

Example 6.4 - Engine Inverter Control

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

0000

Start pushbutton
START_PB

I:0/0

Reset in progress
INT_RESET

B20/40

Stop pushbutton
STOP_PB

I:0/1

Station running
RUN

B20/0

Station running
RUN

B20/0

0001

Station running
RUN

B20/0

Wait for pallet
STEP_1

B20/1

Move to hook 2
STEP_2

B20/2

Raise pallet
STEP_3

B20/3

Lower rotator
STEP_4

B20/4

Clamp engine
STEP_5

B20/5

Raise rotator
STEP_6

B20/6

Rotate clockwise
STEP_7

B20/7

Lower rotator
STEP_8

B20/8

Unclamp timer
STEP_9

B20/9

Raise rotator
STEP_10

B20/10

Rotate CCW
STEP_11

B20/11

Drop engine
STEP_12

B20/12

Move out pallet
STEP_13

B20/13

Wait for pallet
STEP_1

B20/1

Step 1 - Wait for pallet

0002

Wait for pallet
STEP_1

B20/1

Proximity sensor
Pallet at engaging
hook 1
PROX1

I:0/3

Station running
RUN

B20/0

Wait for pallet
STEP_1

B20/1

Move to hook 2
STEP_2

B20/2

Step 2 - Allow next one in

0003

Move to hook 2
STEP_2

B20/2

Hook 1 engage timer
