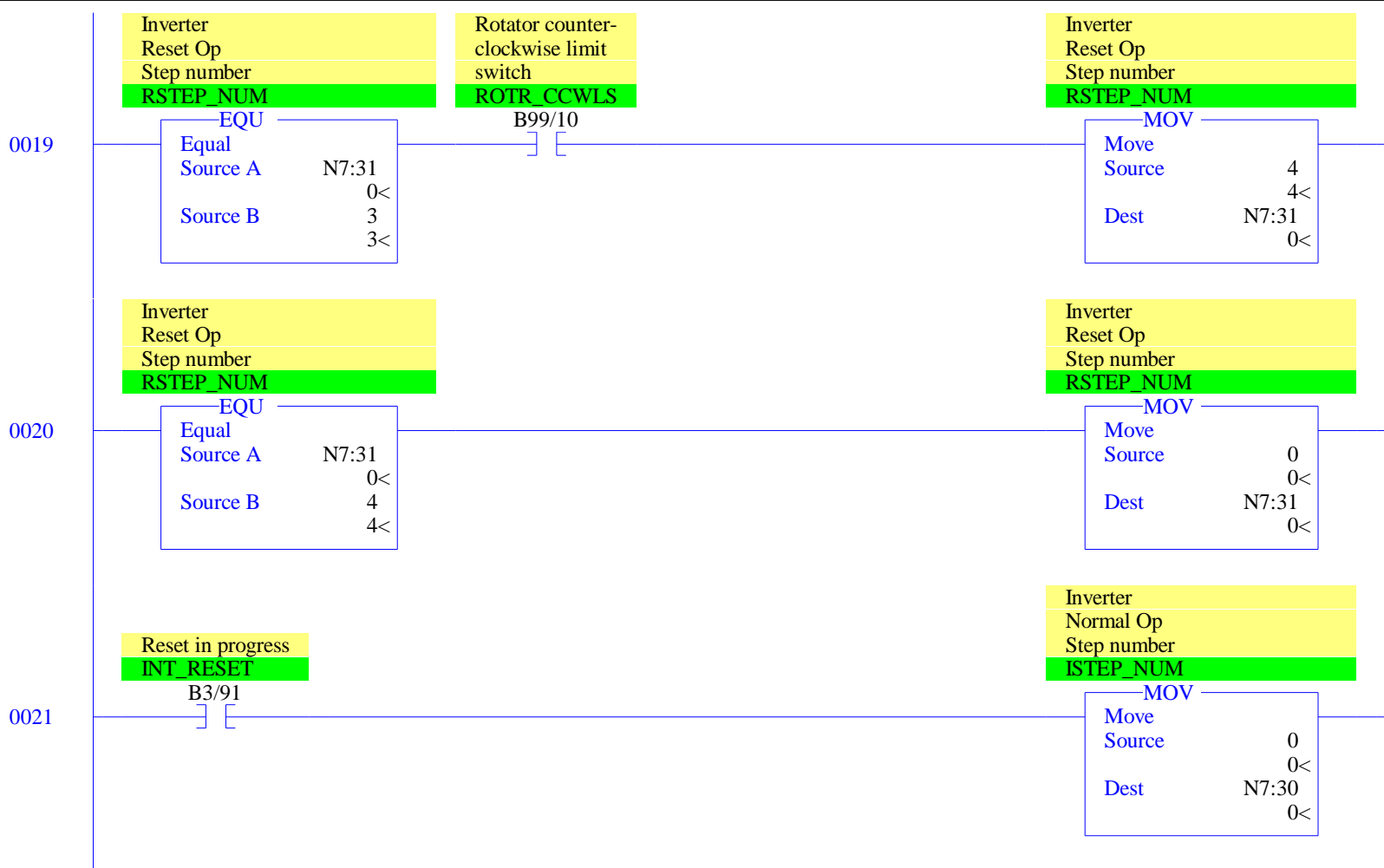
