

Case Erector Control - With Simulation

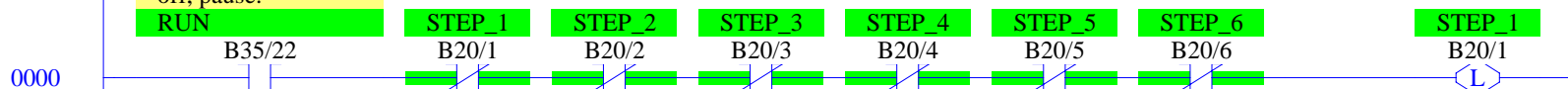
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Additional internal memory:

| Symbol | Address | |
|------------------|----------------|-------------------------------------|
| STEP_1 to STEP_6 | B20/1 to B20/6 | Step-in-progress bits |
| UP_TMR | T4:1 | Times opening up |
| BDOWN_TMR | T4:2 | Times deactivate of bottom cylinder |
| PULSE_CNT | C5:1 | Count encoder pulses |

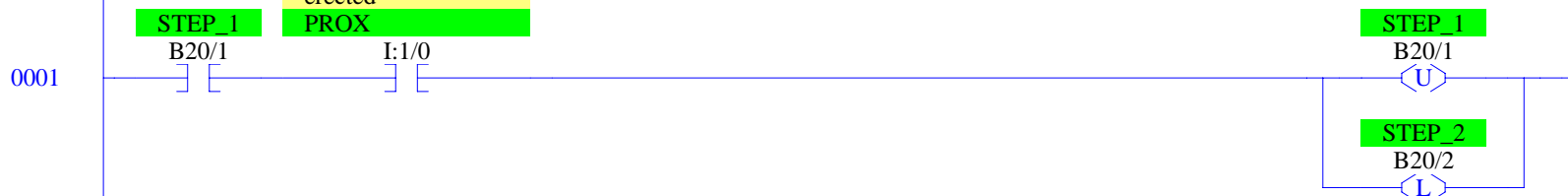
Initial start.

When on, allow case erector to run. When off, pause.



Step 1 Move in.

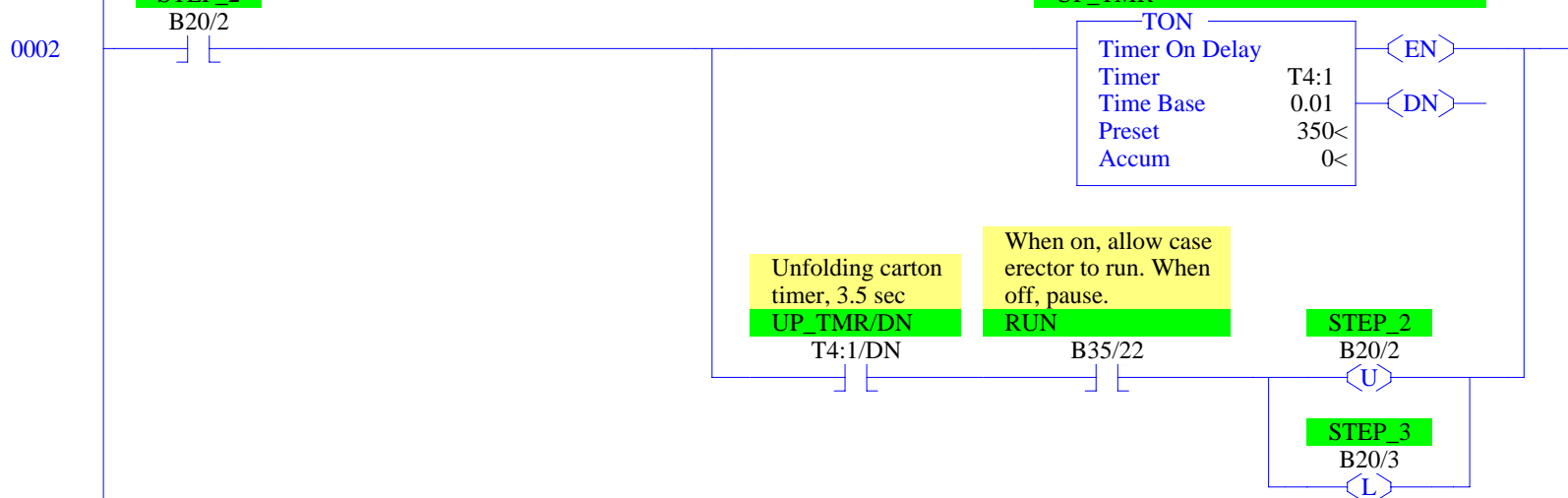
Proximity switch, on when flat carton is in position to be erected



Step 2 Open up.