ENG1_TMR

TON

Timer On Delay

Timer

Time Base

Preset

Accum

T4:1

0.01

200<

0<

Hook 1 engage timer
ENG1_TMR/DN

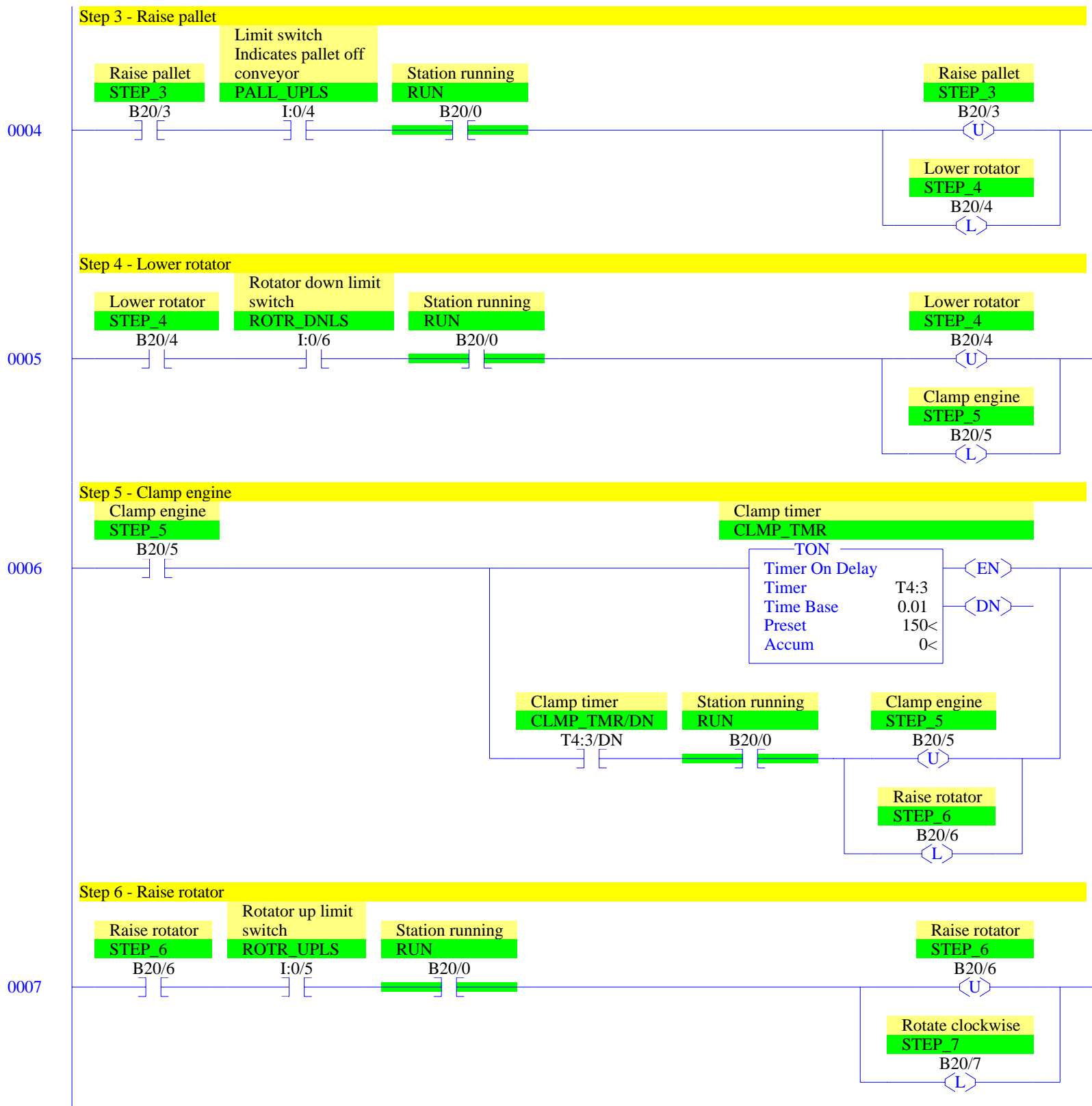
T4:1/DN

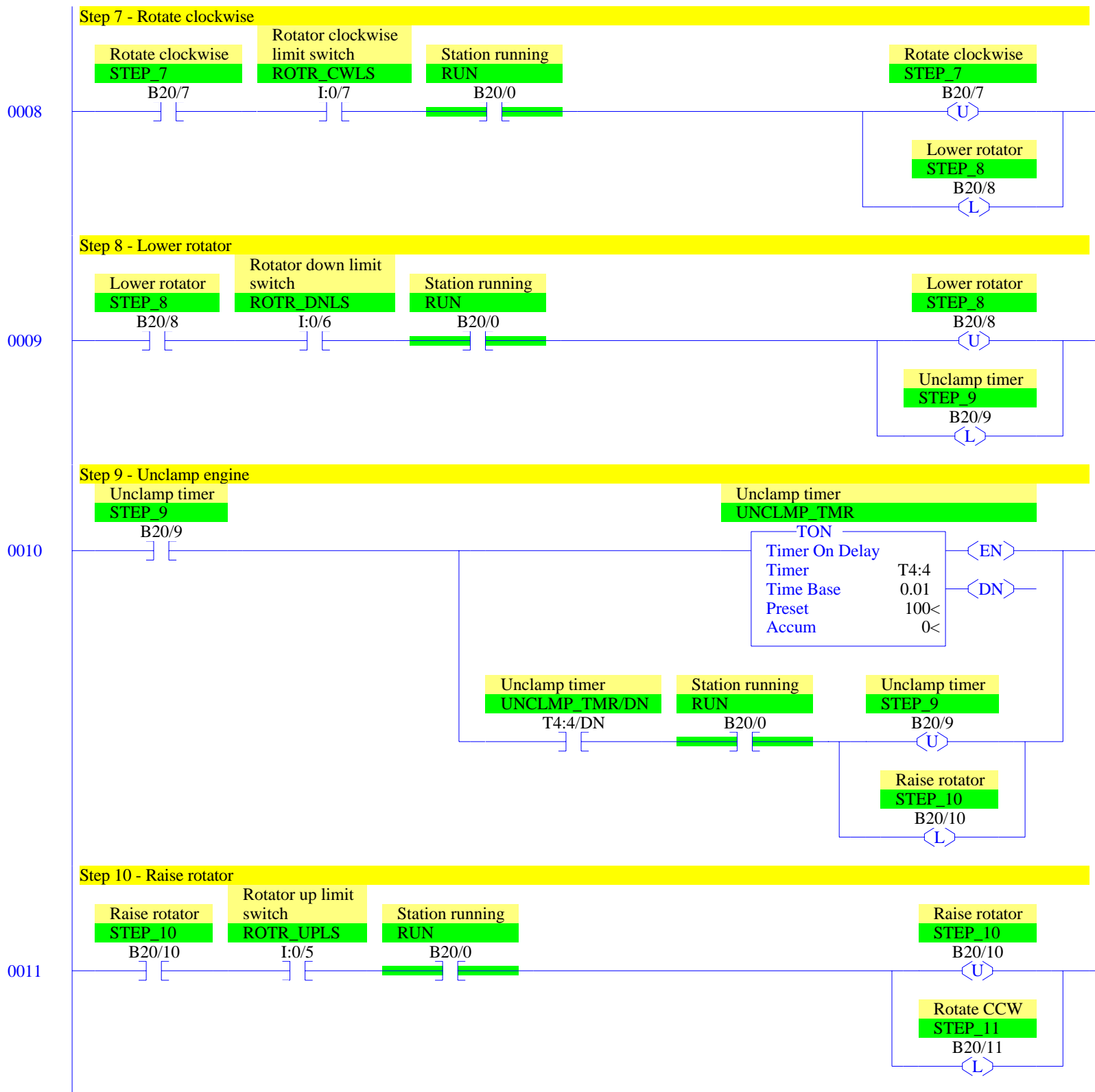
Move to hook 2
STEP_2

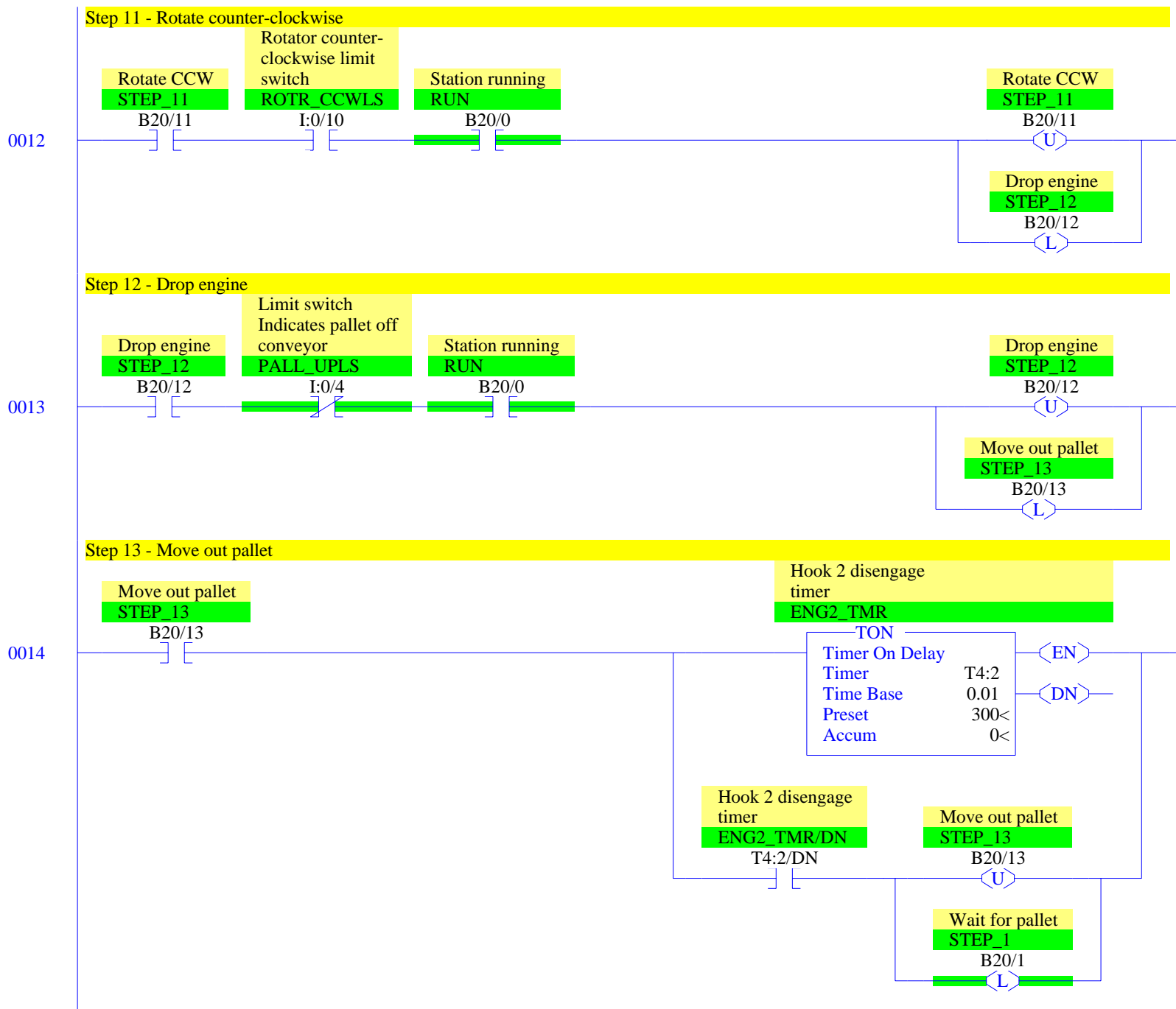
B20/2

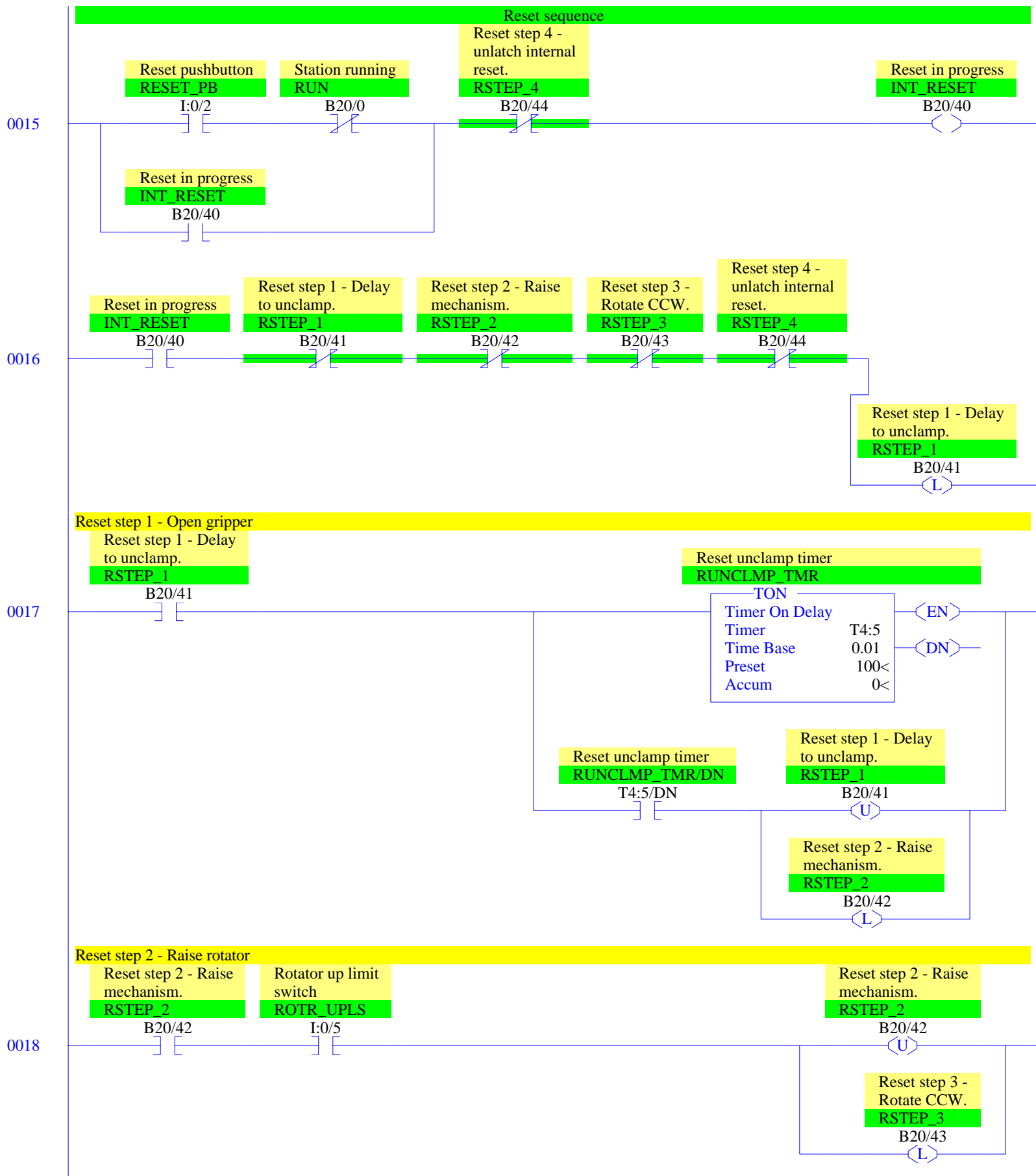
Raise pallet
STEP_3

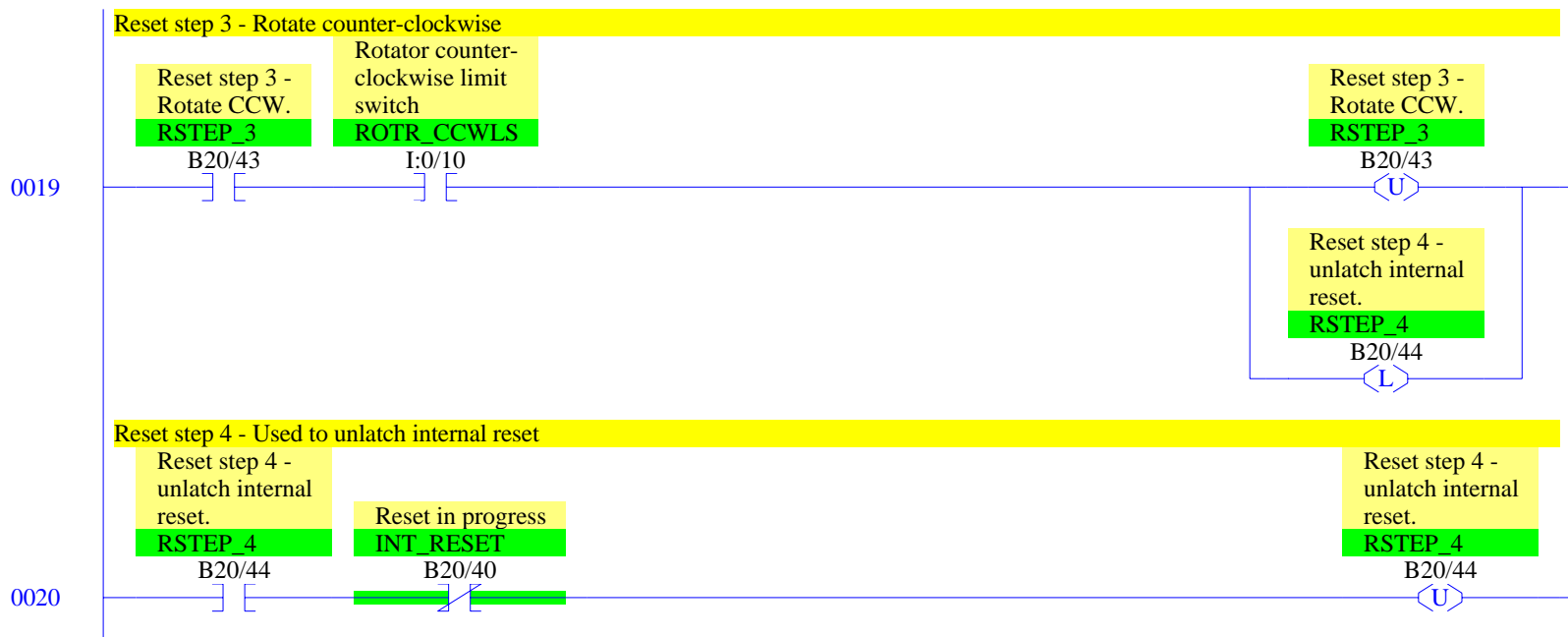
B20/3











0021

Reset unlatches all normal operation step-in progress bits

Reset in progress

INT_RESET

B20/40

