

Part Width Sorter Control

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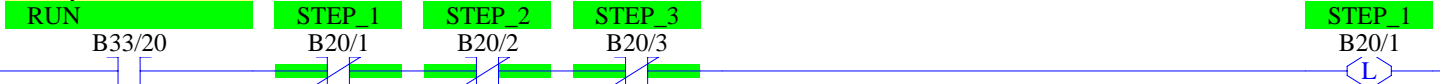
Additional internal memory:

Symbol	Address	
STEP_1 to STEP_3	B20/1 to B20/3	Step-in-progress bits
EJECT_TMR	T4:1	Times eject pulse
BIN1	B3/1	Size for bin 1
BIN2	B3/2	Size for bin 2
BIN3	B3/3	Size for bin 3
UX1_INCH	F8:1	UX1 reading in inches
UX2_INCH	F8:2	UX2 reading in inches
UX3_INCH	F8:3	UX3 reading in inches
PART_WIDTH	F8:4	Part width in inches

Conversion formulas

$$UXn_INCH = ((UXn_MEAS - 6241) / 24965) * (30 - 4) + 4$$

$$PART_WIDTH = 16 - (UX1 + UX2)$$

Initial start.When on, allow
station to run. When
off, pause.

0000

Convert UX readings to inches.

0001

SUB
Subtract
Source A I:1.0
0<
Source B 6241.0
6241.0<
Dest F8:0
0.0<

DIV
Divide
Source A F8:0
0.0<
Source B 24965.0
24965.0<
Dest F8:0
0.0<

MUL
Multiply
Source A F8:0
0.0<
Source B 26.0
26.0<
Dest F8:0
0.0<

UX1 reading
converted to inches
UX1_INCH

ADD
Add
Source A F8:0
0.0<
Source B 4.0
4.0<
Dest F8:1
0.0<

SUB
Subtract
Source A I:1.1
0<
Source B 6241.0
6241.0<
Dest F8:0
0.0<

DIV
Divide

DIV
Divide
Source A F8:0
 0.0<
Source B 24965.0
 24965.0<
Dest F8:0
 0.0<

MUL
Multiply
Source A F8:0
 0.0<
Source B 26.0
 26.0<
Dest F8:0
 0.0<

UX2 reading
converted to inches

UX2_INCH

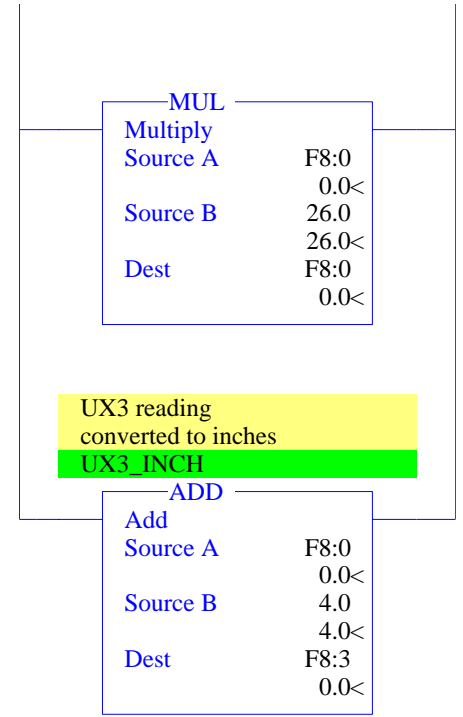
ADD
Add
Source A F8:0
 0.0<
Source B 4.0
 4.0<
Dest F8:2
 0.0<