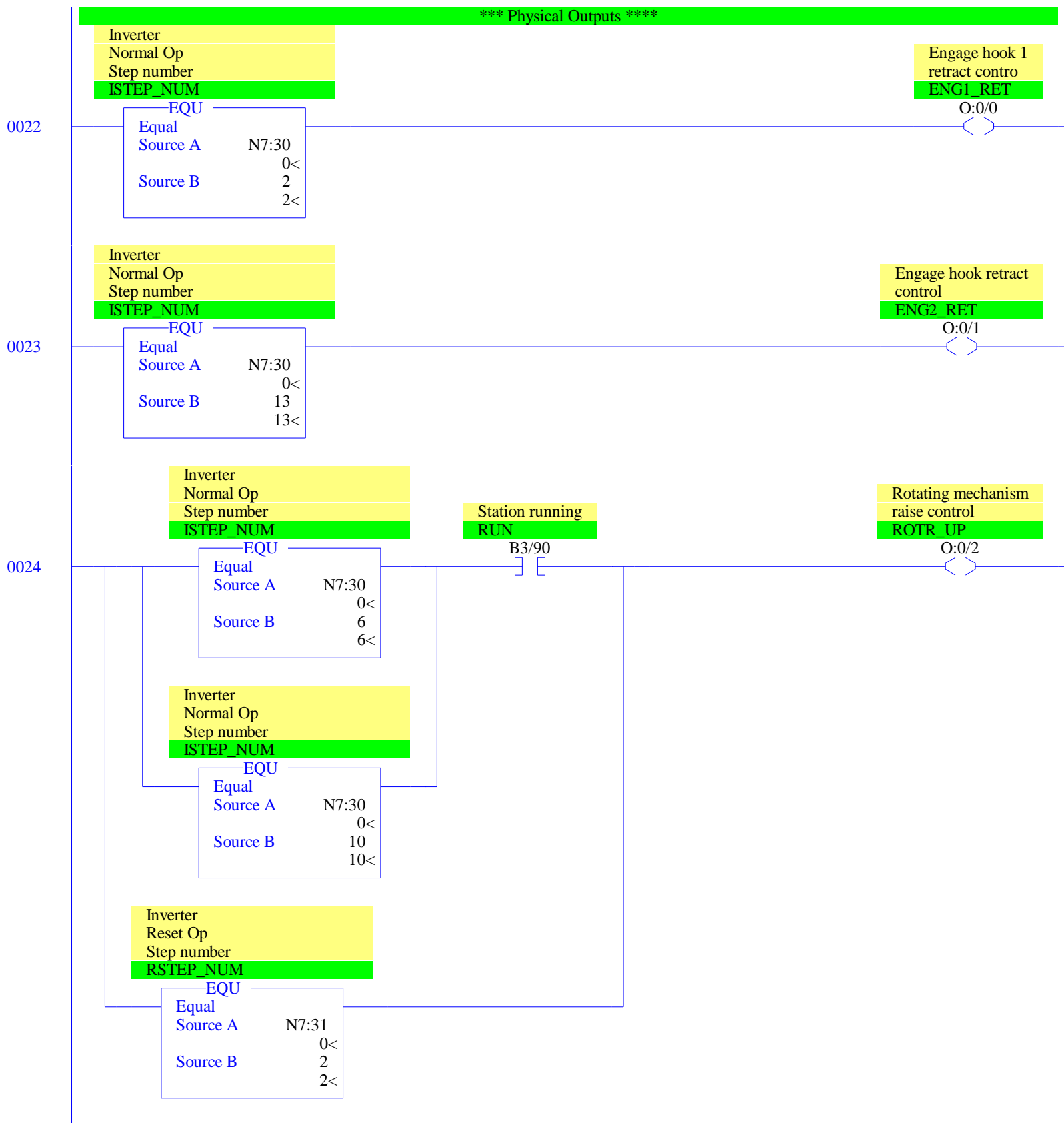
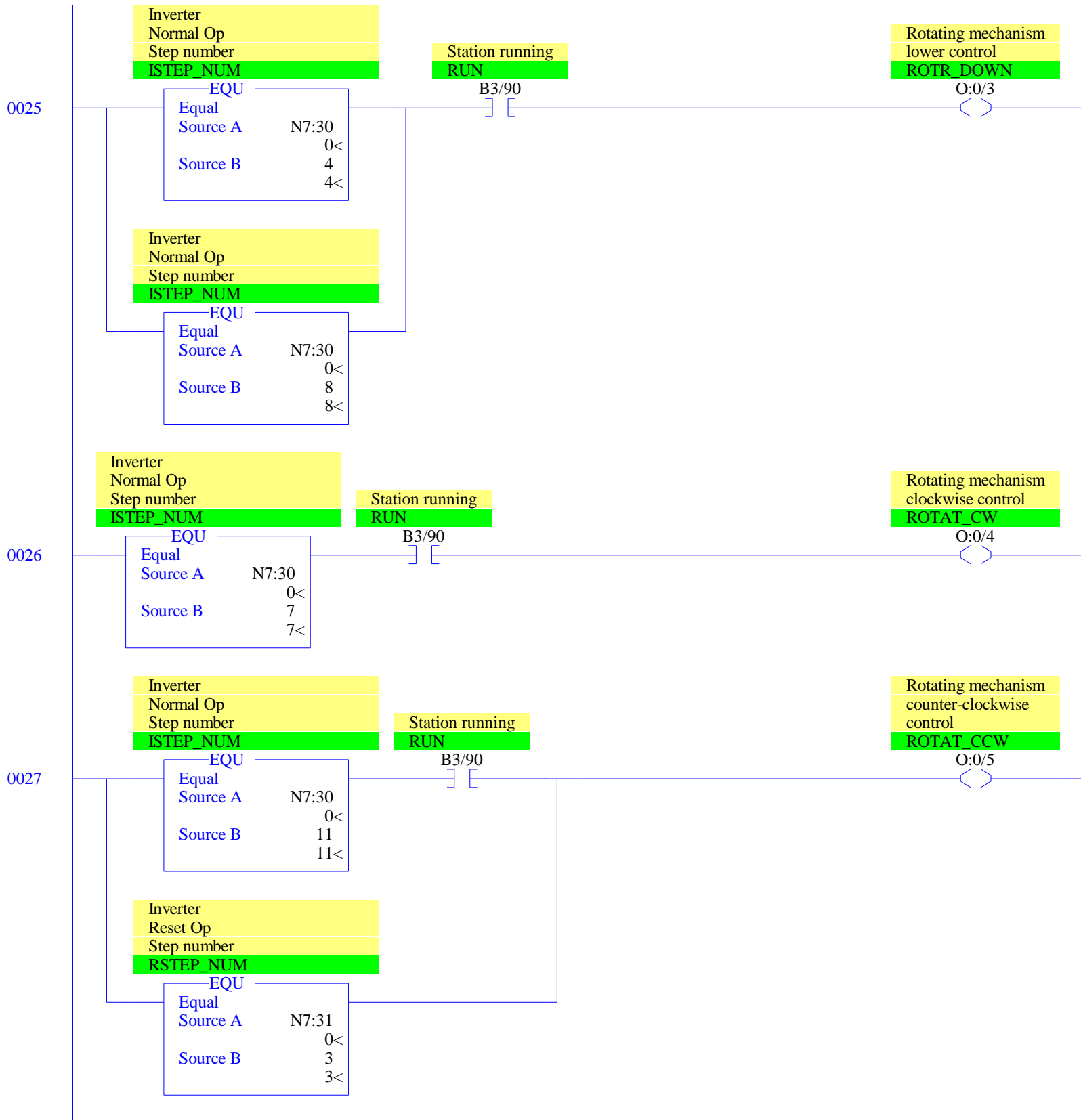
