# XL200 Series Standard Closed Loop Inputs & Outputs, all Versions, 2.00 and Higher

# Revised March 26, 2025

# ALL MODELS except XL270CL and XL208CL

IO#	Inputs	Outputs
1	Jog Forward   Jog Die 1 Fwd	Fast   Uncut Length
2	Jog Reverse   Jog Die 1 Rev	Slow   Stopping
3	Run	Reverse   Press Stopped
4	Emergency Stop (E-Stop)	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch	Print Flush/Encoder
8	Tail Out (Inverted Sheet Detect)	Print Trigger
9	Press 0 Complete (Shear)	Press 0 Down (Shear)
10	Press 1 Complete   Press X Up Comp	Press 1 Down   Gag 1
11	Press 2 Complete   Press X Up Comp	Press 2 Down   Gag 2   Press X Up/Boost
12	Press 3 Complete   Press X Up Comp	Press 3 Down   Gag 3   Press X Up/Boost
13	Press 4 Complete   Press X Up Comp	Press 4 Down   Gag 4   Press X Up/Boost
14	Press 5 Complete   Press X Up Comp	Press 5 Down   Gag 5   Press X Up/Boost
15	Press 6 Complete   Press X Up Comp	Press 6 Down   Gag 6   Press X Up/Boost
16	Press 7 Complete   Press X Up Comp	Press 7 Down   Gag 7   Press X Up/Boost
17	Press 8 Complete   Press X Up Comp	Press 8 Down   Gag 8   Press X Up/Boost
18	Press 9 Complete   Press X Up Comp	Press 9 Down   Gag 9   Press X Up/Boost
	Test Part <sup>8</sup>   Jog Die 2 Fwd	Mister <sup>8</sup>   Horn <sup>16</sup>
19	Press 10 Complete   Scrap   Material	Press 10 Down   Gag 10   Press X Up/Boost
	Loop Full   Jog Die 2 Rev	Dump Trigger <sup>8</sup>
20	Press 11 Complete   Manual	Press 11 Down   Gag 11   Press X Up/Boost
	Stacker <sup>19</sup> Slow Run <sup>19</sup> Die Home	Scrap Dump <sup>8</sup>
	219	
21	Proce 12 Complete   Acymphreneus	Shear Un (CLE Models Only)   Continuous
21	Press 13 Complete   Asynchronous	Stroke Mode
22	Finit Detect	Stocker
22		Stackel Short Part   Scappor Varify
23		Short Part   Scanner Verliy
	Detector	
24	Hole Detect	Very Short Part   Horn   Drive Enable 2
49	PLC Remote	PLC Remote
50	Test Part	Dump Trigger <sup>21</sup>
51	Scrap <sup>8,20</sup>	Scrap Dump <sup>21</sup>
52	Slow Run <sup>18</sup>	Mister <sup>22</sup>
53	Manual Stacker <sup>19</sup>	Scanner Verify
56	Bundle <sup>23</sup>	Not Used

Notes:

1. The maximum number of presses and/or gags allowed for each model is as follows (this includes the shear press):

Models	Max Presses (Including Shear)
XL200CL-SPD	1
XL200HCL	2
XL200CL, XL202CLF, XL202HCLF	2
XL244CL	5
XL244HCL	5
XL206CL, XL206CLF, XL206HCLF	6
XL212CL, XL212CLF, XL212HCLF	12

2. Gag outputs are only available on models **XL202CL**, **XL206CL**, **XL212CL**, all "**CLF**" models, and all "**HCLF**" models. The number of available gag outputs is equal to the maximum number of presses allowed for that model **minus** the number of active presses configured by the dip-switch. The Exp. Gag Board option is only available on model **XL212CL**.

3. Each model (except those noted below) will provide Press Down and Press Up outputs for the number of presses configured by the dip-switch. For models **XL200CL** and **XL200HCL**, Press Up outputs begin at output #11. For models **XL202CL**, **XL202CLF**, **XL202HCLF**, **XL206CL**, **XL206HCLF**, and **XL206HCLF**, the first Press Up output follows the last Gag output. If no gags are configured, the first Press Up output follows the last Press Down output. No Press Up outputs are provided for models **XL244CL**, **XL214HCL**, **XL212CL**, **XL212CLF**, and **XL212HCLF**.

4. The Hole Detect input is only available on models with an "H" suffix in their name.

5. The "Feed Ready" and "Slow Run" inputs are available only in Feed-to-Stop mode. The "Die Home" input is available only in Die Accelerator mode.

6. The "Short Part" and "Very Short Part" outputs are only available on models with "Brake & Hump (U)" option.

7. The Scanner Verify, and Horn outputs are only available when the "Dietrich IO (D)" option is set. The "Dietrich IO" option cannot be used at the same time as the "Brake & Hump" option.