SUB
Subtract
Source A I:1.2
 0<
Source B 6241.0
 6241.0<
Dest F8:0
 0.0<

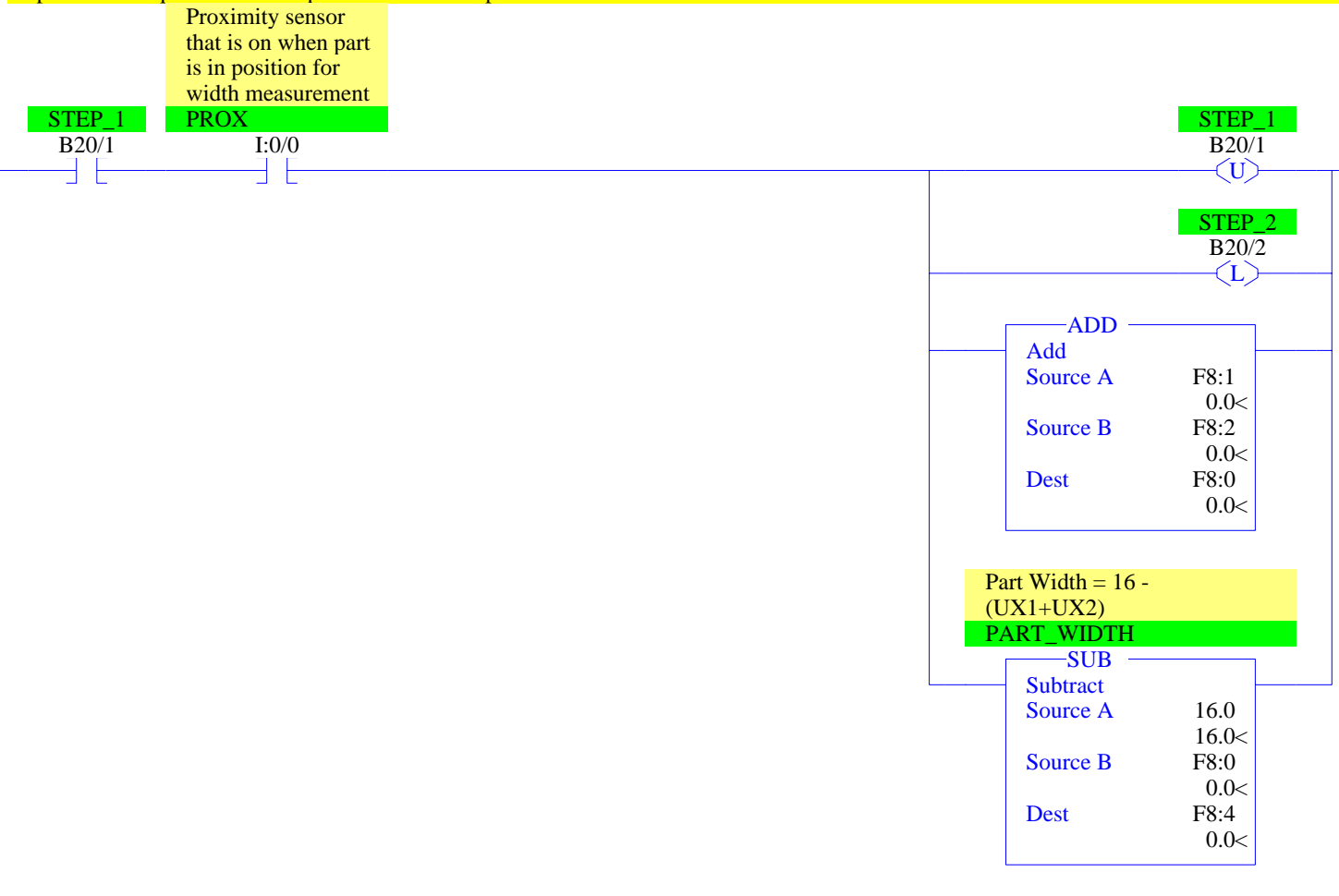
DIV
Divide
Source A F8:0
 0.0<
Source B 24965.0
 24965.0<
Dest F8:0
 0.0<