Wait for pallet

STEP_1

B20/1

Move to hook 2

STEP_2

B20/2

Raise pallet

STEP_3

B20/3

Lower rotator

STEP_4

B20/4

Clamp engine

STEP_5

B20/5

Raise rotator

STEP_6

B20/6

Rotate clockwise

STEP_7

B20/7

Lower rotator

STEP_8

B20/8

Unclamp timer

STEP_9

B20/9

Raise rotator

STEP_10

B20/10

Rotate CCW

STEP_11

B20/11

Drop engine

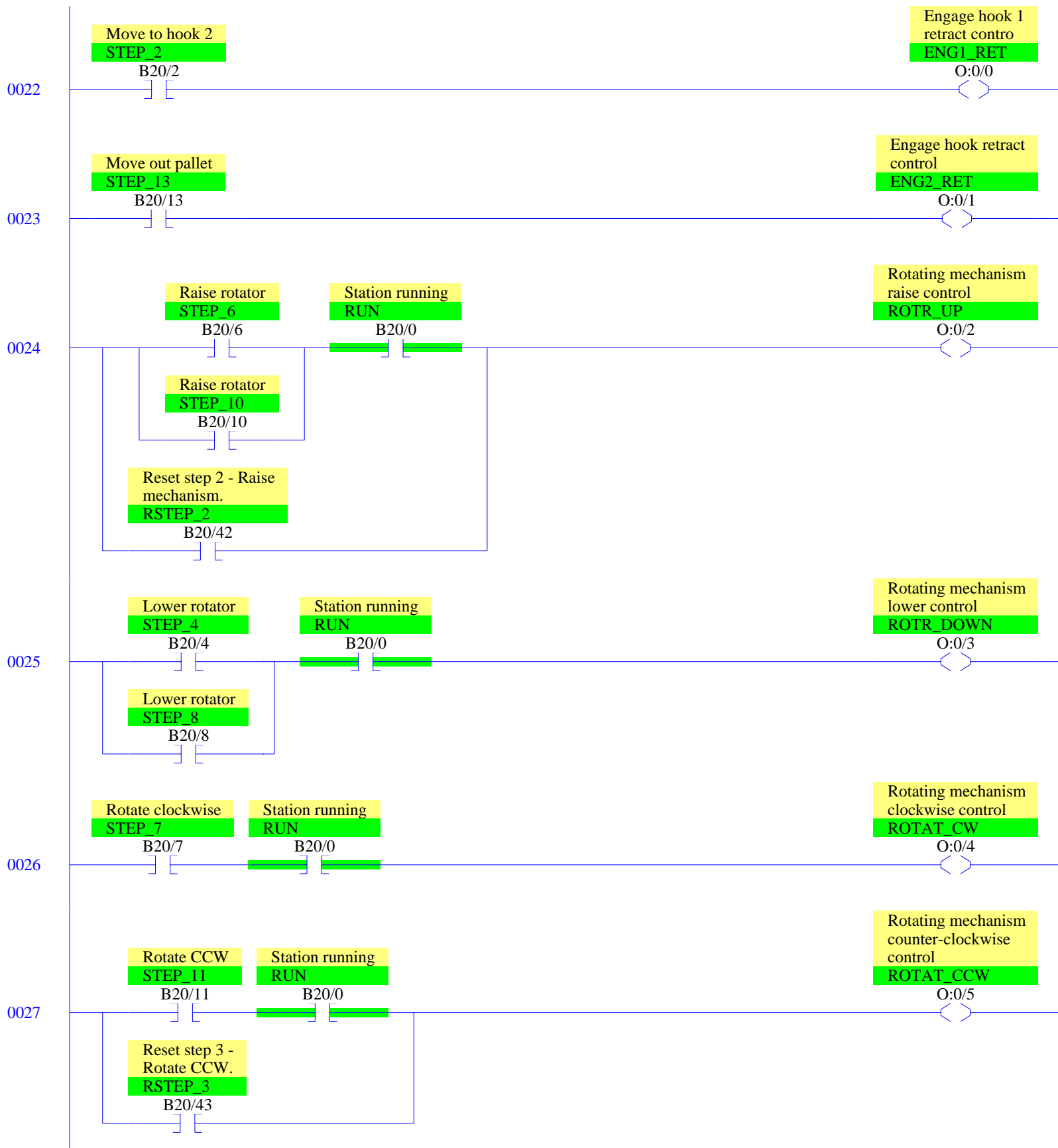
STEP_12

B20/12

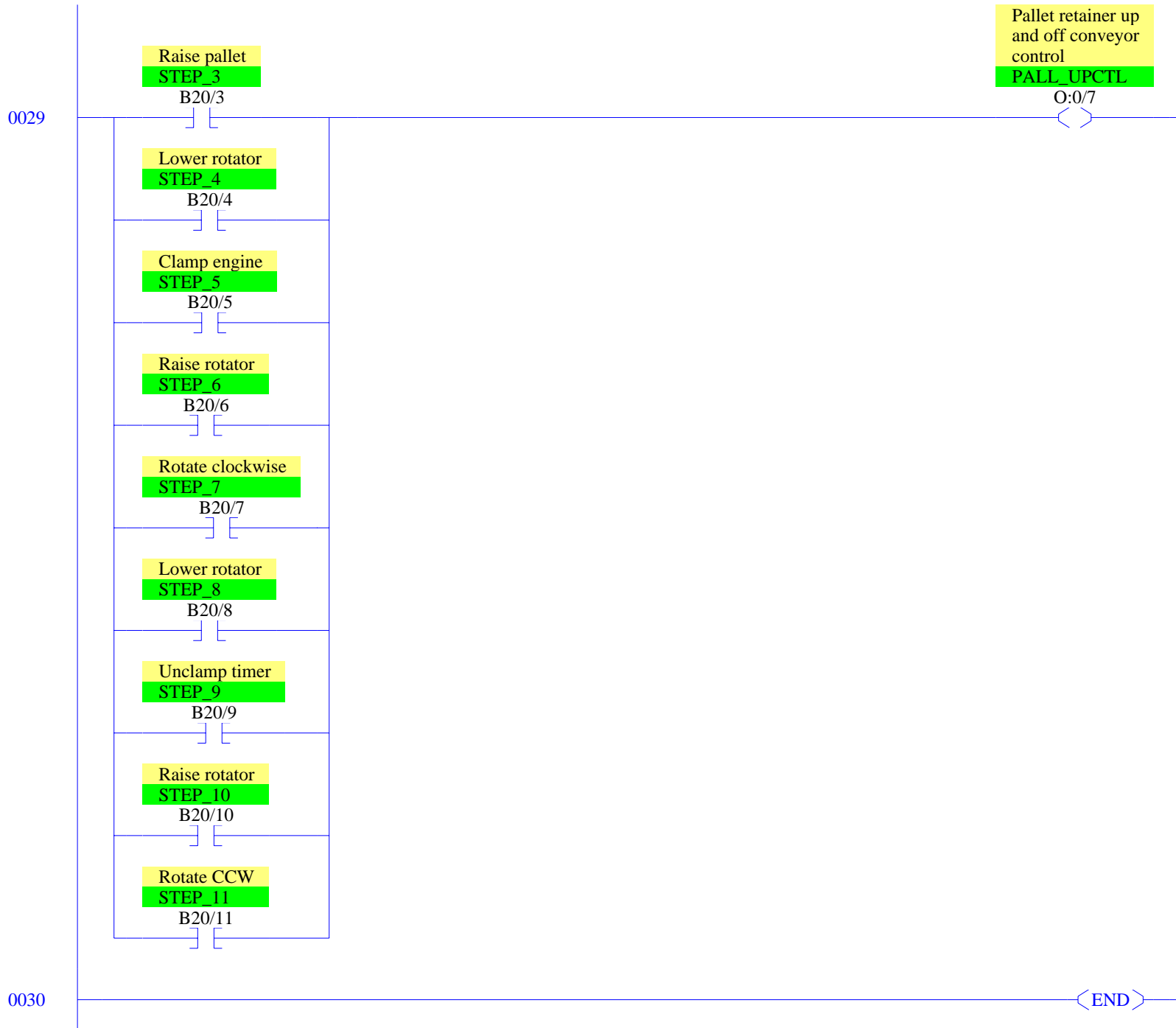
Move out pallet

STEP_13

B20/13