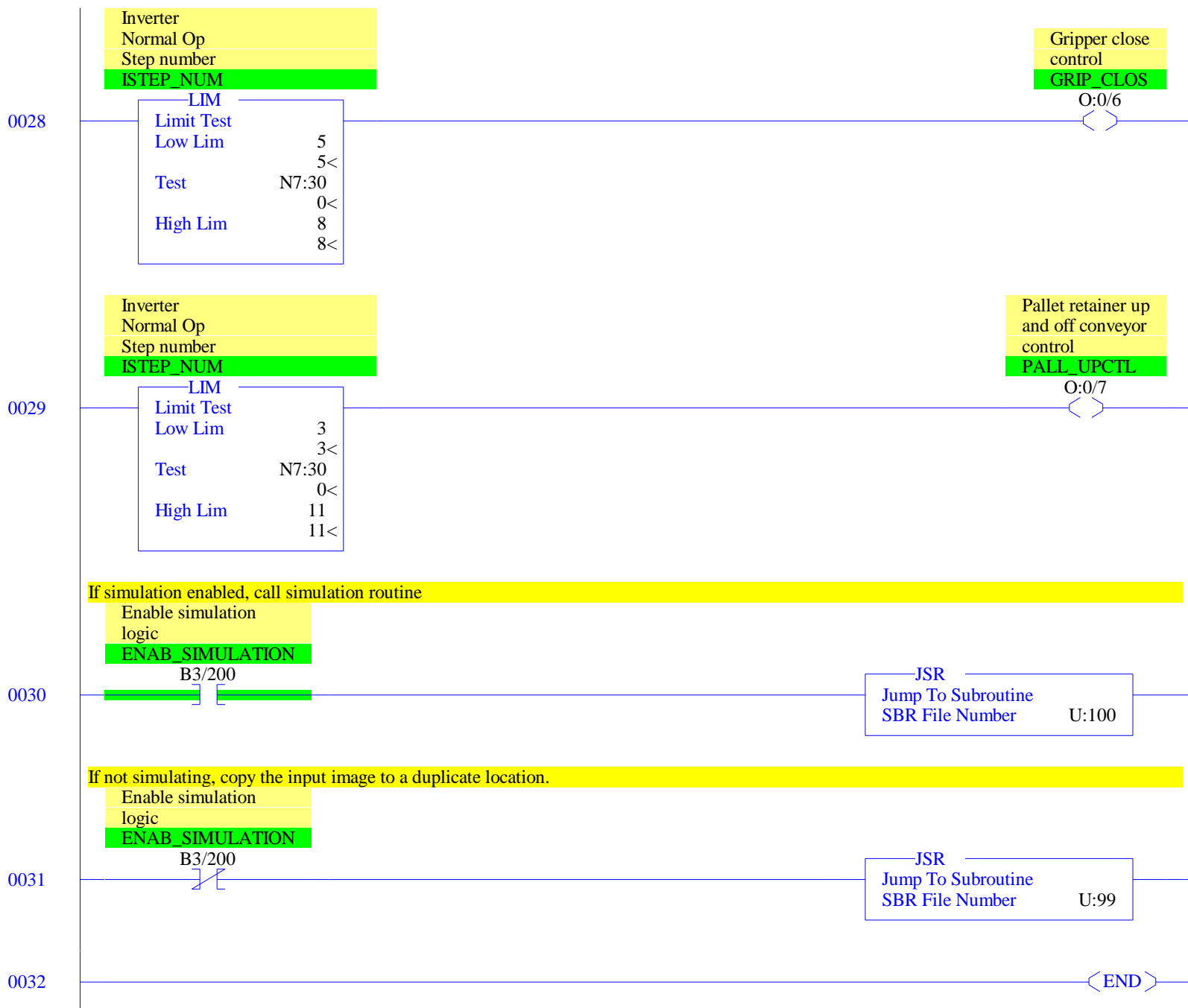