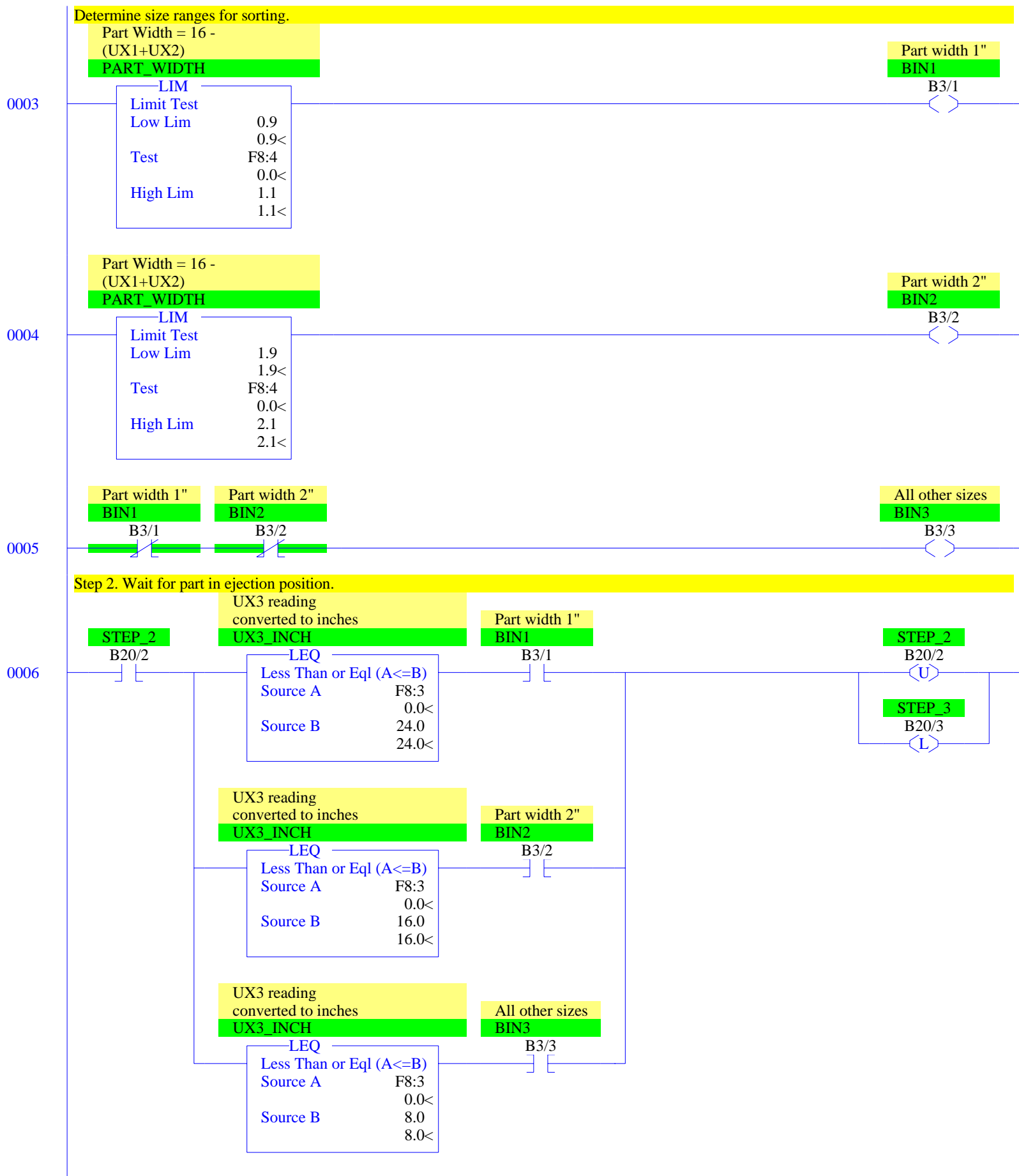
MUL
Multiply

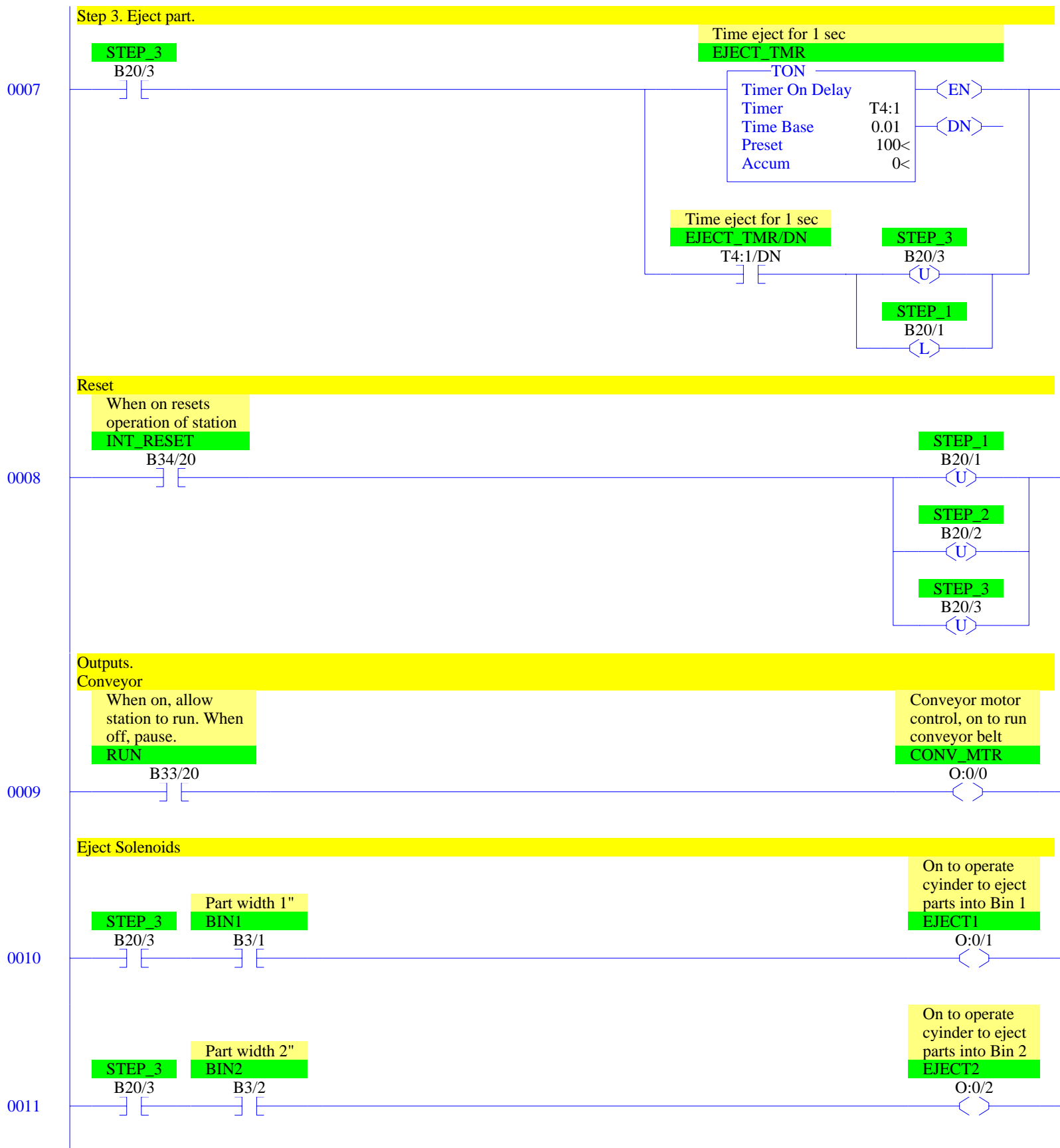
0002

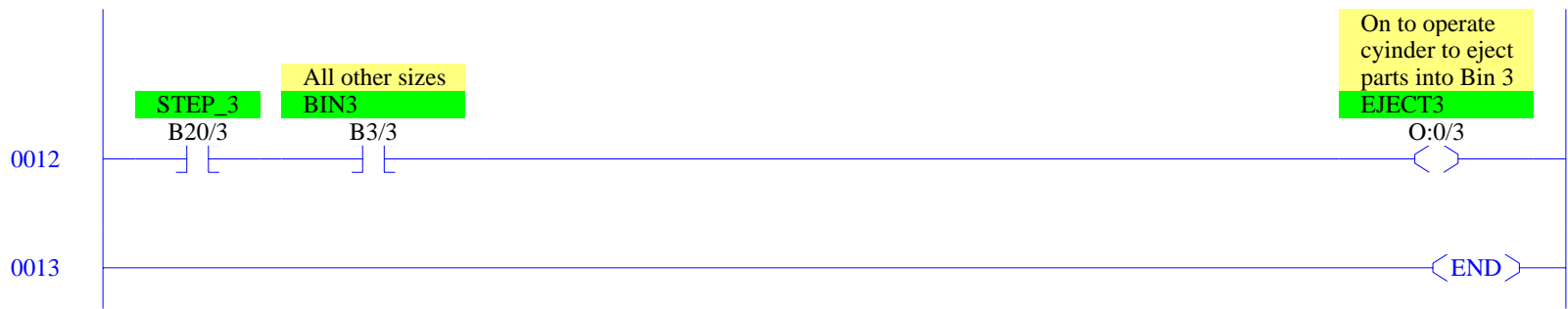


Step 1. Wait for part in measure position. Calculate part width on transition.









RSLogix 500 Cross Reference Report - Sorted by Address

O:0/0	- {CONV_MTR} Conveyor motor control, on to run conveyor belt OTE - File #2 - 9
O:0/1	- {EJECT1} On to operate cyinder to eject parts into Bin 1 OTE - File #2 - 10
O:0/2	- {EJECT2} On to operate cyinder to eject parts into Bin 2 OTE - File #2 - 11
O:0/3	- {EJECT3} On to operate cyinder to eject parts into Bin 3 OTE - File #2 - 12
I:0/0	- {PROX} Proximity sensor that is on when part is in position for width measurement XIC - File #2 - 2