Unfolding carton timer, 3.5 sec

UP_TMR

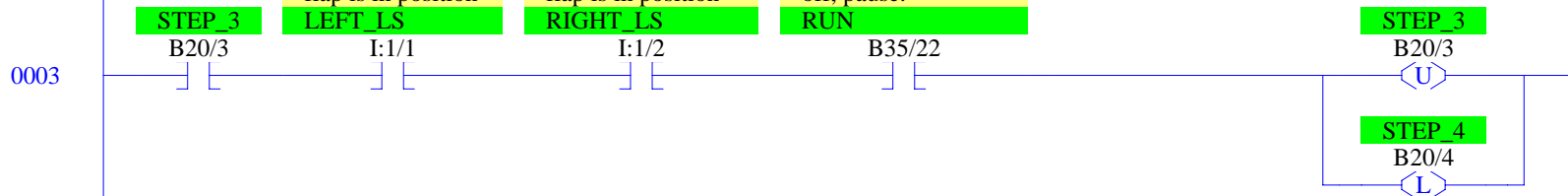


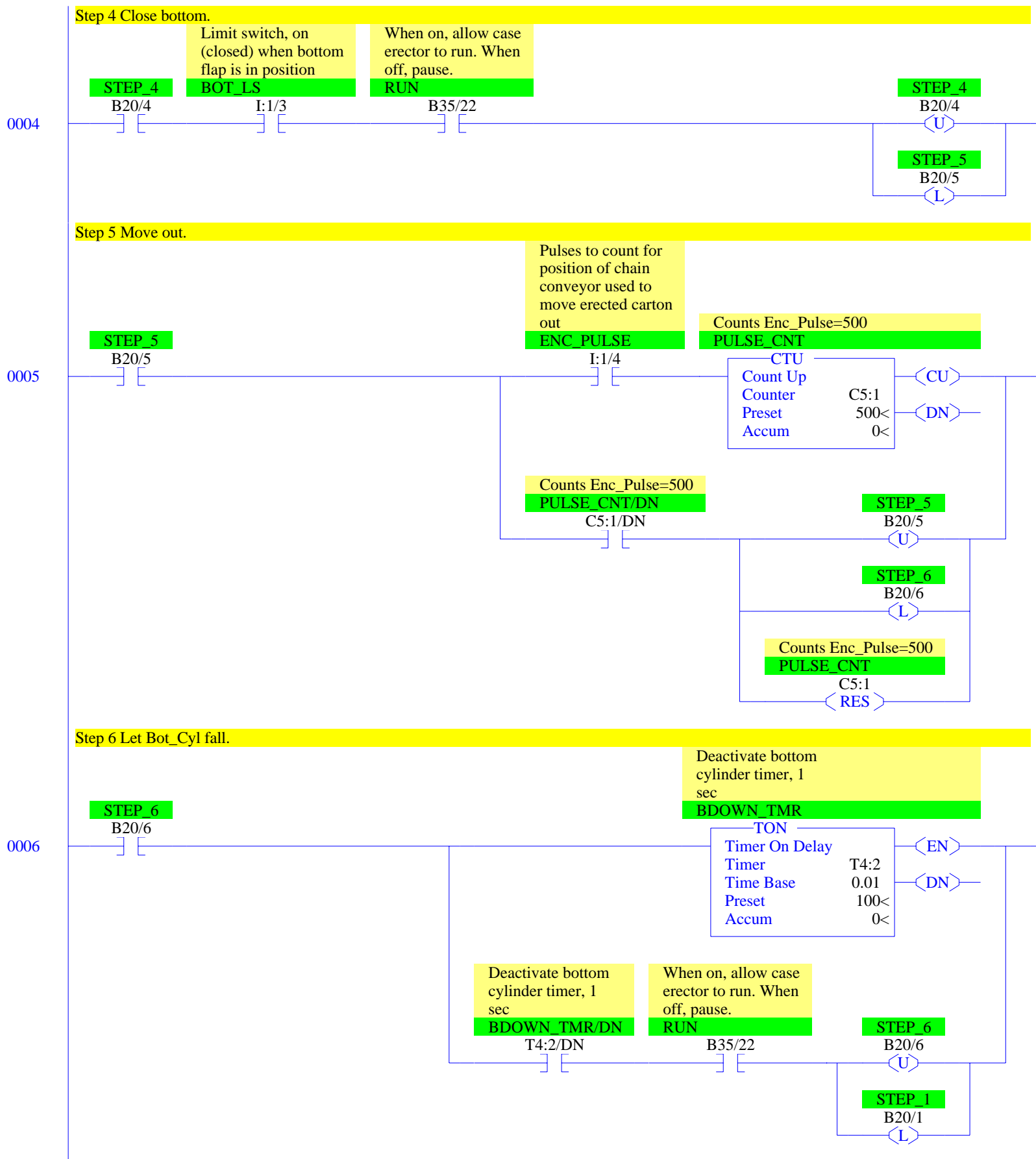
Step 3 Close sides.

