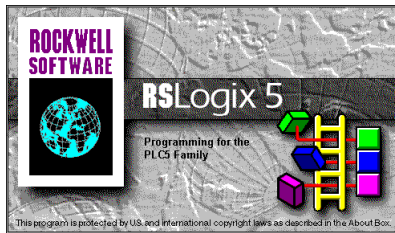


## TEST BENCH TWO



## Test Bench Two

### Processor Information

---

Processor Type: PLC5/15                      B                      G                      6912

Processor Name: TB2

Total Memory Used: 5890 WORDS

Program Files: 12

Data Files: 61

## Test Bench Two

### I/O Configuration Overview

---

#### TB2

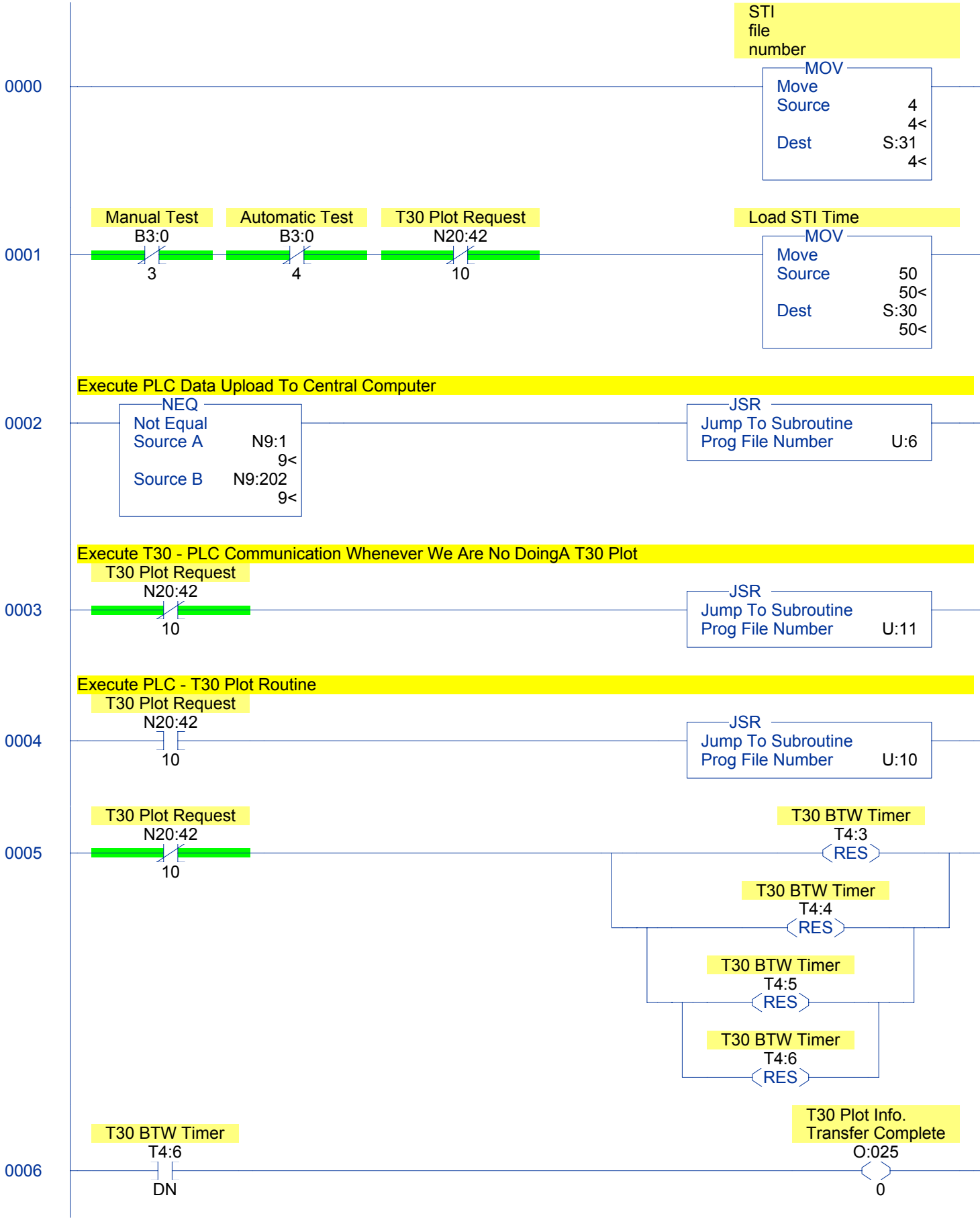
##### Chassis 1

Rack: 0  
Size: 8 Slot Chassis  
Addressing Mode: 1 Slot

<u>Slot</u>	<u>Module Type</u>	<u>Module Description</u>
0	1771-IBD	10-30v DC 16pt Input
1	1771-OBDO	10-60v DC 16pt Output
2	1771-IBD	10-30v DC 16pt Input
3		
4	1771-IFE	12 Bit Analog Input (or IFE/A)
5		
6	1771-IFE	12 Bit Analog Input (or IFE/A)
7	1771-OFE	12 Bit Analog Output

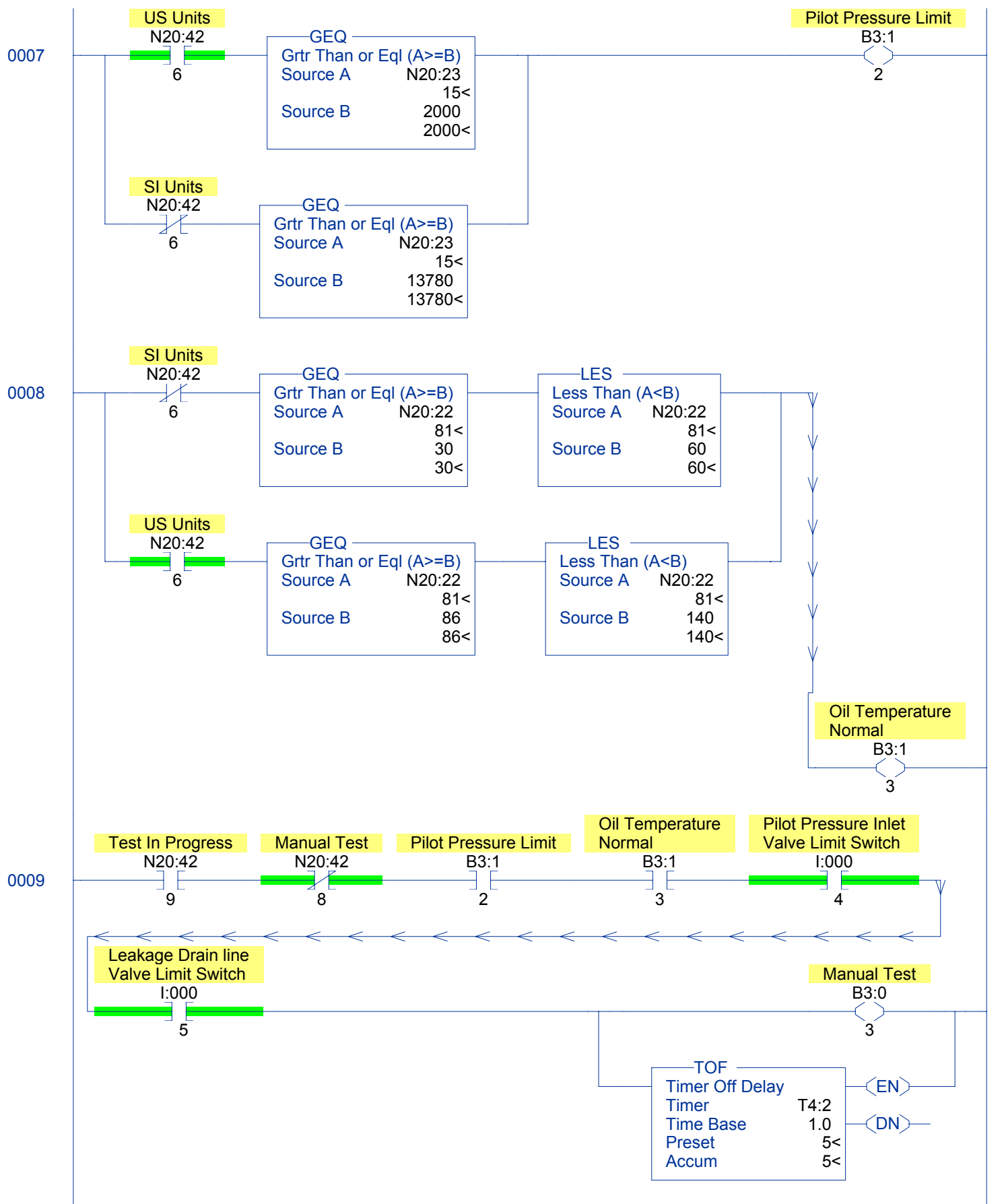
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



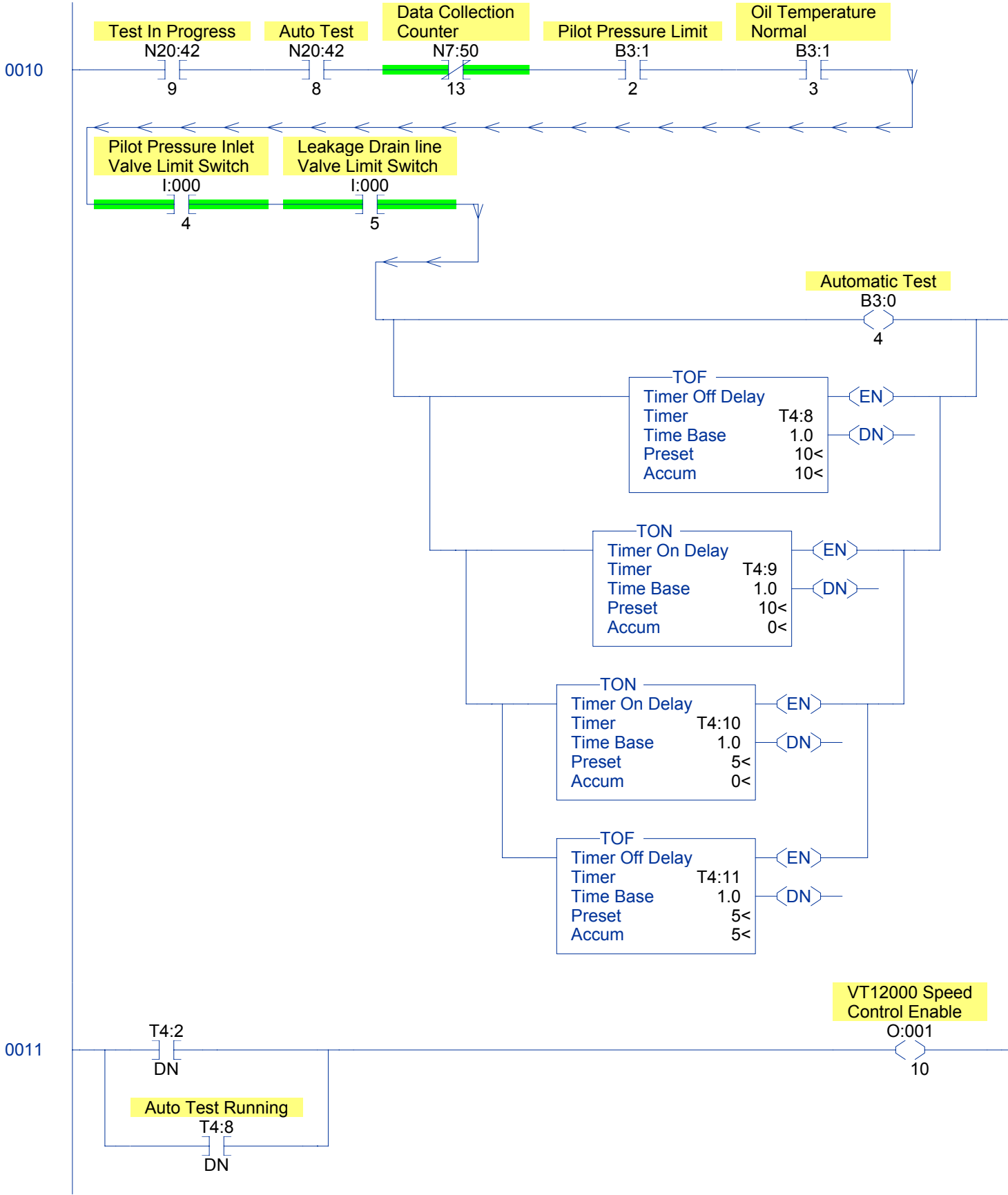
# Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



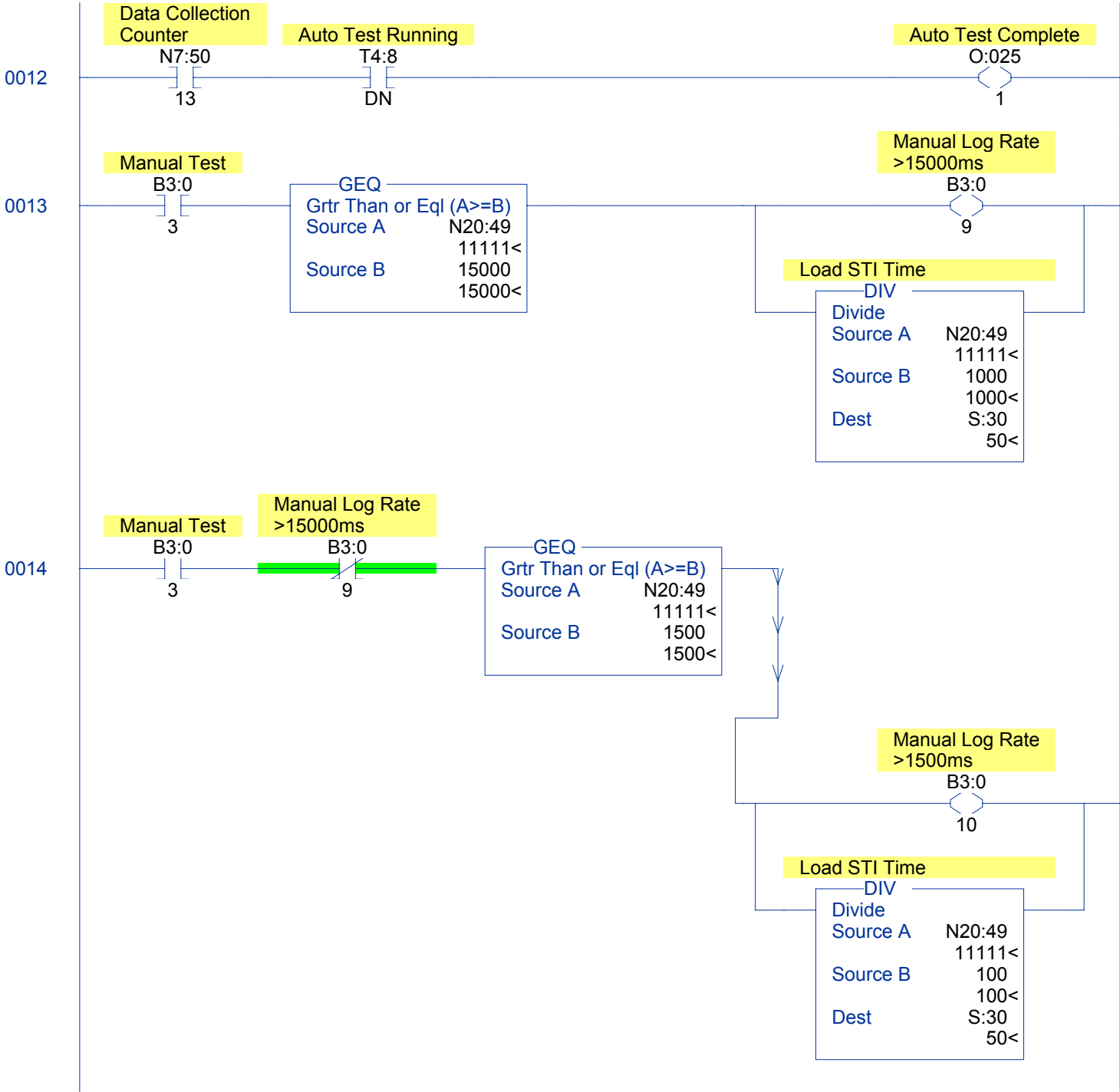
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



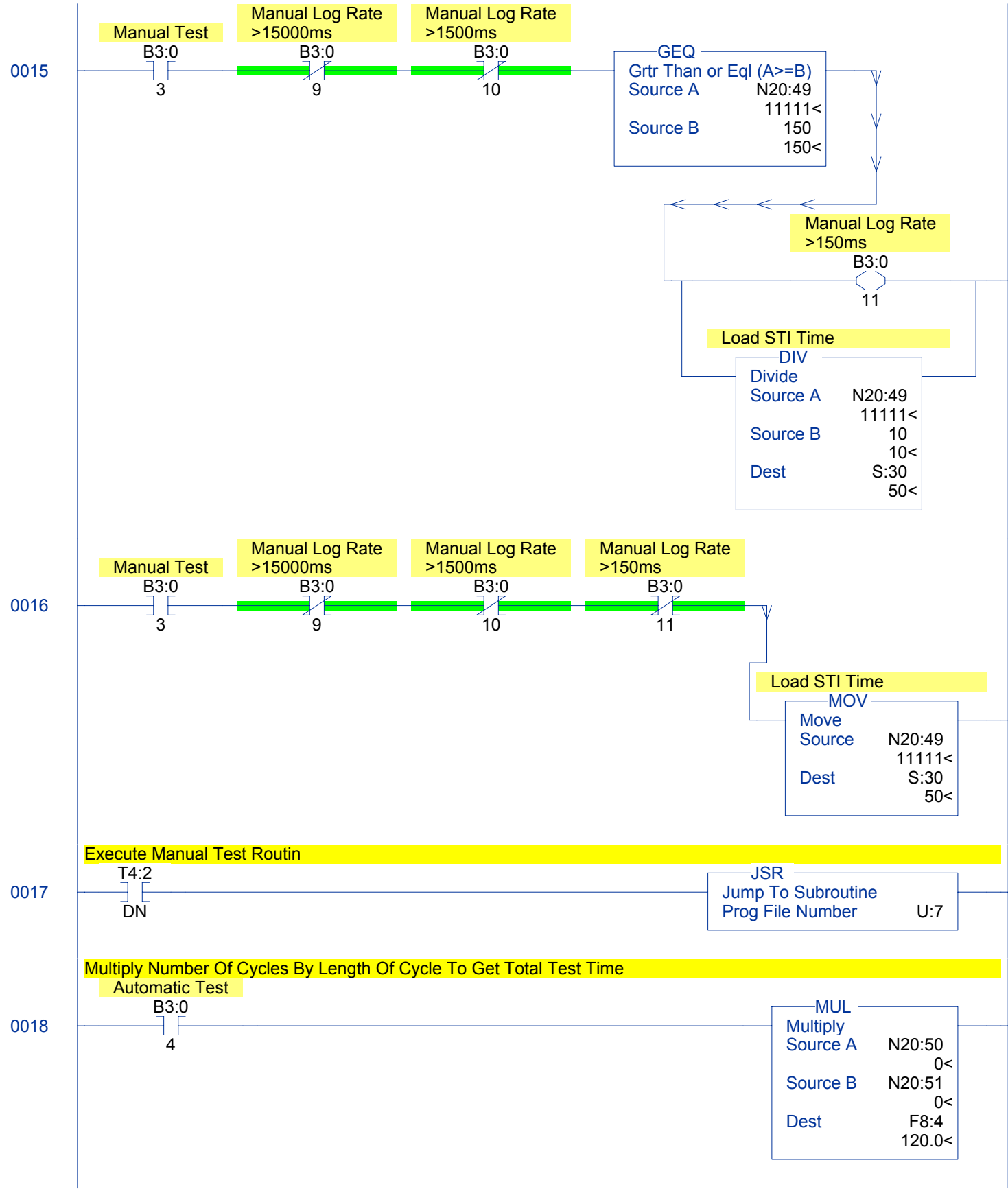
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



Test Bench Two

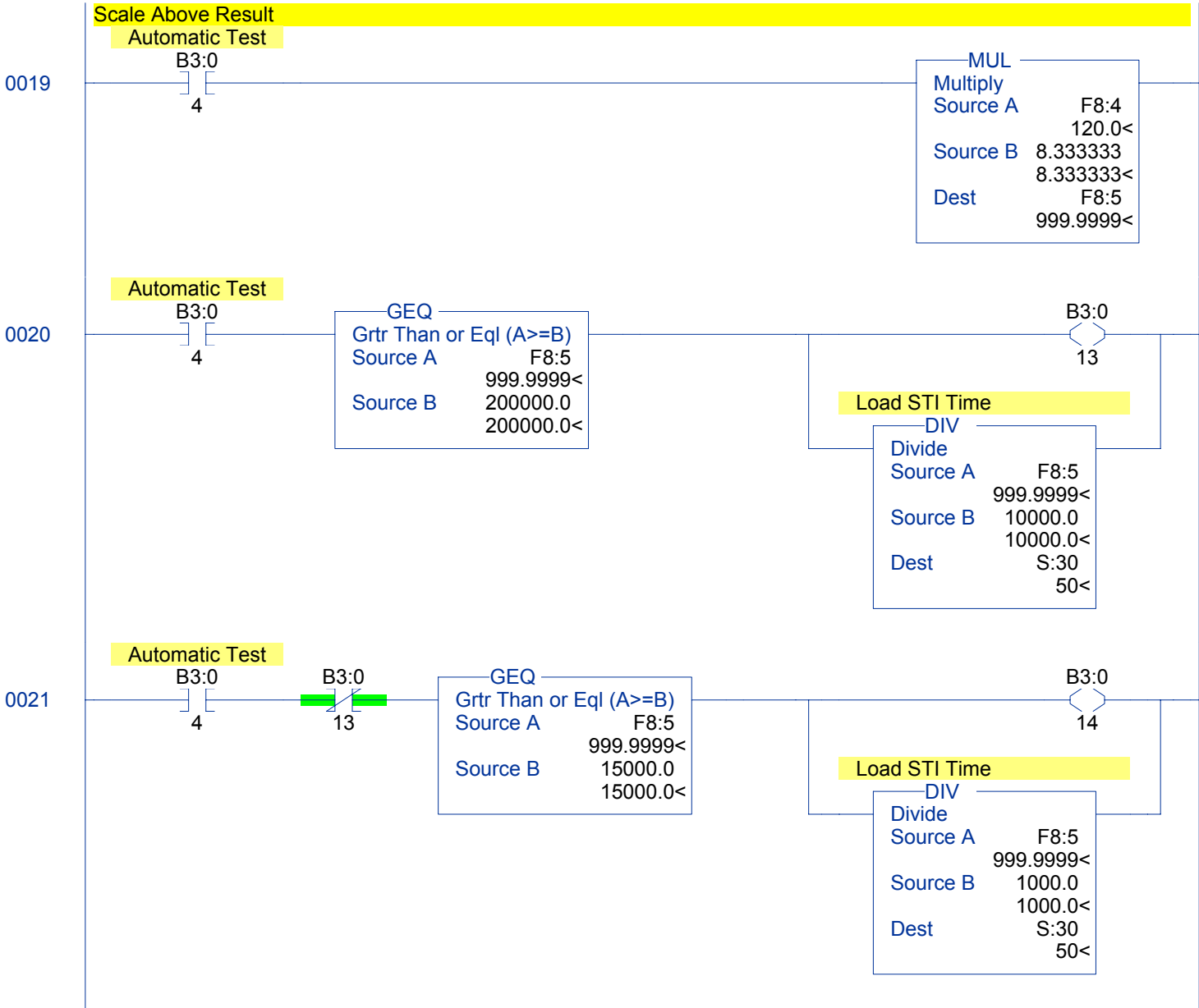
LAD 2 - MAIN\_PROG --- Total Rungs in File = 31





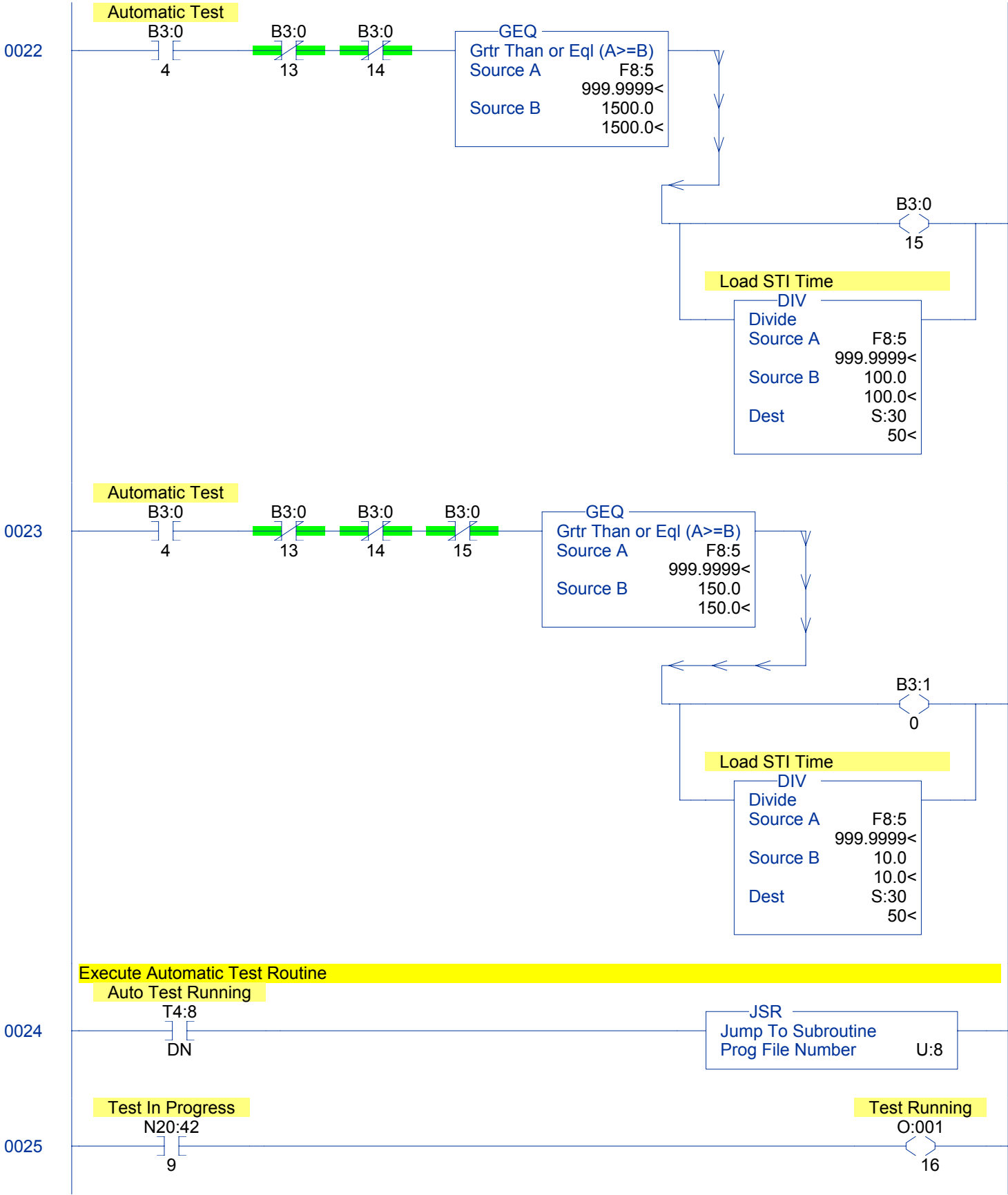
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



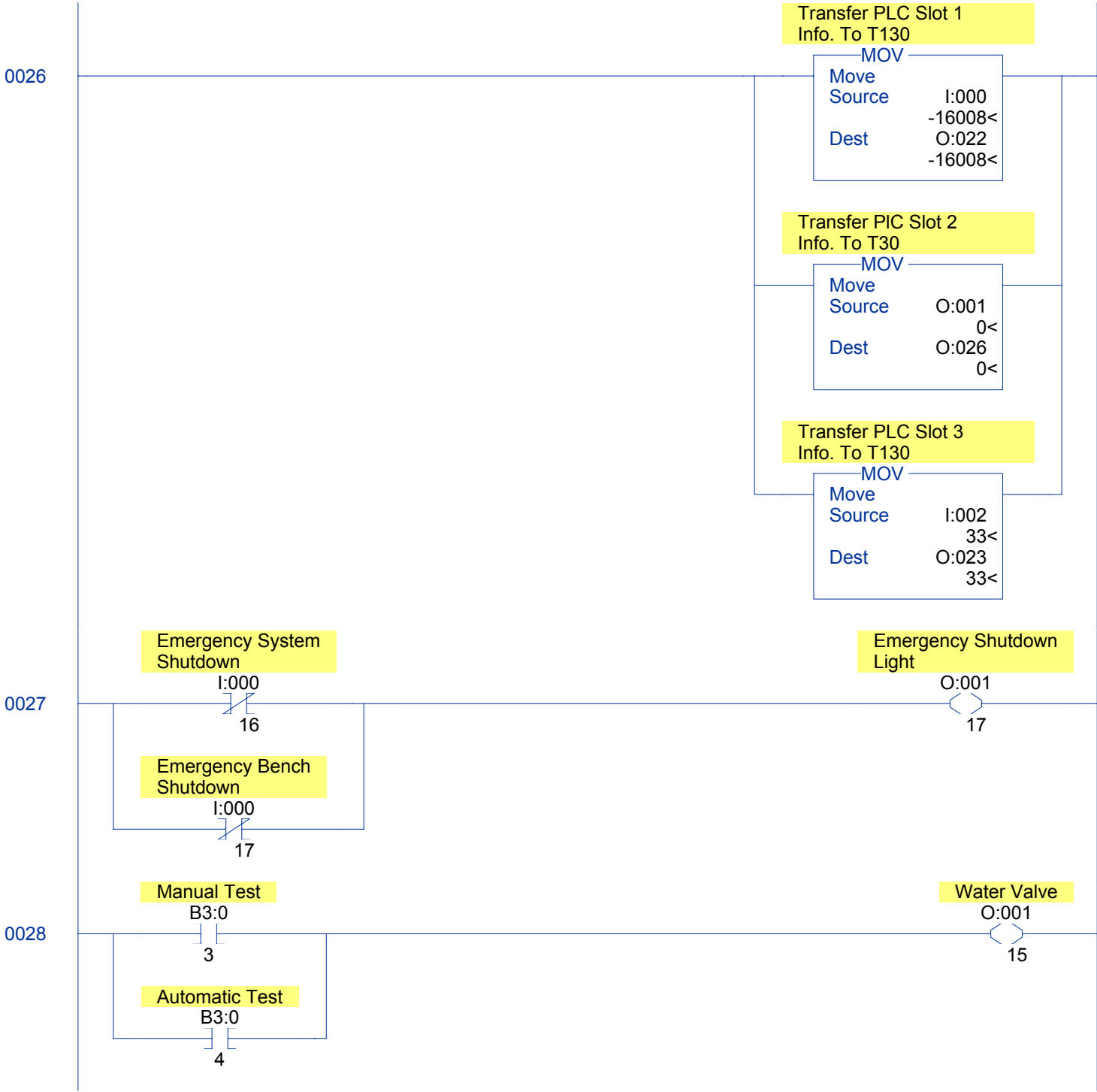
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



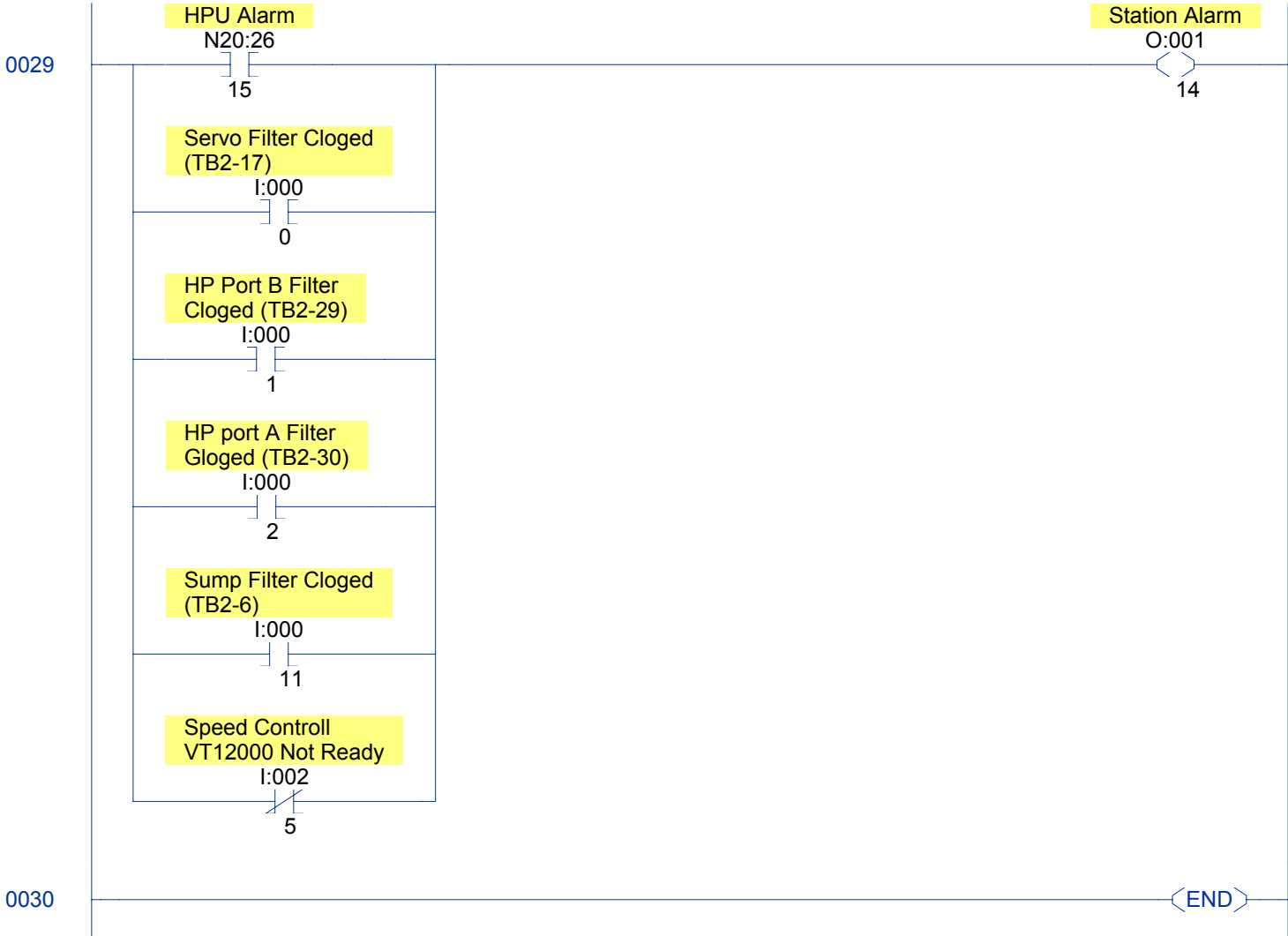
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



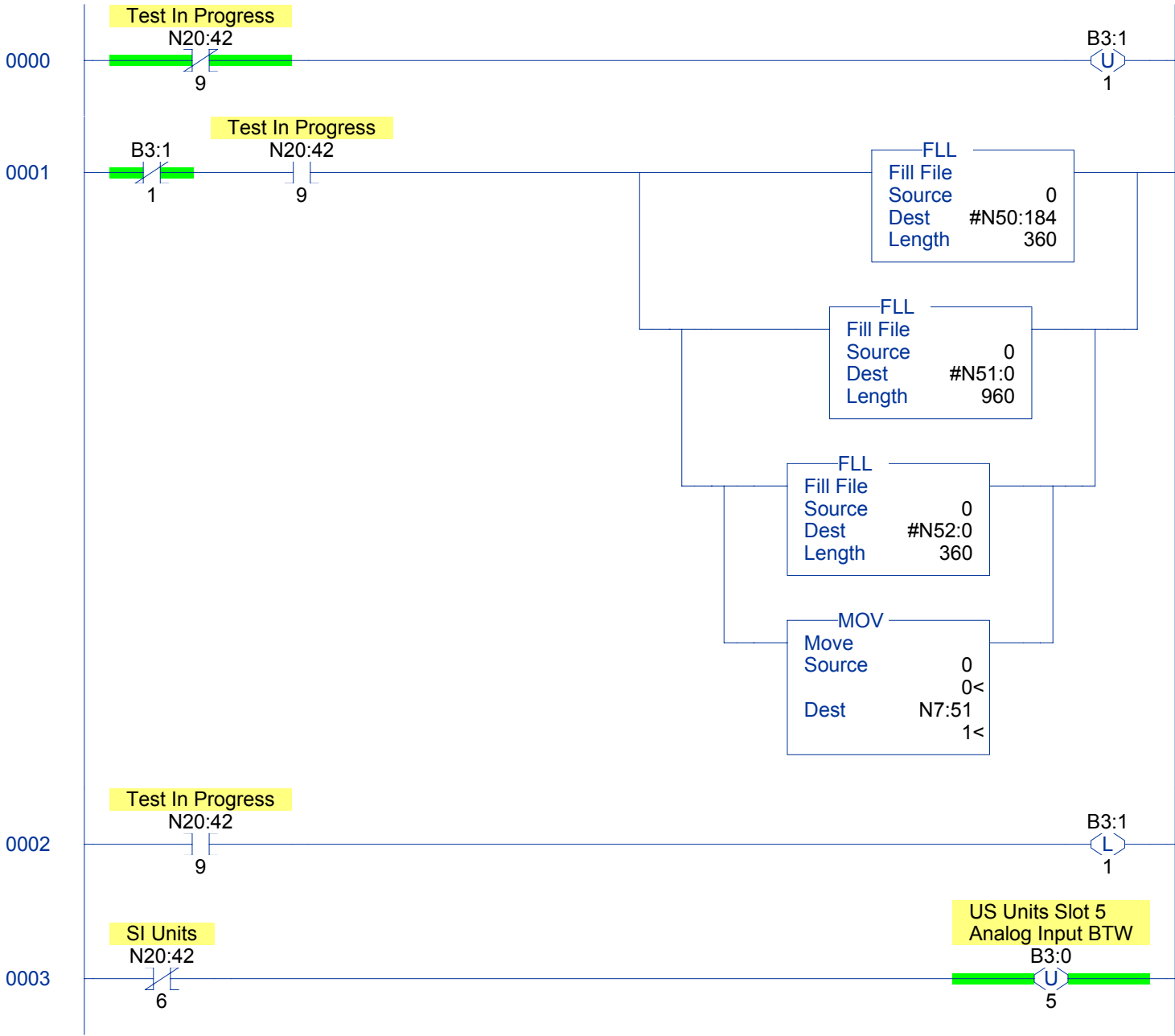
Test Bench Two

LAD 2 - MAIN\_PROG --- Total Rungs in File = 31



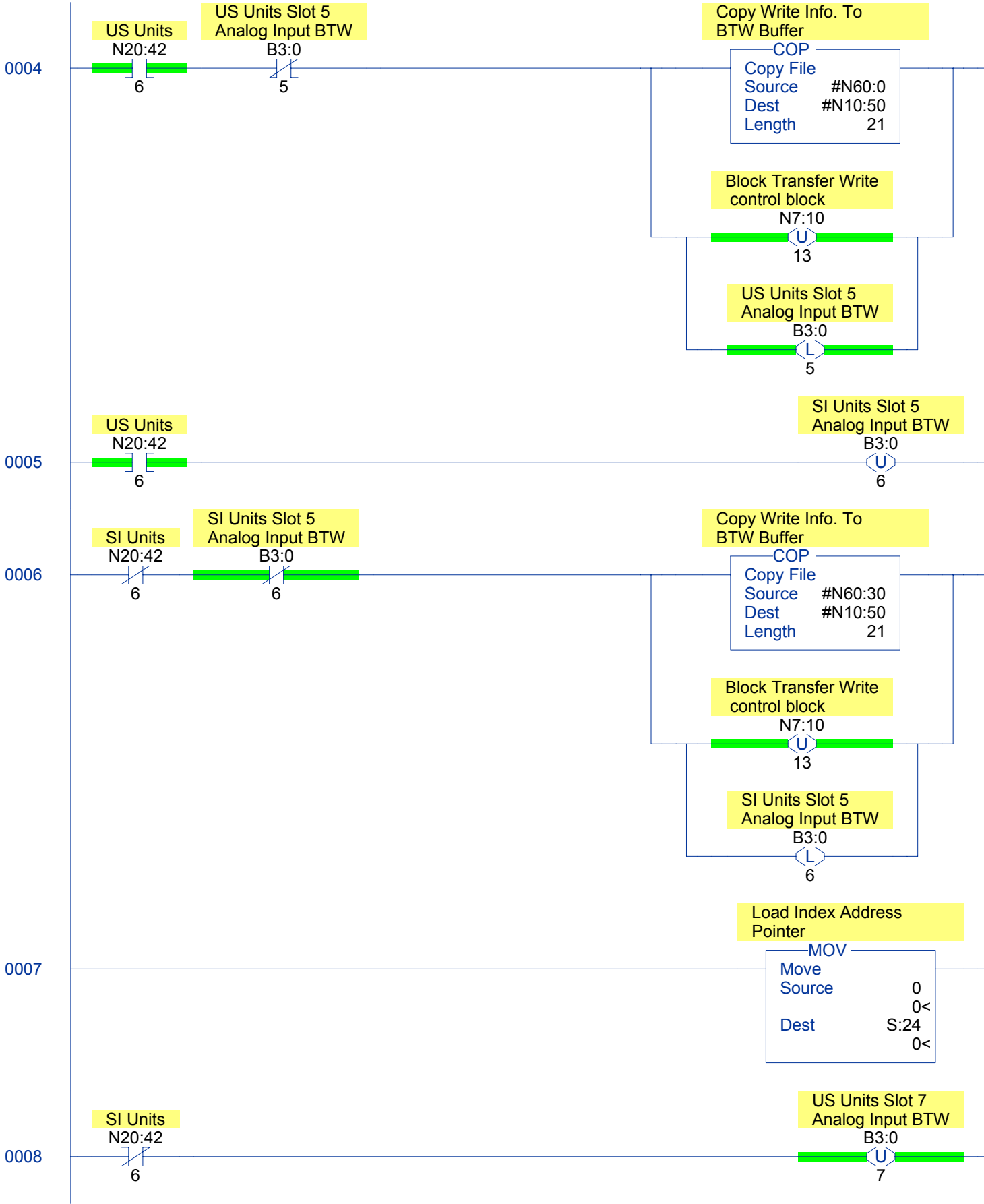
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



