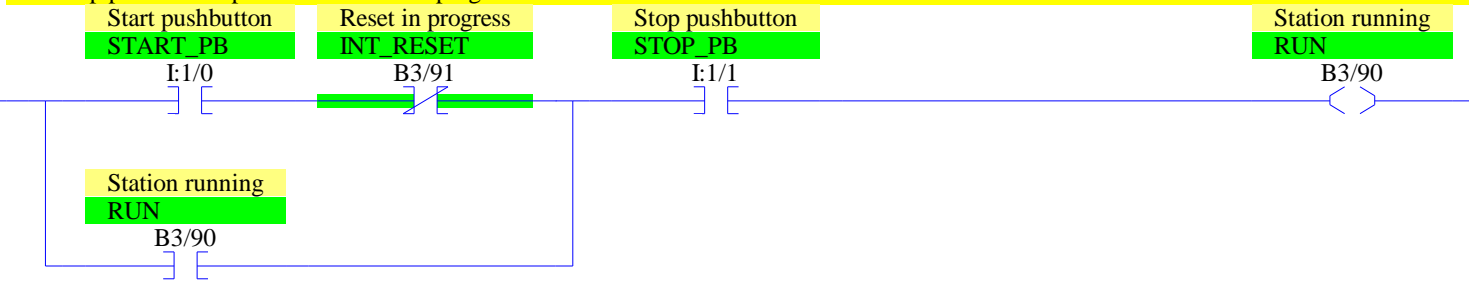


Example 9.1 - Engine Inverter Control with move-based sequence & simulation

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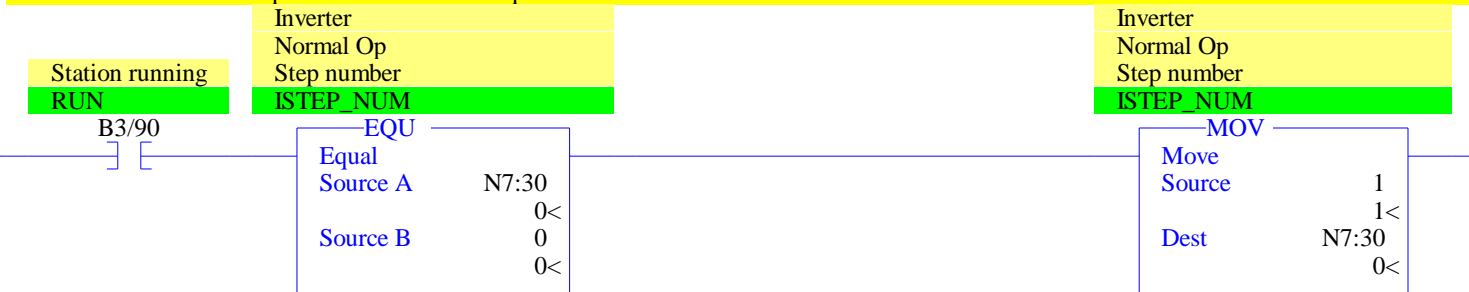
Start/stop/pause. Start prevented if reset in progress.