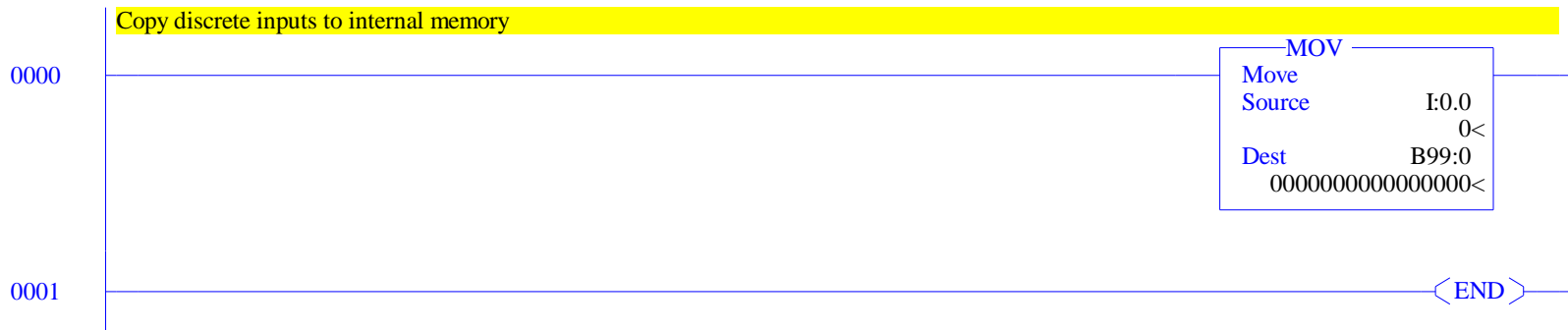
LAD 2 - --- Total Rungs in File = 33









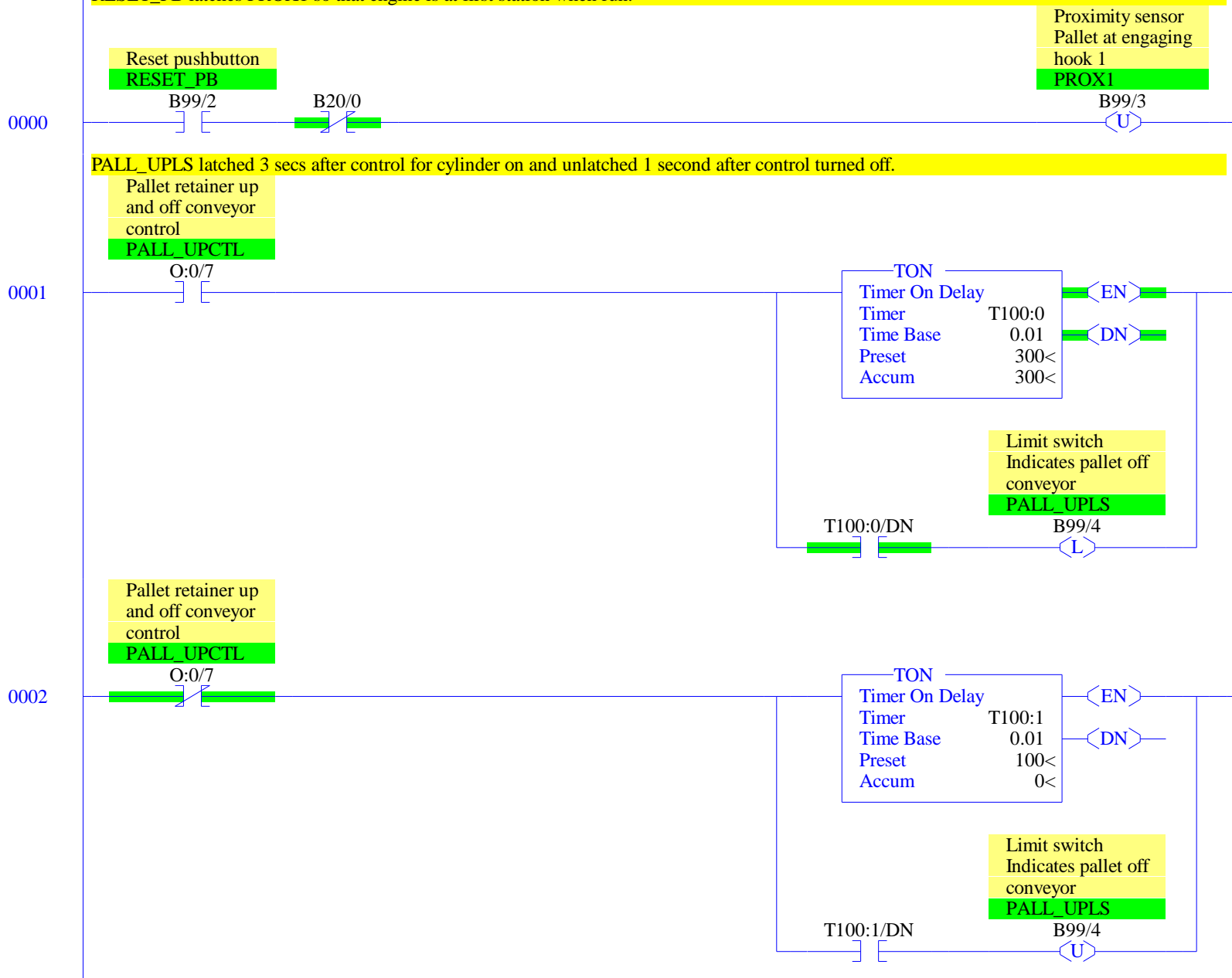


Simulation of engine inverter

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This version uses RESET_PB to generate first engine. Each subsequent engine appears 5 seconds after second engage hook goes back up.