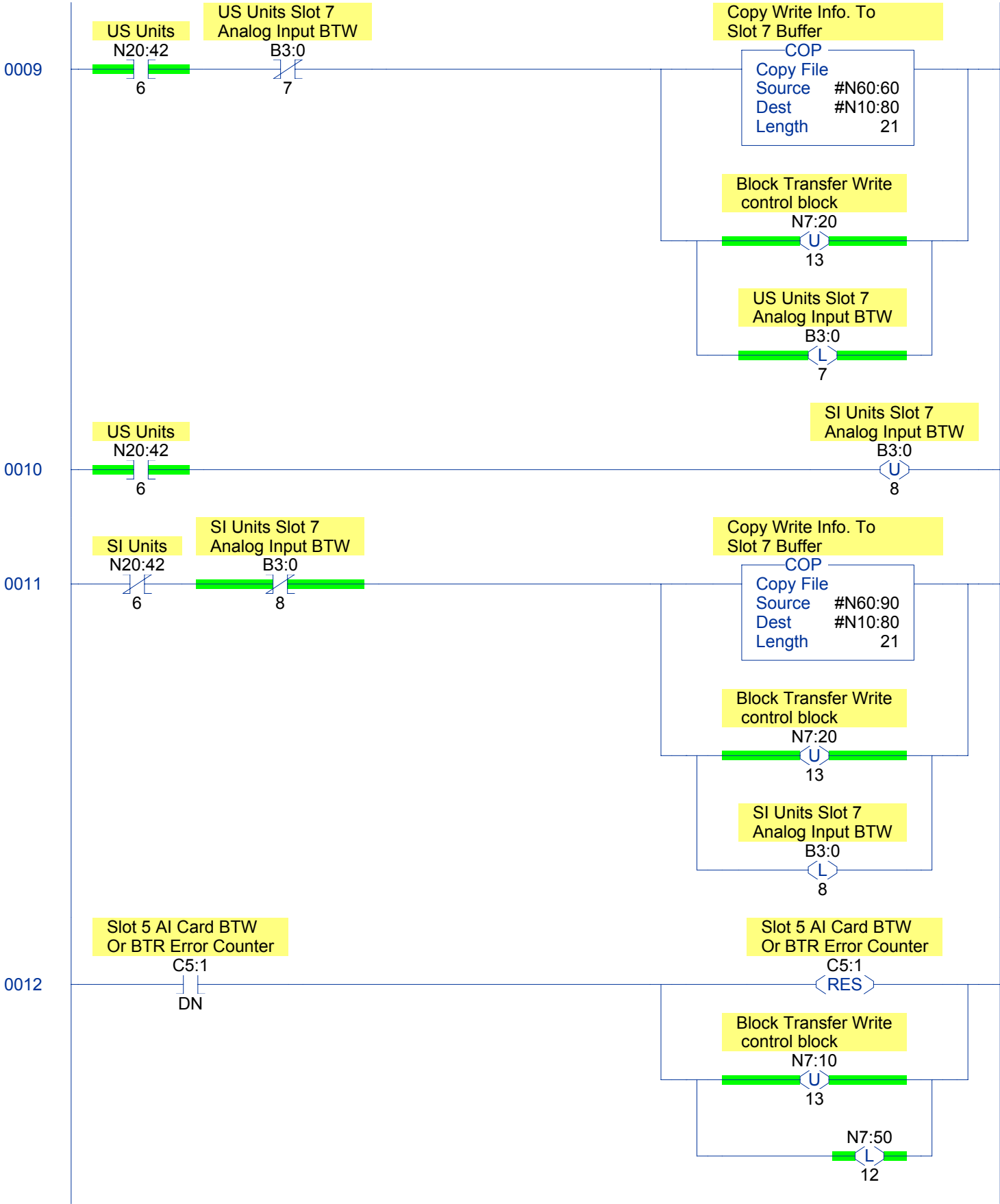
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



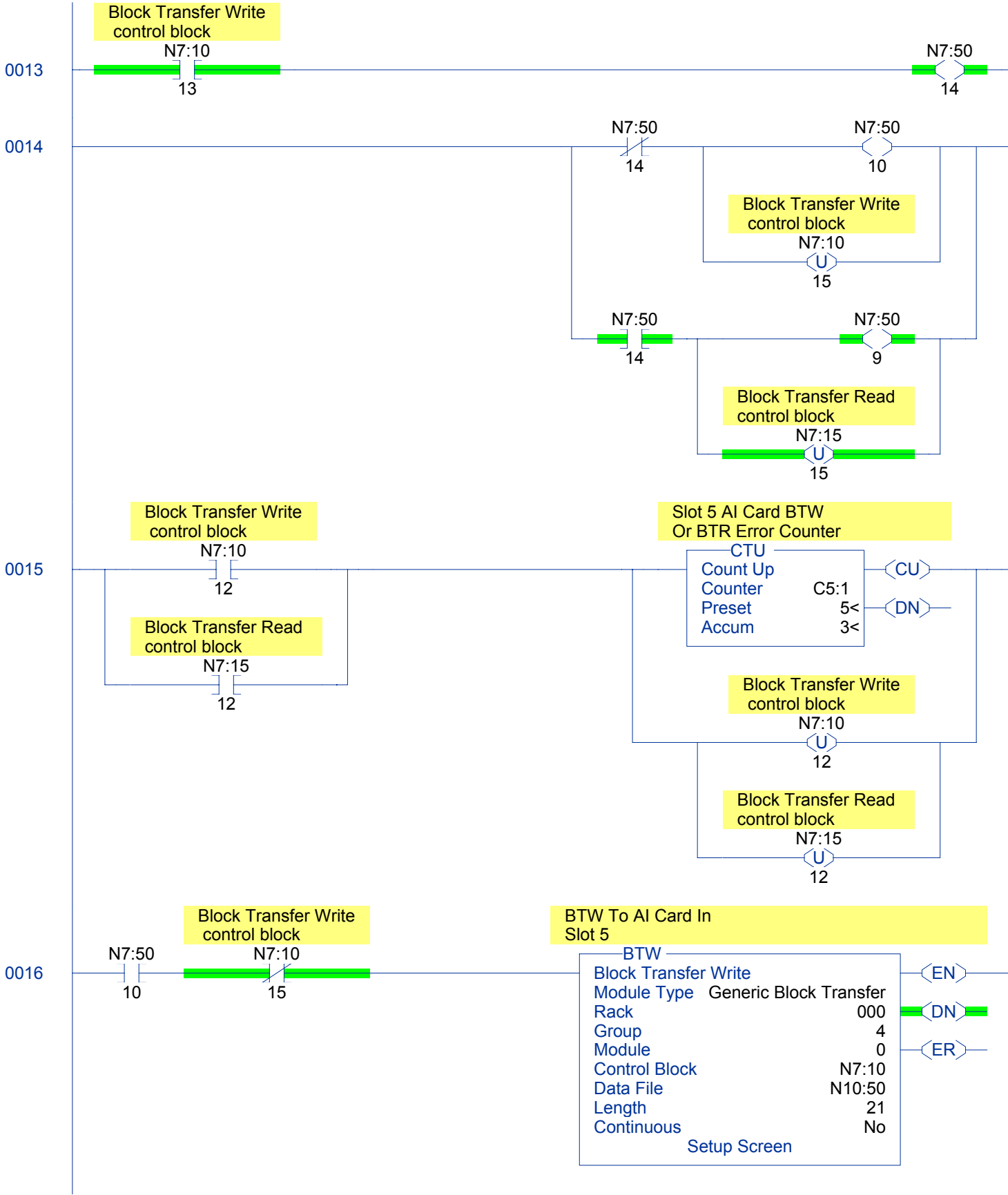
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

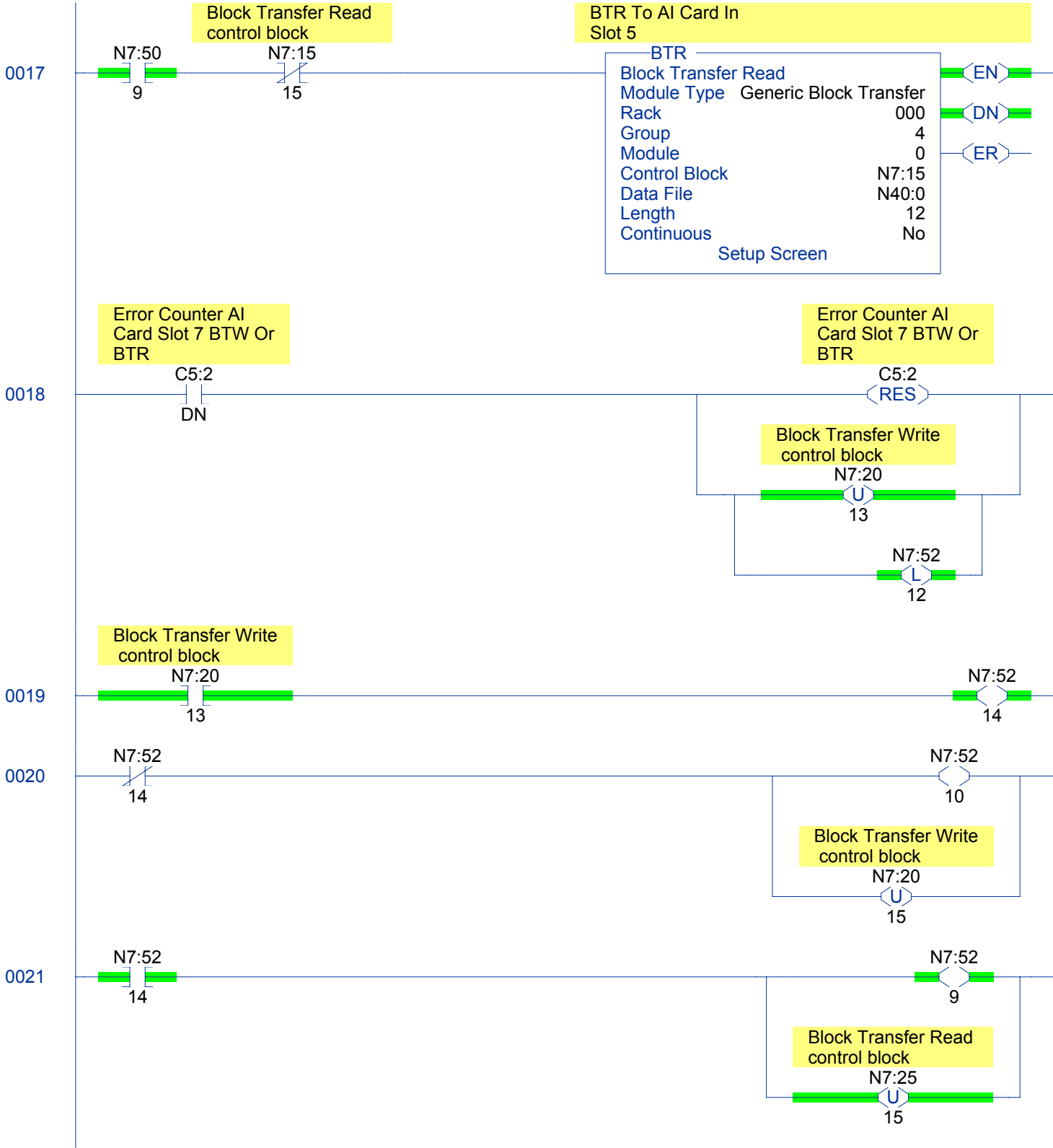
LAD 4 - ANALOG\_INT --- Total Rungs in File = 73





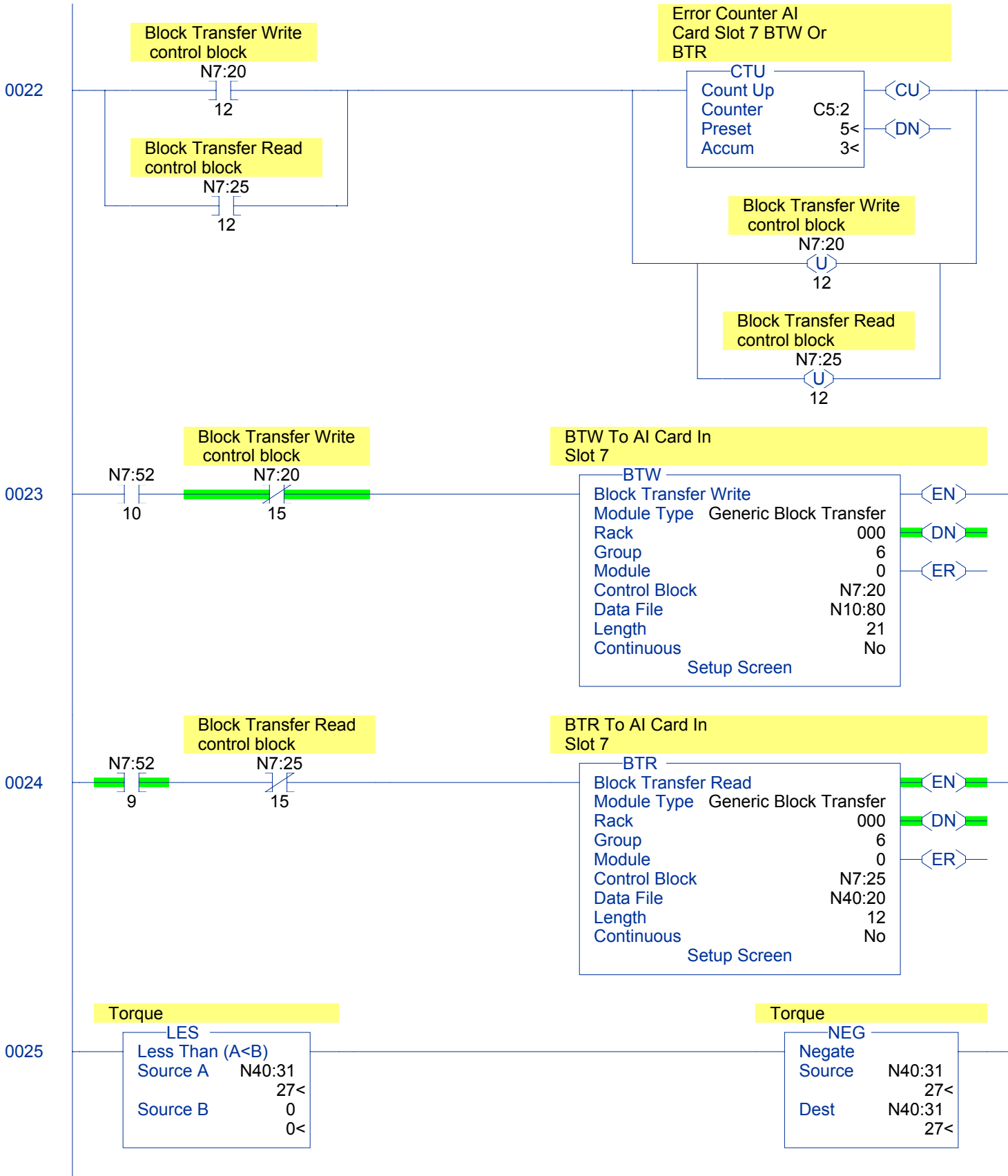
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73

The Following 3 Rungs Calculate The Input Power To The Pump Or Motor

0026

MUL

Multiply

Source A      N40:4  
                  -163<

Source B      N40:31  
                  27<

Dest            F8:7  
                  -3120.0<

0027

US Units

N20:42

6

DIV

Divide

Source A        F8:7  
                  -3120.0<

Source B        5252.0  
                  5252.0<

Dest            F8:8  
                  0.5940593<

0028

SI Units

N20:42

6

DIV

Divide

Source A        F8:7  
                  -3120.0<

Source B        9549.0  
                  9549.0<

Dest            F8:8  
                  0.5940593<

0029

LES

Less Than (A<B)

Source A        F8:8  
                  0.5940593<

Source B        0.0  
                  0.0<

NEG

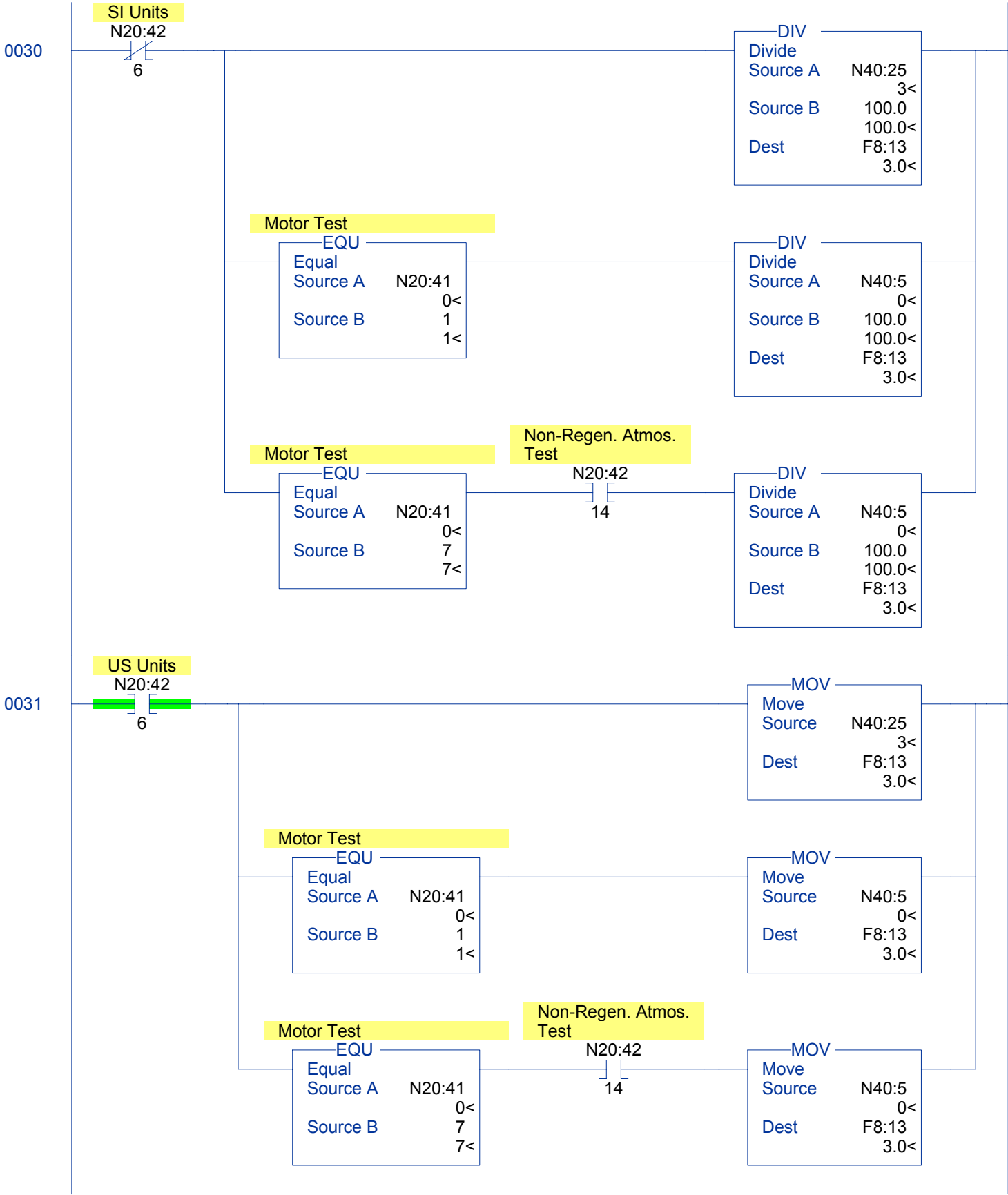
Negate

Source           F8:8  
                  0.5940593<

Dest            F8:8  
                  0.5940593<

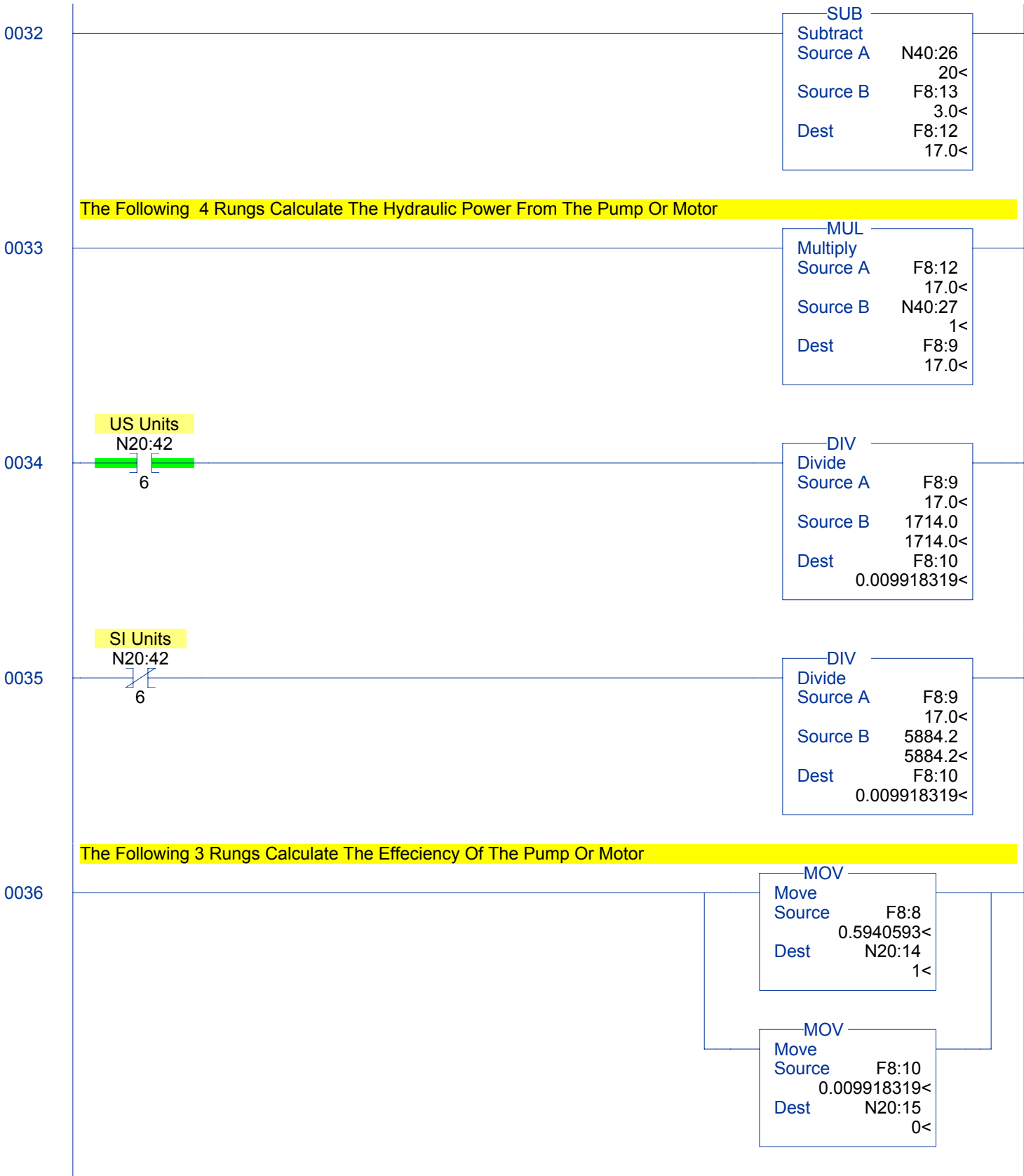
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



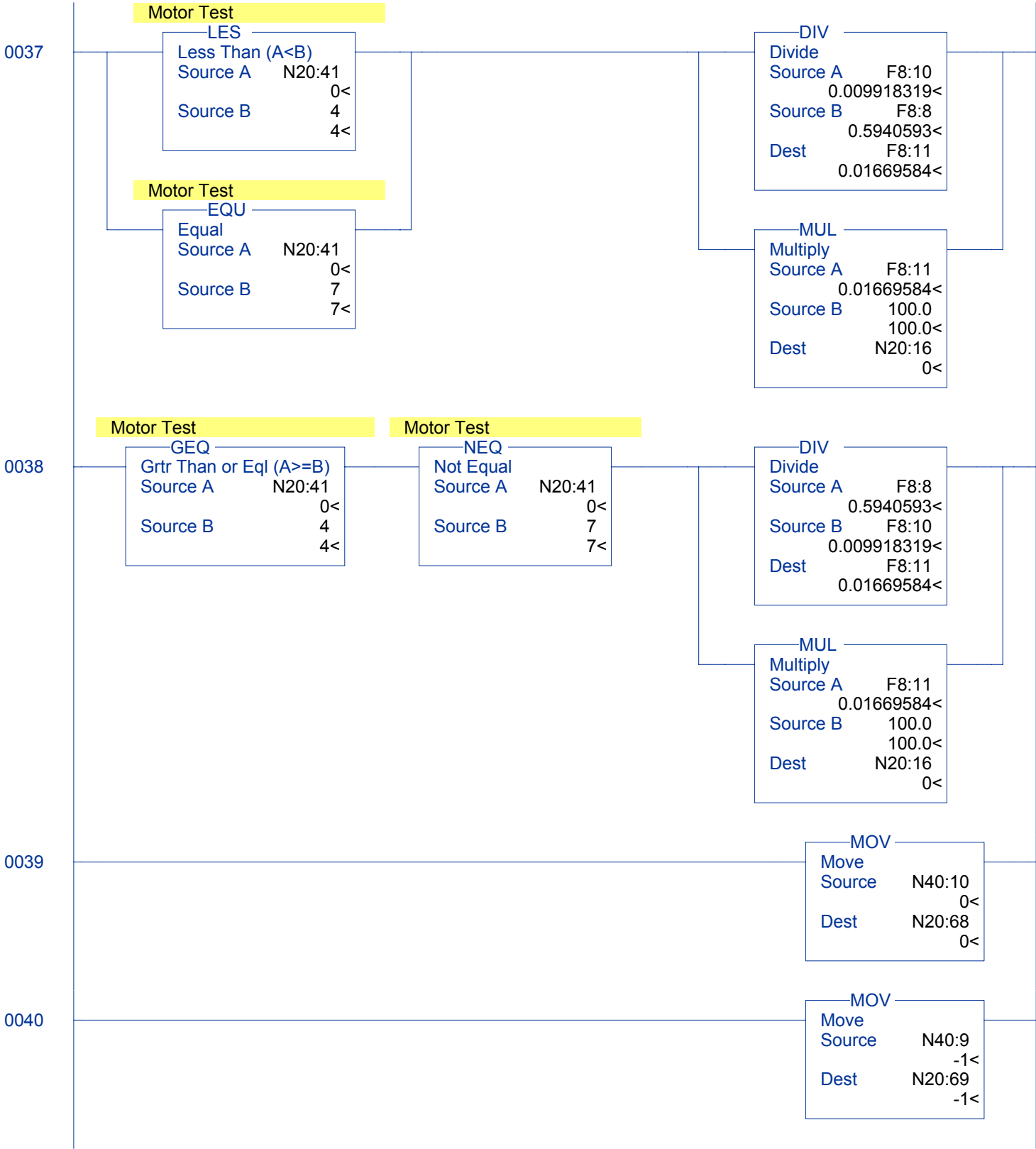
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



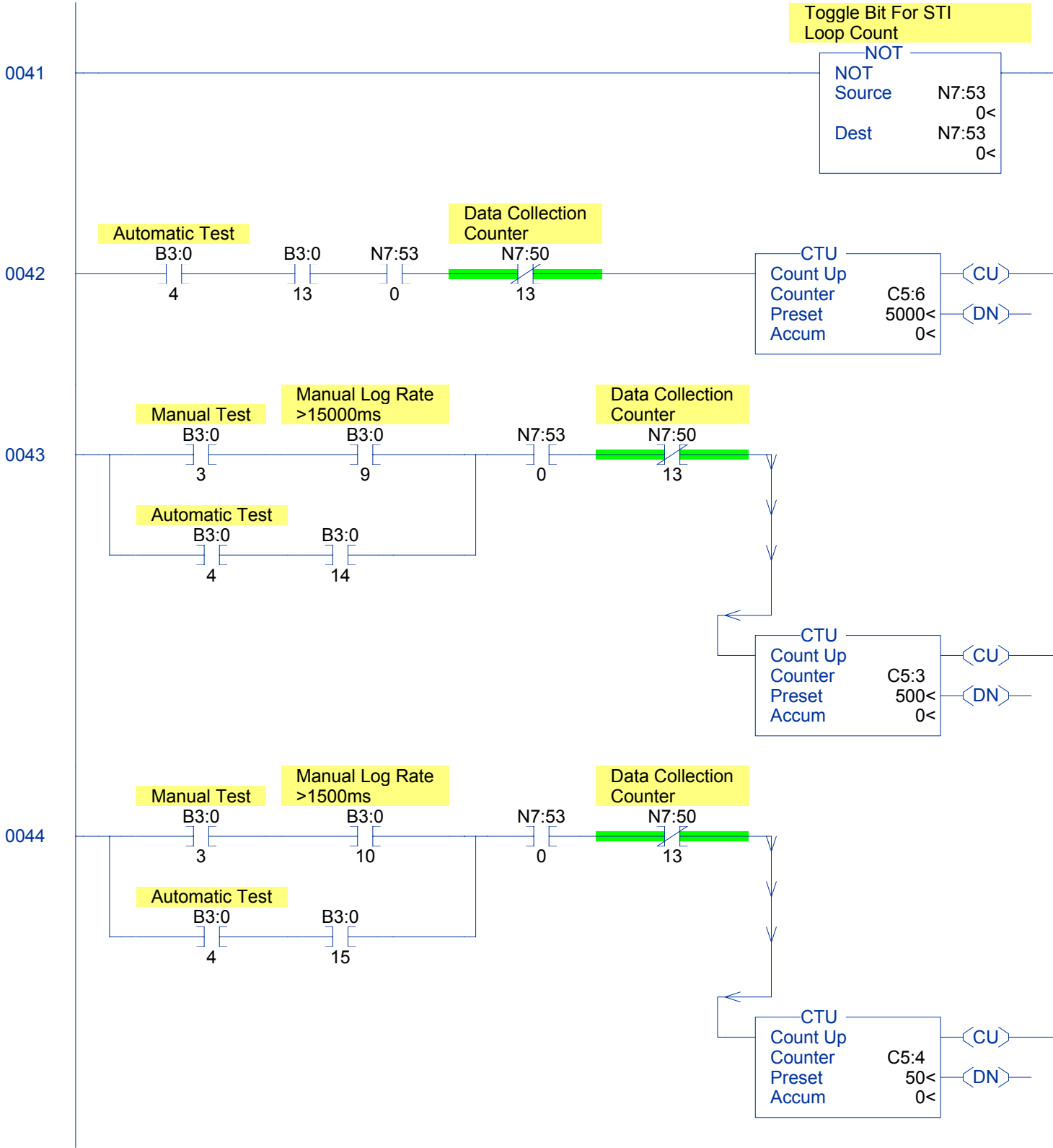
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



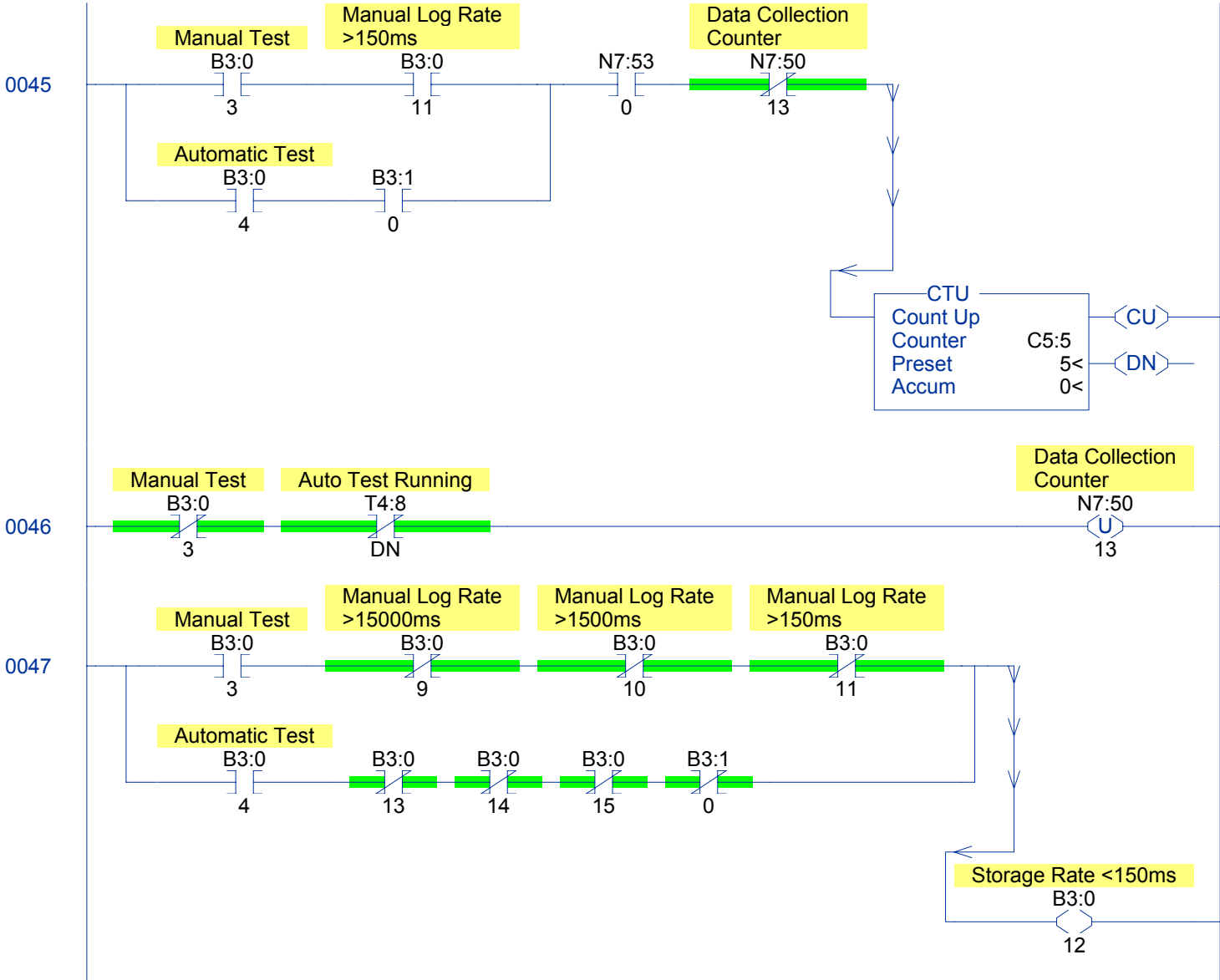
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

