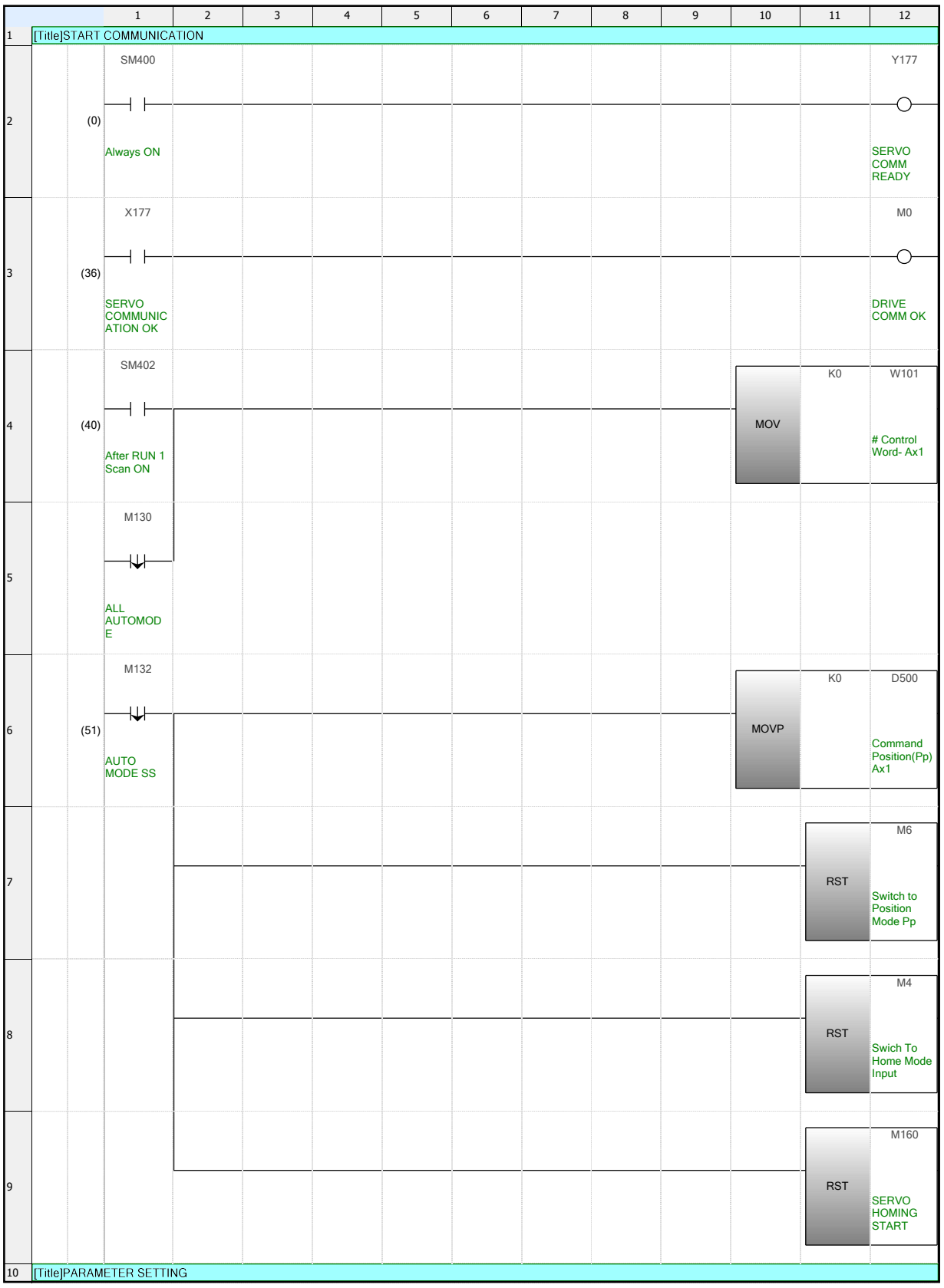
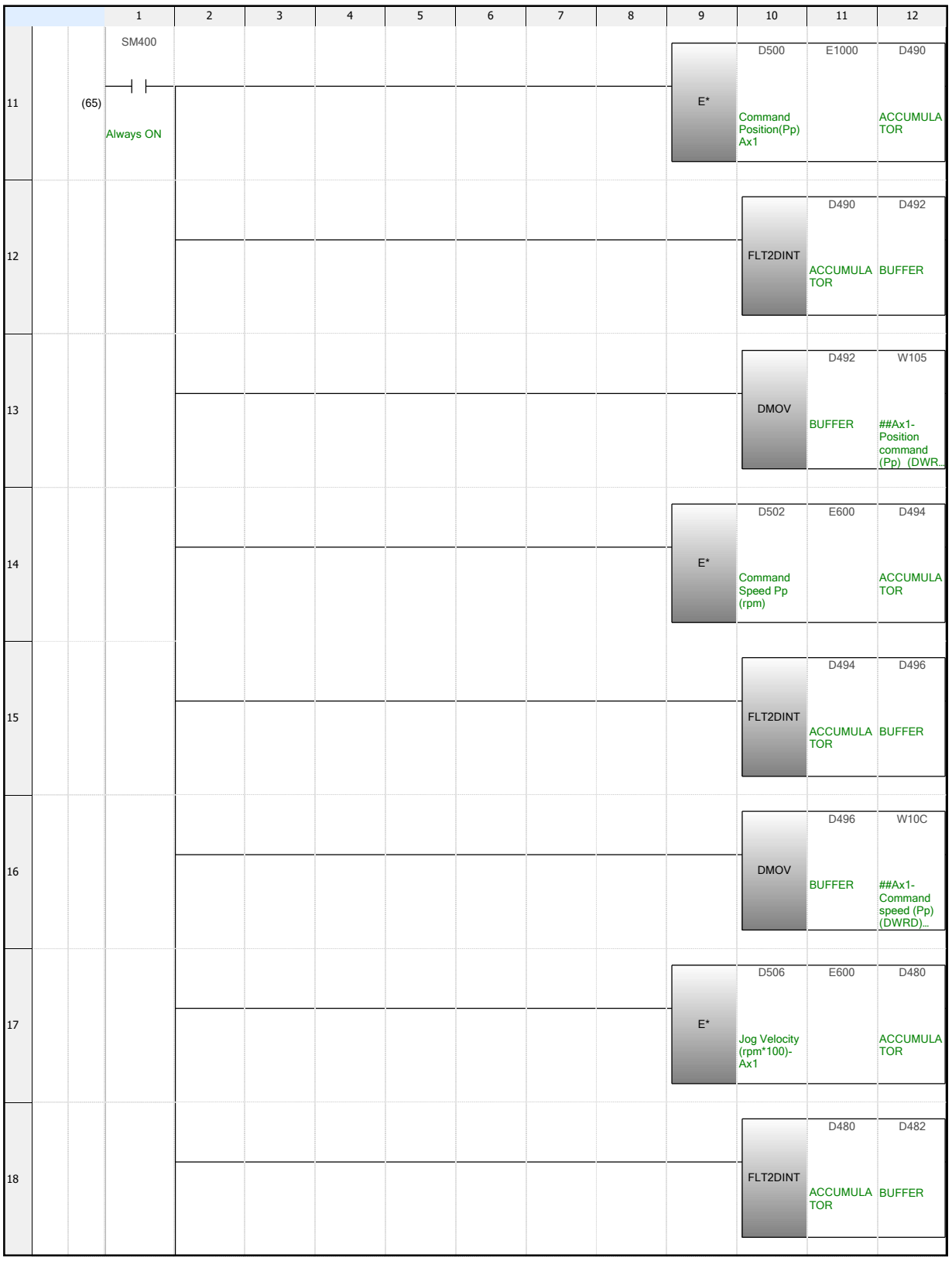
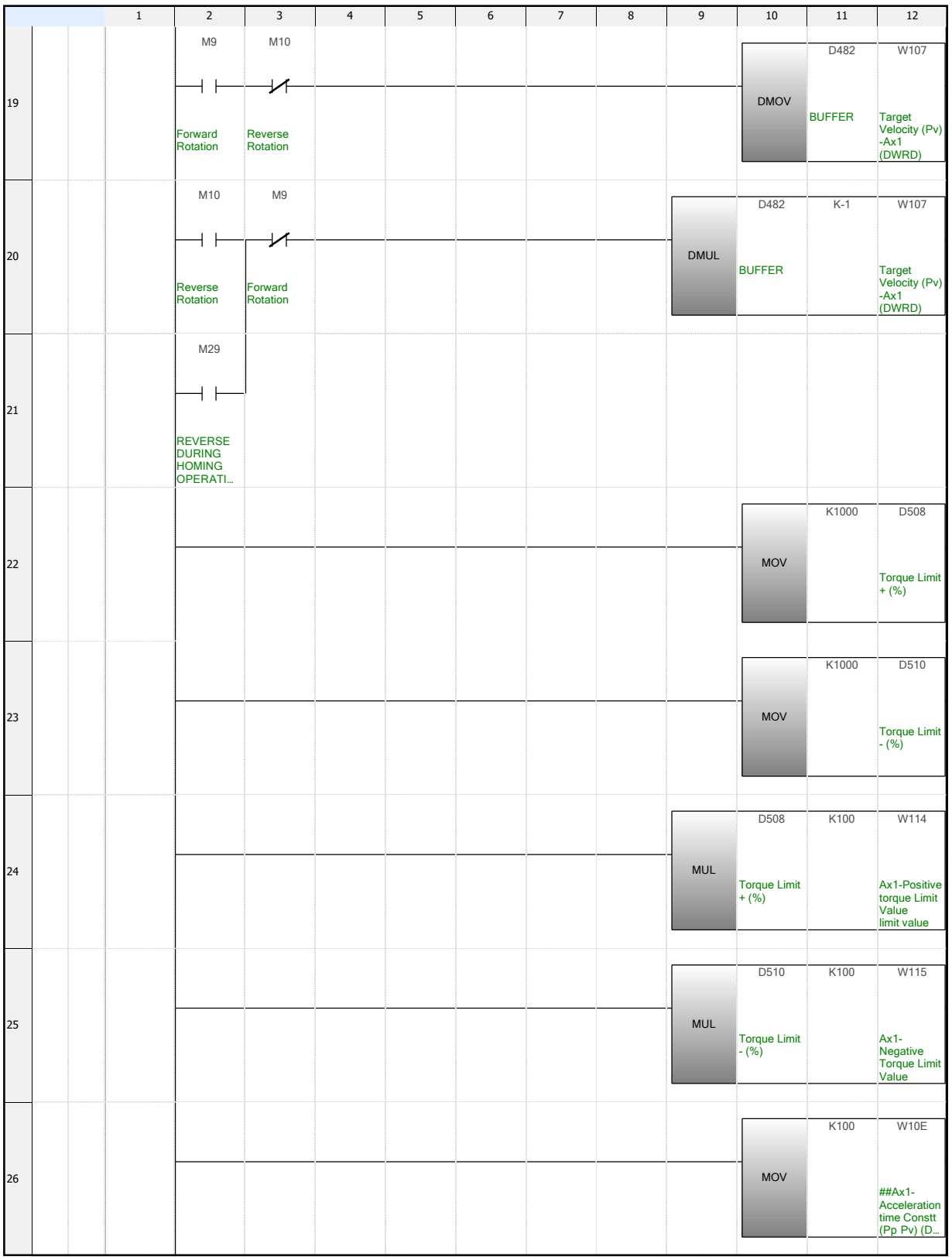
