

**HSM-CCSD2  
CROWN CORK & SEAL  
DECORATOR  
HIGH SPEED LOGIC MODULE  
KEYPAD QUICK REFERENCE**

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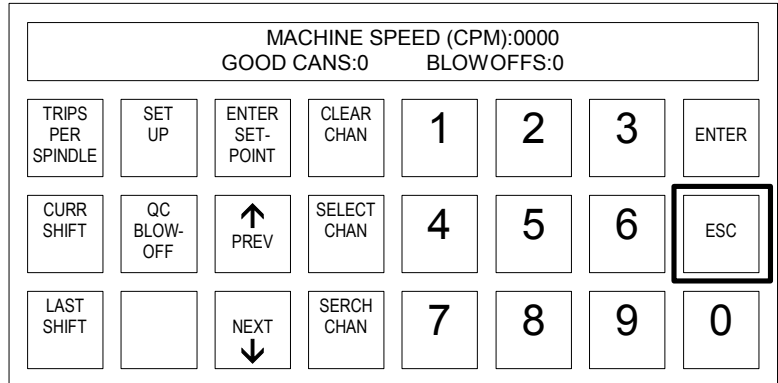


## CONVENTIONS USED IN THIS MANUAL

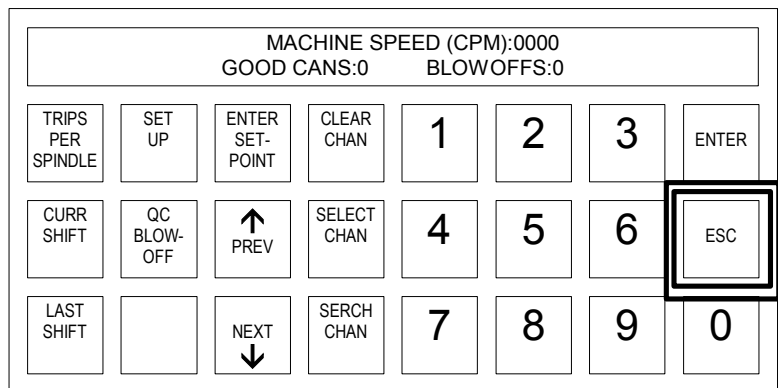
This manual is provided as a quick reference for entering parameters through the HSM-CCSD2 keypad. For complete details on the parameters that can be set through the HSM-CCSD2 keypad or for additional information on the HSM-CCSD2 in general, refer to the HSM-CCSD2 User’s Manual.

The following conventions are used through-out this manual.

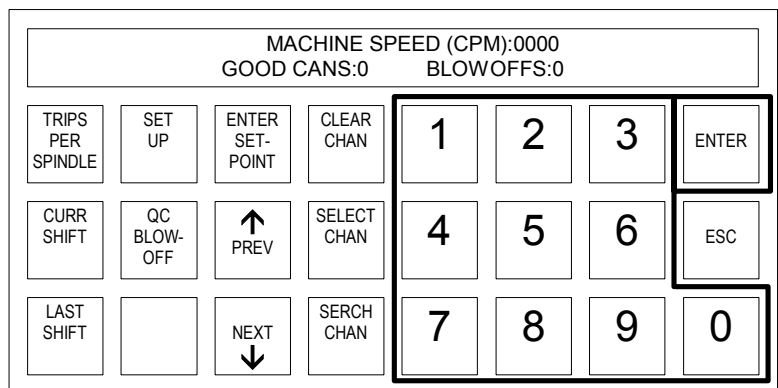
- 1) This indicates to depress that key one time.



- 2) This indicates to press that key two or more times as directed.



- 3) Indicates to enter a numeric value on the numeric keypad. Enter the desired number by depressing the corresponding numeric keys and then press the “ENTER” key to enter the number. If keypad entry error is made while a number is being entered, simply press the “ESC” key. The number will revert back to the original value at which time the correct number can be re-entered.



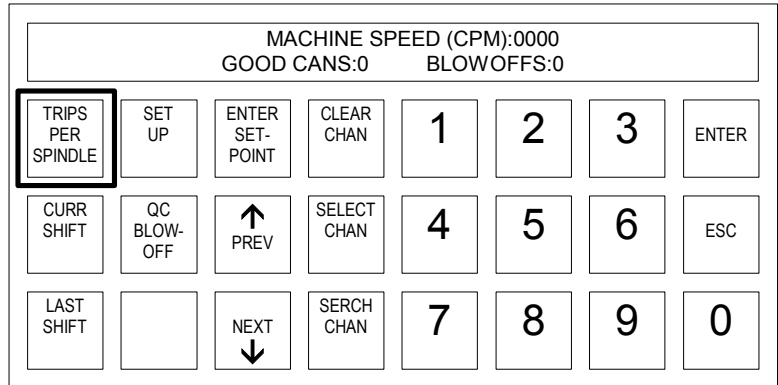
# SECTION 1

## VIEWING TRIPS PER SPINDLE

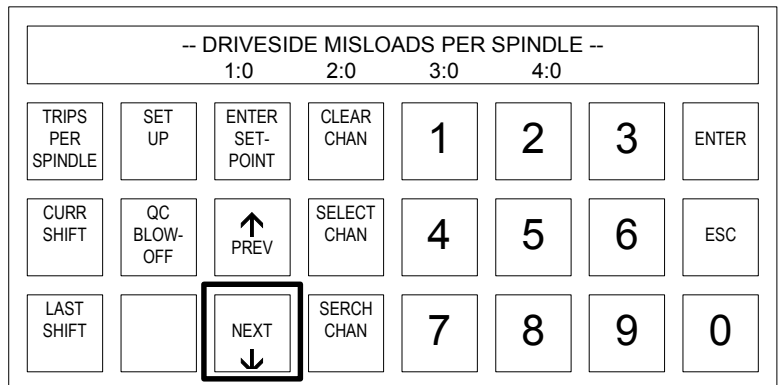
The Trips per Spindle data menu displays the total number of trips for each spindle for each side (“Driveside” or “Offside”) since the last reset or end of shift. The Number of trips per spindle data menu is provided to aid in the trouble-shooting of a loading problem with a spindle or spindles. The operator can reset these counts at any time to aid in the trouble-shooting process.

To display the Trips per Spindle data perform the following:

- 1) With the main menu displayed, press the “TRIPS PER SPINDLE” key.



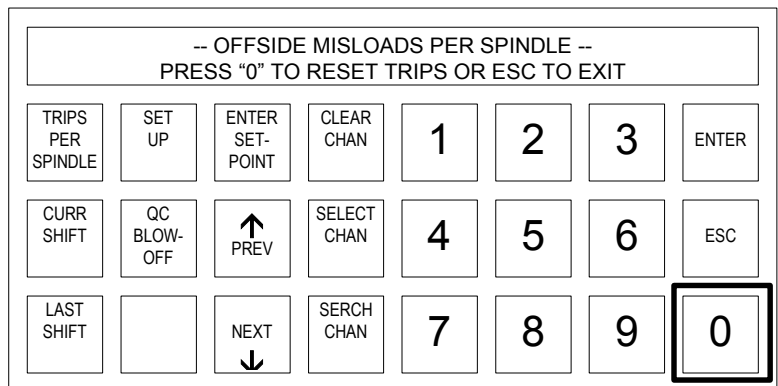
- 2) The trips (mis-loads) per spindle counts for the first four spindles of the “Driveside” are displayed. The data is arranged with 4 stations shown on each screen. Press the “NEXT” key to advance through all stations or the “PREV” key to retard back to previous stations.



Once all 24 spindles of the “Driveside” are displayed, the misloads for the “Offside”, stations 1 thru 4, are displayed.

- 3) The final screen of this menu, prompts the user to reset the counts, press the “0” key to reset the counts or the “ESC” key to return to the main menu.

Note: The “ESC” key can be used at any time to abort the Trips per Spindle data menu and return to the main menu.



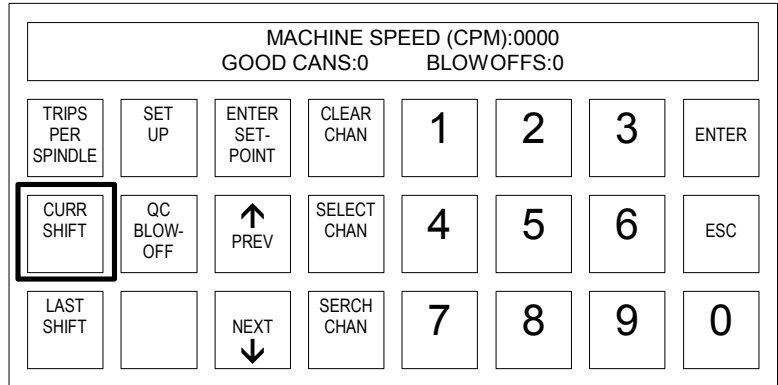
## SECTION 2 VIEWING CURRENT SHIFT DATA

The Current Shift data menu displays the total number of “Blow-Offs” from the machine, the total number of “Bad Cans” blown off, the total number of “Restart Blow-Offs”, the total number of “Manual Blow-Offs”, the total number of “QC Blow-Offs”, the total trips for the “Driveside” and “Offside”, and the total “Trips (Mis-loads) per Spindle (1:-24:)” per side accumulated so far into the current shift.

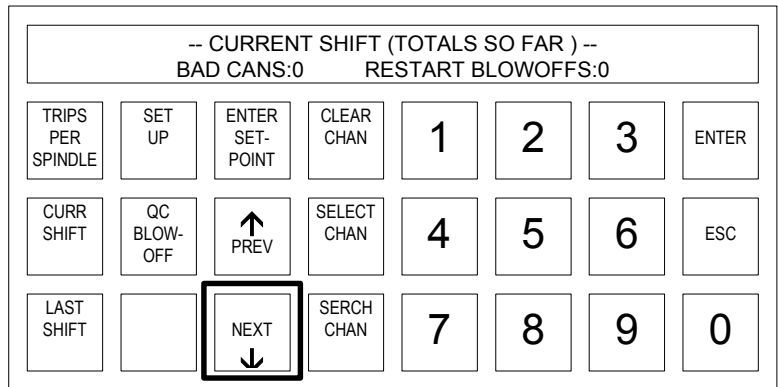
Note: The current shift total “Good Can” count and total “Blow-Offs” count is displayed as part of the main menu.

To display the Current Shift counts perform the following:

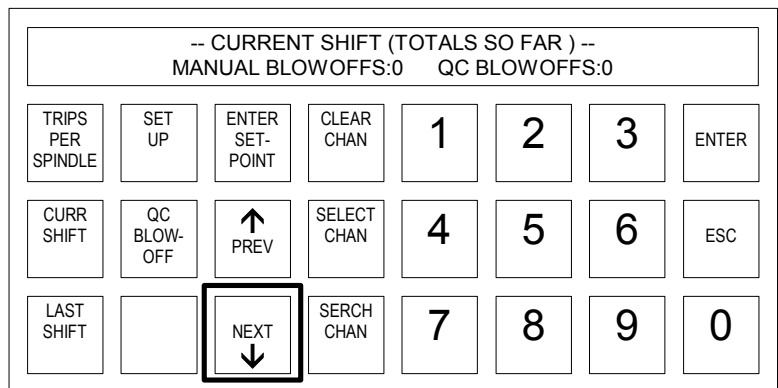
- 1) With the main menu displayed, press the “CURRENT SHIFT” key.