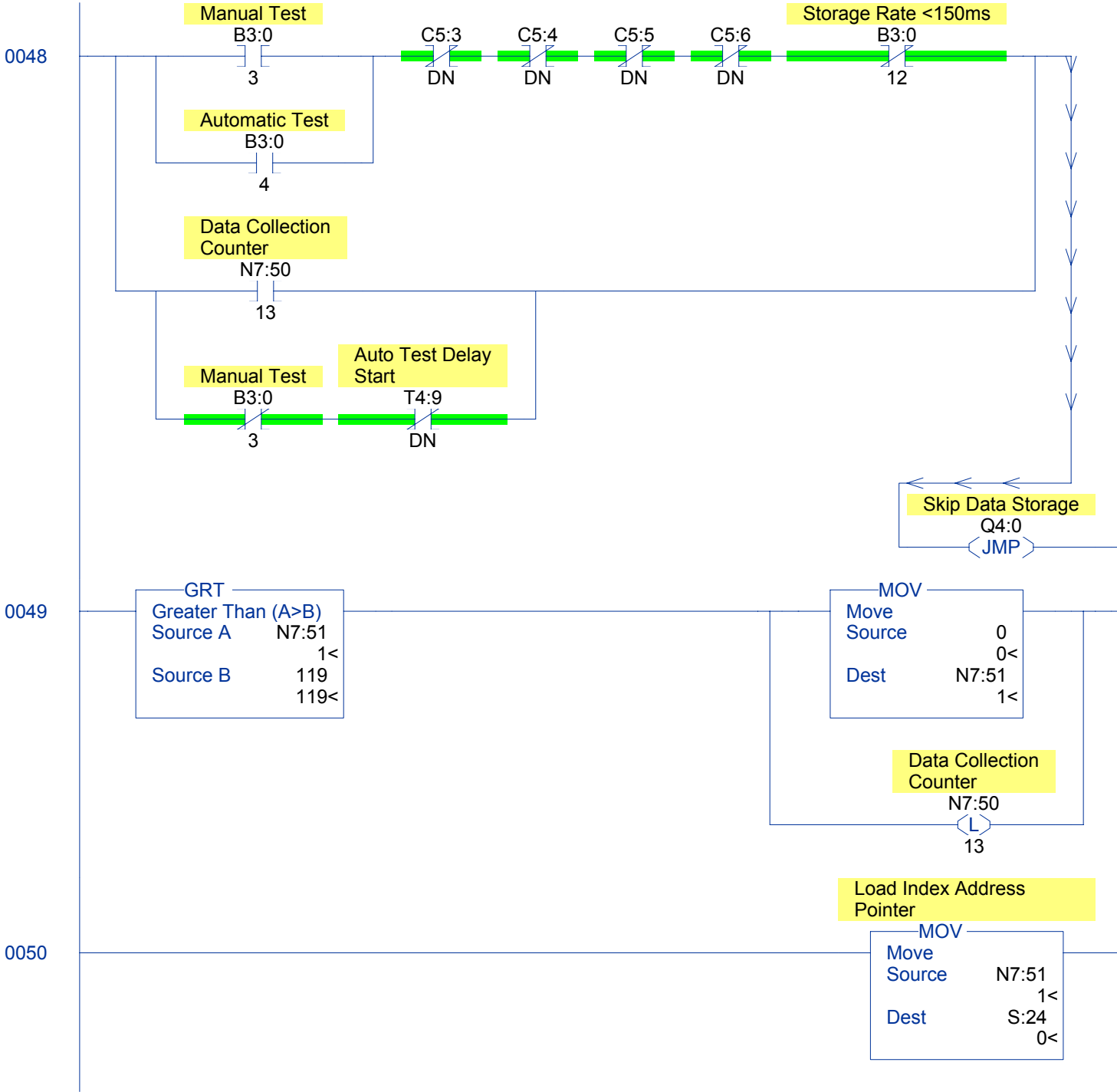
LAD 4 - ANALOG\_INT --- Total Rungs in File = 73





Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73

0051

MOV  
Move  
Source N40:5  
0<  
Dest #N50:304  
0<

MOV  
Move  
Source N40:6  
1<  
Dest #N50:424  
0<

MOV  
Move  
Source N40:7  
0<  
Dest #N50:544  
0<

MOV  
Move  
Source N40:24  
216<  
Dest #N51:0  
220<

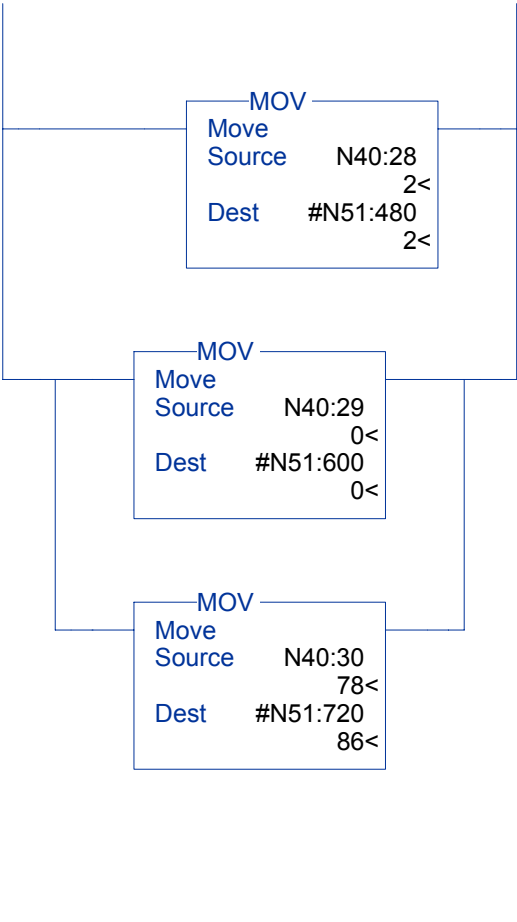
MOV  
Move  
Source N40:25  
3<  
Dest #N51:120  
90<

MOV  
Move  
Source N40:26  
20<  
Dest #N51:240  
2335<

MOV  
Move  
Source N40:27  
1<  
Dest #N51:360  
0<

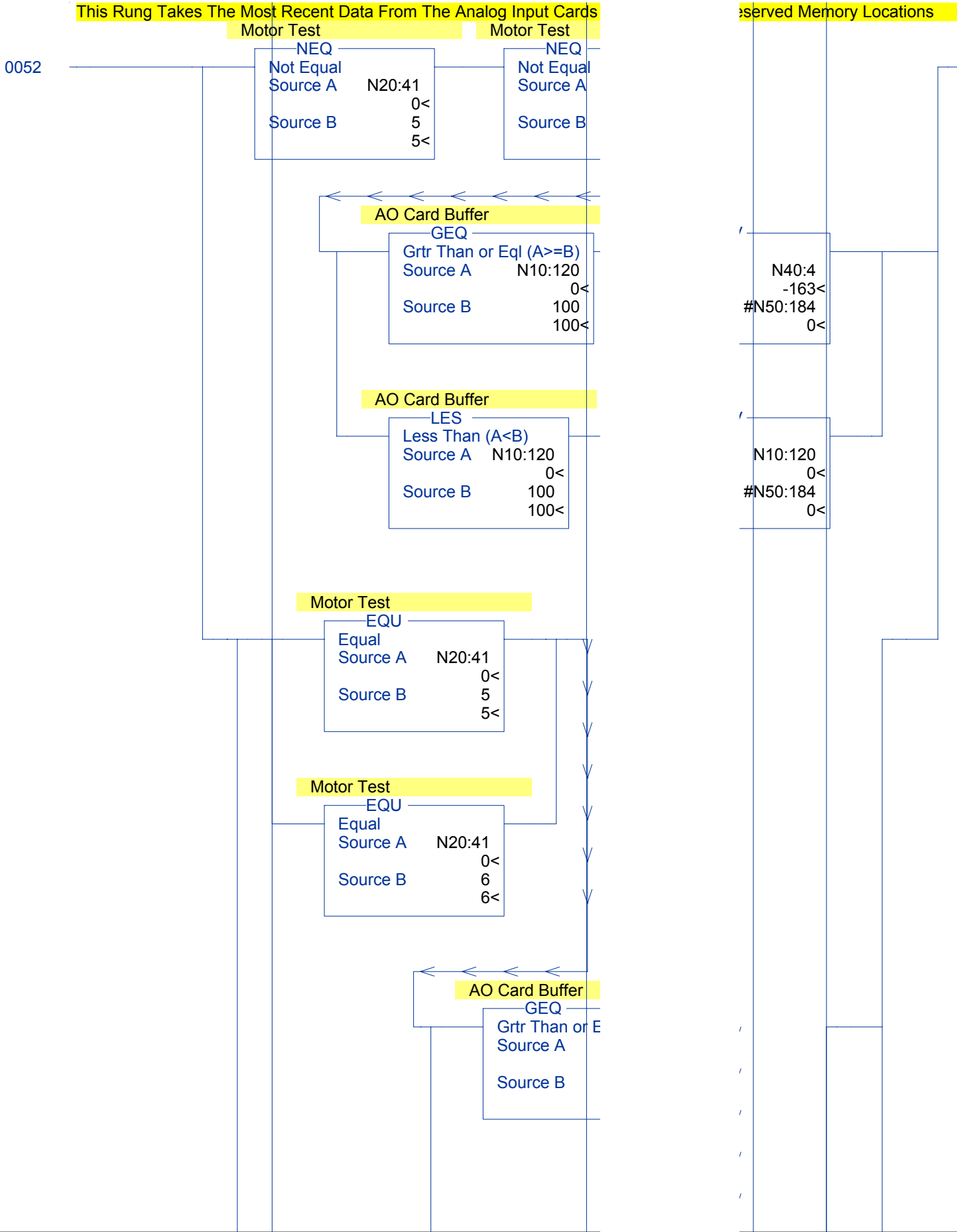
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



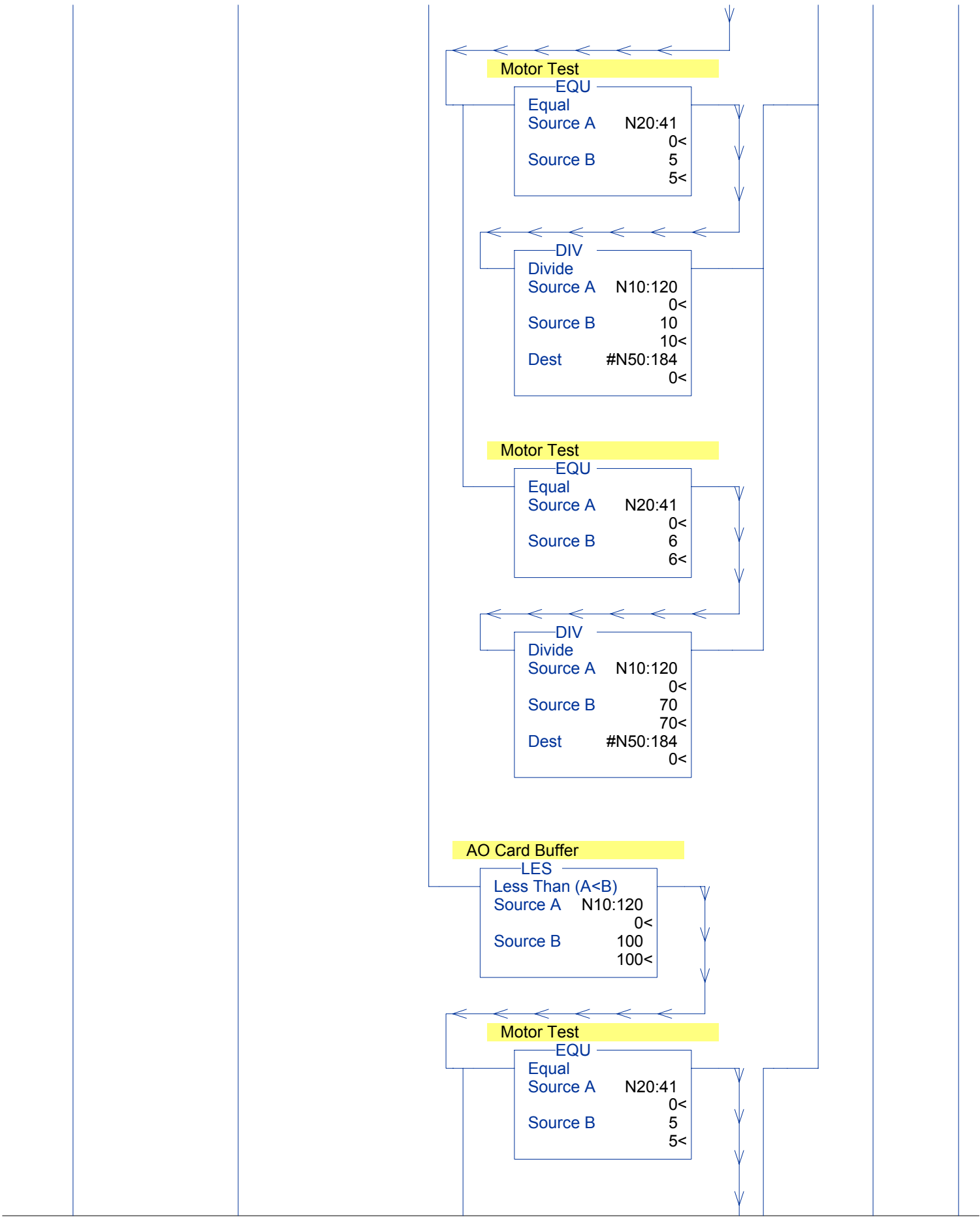
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



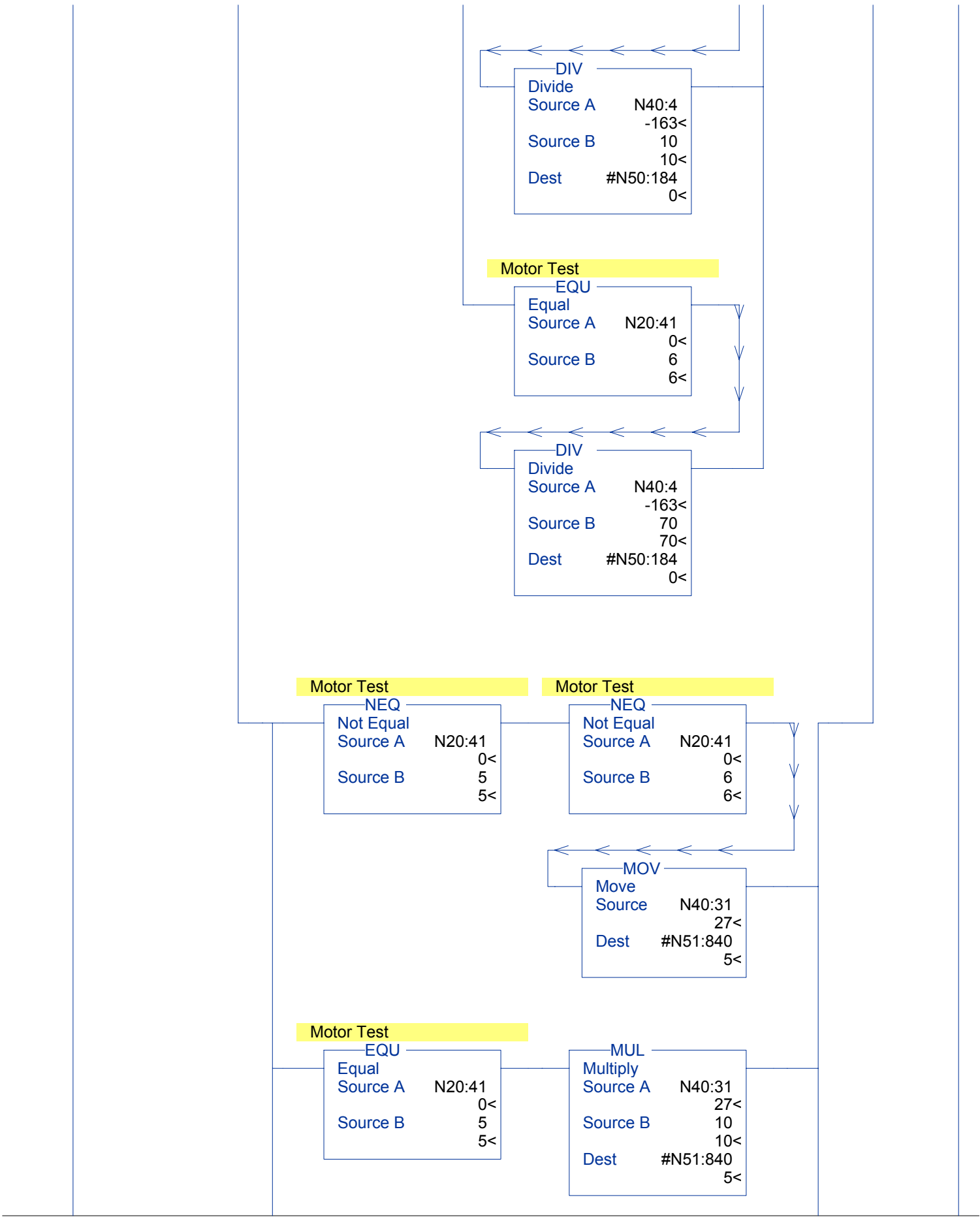
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



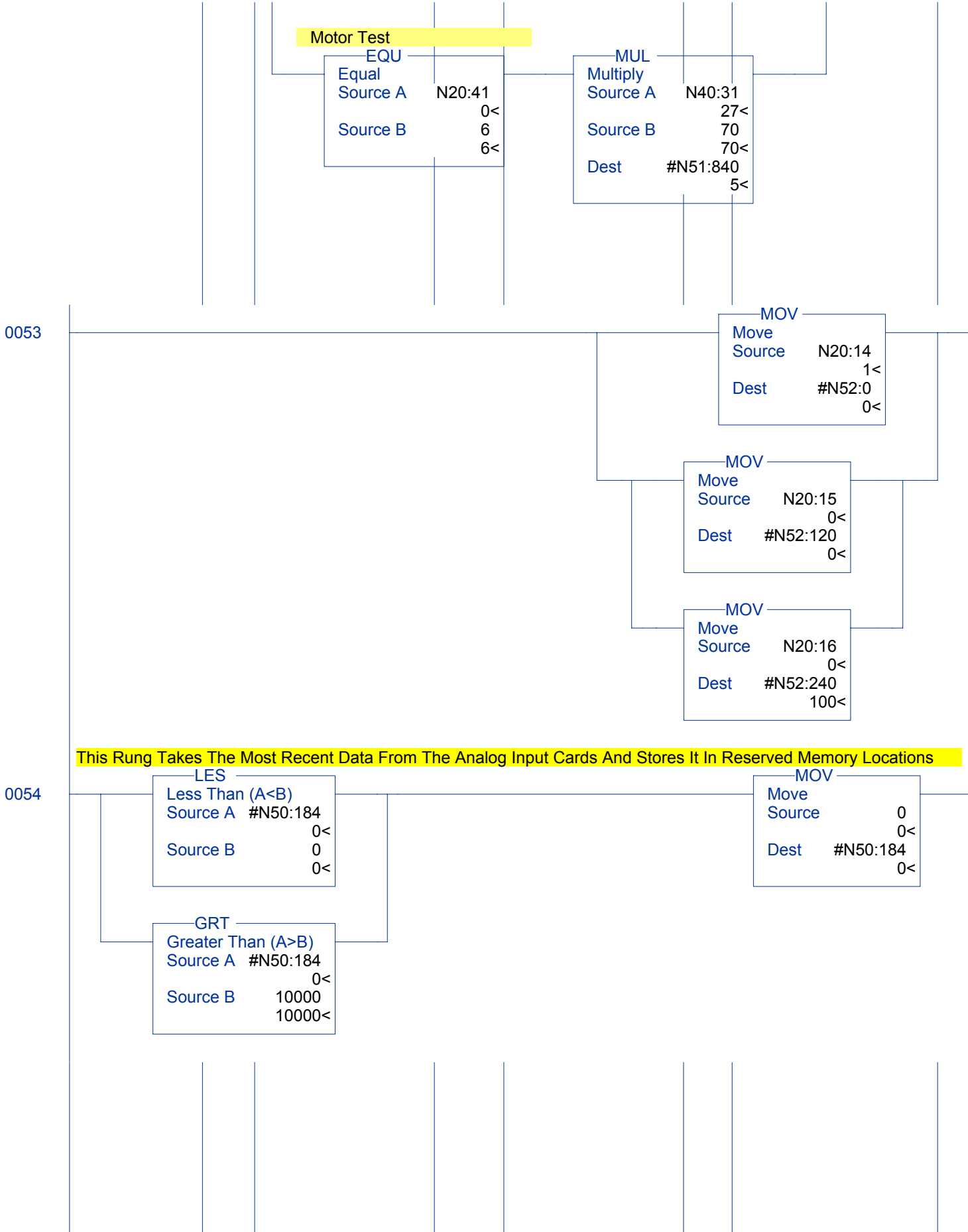
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



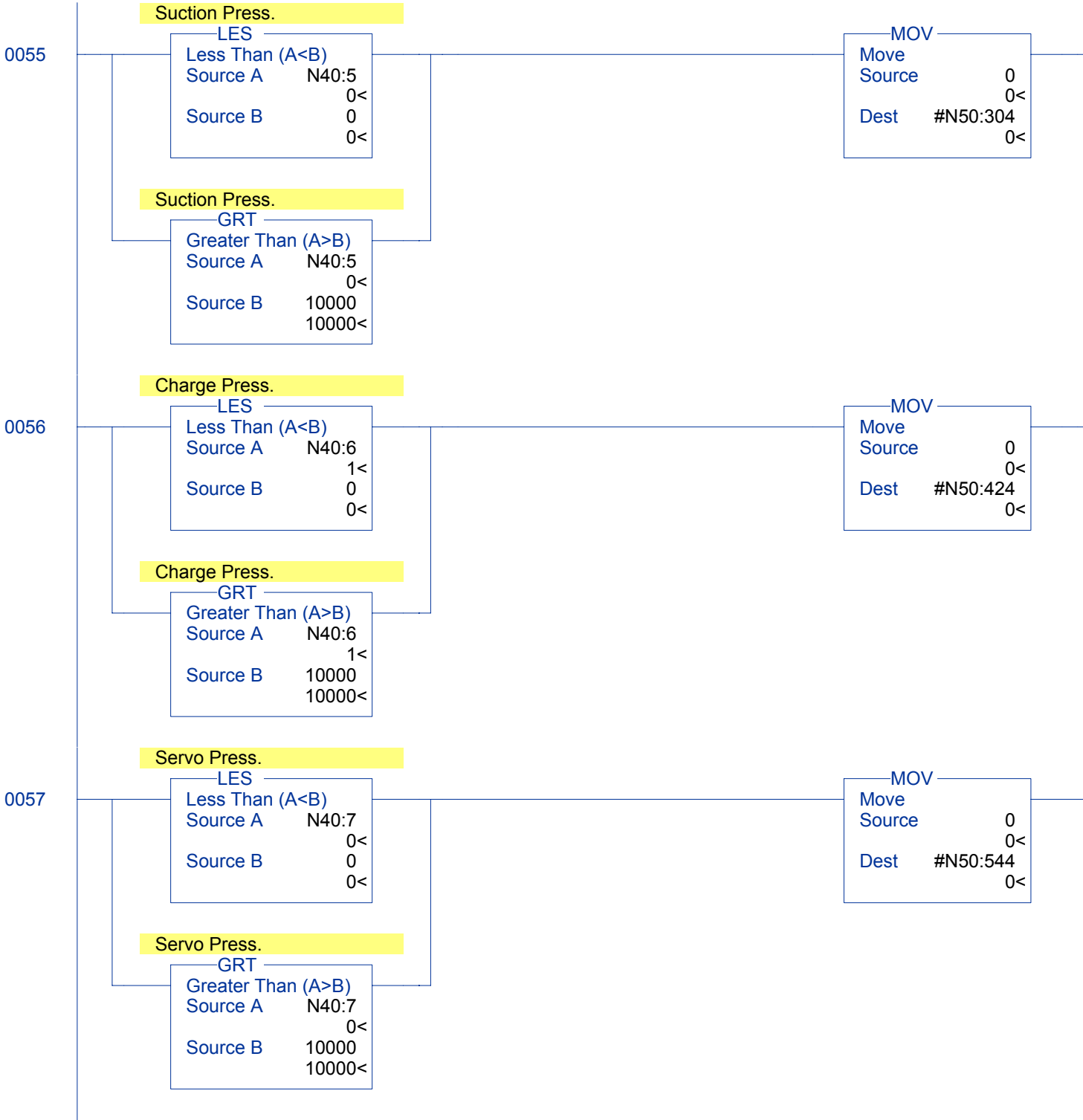
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

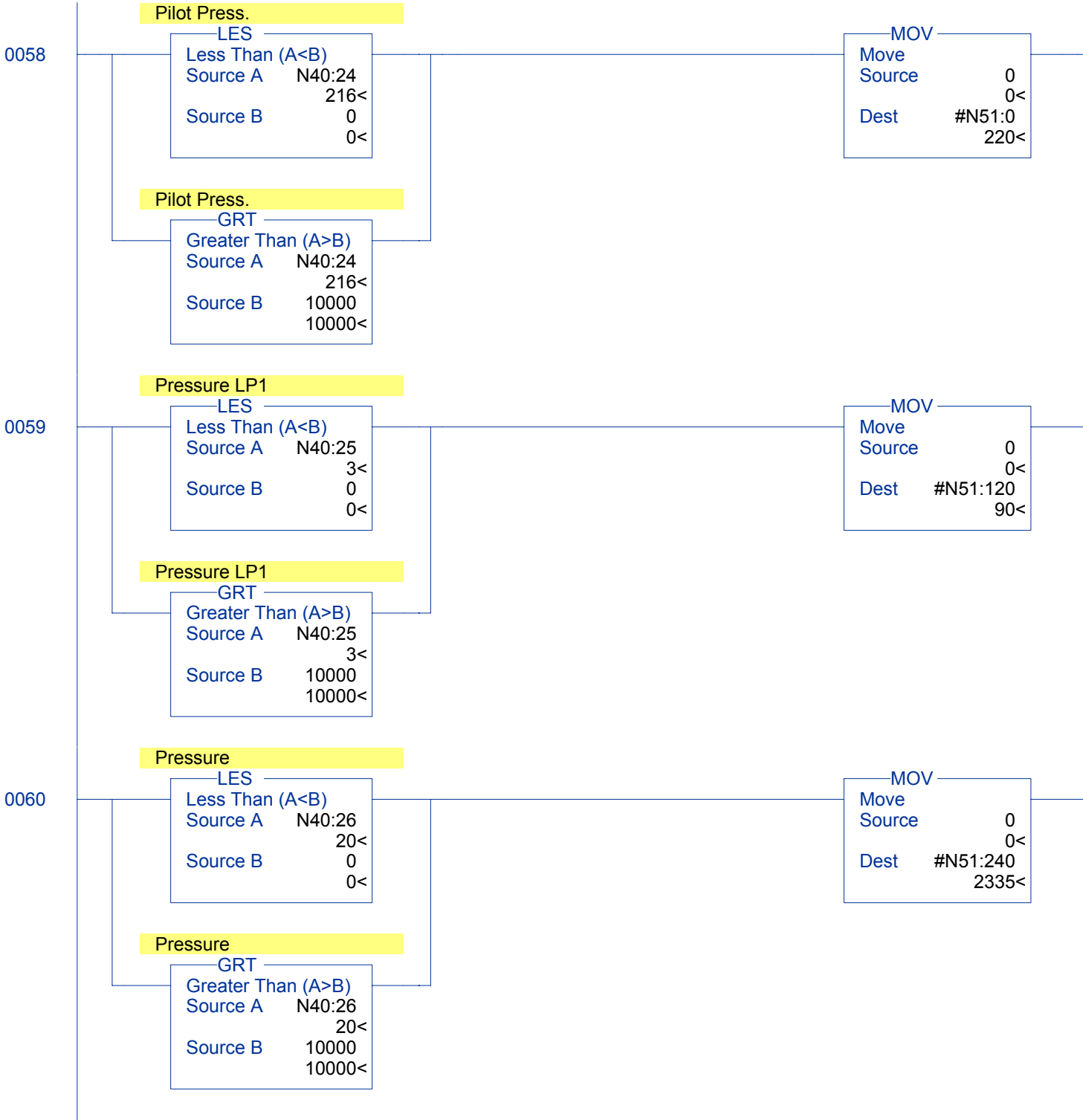
LAD 4 - ANALOG\_INT --- Total Rungs in File = 73





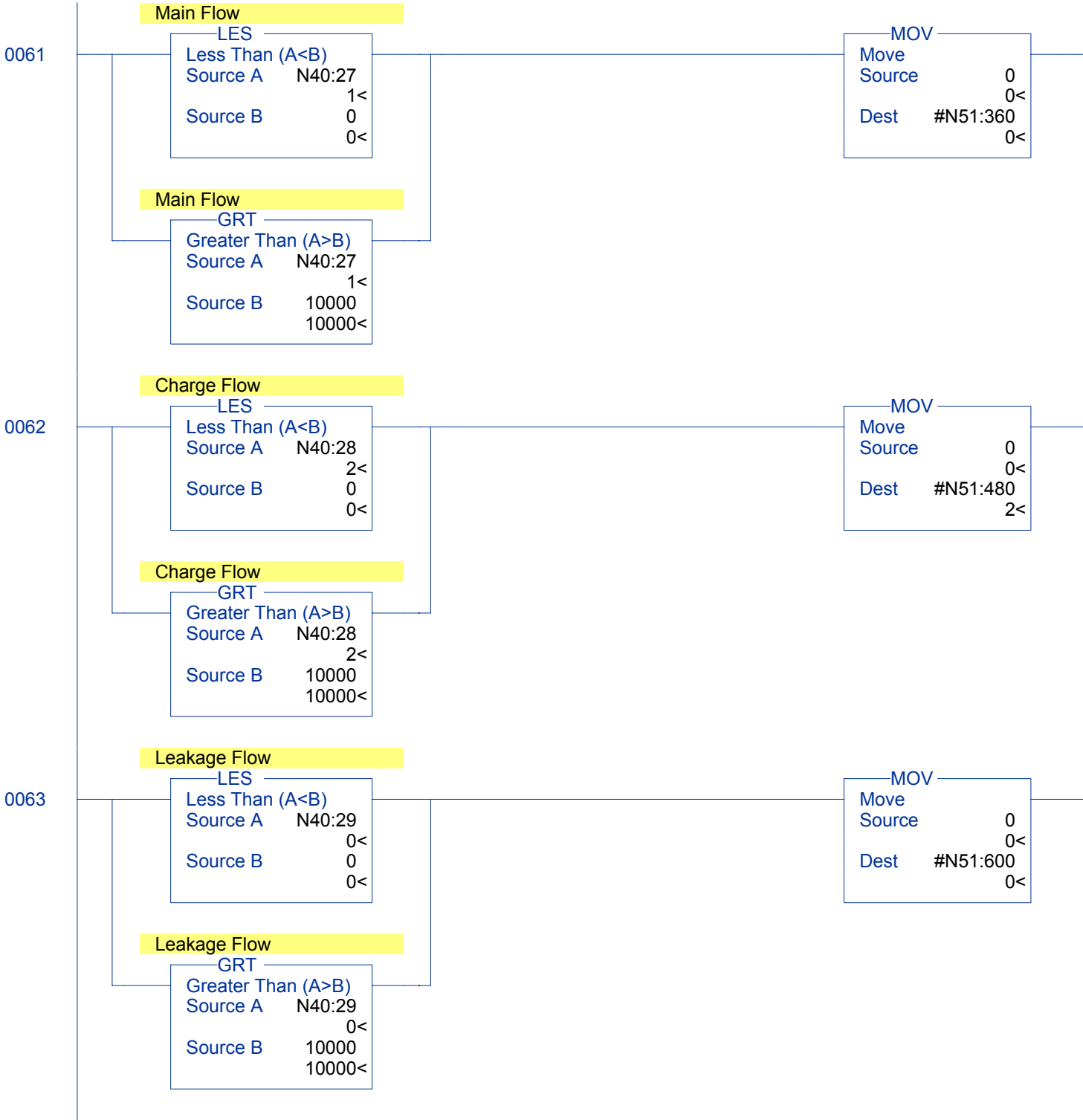
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



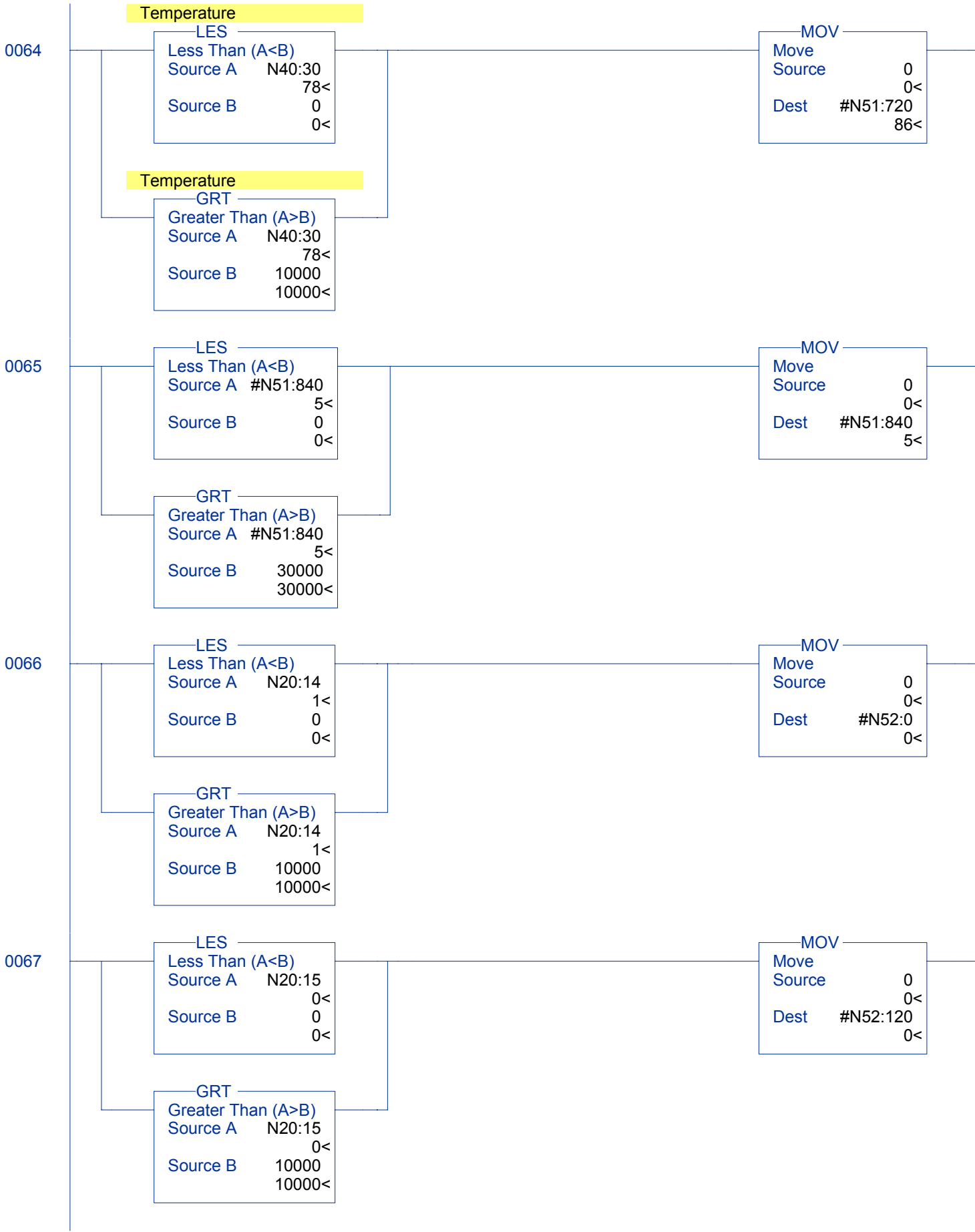
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



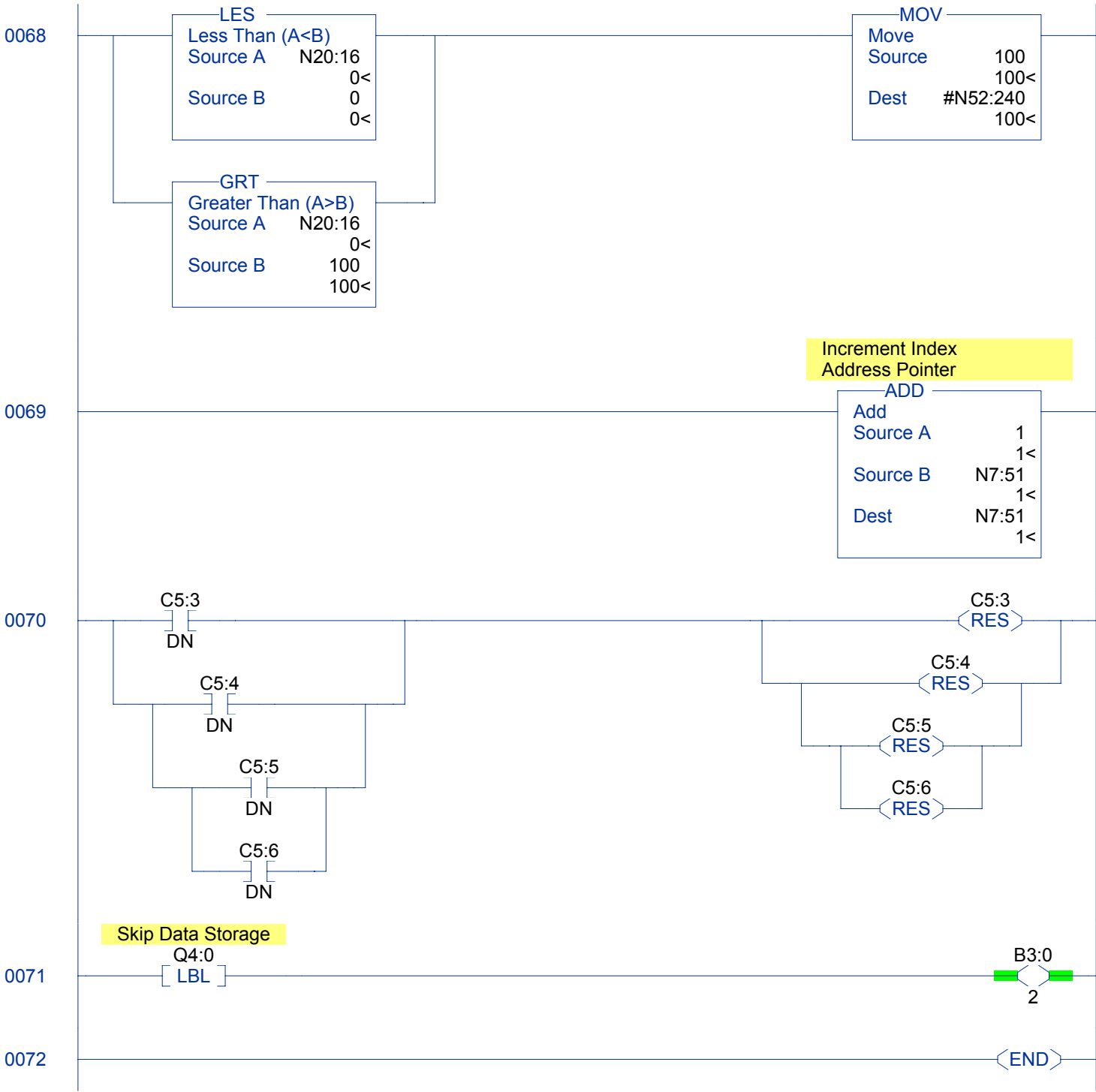
Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