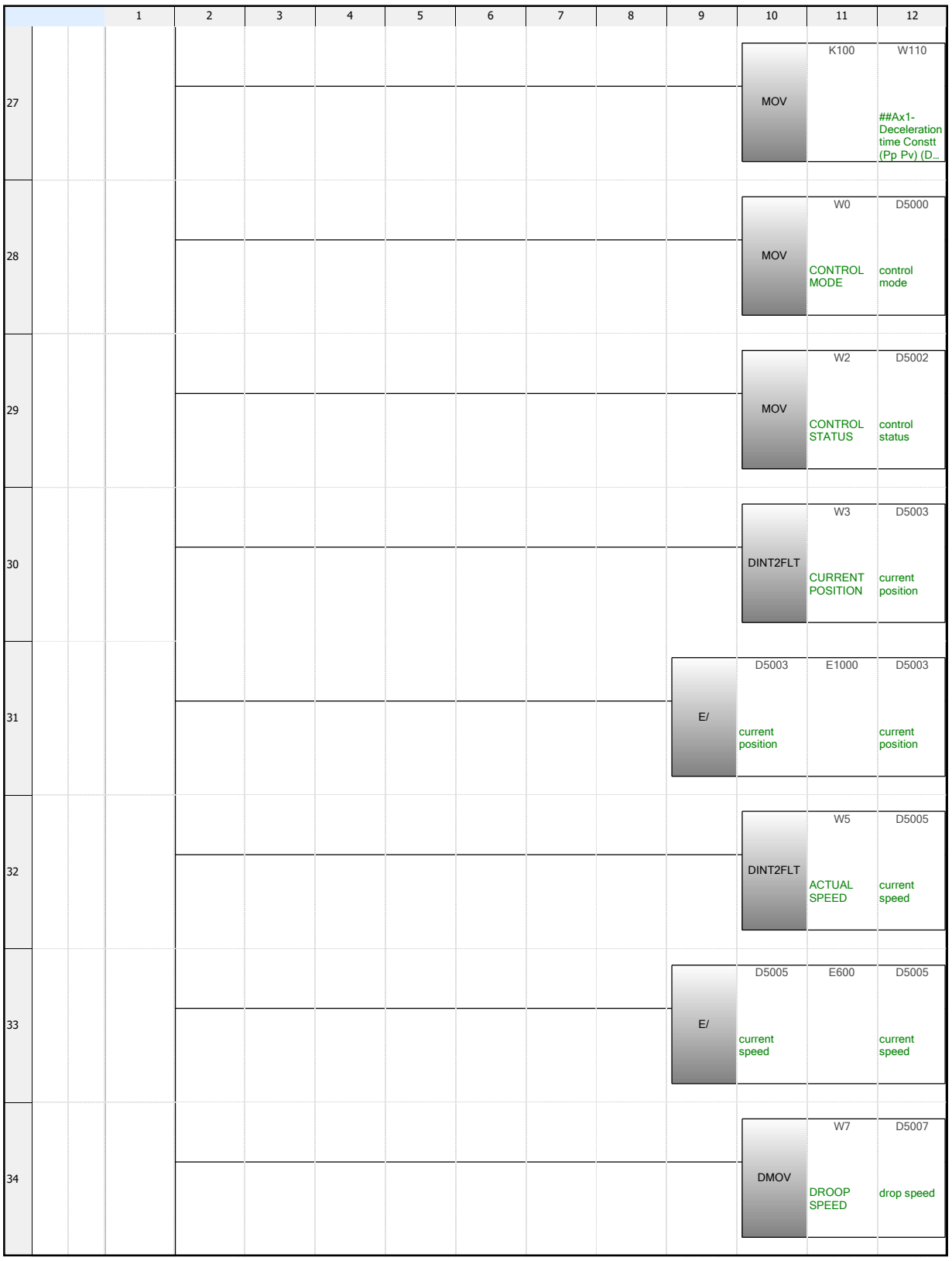
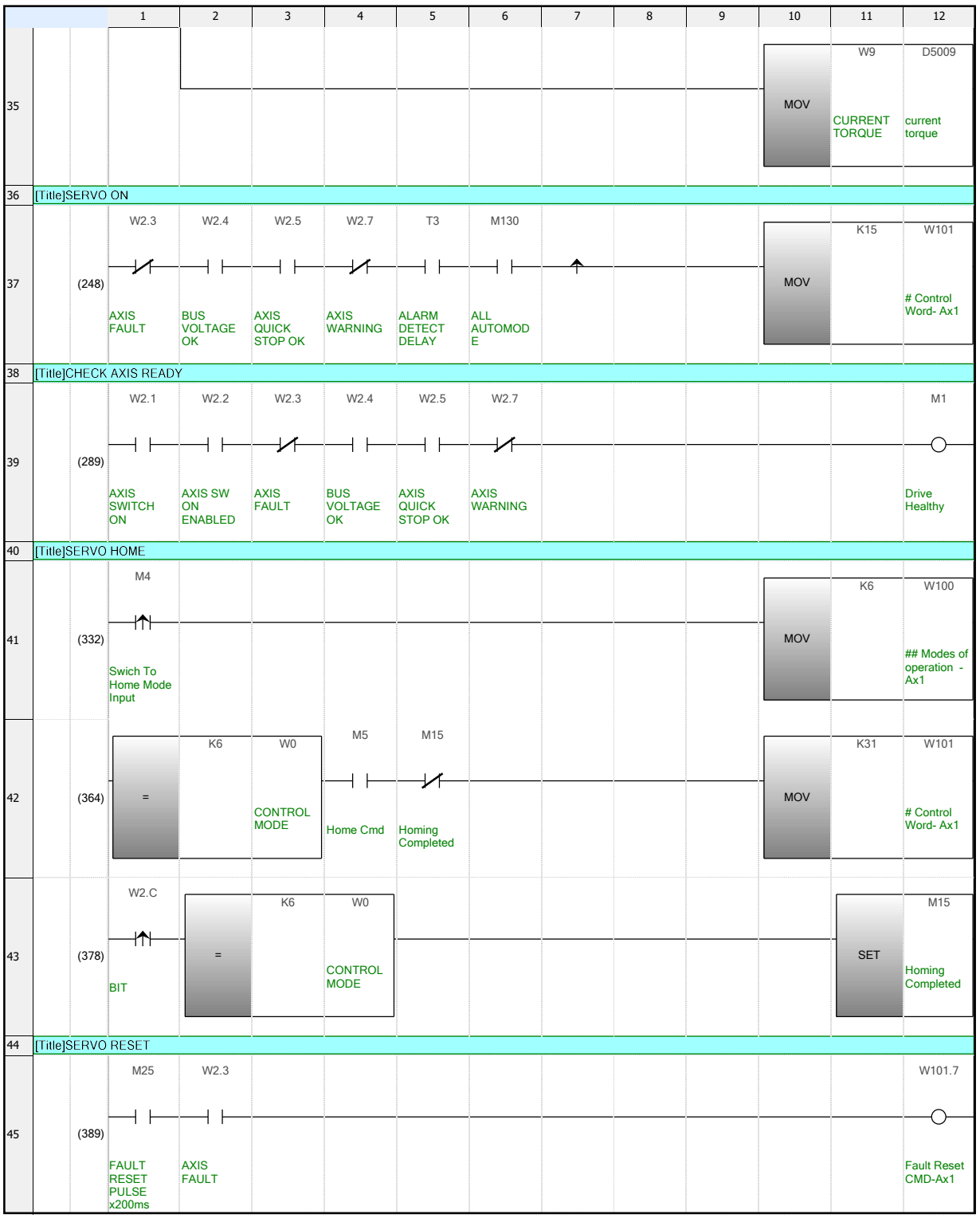
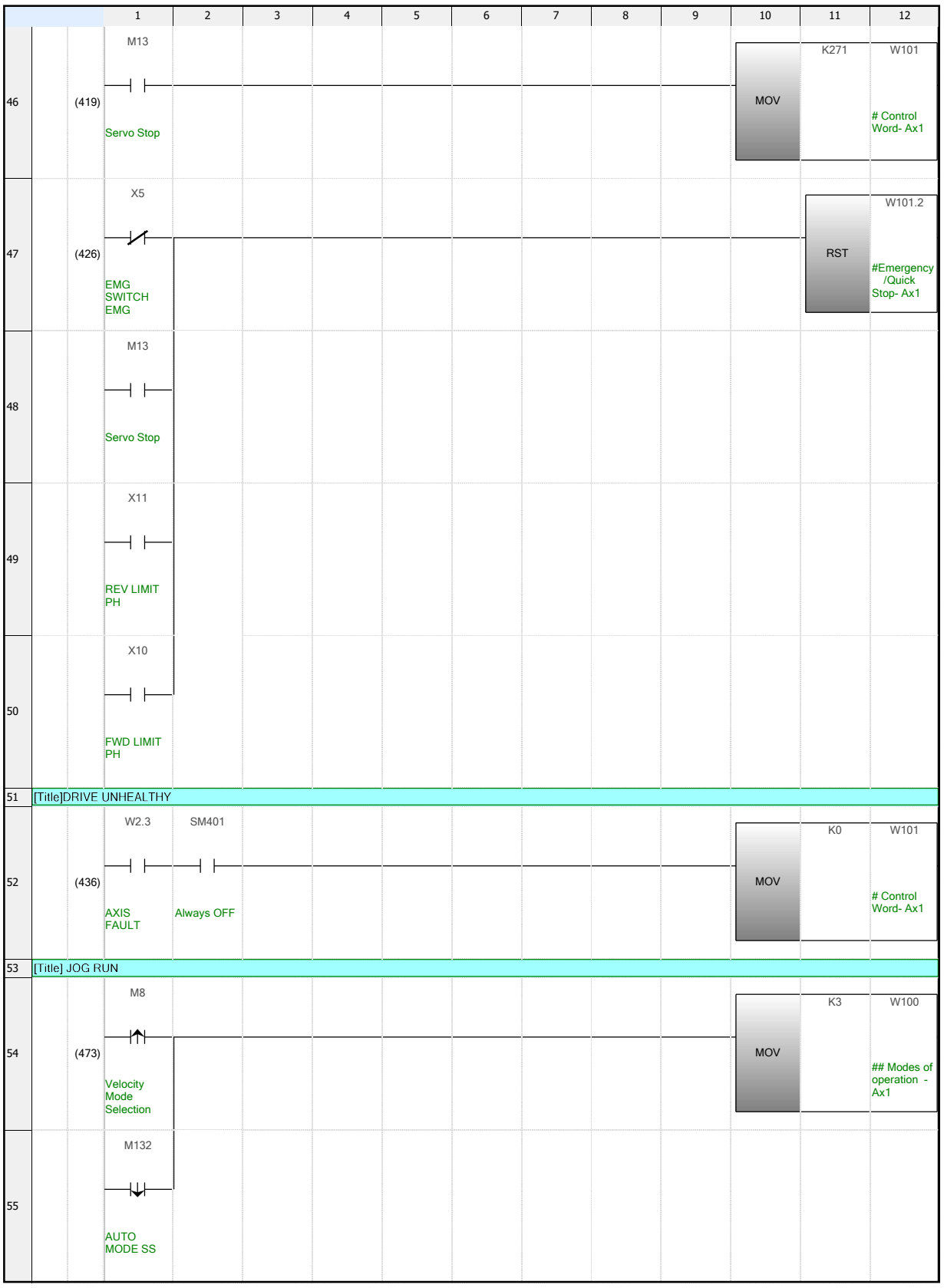

