make the sensor windows a total of 6 counts narrower on the coin channel selected.
- <sup>6</sup> If 2 counts were not enough and 3 counts were actually required, the procedure has to be repeated for +3 counts (NOT an extra +1 count).

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### 6.2 Method 2 – no coins required.

**Example:-** To increase the sensor windows / decrease the security on a £1 coin<sup>7</sup> (window 1) by 2 counts<sup>8,9</sup> the following procedure should be followed:

Switch off the power to the SR3.

Set the 6 way DIL switches to:- (widen, 2 counts, **Teach and Run™**, security)

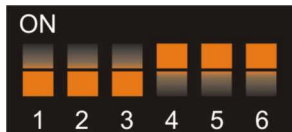


SW1	SW2	SW3	SW4	SW5	SW6
ON	OFF	ON	OFF	ON	ON

Switch on the power to the SR3.

Press the reject lever within 20 seconds and check the LED turns RED.

Set the 6 way DIL switches to:- (window 1)(see [Table 4](#))



SW1	SW2	SW3	SW4	SW5	SW6
OFF	OFF	OFF	ON	ON	ON

Press the reject lever again.

The LED will now turn RED then GREEN.

The security has now been saved to EEPROM.

Set ALL the switches to the OFF position.

Press the reject lever to return to operational mode.

LED will change to constant GREEN.

#### **Notes:-**

- <sup>7</sup> The coin channel must be ENABLED for changes to be programmed.
- <sup>8</sup> +n counts will add n counts to the upper limits of the sensor windows and subtract n counts from the lower limits of the sensor windows for the coin channel selected. i.e. +2 counts will actually make the sensor windows a total of 4 counts wider on the coin channel selected.  
-n counts will subtract n counts from the upper limits of the sensor windows and add n counts to the bottom limits of the sensor windows for the coin channel selected. i.e. +3 counts will actually make the sensor windows a total of 6 counts narrower on the coin channel selected.
- <sup>9</sup> If 2 counts were not enough and 3 counts were actually required, the procedure has to be repeated for +3 counts (NOT an extra +1 count).

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### 6.3 Decrease Security

*Table 7: DIL Switches - Decrease Security*

Value	SW1	SW2	SW3	SW4	SW5	SW6
0	ON	off	off	off	off	ON
+1	ON	off	off	ON	off	ON
+2	ON	off	ON	off	off	ON
+3	ON	off	ON	ON	off	ON
+4	ON	ON	off	off	off	ON
+5	ON	ON	off	ON	off	ON
+6	ON	ON	ON	off	off	ON
+7	ON	ON	ON	ON	off	ON

### 6.4 Increase Security

*Table 8: DIL Switches - Increase Security*

Value	SW1	SW2	SW3	SW4	SW5	SW6
0	off	off	off	off	off	ON
-1	off	off	off	ON	off	ON
-2	off	off	ON	off	off	ON
-3	off	off	ON	ON	off	ON
-4	off	ON	off	off	off	ON
-5	off	ON	off	ON	off	ON
-6	off	ON	ON	off	off	ON
-7	off	ON	ON	ON	off	ON

### 6.5 Reset Security

Set the DIL switches to either Increase Security 0 or Decrease Security 0. This will set the sensor windows tweak value to 0 for the coin channel selected, i.e. the original programmed sensor windows.

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### 7. Alarms

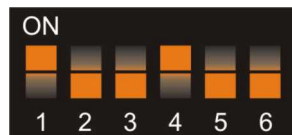
When enabled, an alarm condition will activate all the outputs (A1 to A6) for 100ms, except for condition iii and iv.

Conditions which will indicate an alarm condition include:

- i. An event which occurs out of sequence.
- ii. A sequence of events occur which indicate a 'Coin-on-string' fraud is being attempted. There are a number of events that might lead to this condition.
- iii. If the credit / reject sensor is blocked for more than 1.5 seconds, the alarm signal will remain active, for the duration of the blockage.
- iv. During power-up diagnostics – if enabled – for the duration of the fault.

#### 7.1 Enable

To enable an alarm the following steps should be followed:  
Switch off the power to the SR3.



SW1	SW2	SW3	SW4	SW5	SW6
ON	OFF	OFF	ON	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will flash GREEN.  
Switch off the power to the SR3.  
**Set ALL the DIL switches to the OFF position.**  
Switch on the power to the SR3.  
The alarm is now ON.

#### 7.2 Disable

To disable an alarm the following steps should be followed:  
Switch off the power to the SR3.



SW1	SW2	SW3	SW4	SW5	SW6
OFF	OFF	OFF	ON	OFF	OFF

Switch on the power to the SR3.  
Press the reject lever within 20 seconds.  
The LED will flash GREEN.  
Switch off the power to the SR3.  
**Set ALL the DIL switches to the OFF position.**  
Switch on the power to the SR3.  
The alarm is now OFF.

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