0000



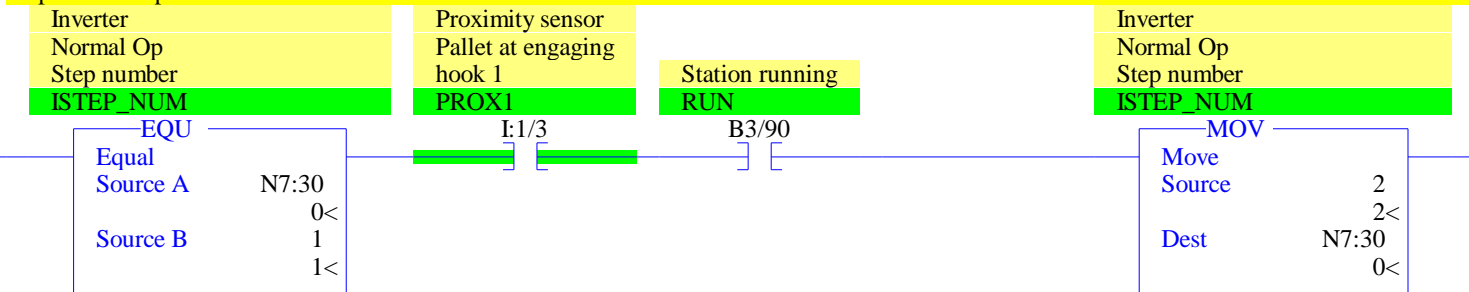
0001

Transition out of initial step for Inverter normal sequence



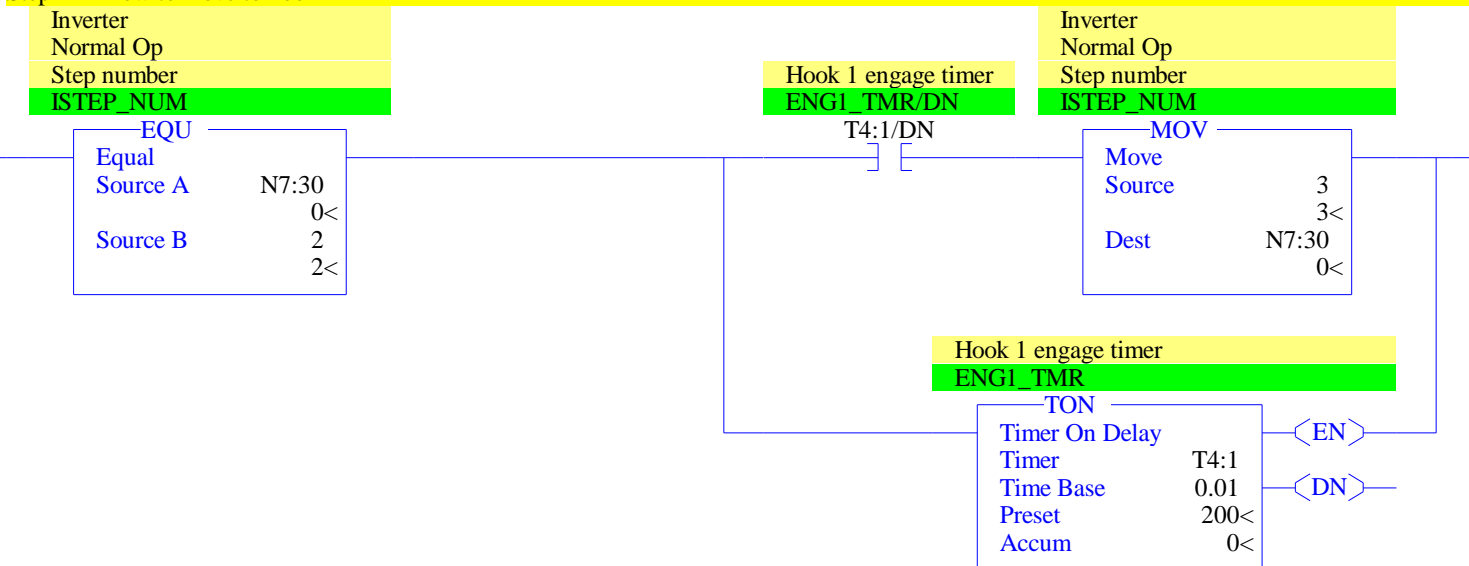