- 2) The number of bad cans blown off and the number of restart blow-offs are displayed on the first screen. Press the “NEXT” key to display the current number of manual blow-offs and QC blow-offs.



- 3) Press the “NEXT” key to view the total “Driveside” and “Offside” misloads.



(Continued on Next Page)

## SECTION 2 VIEWING CURRENT SHIFT DATA

- 4) Press the “NEXT” key to view the misloads per spindle counts for the first four “Driveside” spindles.

-- CURRENT SHIFT (TOTALS SO FAR) --							
DRVSIIDE TRIPS:0				OFFSIDE TRIPS:0			
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		↓ NEXT	SERCH CHAN	7	8	9	0

- 5) Press the “NEXT” key to view the trips (mis-loads) per spindle counts for the next four “Driveside” spindles. These counts are arranged with 4 spindles shown on each screen. Press the “NEXT” key to advance through all spindles or the “PREV” key to retard back to previous spindles.

-- DRIVESIDE MISLOADS PER SPINDLE --							
1:0		2:0		3:0		4:0	
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		↓ NEXT	SERCH CHAN	7	8	9	0

- 6) Once the counts for all “Driveside” spindles (24) have been displayed, the misloads per spindle for the “Offside” are displayed in the same fashion. Once all the spindles have been displayed, press the “ESC” key to return to the main menu.

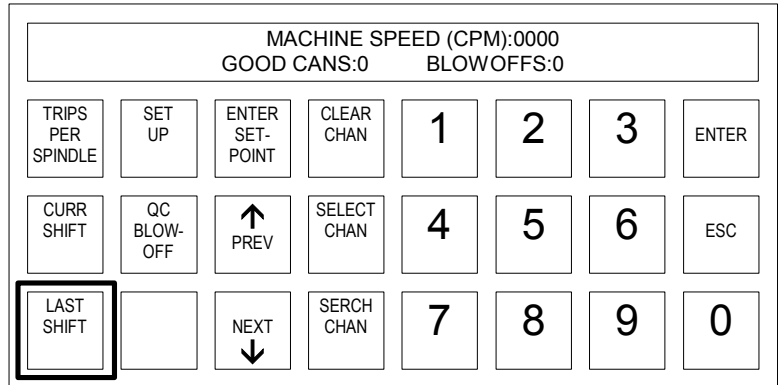
-- OFFSIDE MISLOADS PER SPINDLE --							
21:0		22:0		23:0		24:0	
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		↓ NEXT	SERCH CHAN	7	8	9	0

## SECTION 3 VIEWING LAST SHIFT DATA

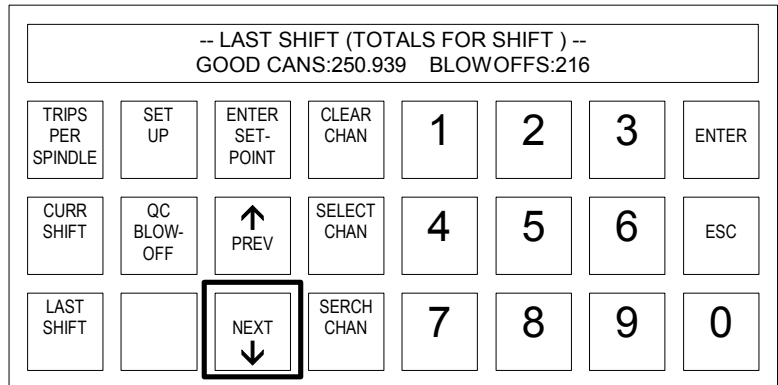
The Last Shift data menu displays the total number of “Good Cans”, the total number of “Blow-Offs”, the total number of “Bad Cans” blown off, the total number of “Restart Blow-Offs”, the total number of “Manual Blow-Offs”, the total number of “QC Blow-Offs”, the total trips for the “Driveside” and “Offside”, and the total “Trips (Mis-loads) per Spindle (1:-24:)” per side. This data is the totals for the last shift.

To display the Last Shift counts perform the following:

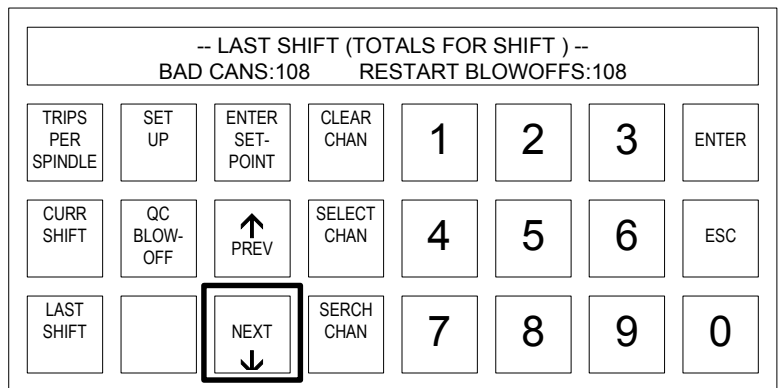
- 1) With the main menu displayed, press the “LAST SHIFT” key.



- 2) The number of good cans and the number of blow-offs for the last shift is displayed on the first screen. Press the “NEXT” key to display the number of bad cans blown off and the number of restart blow-offs.



- 3) Press the “NEXT” key to display the number of manual blow-offs and QC blow-offs.



(Continued on Next Page)

## SECTION 3 VIEWING LAST SHIFT DATA

- 4) Press the “NEXT” key to view the total “Driveside” and “Offside” misloads..

-- LAST SHIFT (TOTALS FOR SHIFT) --							
MANUAL BLOWOFFS:96    QC BLOWOFFS:48							
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		<b>↓ NEXT</b>	SERCH CHAN	7	8	9	0

- 5) Press the “NEXT” key to view the misloads per spindle counts for the first four “Driveside” spindles.

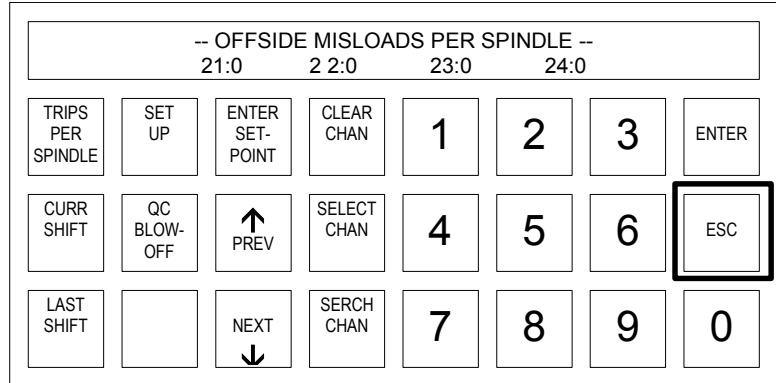
-- LAST SHIFT (TOTALS FOR SHIFT) --							
DRVSIDE TRIPS:0    OFFSIDE TRIPS:0							
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		<b>↓ NEXT</b>	SERCH CHAN	7	8	9	0

- 6) Press the “NEXT” key to view the trips (mis-loads) per spindle counts for the next four “Driveside” spindles. These counts are arranged with 4 spindles shown on each screen. Press the “NEXT” key to advance through all spindles or the “PREV” key to retard back to previous spindles.

-- DRIVESIDE MISLOADS PER SPINDLE --							
1:0    2:0    3:0    4:0							
TRIPS PER SPINDLE	SET UP	ENTER SET-POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW-OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		<b>↓ NEXT</b>	SERCH CHAN	7	8	9	0

## SECTION 3 VIEWING LAST SHIFT DATA

- 7) Once the counts for all “Driveside” spindles (24) have been displayed, the misloads per spindle for the “Offside” are displayed in the same fashion. Once all the spindles have been displayed, press the “ESC” key to return to the main menu.



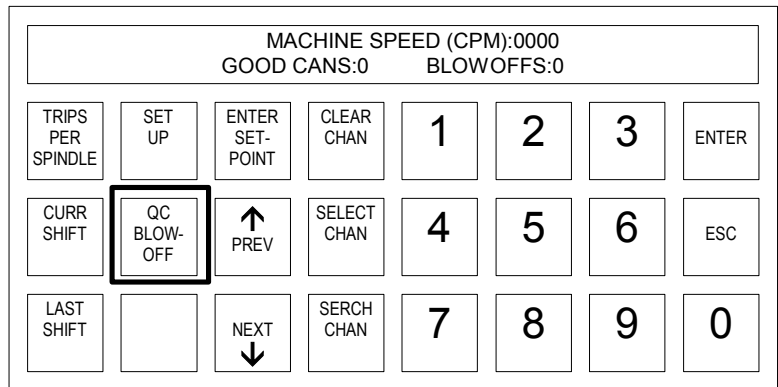
## SECTION 4

### Q.C. SELECT-A-CAN BLOW-OFF

The QC blow-off key is used to “Blow-Off” a can from a selected spindle at the pin chain QC blow-off port.

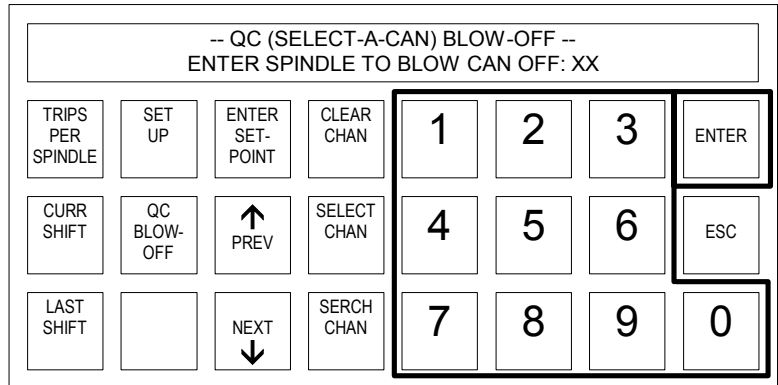
To blow-off a can, perform the following:

- 1) With the main menu displayed, press the “QC BLOW-OFF” key.



- 2) The display will then prompt to enter a can to blow off. Use the numeric keypad to enter the desired spindle to blow the can off of and press “ENTER”.

Note: A can from both the “Driveside” and “Offside” spindle is blown off at the same time when the QC blowoff is activated.