Test Bench Two

LAD 4 - ANALOG\_INT --- Total Rungs in File = 73



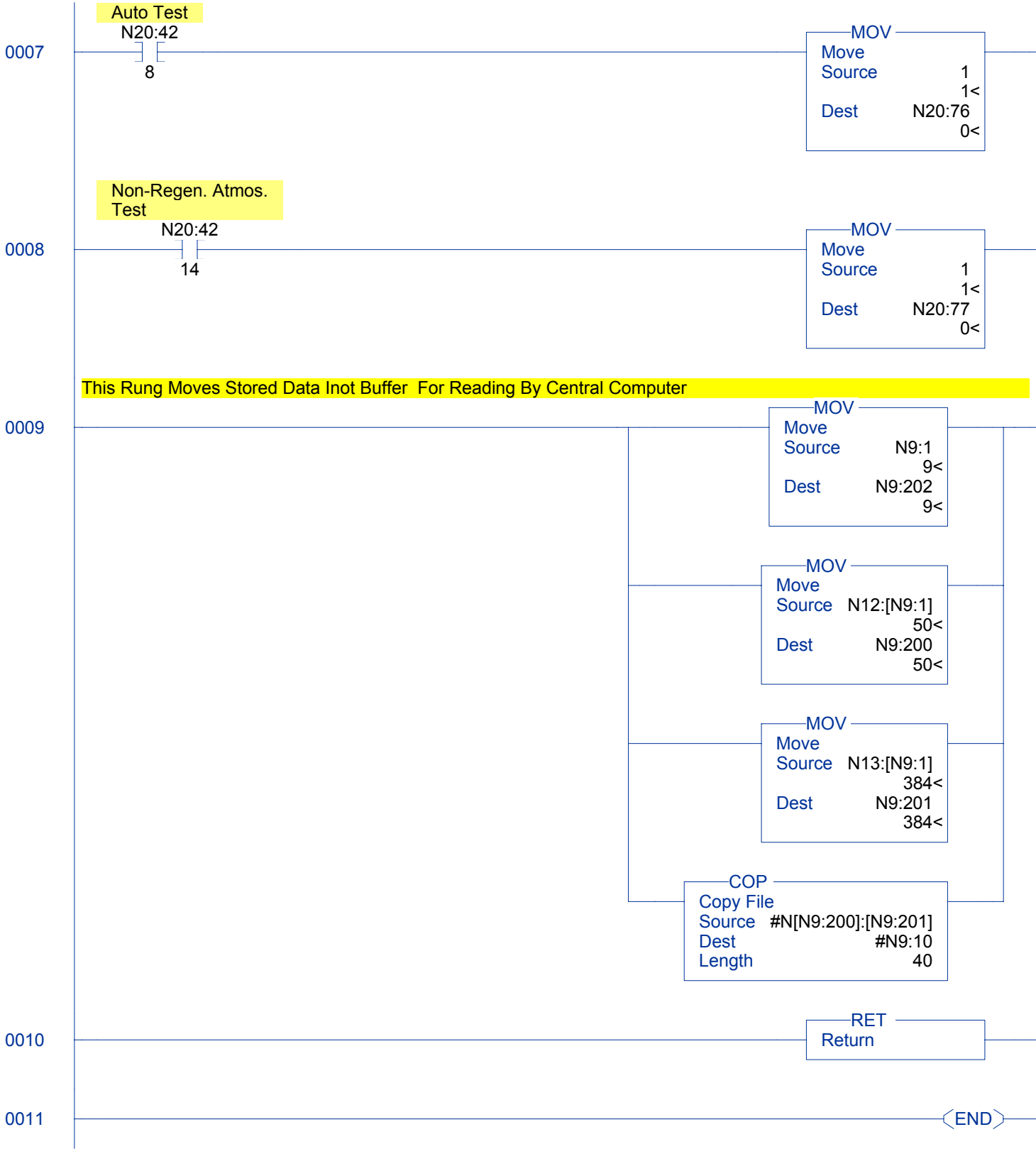
Test Bench Two

LAD 6 - FASTUPLoad --- Total Rungs in File = 12



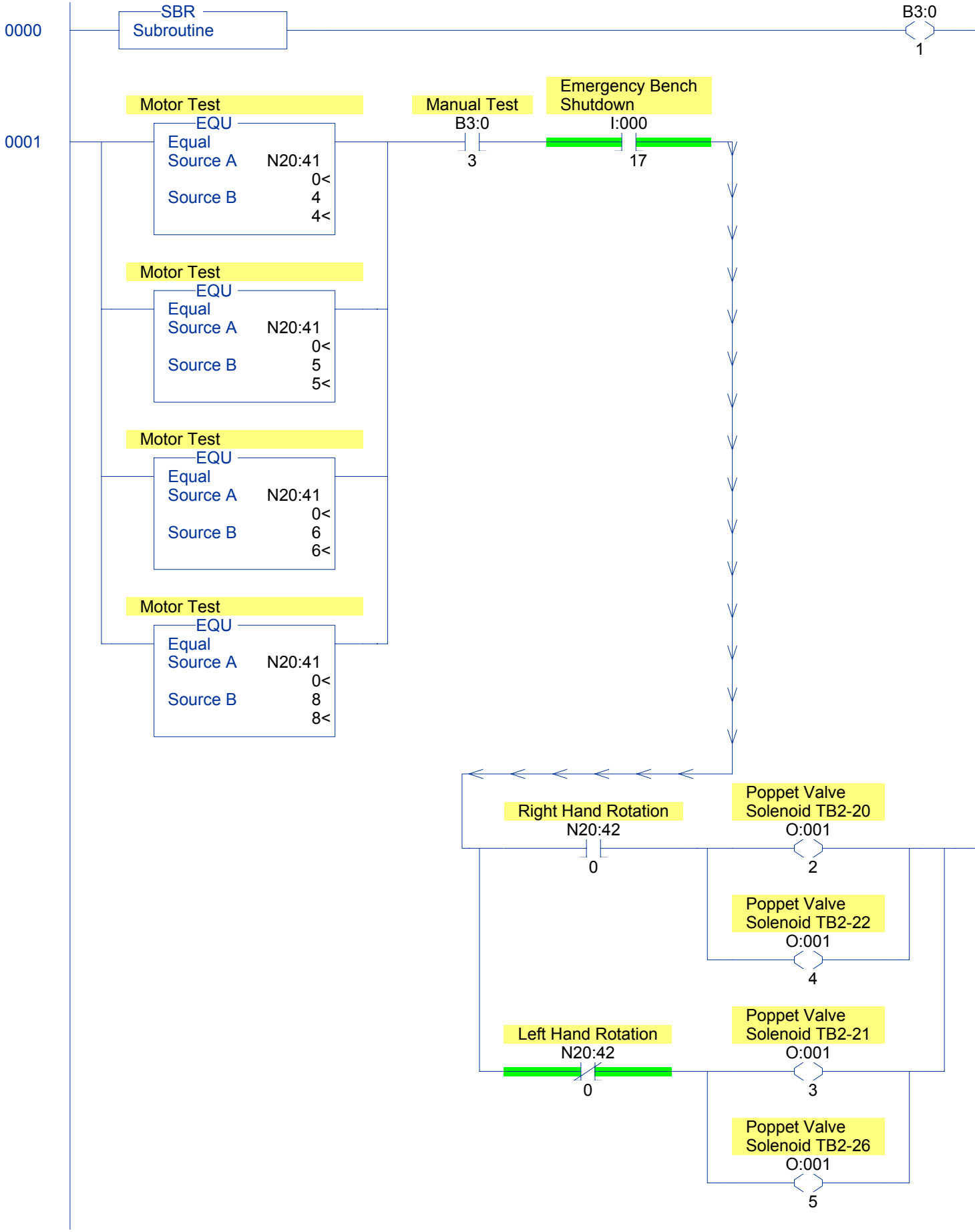
Test Bench Two

LAD 6 - FASTUPLOAD --- Total Rungs in File = 12



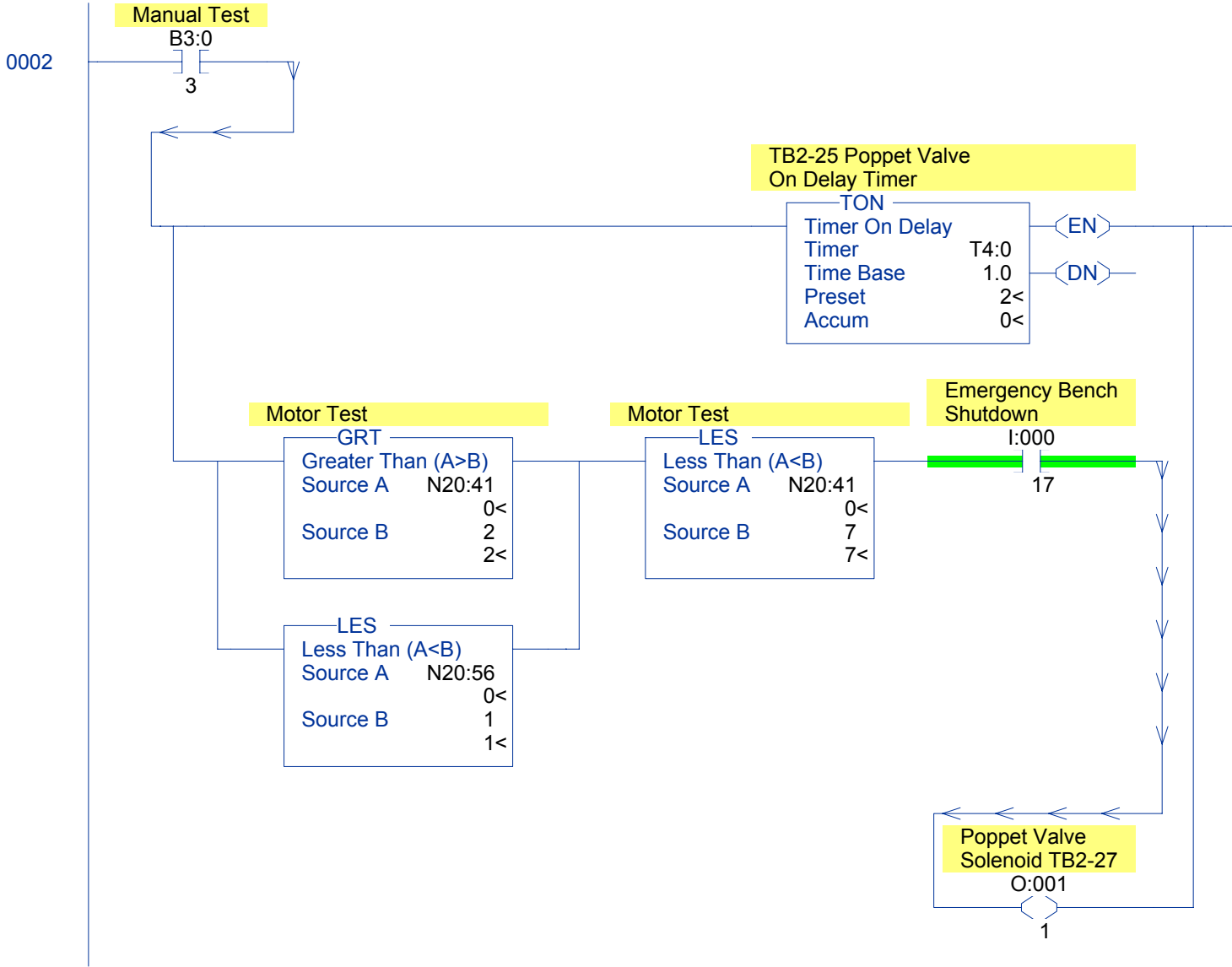
Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



Test Bench Two

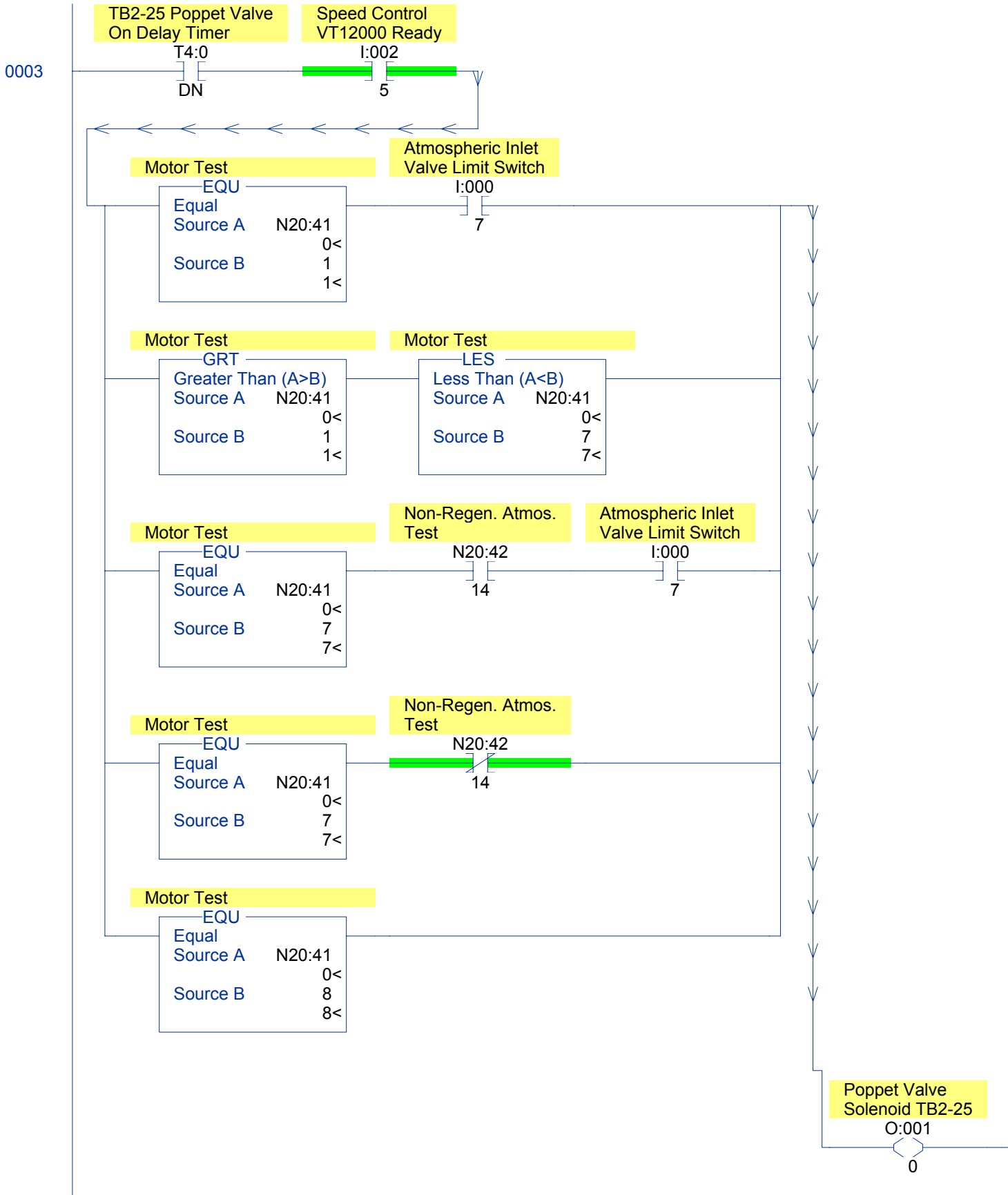
LAD 7 - MAN\_TEST --- Total Rungs in File = 17





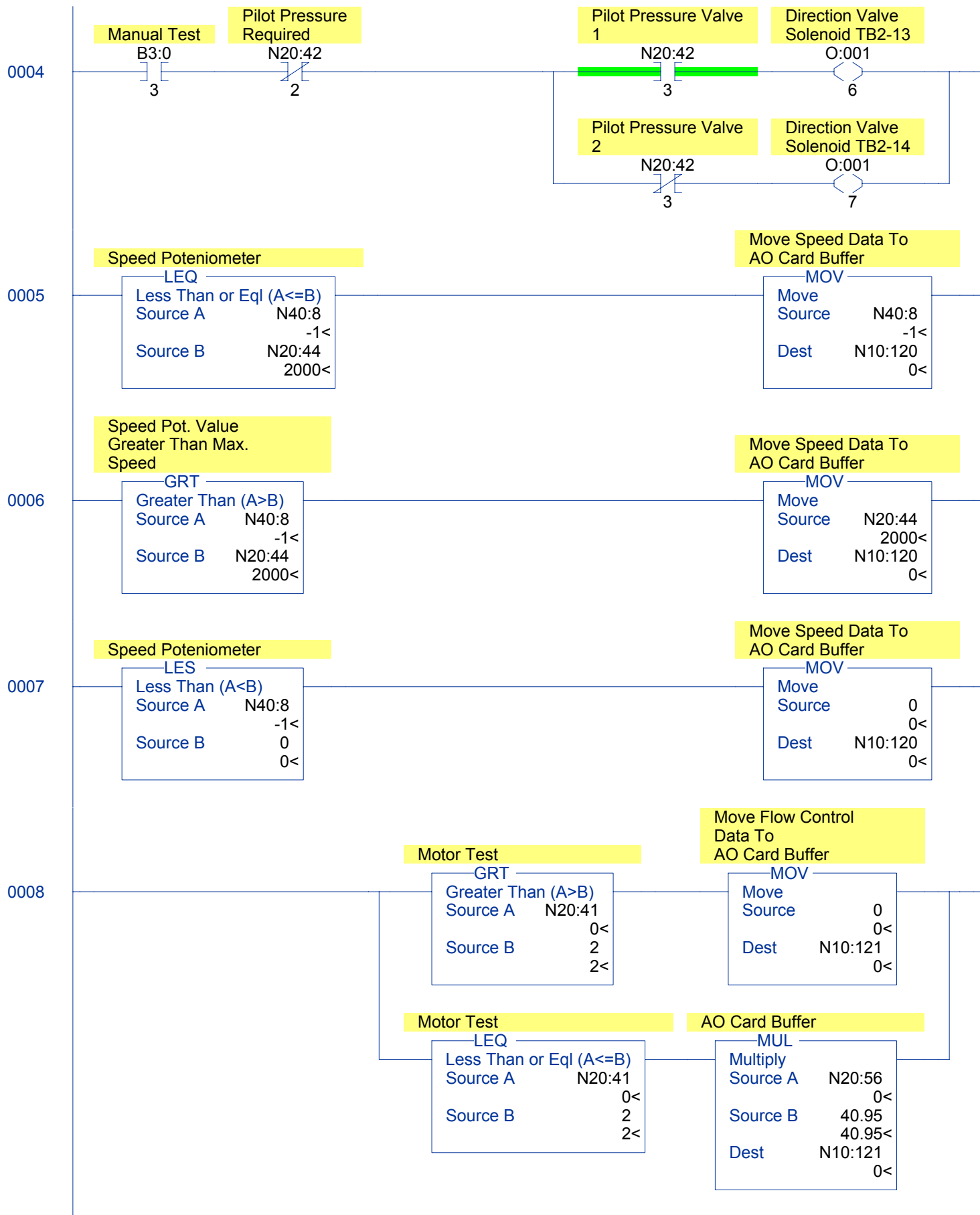
Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



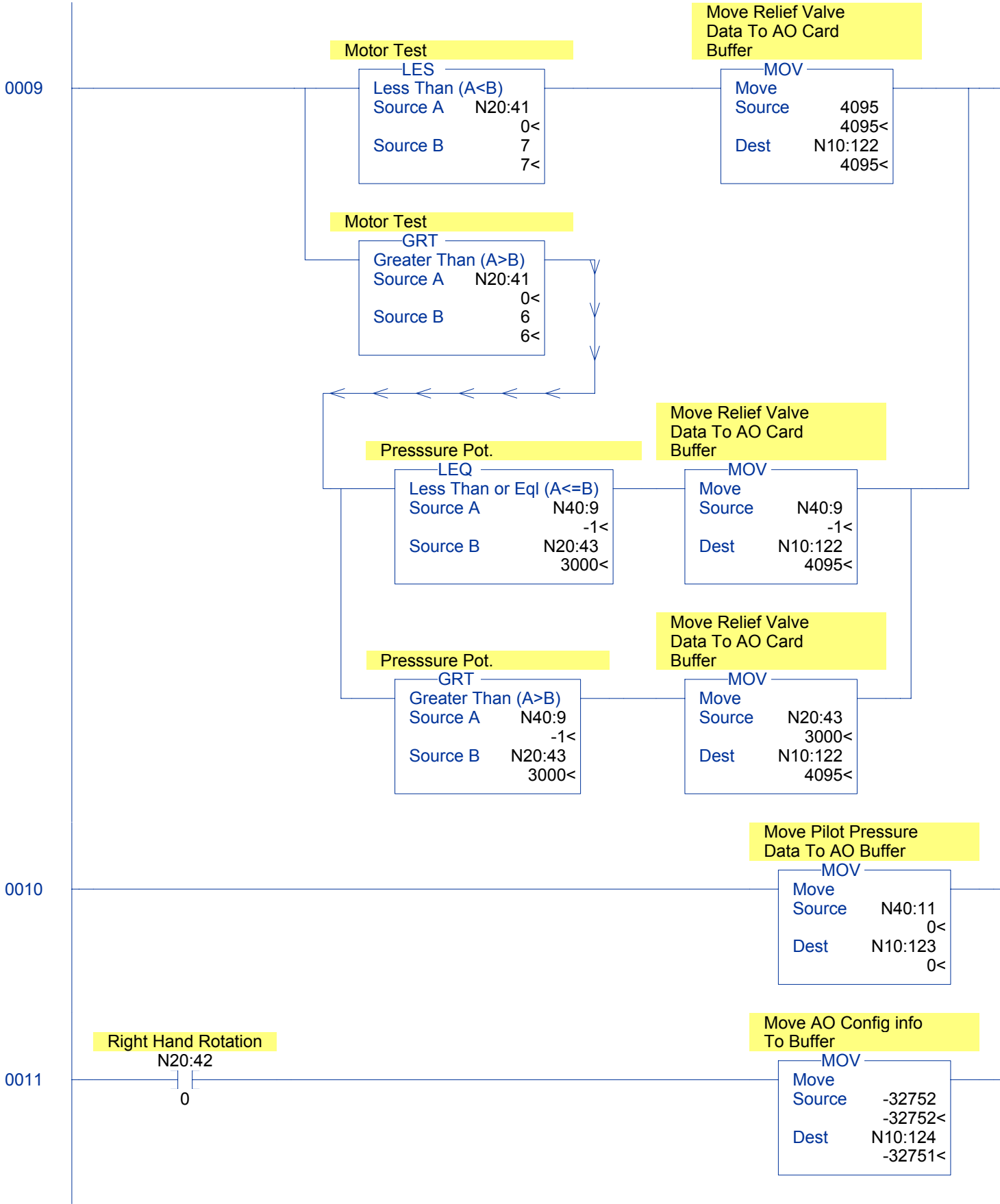
# Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17

0013

MOV

Move	
Source	2000
	2000<
Dest	N10:125
	2000<

MOV

Move	
Source	2000
	2000<
Dest	N10:126
	2000<

MOV

Move	
Source	0
	0<
Dest	N10:127
	0<

MOV

Move	
Source	5000
	5000<
Dest	N10:128
	5000<

MOV

Move	
Source	0
	0<
Dest	N10:129
	0<

MOV

Move	
Source	4095
	4095<
Dest	N10:130
	4095<

MOV

Move	
Source	0
	0<
Dest	N10:131
	0<

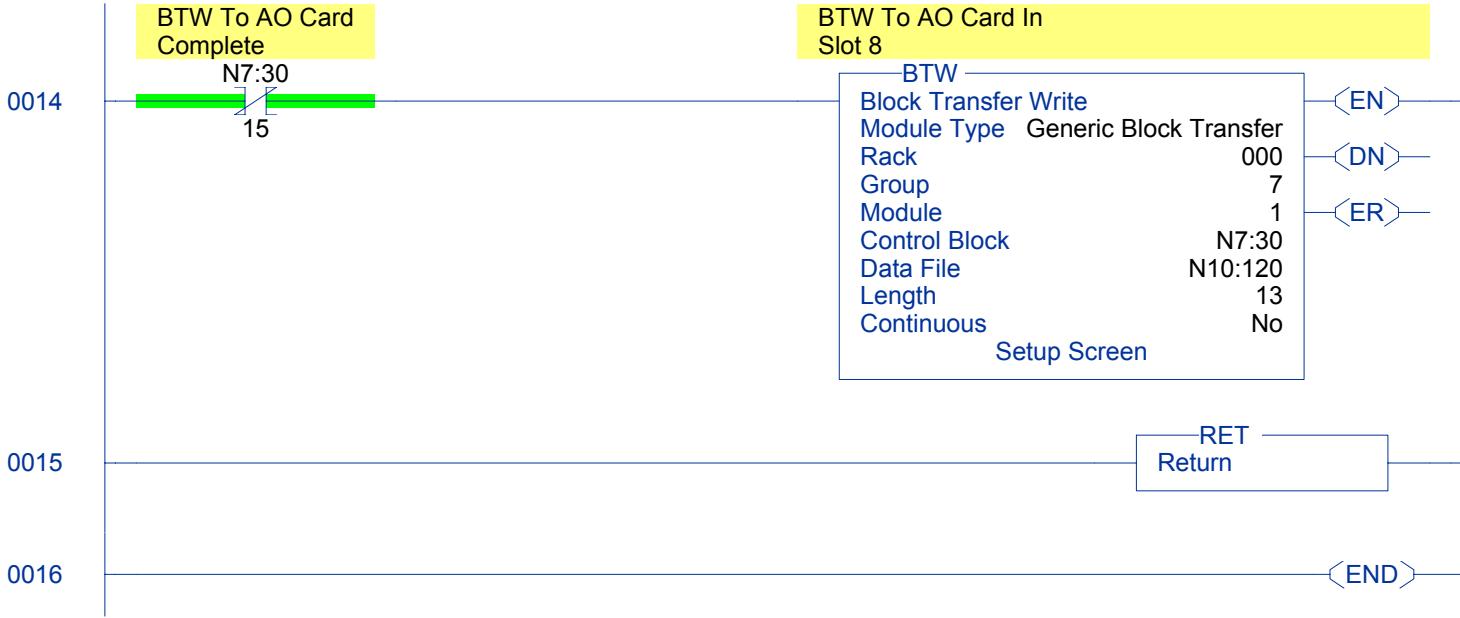
Scale AO Card Output  
Channel 4

MOV

Move	
Source	750
	750<
Dest	N10:132
	750<

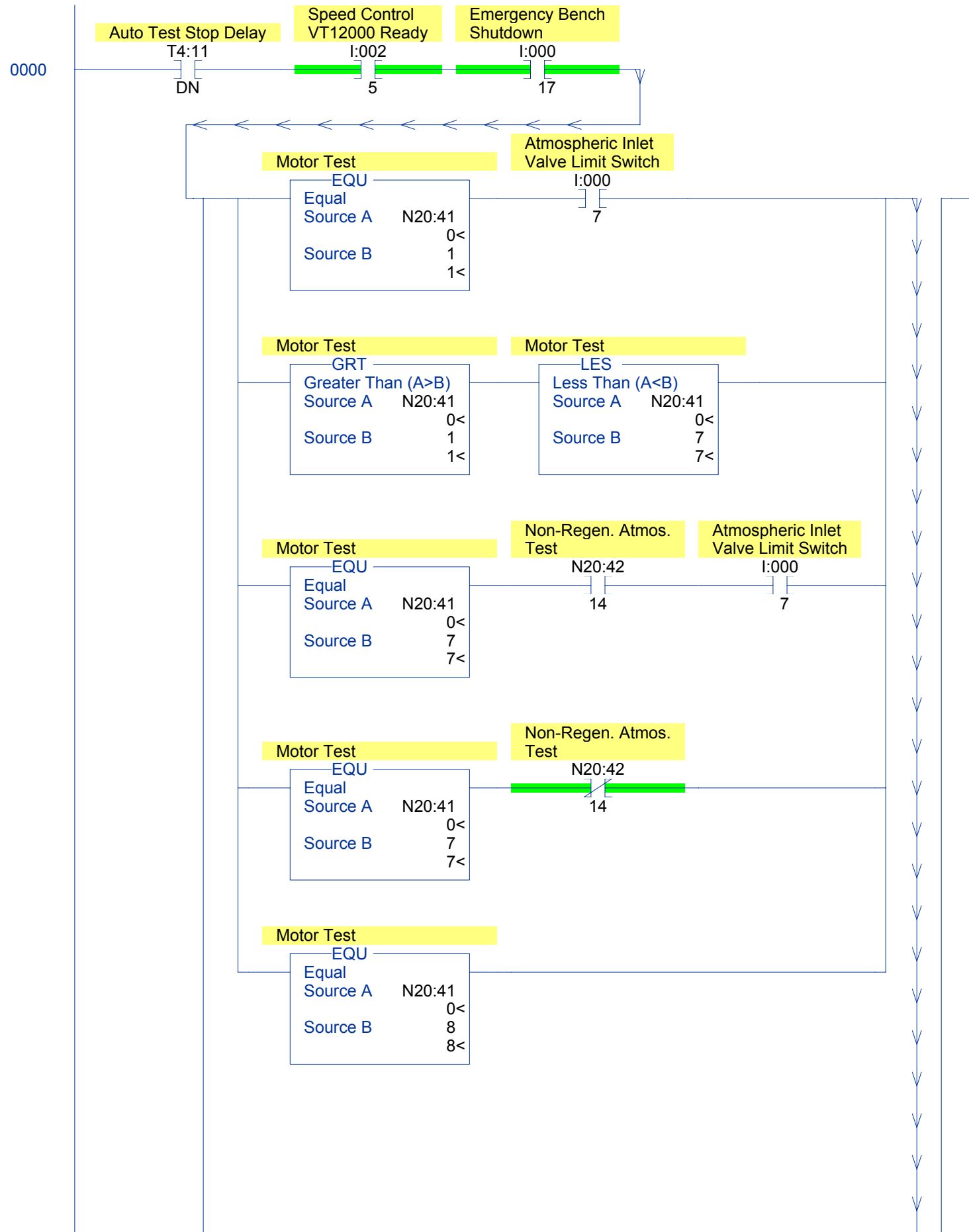
Test Bench Two

LAD 7 - MAN\_TEST --- Total Rungs in File = 17



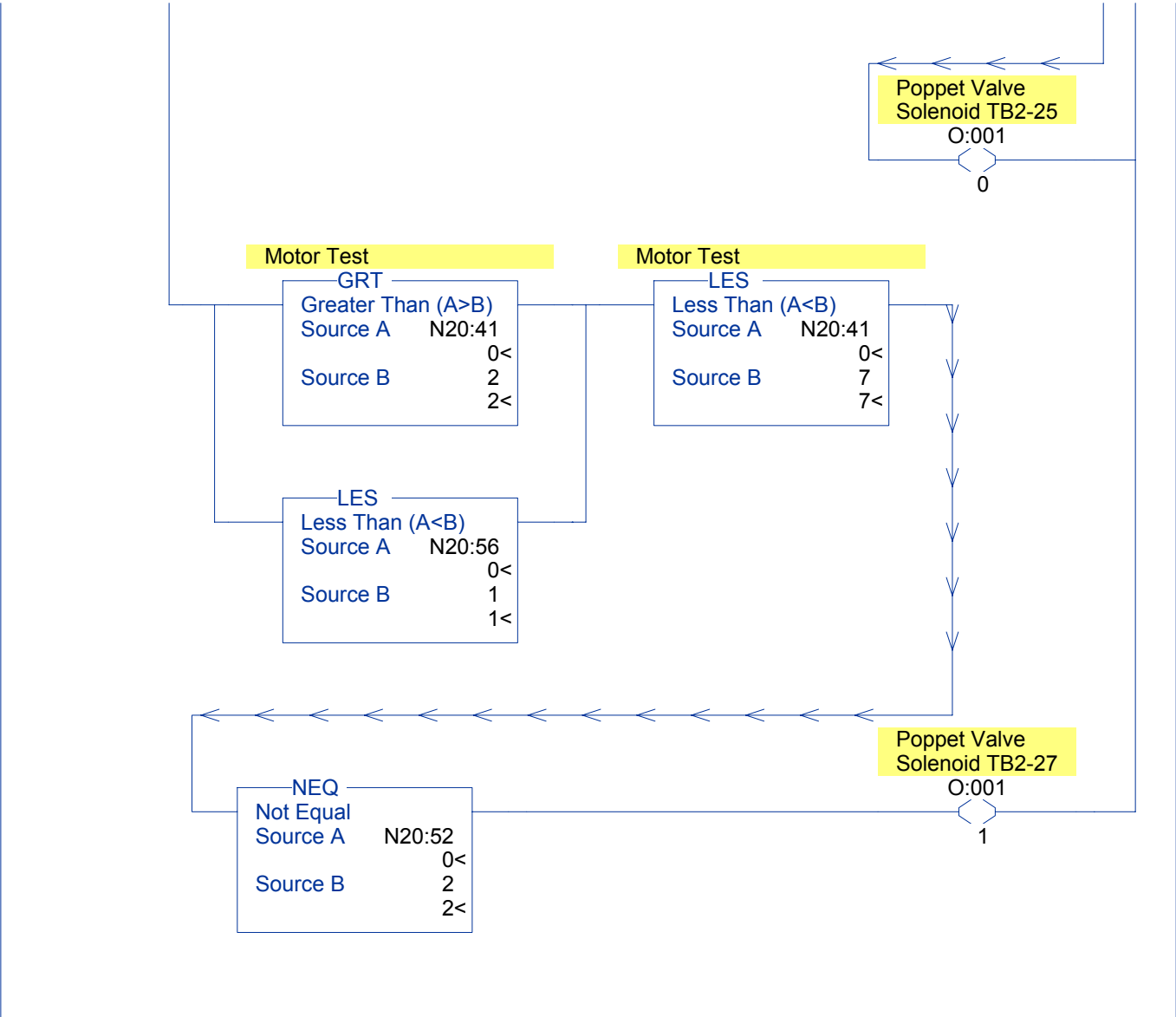
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



Test Bench Two

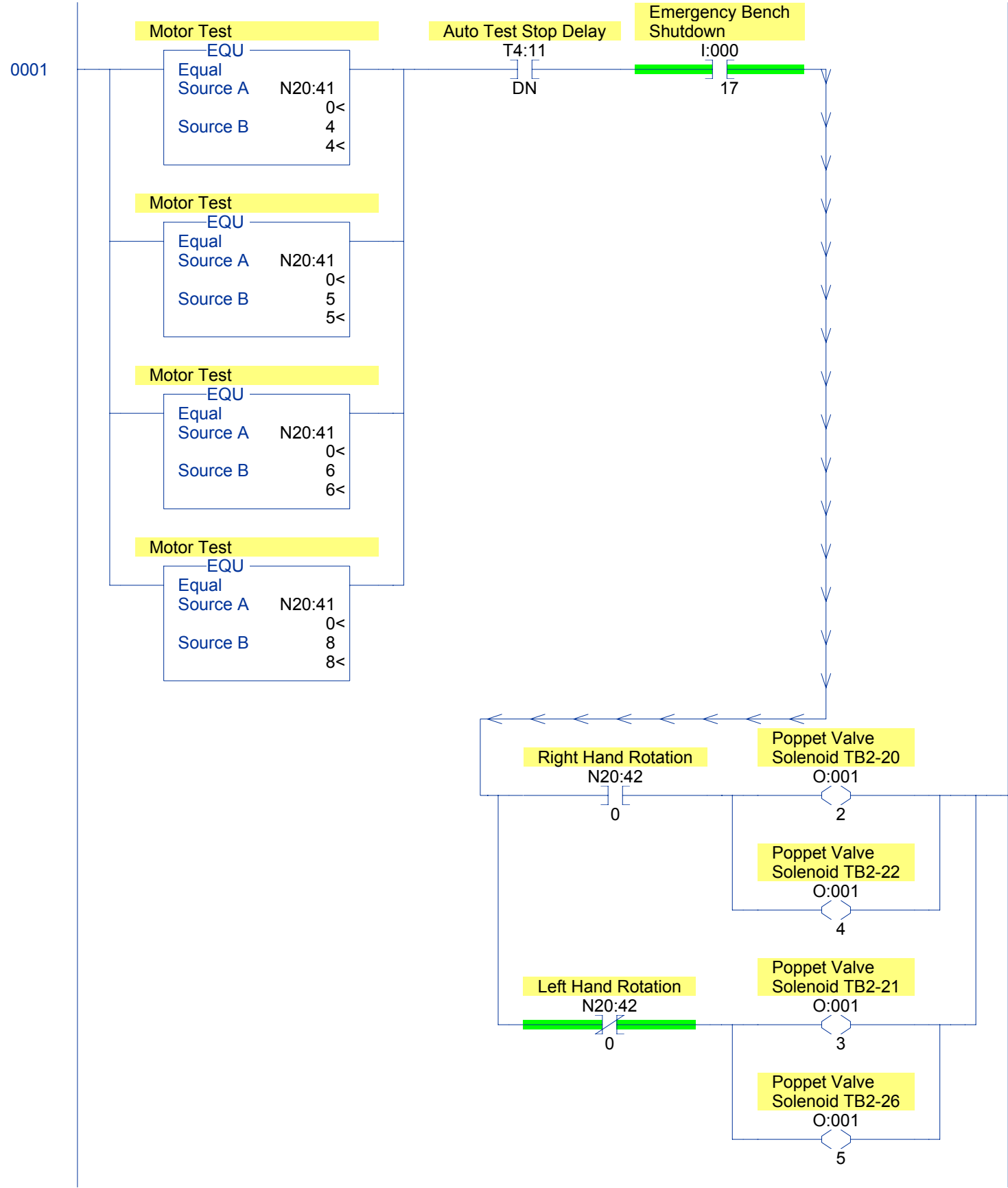
LAD 8 - AUTO\_TEST --- Total Rungs in File = 30





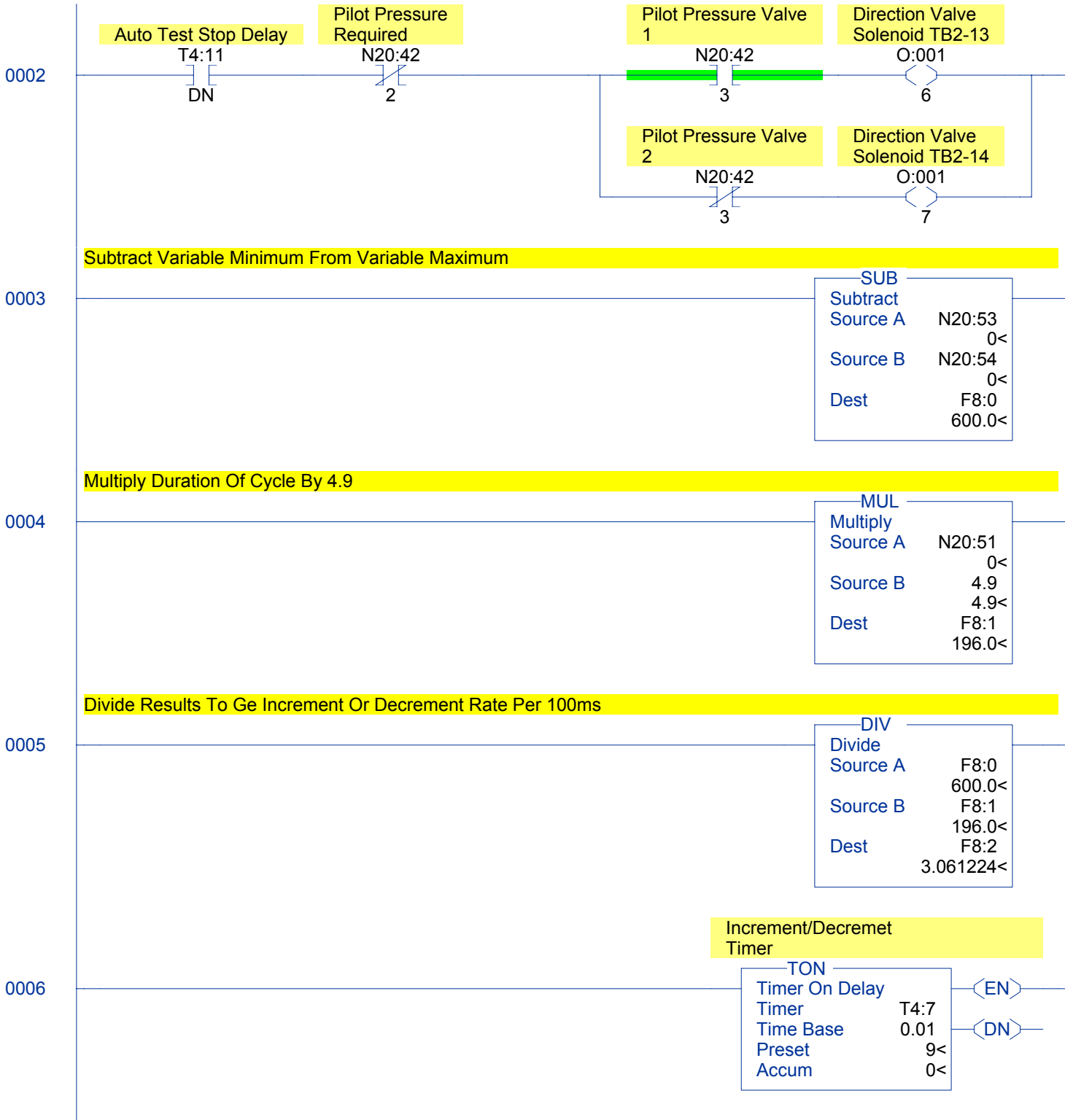
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