RESET_PB latches PROX1 so that engine is at first station when run.



Up/Down limit switches.

Down LS latched 3 secs after down control active and unlatched immediately when up control active.

Up LS latched 3 secs after up control active and unlatched immediately when down control active.

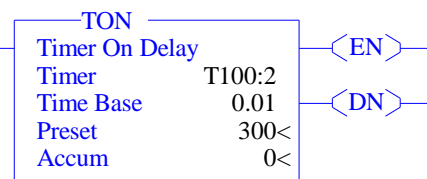
Rotating mechanism

lower control

ROTR_DOWN

O:0/3

0003

Rotator down limit
switch**ROTR_DNLS**

T100:2/DN

B99/6

<L>

Rotator up limit
switch**ROTR_UPLS**

B99/5

<U>

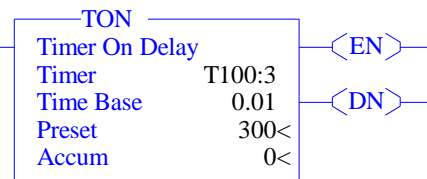
Rotating mechanism

raise control

ROTR_UP

O:0/2

0004

Rotator up limit
switch**ROTR_UPLS**

T100:3/DN

B99/5

<L>

Rotator down limit
switch**ROTR_DNLS**

B99/6

<U>

Clockwise/Counterclockwise limit switches.

CW LS latched 3 secs after CW control active and unlatched immediately when CCW control active.

CCW LS latched 3 secs after CCW control active and unlatched immediately when CW control active.

Rotating mechanism
clockwise control

ROTAT_CW

O:0/4

TON
Timer On Delay
Timer T100:4
Time Base 0.01
Preset 300<
Accum 0<

Rotator clockwise
limit switch

ROTR_CWLS

T100:4/DN

B99/7

Rotator counter-
clockwise limit
switch

ROTR_CCWLS

B99/10

Rotating mechanism
counter-clockwise
control

ROTAT_CCW

O:0/5

TON
Timer On Delay
Timer T100:5
Time Base 0.01
Preset 300<
Accum 0<

Rotator counter-
clockwise limit
switch

ROTR_CCWLS

T100:5/DN

B99/10

Rotator clockwise
limit switch

ROTR_CWLS

B99/7

Simulate Pallet Prox

Latch it on 6 seconds after one has left the station.

Latch it off 3 second after new one retained.