1
2
3
4
5
6
7
8
9
10
11
12
[Title]START COMMUNICATION
SM400
(0)
Always ON
Y177
SERVO COMM READY
X177
(36)
SERVO COMMUNICATION OK
M0
DRIVE COMM OK
SM402
(40)
After RUN 1 Scan ON
MOV
K0
W101
Control Word- Ax1
M130
ALL AUTOMODE
M132
(51)
AUTO MODE SS
MOVP
K0
D500
Command Position(Pp) Ax1
RST
M6
Switch to Position Mode Pp
RST
M4
Swich To Home Mode Input
RST
M160
SERVO HOMING START
[Title]PARAMETER SETTING

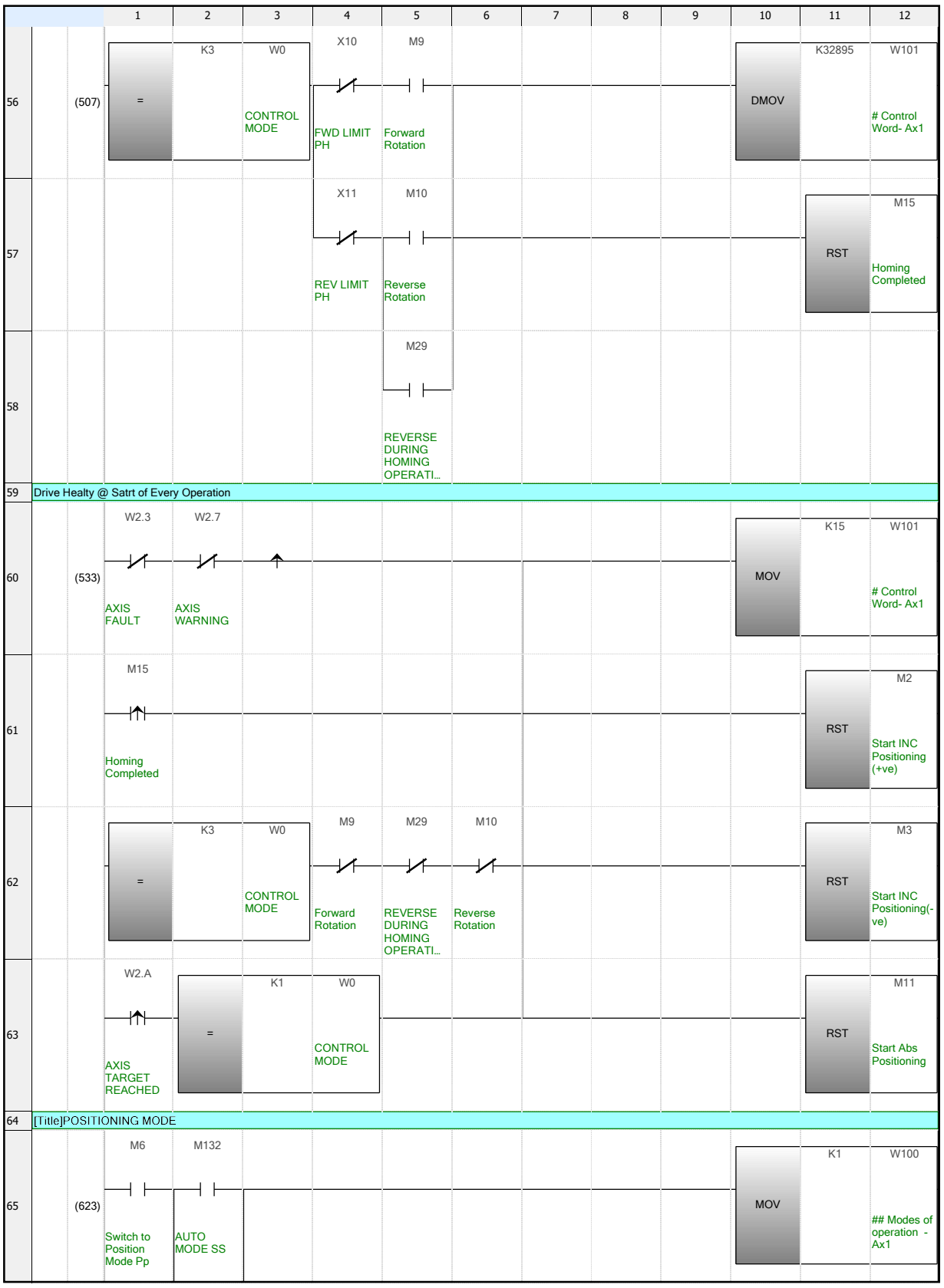

1
2
3
4
5
6
7
8
9
10
11
12
11
(65)
SM400
Always ON
E*
D500
Command Position(Pp) Ax1
E1000
D490
ACCUMULATOR
12
FLT2DINT
D490
ACCUMULATOR
D492
BUFFER
13
DMOV
D492
BUFFER
W105
##Ax1-Position command (Pp) (DWR...
14
E*
D502
Command Speed Pp (rpm)
E600
D494
ACCUMULATOR
15
FLT2DINT
D494
ACCUMULATOR
D496
BUFFER
16
DMOV
D496
BUFFER
W10C
##Ax1-Command speed (Pp) (DWRD)...
17
E*
D506
Jog Velocity (rpm*100)-Ax1
E600
D480
ACCUMULATOR
18
FLT2DINT
D480
ACCUMULATOR
D482
BUFFER

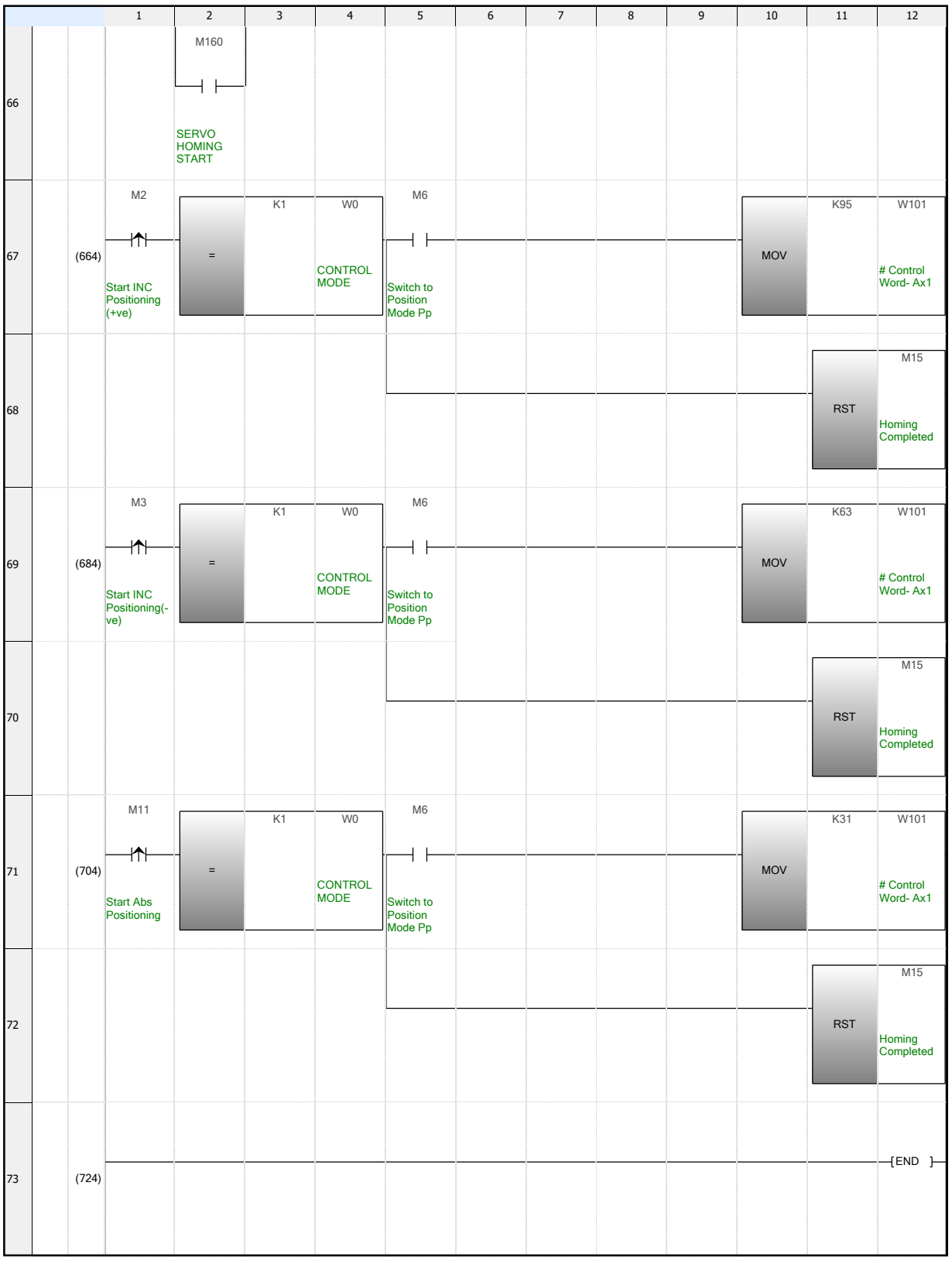

1
2
3
4
5
6
7
8
9
10
11
12
19
M9
M10
Forward Rotation
Reverse Rotation
DMOV
D482
BUFFER
W107
Target Velocity (Pv) -Ax1 (DWRD)
20
M10
M9
Reverse Rotation
Forward Rotation
DMUL
D482
BUFFER
K-1
W107
Target Velocity (Pv) -Ax1 (DWRD)
21
M29
REVERSE DURING HOMING OPERATI…
22
MOV
K1000
D508
Torque Limit + (%)
23
MOV
K1000
D510
Torque Limit - (%)
24
MUL
D508
Torque Limit + (%)
K100
W114
Ax1-Positive torque Limit Value limit value
25
MUL
D510
Torque Limit - (%)
K100
W115
Ax1-Negative Torque Limit Value
26
MOV
K100
W10E
##Ax1-Acceleration time Constt (Pp Pv) (D…

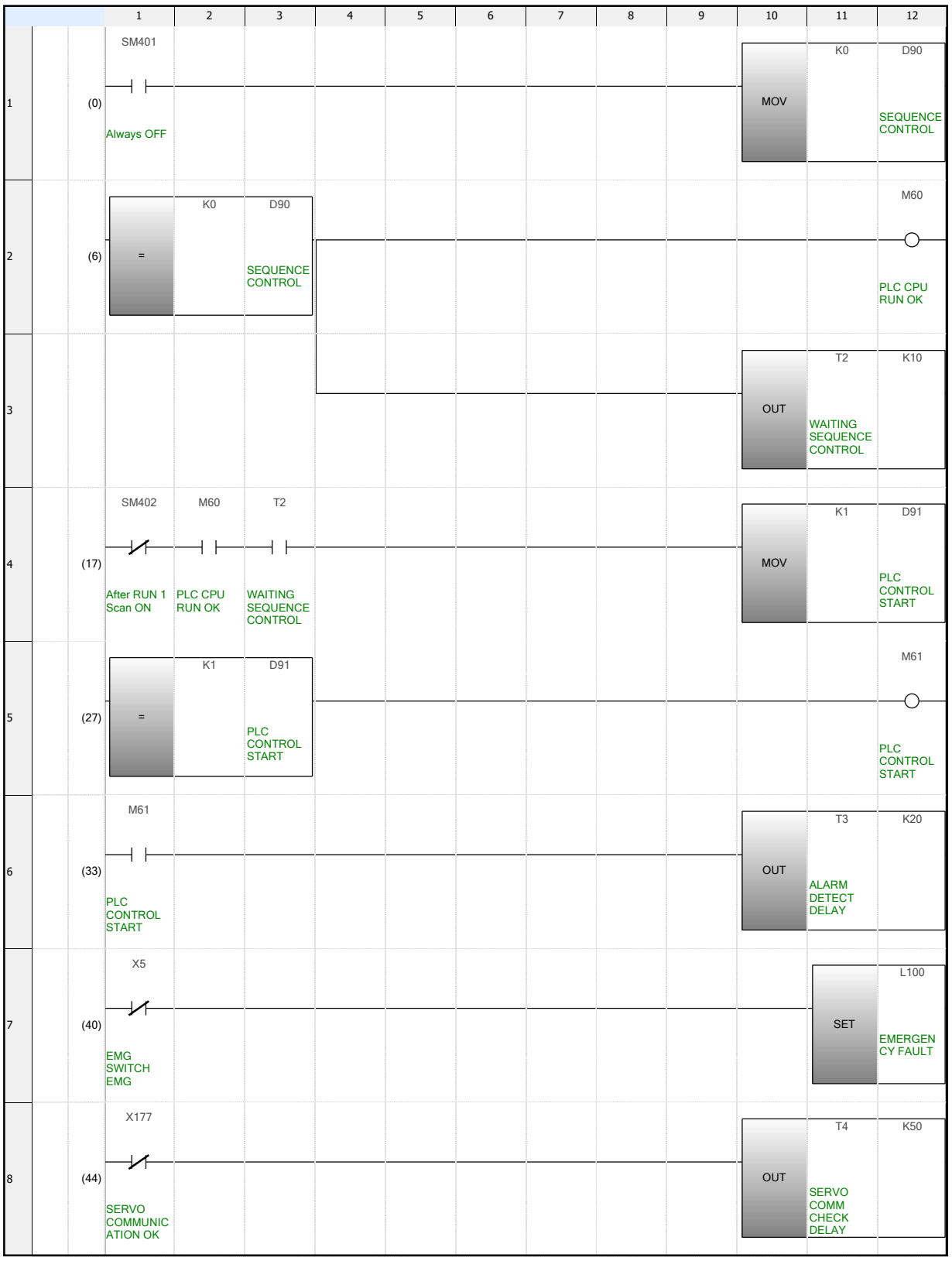

1
2
3
4
5
6
7
8
9
10
11
12
27
MOV
K100
W110
##Ax1-Deceleration time Constt (Pp Pv) (D...
28
MOV
W0
CONTROL MODE
D5000
control mode
29
MOV
W2
CONTROL STATUS
D5002
control status
30
DINT2FLT
W3
CURRENT POSITION
D5003
current position
31
E/
D5003
current position
E1000
D5003
current position
32
DINT2FLT
W5
ACTUAL SPEED
D5005
current speed
33
E/
D5005
current speed
E600
D5005
current speed
34
DMOV
W7
DROOP SPEED
D5007
drop speed