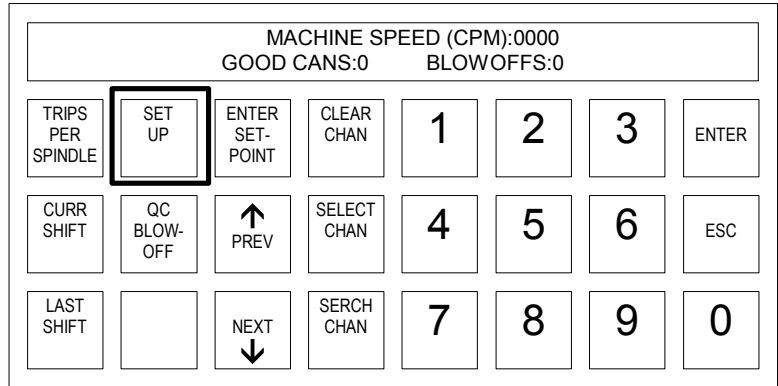
## SECTION 5

# SET NUMBER OF PINS TO PIN CHAIN BLOW-OFF PORT

The number of pins to Pin Chain blow-off port is the number of pins from the spindle wheel to linear vacuum conveyor location to the first can blown off at the Pin Chain blow-off port minus two.

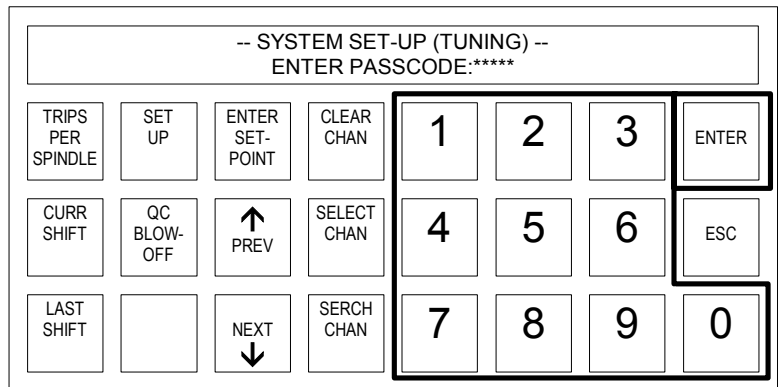
To set the number of pins to the Pin Chain blow-off port, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

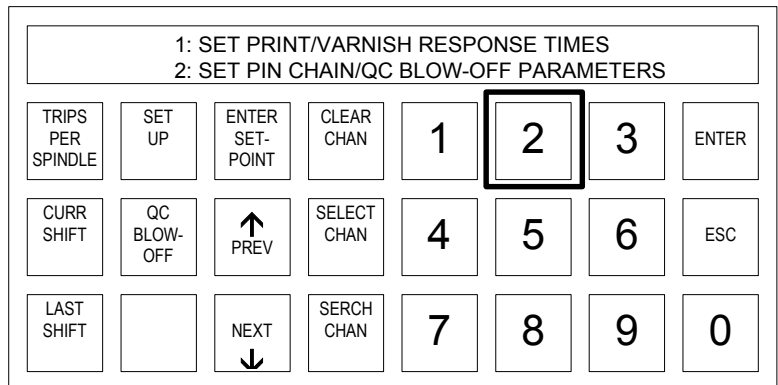


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



- 3) Press the “2” key to enter the “Set Pin Chain/QC Blow-Off Parameters” menu.

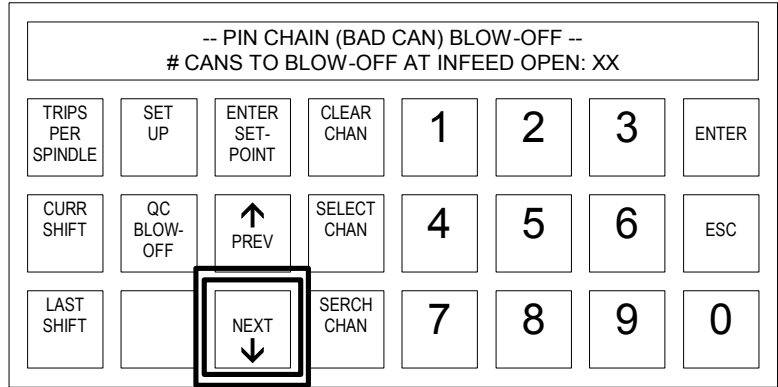


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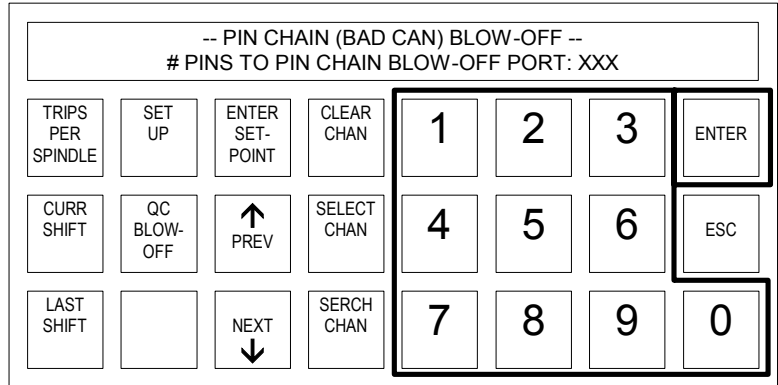
## SECTION 5

### SET NUMBER OF PINS TO PIN CHAIN BLOW-OFF PORT

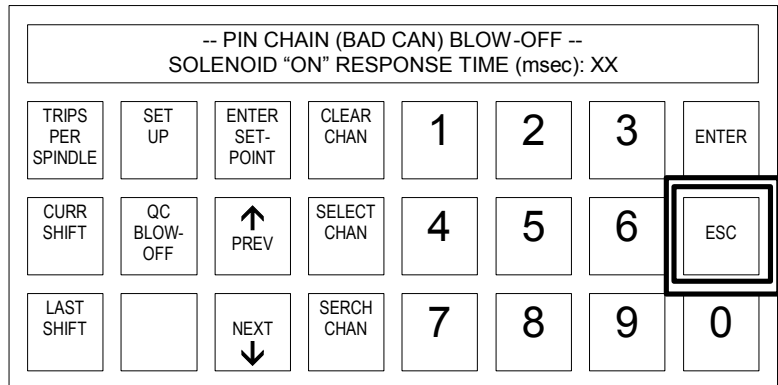
- 4) Press the “NEXT” key until the “# Pins to Pin Chain Blow-Off Port” prompt is displayed.



- 5) On the numeric keypad, enter the number of pins to the Pin Chain blow-off port and press “ENTER”.



- 6) The number of pins to Pin Chain blow-off port is now set. Press the “ESC” key to return to the primary set-up menu. Press the “ESC” key again to return to the main menu.



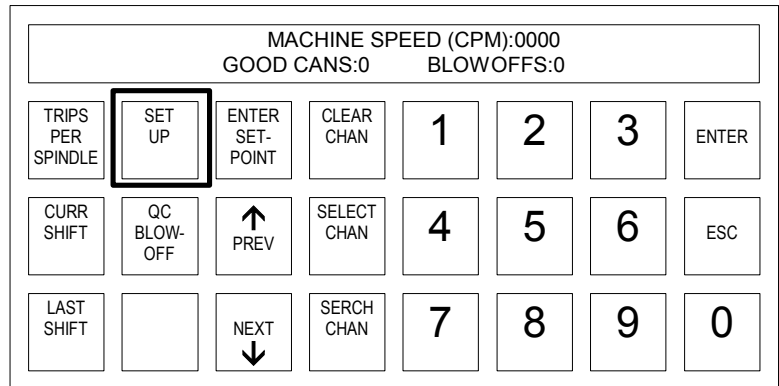
## SECTION 6

# SET NUMBER OF CANS TO BLOW-OFF FOR EACH MISSLOAD

The number cans to blow-off for each misload is the number of cans blown off at the pin chain port when one misloaded can is detected (typically set at 1 can).

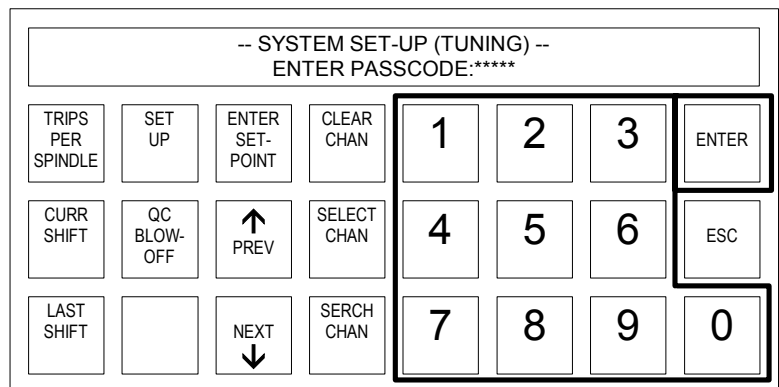
To set the number of cans to blow-off for each misload, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

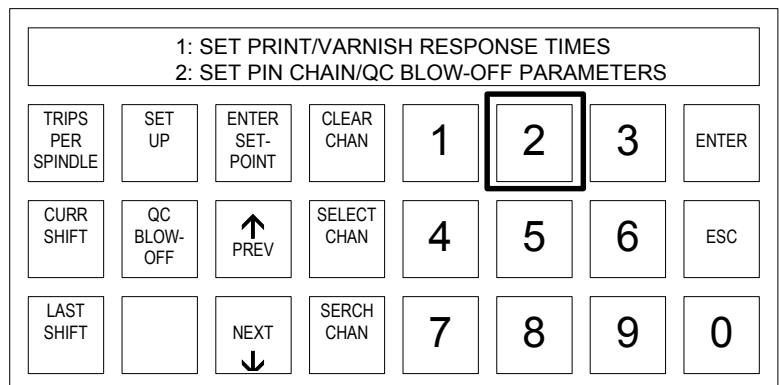


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



- 3) Press the “2” key to enter the “Set Pin Chain/QC Blow-Off Parameters” menu.