Engage hook retract
control

ENG2_RET

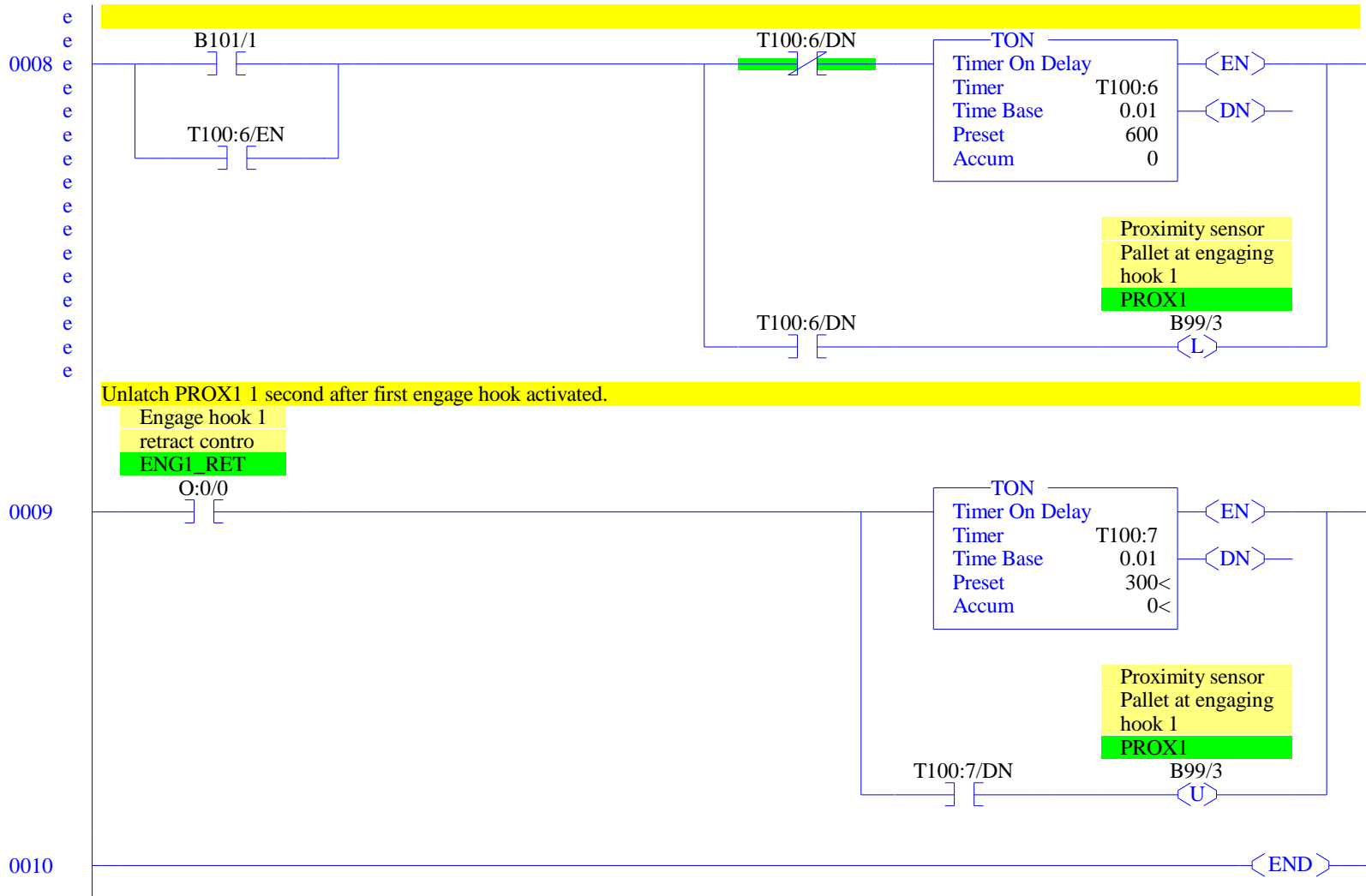
B20/0

O:0/1

B101/0

[ONS]

B101/1



RSLogix 500 Cross Reference Report - Sorted by Address

O:0/0	- {ENG1_RET} Engage hook 1 retract contro XIC - File #100 SIMULATION - 9 OTE - File #2 - 22
O:0/1	- {ENG2_RET} Engage hook retract control OTE - File #2 - 23 XIO - File #100 SIMULATION - 7
O:0/2	- {ROTR_UP} Rotating mechanism raise control OTE - File #2 - 24 XIC - File #100 SIMULATION - 4
O:0/3	- {ROTR_DOWN} Rotating mechanism lower control OTE - File #2 - 25 XIC - File #100 SIMULATION - 3
O:0/4	- {ROTAT_CW} Rotating mechanism clockwise control XIC - File #100 SIMULATION - 5 OTE - File #2 - 26
O:0/5	- {ROTAT_CCW} Rotating mechanism counter-clockwise control XIC - File #100 SIMULATION - 6 OTE - File #2 - 27
O:0/6	- {GRIP_CLOS} Gripper close control OTE - File #2 - 28
O:0/7	- {PALL_UPCTL} Pallet retainer up and off conveyor control OTE - File #2 - 29 XIC - File #100 SIMULATION - 1 XIO - File #100 SIMULATION - 2
I:0.0	- MOV - File #99 DUPLIC_INS - 0
B3:5/10	- {RUN} Station running OTE - File #2 - 0 XIC - File #2 - 0, 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24 25, 26, 27 XIO - File #2 - 16