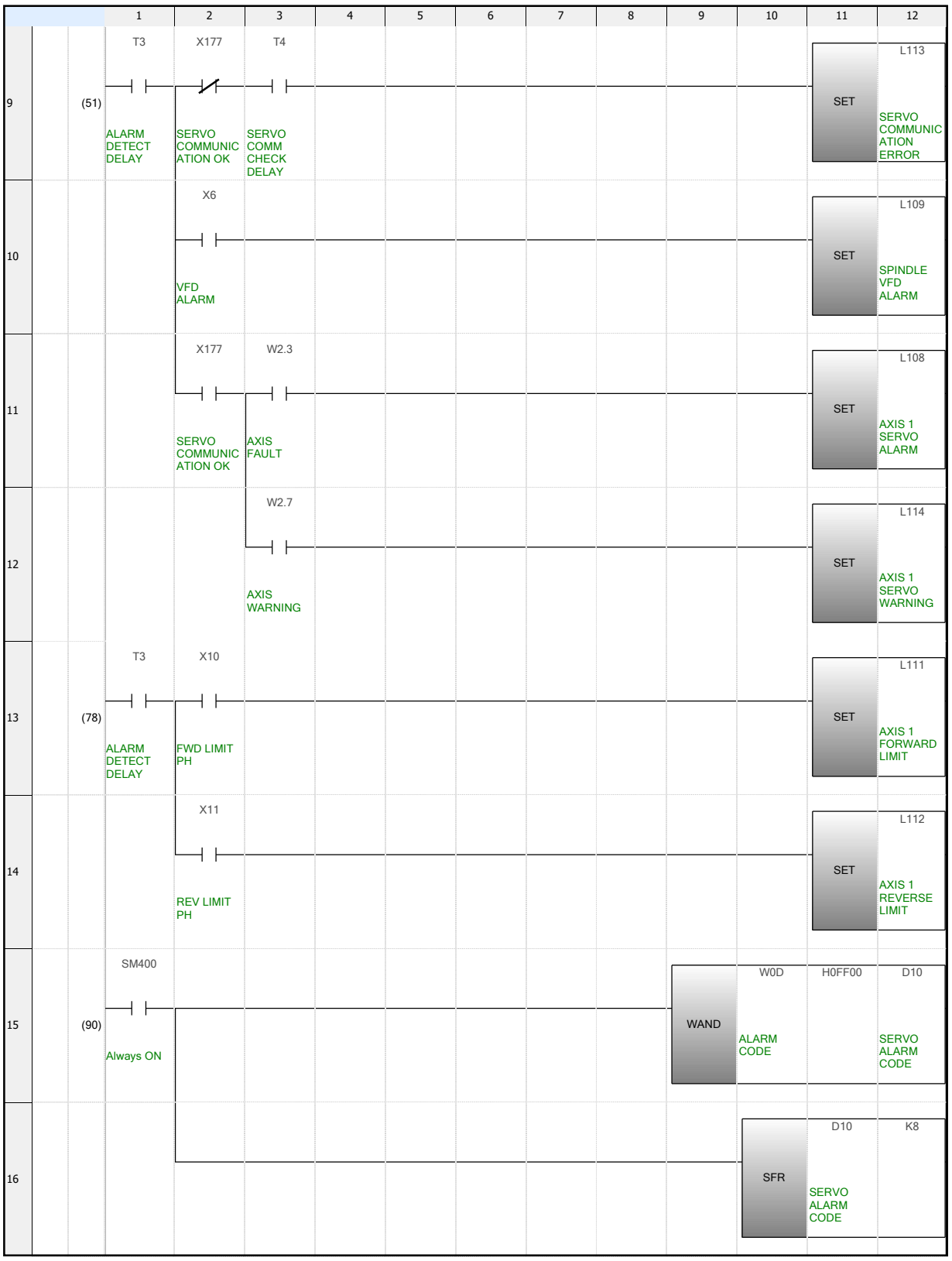

1
2
3
4
5
6
7
8
9
10
11
12
35
MOV
W9
CURRENT TORQUE
D5009
current torque
36
[Title]SERVO ON
37
(248)
W2.3
AXIS FAULT
W2.4
BUS VOLTAGE OK
W2.5
AXIS QUICK STOP OK
W2.7
AXIS WARNING
T3
ALARM DETECT DELAY
M130
ALL AUTOMODE
MOV
K15
W101
Control Word- Ax1
38
[Title]CHECK AXIS READY
39
(289)
W2.1
AXIS SWITCH ON
W2.2
AXIS SW ON ENABLED
W2.3
AXIS FAULT
W2.4
BUS VOLTAGE OK
W2.5
AXIS QUICK STOP OK
W2.7
AXIS WARNING
M1
Drive Healthy
40
[Title]SERVO HOME
41
(332)
M4
Swich To Home Mode Input
MOV
K6
W100
Modes of operation - Ax1
42
(364)
=
K6
W0
CONTROL MODE
M5
Home Cmd
M15
Homing Completed
MOV
K31
W101
Control Word- Ax1
43
(378)
W2.C
BIT
=
K6
W0
CONTROL MODE
SET
M15
Homing Completed
44
[Title]SERVO RESET
45
(389)
M25
FAULT RESET PULSE x200ms
W2.3
AXIS FAULT
W101.7
Fault Reset CMD-Ax1

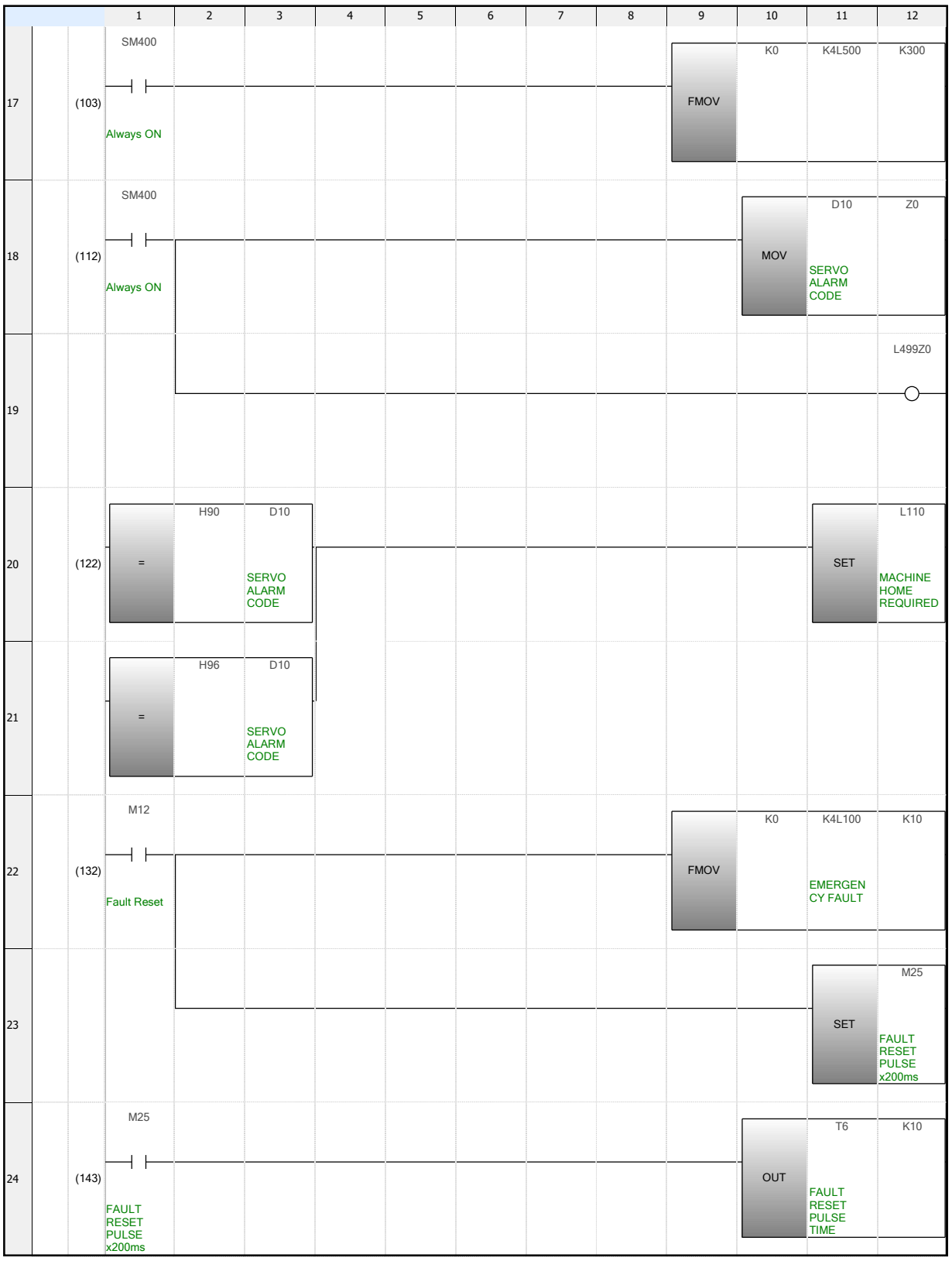

1
2
3
4
5
6
7
8
9
10
11
12
46
(419)
M13
Servo Stop
MOV
K271
W101
Control Word- Ax1
47
(426)
X5
EMG SWITCH EMG
RST
W101.2
#Emergency /Quick Stop- Ax1
48
M13
Servo Stop
49
X11
REV LIMIT PH
50
X10
FWD LIMIT PH
51
[Title]DRIVE UNHEALTHY
52
(436)
W2.3
AXIS FAULT
SM401
Always OFF
MOV
K0
W101
Control Word- Ax1
53
[Title] JOG RUN
54
(473)
M8
Velocity Mode Selection
MOV
K3
W100
Modes of operation - Ax1
55
M132
AUTO MODE SS