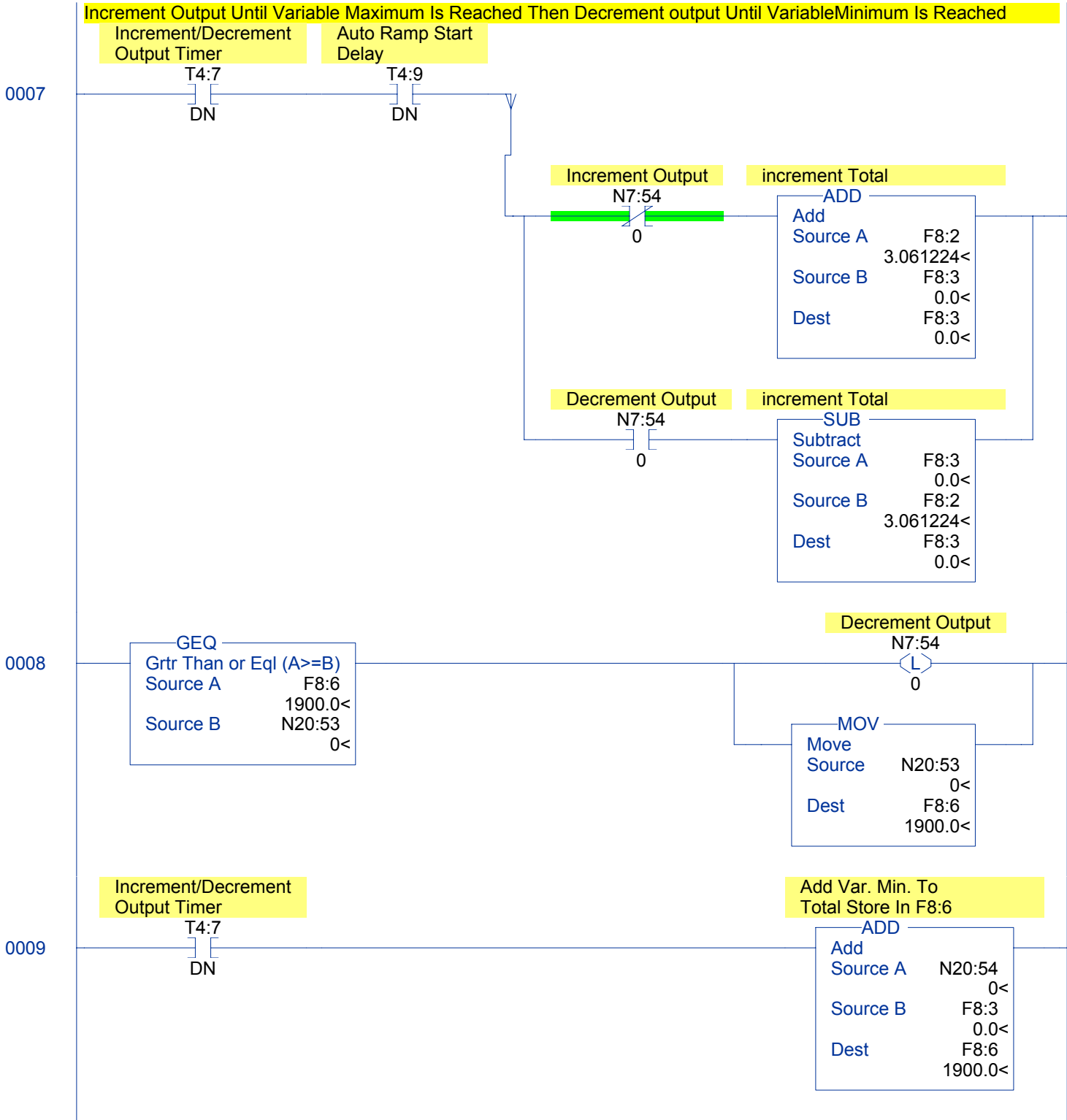
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



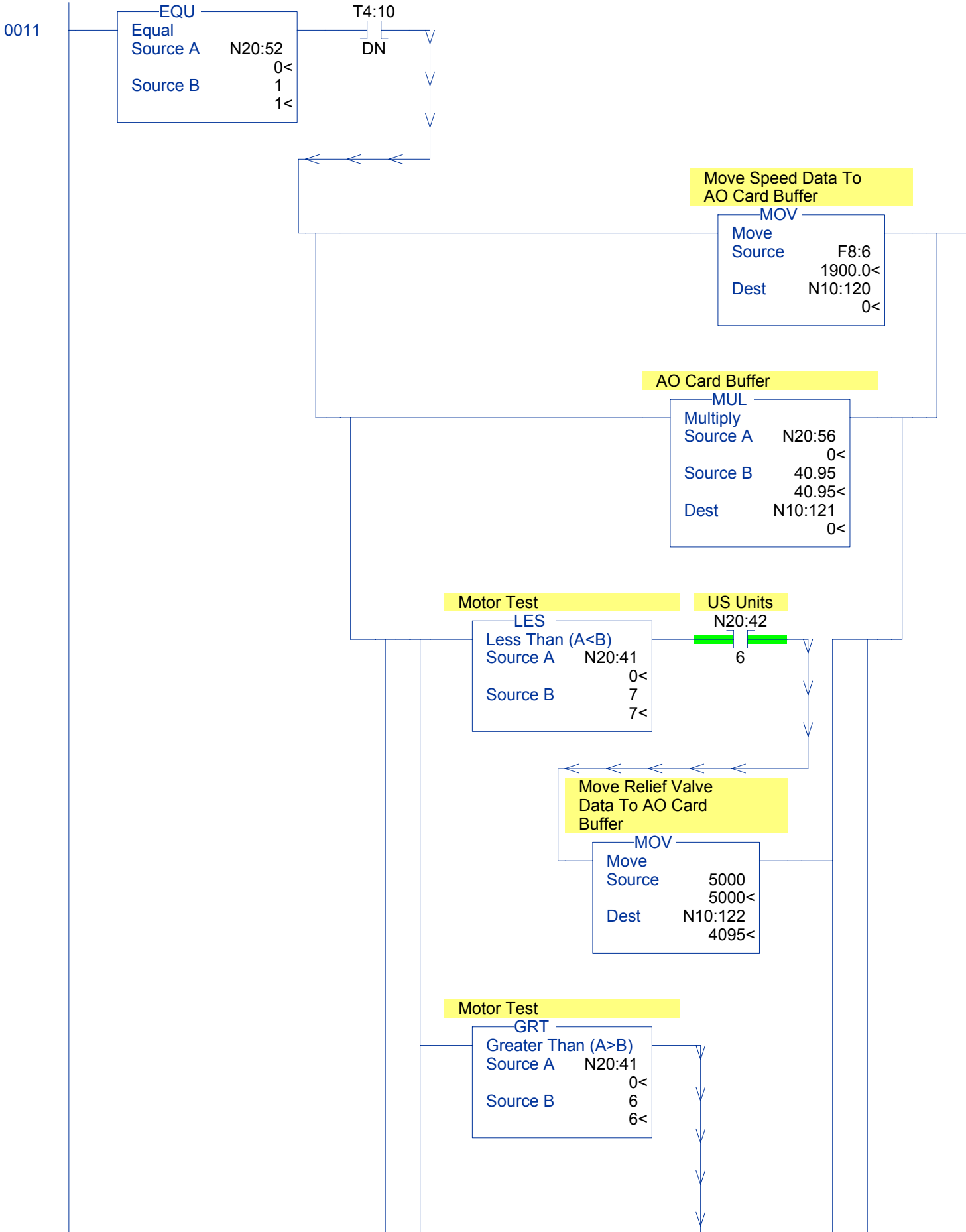
## Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



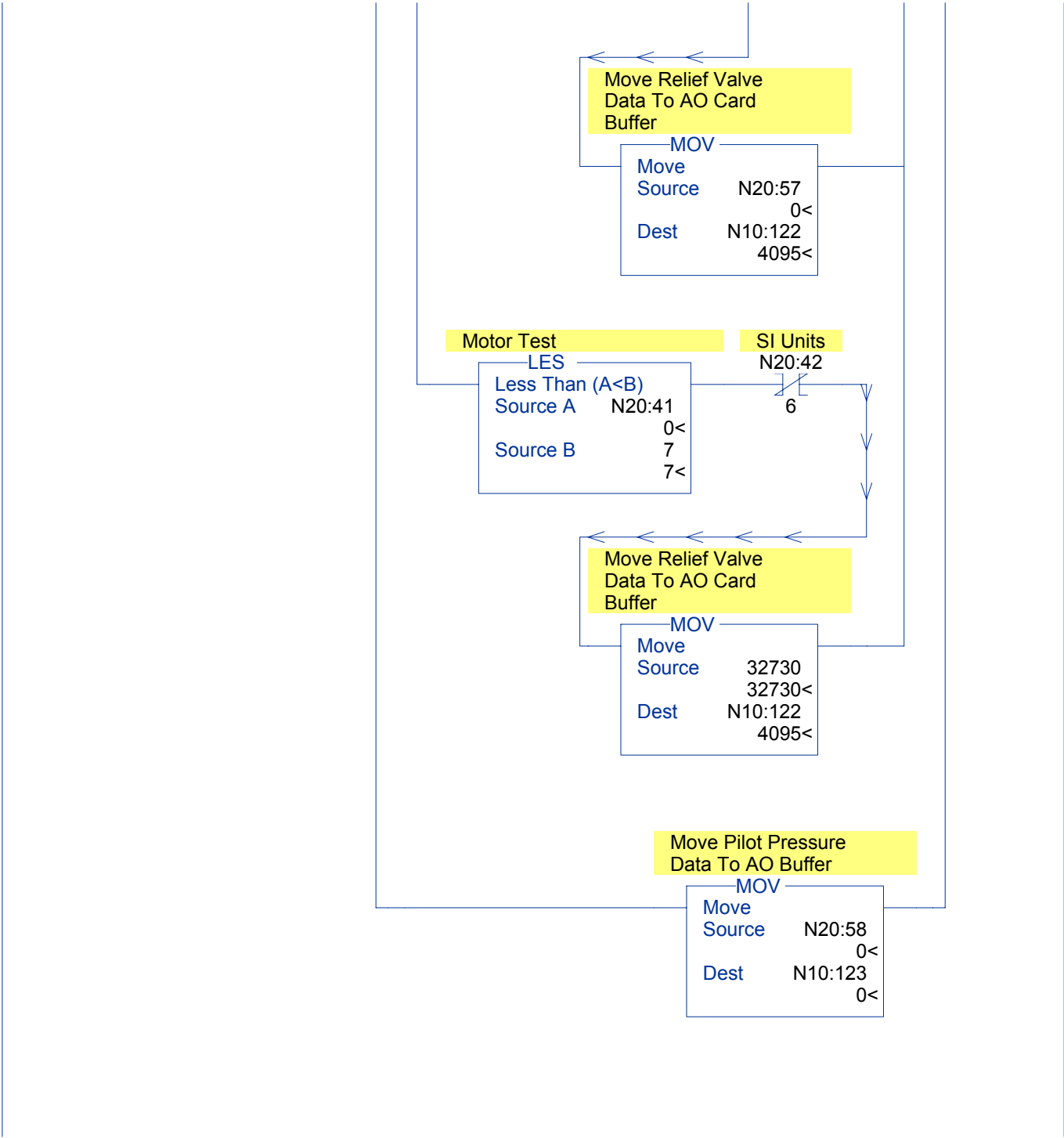
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



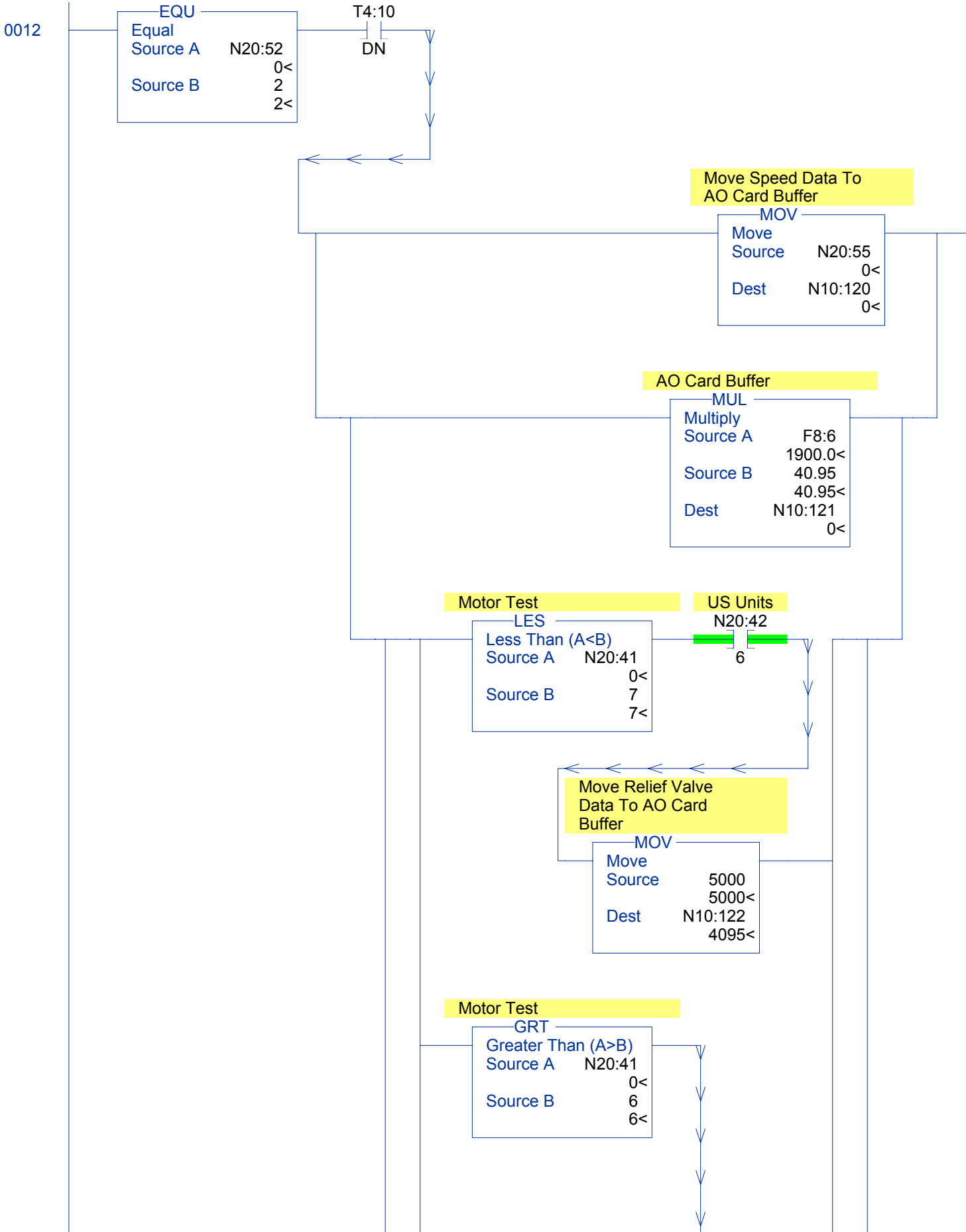
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



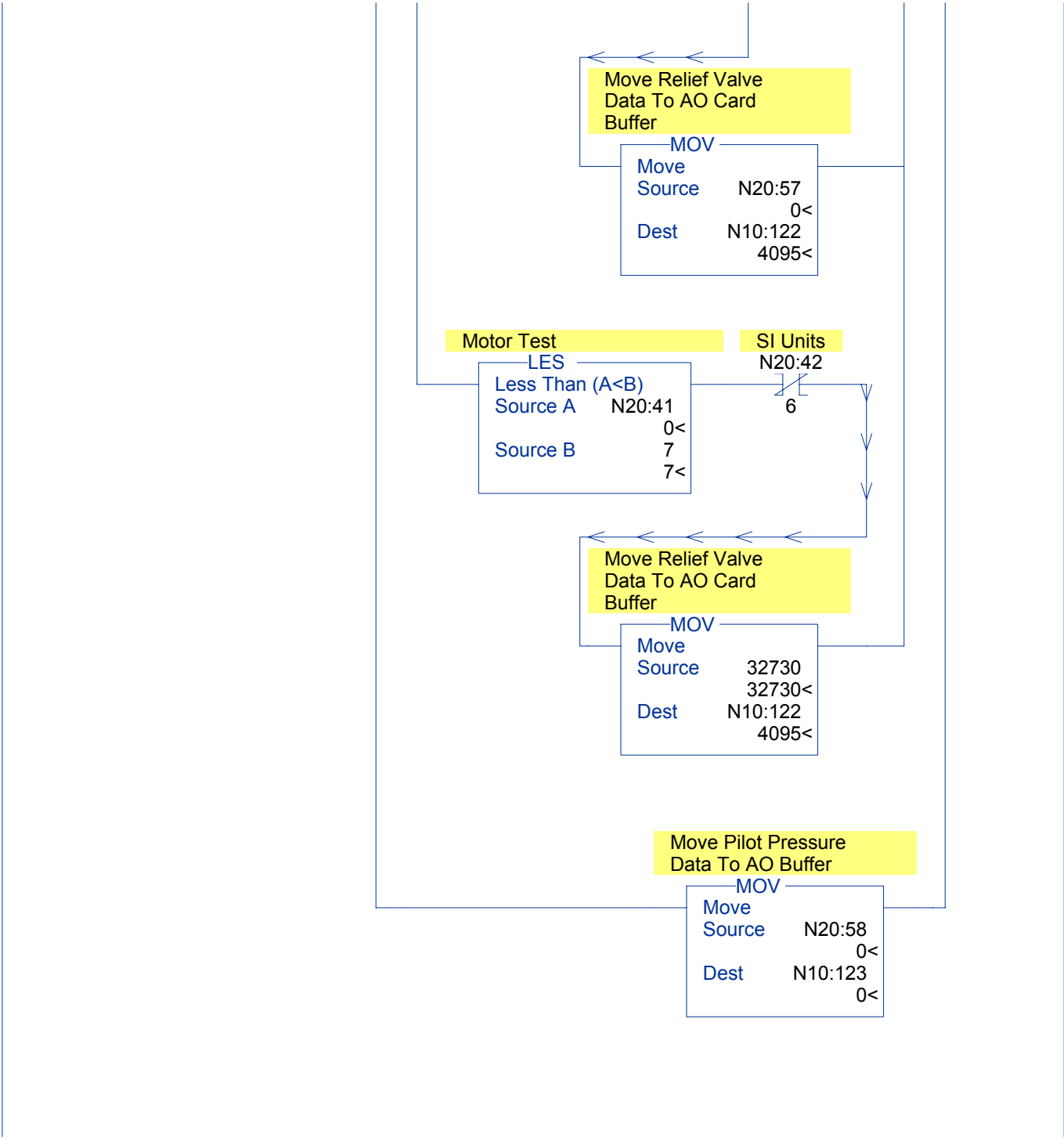
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



Test Bench Two

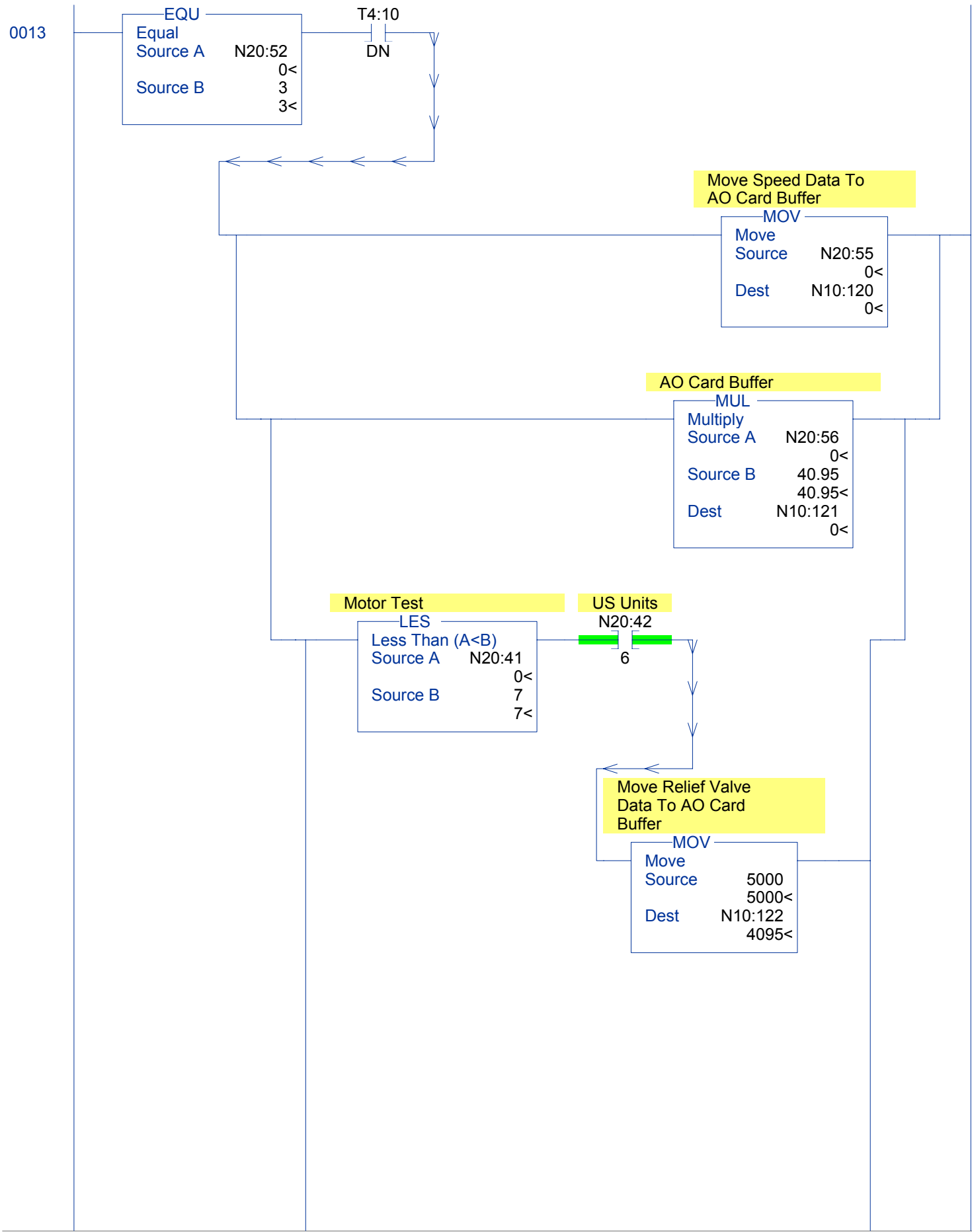
LAD 8 - AUTO\_TEST --- Total Rungs in File = 30





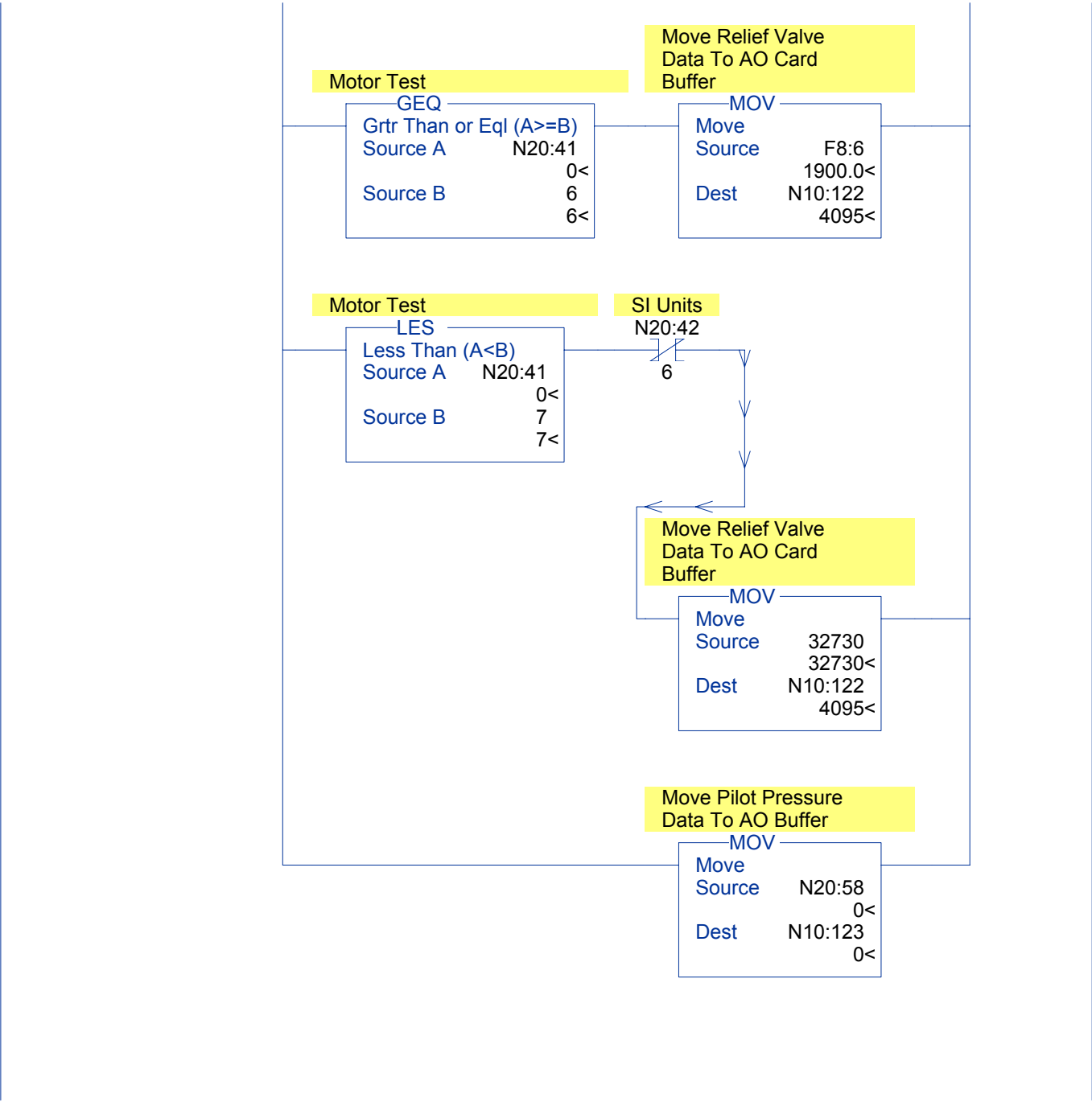
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



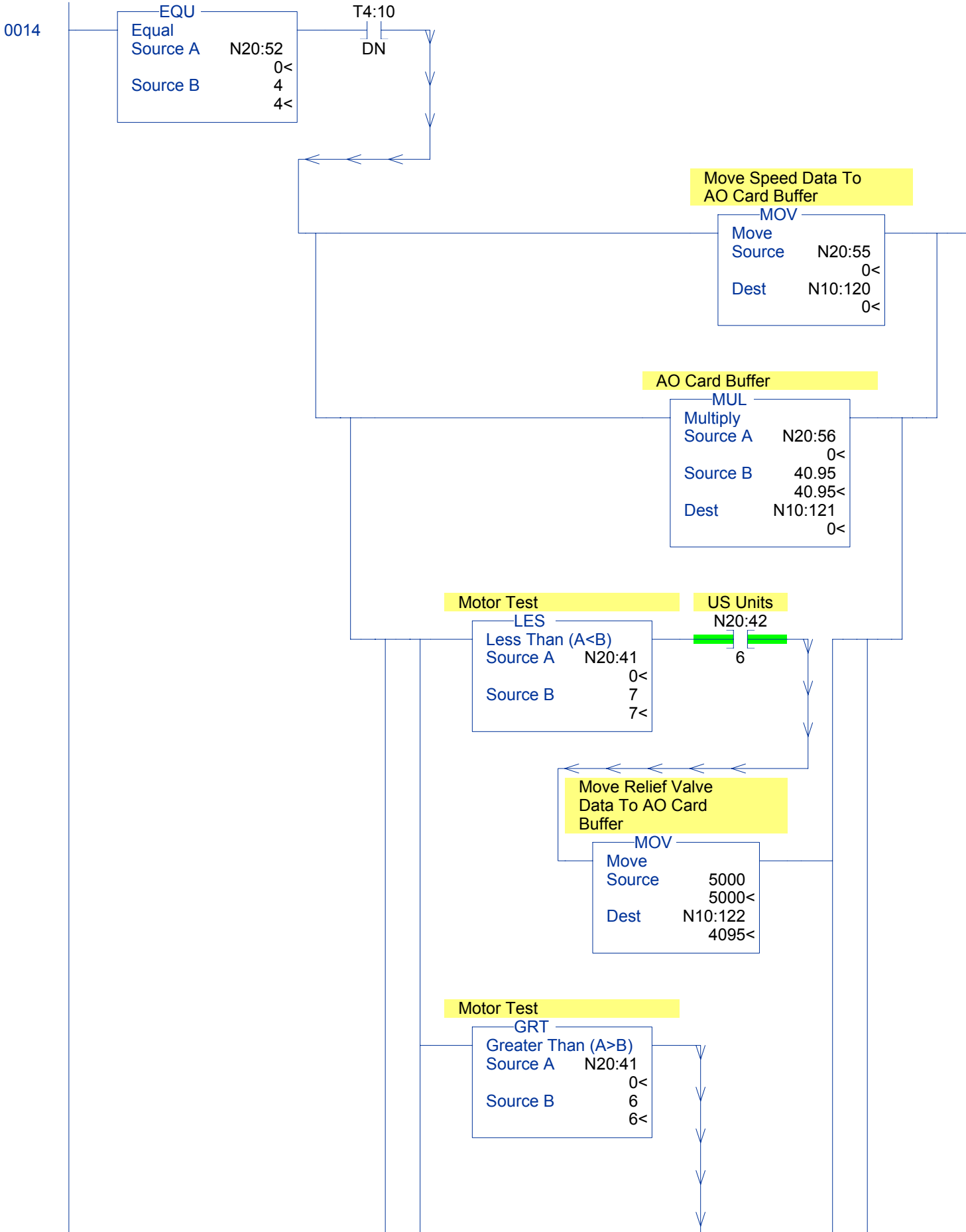
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



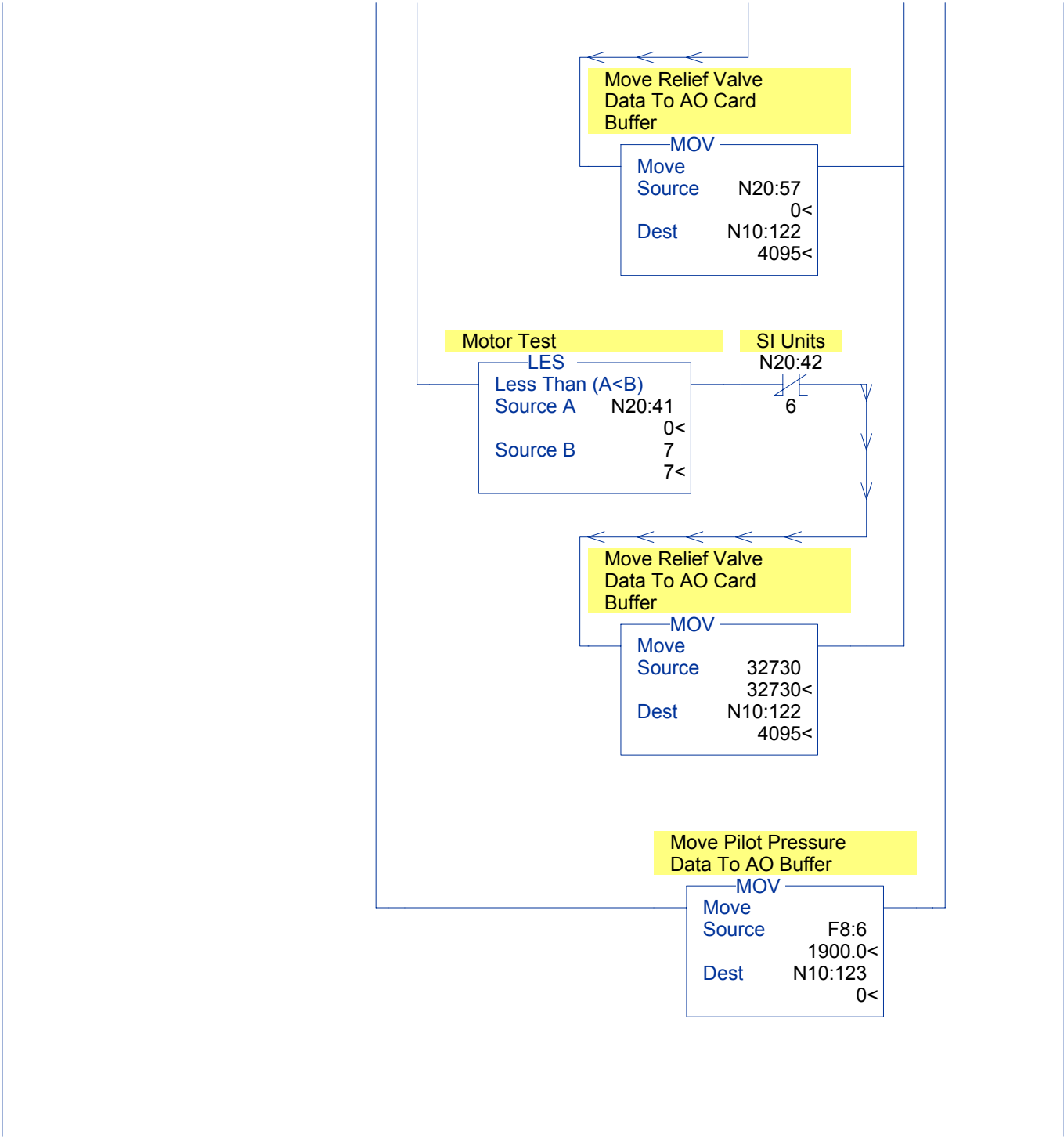
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



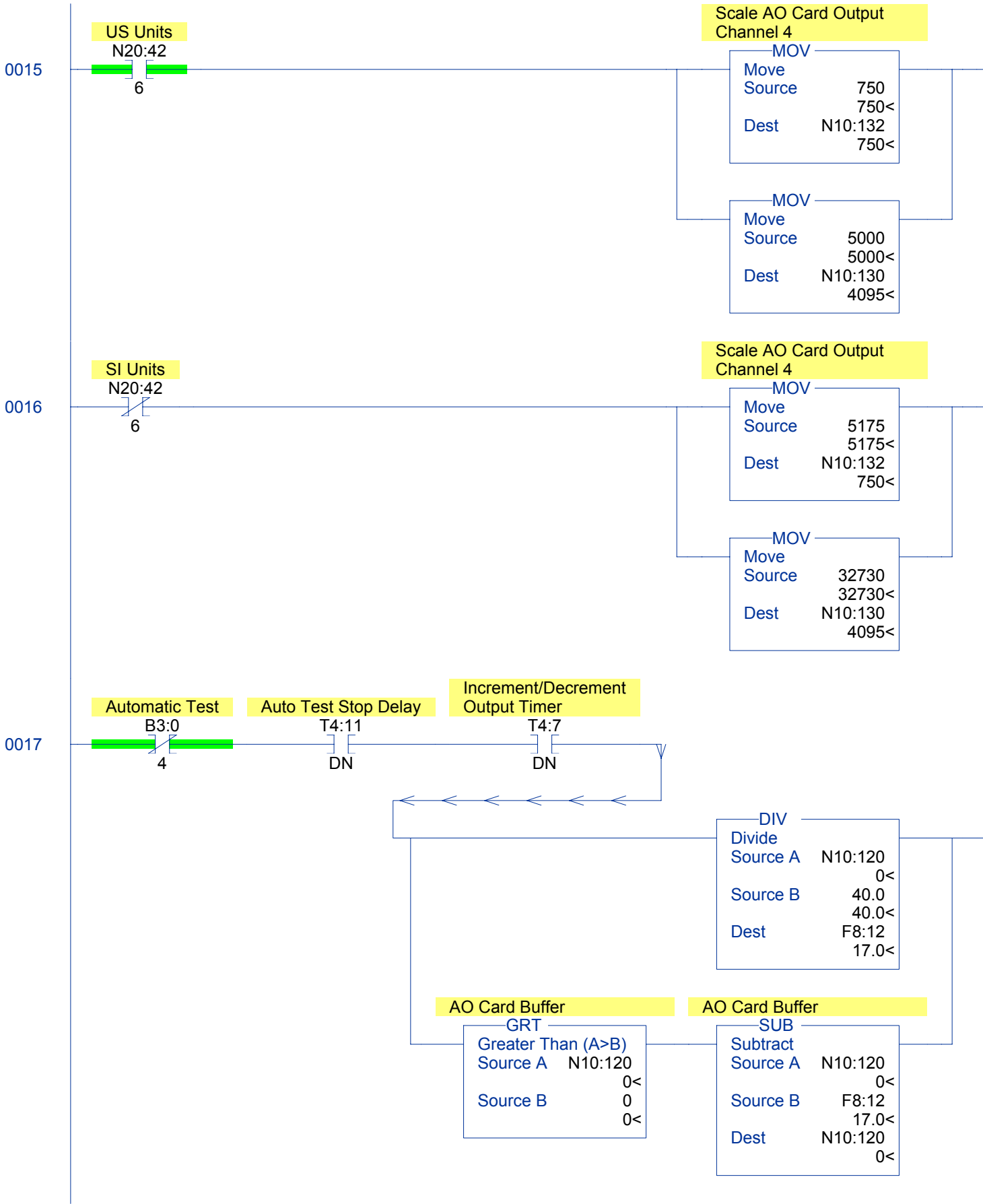
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