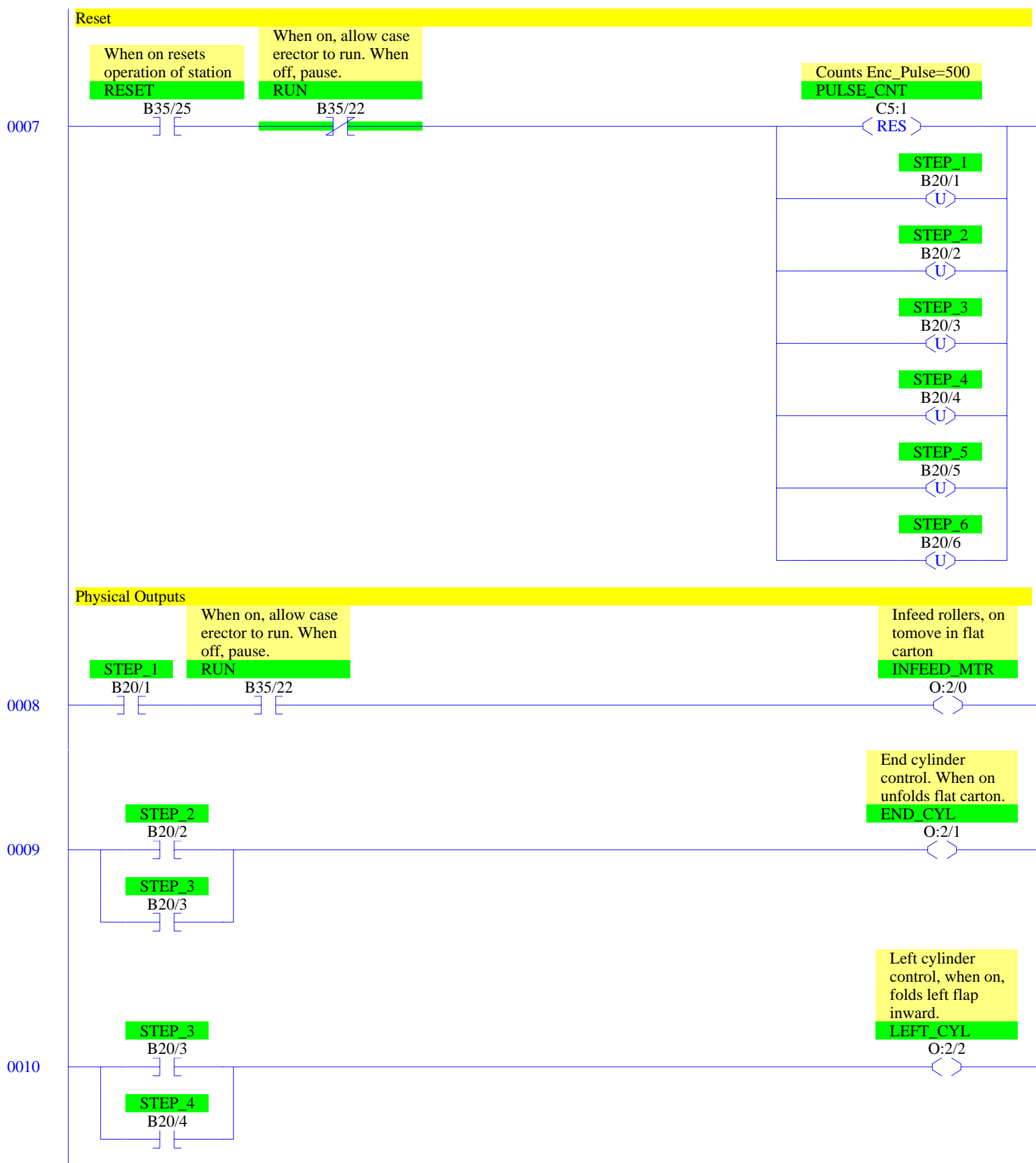
Limit switch, on (closed) when left flap is in position