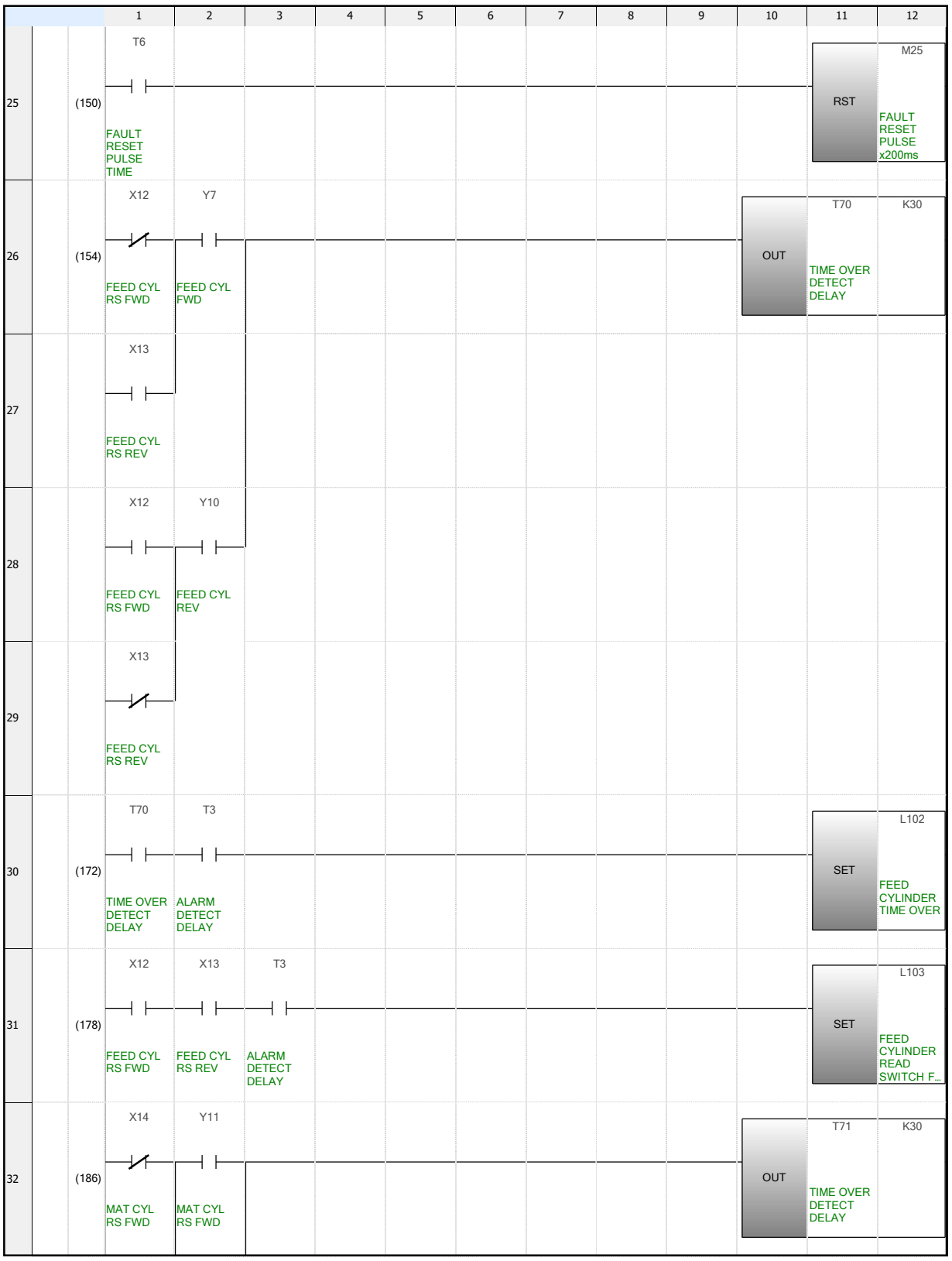

1 2 3 4 5 6 7 8 9 10 11 12
56 (507) = K3 W0 CONTROL MODE X10 FWD LIMIT PH M9 Forward Rotation DMOV K32895 W101 # Control Word- Ax1
57 X11 REV LIMIT PH M10 Reverse Rotation RST M15 Homing Completed
58 M29 REVERSE DURING HOMING OPERATI...
59 Drive Healty @ Satrt of Every Operation
60 (533) W2.3 AXIS FAULT W2.7 AXIS WARNING MOV K15 W101 # Control Word- Ax1
61 M15 Homing Completed RST M2 Start INC Positioning (+ve)
62 = K3 W0 CONTROL MODE M9 Forward Rotation M29 REVERSE DURING HOMING OPERATI... M10 Reverse Rotation RST M3 Start INC Positioning(-ve)
63 W2.A AXIS TARGET REACHED = K1 W0 CONTROL MODE RST M11 Start Abs Positioning
64 [Title]POSITIONING MODE
65 (623) M6 Switch to Position Mode Pp M132 AUTO MODE SS MOV K1 W100 ## Modes of operation - Ax1

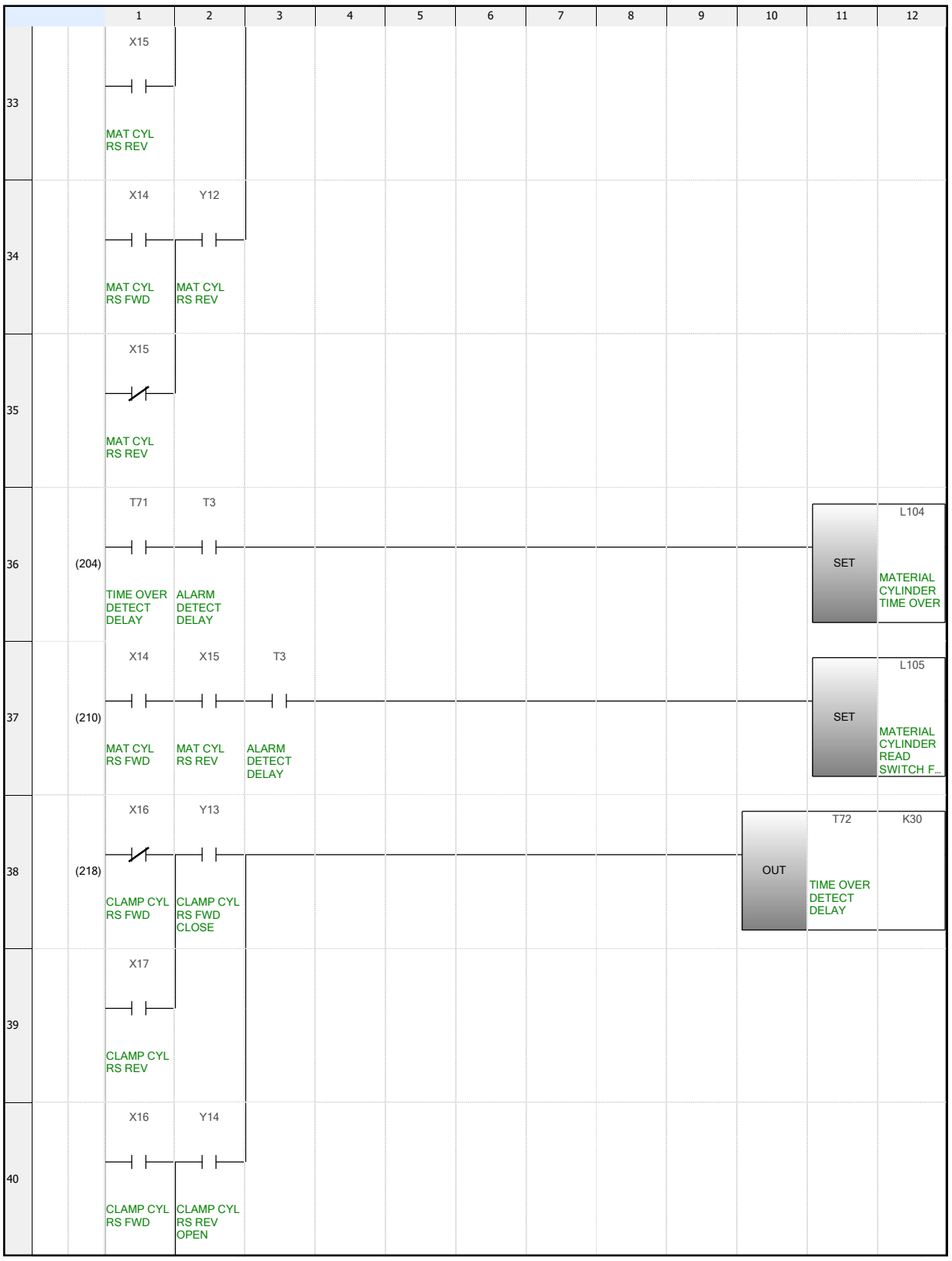

1
2
3
4
5
6
7
8
9
10
11
12
66
M160
SERVO HOMING START
67
M2
(664)
Start INC Positioning (+ve)
=
K1
W0
CONTROL MODE
M6
Switch to Position Mode Pp
MOV
K95
W101
Control Word- Ax1
68
RST
M15
Homing Completed
69
M3
(684)
Start INC Positioning(-ve)
=
K1
W0
CONTROL MODE
M6
Switch to Position Mode Pp
MOV
K63
W101
Control Word- Ax1
70
RST
M15
Homing Completed
71
M11
(704)
Start Abs Positioning
=
K1
W0
CONTROL MODE
M6
Switch to Position Mode Pp
MOV
K31
W101
Control Word- Ax1
72
RST
M15
Homing Completed
73
(724)
{END }

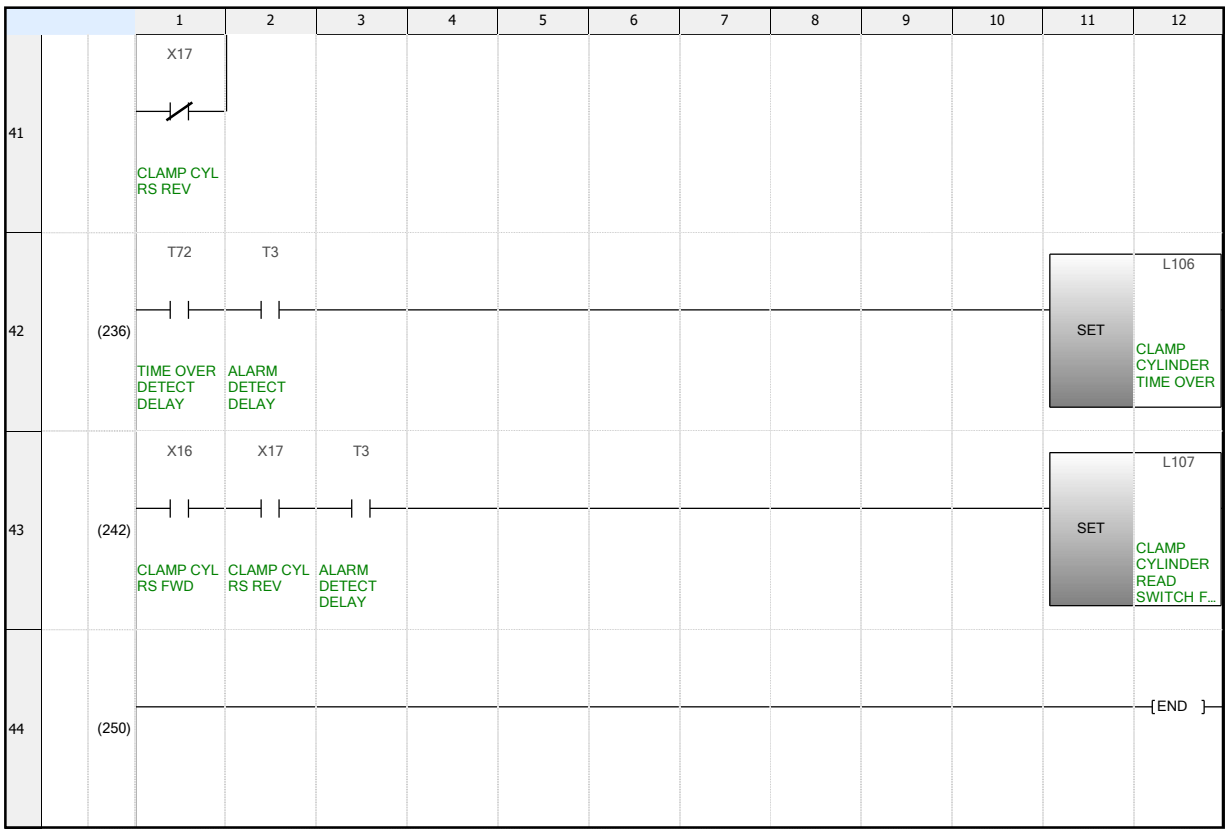

1
2
3
4
5
6
7
8
9
10
11
12
SM401
(0)
Always OFF
MOV
K0
D90
SEQUENCE CONTROL
=
K0
D90
SEQUENCE CONTROL
M60
PLC CPU RUN OK
OUT
T2
K10
WAITING SEQUENCE CONTROL
SM402
M60
T2
(17)
After RUN 1 Scan ON
PLC CPU RUN OK
WAITING SEQUENCE CONTROL
MOV
K1
D91
PLC CONTROL START
=
K1
D91
PLC CONTROL START
M61
PLC CONTROL START
(27)
M61
(33)
PLC CONTROL START
OUT
T3
K20
ALARM DETECT DELAY
X5
(40)
EMG SWITCH EMG
SET
L100
EMERGENCY FAULT
X177
(44)
SERVO COMMUNICATION OK
OUT
T4
K50
SERVO COMM CHECK DELAY