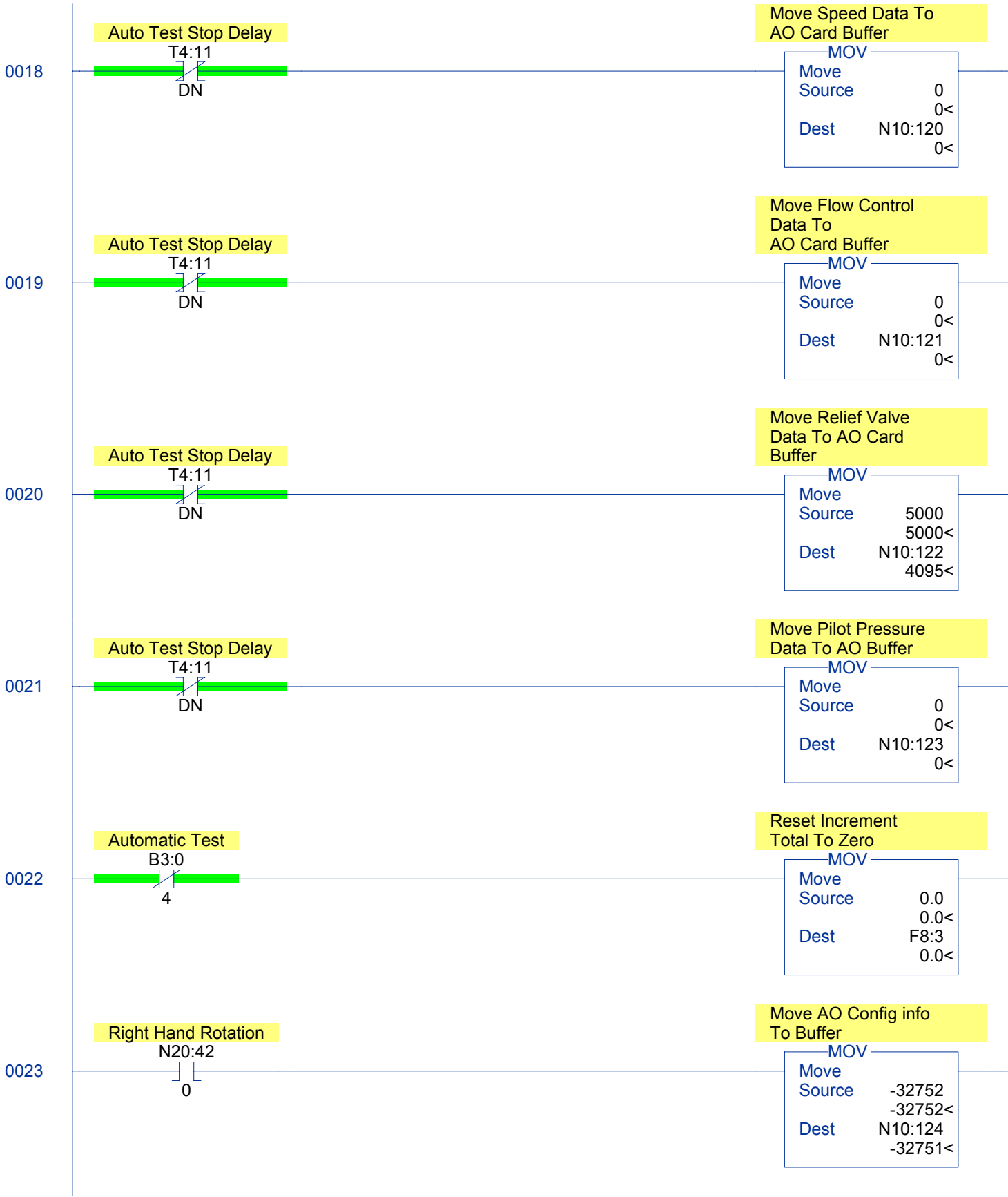
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



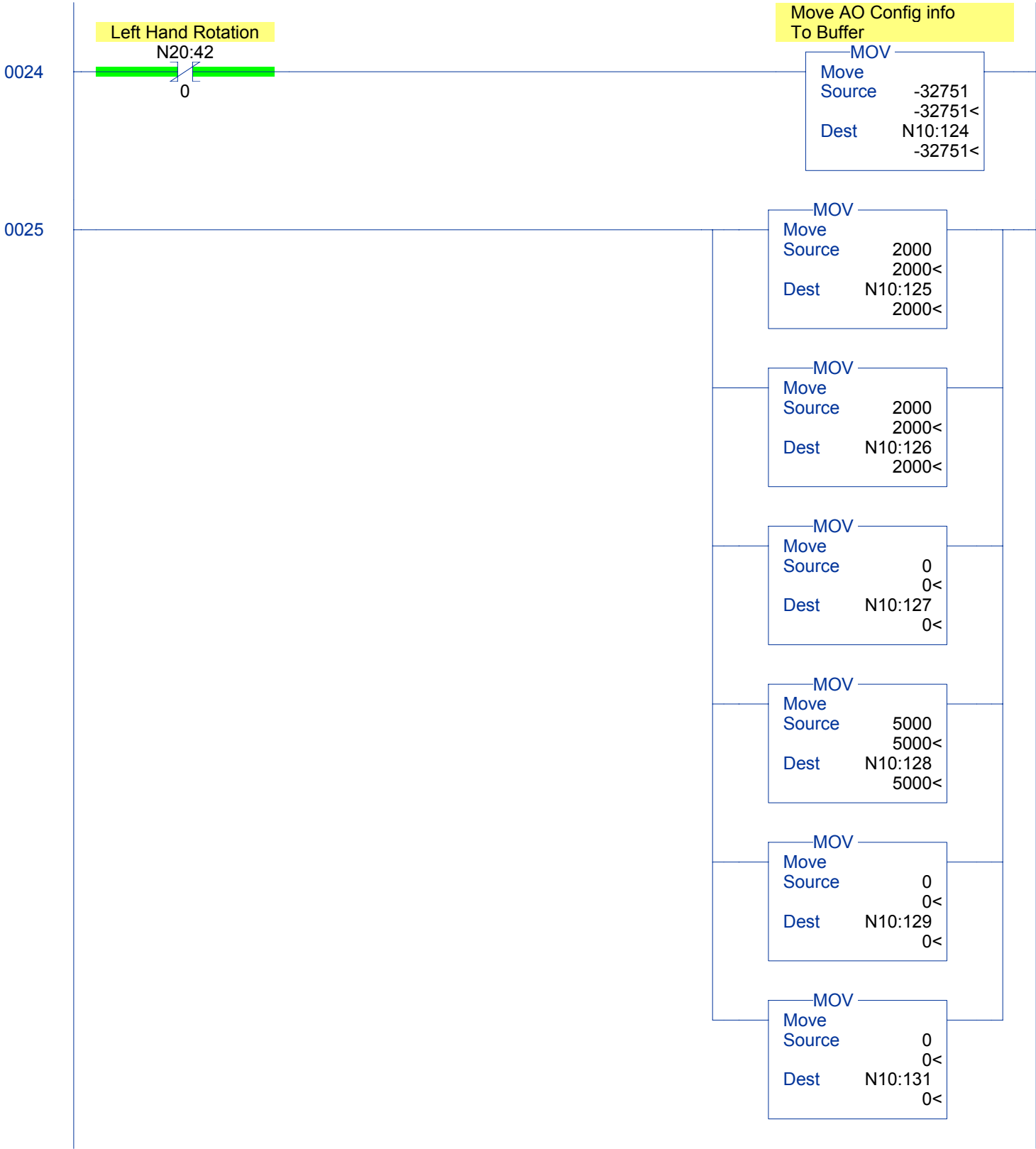
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



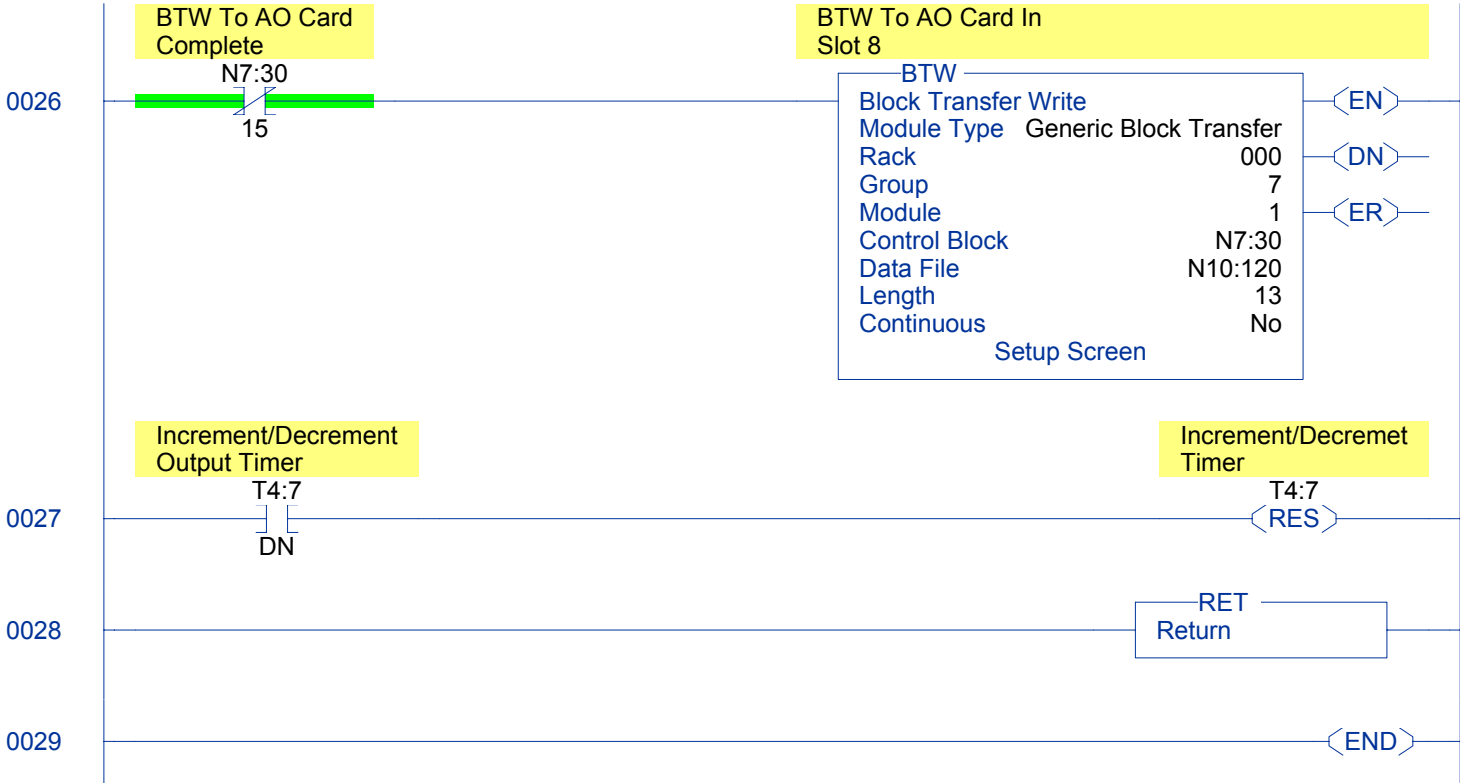
Test Bench Two

LAD 8 - AUTO\_TEST --- Total Rungs in File = 30



Test Bench Two

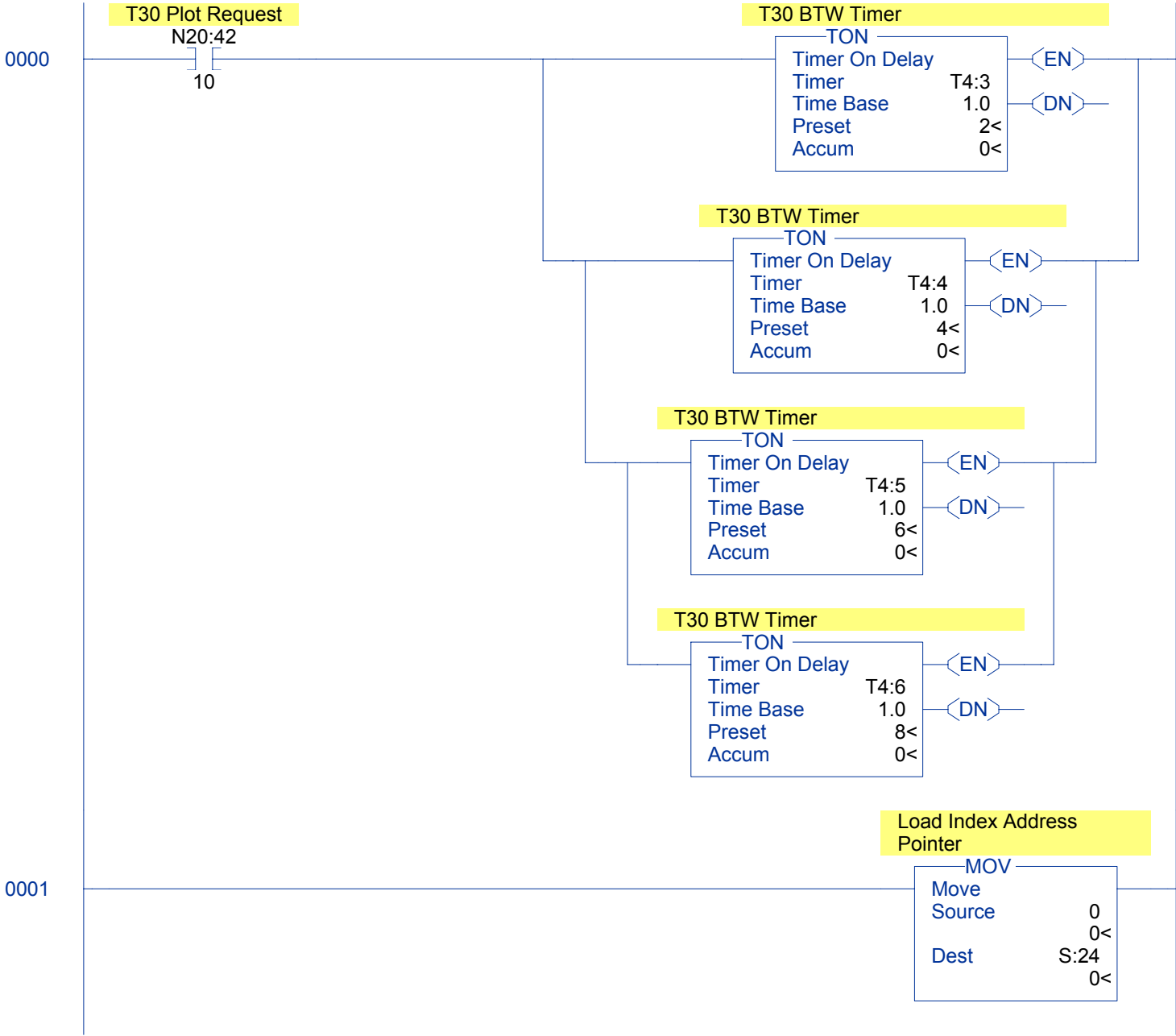
LAD 8 - AUTO\_TEST --- Total Rungs in File = 30





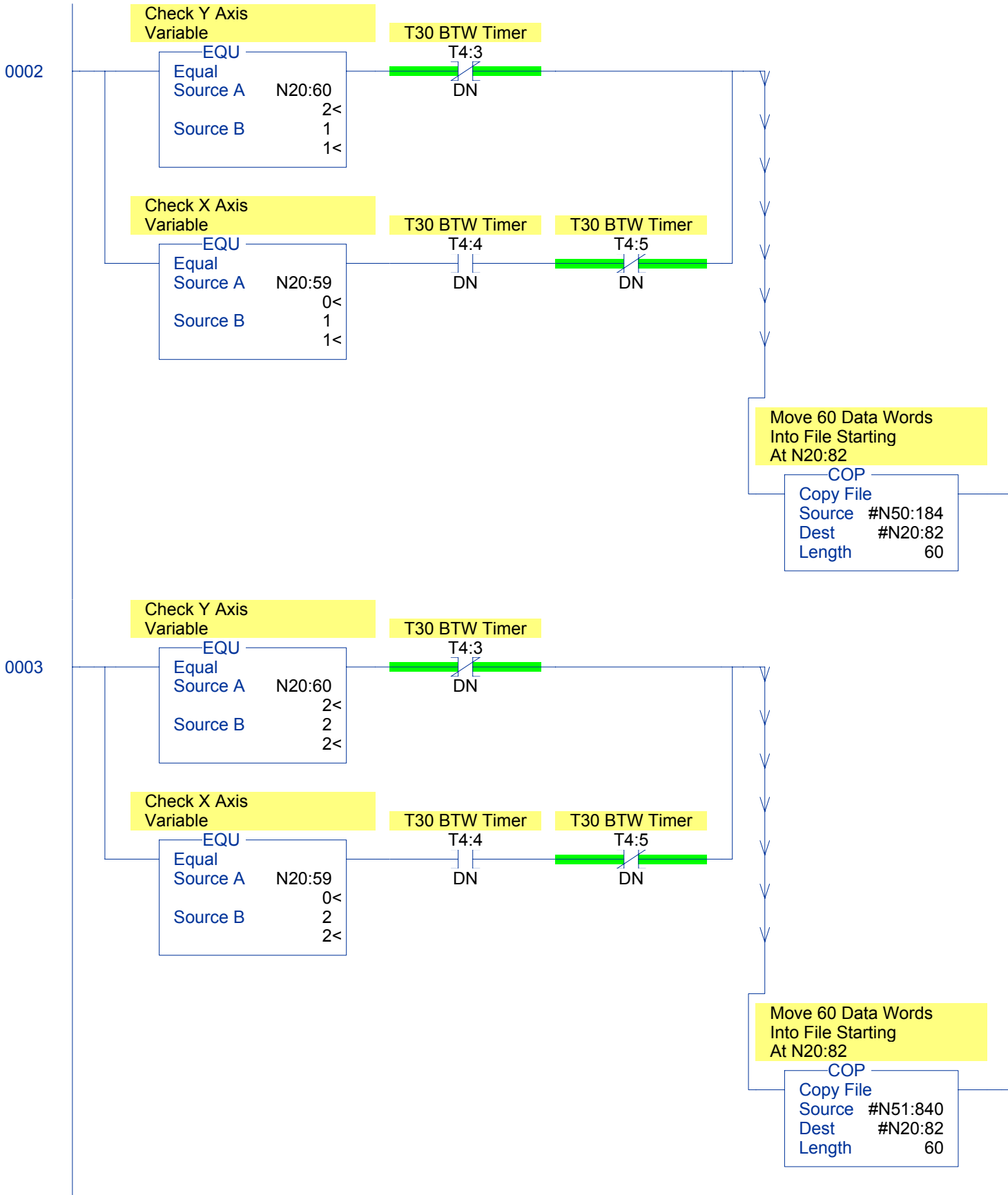
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



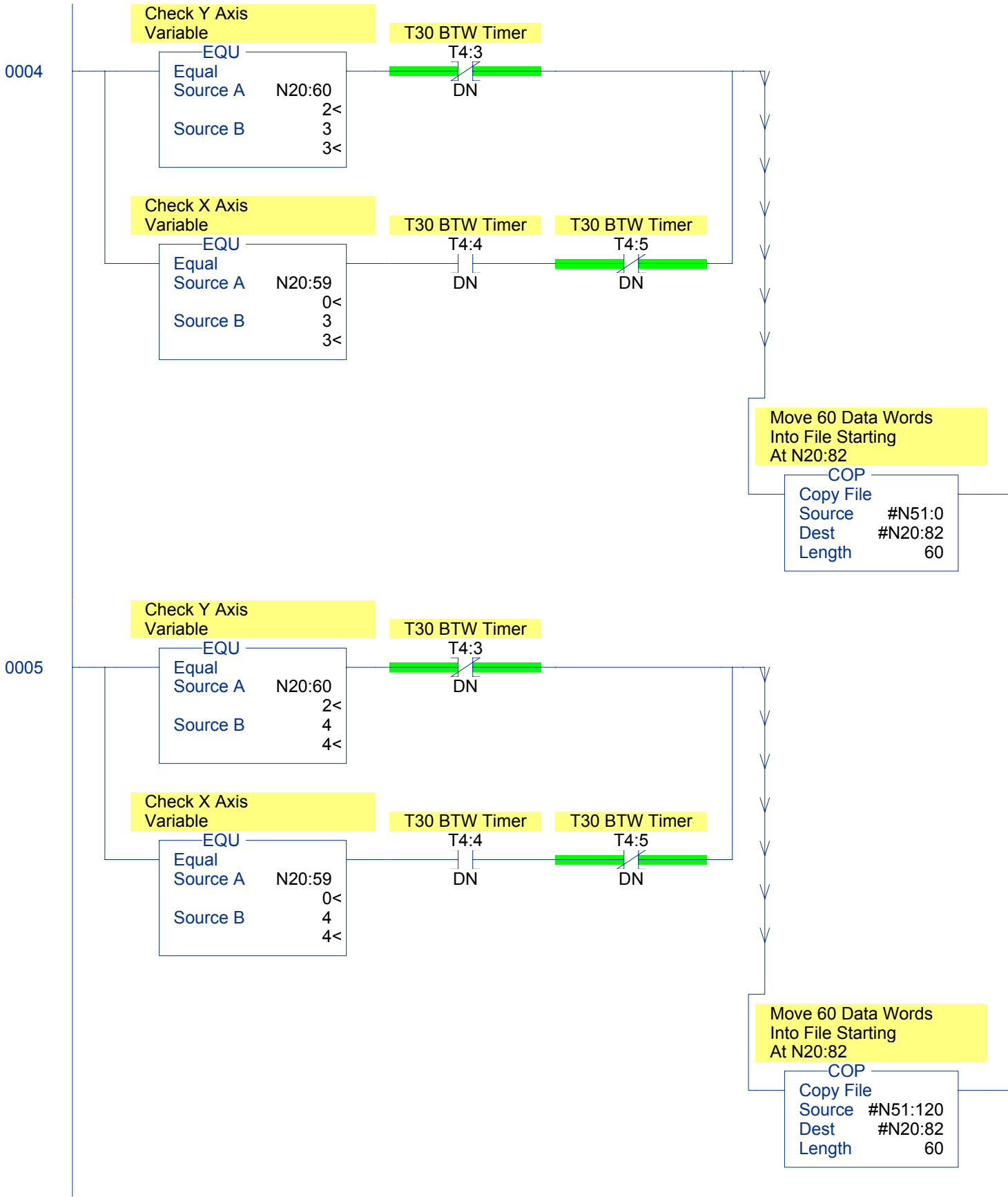
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



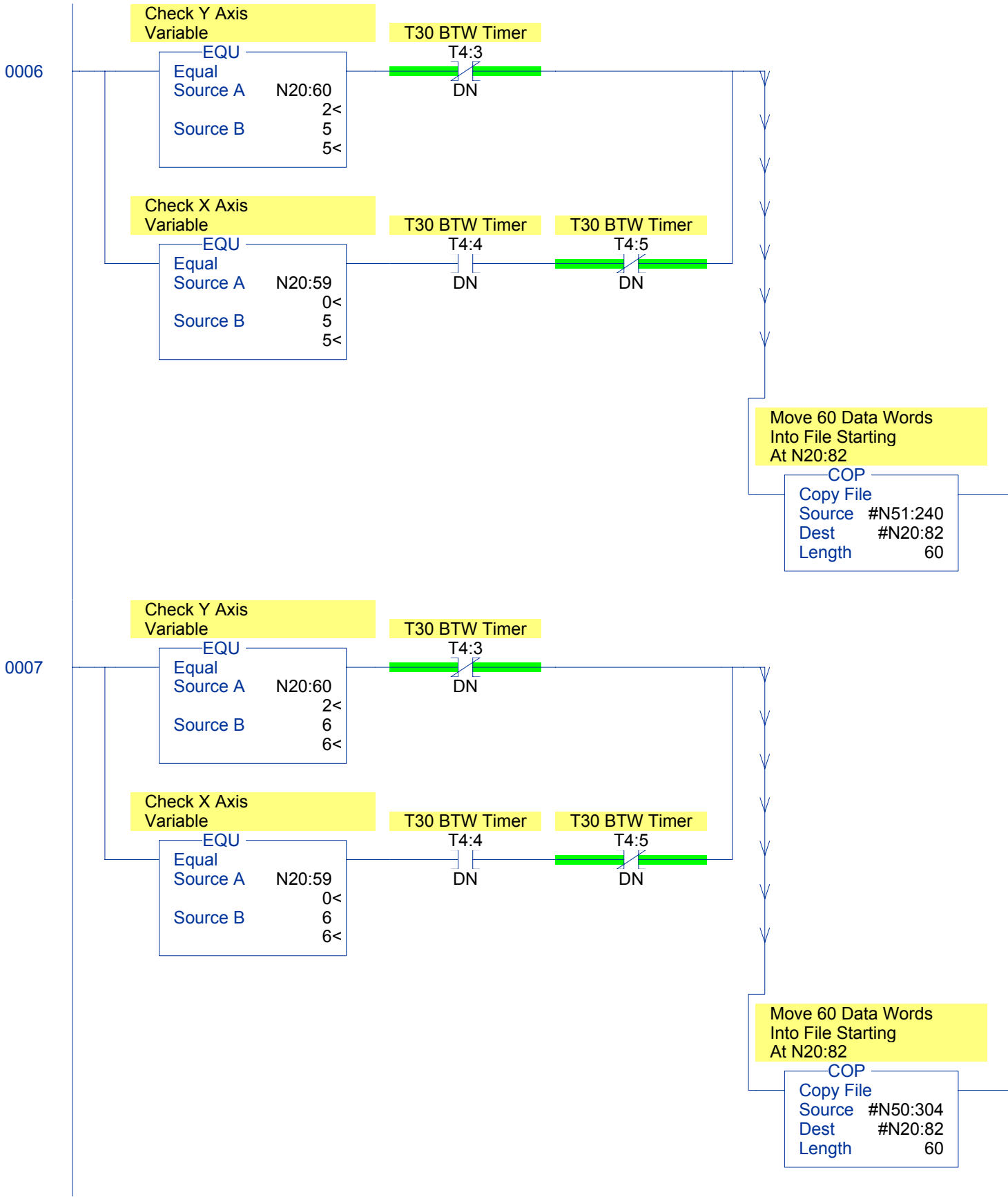
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



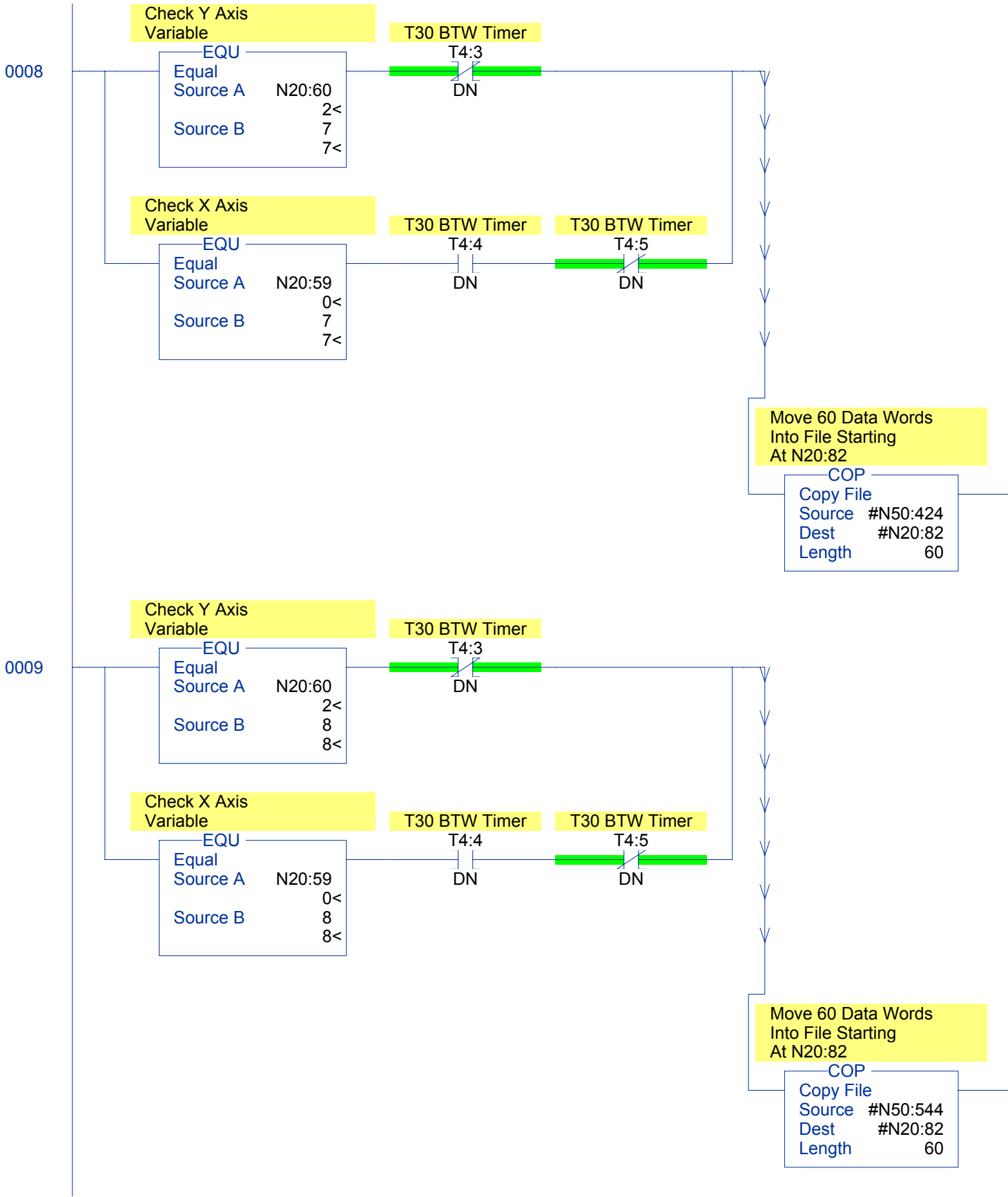
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



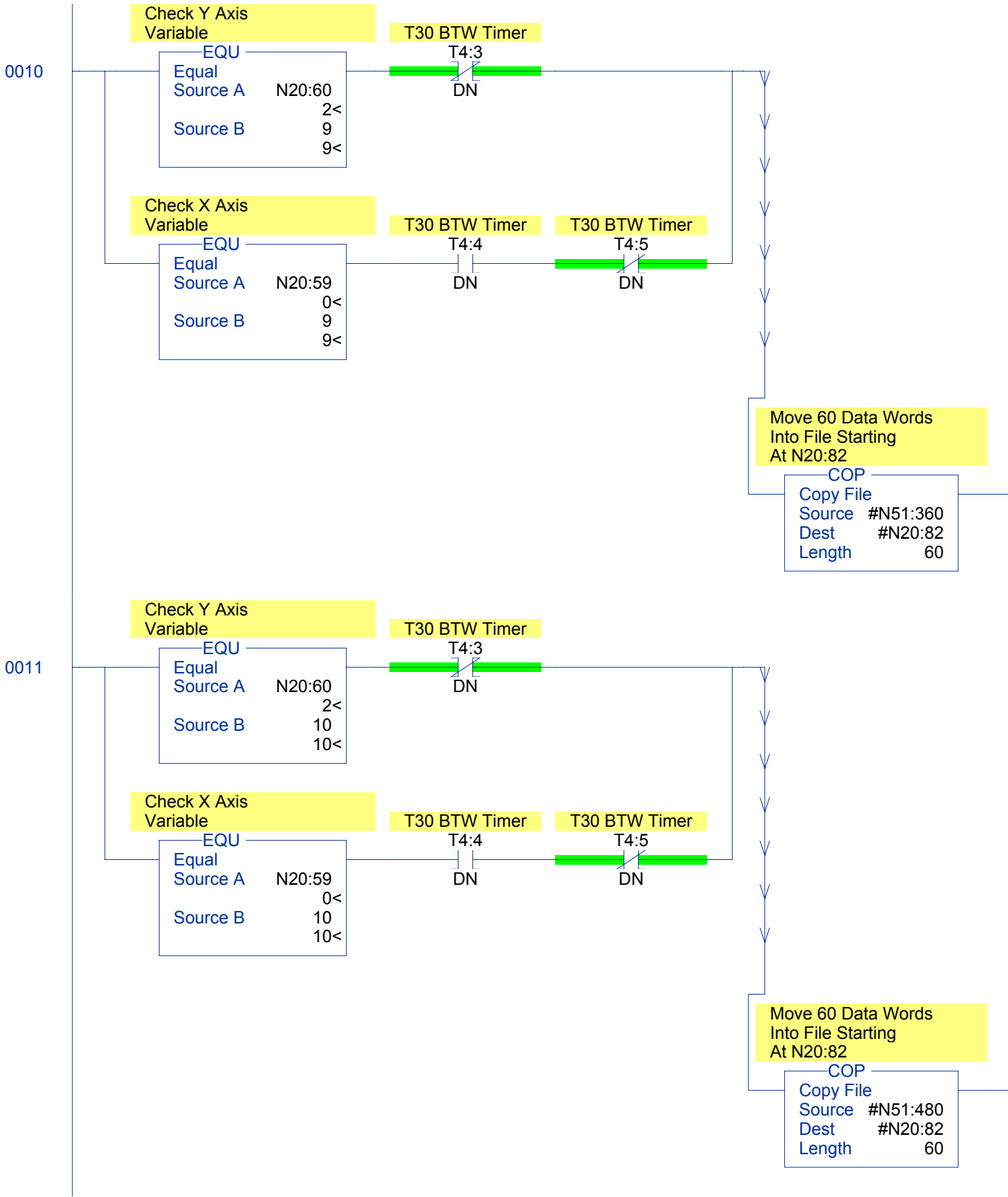
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



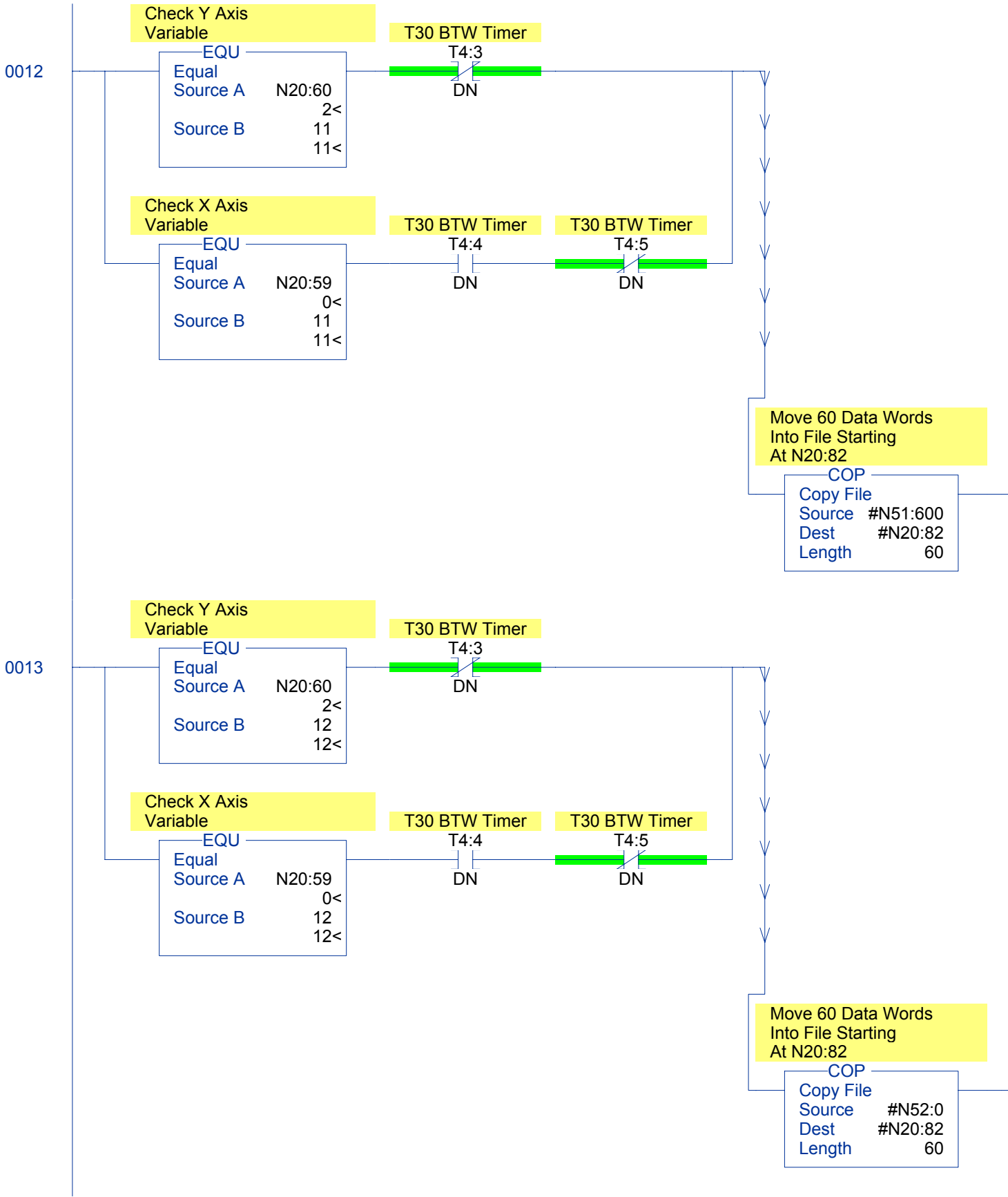
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