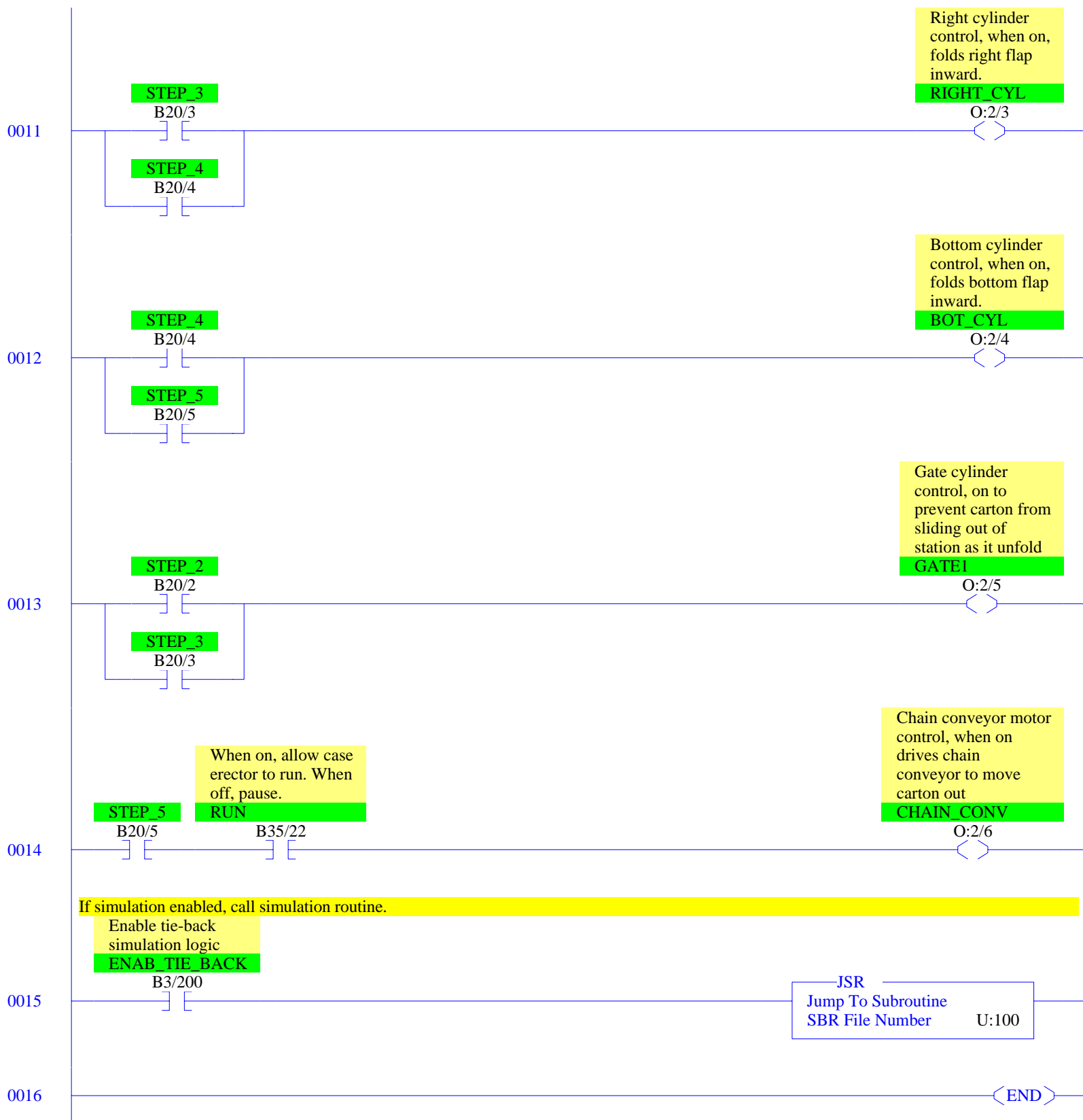
Limit switch, on (closed) when right flap is in position