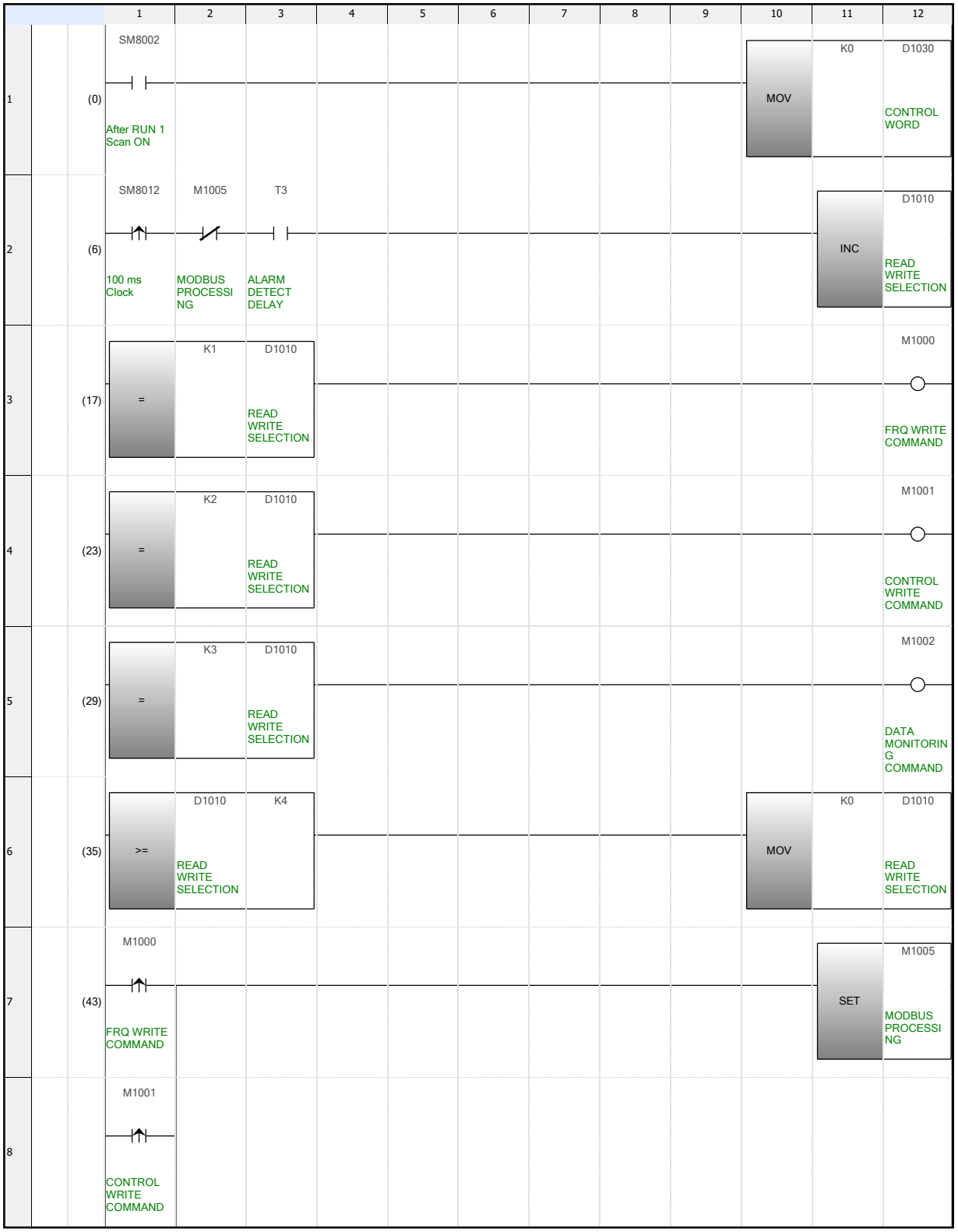

1
2
3
4
5
6
7
8
9
10
11
12
9
(51)
T3
ALARM DETECT DELAY
X177
SERVO COMMUNICATION OK
T4
SERVO COMM CHECK DELAY
SET
L113
SERVO COMMUNICATION ERROR
10
X6
VFD ALARM
SET
L109
SPINDLE VFD ALARM
11
X177
SERVO COMMUNICATION OK
W2.3
AXIS FAULT
SET
L108
AXIS 1 SERVO ALARM
12
W2.7
AXIS WARNING
SET
L114
AXIS 1 SERVO WARNING
13
(78)
T3
ALARM DETECT DELAY
X10
FWD LIMIT PH
SET
L111
AXIS 1 FORWARD LIMIT
14
X11
REV LIMIT PH
SET
L112
AXIS 1 REVERSE LIMIT
15
(90)
SM400
Always ON
WAND
W0D
ALARM CODE
H0FF00
D10
SERVO ALARM CODE
16
SFR
D10
SERVO ALARM CODE
K8

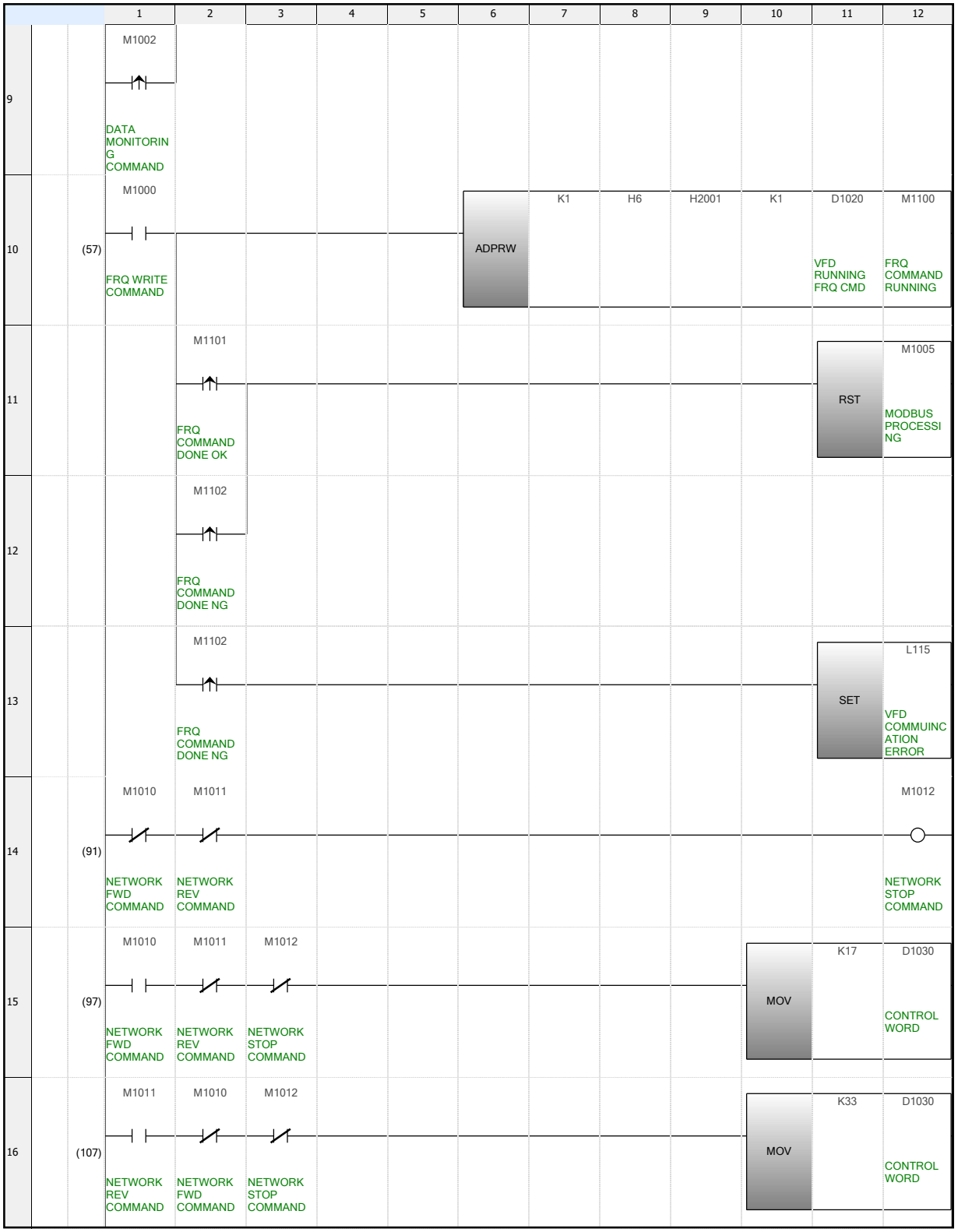

1 2 3 4 5 6 7 8 9 10 11 12
17 (103) SM400 Always ON FMOV K0 K4L500 K300
18 (112) SM400 Always ON MOV D10 SERVO ALARM CODE Z0
19 L499Z0
20 (122) = H90 D10 SERVO ALARM CODE SET L110 MACHINE HOME REQUIRED
21 = H96 D10 SERVO ALARM CODE
22 (132) M12 Fault Reset FMOV K0 K4L100 EMERGEN CY FAULT K10
23 SET M25 FAULT RESET PULSE x200ms
24 (143) M25 FAULT RESET PULSE x200ms OUT T6 FAULT RESET PULSE TIME K10