0002

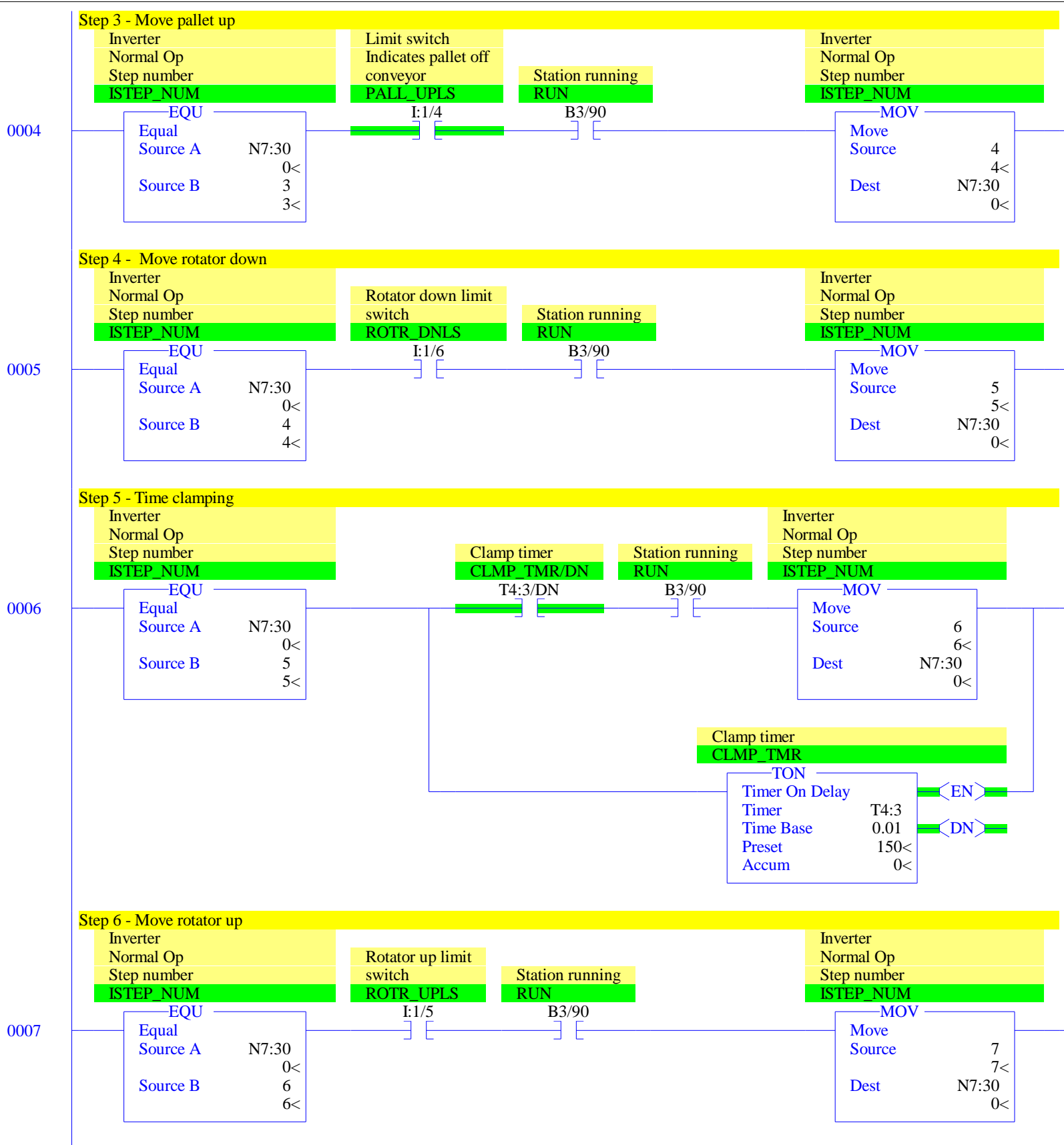
Step 1 - Sense pallet

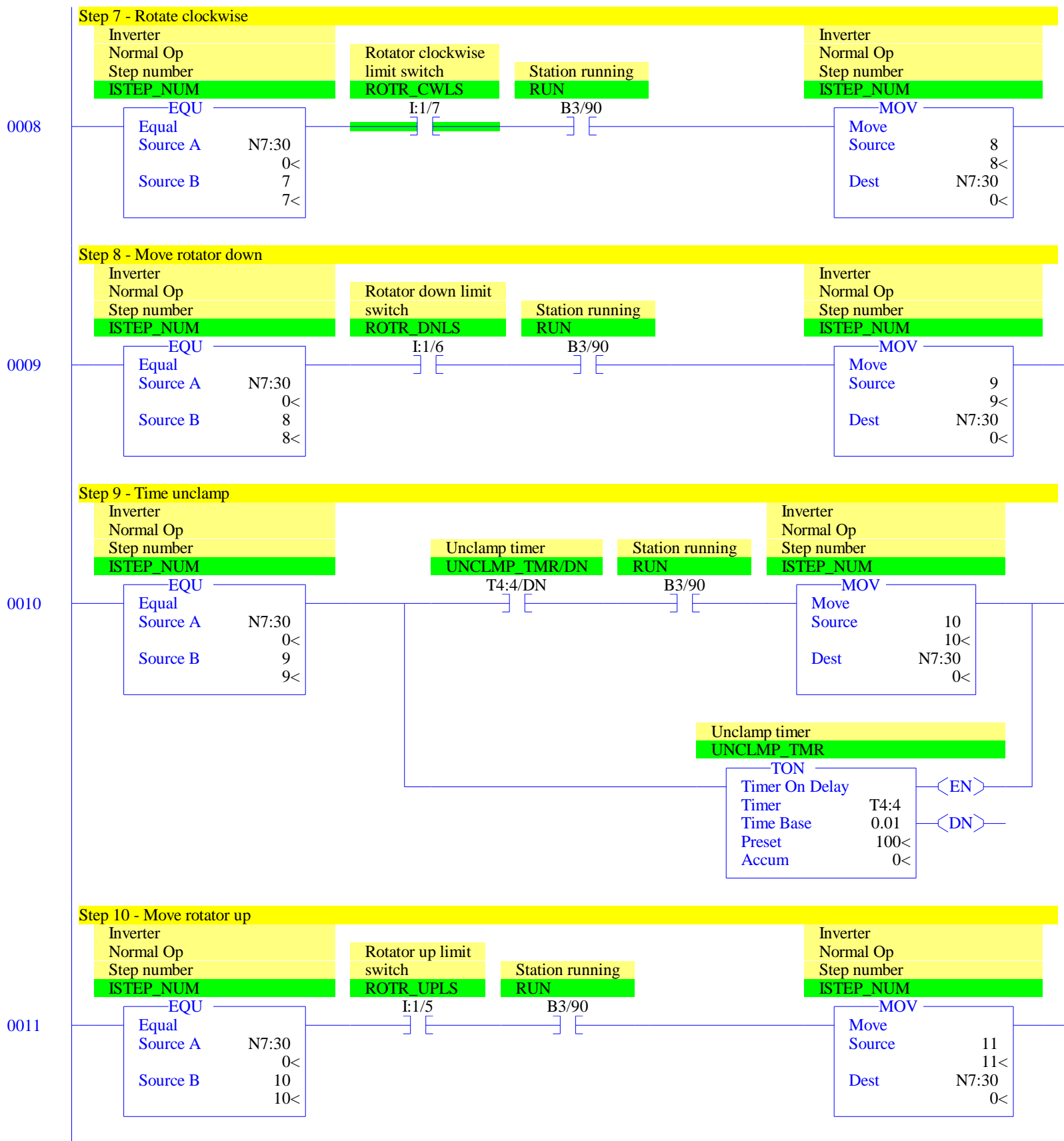


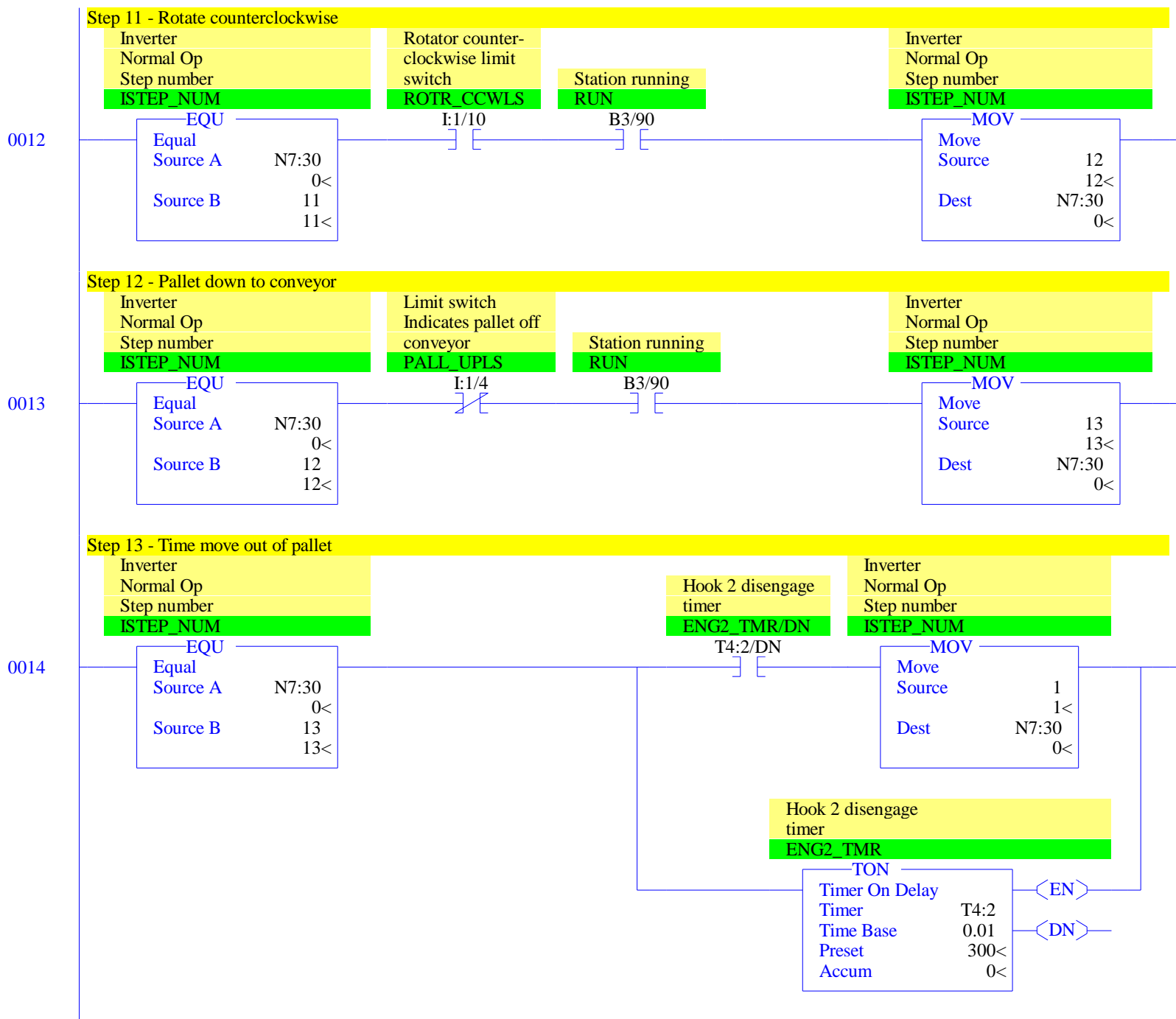
0003