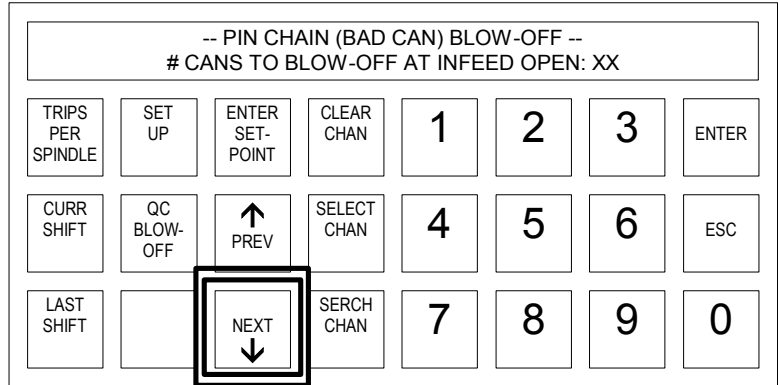


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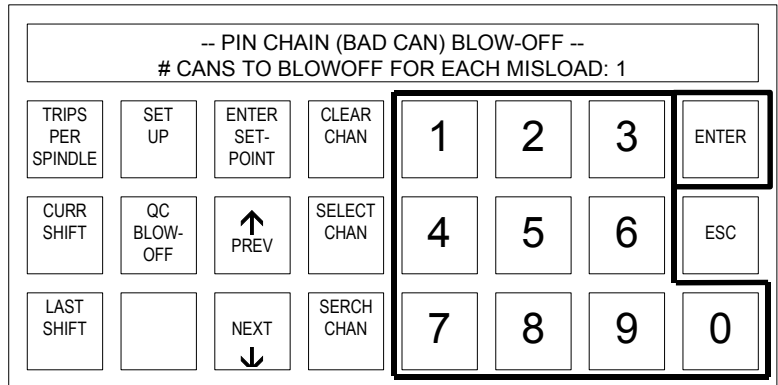
## SECTION 6

### SET NUMBER OF CANS TO BLOW-OFF FOR EACH MISLOAD

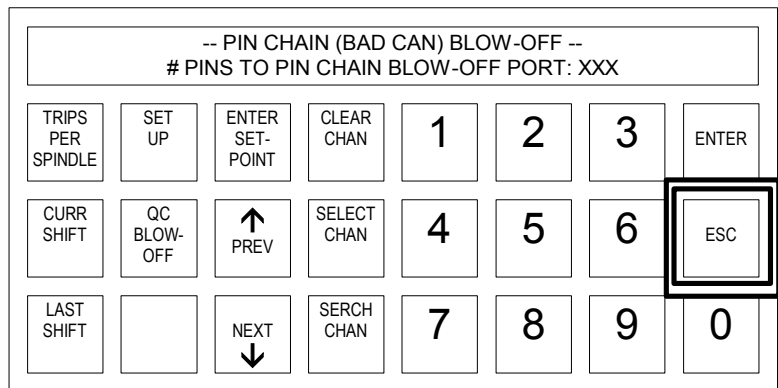
- 4) Press the “NEXT” key until the “# Cans to Blowoff for Each Misload” prompt is displayed.



- 5) On the numeric keypad, enter the number of cans to blow-off at the Pin Chain blow-off port for each misload and press “ENTER”.



- 6) The number of cans to blow-off for each misload is now set. Press the “ESC” key to return to the primary set-up menu. Press the “ESC” key again to return to the main menu.

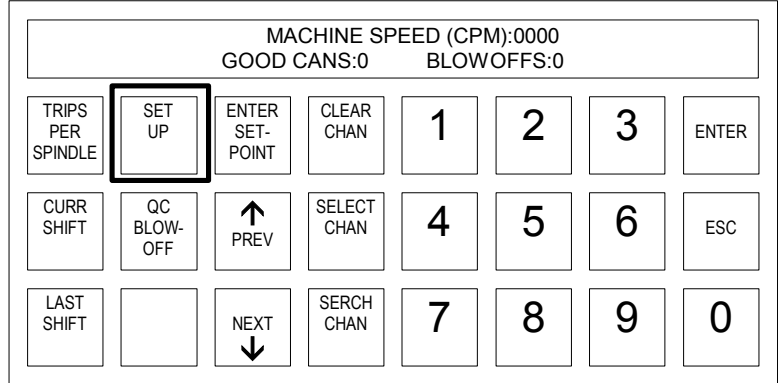


## SECTION 7 SET PRINT TRIP RESPONSE TIMES

The response time is defined as the time from actuation of the solenoid to either the first break with blanket (Retract (out) response time) or the first contact with blanket (Extend (in) response time). The response times are usually set at about 20 milliseconds.

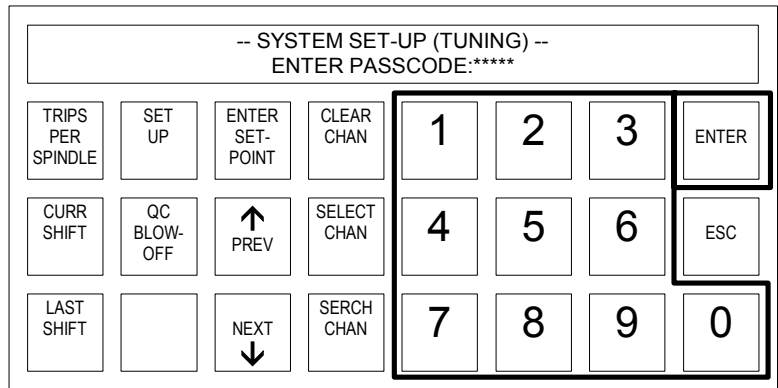
To set the print response times, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

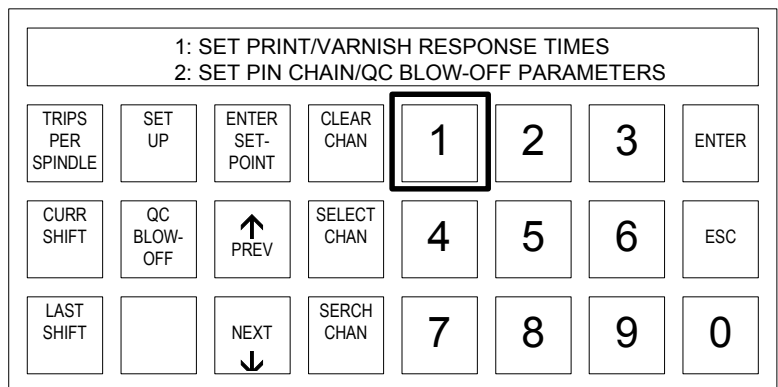


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



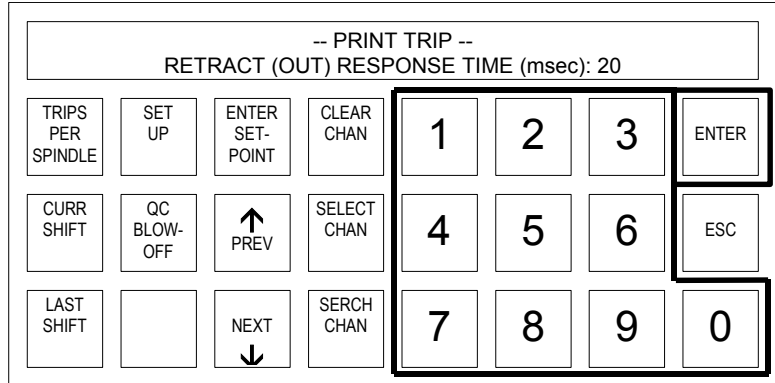
- 3) Press the “1” key to enter the “Set Print/Varnish Response Times” menu.



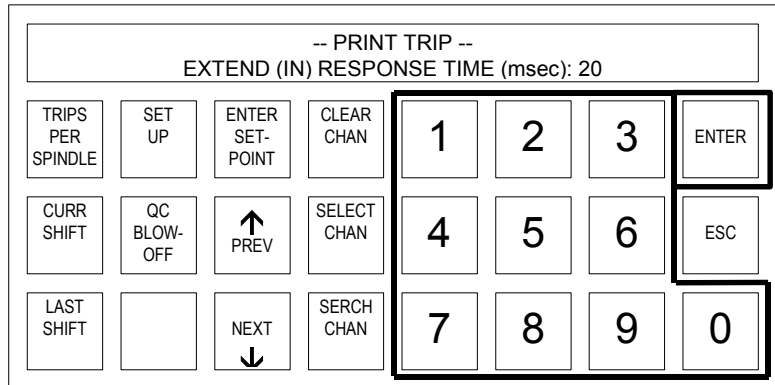
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## SECTION 7 SET PRINT TRIP RESPONSE TIMES

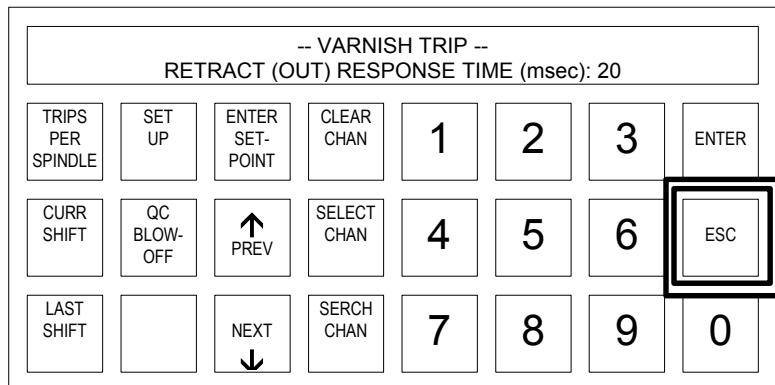
- 4) On the numeric keypad, enter the print retract (out) response time in milliseconds and press “ENTER”.



- 5) On the numeric keypad, enter the print extend (in) response time in milliseconds and press “ENTER”.



- 6) The print trip response times are now set. Press the “ESC” key to return to the primary set-up menu. Press the “ESC” key again to return to the main menu.



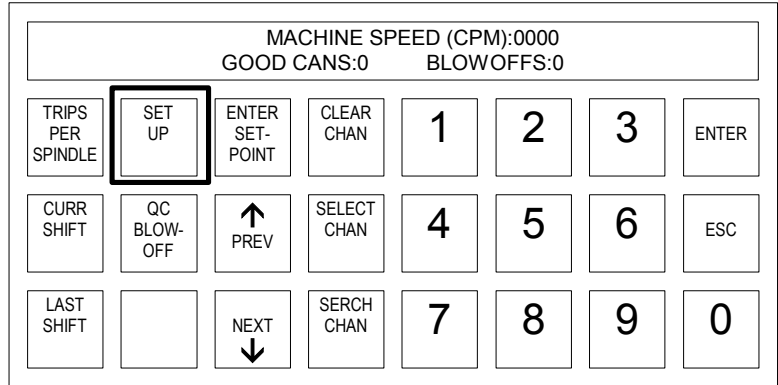
## SECTION 8

# SET VARNISH TRIP RESPONSE TIMES

The response time is defined as the time from actuation of the solenoid to either the first break with varnish wheel (Retract (out) response time) or the first contact with varnish wheel (Extend (in) response time). The response times are usually set at 20 milliseconds.