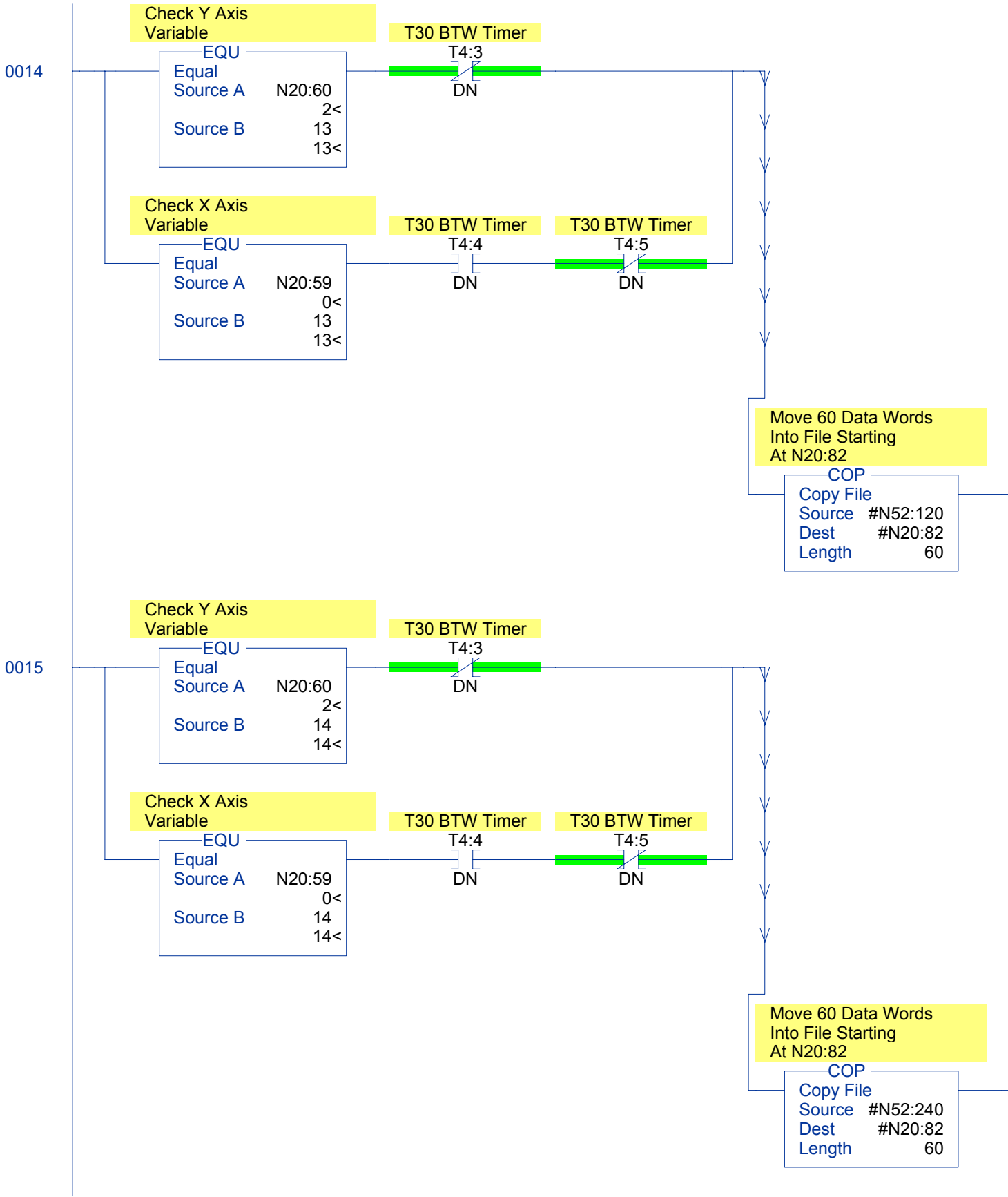
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



Test Bench Two

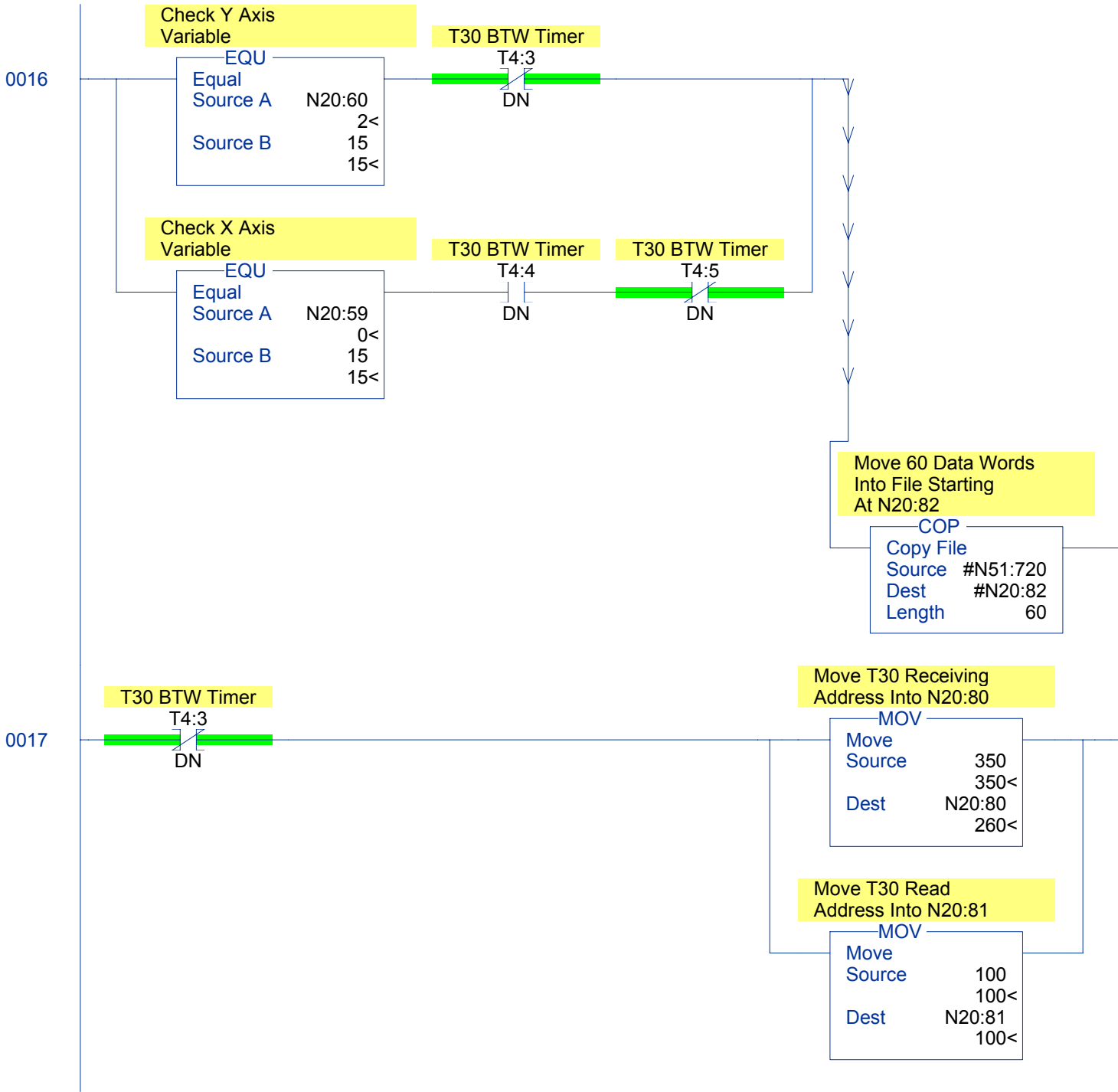
LAD 10 - T30\_PLOT --- Total Rungs in File = 41





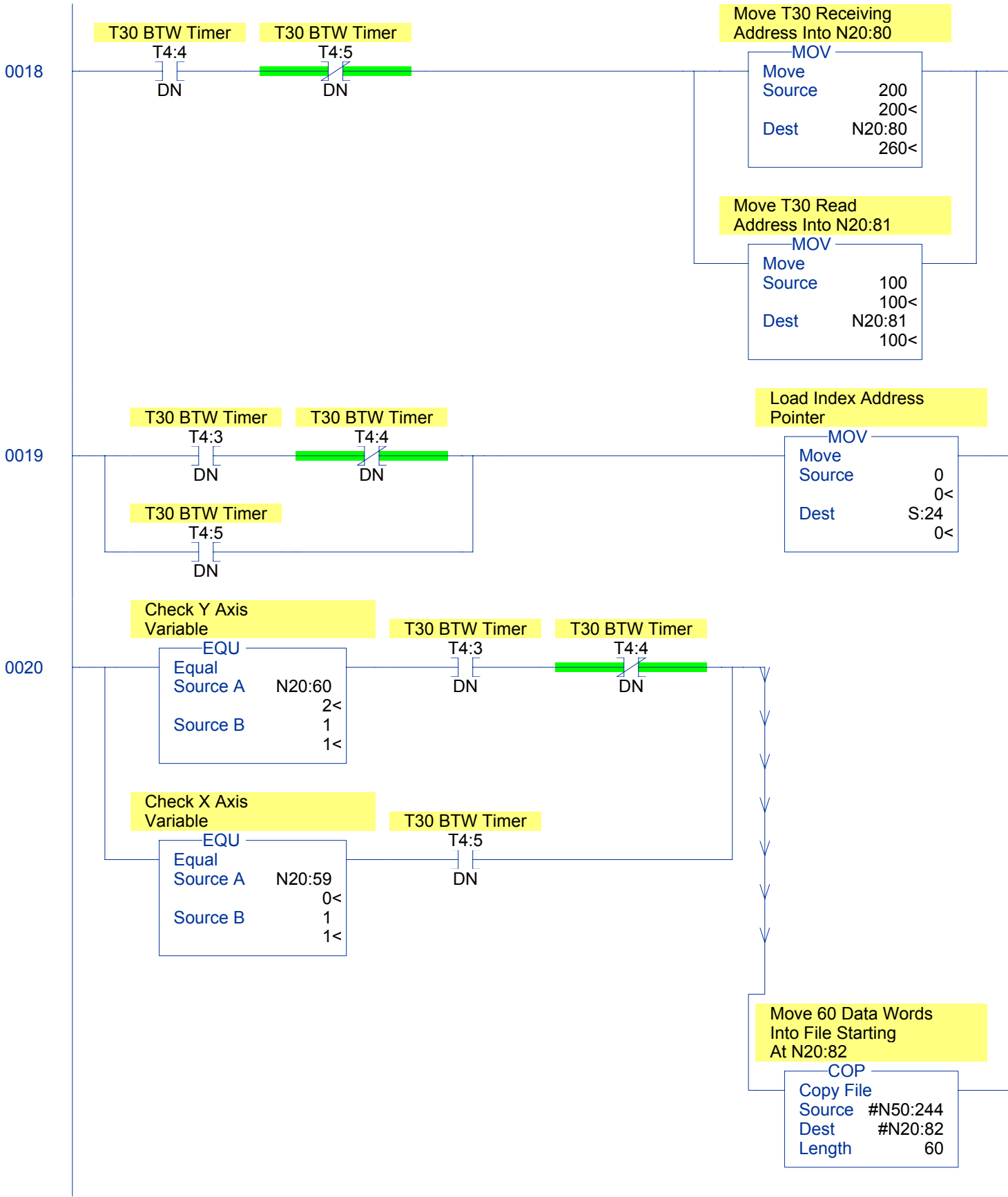
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



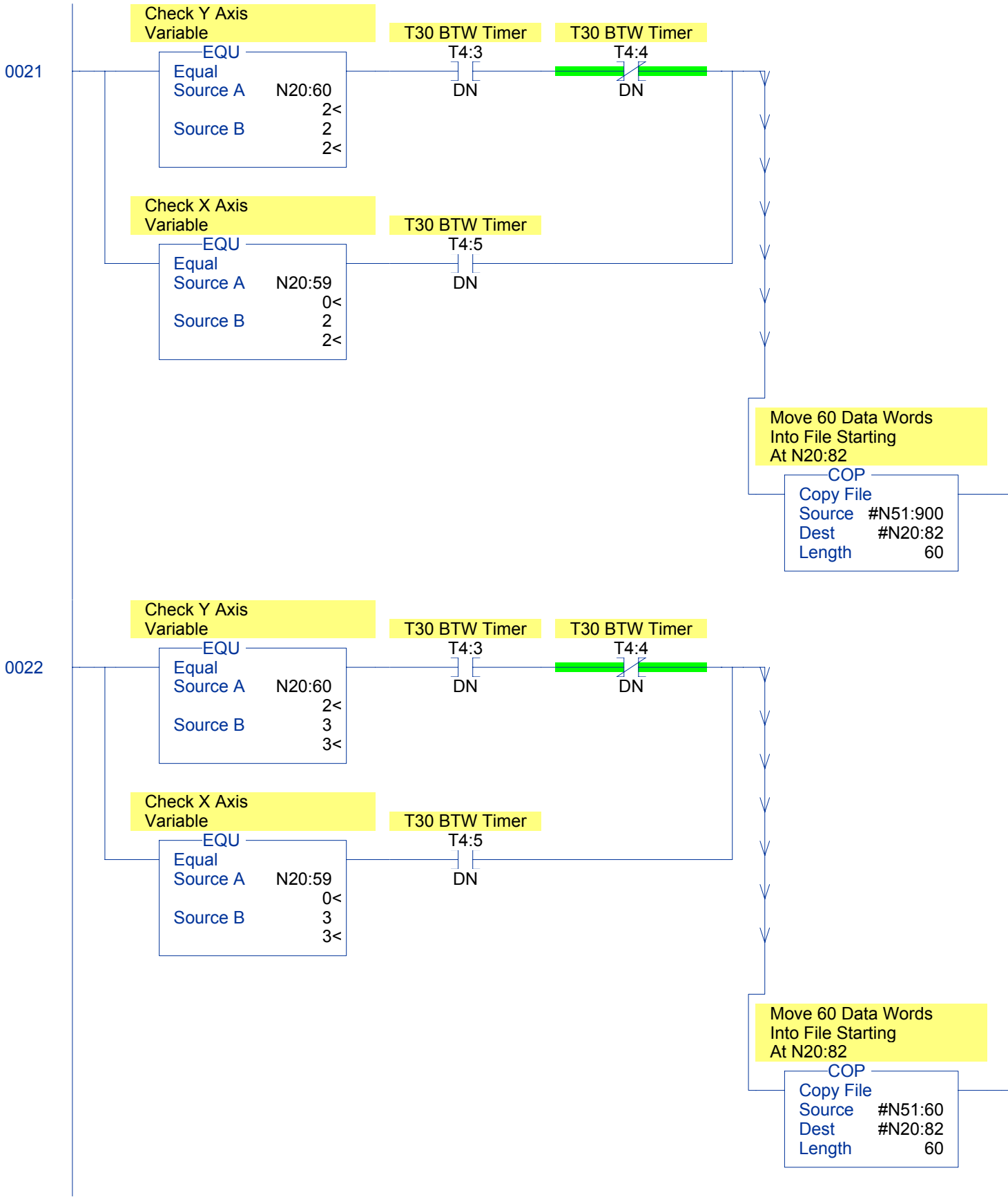
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



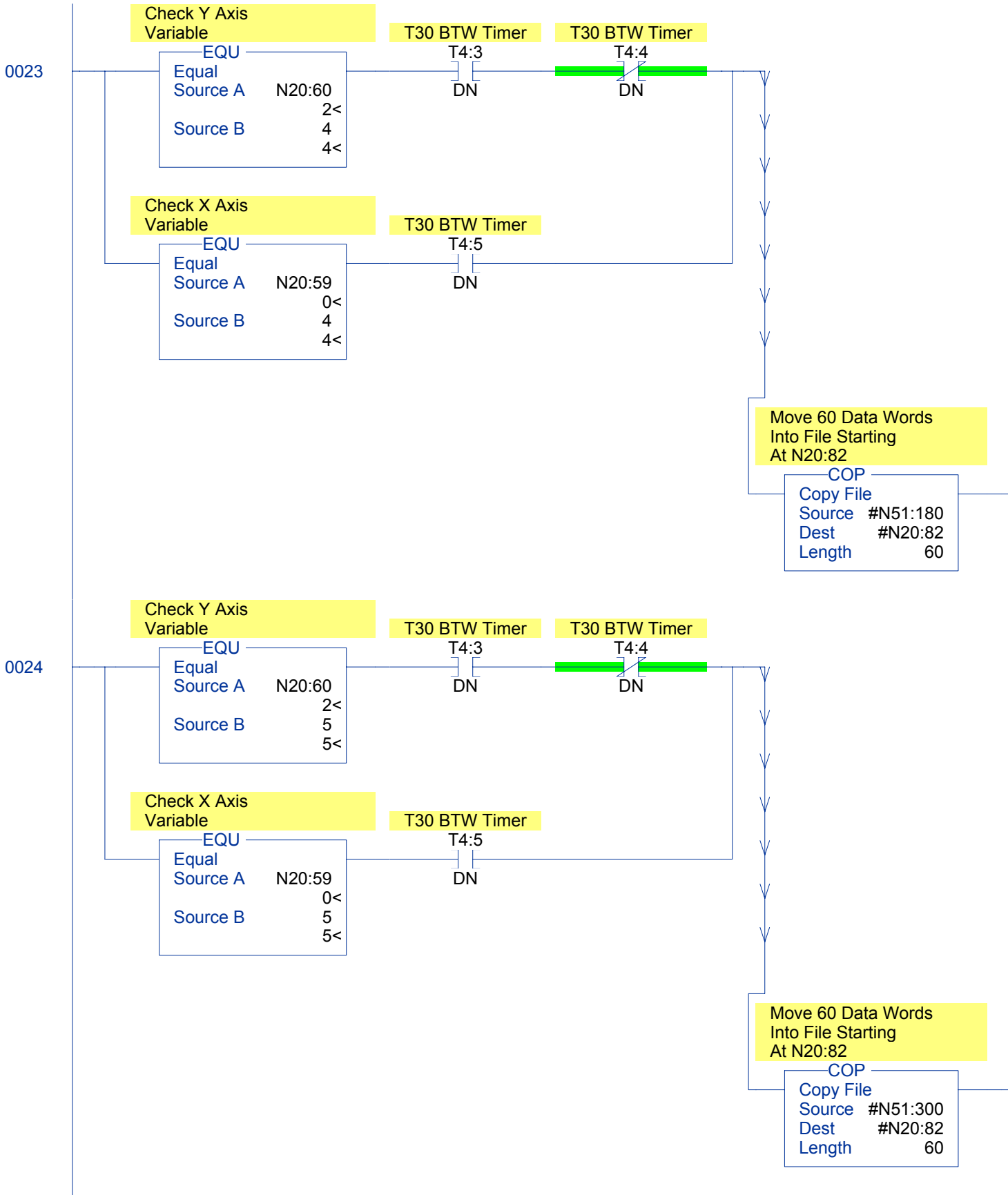
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



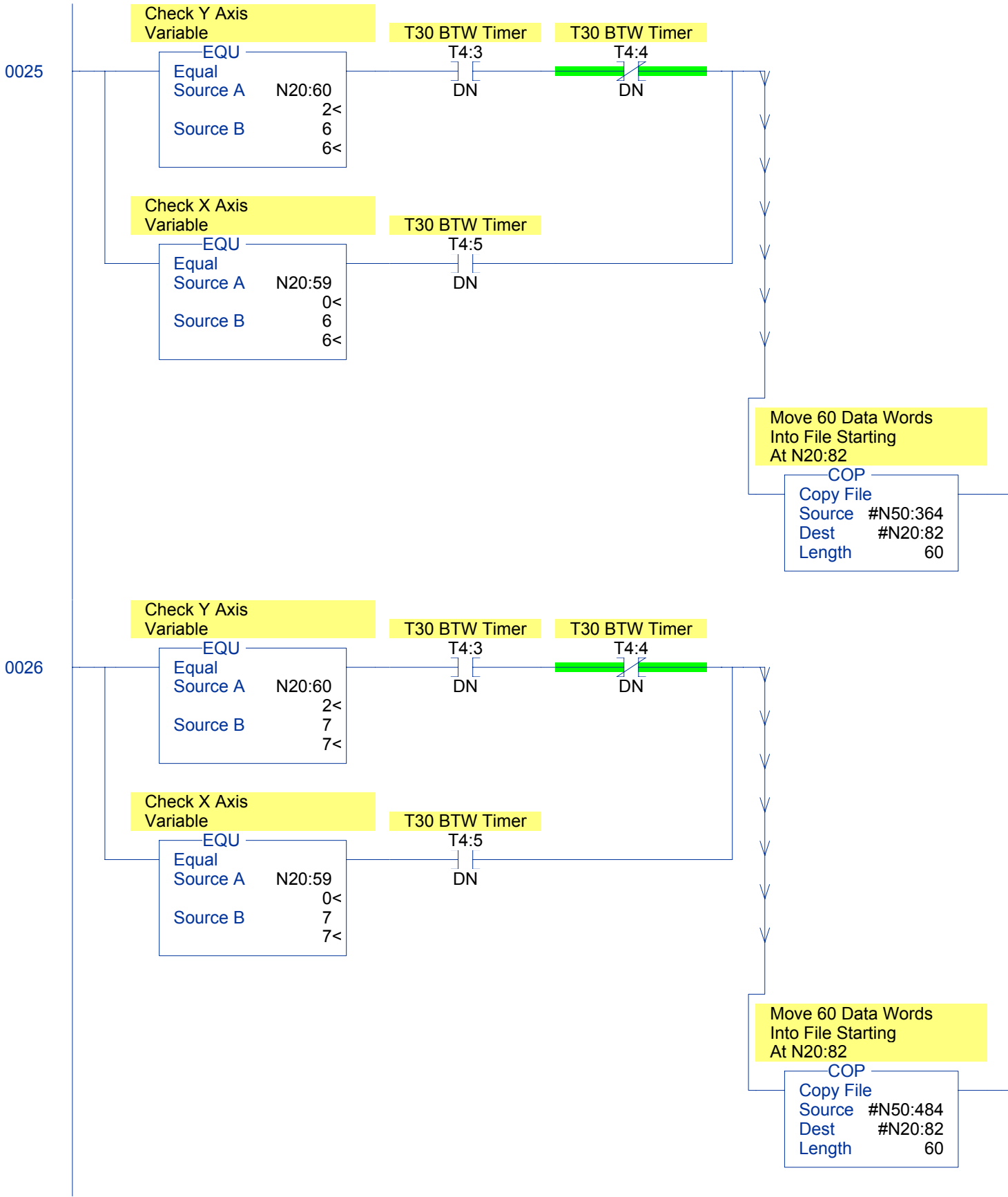
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



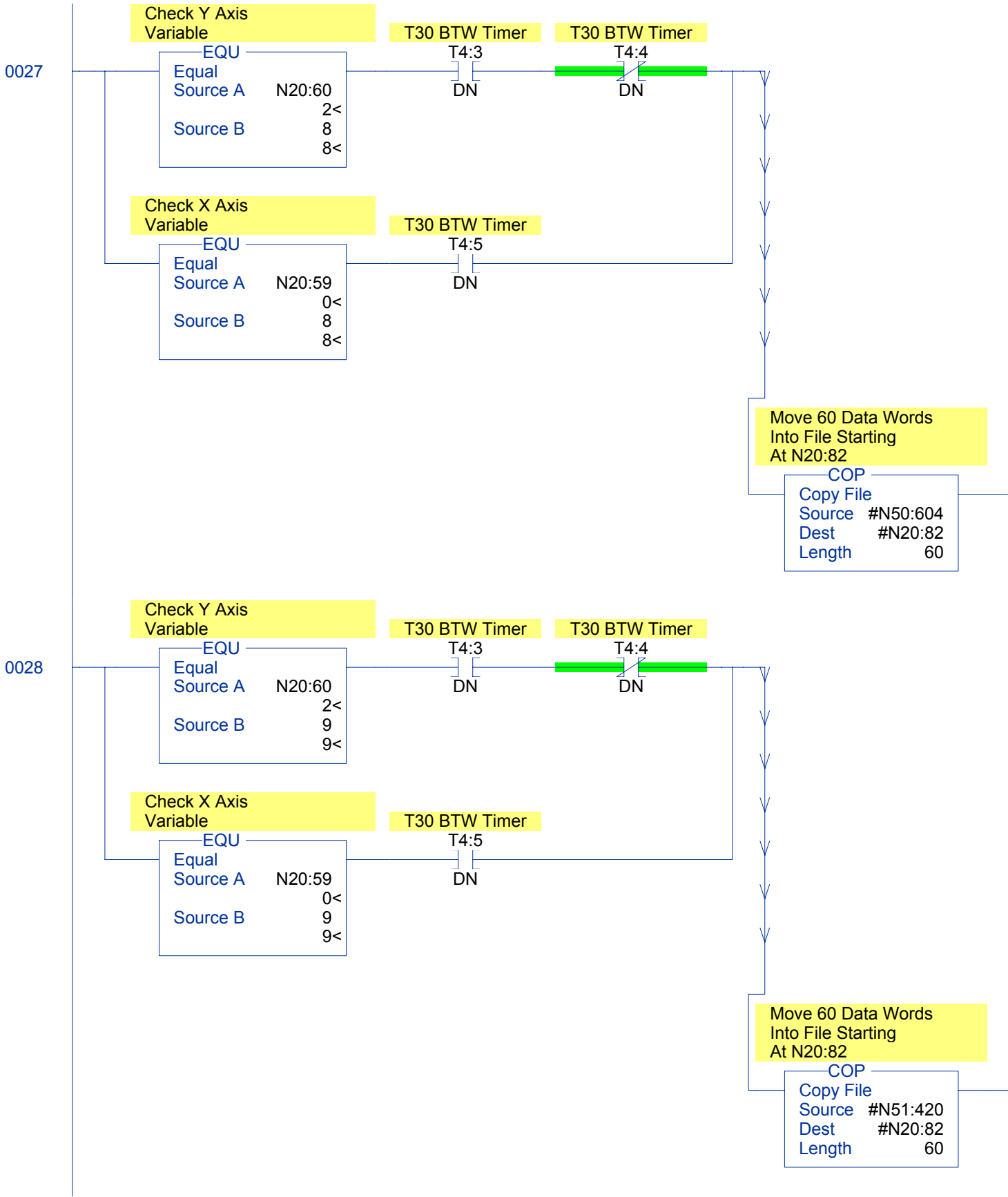
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



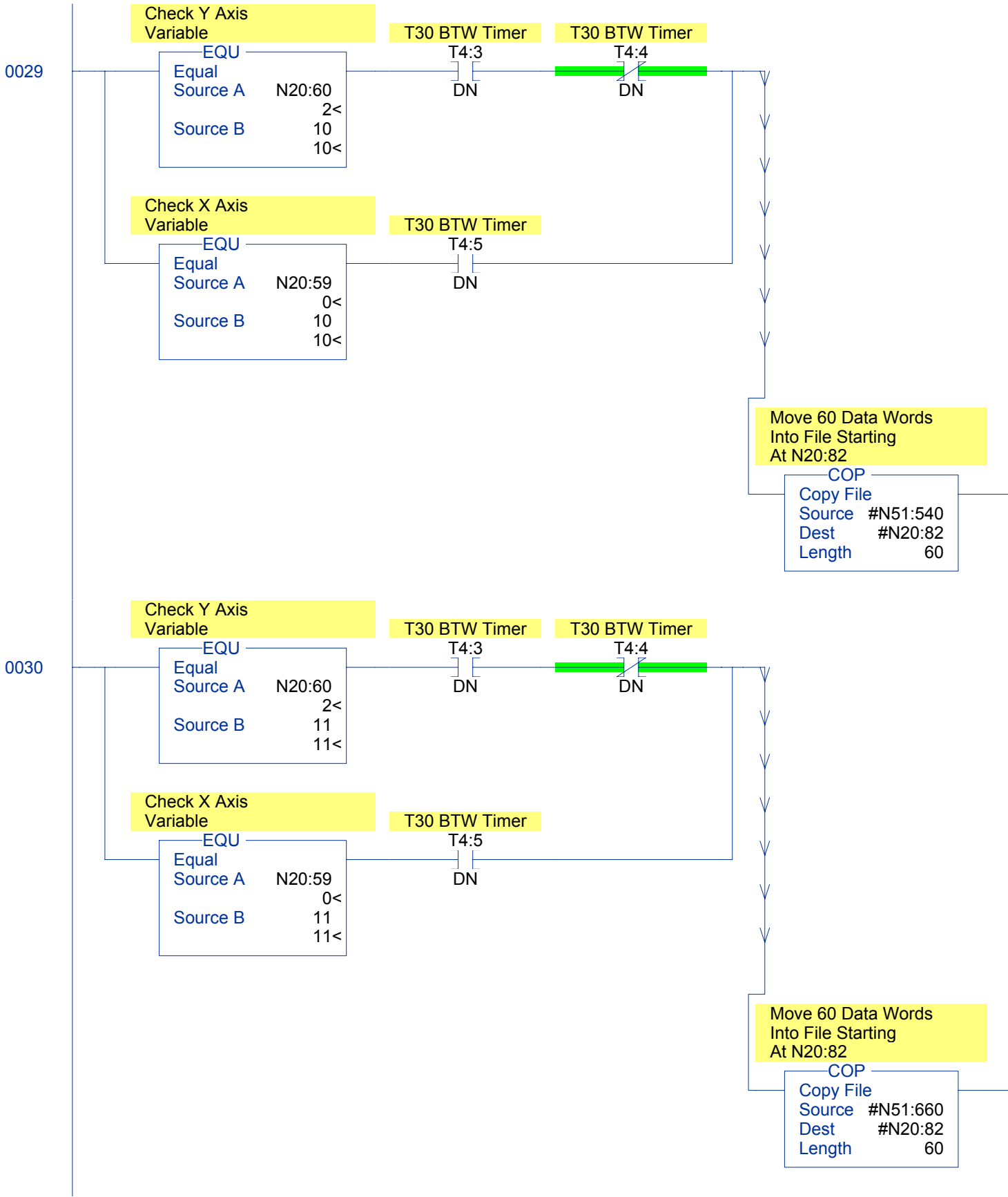
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



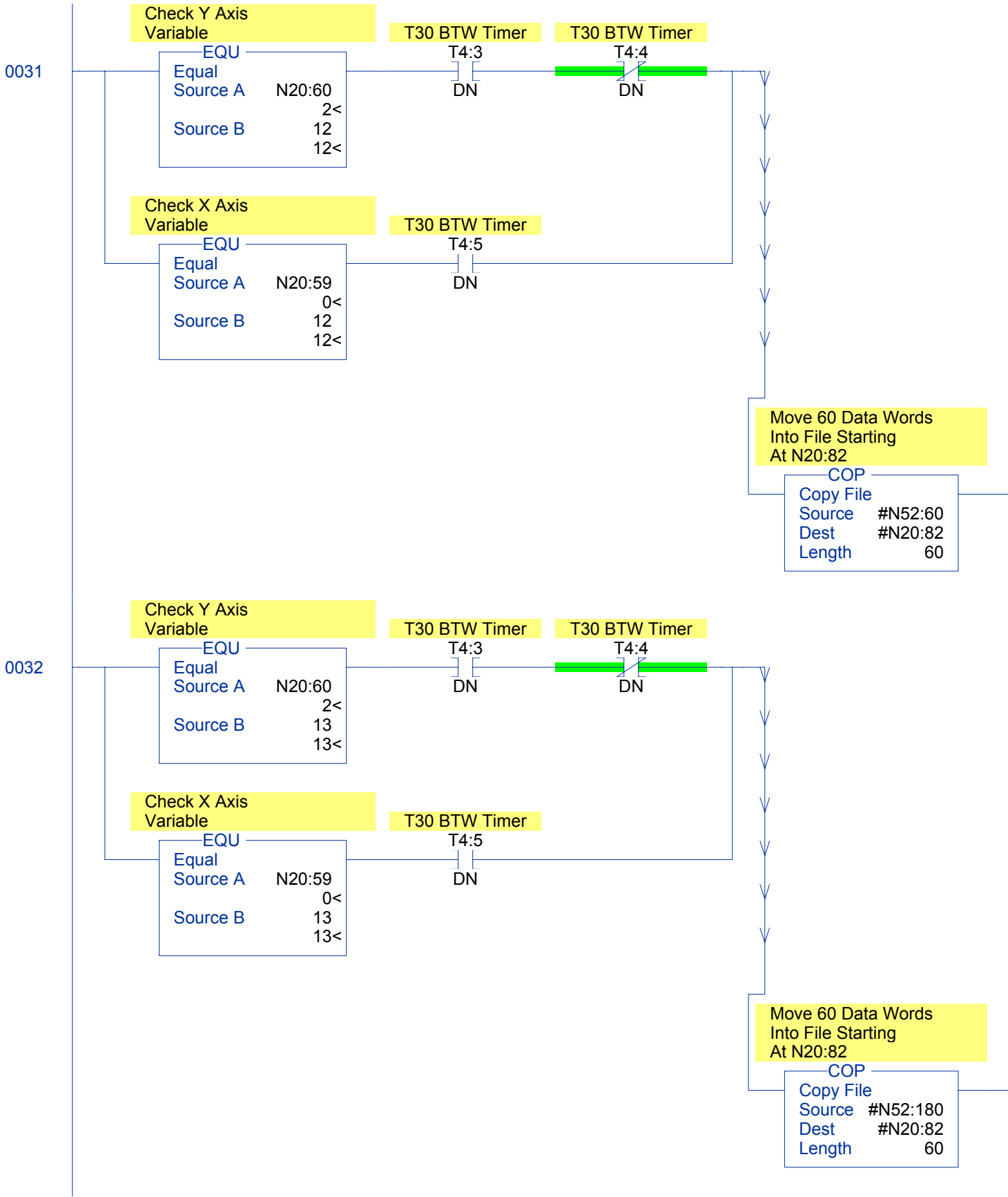
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



Test Bench Two

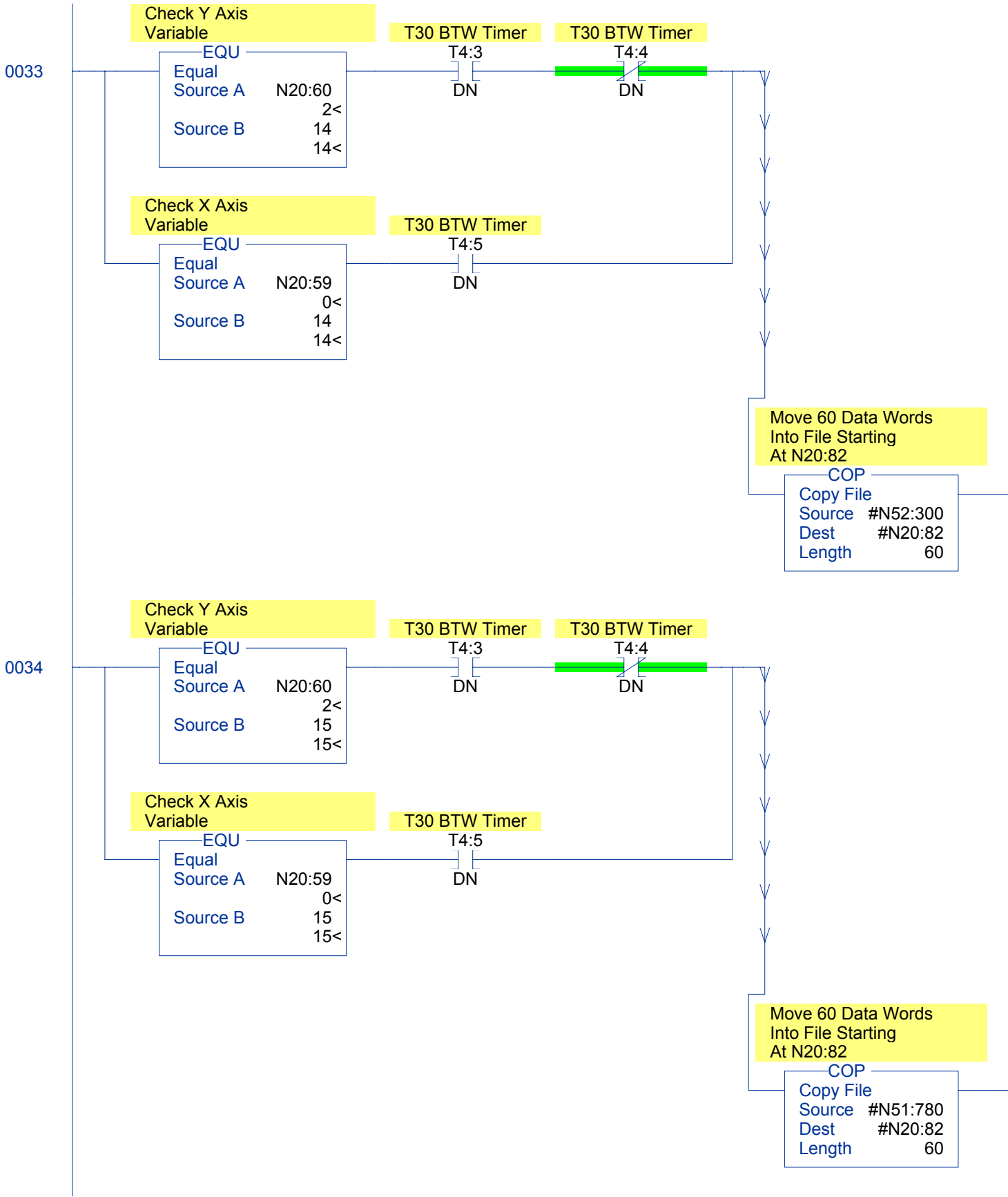
LAD 10 - T30\_PLOT --- Total Rungs in File = 41





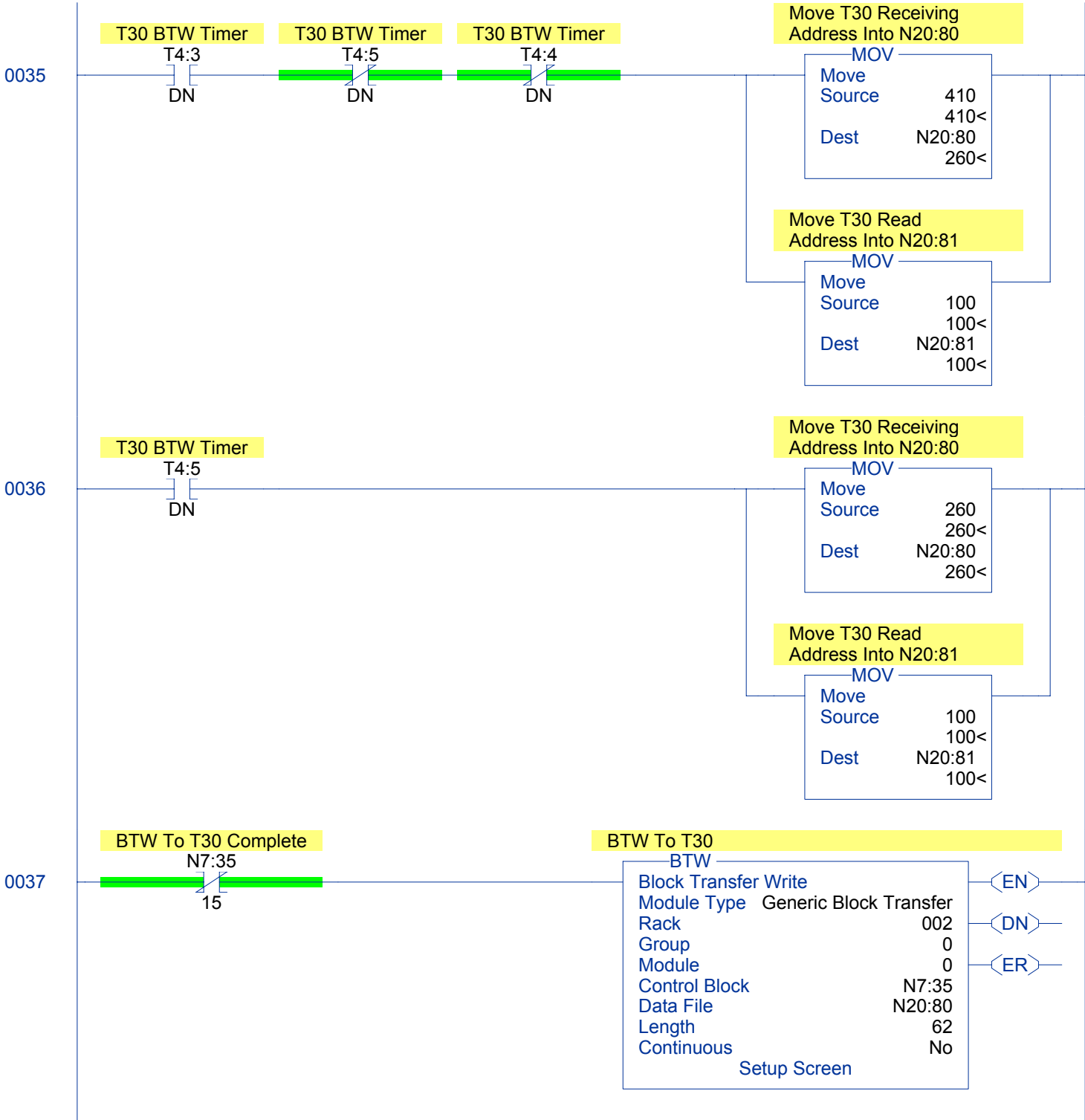
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