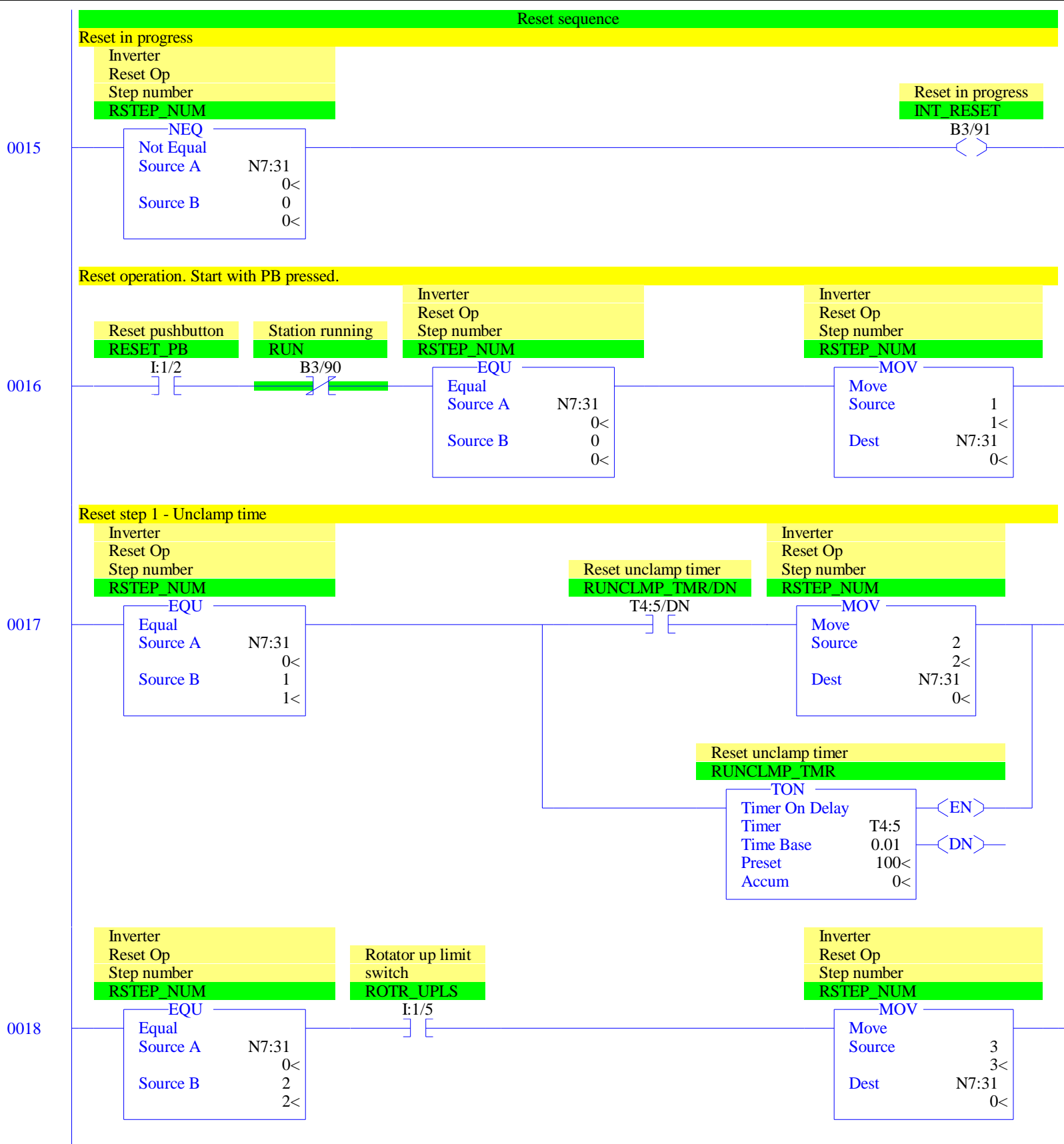
Step 2 - Allow to move to hook 2



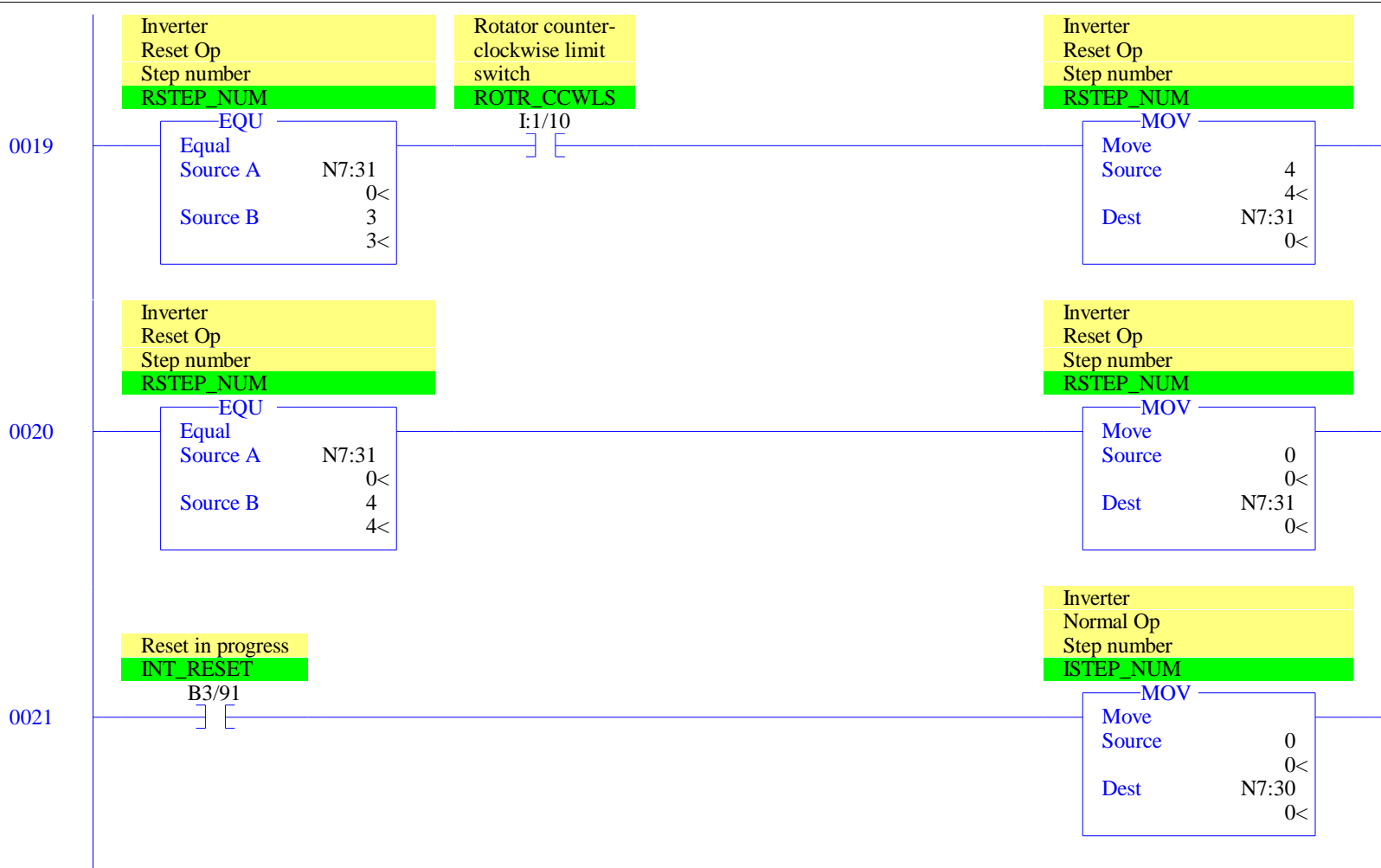


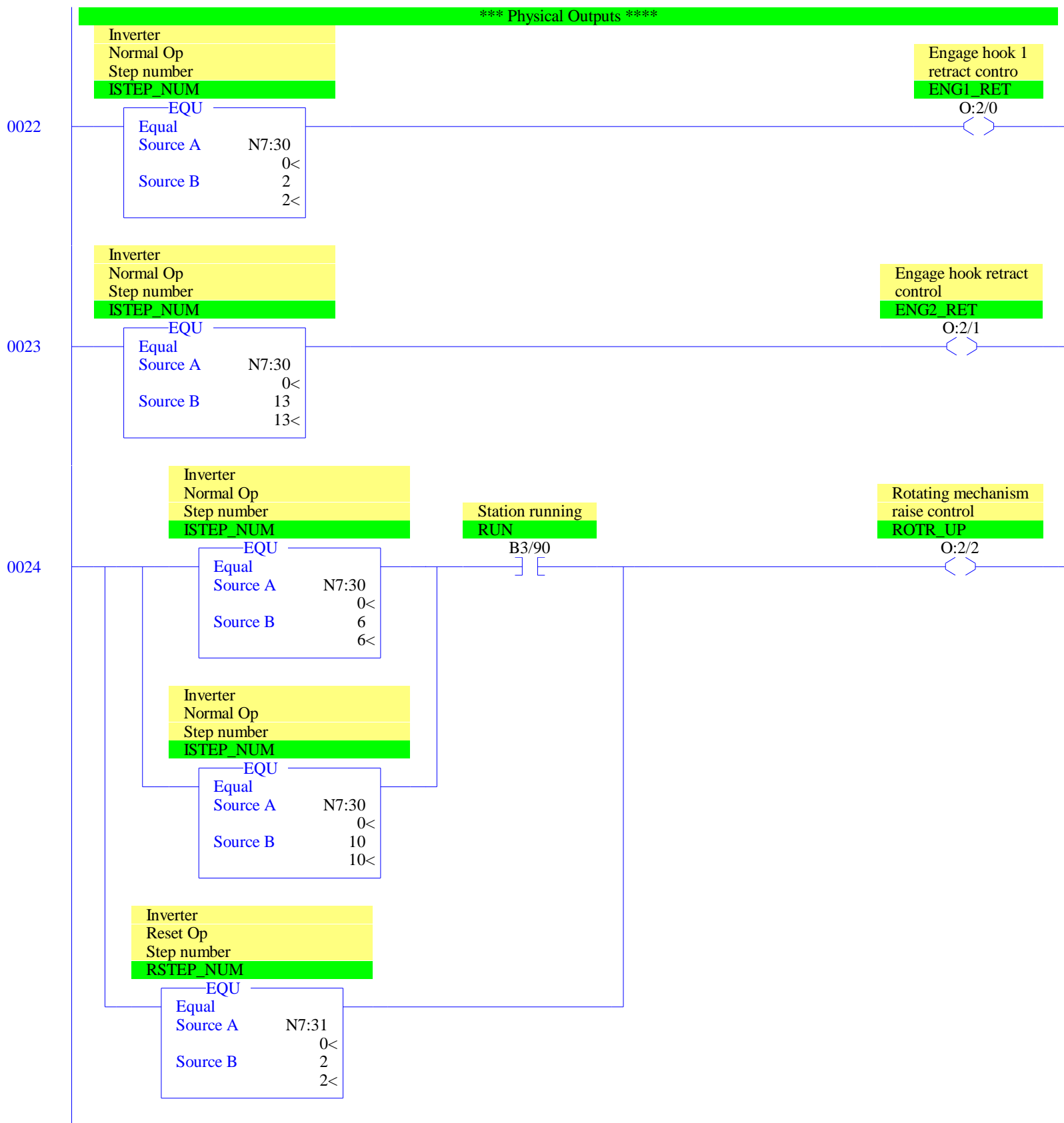