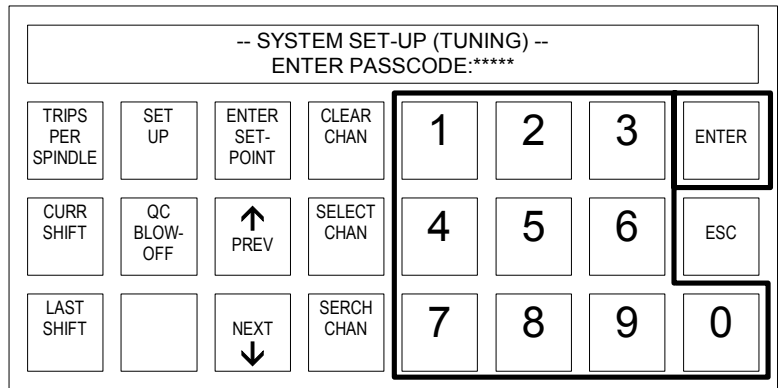
To set the varnish response times, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

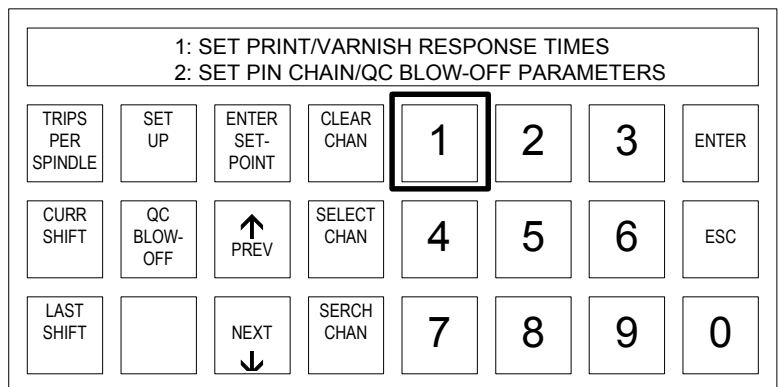


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



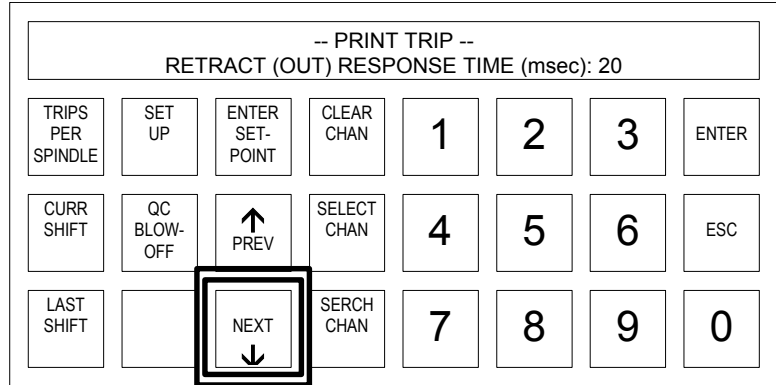
- 3) Press the “1” key to enter the “Set Print/Varnish Response Times” menu.



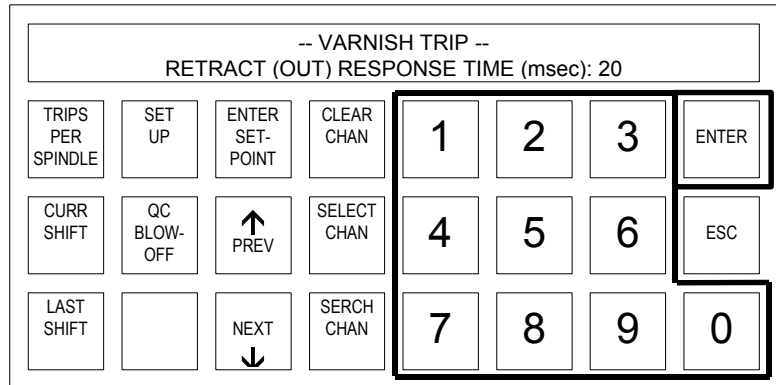
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## SECTION 8 SET VARNISH TRIP RESPONSE TIEMS

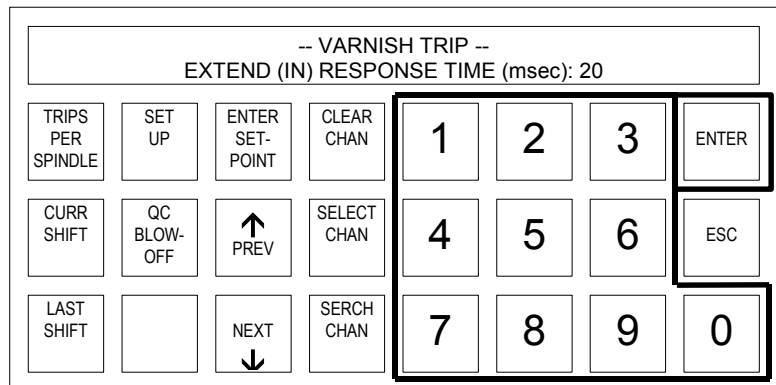
- 4) Press the “NEXT” key until the “Varnish Trip, Retract (out) Response Time (msec)” prompt is displayed.



- 5) On the numeric keypad, enter the varnish unit retract (out) response time in milliseconds and press “ENTER”.



- 6) On the numeric keypad, enter the varnish extend (in) response time in milliseconds and press “ENTER”.



## SECTION 8 SET VARNISH TRIP RESPONSE TIMES

- 7) The varnish response times are now set.  
Press the “ESC” key to return to the main menu.

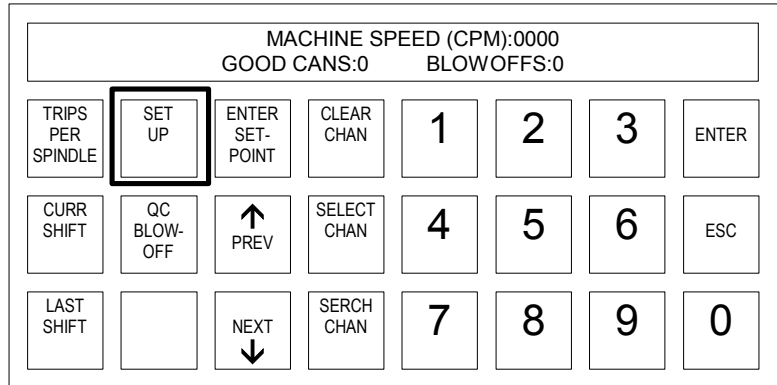
-- SYSTEM SET-UP (TUNING) -- PRESS ONE OF THE FOLLOWING KEYS (1-4):							
TRIPS PER SPINDLE	SET UP	ENTER SET- POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW- OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		NEXT ↓	SERCH CHAN	7	8	9	0

## SECTION 9 SET NUMBER OF CANS TO BLOW-OFF AT RESTART (INFEED OPEN, PRINT & VARNISH)

When the infeed is first opened the HSM-CCSD2 can be set to blow-off a number of cans. A valid range is 0 to 99 cans to blow-off when the infeed is first opened. When the machine is restarted the HSM-CCSD2 can be set to blow-off a number of cans from the print station and from the varnish station. A valid range is from 0 to 99 cans to blow-off at restart.

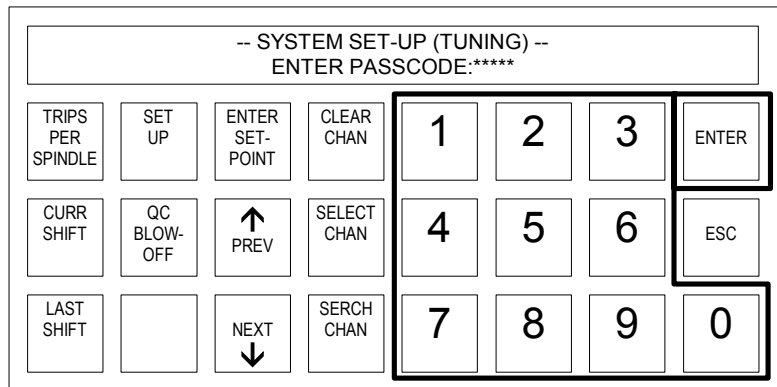
To set the number of cans to blow-off when the infeed is first opened or at the print or varnish stations at restart of the machine, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

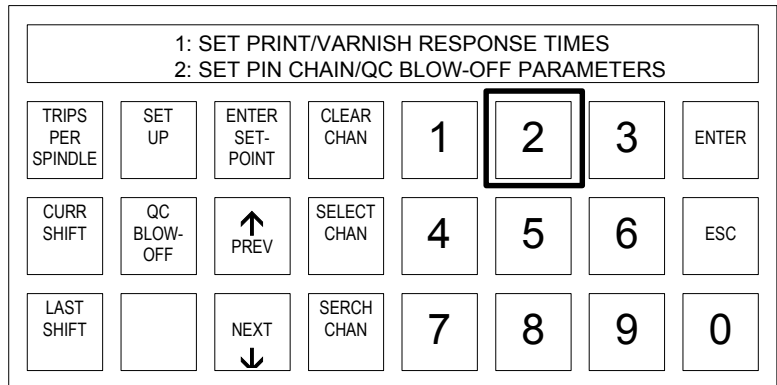


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



- 3) Press the “2” key to enter the “Set Pin Chain/QC Blow-Off Parameters” menu.

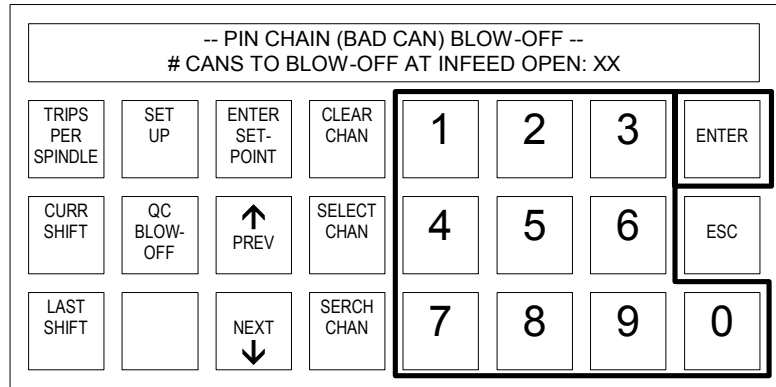


## SECTION 9

# SET NUMBER OF CANS TO BLOW-OFF AT RESTART (Infeed Open, Print & Varnish)

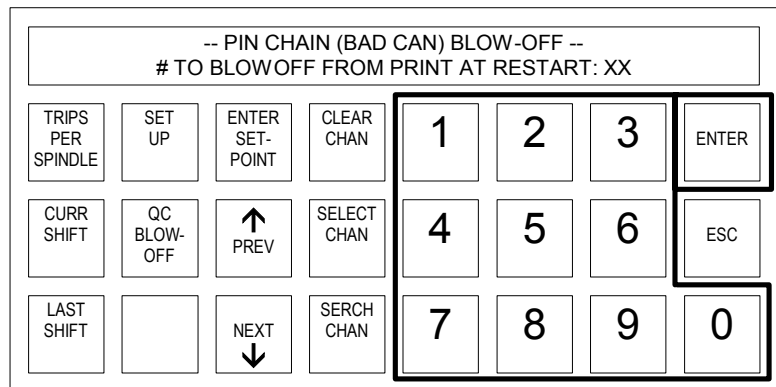
- 4) On the numeric keypad, enter the number of cans to blow-off at infeed open and press “ENTER”.