8. The following inputs and outputs are available only when the "Tube Mill (T)" is set:

- Scrap Input
- Test Part Input
- Mister Output
- Dump Trigger Output
- Scrap Dump Output
- The Manual Stacker input is not available when the base model is an XL212CL, and the controller is configured for twelve presses since this input is already defined as the Press 11 Complete input. The Stacker output is still available in this configuration.
- 10. Material Loop Full input is available only when the "C" continuous press option is enabled.
- 11. Continuous Stroke Mode output is available only when the "C" continuous press option is enabled

- 12. The Uncut Length output is available only when the "U", Brake and Hump, option is enabled, and the controller is configured for Feed-to-Stop operation.
- Die Home 2, Drive Enable 2, Jog Die 2 Fwd and Jog Die 2 Rev inputs are only available on models that support two Die Accelerators and only when both Die Accelerators are configured.
- 14. Jog Forward and Jog Reverse inputs become Jog Die 1 Fwd and Jog Die 2 Rev when two Die Accelerators are enabled.
- 15. Press Stopped is available only when the "C" continuous press option is enabled.
- 16. With Dietrich IO on any of the rotary controller models.
- 17. Active on Closed Loop Feed to Stop Only
- 18. Active On Non-Stop applications only.
- 19. When the Welded Coils feature is enabled, the Weld Detector input is required and if needed, replaces the Die Home 2 or Slow Run input on input 23. Die Home 2 or Slow Run will move to input 20 and replace the Manual Stacker input. If the Manual Stacker input has been displaced, it can be executed using an on-screen push button in the Diagnostic, Manual Operations screen or through MODBUS using Expanded IO.
- 20. Available to Hole Count Controllers
- 21. Available on Non-Tube Mill (T option)
- 22. Available on Non-Tube Mill (T option).
- 23. Available on versions xx.97.00 and higher

## XL200 Series Standard Closed Loop Switch Settings, all Versions, 2.00 and Higher

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	Disable Punch	Enable Punch <sup>1</sup>
5	See Below	See Below
6	See Below	See Below
7	Punch Material Motion (See Note 5)	Punch Material Motion (See Note 5)
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	Front Shear Blanking Mode Disabled	Front Shear Blanking Mode Enabled <sup>6</sup>
12	Normal Closed Loop	Selective Closed Loop <sup>8</sup>
13	Open Loop Shear OFF	Open Loop Shear Enabled <sup>7</sup>
17	Single Line Encoder	Second Line Encoder Enabled <sup>9</sup>
30	Welded Coils Disabled	Welded Coils Enabled
31	Synchronous Welded Coils	Reserved
Switch 5	Switch 6	Description
OFF	OFF	Feed-to-Stop, One Encoder <sup>2</sup>
ON	OFF	Feed-to-Stop, Two Encoders <sup>2</sup>
OFF	ON	Single-Speed Die Accelerator <sup>3</sup>
ON	ON	Two-Speed Die Accelerator

## Models: XL200CL, XL200HCL, XL200CL-SPD

Notes for Models XL200CL and XL200HCL:

- 1. For model **XL200CL**, Version 2.02 or earlier, the punch press can only be enabled in the Feed-to-Stop mode. Later versions allow the punch press to be enabled in the Die-Accelerator mode also.
- 2. Feed-to-Stop mode is NOT allowed on the **XL200HCL** model.
- 3. When the Tube Mill (T) option is active, the controller must be configured as a Single-Speed Die-Accelerator.
- 4. Encoder Ports are defined as follows:

Model	Port 1	Port 2	Port 3
XL200CL	Motor Encoder	Line Encoder	Second Line
Feed to Stop	(Feeder)	(when 2-encoder	Encoder (When
		option is used)	enabled by
			Switch 17)
XL200CL	Line Encoder	Not Used	Second Line
Feed to Stop,			Encoder (When
Selective Closed			enabled by
Loop			Switch 17)
XL200CL,	Line Encoder	Motor Encoder	Second Line
XL200HCL		(Die Accelerator)	Encoder (When
Die Accelerator			enabled by
			Switch 17)

5. Starting with versions 3.44.00 and 4.07.00, when configured as a Die Accelerator, if switch 4 is on and switch 7 on, the press will be enabled as a two-speed Feed-to-Stop

press. If switch 4 and 6 are NOT ON switch 7 should be OFF. If the alternating punch option is Enabled, both alternating presses will be configured for Feed-to-Stop.

- 6. Front Shear Blanking Mode is only possible when the Punch is enabled. For obvious reasons this option is only available on versions 4 and higher.
- 7. Enabling Open Loop Shear is self-descriptive. If Open Loop Shear is ON, the Punch must be enabled, and the XL must be configured as a Die Accelerator. Open Loop Shear is not allowed when Front Shear Blanking is enabled
- 8. Only Valid with Single Encoder Feed to Stop. Selectively, based on the state of the Tail Out input, the controller operates in Open Loop or Closed Loop. Closed Loop operation requires the material to be present based on the state of the Tail Out input.
- 9. Enables a second Line Encoder input and Encoder Resolution. Cannot be used with Selective Closed Loop or Single Encoder Feed to Stop.

### Notes for Model XL200CL-SPD:

a. Can only be configured as Shear Only Die Accelerator.

#### Models: XL202CL, XL206CL, XL212CL, XL202CLF, XL206CLF, XL212CLF, XL202HCLF, XL206HCLF, XL212HCLF, XL202CLF-MHA, XL206CLF-MHA, XL212CLF-MHA