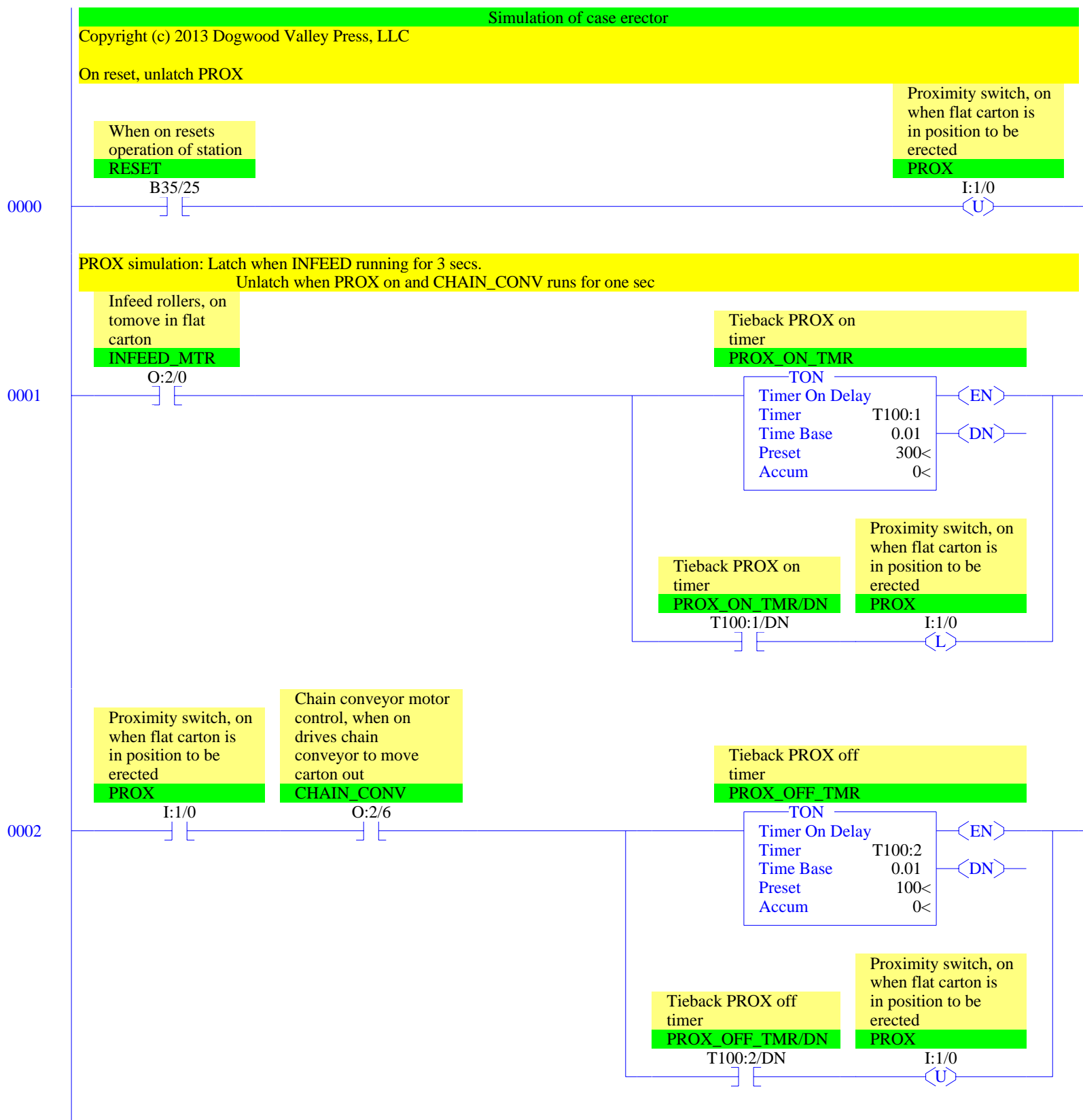
When on, allow case erector to run. When off, pause.