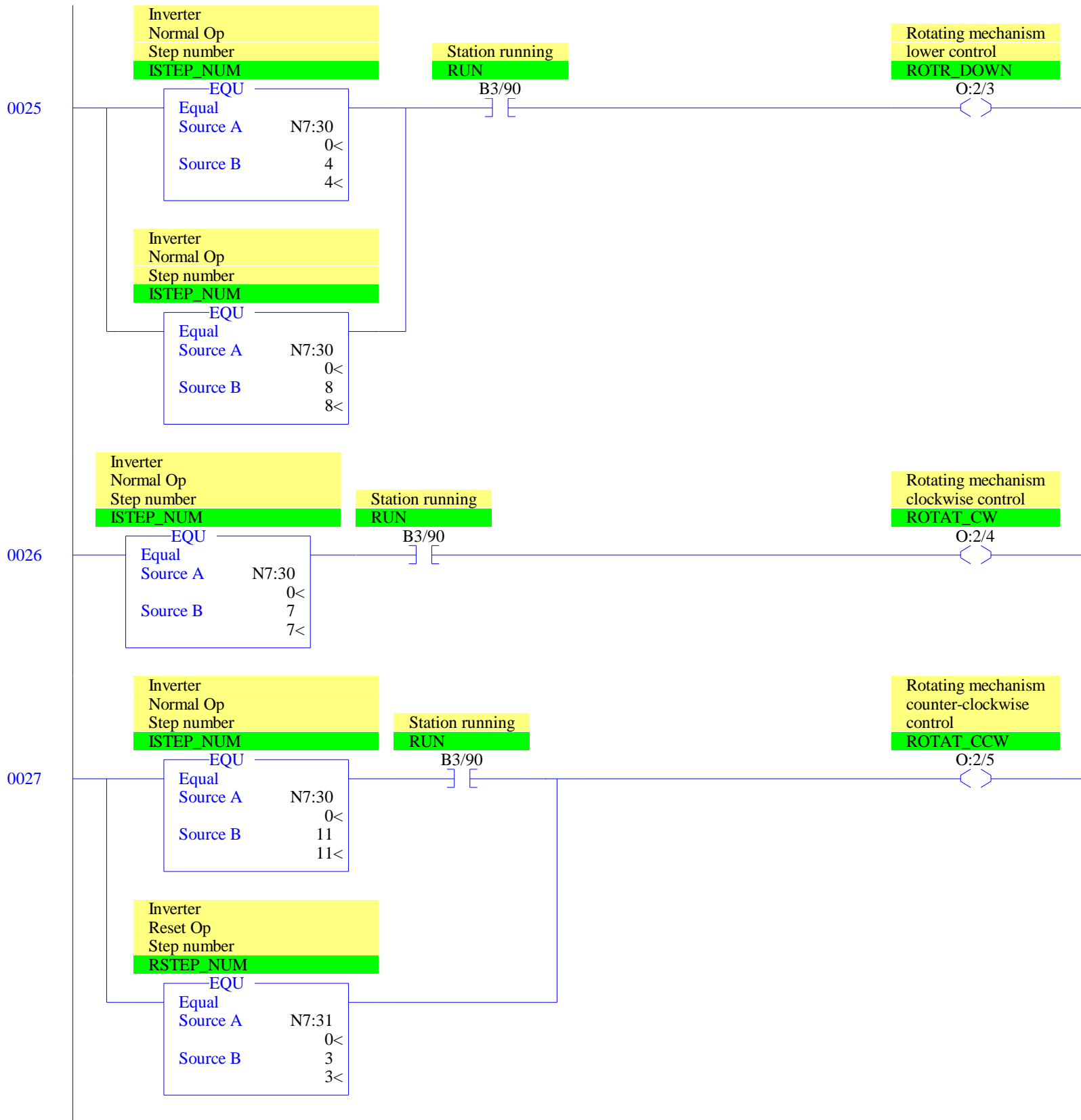


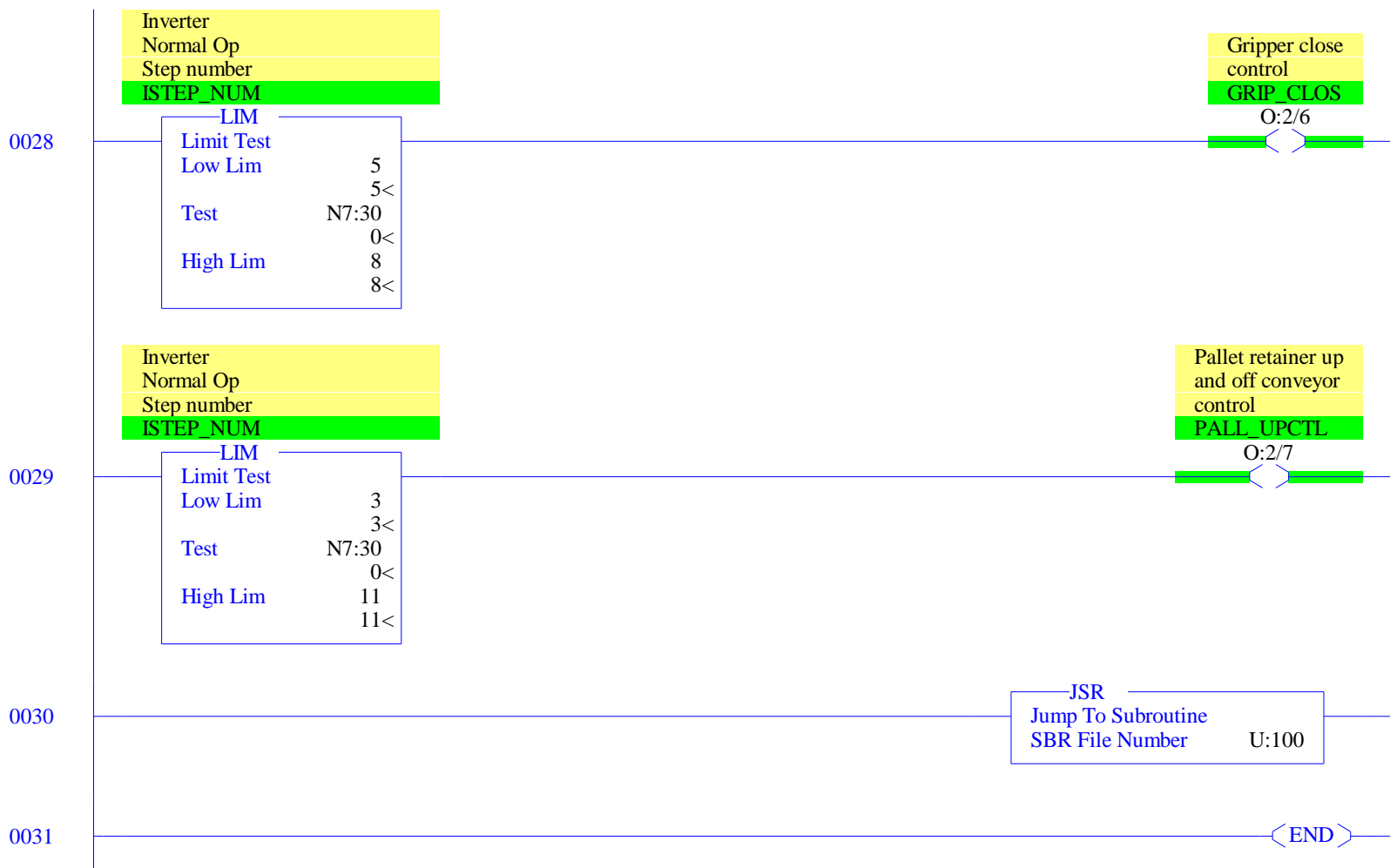


LAD 2 - --- Total Rungs in File = 32







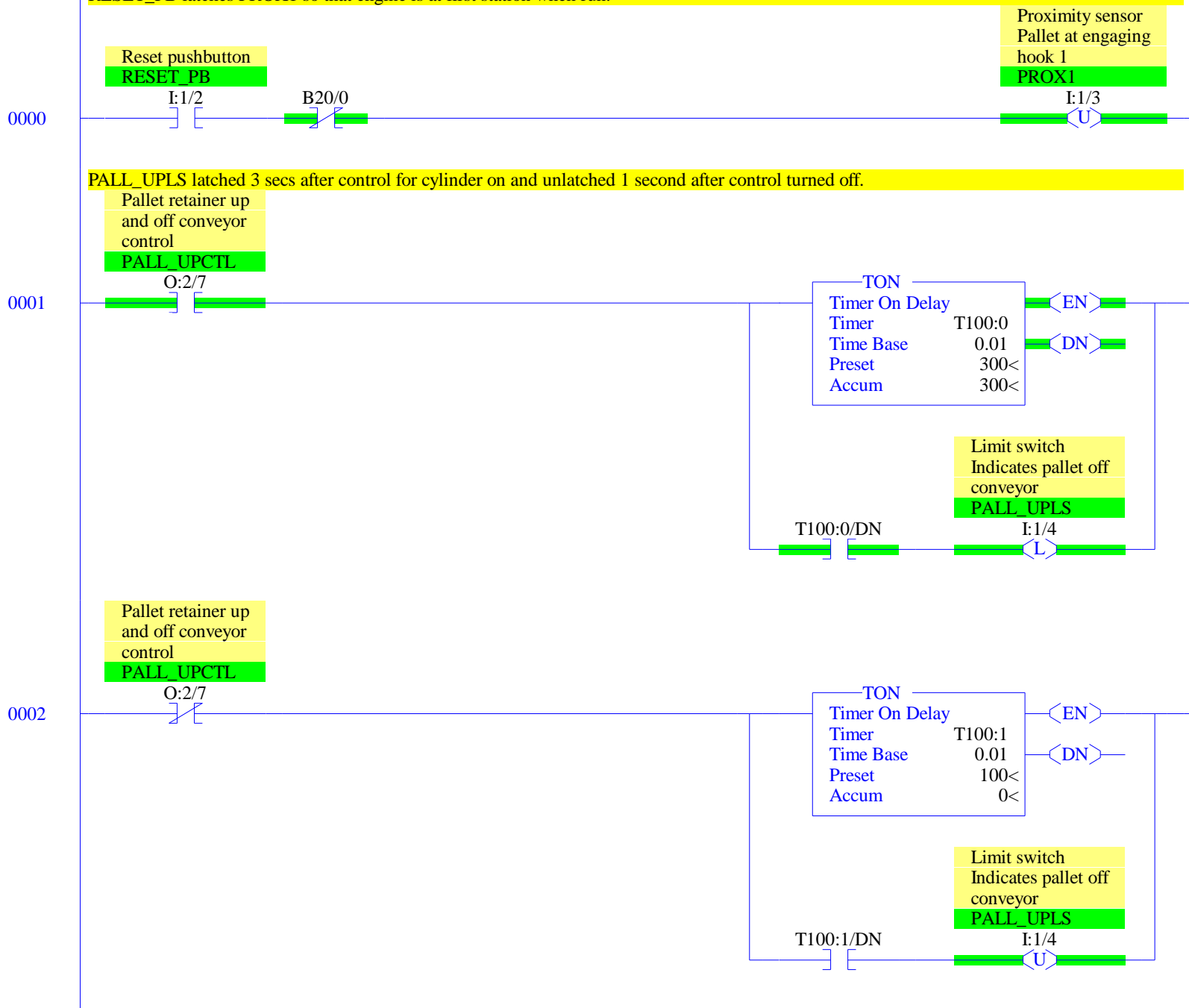


Simulation of engine inverter

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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.