Switch #	OFF		0	N
1	CW Encoder	1 Direction	CCW Encode	er 1 Direction
2	CW Encoder 2 Direction		CCW Encode	er 2 Direction
3	Normal Analog Voltage Polarity		Inverted Analog	Voltage Polarity
4	Single Speed	One Encoder <sup>1</sup>	Two Speed   T	wo Encoders <sup>1</sup>
5	See B	elow	See Below	
6	See B	elow	See E	Below
7	See B	elow	See E	Below
8	See B	elow	See E	Below
9	CRT Dis	sabled	CRT E	nabled
10	NOT USED – N	IUST BE OFF	NOT USED – N	AUST BE OFF
11	Normal Clo	sed Loop	Selective Cl	osed Loop <sup>6</sup>
12	Continuous Press OFF (N	Continuous Feed ote 4)	Continuous Press ON (N	Continuous Feed ote 4)
14	Continuous Press o	n Press 0 (Note5)	Continuous Press	on Press 1 (Note5)
17	Single Line	Encoder <sup>7</sup>	Second Line En	coder Enabled <sup>7</sup>
30	Welded Coil	s Disabled	Welded Coils Enabled	
31	Synchronous \	Welded Coils	Reserved	
Switch 5 <sup>2</sup>	Switch 6 <sup>2</sup>	Switch 7 <sup>2</sup>	Switch 8 <sup>2</sup>	Number of Presses
OFF	OFF	OFF	OFF	1
ON	OFF	OFF	OFF	2
OFF	ON	OFF	OFF	3
ON	ON	OFF	OFF	4
OFF	OFF	ON	OFF	5
ON	OFF	ON	OFF	6
OFF	ON	ON	OFF	7
ON	ON	ON	OFF	8
OFF	OFF	OFF	ON	9
ON	OFF	OFF	ON	10
OFF	ON	OFF	ON	11
ON	ON	OFF	ON	12

Notes for Models XL202CL, XL206CL, XL212CL, XL202CLF, XL206CLF, XL212CLF, XL202HCLF, XL206HCLF, XL212HCLF, XL202CLF-MHA, XL206CLF-MHA, XL212CLF-MHA:

- 1. Switch 4 configures Single/Two Speed on all "**CLF**", "**HCLF**" and "**CLF-MHA**" models. Switch 4 configures One/Two Encoders on all "CL" models.
- 2. "CLF" and "CLF-MHA" models can be configured for a maximum of 6 presses.
- 3. Encoder Ports are defined as follows:

Model	Port 1	Port 2	Port 3
All "CLF", "HCLF"	Line Encoder	Motor Encoder (Die	Second Line
and "CLF-MHA"		Accelerator)	Encoder (When

			enabled by
			Switch 17)
XL202CL,	Motor Encoder	Line Encoder	Second Line
XL206CL,	(Feeder)	(when 2-encoder	Encoder (When
XL212CL		option is used)	enabled by
			Switch 17)
XL202CL,	Line Encoder	Not Used	Second Line
XL206CL,			Encoder (When
XL212CL			enabled by
(Selective			Switch 17)
Closed Loop)			,

- 4. DIP switch 12 is only used when Continuous Press Option is enabled.
- DIP 14 is only used when Continuous Press Option is enabled. Not compatible with DIP 12 ON or only a single press enabled. **Only valid for "CL" feed to stop models.** Only Valid with Single Encoder Feed to Stop. Selectively, based on the state of the Tail
- 6. Only Valid with Single Encoder Feed to Stop. Selectively, based on the state of the Tail Out input, the controller operates in Open Loop or Closed Loop. Closed Loop operation requires the material to be present based on the state of the Tail Out input.
- 7. Only Valid on Non-Stop CLF controllers or Feed-to-Stop controllers that have both a Motor and Line Encoder already defined.