I:1.0	- {UX1_MEAS} Distance sensor raw measurement, represents 4 - 30 inches SUB - File #2 - 1
I:1.1	- {UX2_MEAS} Distance sensor raw measurement, represents 4 - 30 inches SUB - File #2 - 1
I:1.2	- {UX3_MEAS} Distance sensor raw measurement, represents 4 - 30 inches SUB - File #2 - 1
B3/1	- {BIN1} Part width 1" OTE - File #2 - 3 XIC - File #2 - 6, 10 XIO - File #2 - 5
B3/2	- {BIN2} Part width 2" OTE - File #2 - 4 XIC - File #2 - 6, 11 XIO - File #2 - 5
B3/3	- {BIN3} All other sizes OTE - File #2 - 5 XIC - File #2 - 6, 12
T4:1	- {EJECT_TMR} Time eject for 1 sec TON - File #2 - 7
T4:1/DN	- XIC - File #2 - 7
F8:0	- ADD - File #2 - 1, 2 SUB - File #2 - 1, 2 MUL - File #2 - 1 DIV - File #2 - 1
F8:1	- {UX1_INCH} UX1 reading converted to inches ADD - File #2 - 1, 2
F8:2	- {UX2_INCH} UX2 reading converted to inches ADD - File #2 - 1, 2
F8:3	- {UX3_INCH} UX3 reading converted to inches ADD - File #2 - 1 LEQ - File #2 - 6
F8:4	- {PART_WIDTH} Part Width = 16 - (UX1+UX2) SUB - File #2 - 2 LIM - File #2 - 3, 4
B20/1	- {STEP_1} OTL - File #2 - 0, 7 OTU - File #2 - 2, 8 XIC - File #2 - 2 XIO - File #2 - 0
B20/2	- {STEP_2} OTL - File #2 - 2 OTU - File #2 - 6, 8 XIC - File #2 - 6 XIO - File #2 - 0
B20/3	- {STEP_3} OTL - File #2 - 6 OTU - File #2 - 7, 8 XIC - File #2 - 7, 10, 11, 12 XIO - File #2 - 0
B33/20	- {RUN} When on, allow station to run. When off, pause. XIC - File #2 - 0, 9
B34/20	- {INT_RESET} When on resets operation of station XIC - File #2 - 8