0003

LEFT_LS simulation: Turn on when LEFT_CYL on for 3 sec

Left cylinder
control, when on,
folds left flap
inward.

LEFT_CYL

O:2/2

Tieback LEFT_LS
timer

LEFT_TMR

TON

Timer On Delay

Timer

T100:3

Time Base

0.01

Preset

300<

Accum

0<

Tieback LEFT_LS
timer

LEFT_TMR/DN

T100:3/DN

Limit switch, on
(closed) when left
flap is in position

LEFT_LS

I:1/1

0004

RIGHT_LS simulation: Turn on when RIGHT_CYL on for 3 sec

Right cylinder
control, when on,
folds right flap
inward.

RIGHT_CYL

O:2/3

Tieback RIGHT_LS
timer

RIGHT_TMR

TON

Timer On Delay

Timer

T100:4

Time Base

0.01

Preset

300<

Accum

0<

Tieback RIGHT_LS
timer

RIGHT_TMR/DN

T100:4/DN

Limit switch, on
(closed) when right
flap is in position

RIGHT_LS

I:1/2

0005

BOT_LS simulation: Turn on when BOT_CYL on for 3 sec

Bottom cylinder
control, when on,
folds bottom flap
inward.

BOT_CYL

O:2/4

Tieback BOT_LS timer

BOT_TMR

TON

Timer On Delay

Timer

T100:5

Time Base

0.01

Preset

300<

Accum

0<

Tieback BOT_LS timer

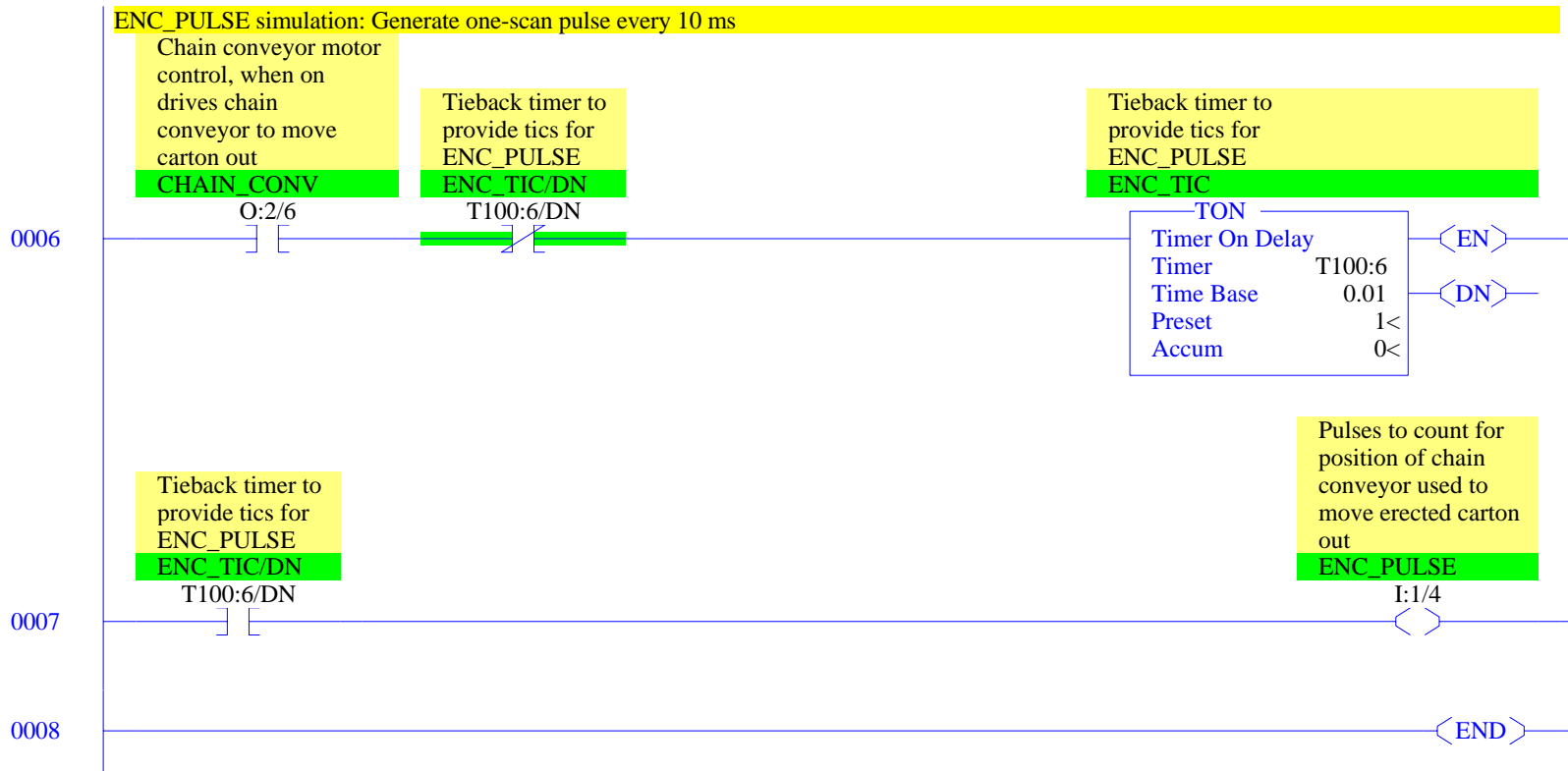
BOT_TMR/DN

T100:5/DN

Limit switch, on
(closed) when bottom
flap is in position

BOT_LS

I:1/3



RSLogix 500 Cross Reference Report - Sorted by Address

| | |
|---------|--|
| O:2/0 | - {INFEED_MTR} Infeed rollers, on to move in flat carton OTE - File #2 - 8 XIC - File #100 TIEBACK - 1 |
| O:2/1 | - {END_CYL} End cylinder control. When on unfolds flat carton. OTE - File #2 - 9 |
| O:2/2 | - {LEFT_CYL} Left cylinder control, when on, folds left flap inward. OTE - File #2 - 10 XIC - File #100 TIEBACK - 3 |
| O:2/3 | - {RIGHT_CYL} Right cylinder control, when on, folds right flap inward. OTE - File #2 - 11 XIC - File #100 TIEBACK - 4 |