## Models: XL212CLF-MHA2

Switch #	OF	F	0	N
1	NOT USED – MUST BE OFF		NOT USED – I	MUST BE OFF
2	NOT USED – MUST BE OFF		NOT USED – I	MUST BE OFF
3	NOT USED – MUST BE OFF		NOT USED – I	MUST BE OFF
4	Single S	Speed	Two S	Speed
5	See B	elow	See E	Below
6	See B	elow	See Below	
7	See B	elow	See E	Below
8	See B		See E	Below
9	NOT USED – N		NOT USED - I	
10			NOT USED - I	
11				
12				
13	See D	elow	See E	
14	See B	elow	See I	Relow
16	See B	elow	See F	Below
17	Single Line	Encoder	Second Line Er	ncoder Enabled
18	Die 1 –	MHA	Die 1 – CLF	
19	Die 2 –	MHA	Die 2 – CLF	
30	Welded Coils Disabled		Welded Coils Enabled	
••	Synchronous Welded Coils			
31	Synchronous \	Welded Coils	Rese	erved
31 Switch 5 <sup>2</sup>	Synchronous V Switch 6 <sup>2</sup>	Welded Coils Switch 7 <sup>2</sup>	Rese Switch 8 <sup>2</sup>	Number of Presses
31 Switch 5 <sup>2</sup> OFF	Synchronous V Switch 6 <sup>2</sup> OFF	Welded Coils Switch 7 <sup>2</sup> OFF	Rese Switch 8 <sup>2</sup> OFF	Number of Presses 1
31 Switch 5 <sup>2</sup> OFF ON	Synchronous V Switch 6 <sup>2</sup> OFF OFF	Welded Coils Switch 7 <sup>2</sup> OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF	Number of Presses 1 2
31 Switch 5 <sup>2</sup> OFF ON OFF	Synchronous V Switch 6 <sup>2</sup> OFF OFF ON	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF	Number of Presses 1 2 3
31 Switch 5 <sup>2</sup> OFF ON OFF ON	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON ON	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF	Number of Presses 1 2 3 4
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF	Synchronous V Switch 6 <sup>2</sup> OFF OFF ON ON OFF	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF OFF ON	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF	Number of Presses 1 2 3 4 5
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF ON	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON ON ON OFF OFF	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF OFF ON ON	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF OFF	Number of Presses 1 2 3 4 5 6
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF ON Switch 13 <sup>4</sup>	Synchronous V Switch 6 <sup>2</sup> OFF OFF ON ON OFF OFF Switch 14 <sup>4</sup>	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF ON ON Switch 15 <sup>4</sup>	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF OFF Switch 16 <sup>4</sup>	Number of Presses 1 2 3 4 5 6 Number of Presses on Second Die
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF ON Switch 13 <sup>4</sup>	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON ON OFF OFF Switch 14 <sup>4</sup> OFF	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF ON ON Switch 15 <sup>4</sup> OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF Switch 16 <sup>4</sup> OFF	Number of Presses 1 2 3 4 5 6 Number of Presses on Second Die 0
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF ON Switch 13 <sup>4</sup> OFF ON	Synchronous V Switch 6 <sup>2</sup> OFF OFF ON ON OFF OFF Switch 14 <sup>4</sup> OFF OFF	Velded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF ON ON Switch 15 <sup>4</sup> OFF OFF	Rese           Switch 8 <sup>2</sup> OFF           OFF	Number of Presses 1 2 3 4 5 6 Number of Presses on Second Die 0 1
31 Switch 5 <sup>2</sup> OFF ON OFF ON Switch 13 <sup>4</sup> OFF ON OFF ON OFF	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON OFF OFF Switch 14 <sup>4</sup> OFF OFF OFF OFF	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF ON ON Switch 15 <sup>4</sup> OFF OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF Switch 16 <sup>4</sup> OFF OFF OFF	Number of       Presses       1       2       3       4       5       6       Number of       Presses on       Second Die       0       1       2
31 Switch 5 <sup>2</sup> OFF ON OFF ON Switch 13 <sup>4</sup> OFF ON OFF ON OFF ON	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON OFF OFF Switch 14 <sup>4</sup> OFF OFF OFF ON ON	Velded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF OFF ON ON Switch 15 <sup>4</sup> OFF OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF Switch 16 <sup>4</sup> OFF OFF OFF OFF	Number of Presses 1 2 3 4 5 6 Number of Presses on Second Die 0 1 2 3
31 Switch 5 <sup>2</sup> OFF ON OFF ON OFF ON Switch 13 <sup>4</sup> OFF ON OFF ON OFF	Synchronous N Switch 6 <sup>2</sup> OFF OFF ON OFF OFF Switch 14 <sup>4</sup> OFF OFF OFF ON ON ON ON	Welded Coils Switch 7 <sup>2</sup> OFF OFF OFF OFF OFF ON Switch 15 <sup>4</sup> OFF OFF OFF OFF OFF OFF	Rese Switch 8 <sup>2</sup> OFF OFF OFF OFF OFF Switch 16 <sup>4</sup> OFF OFF OFF OFF OFF OFF	Number of         Presses         1         2         3         4         5         6         Number of         Presses on         Second Die         0         1         2         3

Notes for Models XL212CLF-MHA2:

- Switch 4 configures Single/Two Speed.
   "CLF-MHA2" models can be configured for a maximum of 6 presses.
   Encoder Ports are defined as follows:

Port 1	Port 2	Port 3	Port 4
Motor Encoder	Motor Encoder	Second Line	Line Encoder
(Die 1)	(Die 2)	Encoder (When	

	enabled by Switch	
	17)	

4. If any of these switches are on, a second DA is enabled. The number of presses must be defined as larger than the number of presses on the second die. The presses for the first die start with the shear press and end at the first press on the second die. The first press for the second die is (Number of Presses – Number of Presses on Second Die + 1)

