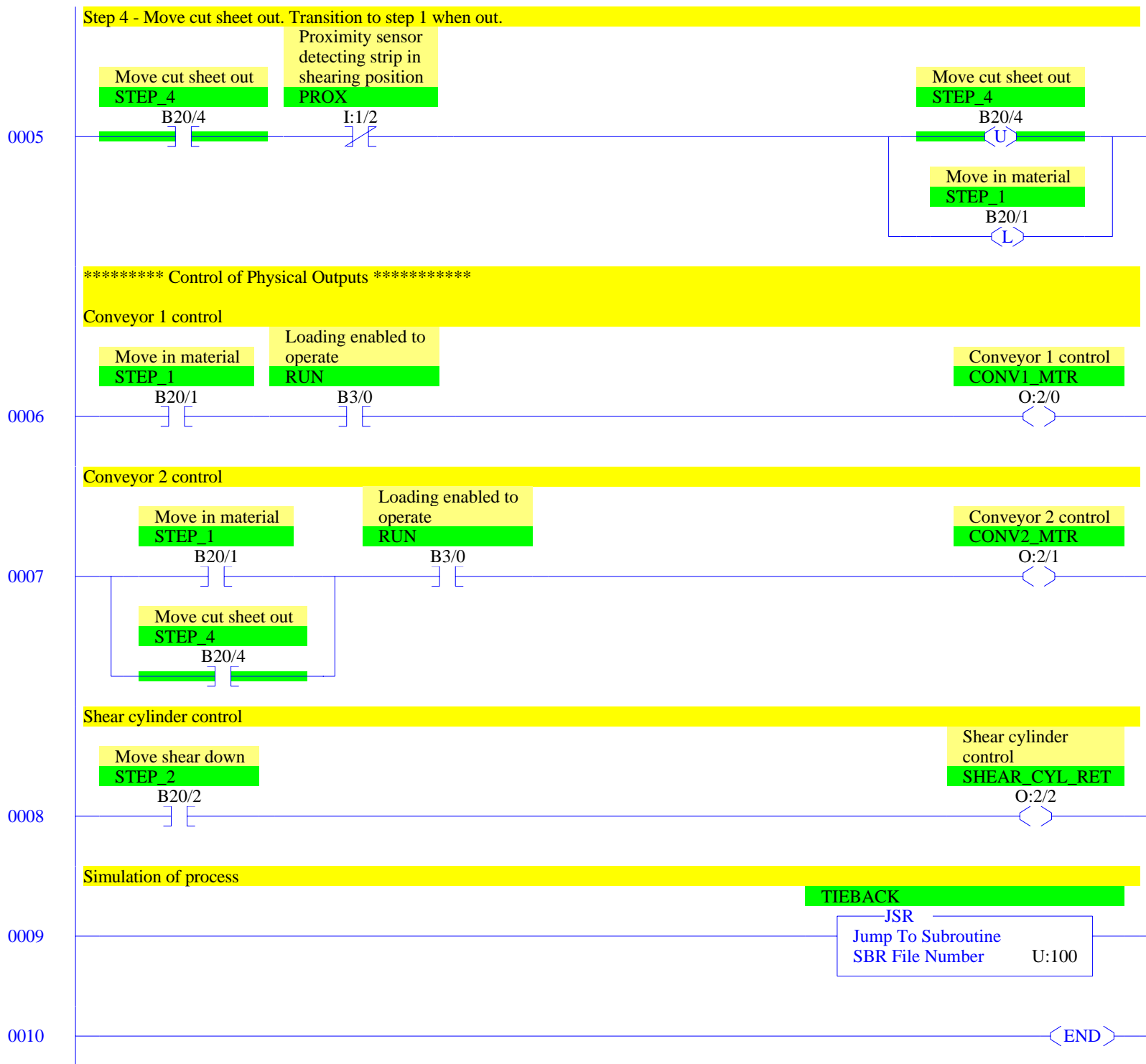


## Example 15.1 Metal Shear Control With Simulation

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Start/stop/pause





## Simulation of metal shear process

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Tie-back logic for shear limit switches.

Shear cylinder  
control

SHEAR\_CYL\_RET

O:2/2

TIETMR\_SHEAR\_ON

TON

Timer On Delay

Timer

T100:0

Time Base

0.01

Preset

300&lt;

Accum

0&lt;

Limit switch  
detecting blade down

TIETMR\_SHEAR\_ON/DN

T100:0/DN

DOWN\_LS

I:1/3

Shear cylinder  
control

SHEAR\_CYL\_RET

O:2/2

TIETMR\_SHEAR\_OFF

TON

Timer On Delay

Timer

T100:1

Time Base

0.01

Preset

300&lt;

Accum

300&lt;

Limit switch  
detecting blade up

TIETMR\_SHEAR\_OFF/DN

T100:1/DN

UP\_LS

I:1/4

Tie-back logic for proximity sensor.