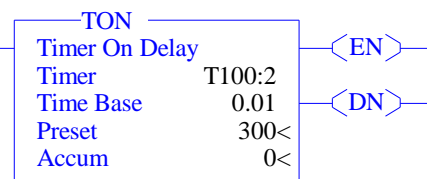
Rotating mechanism

lower control

ROTR_DOWN

O:2/3

0003

Rotator down limit
switch

ROTR_DNLS

T100:2/DN

I:1/6

<L>

Rotator up limit
switch

ROTR_UPLS

I:1/5

<U>

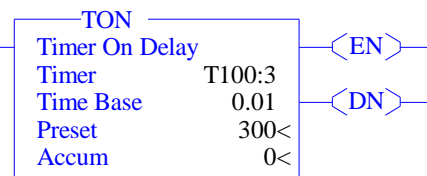
Rotating mechanism

raise control

ROTR_UP

O:2/2

0004

Rotator up limit
switch

ROTR_UPLS

T100:3/DN

I:1/5

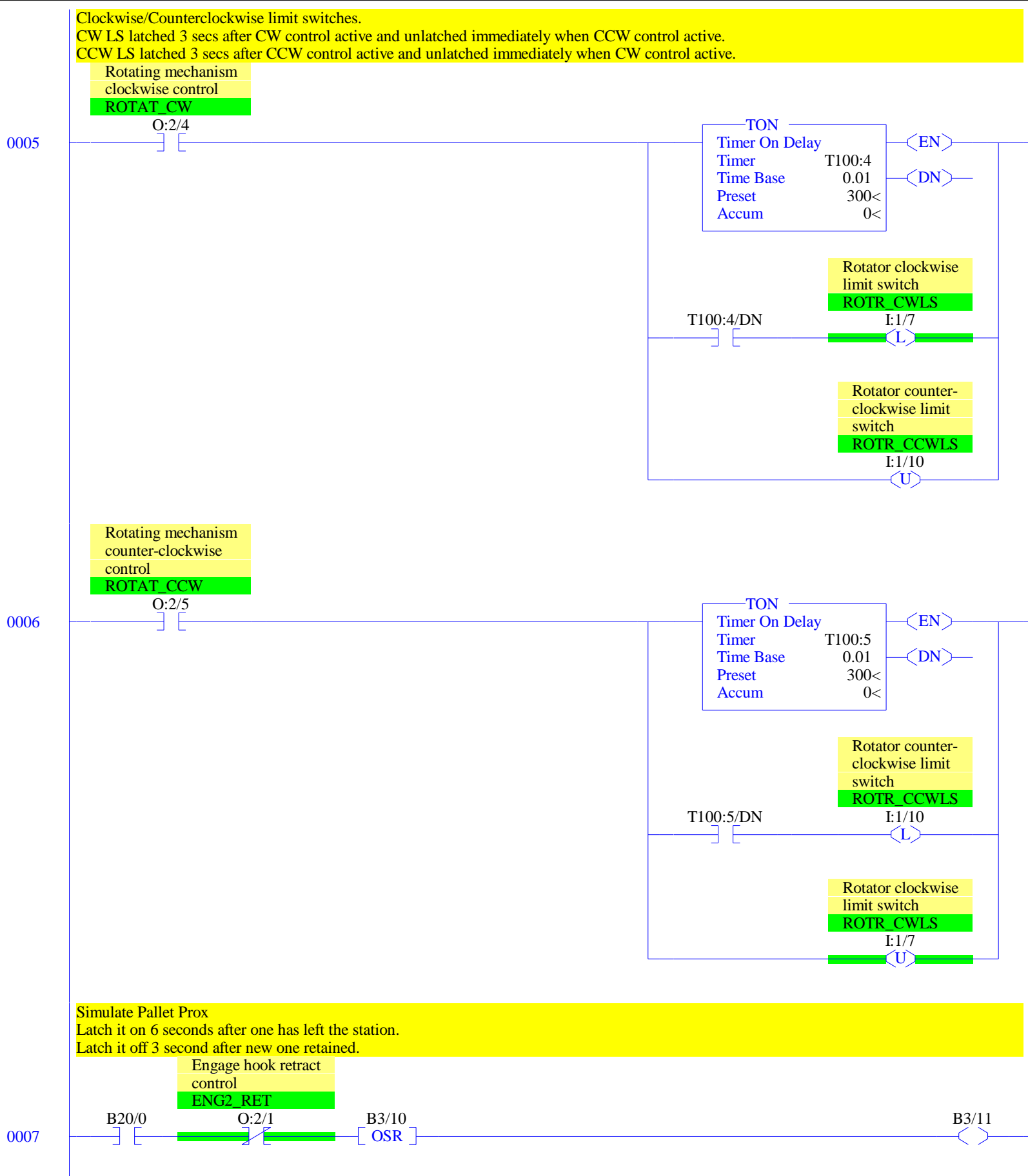
<L>

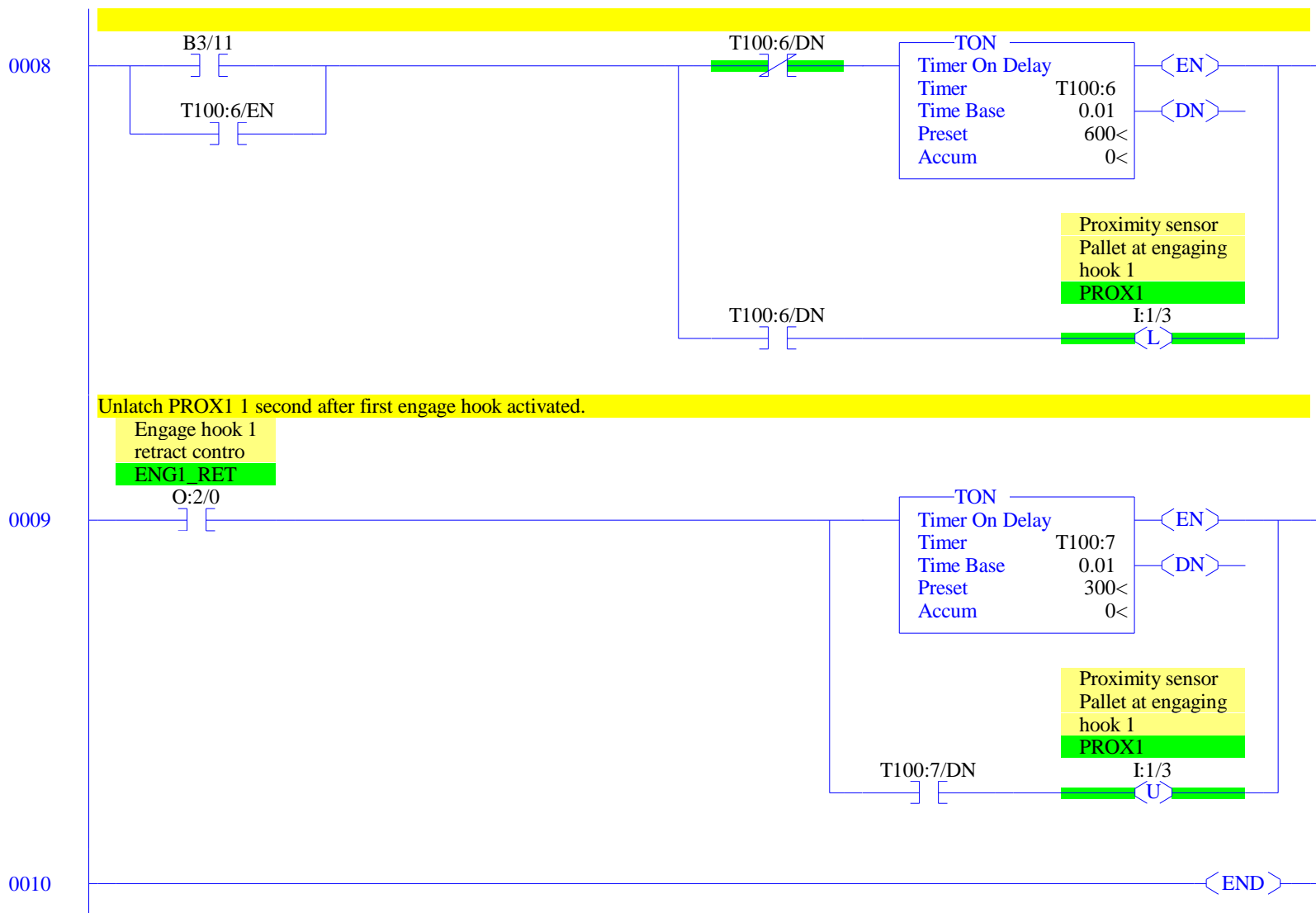
Rotator down limit
switch

ROTR_DNLS

I:1/6

<U>





RSLogix 500 Cross Reference Report - Sorted by Address

O:2/0	- {ENG1_RET} Engage hook 1 retract contro
	OTE - File #2 - 22
	XIC - File #100 SIMULATION - 9
O:2/1	- {ENG2_RET} Engage hook retract control
	OTE - File #2 - 23
	XIO - File #100 SIMULATION - 7
O:2/2	- {ROTR_UP} Rotating mechanism raise control
	OTE - File #2 - 24
	XIC - File #100 SIMULATION - 4
O:2/3	- {ROTR_DOWN} Rotating mechanism lower control
	OTE - File #2 - 25
	XIC - File #100 SIMULATION - 3
O:2/4	- {ROTAT_CW} Rotating mechanism clockwise control
	OTE - File #2 - 26
	XIC - File #100 SIMULATION - 5
O:2/5	- {ROTAT_CCW} Rotating mechanism counter-clockwise control
	OTE - File #2 - 27
	XIC - File #100 SIMULATION - 6
O:2/6	- {GRIP_CLOS} Gripper close control
	OTE - File #2 - 28
O:2/7	- {PALL_UPCTL} Pallet retainer up and off conveyor control
	OTE - File #2 - 29
	XIC - File #100 SIMULATION - 1
	XIO - File #100 SIMULATION - 2
I:1/0	- {START_PB} Start pushbutton
	XIC - File #2 - 0