Switch #OFF1CW Encoder 1 Direction	
1 CW Encoder 1 Direction	ON
	CCW Encoder 1 Direction
2 CW Encoder 2 Direction	CCW Encoder 2 Direction
3 Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4 Disable All Punches	Enable Punches
Switch 5 Switch 6	Number of Open Loop Punches <sup>1</sup>
OFF OFF	1
ON OFF	2
OFF ON	3
ON ON	4
7 Single Die Accelerator	Dual Die Accelerator enabled <sup>+</sup>
8 No Gags	Gag Outputs Enabled <sup>3</sup>
9 CRT Disabled	CRT Enabled
10 NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
13 Closed Loop Shear	Open Loop Shear'
Switch 14 Switch 15	Extra Gags
	None
UN UFF	2 Extra
OFF ON	4 Extra <sup>8</sup>
ON ON	Invalid Configuration
17 Single Line Encoder	Second Line Encoder Enabled
	<b>^</b>
18 1 <sup>st</sup> OL Press Default Operation	1 <sup>st</sup> OL Press Feed to Stop <sup>9</sup>
18     1 <sup>st</sup> OL Press Default Operation       19     2d OL Press Default Operation	1 <sup>st</sup> OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup>
18     1st OL Press Default Operation       19     2d OL Press Default Operation       20     3d OL Press Default Operation	1 <sup>st</sup> OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup>
18     1st OL Press Default Operation       19     2d OL Press Default Operation       20     3d OL Press Default Operation       21     4 <sup>th</sup> OL Press Default Operation	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup>
18     1st OL Press Default Operation       19     2d OL Press Default Operation       20     3d OL Press Default Operation       21     4 <sup>th</sup> OL Press Default Operation       22     Die 1 Normal Operation	1 <sup>st</sup> OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup>
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4 <sup>th</sup> OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup>
181st OL Press Default Operation192d OL Press Default Operation203d OL Press Default Operation214th OL Press Default Operation22Die 1 Normal Operation23Die 2 Normal Operation	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup>
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup>
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         Switch 24       Switch 25         OEE       OEE	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup>
18     1st OL Press Default Operation       19     2d OL Press Default Operation       20     3d OL Press Default Operation       21     4th OL Press Default Operation       22     Die 1 Normal Operation       23     Die 2 Normal Operation       Switch 24       OFF     OFF       ON     OFF	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         Switch 24       Switch 25         OFF       OFF         OFF       OFF         OFF       OFF	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1
18     1st OL Press Default Operation       19     2d OL Press Default Operation       20     3d OL Press Default Operation       21     4th OL Press Default Operation       22     Die 1 Normal Operation       23     Die 2 Normal Operation       Switch 24       OFF     OFF       OFF     OFF       OFF     OFF       OFF     ON       ON     OFF	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1         2         3
181st OL Press Default Operation192d OL Press Default Operation203d OL Press Default Operation214th OL Press Default Operation22Die 1 Normal Operation23Die 2 Normal OperationSwitch 24OFFOFFONOFFOFFONONON	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1         2         3
181st OL Press Default Operation192d OL Press Default Operation203d OL Press Default Operation214th OL Press Default Operation22Die 1 Normal Operation23Die 2 Normal OperationSwitch 24OFFOFFONOFFOFFONONONSwitch 26Switch 27	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> 0         1         2         3
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181st OL Press Default Operation192d OL Press Default Operation203d OL Press Default Operation214th OL Press Default Operation22Die 1 Normal Operation23Die 2 Normal OperationSwitch 24OFFOFFOFFOFFOFFONONONSwitch 26Switch 27OFFOFFONOFF	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         1         0         1         1         0         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1
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18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         Switch 24       Switch 25         OFF       OFF         OFF       OFF         OFF       ON         ON       ON         Switch 26       Switch 27         OFF       OFF         OFF       OFF         OFF       OFF         ON       OFF         OFF       OFF         ON       ON         ON       ON         ON       ON         ON       OFF	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         2         3         2         3
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         Switch 24       Switch 25         OFF       OFF         OFF       OFF         OFF       ON         ON       OFF         OFF       OFF         OFF       OFF         OFF       OFF         OFF       ON         ON       ON         ON       ON         ON       OFF         28       Die 1 Single Speed	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 1 Additional Presses <sup>11</sup> 0         1         2         3         Die 1 Additional Presses <sup>11</sup> 0         1         2         3         Die 1 Two Speed <sup>2</sup>
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         33       Die 2 Normal Operation         24       Switch 25         0FF       0FF         0FF       0FF         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0N       0N         0N       0N         28       Die 1 Single Speed         29       Die 2 Single Speed	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> Die 1 Additional Presses <sup>11</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 1 Two Speed <sup>2</sup> Die 2 Two Speed <sup>2</sup>
18       1st OL Press Default Operation         19       2d OL Press Default Operation         20       3d OL Press Default Operation         21       4th OL Press Default Operation         22       Die 1 Normal Operation         23       Die 2 Normal Operation         33       Die 2 Normal Operation         34       Switch 25         0FF       0FF         0FF       0FF         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0FF       0N         0N       0N         0N       0N         28       Die 1 Single Speed         29       Die 2 Single Speed         30       Welded Coils Disabled	1st OL Press Feed to Stop <sup>9</sup> 2 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 3 <sup>d</sup> OL Press Feed to Stop <sup>9</sup> 4 <sup>th</sup> OL Press Feed to Stop <sup>9</sup> Die 1 Multi-Hit Operation <sup>10</sup> Die 2 Multi-Hit Operation <sup>10</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 2 Additional Presses <sup>11</sup> 0         1         2         3         Die 1 Two Speed <sup>2</sup> Die 2 Two Speed <sup>2</sup> Welded Coils Enabled

# Models: XL244CL, XL244HCL, XL244CL-MRE2, XL244HCL-MRE2

32	Reserved	Reserved
Switch 33	Switch 34	Die 1 MRE2 Config <sup>12</sup>
OFF	OFF	Boss
ON	OFF	Rotary
OFF	ON	Eccentric
ON	ON	Linear
Switch 35	Switch 36	Die 2 MRE2 Config <sup>12</sup>
OFF	OFF	Boss
ON	OFF	Rotary
OFF	ON	Eccentric
ON	ON	Linear

Notes for Models XL244CL, XL244HCL:

- 1. Each Open Loop Punch will have a corresponding boost output. See note 9.
- 2. Models **XL244CL** and **XL244HCL** were originally defined to function only as a singlespeed die-accelerator. In versions 4.85.00 and 5.85.00 Two Speed Operation was added.
- 3. Encoder Ports are defined as follows:

Model	Port 1	Port 2	Port 3	Port 4 (Ver. 4)
XL244CL,	Line	Motor Encoder	Second	Not Used
XL244HCL	Encoder	(Die	Line	
(Single) Die		Accelerator)	Encoder	
Accelerator			(When	
			enabled by	
			Switch 17)	
XL244CL,	Motor	Motor Encoder	Second	Line Encoder
XL244HCL	Encoder	(Die 2)	Line	
(Dual) Die	(Die 1)		Encoder	
Accelerator			(When	
			enabled by	
			Switch 17)	

