

Day Tank with Alarms

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This section from SP7-02.

Make sure minimum and maximum tank levels within bounds.

Minimum tank level
in inches

T304_LO_LVL

LES

Less Than (A<B)

Source A	F12:0
	0.0<
Source B	10.0
	10.0<

Minimum tank level
in inches

T304_LO_LVL

MOV

Move

Source	10.0
	10.0<
Dest	F12:0
	0.0<

Maximum tank level
in inches

T304_HI_LVL

GRT

Greater Than (A>B)

Source A	F12:1
	0.0<
Source B	40.0
	40.0<

Maximum tank level
in inches

T304_HI_LVL

MOV

Move

Source	40.0
	40.0<
Dest	F12:1
	0.0<

Convert level measurement to level in inches.

Current tank level
in inches

T304_INCH

CPT

Compute
Dest

Expression	((I:3.0 - 3277.0) 13107.0) * 45.0
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	F12:2
	0.0<

0003

Tank Control - on when level low, off when level high.

Enable day tank
control, on allows
day tank to operate.
When off, valve is
closed and pump off.

T304_ENABLE

B3/20

Current tank level
in inches

T304_INCH

LES
Less Than (A<B)
Source A F12:2
0.0<
Source B F12:0
0.0<

P-303 pump control,
on runs pump

P303_RUN

O:2/0

Current tank level
in inches

T304_INCH

LEQ
Less Than or Eql (A<=B)
Source A F12:2
0.0<
Source B F12:1
0.0<

P-303 pump control,
on runs pump

P303_RUN

O:2/0

XV303 valve control,
on opens valve, off
closes valve

XV303_SOL

O:2/1

***** Section for SP7-03 *****

Additional internal memory:

Symbol	Address	
T304_LO_ALM	F12:3	Low alarm value
T304_HI_ALM	F12:4	High alarm value
T304_LOLO	B3/10	On when low-low alarm
T304_LO	B3/11	On when low alarm
T304_HIHI	B3/12	On when high-high alarm
T304_HI	B3/13	On when high alarm
ONS1	B3/14	One-shot bit for low-low trigger for horn
ONS2	B3/15	One-shot bit for high-high trigger for horn
T304_LOLO_TRANS	B3/16	Low-low alarm transition
T304_HIHI_TRANS	B3/17	High-high alarm transition
LOLO_TMR1	T4:1	First timer for low-low flashing lamp
LOLO_TMR2	T4:2	Second timer for low-low flashing lamp
HIHI_TMR1	T4:3	First timer for high-high flashing lamp
HIHI_TMR2	T4:4	Second timer for high-high flashing lamp

Calculate alarm level values.

0004

Low alarm value

T304_LO_ALM

CPT

Compute

Dest

F12:3

0.0<

Expression

F12:0 - 3.0

High alarm value

T304_HI_ALM

CPT

Compute

Dest

F12:4

0.0<

Expression

F12:1 + 3.0

Low and low-low alarm detection

0005

Current tank level
in inches

T304_INCH

LEQ

Less Than or Eql (A<=B)

Source A

F12:2

0.0<

Source B

5.0

5.0<

Internal bit set
when level is less
than low-low level

T304_LOLO

B3/10

<>

0006

Current tank level
in inches

T304_INCH

LEQ

Less Than or Eql (A<=B)