RSLogix 500 Cross Reference Report - Sorted by Address

O:0/0	- {ENG1_RET} Engage hook 1 retract contro OTE - File #2 - 22
O:0/1	- {ENG2_RET} Engage hook retract control OTE - File #2 - 23
O:0/2	- {ROTR_UP} Rotating mechanism raise control OTE - File #2 - 24
O:0/3	- {ROTR_DOWN} Rotating mechanism lower control OTE - File #2 - 25
O:0/4	- {ROTAT_CW} Rotating mechanism clockwise control OTE - File #2 - 26
O:0/5	- {ROTAT_CCW} Rotating mechanism counter-clockwise control 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
I:0/0	- {START_PB} Start pushbutton XIC - File #2 - 0
I:0/1	- {STOP_PB} Stop pushbutton XIC - File #2 - 0
I:0/2	- {RESET_PB} Reset pushbutton XIC - File #2 - 15
I:0/3	- {PROX1} Proximity sensor Pallet at engaging hook 1 XIC - File #2 - 2
I:0/4	- {PALL_UPLS} Limit switch Indicates pallet off conveyor XIO - File #2 - 13 XIC - File #2 - 4
I:0/5	- {ROTR_UPLS} Rotator up limit switch XIC - File #2 - 11, 18, 7
I:0/6	- {ROTR_DNLS} Rotator down limit switch XIC - File #2 - 5, 9
I:0/7	- {ROTR_CWLS} Rotator clockwise limit switch XIC - File #2 - 8
I:0/10	- {ROTR_CCWLS} Rotator counter- clockwise limit switch XIC - File #2 - 12, 19
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
B20/0	- {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 - 15
B20/1	- {STEP_1} Wait for pallet OTL - File #2 - 1, 14 OTU - File #2 - 2, 21 XIC - File #2 - 2 XIO - File #2 - 1
B20/2	- {STEP_2} Move to hook 2 OTL - File #2 - 2 OTU - File #2 - 3, 21 XIC - File #2 - 3, 22 XIO - File #2 - 1
B20/3	- {STEP_3} Raise pallet