| O:2/4 | - {BOT_CYL} Bottom cylinder control, when on, folds bottom flap inward. OTE - File #2 - 12 XIC - File #100 TIEBACK - 5 |
| O:2/5 | - {GATE1} Gate cylinder control, on to prevent carton from sliding out of station as it is erected OTE - File #2 - 13 |
| O:2/6 | - {CHAIN_CONV} Chain conveyor motor control, when on drives chain conveyor to move cartons OTE - File #2 - 14 XIC - File #100 TIEBACK - 2, 6 |
| I:1/0 | - {PROX} Proximity switch, on when flat carton is in position to be erected OTL - File #100 TIEBACK - 1 OTU - File #100 TIEBACK - 0, 2 XIC - File #2 - 1 File #100 TIEBACK - 2 |
| I:1/1 | - {LEFT_LS} Limit switch, on (closed) when left flap is in position OTE - File #100 TIEBACK - 3 XIC - File #2 - 3 |
| I:1/2 | - {RIGHT_LS} Limit switch, on (closed) when right flap is in position OTE - File #100 TIEBACK - 4 XIC - File #2 - 3 |
| I:1/3 | - {BOT_LS} Limit switch, on (closed) when bottom flap is in position OTE - File #100 TIEBACK - 5 XIC - File #2 - 4 |
| I:1/4 | - {ENC_PULSE} Pulses to count for position of chain conveyor used to move erected cartons OTE - File #100 TIEBACK - 7 XIC - File #2 - 5 |
| B3/200 | - {ENAB_TIE_BACK} Enable tie-back simulation logic XIC - File #2 - 15 |
| T4:1 | - {UP_TMR} Unfolding carton timer, 3.5 sec TON - File #2 - 2 |
| T4:1/DN | - XIC - File #2 - 2 |
| T4:2 | - {BDOWN_TMR} Deactivate bottom cylinder timer, 1 sec TON - File #2 - 6 |
| T4:2/DN | - XIC - File #2 - 6 |
| C5:1 | - {PULSE_CNT} Counts Enc_Pulse=500 CTU - File #2 - 5 RES - File #2 - 5, 7 |
| C5:1/DN | - XIC - File #2 - 5 |
| B20/1 | - {STEP_1} OTL - File #2 - 0, 6 OTU - File #2 - 1, 7 XIC - File #2 - 1, 8 XIO - File #2 - 0 |
| B20/2 | - {STEP_2} OTL - File #2 - 1 OTU - File #2 - 2, 7 XIC - File #2 - 2, 9, 13 XIO - File #2 - 0 |