Source A

F12:2

0.0<

Source B

F12:3

0.0<

Internal bit set
when level is less
than low-low level

T304_LOLO

B3/10

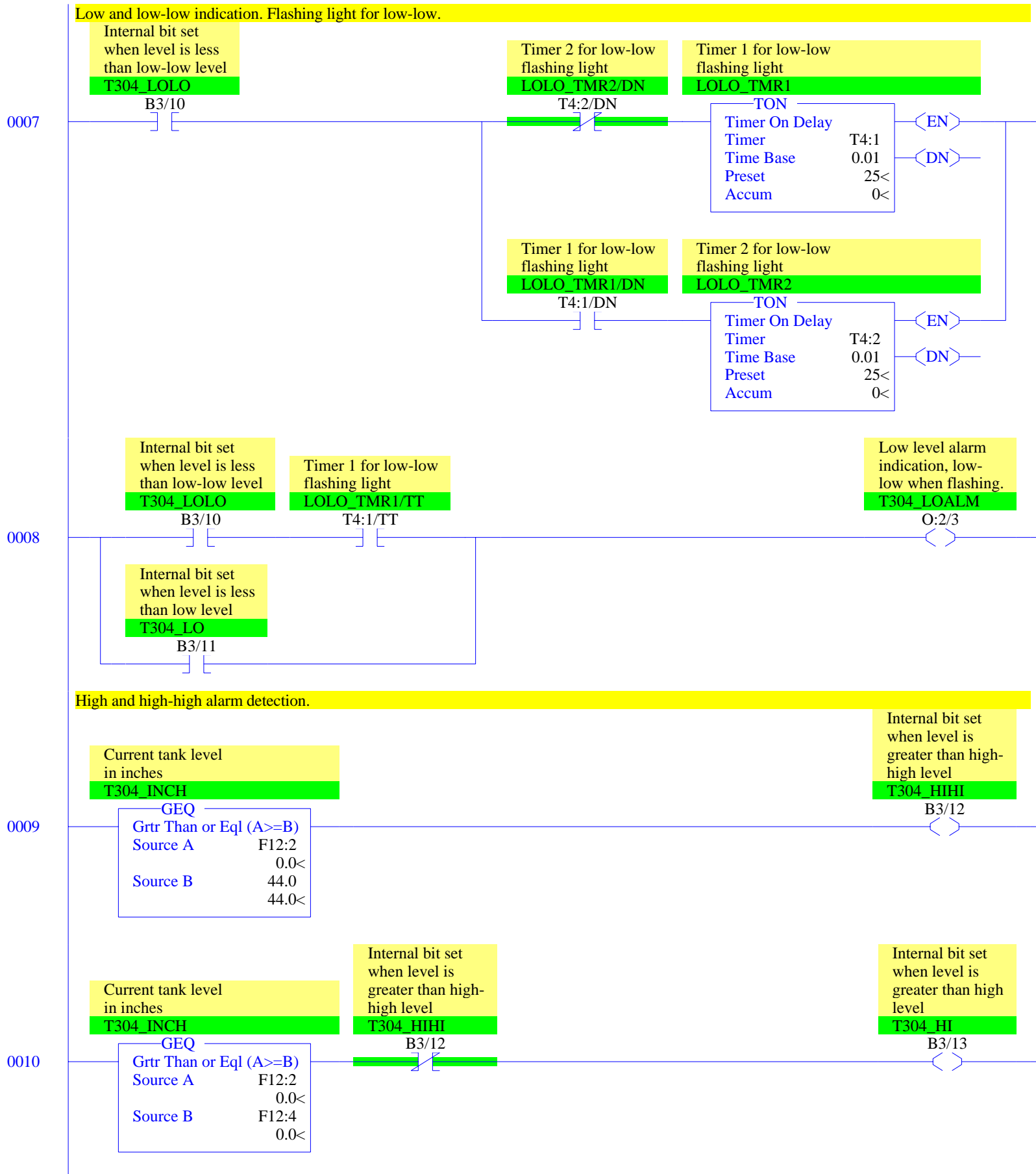
<>

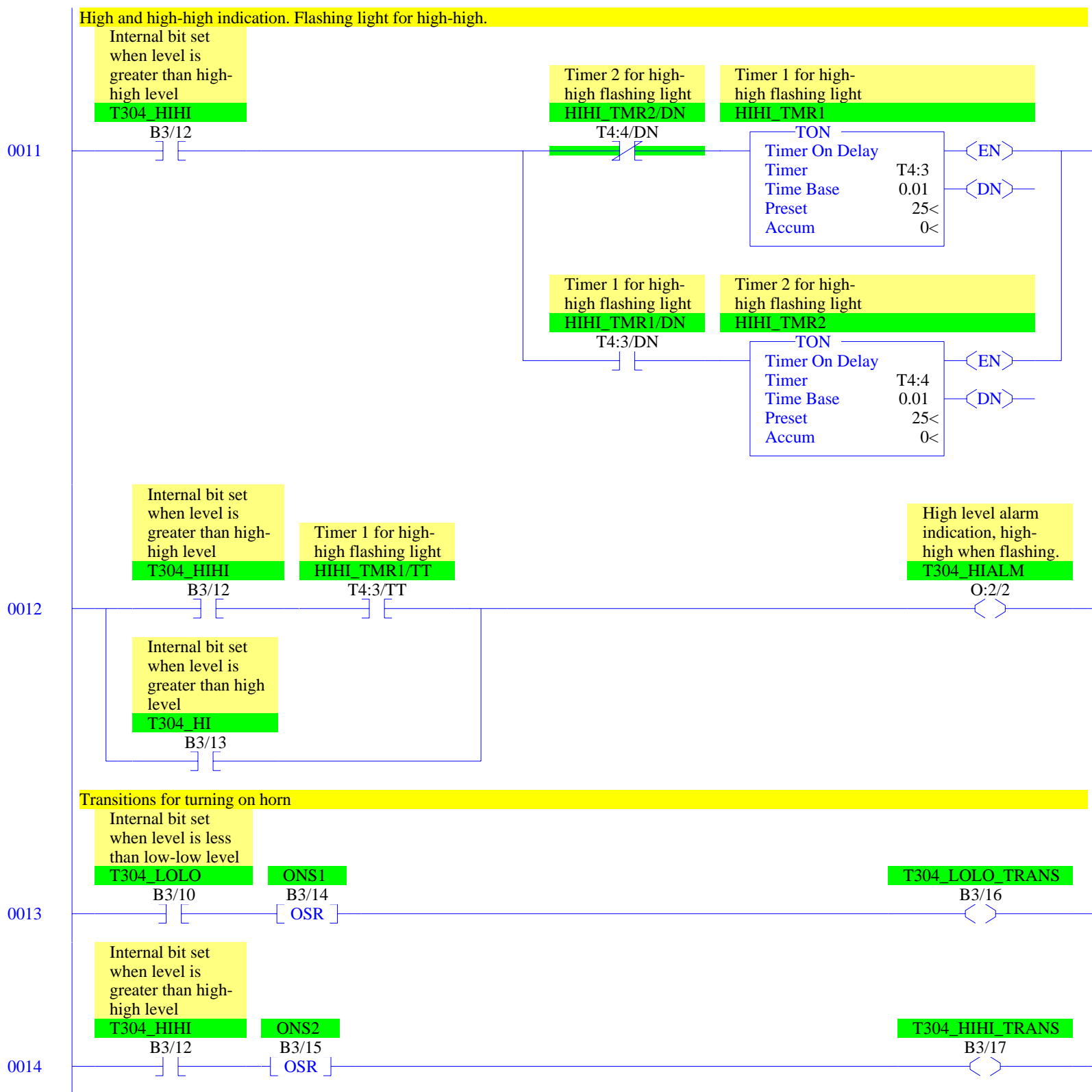
Internal bit set
when level is less
than low level