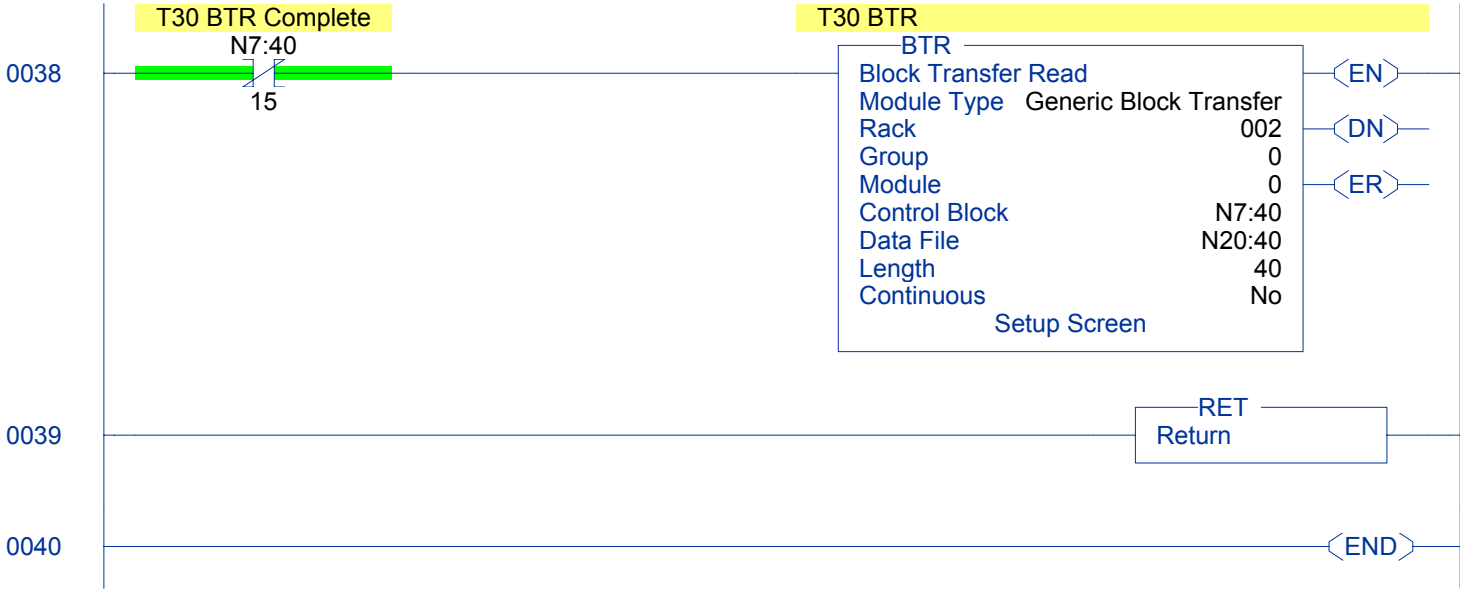
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



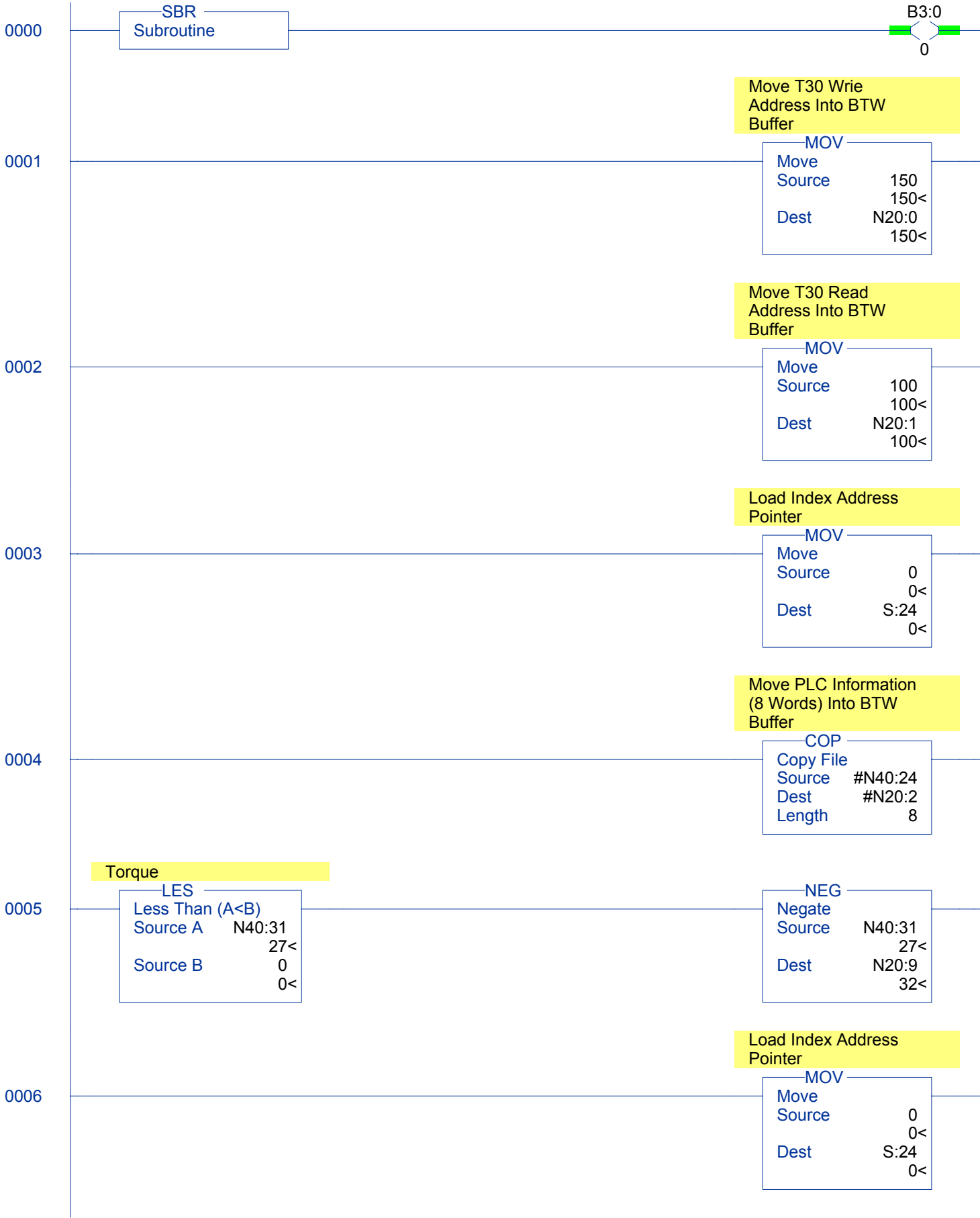
Test Bench Two

LAD 10 - T30\_PLOT --- Total Rungs in File = 41



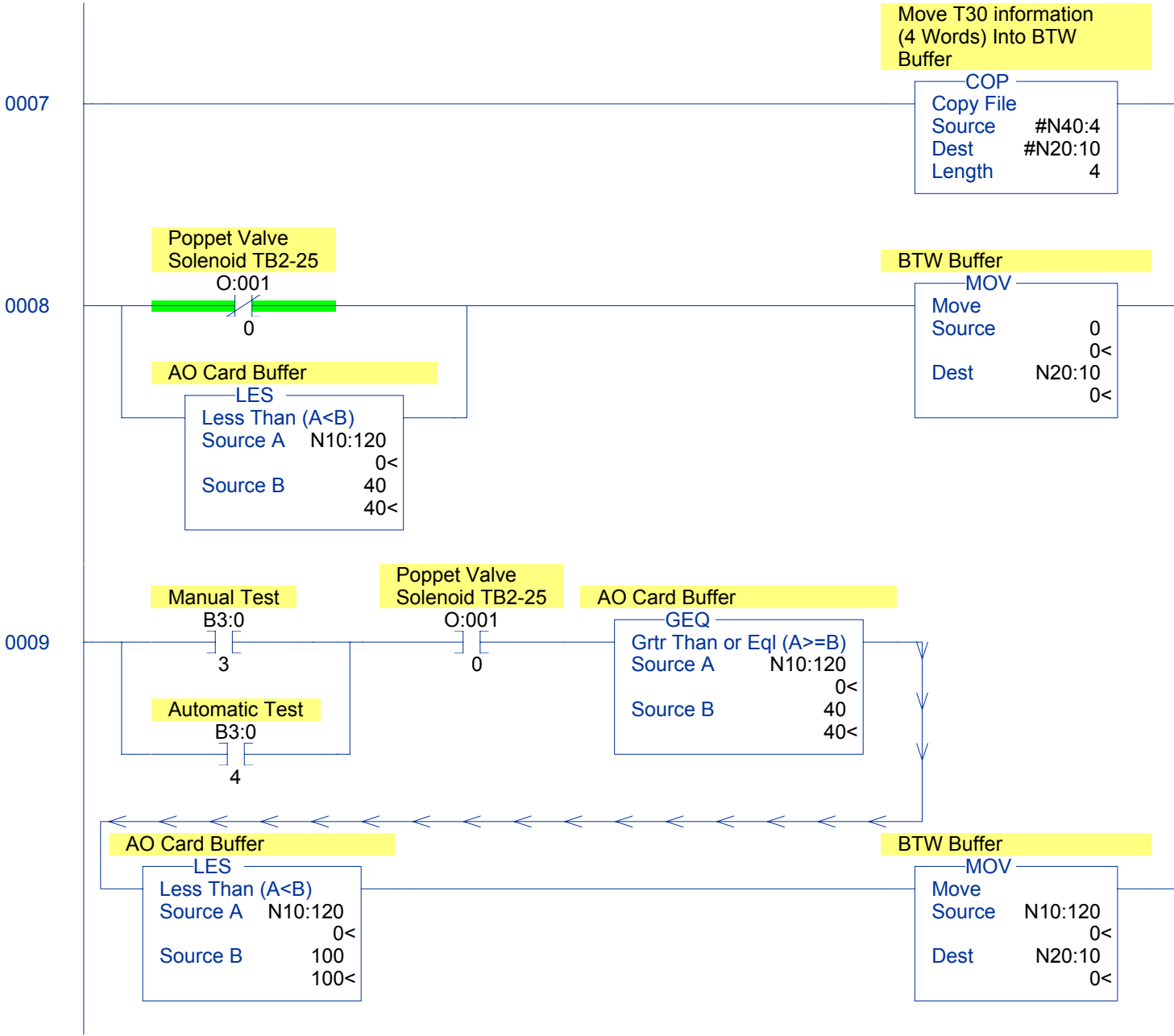
Test Bench Two

LAD 11 - T30\_BLK\_TR --- Total Rungs in File = 16



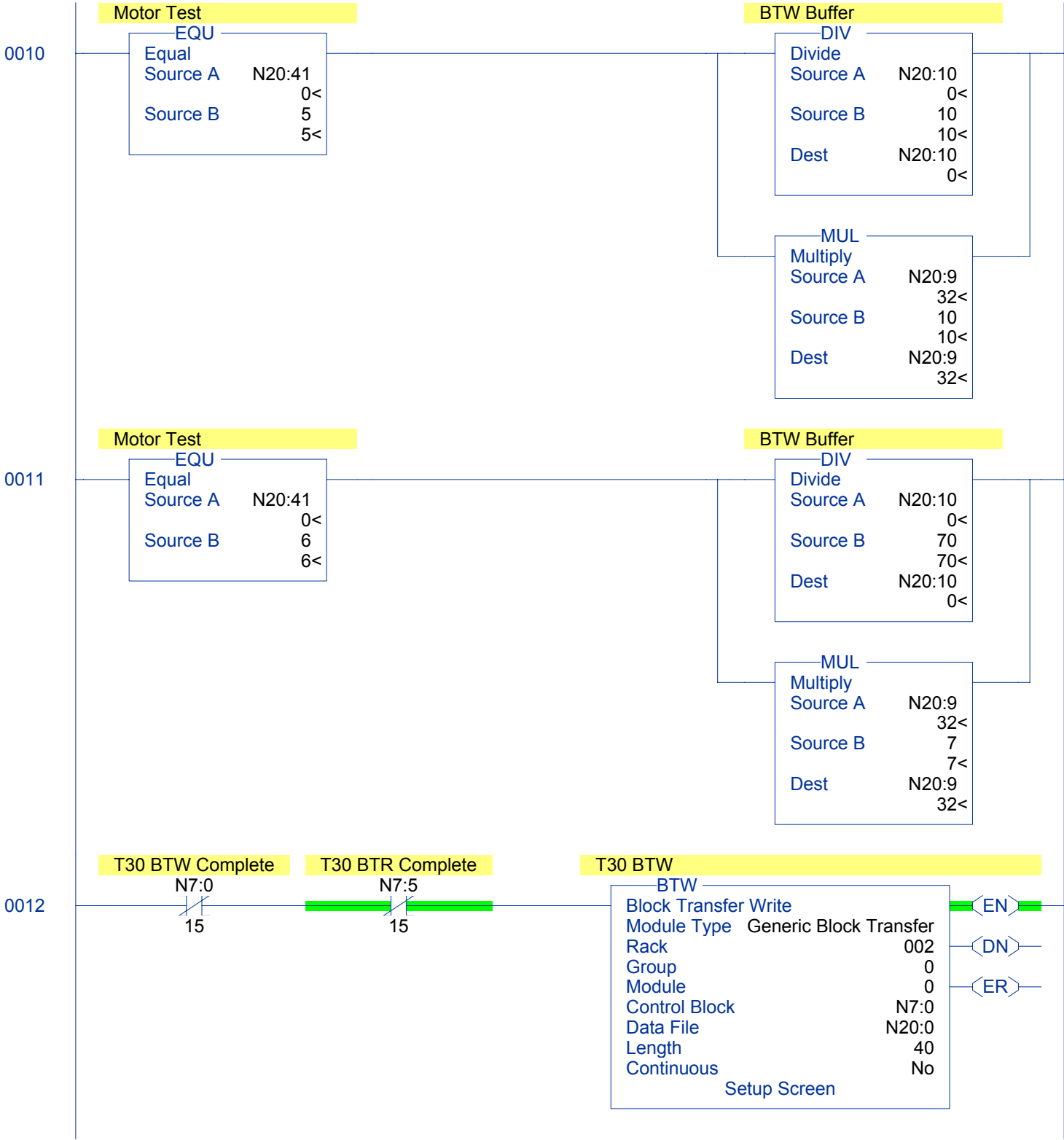
Test Bench Two

LAD 11 - T30\_BLK\_TR --- Total Rungs in File = 16



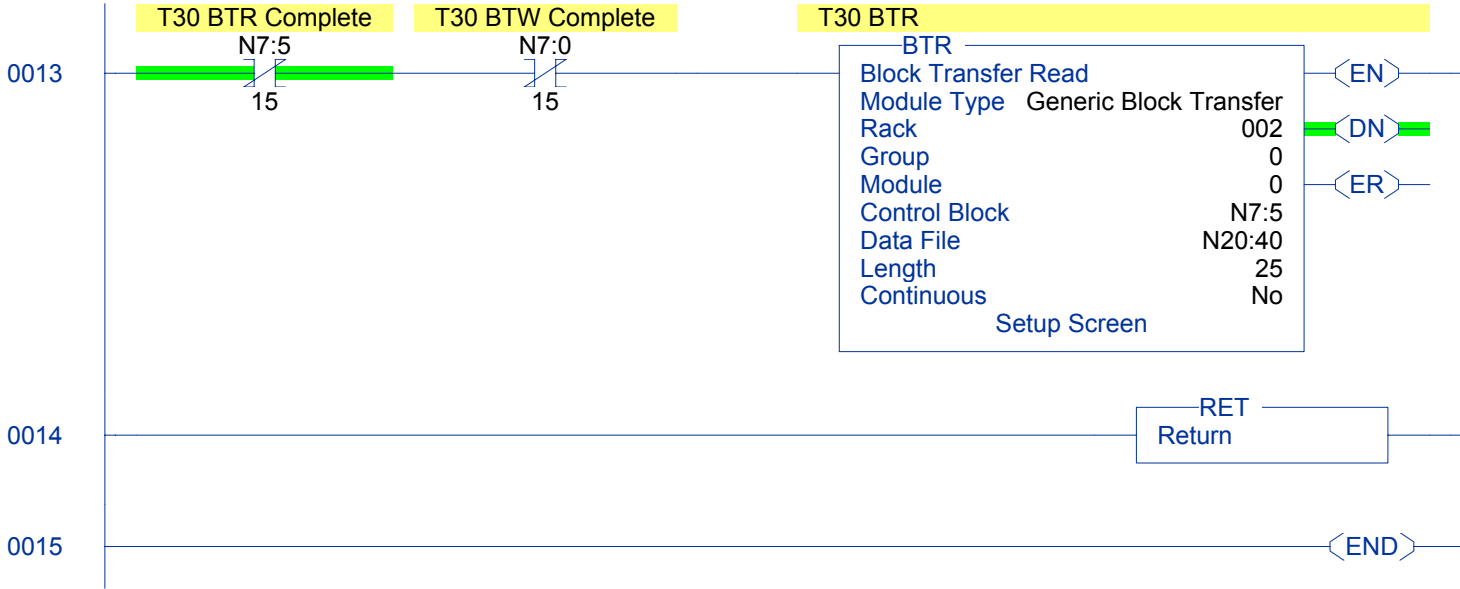
Test Bench Two

LAD 11 - T30\_BLK\_TR --- Total Rungs in File = 16



Test Bench Two

LAD 11 - T30\_BLK\_TR --- Total Rungs in File = 16



## Test Bench Two

File T4

Offset	EN	TT	DN	BASE	PRE	ACC	(Symbol) Description
T4:0	0	0	0	1.0 sec	2	0	TB2-25 Poppet Valve On Delay Timer
T4:1	0	0	0	1.0 sec	10	0	
T4:2	0	0	0	1.0 sec	5	5	
T4:3	0	0	0	1.0 sec	2	0	T30 BTW Timer
T4:4	0	0	0	1.0 sec	4	0	T30 BTW Timer
T4:5	0	0	0	1.0 sec	6	0	T30 BTW Timer
T4:6	0	0	0	1.0 sec	8	0	T30 BTW Timer
T4:7	0	0	0	.01 sec	9	0	Increment/Decremet Timer
T4:8	0	0	0	1.0 sec	10	10	
T4:9	0	0	0	1.0 sec	10	0	
T4:10	0	0	0	1.0 sec	5	0	
T4:11	0	0	0	1.0 sec	5	5	
T4:12	0	0	0	.01 sec	0	0	
T4:13	0	0	0	.01 sec	0	0	
T4:14	0	0	0	.01 sec	0	0	
T4:15	0	0	0	.01 sec	0	0	
T4:16	0	0	0	.01 sec	0	0	
T4:17	0	0	0	.01 sec	0	0	
T4:18	0	0	0	.01 sec	0	0	
T4:19	0	0	0	.01 sec	0	0	
T4:20	0	0	0	.01 sec	4800	0	
T4:21	1	1	0	.01 sec	100	0	



Test Bench Two

File C5

Offset	CU	CD	DN	OV	UN	PRE	ACC	(Symbol)	Description
C5:0	0	0	0	0	0	999	67		
C5:1	0	0	0	0	0	5	3	Slot 5 AI Card BTW Or BTR Error Counter	
C5:2	0	0	0	0	0	5	3	Error Counter AI Card Slot 7 BTW Or BTR	
C5:3	0	0	0	0	0	500	0		
C5:4	0	0	0	0	0	50	0		
C5:5	0	0	0	0	0	5	0		
C5:6	0	0	0	0	0	5000	0		

Test Bench Two

File F8

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Offset	0	1	2	3	4
F8:0	600	196	3.061224	0	120
F8:5	999.9999	1900	-3120	0.5940593	17
F8:10	0.009918319	0.01669584	17	3	0

## Test Bench Two

### Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	ABV
B3:0/3			Manual Test			
B3:0/4			Automatic Test			
B3:0/5			US Units Slot 5 Analog Input BTW			
B3:0/6			SI Units Slot 5 Analog Input BTW			
B3:0/7			US Units Slot 7 Analog Input BTW			
B3:0/8			SI Units Slot 7 Analog Input BTW			
B3:0/9			Manual Log Rate >1500ms			
B3:0/10			Manual Log Rate >1500ms			
B3:0/11			Manual Log Rate >150ms			
B3:0/12			Storage Rate <150ms			
B3:1/2			Pilot Pressure Limit			
B3:1/3			Oil Temperature Normal			
C5:1			Slot 5 AI Card BTW Or BTR Error Counter			
C5:2			Error Counter AI Card Slot 7 BTW Or BTR			
F8:3			increment Total			
F8:6						
I:000/0			Servo Filter Cloged (TB2-17)			
I:000/1			HP Port B Filter Cloged (TB2-29)			
I:000/2			HP port A Filter Gloged (TB2-30)			
I:000/3			HP Inlet Valve Limit Switch			
I:000/4			Pilot Pressure Inlet Valve Limit Switch			
I:000/5			Leakage Drain line Valve Limit Switch			
I:000/6			Flushing Line Valve Limit Switch			
I:000/7			Atmospheric Inlet Valve Limit Switch			
I:000/10			LP Inlet Valve Limit Switch			
I:000/11			Sump Filter Cloged (TB2-6)			
I:000/16			Emergency System Shutdown			
I:000/17			Emergency Bench Shutdown			
I:002/0			Speed Deviation <= 2X			
I:002/1			15 Volt Power supply OK			
I:002/2			Speed Deviation >= 5%			
I:002/3			Speed >= 110%			
I:002/4			Acceleration To High			
I:002/5			Speed Control VT12000 Ready			
N7:0			T30 BTW			
N7:0/15			T30 BTW Complete			
N7:5			T30 BTR			
N7:5/15			T30 BTR Complete			
N7:10			Block Transfer Write control block			
N7:15			Block Transfer Read control block			
N7:20			Block Transfer Write control block			
N7:25			Block Transfer Read control block			
N7:30						
N7:30/15			BTW To AO Card Complete			
N7:35						
N7:35/15			BTW To T30 Complete			
N7:40						
N7:40/15			T30 BTR Complete			
N7:50/13			Data Collection Counter			
N7:51						
N7:53						
N7:54/0			Decrement Output			
N10:50			Write data block			
N10:80			Write data block			
N10:120			AO Card Buffer			
N10:121			AO Card Buffer			
N10:122			AO Card Buffer			
N10:123			AO Card Buffer			
N10:124						
N10:132						
N20:0			BTW Buffer			
N20:1			BTW Buffer			
N20:2			BTW Buffer			
N20:10			BTW Buffer			
N20:26/15			HPU Alarm			
N20:41			Motor Test			
N20:42/0			Right Hand Rotation			
N20:42/1			Internal Drain			
N20:42/2			No Pilot Pressure			
N20:42/3			Pilot Pressure Valve 1			
N20:42/4			Fixed Displacement			
N20:42/6			US Units			
N20:42/8			Auto Test			
N20:42/9			Test In Progress			
N20:42/10			T30 Plot Request			
N20:42/14			Non-Regen. Atmos. Test			
N20:44			Max Speed			
N20:59			X Axis Variable			
N20:60			Y Axis Variable			
N20:80						

## Test Bench Two

### Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	ABV
N20:81						
N20:82						
N40:0			Read data block			
N40:0/0			Power up bit			
N40:4			Speed			
N40:5			Suction Press.			
N40:6			Charge Press.			
N40:7			Servo Press.			
N40:8			Speed Poteniometer			
N40:9			Presssure Pot.			
N40:10			Throttle Pot.			
N40:11			Pilot Press. Pot.			
N40:20			Read data block			
N40:20/0			Power up bit			
N40:24			Pilot Press.			
N40:25			Pressure LP1			
N40:26			Pressure			
N40:27			Main Flow			
N40:28			Charge Flow			
N40:29			Leakage Flow			
N40:30			Temperature			
N40:31			Torque			
O:001/0			Poppet Valve Solenoid TB2-25			
O:001/1			Poppet Valve Solenoid TB2-27			
O:001/2			Poppet Valve Solenoid TB2-20			
O:001/3			Poppet Valve Solenoid TB2-21			
O:001/4			Poppet Valve Solenoid TB2-22			
O:001/5			Poppet Valve Solenoid TB2-26			
O:001/6			Direction Valve Solenoid TB2-13			
O:001/7			Direction Valve Solenoid TB2-14			
O:001/10			VT12000 Speed Control Enable			
O:001/14			Station Alarm			
O:001/15			Water Valve			
O:001/16			Test Running			
O:001/17			Emergency Shutdown Light			
O0000:0022						
O0000:0023						
O:025/0			T30 Plot Info. Transfer Complete			
O:025/1			Auto Test Complete			
O0000:0026						
Q4:0			Skip Data Storage			
S:0/0			Processor arithmetic carry flag			
S:0/1			Processor arithmetic underflow/ overflow flag			
S:0/2			Processor arithmetic zero flag			
S:0/3			Processor arithmetic sign flag			
S:1/0			Bad RAM CHECKSUM at power up			
S:1/1			PLC-5 in RUN mode			
S:1/2			PLC-5 in TEST mode			
S:1/3			PLC-5 in PROG mode			
S:1/4			PLC-5 is burning an EEPROM			
S:1/5			Download- ing in progress			
S:1/6			Test edits enabled			
S:1/7			Mode switch in REMOTE			
S:1/8			Forces enabled			
S:1/9			Forces present			
S:1/10			EEPROM success- fully Burned			
S:1/11			Perform- ing online program- ming			
S:1/12			Processor is in DEBUG mode			
S:1/13			User program CHECKSUM done			
S:1/14			Last scan of ladder or SFC step			
S:1/15			First scan of ladder or SFC step			
S:7/0			Rack 0 Faulted			
S:7/1			Rack 1 Faulted			
S:7/2			Rack 2 Faulted			
S:7/3			Rack 3 Faulted			
S:7/4			Rack 4 Faulted			
S:7/5			Rack 5 Faulted			
S:7/6			Rack 6 Faulted			
S:7/7			Rack 7 Faulted			
S:7/8			Block Xfer queue to rack 0 is full			
S:7/9			Block Xfer queue to rack 1 is full			
S:7/10			Block Xfer queue to rack 2 is full			
S:7/11			Block Xfer queue to rack 3 is full			
S:7/12			Block Xfer queue to rack 4 is full			
S:7/13			Block Xfer queue to rack 5 is full			
S:7/14			Block Xfer queue to rack 6 is full			
S:7/15			Block Xfer queue to rack 7 is full			
S:8			Last program scan time ladder & SFC			
S:9			Maximum program scan time ladder & SFC			
S:10/0			Battery is bad or missing			

## Test Bench Two

### Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	ABV
S:10/1			DH+ active node table changed			
S:10/2			STI overlap			
S:10/3			EEPROM trans-ferred			
S:10/4			Edits prevent SFC continuing			
S:10/5			Invalid I/O status file			
S:10/6			Memory cartridge battery low			
S:10/7			No more command blocks exist			
S:10/9			No MCP was configured to run			
S:10/10			MCP not allowed			
S:10/11			PII word number isn't in local rack			
S:10/12			User PII routine overlap			
S:10/13			No command block exists to get PII			
S:10/14			Arithmetic overflow occurred			
S:10/15			SFC lingering action overlap			
S:11/0			Bad program file			
S:11/1			Bad address in ladder program			
S:11/2			Programmer error			
S:11/3			SFC Fault			
S:11/4			Program assembly error			
S:11/5			Powerup protection fault			
S:11/6			Error not defined			
S:11/7			User generated fault			
S:11/8			Watchdog timer fault			
S:11/9			Bad system config-uration			
S:11/10			Hardware Error			
S:11/11			MCP file does not exist or is not ladder			
S:11/12			PII file does not exist or is not ladder			
S:11/13			STI file does not exist or is not ladder			
S:11/14			Fault file does not exist or is not ladder			
S:11/15			Non ladder file			
S:12			Fault Code			
S:13			Program file where fault occurred			
S:14			Rung number where fault occurred			
S:16			I/O status file			
S:17/0			Queue full between local and remote I/O			
S:17/1			Queue full servicing channel 1A			
S:17/2			Queue full servicing channel 1B			
S:17/3			Queue full servicing channel 2A			
S:17/4			Queue full servicing channel 2B			
S:17/5			No modem on serial port			
S:17/6			Remote I/O is greater than image size			
S:17/8			ASCII instruct- ion error			
S:17/9			Duplicate node address			
S:18			Real time clock YEAR			
S:19			Real time clock MONTH			
S:20			Real time clock DAY			
S:21			Real time clock HOUR			
S:22			Real time clock MINUTE			
S:23			Real time clock SECOND			
S:24			Indexed Addressing Offset			
S:25			Adapter Image File			
S:26/0			SFC Restart/ Continue			
S:26/1			Start-up protect- ion after power loss			
S:26/2			Local rack is 1 if set or 0 if bit = 0			
S:26/3			Complement Rack Mode			
S:27/0			Rack 0 Inhibit			
S:27/1			Rack 1 Inhibit			
S:27/2			Rack 2 Inhibit			
S:27/3			Rack 3 Inhibit			
S:27/4			Rack 4 Inhibit			
S:27/5			Rack 5 Inhibit			
S:27/6			Rack 6 Inhibit			
S:27/7			Rack 7 Inhibit			
S:27/8			Rack 0 Reset			
S:27/9			Rack 1 Reset			
S:27/10			Rack 2 Reset			
S:27/11			Rack 3 Reset			
S:27/12			Rack 4 Reset			
S:27/13			Rack 5 Reset			
S:27/14			Rack 6 Reset			
S:27/15			Rack 7 Reset			
S:28			Watchdog Timer Setpoint			
S:29			Fault routine file number			
S:30			STI setpoint (interval)			
S:31			STI file number			
S:32/0			Rack 10 Faulted			
S:32/1			Rack 11 Faulted			
S:32/2			Rack 12 Faulted			
S:32/3			Rack 13 Faulted			
S:32/4			Rack 14 Faulted			

## Test Bench Two

### Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	ABV
S:32/5			Rack 15 Faulted			
S:32/6			Rack 16 Faulted			
S:32/7			Rack 17 Faulted			
S:32/8			Block Xfer queue to rack 10 is full			
S:32/9			Block Xfer queue to rack 11 is full			
S:32/10			Block Xfer queue to rack 12 is full			
S:32/11			Block Xfer queue to rack 13 is full			
S:32/12			Block Xfer queue to rack 14 is full			
S:32/13			Block Xfer queue to rack 15 is full			
S:32/14			Block Xfer queue to rack 16 is full			
S:32/15			Block Xfer queue to rack 17 is full			
S:33/0			Rack 10 Inhibit			
S:33/1			Rack 11 Inhibit			
S:33/2			Rack 12 Inhibit			
S:33/3			Rack 13 Inhibit			
S:33/4			Rack 14 Inhibit			
S:33/5			Rack 15 Inhibit			
S:33/6			Rack 16 Inhibit			
S:33/7			Rack 17 Inhibit			
S:33/8			Rack 10 Reset			
S:33/9			Rack 11 Reset			
S:33/10			Rack 12 Reset			
S:33/11			Rack 13 Reset			
S:33/12			Rack 14 Reset			
S:33/13			Rack 15 Reset			
S:33/14			Rack 16 Reset			
S:33/15			Rack 17 Reset			
S:34/0			Rack 20 Faulted			
S:34/1			Rack 21 Faulted			
S:34/2			Rack 22 Faulted			
S:34/3			Rack 23 Faulted			
S:34/4			Rack 24 Faulted			
S:34/5			Rack 25 Faulted			
S:34/6			Rack 26 Faulted			
S:34/7			Rack 27 Faulted			
S:34/8			Block Xfer queue to rack 20 is full			
S:34/9			Block Xfer queue to rack 21 is full			
S:34/10			Block Xfer queue to rack 22 is full			
S:34/11			Block Xfer queue to rack 23 is full			
S:34/12			Block Xfer queue to rack 24 is full			
S:34/13			Block Xfer queue to rack 25 is full			
S:34/14			Block Xfer queue to rack 26 is full			
S:34/15			Block Xfer queue to rack 27 is full			
S:35/0			Rack 20 Inhibit			
S:35/1			Rack 21 Inhibit			
S:35/2			Rack 22 Inhibit			
S:35/3			Rack 23 Inhibit			
S:35/4			Rack 24 Inhibit			
S:35/5			Rack 25 Inhibit			
S:35/6			Rack 26 Inhibit			
S:35/7			Rack 27 Inhibit			
S:35/8			Rack 20 Reset			
S:35/9			Rack 21 Reset			
S:35/10			Rack 22 Reset			
S:35/11			Rack 23 Reset			
S:35/12			Rack 24 Reset			
S:35/13			Rack 25 Reset			
S:35/14			Rack 26 Reset			
S:35/15			Rack 27 Reset			
S:46			PII file number			
S:47			PII module group to examine			
S:48			PII bit mask			
S:48/0			PII Module Bit 1=Monitor 0=Ignore			
S:49			PII compare value			
S:49/0			PII Bit 1=false to true, 0= true to false			
S:50			PII down count			
S:51			PII return mask			
S:52			PII accum- ulator			
S:53			STI last scan time			
S:54			STI max scan time			
S:55			PII last scan time			
S:56			PII max scan time			
S:79/0			Main control program A disable bit			
S:79/1			Main control program B disable bit			
S:79/2			Main control program C disable bit			
S:79/3			Main control program D disable bit			
S:79/4			Main control program E disable bit			
S:79/5			Main control program F disable bit			
S:79/6			Main control program G disable bit			
S:79/7			Main control program H disable bit			

## Test Bench Two

### Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	ABV
S:79/8			Main control program I disable bit			
S:79/9			Main control program J disable bit			
S:79/10			Main control program K disable bit			
S:79/11			Main control program L disable bit			
S:79/12			Main control program M disable bit			
S:79/13			Main control program N disable bit			
S:79/14			Main control program O disable bit			
S:79/15			Main control program P disable bit			
S:80			Main control program A file number			
S:81			Program A scan time			
S:82			Program A maximum scan time			
S:83			Main control program B file number			
S:84			Program B scan time			
S:85			Program B maximum scan time			
S:86			Main control program C file number			
S:87			Program C scan time			
S:88			Program C maximum scan time			
S:89			Main control program D file number			
S:90			Program D scan time			
S:91			Program D maximum scan time			
S:92			Main control program E file number			
S:93			Program E scan time			
S:94			Program E maximum scan time			
S:95			Main control program F file number			
S:96			Program F scan time			
S:97			Program F maximum scan time			
S:98			Main control program G file number			
S:99			Program G scan time			
S:100			Program G maximum scan time			
S:101			Main control program H file number			
S:102			Program H scan time			
S:103			Program H maximum scan time			
S:104			Main control program I file number			
S:105			Program I scan time			
S:106			Program I maximum scan time			
S:107			Main control program J file number			
S:108			Program J scan time			
S:109			Program J maximum scan time			
S:110			Main control program K file number			
S:111			Program K scan time			
S:112			Program K maximum scan time			
S:113			Main control program L file number			
S:114			Program L scan time			
S:115			Program L maximum scan time			
S:116			Main control program M file number			
S:117			Program M scan time			
S:118			Program M maximum scan time			
S:119			Main control program N file number			
S:120			Program N scan time			
S:121			Program N maximum scan time			
S:122			Main control program O file number			
S:123			Program O scan time			
S:124			Program O maximum scan time			
S:125			Main control program P file number			
S:126			Program P scan time			
S:127			Program P maximum scan time			
T4:0			TB2-25 Poppet Valve On Delay Timer			
T4:2/DN						
T4:3			T30 BTW Timer			
T4:4			T30 BTW Timer			
T4:5			T30 BTW Timer			
T4:6			T30 BTW Timer			
T4:7			Increment/Decremet Timer			
T4:7/DN						
T4:8/DN			Auto Test Running			
T4:9/DN			Auto Test Delay Start			
T4:11/DN			Auto Test Stop Delay			

## Test Bench Two

### Instruction Comment Database

Address	Instruction	Description
F8:3	MOV	Reset Increment Total To Zero
F8:6	ADD	Add Var. Min. To Total Store In F8:6
F8:6	LES	Output Less Than Variable Minimum
I:002/5	XIO	Speed Controll VT12000 Not Ready
N7:10	BTW	BTW To AI Card In Slot 5
N7:15	BTR	BTR To AI Card In Slot 5
N7:20	BTW	BTW To AI Card In Slot 7
N7:25	BTR	BTR To AI Card In Slot 7
N7:30	BTW	BTW To AO Card In Slot 8
N7:35	BTW	BTW To T30
N7:40	BTR	T30 BTR
N7:51	ADD	Increment Index Address Pointer
N7:53	NOT	Toggle Bit For STI Loop Count
N7:54/0	XIO	Increment Output
N10:50	COP	Copy Write Info. To BTW Buffer
N10:80	COP	Copy Write Info. To Slot 7 Buffer
N10:120	MOV	Move Speed Data To AO Card Buffer
N10:121	MOV	Move Flow Control Data To AO Card Buffer
N10:122	MOV	Move Relief Valve Data To AO Card Buffer
N10:123	MOV	Move Pilot Pressure Data To AO Buffer
N10:124	MOV	Move AO Config info To Buffer
N10:132	MOV	Scale AO Card Output Channel 4
N20:0	MOV	Move T30 Wrie Address Into BTW Buffer
N20:1	MOV	Move T30 Read Address Into BTW Buffer
N20:2	COP	Move PLC Information (8 Words) Into BTW Buffer
N20:10	COP	Move T30 information (4 Words) Into BTW Buffer
N20:42/0	XIO	Left Hand Rotation
N20:42/2	XIO	Pilot Pressure Required
N20:42/3	XIO	Pilot Pressure Valve 2
N20:42/6	XIO	SI Units
N20:42/8	XIO	Manual Test
N20:59	EQU	Check X Axis Variable
N20:60	EQU	Check Y Axis Variable
N20:80	MOV	Move T30 Receiving Address Into N20:80
N20:81	MOV	Move T30 Read Address Into N20:81
N20:82	COP	Move 60 Data Words Into File Starting At N20:82
N40:8	GRT	Speed Pot. Value Greater Than Max. Speed
O:022	MOV	Transfer PLC Slot 1 Info. To T130
O:023	MOV	Transfer PLC Slot 3 Info. To T130
O:026	MOV	Transfer PLC Slot 2 Info. To T30
S:24	MOV	Load Index Address Pointer
S:30	MOV	Load STI Time
S:30	DIV	Load STI Time
T4:7/DN	XIC	Increment/Decrement Output Timer
T4:9/DN	XIC	Auto Ramp Start Delay