Note: The “NEXT” key can be used to advance to the “Number to Blow-Off from Print at Restart” prompt.



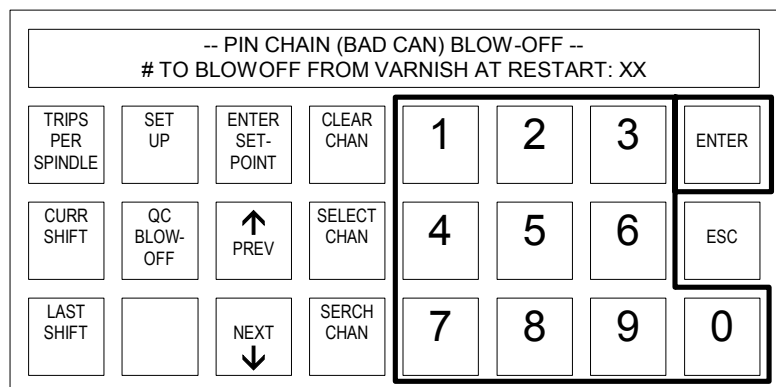
- 5) On the numeric keypad, enter the number of cans to blow-off from the print station at restart and press “ENTER”.

Note: The “NEXT” key can be used to advance to the “Number to Blow-Off from Varnish at Restart” prompt. The “PREV” key can be used to retard to the previous menu.



- 6) On the numeric keypad, enter the number of cans to blow-off from the varnish station at restart and press “ENTER”.

Note: The “PREV” key can be used to retard to the previous menu.



(Continued on Next Page)

## SECTION 9

### SET NUMBER OF CANS TO BLOW-OFF AT RESTART (INFEED OPEN, PRINT & VARNISH)

- 7) The number of cans to blow-off at restart is now set. Press the “ESC” key to return to the primary set-up menu. Press the “ESC” key again to return to the main menu.

-- PIN CHAIN (BAD CAN) BLOW-OFF -- # CANS TO BLOWOFF FOR EACH MISLOAD: XX							
TRIPS PER SPINDLE	SET UP	ENTER SET- POINT	CLEAR CHAN	1	2	3	ENTER
CURR SHIFT	QC BLOW- OFF	↑ PREV	SELECT CHAN	4	5	6	ESC
LAST SHIFT		NEXT ↓	SERCH CHAN	7	8	9	0

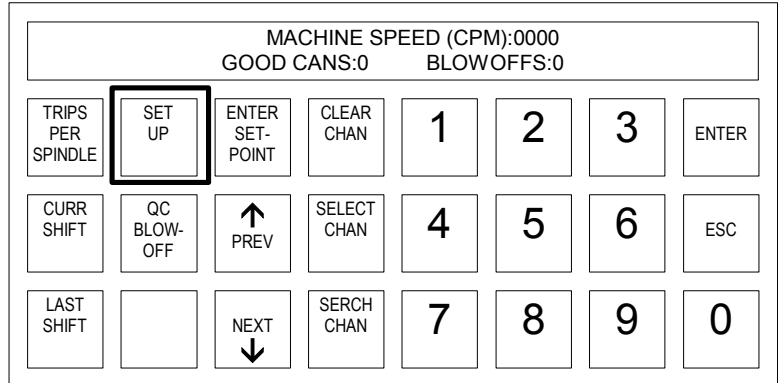
## SECTION 10

### SET Q.C. BLOW-OFF SHIFT OFFSET

The QC blow-off shift offset is the number of spindles difference from detection of the spindle #1 flag to the QC blow-off port. This is a number between 1 and 24 and is empirically set by selecting spindle #1 for blow-off and adjusting this value until the can from spindle #1 is the can that is blown off.

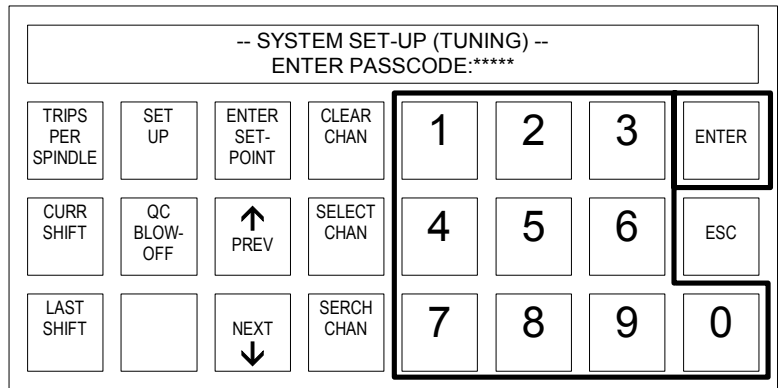
To set the QC blow-off shift offset, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

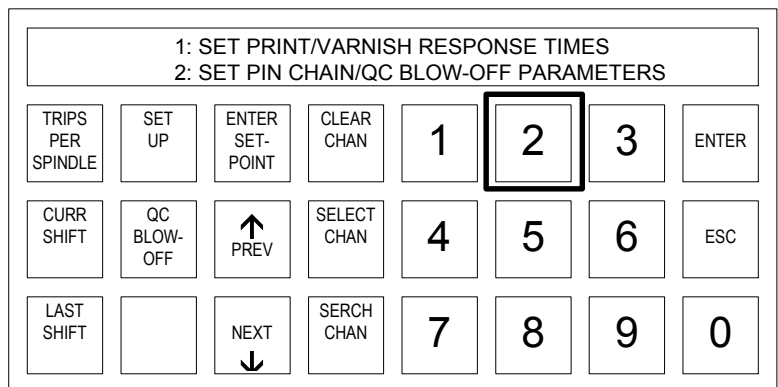


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



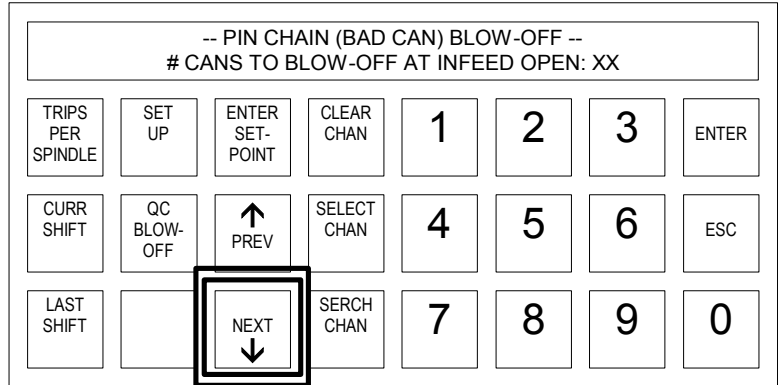
- 3) Press the “2” key to enter the “Set Pin Chain/QC Blow-Off Parameters” menu.



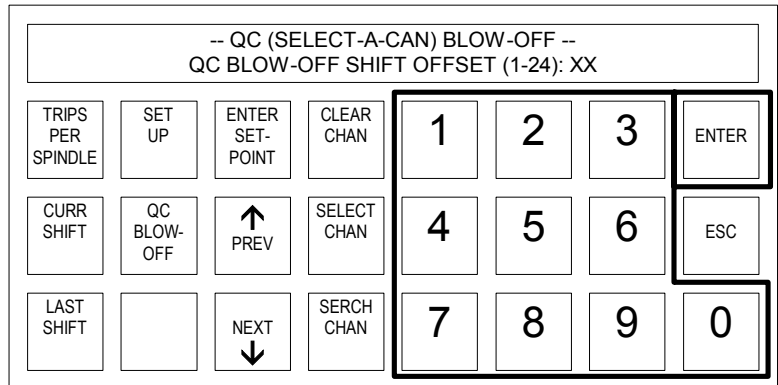
(Continued on Next Page)

## SECTION 10 SET QC BLOW-OFF SHIFT OFFSET

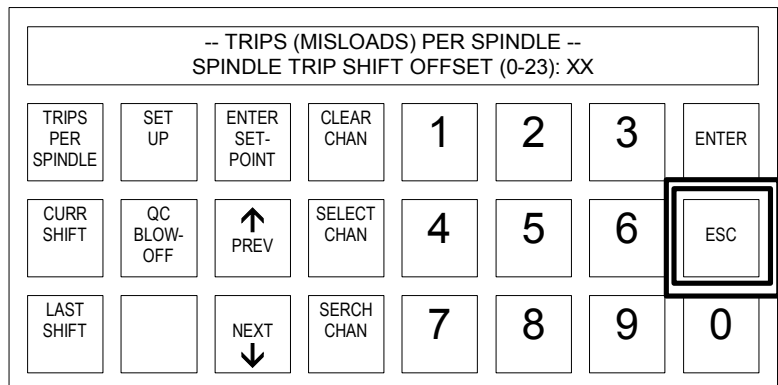
- 4) Press the “NEXT” key until the “QC (select-a-can) blow-off, QC blow-off shift offset (1-24)” prompt is displayed.



- 5) On the numeric keypad, enter the number of spindles difference from detection of the spindle #1 flag to the QC blow-off port and press “ENTER”.



- 6) The QC blow-off shift offset is now set. Press the “ESC” key to return to the primary set-up menu. Press the “ESC” key again to return to the main menu.

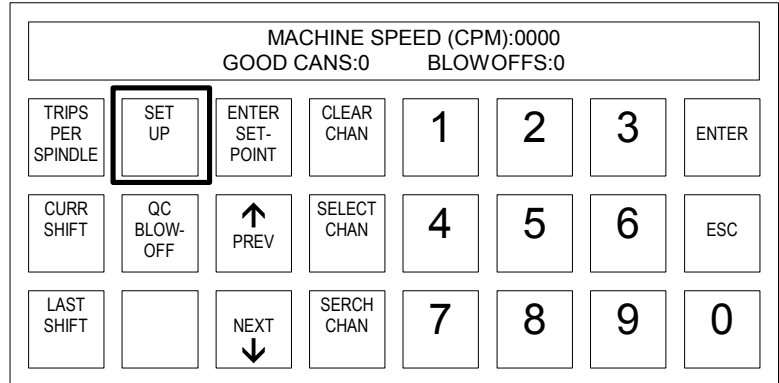


## SECTION 11 SET SPINDLE TRIP SHIFT OFFSET

The spindle trip shift offset is the number of spindles difference from detection of the spindle #1 flag to the “No Can/No Print” sensors. This is a number between 0 and 23 and is empirically set such that a mis-loaded can on spindle #1 increments the spindle #1 count in the “Trips per spindle” menu..