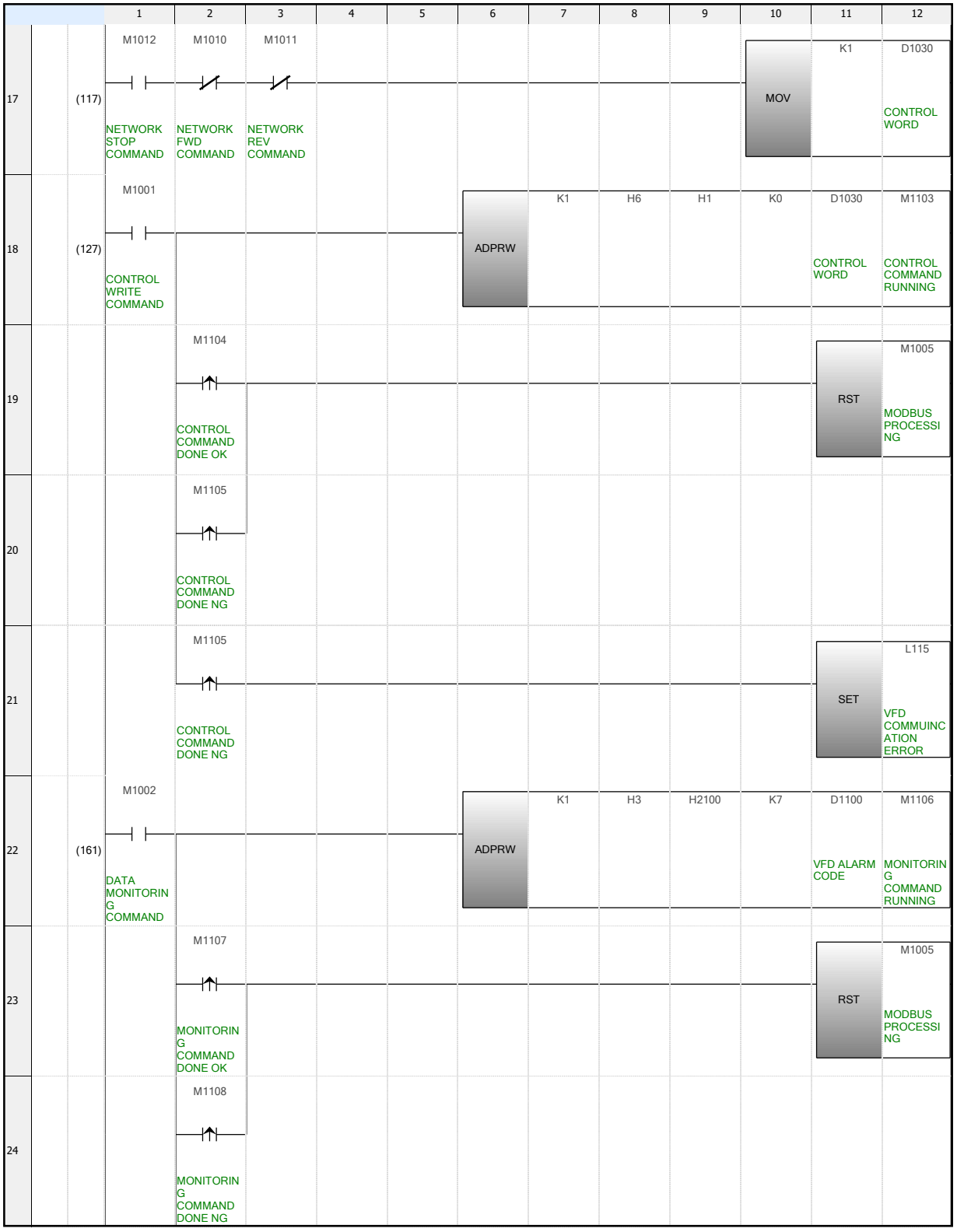

1
2
3
4
5
6
7
8
9
10
11
12
25
(150)
T6
FAULT RESET PULSE TIME
RST
M25
FAULT RESET PULSE x200ms
26
(154)
X12
FEED CYL RS FWD
Y7
FEED CYL FWD
OUT
T70
TIME OVER DETECT DELAY
K30
27
X13
FEED CYL RS REV
28
X12
FEED CYL RS FWD
Y10
FEED CYL REV
29
X13
FEED CYL RS REV
30
(172)
T70
TIME OVER DETECT DELAY
T3
ALARM DETECT DELAY
SET
L102
FEED CYLINDER TIME OVER
31
(178)
X12
FEED CYL RS FWD
X13
FEED CYL RS REV
T3
ALARM DETECT DELAY
SET
L103
FEED CYLINDER READ SWITCH F...
32
(186)
X14
MAT CYL RS FWD
Y11
MAT CYL RS FWD
OUT
T71
TIME OVER DETECT DELAY
K30

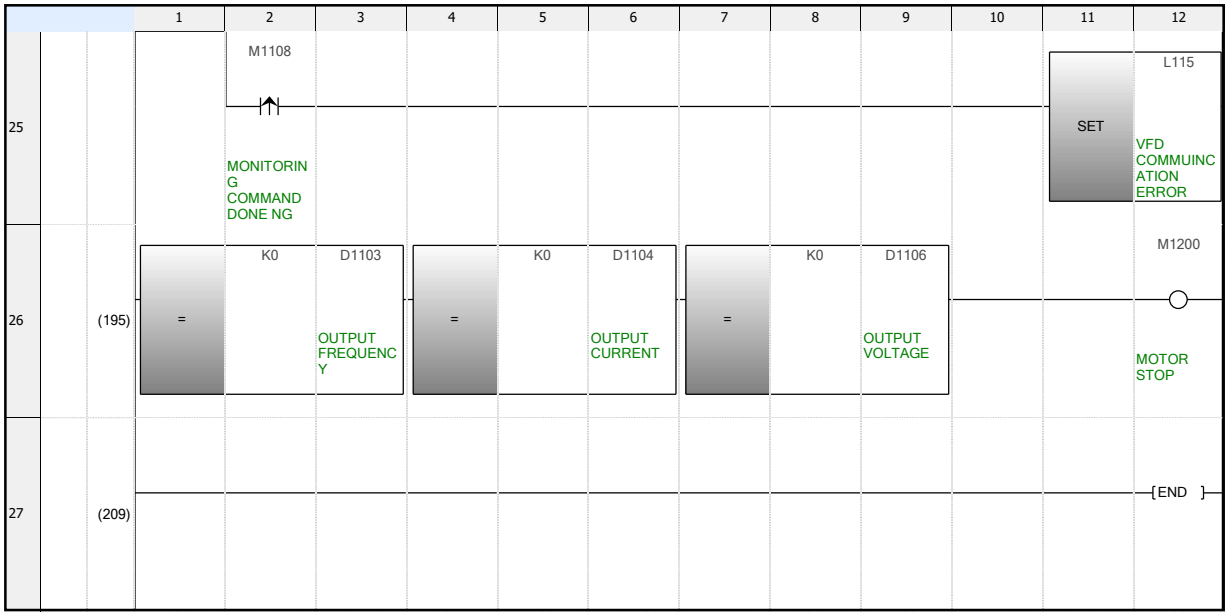

1
2
3
4
5
6
7
8
9
10
11
12
33
X15
MAT CYL RS REV
34
X14
MAT CYL RS FWD
Y12
MAT CYL RS REV
35
X15
MAT CYL RS REV
36
(204)
T71
TIME OVER DETECT DELAY
T3
ALARM DETECT DELAY
SET
L104
MATERIAL CYLINDER TIME OVER
37
(210)
X14
MAT CYL RS FWD
X15
MAT CYL RS REV
T3
ALARM DETECT DELAY
SET
L105
MATERIAL CYLINDER READ SWITCH F…
38
(218)
X16
CLAMP CYL RS FWD
Y13
CLAMP CYL RS FWD CLOSE
OUT
T72
TIME OVER DETECT DELAY
K30
39
X17
CLAMP CYL RS REV
40
X16
CLAMP CYL RS FWD
Y14
CLAMP CYL RS REV OPEN

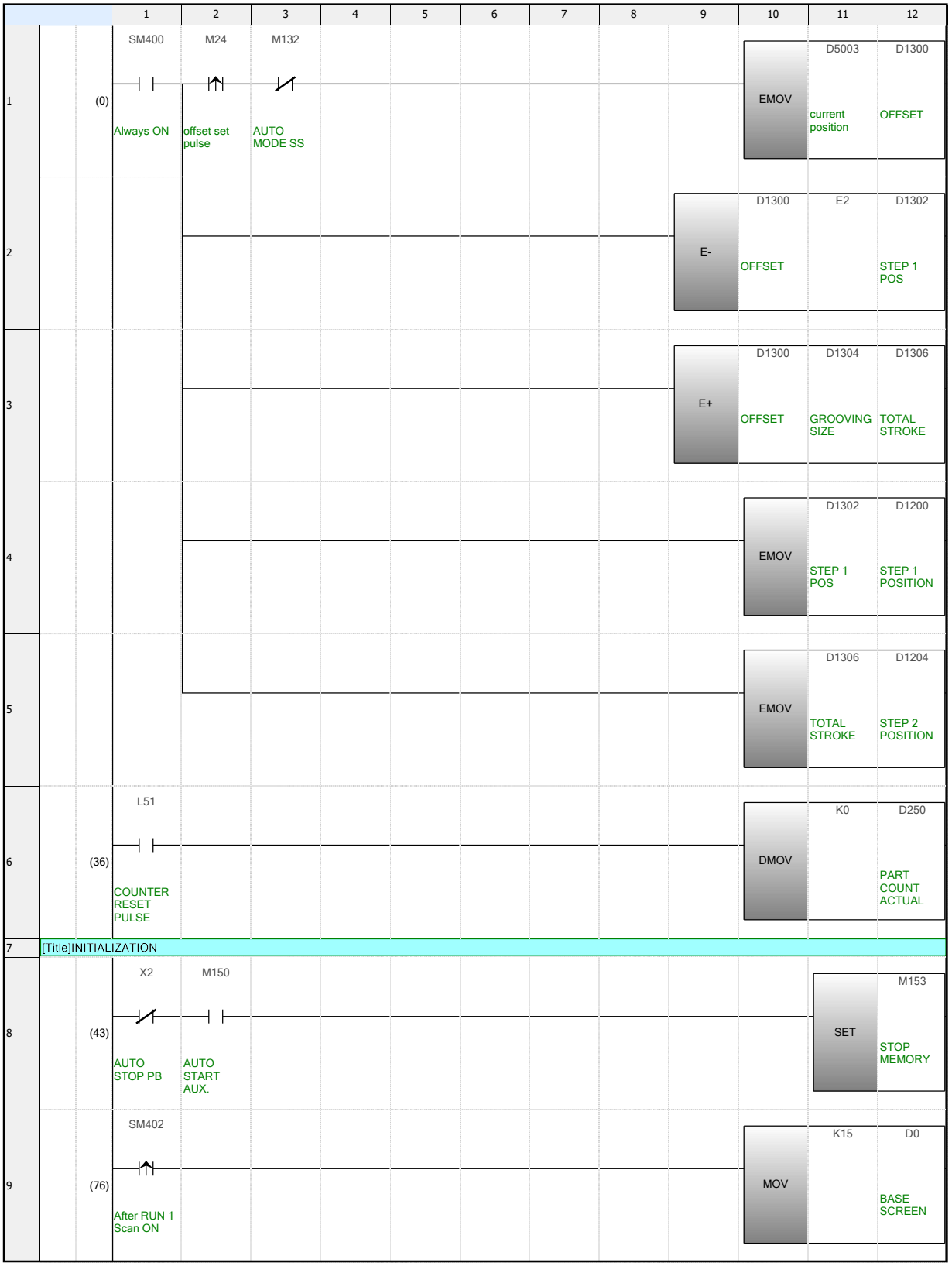

1
2
3
4
5
6
7
8
9
10
11
12
41
X17
CLAMP CYL RS REV
42
(236)
T72
T3
TIME OVER DETECT DELAY
ALARM DETECT DELAY
SET
L106
CLAMP CYLINDER TIME OVER
43
(242)
X16
X17
T3
CLAMP CYL RS FWD
CLAMP CYL RS REV
ALARM DETECT DELAY
SET
L107
CLAMP CYLINDER READ SWITCH F...
44
(250)
{END }