- 4. Version 4 and above only. Punches must be enabled. Disables DIP switches 1,2 and 3. Changes Encoder definitions.
- 5. Punches must be enabled. A minimum of two gags will be available. Unused press outputs convert to gag outputs.
- 6. Two extra gags are enabled if switch 14 is ON. Gag 8 will be the highest Gag possible. It may be replaced with a Press output if enough presses are configured.
- Convert the shear press to a Non-Stop Open Loop Shear with a Boost output. This
  requires the Enable Punches DIP Switch 4. It shifts Press 1 to be on the first Die
  Accelerator and, if enabled, Press 2 to be on the second Die Accelerator.
- 8. Four extra gags are enabled if switch 15 is ON. Gag 10 Gag 8 will be the highest Gag possible. It and other gags may be replaced with a Press output if enough presses are configured.
- 9. Beginning in V4.84.00 and V5.84.00 there is one Bit for each potential OL press to configure that press to operate in Two Speed Open Loop Feed to Stop mode. If the Open Loop Shear Mode is enabled, the 1<sup>st</sup> Bit will apply to the shear. If the second Die Accelerator is enabled the 1<sup>st</sup> Bit becomes disabled unless the OL Shear has been configured. In that case the second Bit becomes disabled.
- 10. Enabled beginning in versions 4.85.00 and 5.85.00.
- 11. See note 10, Punches must be enabled and defined. The additional presses on a Die consume open loop presses until the maximum of 4 are consumed. However, If any additional presses are defined on either Die, *all presses* on Die 2 are consumed from the OL press count, which means one extra will need to be defined.

12. The XL244CL-MRE2 and XL244HCL-MRE2 is identical to the XL244CL and XL244HCL, respectively, in all ways except both Die Accelerators, when enabled, default to a BOSS shear operation and can be configured for any of the Rotational style Die Accelerator types, or Linear, using these switch settings.

## Model: XL200CL-MDA2

Switch #	OFF	ON
1	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
2	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
3	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
4	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
5	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
6	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	Front Shear Blanking Mode Disabled	Front Shear Blanking Mode Enabled
17	Single Line Encoder	Second Line Encoder Enabled
30	Welded Coils Disabled	Welded Coils Enabled
31	Synchronous Welded Coils	Reserved

## Notes for Model XL200CL-MDA2:

- 1. Models **XL200CL-MDA2** is defined to function only as a single-speed dual dieaccelerator, one press per die.
- 2. Encoder Ports are defined as follows:

Port 1	Port 2	Port 3	Port 4 (Ver. 4)
Motor Encoder	Motor Encoder	Second Line	Line Encoder
(Die 1)	(Die 2)	Encoder (When	
. ,	· · ·	enabled by Switch	
		17)	

3. Version 4 and higher only

# Model XL270CL (Tile Machine Controller) I/O Definitions

IO#	Inputs	Outputs
1	Jog Forward	Fast
2	Jog Reverse	Slow
3	Run	Reverse
4	E-Stop	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch 1	(Future Print Flush)
8	Tail Out	(Future Print Trigger)
9	Press 0 Complete, Shear	Press 0 Down (Shear)
10	Press 1 Complete	Forming Press 1 Down
11	Press 2 Complete <sup>1</sup>	Forming Press 2 Down <sup>1</sup>
12	Press 3 Complete, Entry Shear	Press 3 Down (Entry Shear)
13	Press 1 Forming Tool Complete <sup>2</sup>	Press 4 Down (KMF) <sup>3</sup>
	Press 4 Complete (KMF) <sup>3</sup>	
14	Manual Punch 2 <sup>1</sup>	Press 5 Down (KMF) <sup>3</sup>
15	Press 0 Up Complete	Press 0 Up (Shear)
16	Press 1 Up Complete	Forming Press 1 Up
17	Press 2 Up Complete <sup>1</sup>	Forming Press 2 Up <sup>1</sup>
18	Press 3 Up Complete	Press 3 Up (Entry Shear)
19	Stacker Complete	Not Used
20	Manual Stacker	Press 1 Forming Tool
21	(Future Asynchronous Print Detect)	Press 2 Forming Tool <sup>1</sup>
22	Feed OK	Stacker
23	Slow Run	Not Used
24	Press 5 Complete (KMF) <sup>3</sup>	Not Used
50	Test Part	Not Used
53	Not Used	Scanner Verify
56	Bundle <sup>8</sup>	Not Used

### Model XL270CL (Tile Machine Controller) Switch Settings

Switch #	OFF	ON
1	CW Encoder 1	CCW Encoder 1
2	CW Encoder 2	CCW Encoder 2
3	Normal Analog Polarity	Inverted Analog Polarity
4	Disable Twin Press Option	Enable Twin Press Option
5	See Below	See Below
6	See Below	See Below
7	See Below	See Below
8	See Below	See Below
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
12	KMF presses FTS <sup>4</sup>	KMF Presses NS <sup>4</sup>
13	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
14	Normal Shear Operation <sup>5</sup>	3D Shear Operation <sup>5</sup>
17	Single Line Encoder <sup>7</sup>	Enable Second Line Encoder <sup>7</sup>
30	Welded Coils Disabled	Welded Coils Enabled
31	Synchronous Welded Coils	Reserved
Switch 5	Switch 6	Motor Type
OFF	OFF	Feed-to-Stop, One Encoder <sup>6</sup>
ON	OFF	Feed-to-Stop, Two Encoder <sup>6</sup>
OFF	ON	Reserved
ON	ON	Reserved
Switch 7	Switch 8	Machine Type
OFF	OFF	Formia
ON	OFF Sen Fung	
OFF	ON Reserved	
ON	ON	Reserved

Notes for Model XL270CL (Tile Machine Controller):

- 1. Inputs/Outputs only available when Twin Press Option is selected via dipswitch configuration.
- 2. Press 1 Forming Tool Only available when configured as a Sen Fung Machine.
- 3. The Press 4 and 5 inputs and outputs were added to support the KMF Felt applicator module. They are only added when the Machine is configured for a Formia tile machine. The KMF module only requires Down outputs so, to preserve the remaining outputs for other unforeseen uses, no down outputs are provided.
- 4. DIP switch 12 is only available for the Formia model and configures the KMF press outputs to NON-Stop operation.