RSLogix 500 Cross Reference Report - Sorted by Address

	OTL - File #2 - 3
	OTU - File #2 - 4, 21
	XIC - File #2 - 4, 29
	XIO - File #2 - 1
B20/4	- {STEP_4} Lower rotator
	OTL - File #2 - 4
	OTU - File #2 - 5, 21
	XIC - File #2 - 5, 25, 29
	XIO - File #2 - 1
B20/5	- {STEP_5} Clamp engine
	OTL - File #2 - 5
	OTU - File #2 - 6, 21
	XIC - File #2 - 6, 28, 29
	XIO - File #2 - 1
B20/6	- {STEP_6} Raise rotator
	OTL - File #2 - 6
	OTU - File #2 - 7, 21
	XIC - File #2 - 7, 24, 28, 29
	XIO - File #2 - 1
B20/7	- {STEP_7} Rotate clockwise
	OTL - File #2 - 7
	OTU - File #2 - 8, 21
	XIC - File #2 - 8, 26, 28, 29
	XIO - File #2 - 1
B20/8	- {STEP_8} Lower rotator
	OTL - File #2 - 8
	OTU - File #2 - 9, 21
	XIC - File #2 - 9, 25, 28, 29
	XIO - File #2 - 1
B20/9	- {STEP_9} Unclamp timer
	OTL - File #2 - 9
	OTU - File #2 - 10, 21
	XIC - File #2 - 10, 29
	XIO - File #2 - 1
B20/10	- {STEP_10} Raise rotator
	OTL - File #2 - 10
	OTU - File #2 - 11, 21
	XIC - File #2 - 11, 24, 29
	XIO - File #2 - 1
B20/11	- {STEP_11} Rotate CCW
	OTL - File #2 - 11
	OTU - File #2 - 12, 21
	XIC - File #2 - 12, 27, 29
	XIO - File #2 - 1
B20/12	- {STEP_12} Drop engine
	OTL - File #2 - 12
	OTU - File #2 - 13, 21
	XIC - File #2 - 13
	XIO - File #2 - 1
B20/13	- {STEP_13} Move out pallet
	OTL - File #2 - 13
	OTU - File #2 - 14, 21
	XIC - File #2 - 14, 23
	XIO - File #2 - 1
B20/40	- {INT_RESET} Reset in progress
	OTE - File #2 - 15
	XIC - File #2 - 15, 16, 21
	XIO - File #2 - 0, 20
B20/41	- {RSTEP_1} Reset step 1 - Delay to unclamp.
	OTL - File #2 - 16
	OTU - File #2 - 17
	XIC - File #2 - 17
	XIO - File #2 - 16
B20/42	- {RSTEP_2} Reset step 2 - Raise mechanism.
	OTL - File #2 - 17
	OTU - File #2 - 18

RSLogix 500 Cross Reference Report - Sorted by Address

	XIC - File #2 - 18, 24
	XIO - File #2 - 16
B20/43	- {RSTEP_3} Reset step 3 - Rotate CCW.
	OTL - File #2 - 18
	OTU - File #2 - 19
	XIC - File #2 - 19, 27
	XIO - File #2 - 16
B20/44	- {RSTEP_4} Reset step 4 - unlatch internal reset.
	OTL - File #2 - 19
	OTU - File #2 - 20
	XIC - File #2 - 20
	XIO - File #2 - 15, 16