I:1/1	- {STOP_PB} Stop pushbutton
	XIC - File #2 - 0
I:1/2	- {RESET_PB} Reset pushbutton
	XIC - File #2 - 16
	File #100 SIMULATION - 0
I:1/3	- {PROX1} Proximity sensor Pallet at engaging hook 1
	OTL - File #100 SIMULATION - 8
	OTU - File #100 SIMULATION - 0, 9
	XIC - File #2 - 2
I:1/4	- {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
I:1/5	- {ROTR_UPLS} Rotator up limit switch
	OTL - File #100 SIMULATION - 4
	OTU - File #100 SIMULATION - 3
	XIC - File #2 - 7, 11, 18
I:1/6	- {ROTR_DNLS} Rotator down limit switch
	OTL - File #100 SIMULATION - 3
	OTU - File #100 SIMULATION - 4
	XIC - File #2 - 5, 9
I:1/7	- {ROTR_CWLS} Rotator clockwise limit switch
	OTL - File #100 SIMULATION - 5
	OTU - File #100 SIMULATION - 6
	XIC - File #2 - 8
I:1/10	- {ROTR_CCWLS} Rotator counter- clockwise limit switch
	OTL - File #100 SIMULATION - 6
	OTU - File #100 SIMULATION - 5
	XIC - File #2 - 12, 19
B3:0/10	- OSR - File #100 SIMULATION - 7
B3:0/11	- OTE - File #100 SIMULATION - 7
	XIC - File #100 SIMULATION - 8
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

RSLogix 500 Cross Reference Report - Sorted by Address

	XIC - File #2 - 21
	XIO - File #2 - 0
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
	NEQ - File #2 - 15
	EQU - File #2 - 16
	MOV - File #2 - 16, 17, 18, 19, 20
	EQU - File #2 - 17, 18, 19, 20, 24, 27
B20:0/0	- XIC - File #100 SIMULATION - 7
	XIO - File #100 SIMULATION - 0
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
U:100	- JSR - File #2 - 30