B3:5/11	- {INT_RESET} Reset in progress OTE - File #2 - 15 XIC - File #2 - 21 XIO - File #2 - 0
B3:12/8	- {ENAB_SIMULATION} Enable simulation logic XIC - File #2 - 30 XIO - File #2 - 31
T4:1	- {ENG1_TMR} Hook 1 engage timer TON - File #2 - 3
T4:1/DN	- XIC - File #2 - 3
T4:2	- {ENG2_TMR} Hook 2 disengage timer TON - File #2 - 14
T4:2/DN	- XIC - File #2 - 14
T4:3	- {CLMP_TMR} Clamp timer TON - File #2 - 6
T4:3/DN	- XIC - File #2 - 6
T4:4	- {UNCLMP_TMR} Unclamp timer TON - File #2 - 10
T4:4/DN	- XIC - File #2 - 10
T4:5	- {RUNCLMP_TMR} Reset unclamp timer TON - File #2 - 17
T4:5/DN	- XIC - File #2 - 17
N7:30	- {ISTEP_NUM} Inverter Normal Op Step number MOV - File #2 - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 21 EQU - File #2 - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 22, 23, 24, 25, 26, 27 LIM - File #2 - 28, 29
N7:31	- {RSTEP_NUM} Inverter Reset Op Step number MOV - File #2 - 16, 17, 18, 19, 20 EQU - File #2 - 16, 17, 18, 19, 20, 24, 27 NEQ - File #2 - 15
B20:0/0	- XIO - File #100 SIMULATION - 0 XIC - File #100 SIMULATION - 7
B99:0	- MOV - File #99 DUPLIC_INS - 0
B99:0/0	- {START_PB} Start pushbutton