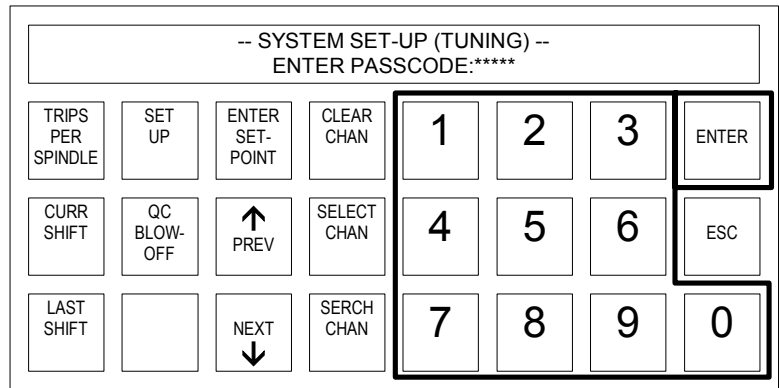
To set the spindle trip shift offset, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

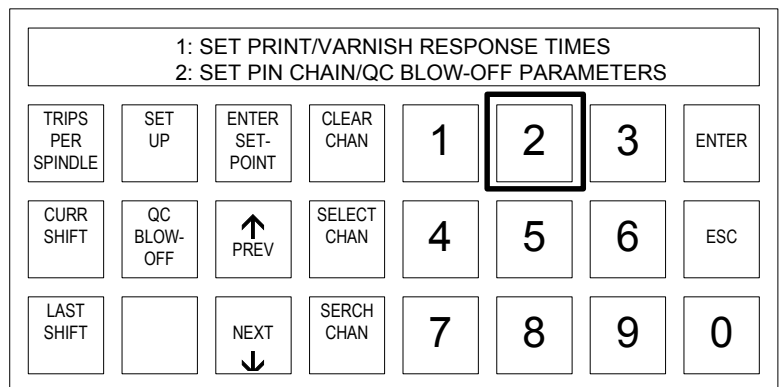


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



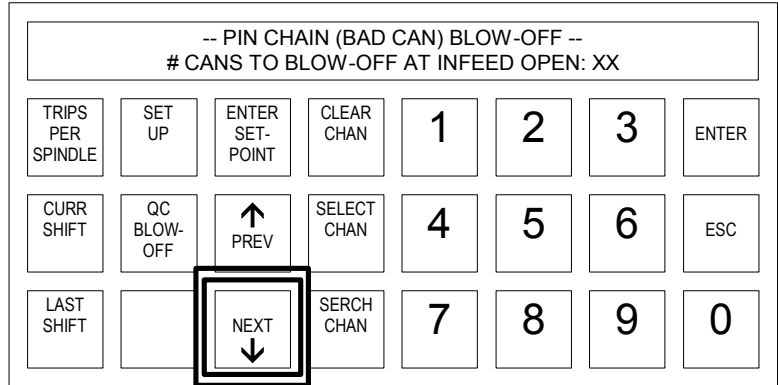
- 3) Press the “2” key to enter the “Set Pin Chain/QC Blow-Off Parameters” menu.



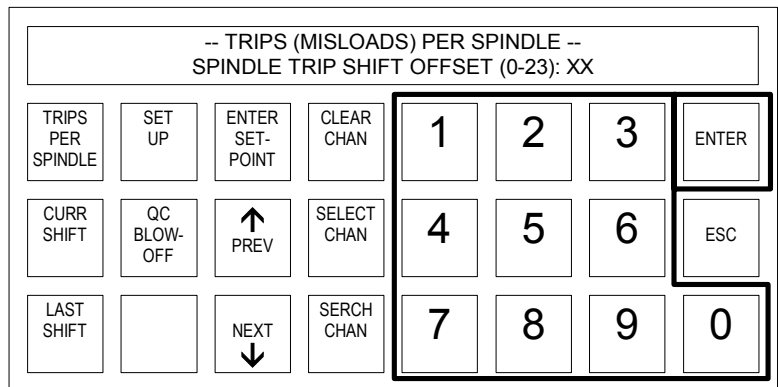
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## SECTION 11 SET SPINDLE TRIP SHIFT OFFSET

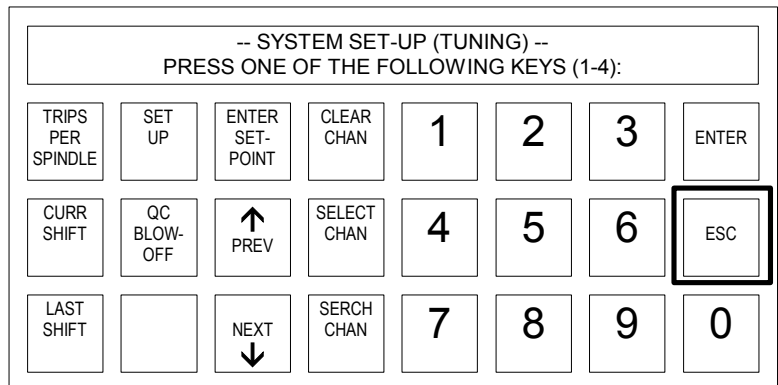
- 4) Press the “NEXT” key until the “Trips (misloads) per Spindle, Spindle Trip Shift Offset (0-23)” prompt is displayed.



- 5) On the numeric keypad, enter the number of spindles difference from detection of the spindle #1 flag to the “No Can/No Print” sensors and press “ENTER”.



- 6) The spindle trip shift offset is now set. Press the “ESC” key to return to the main menu.



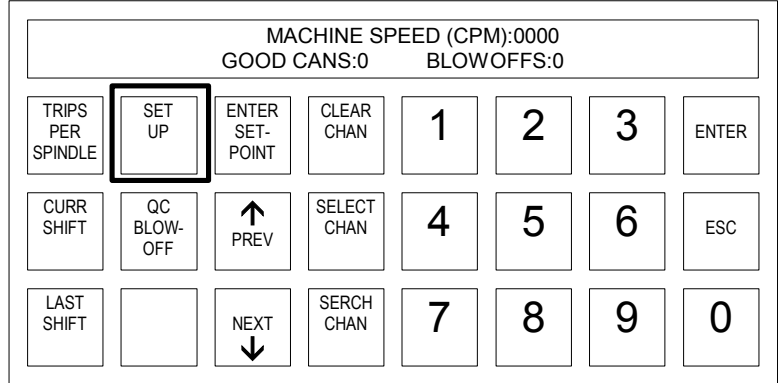
## SECTION 12

# ZERO MACHINE (SET RESOLVER OFFSET)

Machine zero is defined at the point where a spindle is centered on the “No Can/No Print” sensors. Since the HSM-CCSD2 uses a resolver for machine timing instead of an encoder, the zero of the machine can be set electronically instead of having to move the shaft of the resolver as would have to be done on an encoder.

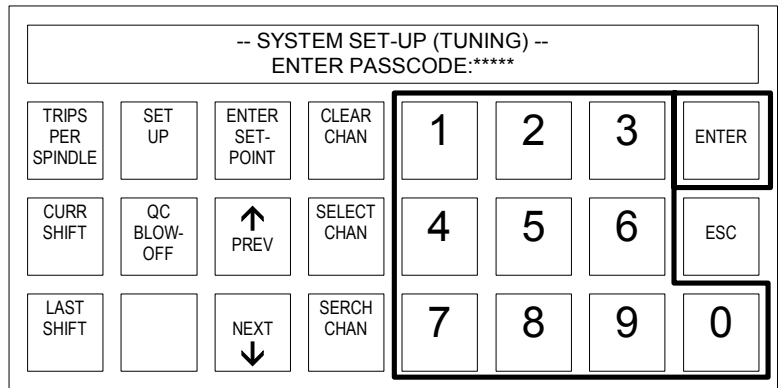
To zero the resolver, position the machine at machine zero and perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.

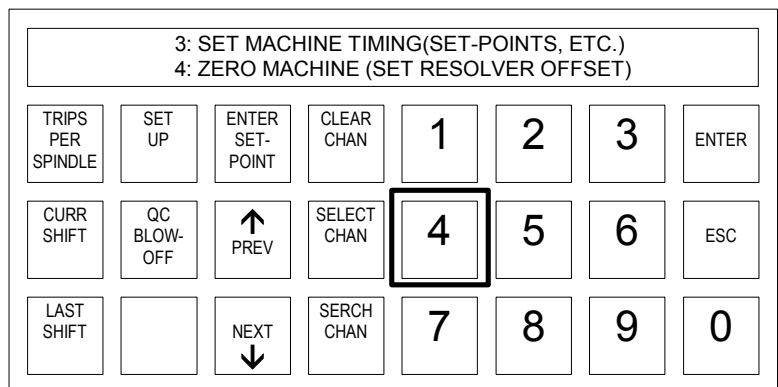


- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



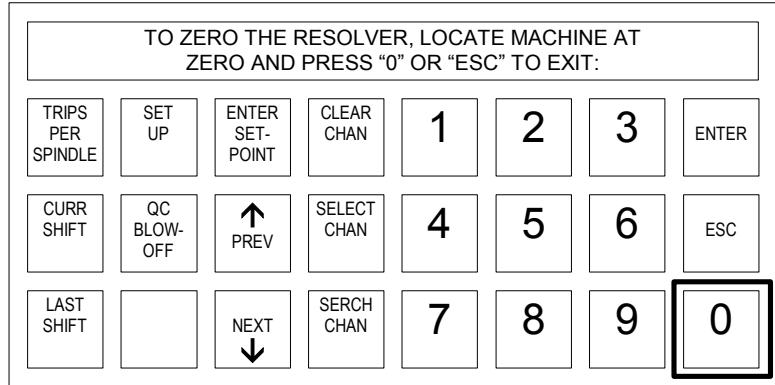
- 3) Press the “4” key to enter the “Zero Machine” menu.



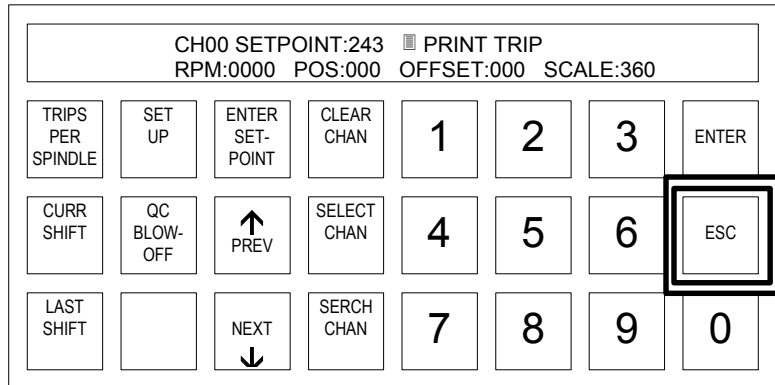
(Continued on Next Page)

## SECTION 12 ZERO MACHINE (SET RESOLVER OFFSET)

- 4) Press the “0” key to zero the resolver. The HSM-CCSD2 will calculate the offset required to make the current position “000” and display this number in the “Offset” field.



- 5) The resolver is now zeroed. Press the “ESC” key to exit the timing channel set-points menu. Press the “ESC” key again to exit back to the main menu.