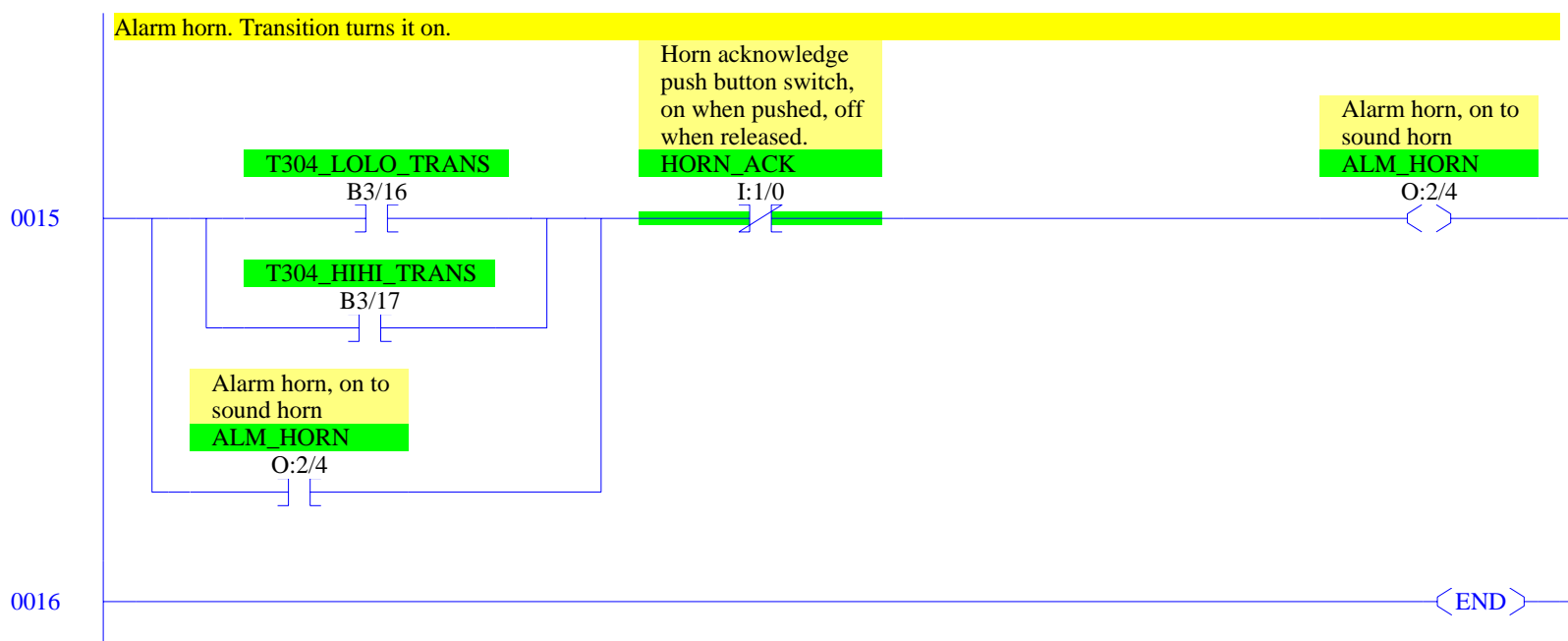
T304_LO

B3/11

<>







RSLogix 500 Cross Reference Report - Sorted by Address

O:2/0	- {P303_RUN} P-303 pump control, on runs pump OTE - File #2 - 3 XIC - File #2 - 3
O:2/1	- {XV303_SOL} XV303 valve control, on opens valve, off closes valve OTE - File #2 - 3
O:2/2	- {T304_HI_ALM} High level alarm indication, high- high when flashing. OTE - File #2 - 12
O:2/3	- {T304_LO_ALM} Low level alarm indication, low- low when flashing. OTE - File #2 - 8
O:2/4	- {ALM_HORN} Alarm horn, on to sound horn OTE - File #2 - 15 XIC - File #2 - 15
I:1/0	- {HORN_ACK} Horn acknowledge push button switch, on when pushed, off when released. XIO - File #2 - 15
I:3.0	- {LT304_MEAS} Raw T-304 level measurement, represents 0 to 45 inches CPT - File #2 - 2
B3/10	- {T304_LOLO} Internal bit set when level is less than low-low level OTE - File #2 - 5 XIC - File #2 - 7, 8, 13 XIO - File #2 - 6
B3/11	- {T304_LO} Internal bit set when level is less than low level OTE - File #2 - 6 XIC - File #2 - 8
B3/12	- {T304_HIHI} Internal bit set when level is greater than high- high level OTE - File #2 - 9 XIC - File #2 - 11, 12, 14 XIO - File #2 - 10
B3/13	- {T304_HI} Internal bit set when level is greater than high level OTE - File #2 - 10 XIC - File #2 - 12
B3/14	- {ONS1} OSR - File #2 - 13
B3/15	- {ONS2} OSR - File #2 - 14
B3/16	- {T304_LOLO_TRANS} OTE - File #2 - 13 XIC - File #2 - 15
B3/17	- {T304_HIHI_TRANS} OTE - File #2 - 14 XIC - File #2 - 15
B3/20	- {T304_ENABLE} Enable day tank control, on allows day tank to operate. When off, valve closes XIC - File #2 - 3
T4:1	- {LOLO_TMR1} Timer 1 for low-low flashing light TON - File #2 - 7
T4:1/DN	- XIC - File #2 - 7
T4:1/TT	- XIC - File #2 - 8
T4:2	- {LOLO_TMR2} Timer 2 for low-low flashing light TON - File #2 - 7
T4:2/DN	- XIO - File #2 - 7
T4:3	- {HIHI_TMR1} Timer 1 for high- high flashing light TON - File #2 - 11
T4:3/DN	- XIC - File #2 - 11
T4:3/TT	- XIC - File #2 - 12
T4:4	- {HIHI_TMR2} Timer 2 for high- high flashing light TON - File #2 - 11
T4:4/DN	- XIO - File #2 - 11
F12:0	- {T304_LO_LVL} Minimum tank level in inches MOV - File #2 - 0 CPT - File #2 - 4 LES - File #2 - 0, 3
F12:1	- {T304_HI_LVL} Maximum tank level in inches MOV - File #2 - 1 CPT - File #2 - 4 GRT - File #2 - 1 LEQ - File #2 - 3
F12:2	- {T304_INCH} Current tank level in inches

RSLogix 500 Cross Reference Report - Sorted by Address

	CPT - File #2 - 2
	GEQ - File #2 - 9, 10
	LES - File #2 - 3
	LEQ - File #2 - 3, 5, 6
F12:3	- {T304_LO_ALM} Low alarm value
	CPT - File #2 - 4
	LEQ - File #2 - 6
F12:4	- {T304_HI_ALM} High alarm value
	CPT - File #2 - 4
	GEQ - File #2 - 10