| B20/3 | - {STEP_3} OTL - File #2 - 2 OTU - File #2 - 3, 7 XIC - File #2 - 3, 9, 10, 11, 13 XIO - File #2 - 0 |
| B20/4 | - {STEP_4} OTL - File #2 - 3 OTU - File #2 - 4, 7 |

RSLogix 500 Cross Reference Report - Sorted by Address

| | |
|-----------|--|
| | XIC - File #2 - 4, 10, 11, 12 |
| | XIO - File #2 - 0 |
| B20/5 | - {STEP_5} |
| | OTL - File #2 - 4 |
| | OTU - File #2 - 5, 7 |
| | XIC - File #2 - 5, 12, 14 |
| | XIO - File #2 - 0 |
| B20/6 | - {STEP_6} |
| | OTL - File #2 - 5 |
| | OTU - File #2 - 6, 7 |
| | XIC - File #2 - 6 |
| | XIO - File #2 - 0 |
| B35/22 | - {RUN} When on, allow case erector to run. When off, pause. |
| | XIC - File #2 - 0, 2, 3, 4, 6, 8, 14 |
| | XIO - File #2 - 7 |
| B35/25 | - {RESET} When on resets operation of station |
| | XIC - File #2 - 7 |
| | File #100 TIEBACK - 0 |
| T100:1 | - {PROX_ON_TMR} Tieback PROX on timer |
| | TON - File #100 TIEBACK - 1 |
| T100:1/DN | - XIC - File #100 TIEBACK - 1 |
| T100:2 | - {PROX_OFF_TMR} Tieback PROX off timer |
| | TON - File #100 TIEBACK - 2 |
| T100:2/DN | - XIC - File #100 TIEBACK - 2 |
| T100:3 | - {LEFT_TMR} Tieback LEFT_LS timer |
| | TON - File #100 TIEBACK - 3 |
| T100:3/DN | - XIC - File #100 TIEBACK - 3 |
| T100:4 | - {RIGHT_TMR} Tieback RIGHT_LS timer |
| | TON - File #100 TIEBACK - 4 |
| T100:4/DN | - XIC - File #100 TIEBACK - 4 |
| T100:5 | - {BOT_TMR} Tieback BOT_LS timer |
| | TON - File #100 TIEBACK - 5 |
| T100:5/DN | - XIC - File #100 TIEBACK - 5 |
| T100:6 | - {ENC_TIC} Tieback timer to provide tics for ENC_PULSE |
| | TON - File #100 TIEBACK - 6 |
| T100:6/DN | - XIC - File #100 TIEBACK - 7 |
| | XIO - File #100 TIEBACK - 6 |
| U:100 | - JSR - File #2 - 15 |