- 5. 3D Shear operation. Enable this option if a shear operation must be performed prior to the first forming operation to prevent the shear from crushing it.6. Encoder Ports are defined as follows:

Mode	Port 1	Port 2	Port 3
Feed-to-Stop,	Motor Encoder	Line Encoder	Second Line
Two Encoder	(Feeder)	(when 2-encoder	Encoder (When
		option is used)	enabled by
			Switch 17)
Feed-to-Stop	Motor Encoder	Not Used	Not Used
One Encoder	(Feeder)		

Second Line encoder only valid in Feed-to-Stop Two encoder mode.
 Available on versions xx.97.00 and higher.

IO#	Inputs	Outputs
1	Jog Forward	Fast   Forward
2	Jog Reverse	Slow
3	Run	Reverse
4	Emergency Stop (E-Stop)	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch	Print Flush/Encoder
8	Tail Out (Inverted Sheet Detect)	Print Trigger
9	Not Used	Not Used
10	Not Used	Not Used
11	Not Used	Not Used
12	Not Used	Not Used
13	Not Used	Not Used
14	Not Used	Not Used
15	Not Used	Not Used
16	Not Used	Not Used
17	Not Used	Not Used
18	Not Used	Not Used
19	Not Used	Not Used
20	Manual Stacker	Not Used
21	Asynchronous Print Detect	Not Used
22	Die Home	Stacker
23	Not Used	Not Used
24	Not Used	Not Used

# Model XL208CL I/O Definitions (Version 3 and Higher)

# Model XL208CL Switch Settings (Version 3 and Higher)

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
5	See Below	See Below
6	See Below	See Below
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
Switch 5	Switch 6	Description
OFF	OFF	Invalid
ON	OFF	Invalid
OFF	ON	Single-Speed BOSS
ON	ON	Two-Speed BOSS

Notes for Models XL208CL:

Model	Port 1	Port 2
XL208CL	Line Encoder	Motor Encoder (Die)

# XL212CL-SGF Switch Settings

Switch #	OFF		0	N	
1	Feeder		End Gripper	Functionality	
2	NOT USED – M	IUST BE OFF	NOT USED – N	/UST BE OFF	
3	NOT USED – M	IUST BE OFF	NOT USED – N	/UST BE OFF	
4	One End	coder <sup>1</sup>	Two Encoders <sup>1</sup>		
5	See Be	elow	See E	See Below	
6	See Be	elow	See E	Below	
7	See Be	elow	See E	Below	
8	See Be	elow	See E	Below	
9	CRT Dis	sabled	CRT EI	nabled	
10	NOT USED – M	IUST BE OFF	NOT USED – N	/UST BE OFF	
Switch 5	Switch 6	Switch 7	Switch 8	Number of	
				Presses	
OFF	OFF	OFF	OFF	1	
ON	OFF	OFF	OFF	2	
OFF	ON	OFF	OFF	3	
ON	ON	OFF	OFF	4	
OFF	OFF	ON	OFF	5	
ON	OFF	ON	OFF	6	
OFF	ON	ON	OFF	7	
ON	ON	ON	OFF	8	
OFF	OFF	OFF	ON	9	
ON	OFF	OFF	ON	10	
OFF	ON	OFF	ON	11	
ON	ON	OFF	ON	12	

## Notes:

1. Encoder ports are defined in the Table below:

Model	Port 1	Port 2	
XL212CL-SGF	Motor Encoder (Feeder)	Line Encoder	
Feeder		(when 2-encoder option is	
		used)	
XL212CL-SGF	Motor Encoder (Gripper)	Invalid. Single Encoder must	
End Gripper		be used.	

# XL212CL-SGF IO

IO#	Inputs	Outputs	
1	Feed Ready	Output 1	
2	Slow Run	Stopping	
3	Run	Output 3	
4	Emergency Stop (E-Stop)	Run	
5	Setup Lockout	Item Complete	
6	Input 6	Drive Enable	
7	Buggy Home	Print Flush	
8	Input 8   Tail Out <sup>1</sup>	Print Trigger	
9	Press 0 Complete (Shear)	Press 0 Down (Shear)	
10	Press 1 Complete	Press 1 Down   Gag 1	
11	Press 2 Complete	Press 2 Down   Gag 2	
12	Press 3 Complete	Press 3 Down   Gag 3	
13	Press 4 Complete	Press 4 Down   Gag 4	
14	Press 5 Complete	Press 5 Down   Gag 5	
15	Press 6 Complete	Press 6 Down   Gag 6	
16	Press 7 Complete	Press 7 Down   Gag 7	
17	Press 8 Complete	Press 8 Down   Gag 8	
18	Press 9 Complete	Press 9 Down   Gag 9	
19	Press 10 Complete	Press 10 Down   Gag 10	
20	Press 11 Complete	Press 11 Down   Gag 11	
21	Asynchronous Print Detect	Gripper Clamp <sup>2</sup>	
22	Future Hole Detect Functionality	Output 22	
23	Weld Detect <sup>1</sup>   Gripper Material	Output 23	
	Sensor <sup>2</sup>		
24	Part Detect	Output 24	
33	Jog Forward	Output 33	
34	Fog Reverse	Output 34	
35	Manual Part Reference	Part Referencing	
36	Manual Shear	Output 36	
37	Manual Punch	Output 37	
38	Manual Buggy Reference <sup>2</sup>	Buggy Referencing <sup>2</sup>	
39	Manual Part Grip <sup>2</sup>	Part Grip Function <sup>2</sup>	
40	Manual Part Drop <sup>2</sup>	Dropping Part <sup>2</sup>	
41	Stationary Part Grip <sup>2</sup>	Part Drop Completed <sup>2</sup>	
42	Punch Verify Mode	Part Flip <sup>2</sup>	
43	Punch Skip	Stopped	
44	Punch Allow	Uncut Length	
45	Input 45	Entry Guides Closed <sup>2</sup>	
46	Input 46	Exit Guides Closed <sup>2</sup>	
47	Input 47	Punch Verify Mode	
48	Input 48	Output 48	
53	Not Used	Scanner Verify	
56	Bundle <sup>3</sup>	Output 56	