Conveyor 1 control

CONV1\_MTR

Conveyor 2 control

CONV2\_MTR

O:2/0

O:2/1

TIETMR\_PROX\_ON

TON

Timer On Delay

Timer

T100:2

Time Base

0.01

Preset

300&lt;

Accum

0&lt;

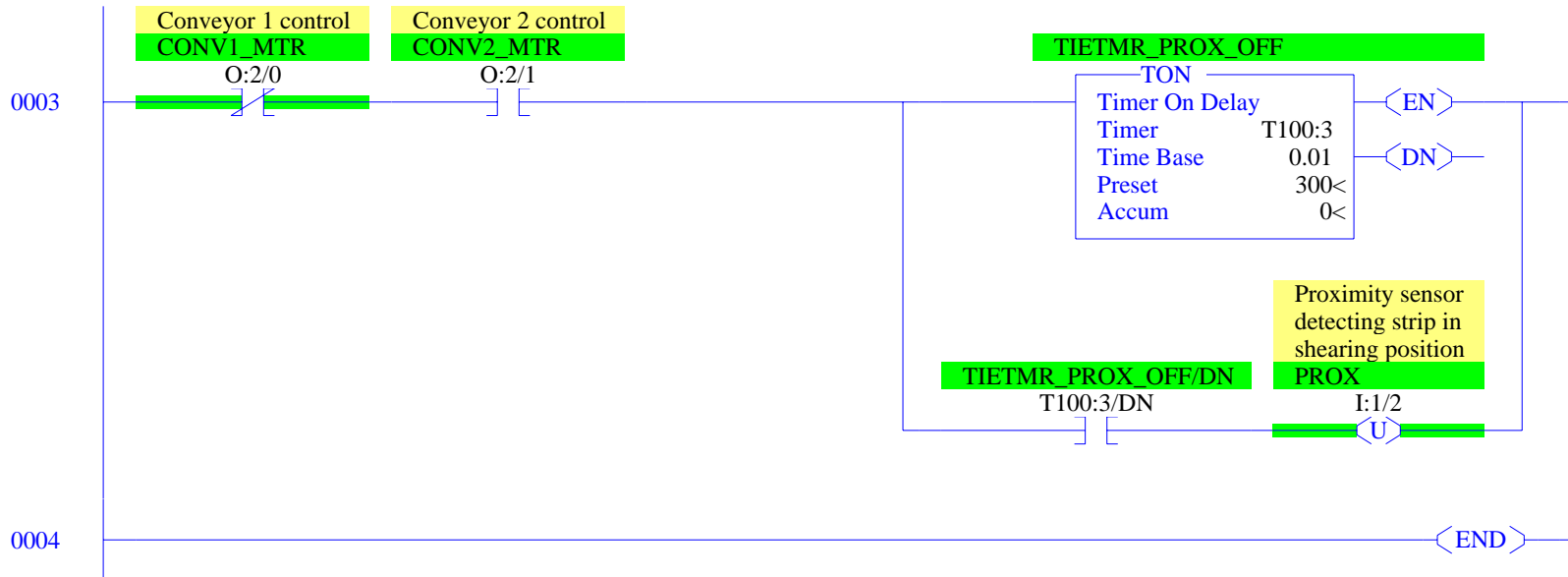
Proximity sensor  
detecting strip in  
shearing position

TIETMR\_PROX\_ON/DN

T100:2/DN

PROX

I:1/2



## RSLogix 500 Cross Reference Report - Sorted by Address

```

O:2/0      - {CONV1_MTR} Conveyor 1 control
            OTE - File #2 - 6
            XIC - File #100 TIE BACK - 2
            XIO - File #100 TIE BACK - 3
O:2/1      - {CONV2_MTR} Conveyor 2 control
            OTE - File #2 - 7
            XIC - File #100 TIE BACK - 2, 3
O:2/2      - {SHEAR_CYL_RET} Shear cylinder control
            OTE - File #2 - 8
            XIC - File #100 TIE BACK - 0
            XIO - File #100 TIE BACK - 1
I:1/0      - {START_PB} Start push button
            XIC - File #2 - 0
I:1/1      - {STOP_PB} Stop push button
            XIC - File #2 - 0
I:1/2      - {PROX} Proximity sensor detecting strip in shearing position
            OTL - File #100 TIE BACK - 2
            OTU - File #100 TIE BACK - 3
            XIC - File #2 - 2
            XIO - File #2 - 5
I:1/3      - {DOWN_LS} Limit switch detecting blade down
            OTE - File #100 TIE BACK - 0
            XIC - File #2 - 3
I:1/4      - {UP_LS} Limit switch detecting blade up
            OTE - File #100 TIE BACK - 1
            XIC - File #2 - 4
B3/0       - {RUN} Loading enabled to operate
            OTE - File #2 - 0
            XIC - File #2 - 0, 1, 6, 7
B20/1      - {STEP_1} Move in material
            OTL - File #2 - 1, 5
            OTU - File #2 - 2
            XIC - File #2 - 2, 6, 7
            XIO - File #2 - 1
B20/2      - {STEP_2} Move shear down
            OTL - File #2 - 2
            OTU - File #2 - 3
            XIC - File #2 - 3, 8
            XIO - File #2 - 1
B20/3      - {STEP_3} Move shear up
            OTL - File #2 - 3
            OTU - File #2 - 4
            XIC - File #2 - 4
            XIO - File #2 - 1
B20/4      - {STEP_4} Move cut sheet out
            OTL - File #2 - 4
            OTU - File #2 - 5
            XIC - File #2 - 5, 7
            XIO - File #2 - 1
T100:0     - {TIETMR_SHEAR_ON}
            TON - File #100 TIE BACK - 0
T100:0/DN  - XIC - File #100 TIE BACK - 0
T100:1     - {TIETMR_SHEAR_OFF}
            TON - File #100 TIE BACK - 1
T100:1/DN  - XIC - File #100 TIE BACK - 1
T100:2     - {TIETMR_PROX_ON}
            TON - File #100 TIE BACK - 2
T100:2/DN  - XIC - File #100 TIE BACK - 2
T100:3     - {TIETMR_PROX_OFF}
            TON - File #100 TIE BACK - 3
T100:3/DN  - XIC - File #100 TIE BACK - 3
U:100      - {TIEBACK}
            JSR - File #2 - 9

```