RSLogix 500 Cross Reference Report - Sorted by Address

```

B99:0/1      - XIC - File #2 - 0
               - {STOP_PB} Stop pushbutton
               - XIC - File #2 - 0
B99:0/2      - {RESET_PB} Reset pushbutton
               - XIC - File #100 SIMULATION - 0
               - File #2 - 16
B99:0/3      - {PROX1} Proximity sensor Pallet at engaging hook 1
               - OTU - File #100 SIMULATION - 0
               - OTL - File #100 SIMULATION - 8
               - OTU - File #100 SIMULATION - 9
               - XIC - File #2 - 2
B99:0/4      - {PALL_UPLS} Limit switch Indicates pallet off conveyor
               - OTL - File #100 SIMULATION - 1
               - OTU - File #100 SIMULATION - 2
               - XIC - File #2 - 4
               - XIO - File #2 - 13
B99:0/5      - {ROTR_UPLS} Rotator up limit switch
               - OTU - File #100 SIMULATION - 3
               - XIC - File #2 - 7, 11, 18
               - OTL - File #100 SIMULATION - 4
B99:0/6      - {ROTR_DNLS} Rotator down limit switch
               - OTL - File #100 SIMULATION - 3
               - OTU - File #100 SIMULATION - 4
               - XIC - File #2 - 5, 9
B99:0/7      - {ROTR_CWLS} Rotator clockwise limit switch
               - OTL - File #100 SIMULATION - 5
               - OTU - File #100 SIMULATION - 6
               - XIC - File #2 - 8
B99:0/10     - {ROTR_CCWLS} Rotator counter- clockwise limit switch
               - OTU - File #100 SIMULATION - 5
               - OTL - File #100 SIMULATION - 6
               - XIC - File #2 - 12, 19
T100:0       - TON - File #100 SIMULATION - 1
T100:0/DN    - XIC - File #100 SIMULATION - 1
T100:1       - TON - File #100 SIMULATION - 2
T100:1/DN    - XIC - File #100 SIMULATION - 2
T100:2       - TON - File #100 SIMULATION - 3
T100:2/DN    - XIC - File #100 SIMULATION - 3
T100:3       - TON - File #100 SIMULATION - 4
T100:3/DN    - XIC - File #100 SIMULATION - 4
T100:4       - TON - File #100 SIMULATION - 5
T100:4/DN    - XIC - File #100 SIMULATION - 5
T100:5       - TON - File #100 SIMULATION - 6
T100:5/DN    - XIC - File #100 SIMULATION - 6
T100:6       - TON - File #100 SIMULATION - 8
T100:6/DN    - XIC - File #100 SIMULATION - 8
               - XIO - File #100 SIMULATION - 8
T100:6/EN    - XIC - File #100 SIMULATION - 8
T100:7       - TON - File #100 SIMULATION - 9
T100:7/DN    - XIC - File #100 SIMULATION - 9
B101:0/0     - ONS - File #100 SIMULATION - 7
B101:0/1     - OTE - File #100 SIMULATION - 7
               - XIC - File #100 SIMULATION - 8
U:99         - JSR - File #2 - 31
U:100        - JSR - File #2 - 30

```