## Notes:

- Not with End Gripper DIP switch.
   With End Gripper DIP switch only
   Available on versions xx.97.00 and higher only

#### Models: XL200CL-RE

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	Disable Punch	Enable Punch <sup>2</sup>
5	See Below	See Below
6	See Below	See Below
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	Default Reference Switch Transition <sup>5</sup>	Reversed Reference Switch Transition <sup>5</sup>
12	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
13	Open Loop Shear OFF	Open Loop Shear Enabled <sup>3</sup>
14	Reference Switch Bug <sup>4</sup>	Reference Switch Bug <sup>4</sup>
17	Single Line Encoder	Enable Second Line Encoder
30	Welded Coils Disabled	Welded Coils Enabled
31	Synchronous Welded Coils	Reserved
Switch 5	Switch 6	Description
OFF	OFF	Invalid
ON	OFF	Invalid
OFF	ON	Single-Speed
ON	ON	Two-Speed
Switch 7	Switch 8	Description (Die Config)
OFF	OFF	BOSS(Crank) (XL208CL)
ON	OFF	Rotary
OFF	ON	Standard Linear
ON	ON	Eccentric(Viper)

#### Notes for Models XL200CL-RE:

Model	Port 1	Port 2	Port 3
XL200CL-RE	Line Encoder	Motor Encoder (Die)	Second Line
			Encoder (When
			enabled by
			Switch 17)

- 2. Enabled only in Version 4.46 and higher.
- 3. Enabling Open Loop Shear is self-descriptive. If Open Loop Shear is ON, the Punch must be enabled. Not allowed with Alternating Press option
- 4. Software versions 4.48.00 and higher, configured with Eccentric accelerators must have this switch set or an error pops up to inform the user about a bug with referencing that requires their attention to fully fix. They must re-verify their home switch position. SCN 3518 describes the bug fully.
- 5. For default operation, the controller searches for a Reference Switch OFF to ON transition while the die MOTOR (not the die) is moving in the forward direction. Some machines have been designed such that transition of the sensor would occur while the die is in the metal, or they have used a sensor that has inverted operation. This setting causes the controller to look for the ON to OFF transition instead.

#### Models: XL200CL-MRE2

Switch #	OFF	ON
1	See Below	See Below
2	See Below	See Below
3	See Below	See Below
4	See Below	See Below
5	Disable OL Punch	Enable OL Punch <sup>2</sup>
6	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	Die 1 Default Reference Switch	Die 1 Reversed Reference Switch
	Transition <sup>4</sup>	Transition <sup>4</sup>
12	Die 2 Default Reference Switch	Die 2 Reversed Reference Switch
	Transition <sup>4</sup>	Transition <sup>4</sup>
14	Reference Switch Bug <sup>3</sup>	Reference Switch Bug <sup>3</sup>
17	Single Line Encoder	Enable Second Line Encoder
30	Welded Coils Disabled	Welded Coils Enabled
31	Synchronous Welded Coils	Reserved
Die 1 Type	Switch 2	Switch 1
Crank (BOSS)	OFF	OFF
Rotary	OFF	ON
Linear	ON	OFF
Eccentric	ON	ON
(Viper)		
Die 2 Type	Switch 4	Switch 3
Crank (BOSS)	OFF	OFF
Rotary	OFF	ON
Linear	ON	OFF
Eccentric	ON	ON
(Viper)		

Notes for Model XL200CL-MRE2:

Port 1	Port 2	Port 3	Port 4 (Ver. 4)
Motor Encoder	Motor Encoder	Second Line	Line Encoder
(Die 1)	(Die 2)	Encoder (When	
	ζ γ	enabled by Switch	
		17)	

- 2. Enables an OL press, press Id 2.
- 3. Software versions 4.48.00 and higher, configured with Eccentric accelerators must have this switch set or an error pops up to inform the user about a bug with referencing that requires their attention to fully fix. They must re-verify their home switch position. SCN 3518 describes the bug fully.
- 4. For default operation, the controller searches for a Reference Switch OFF to ON transition while the die MOTOR (not the die) is moving in the forward direction. Some machines have been designed such that transition of the sensor would occur while the die is in the metal, or they have used a sensor that has inverted operation. This setting causes the controller to look for the ON to OFF transition instead. There is one setting defined for each die.

# Models: XL204HCLF-SP023-MHA

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
5	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
6	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
11	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
12	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
14	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
17	Single Line Encoder	Enable Second Line Encoder

### Notes:

Port 1	Port 2	Port 3
Line Encoder	Motor Encoder (Die Accelerator)	Second Line Encoder (When enabled by Switch 17)