## SECTION 13

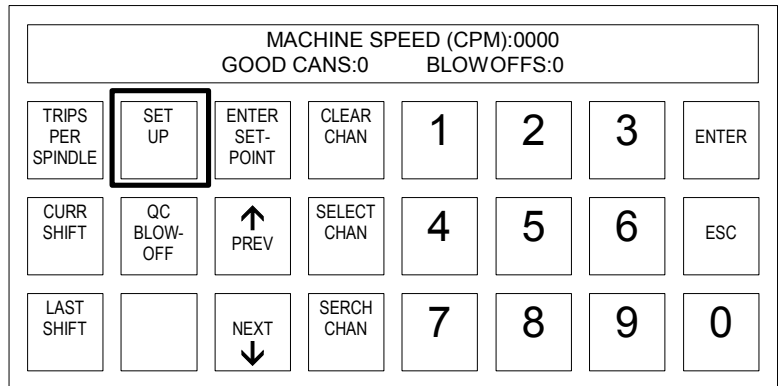
# ADJUSTING TIMING CHANNEL SET-POINTS

The timing channels of the HSM-CCSD2 are defined as follows:

- CH00: Print Trip
- CH01: Varnish Trip
- CH02: Can Clock Timing
- CH03: Damaged (LO) Timing
- CH04: Damaged (HI) Timing
- CH05: Pin Chain Blow-Off
- CH06: Blow-Off Timing
- CH07: Spare Timing
- CH10: PLC Clock Timing

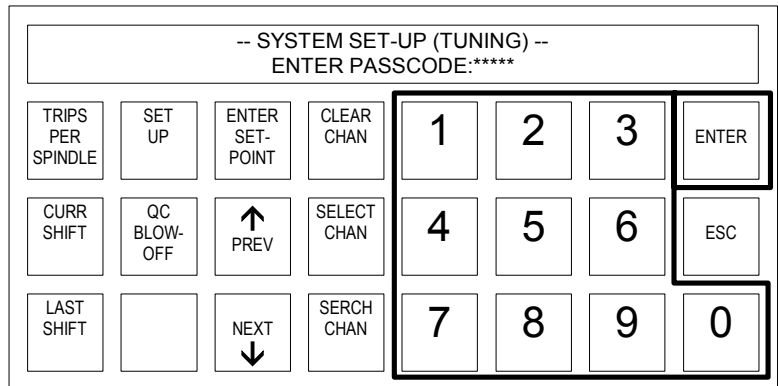
To adjust any of the above timing channels, perform the following:

- 1) With the main menu displayed, press the “SET-UP” key.



- 2) Enter the 5 digit passcode on the numeric keypad and press “ENTER”.

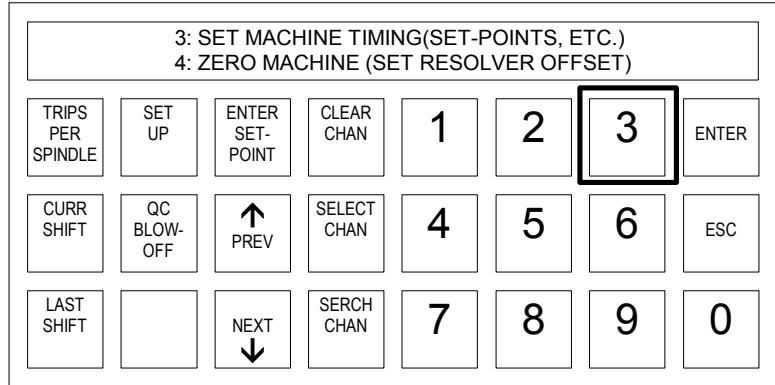
Note: The passcode is set by the user as desired. Refer to the HSM-CCSD2 User’s manual for details on setting the passcode.



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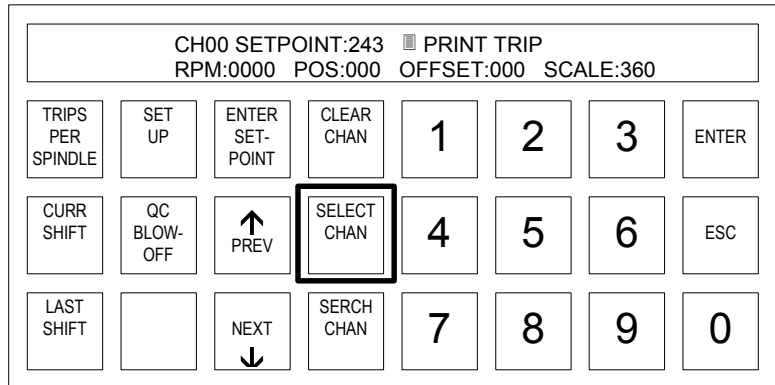
## SECTION 13 ADJUSTING TIMING CHANNEL SET-POINTS

- 3) Press the “3” key to enter the “Set Machine Timing” menu.



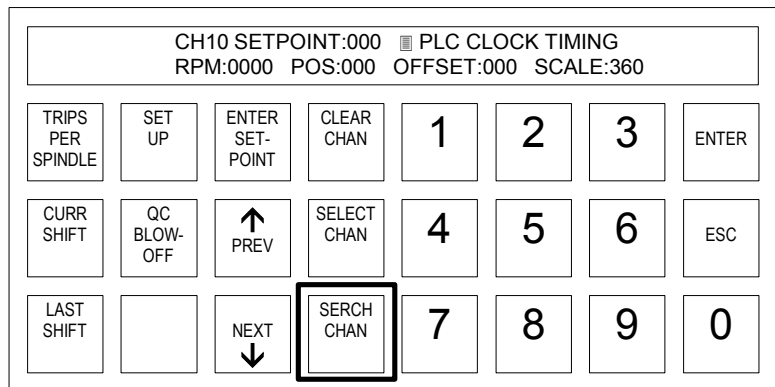
- 4) Press the “SELECT CHAN” key and enter the channel number to be adjusted on the numeric keypad and then press “ENTER”.

Note: The “NEXT” and “PREV” keys can also be used to advance to the next channel or retard to the previous channel. The following examples will use channel 10 as the selected channel.



- 5) To view the location of the existing set-point, press the “SEARCH CHAN” key repeatedly. The location the set-point turns “ON” will be displayed with the “state” indicator solid. Locations where the set-point turns “off” will be displayed with the “state” indicator “off”.

Write down the “ON” and “off” set-point locations for later use.

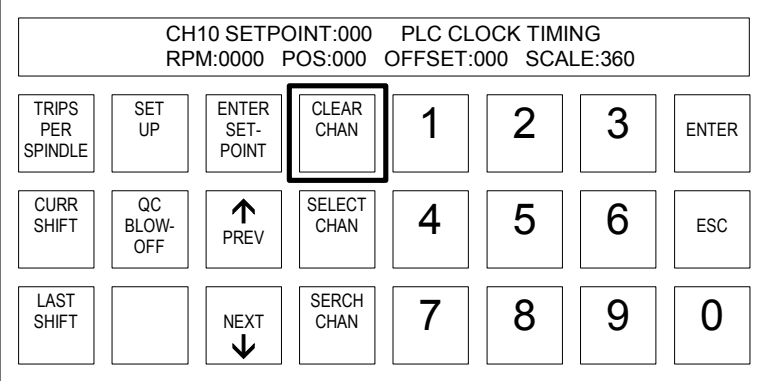


# SECTION 13

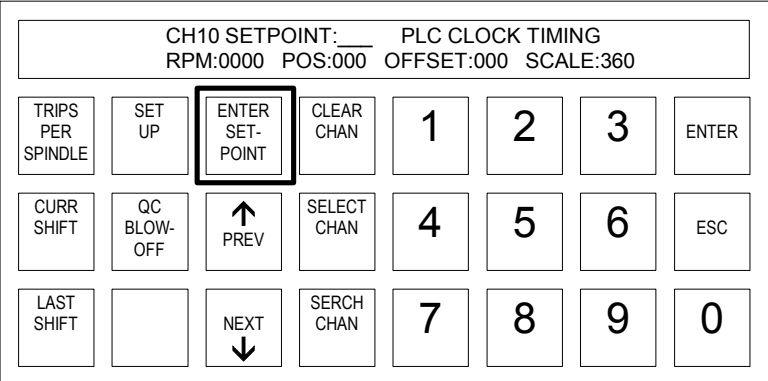
## ADJUSTING TIMING CHANNEL SET-POINTS

To adjust the set-point, perform the following:

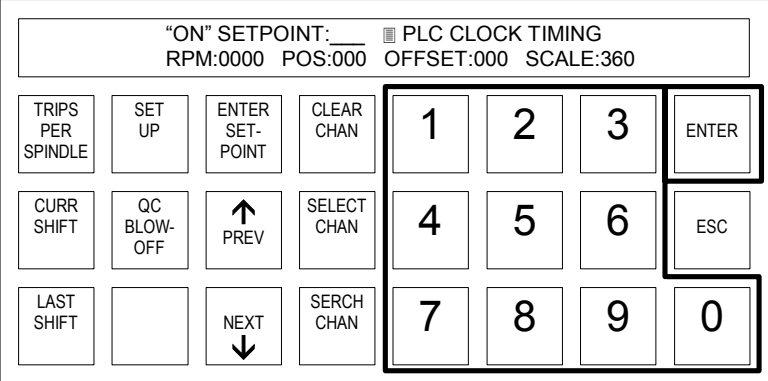
- 6) Press the “CLEAR CHAN” key to clear the existing set-point.



- 7) Press the “ENTER SET-POINT” key.



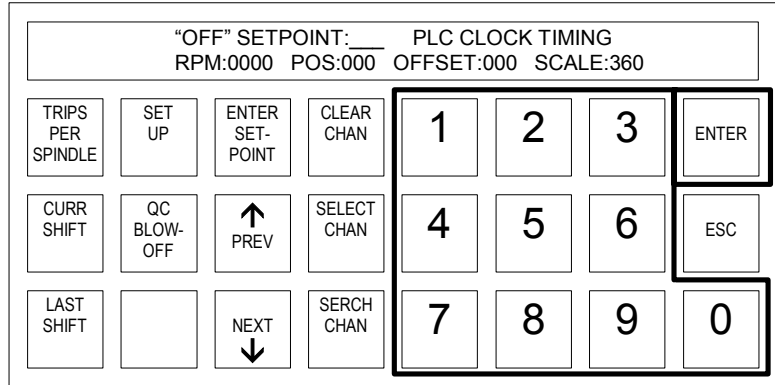
- 8) On the numeric keypad, enter the position, in degrees, where the set-point should go “ON” and press “ENTER”



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## SECTION 13 ADJUSTING TIMING CHANNEL SET-POINTS

- 9) On the numeric keypad, enter the position, in degrees, where the set-point should go “off” and press “ENTER”



- 10) The timing channel has now been adjusted. Press the “ESC” key to return back to the primary set-up menu. Press the “ESC” again to return back to the main menu.