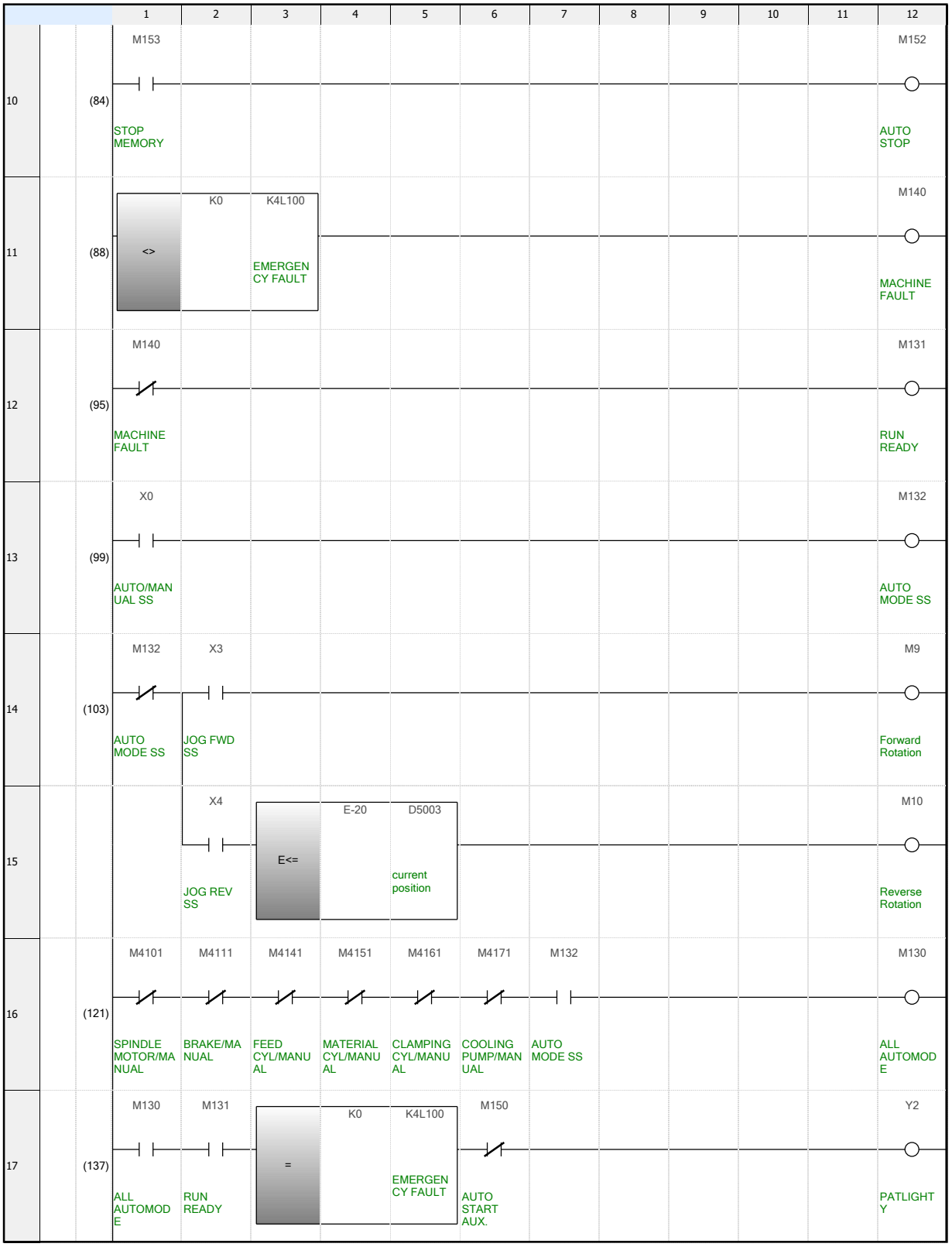

1
2
3
4
5
6
7
8
9
10
11
12
1
(0)
SM8002
After RUN 1 Scan ON
MOV
K0
D1030
CONTROL WORD
2
(6)
SM8012
100 ms Clock
M1005
MODBUS PROCESSING
T3
ALARM DETECT DELAY
INC
D1010
READ WRITE SELECTION
3
(17)
=
K1
D1010
READ WRITE SELECTION
M1000
FRQ WRITE COMMAND
4
(23)
=
K2
D1010
READ WRITE SELECTION
M1001
CONTROL WRITE COMMAND
5
(29)
=
K3
D1010
READ WRITE SELECTION
M1002
DATA MONITORING COMMAND
6
(35)
>=
D1010
READ WRITE SELECTION
K4
MOV
K0
D1010
READ WRITE SELECTION
7
(43)
M1000
FRQ WRITE COMMAND
SET
M1005
MODBUS PROCESSING
8
M1001
CONTROL WRITE COMMAND

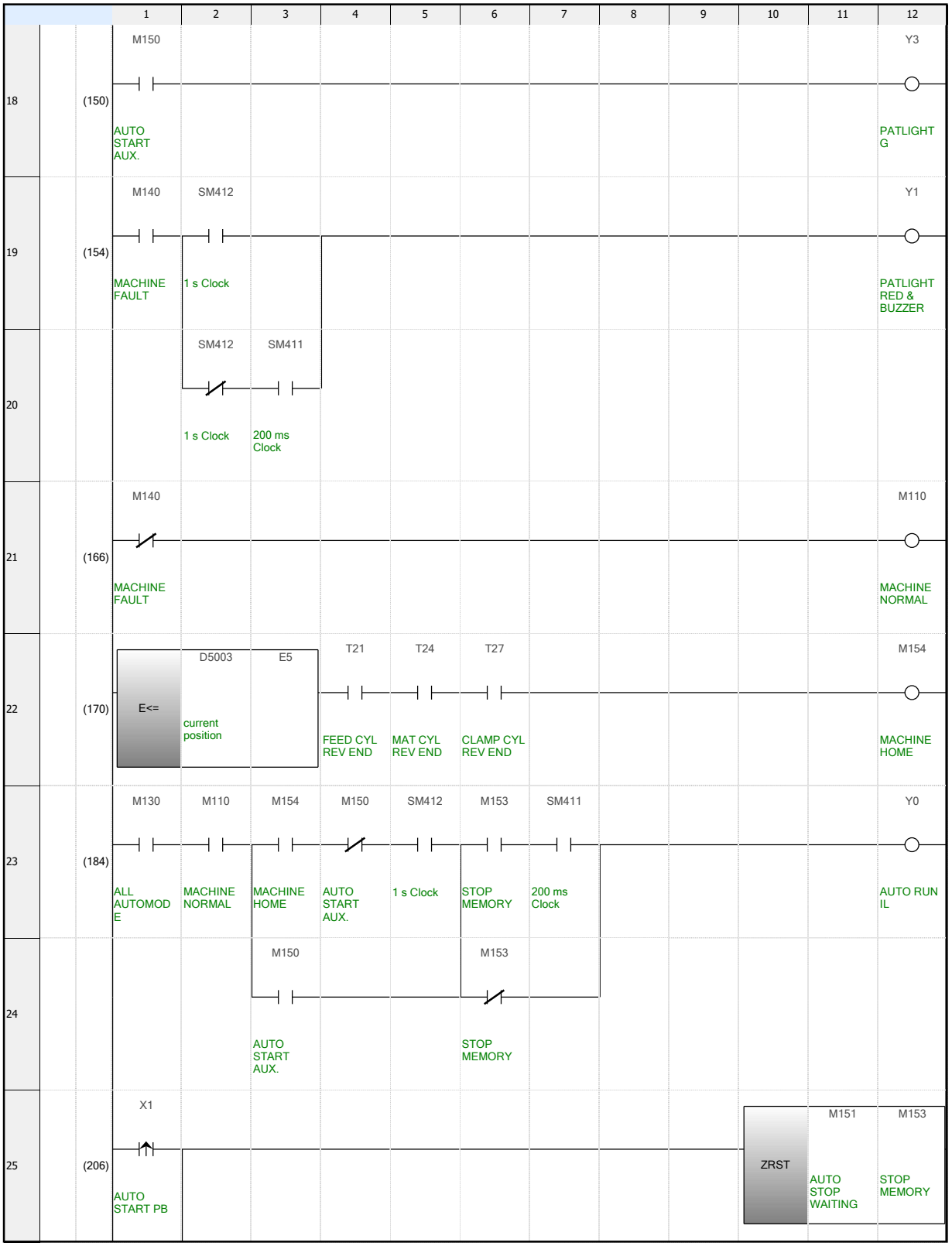

1
2
3
4
5
6
7
8
9
10
11
12
9
M1002
DATA MONITORING COMMAND
10
M1000
(57)
FRQ WRITE COMMAND
ADPRW
K1
H6
H2001
K1
D1020
VFD RUNNING FRQ CMD
M1100
FRQ COMMAND RUNNING
11
M1101
FRQ COMMAND DONE OK
RST
M1005
MODBUS PROCESSING
12
M1102
FRQ COMMAND DONE NG
13
M1102
FRQ COMMAND DONE NG
SET
L115
VFD COMMUINCATION ERROR
14
M1010
M1011
(91)
NETWORK FWD COMMAND
NETWORK REV COMMAND
M1012
NETWORK STOP COMMAND
15
M1010
M1011
M1012
(97)
NETWORK FWD COMMAND
NETWORK REV COMMAND
NETWORK STOP COMMAND
MOV
K17
D1030
CONTROL WORD
16
M1011
M1010
M1012
(107)
NETWORK REV COMMAND
NETWORK FWD COMMAND
NETWORK STOP COMMAND
MOV
K33
D1030
CONTROL WORD


1
2
3
4
5
6
7
8
9
10
11
12
17
(117)
M1012
M1010
M1011
NETWORK STOP COMMAND
NETWORK FWD COMMAND
NETWORK REV COMMAND
MOV
K1
D1030
CONTROL WORD
18
(127)
M1001
CONTROL WRITE COMMAND
ADPRW
K1
H6
H1
K0
D1030
M1103
CONTROL WORD
CONTROL COMMAND RUNNING
19
M1104
CONTROL COMMAND DONE OK
RST
M1005
MODBUS PROCESSING
20
M1105
CONTROL COMMAND DONE NG
21
M1105
CONTROL COMMAND DONE NG
SET
L115
VFD COMMUINCATION ERROR
22
(161)
M1002
DATA MONITORING COMMAND
ADPRW
K1
H3
H2100
K7
D1100
M1106
VFD ALARM CODE
MONITORING COMMAND RUNNING
23
M1107
MONITORING COMMAND DONE OK
RST
M1005
MODBUS PROCESSING
24
M1108
MONITORING COMMAND DONE NG


1
2
3
4
5
6
7
8
9
10
11
12
25
M1108
MONITORIN
G
COMMAND
DONE NG
SET
L115
VFD
COMMUINC
ATION
ERROR
26
(195)
=
K0
D1103
OUTPUT
FREQUENC
Y
=
K0
D1104
OUTPUT
CURRENT
=
K0
D1106
OUTPUT
VOLTAGE
M1200
MOTOR
STOP
27
(209)
{END }


1
SM400
Always ON
2
M24
offset set pulse
3
M132
AUTO MODE SS
9
10
EMOV
11
D5003
current position
12
D1300
OFFSET
E-
D1300
OFFSET
E2
D1302
STEP 1 POS
E+
D1300
OFFSET
D1304
GROOVING SIZE
D1306
TOTAL STROKE
EMOV
D1302
STEP 1 POS
D1200
STEP 1 POSITION
EMOV
D1306
TOTAL STROKE
D1204
STEP 2 POSITION
L51
COUNTER RESET PULSE
DMOV
K0
D250
PART COUNT ACTUAL
[Title]INITIALIZATION
X2
AUTO STOP PB
M150
AUTO START AUX.
SET
M153
STOP MEMORY
SM402
After RUN 1 Scan ON
MOV
K15
D0
BASE SCREEN


1 2 3 4 5 6 7 8 9 10 11 12
10 (84)
M153
STOP MEMORY
M152
AUTO STOP
11 (88)
K0
K4L100
<>
EMERGEN CY FAULT
M140
MACHINE FAULT
12 (95)
M140
MACHINE FAULT
M131
RUN READY
13 (99)
X0
AUTO/MAN UAL SS
M132
AUTO MODE SS
14 (103)
M132
AUTO MODE SS
X3
JOG FWD SS
M9
Forward Rotation
15
X4
JOG REV SS
E-20
D5003
E<=
current position
M10
Reverse Rotation
16 (121)
M4101
SPINDLE MOTOR/MA NUAL
M4111
BRAKE/MA NUAL
M4141
FEED CYL/MANU AL
M4151
MATERIAL CYL/MANU AL
M4161
CLAMPING CYL/MANU AL
M4171
COOLING PUMP/MAN UAL
M132
AUTO MODE SS
M130
ALL AUTOMOD E
17 (137)
M130
ALL AUTOMOD E
M131
RUN READY
K0
K4L100
=
EMERGEN CY FAULT
M150
AUTO START AUX.
Y2
PATLIGHT Y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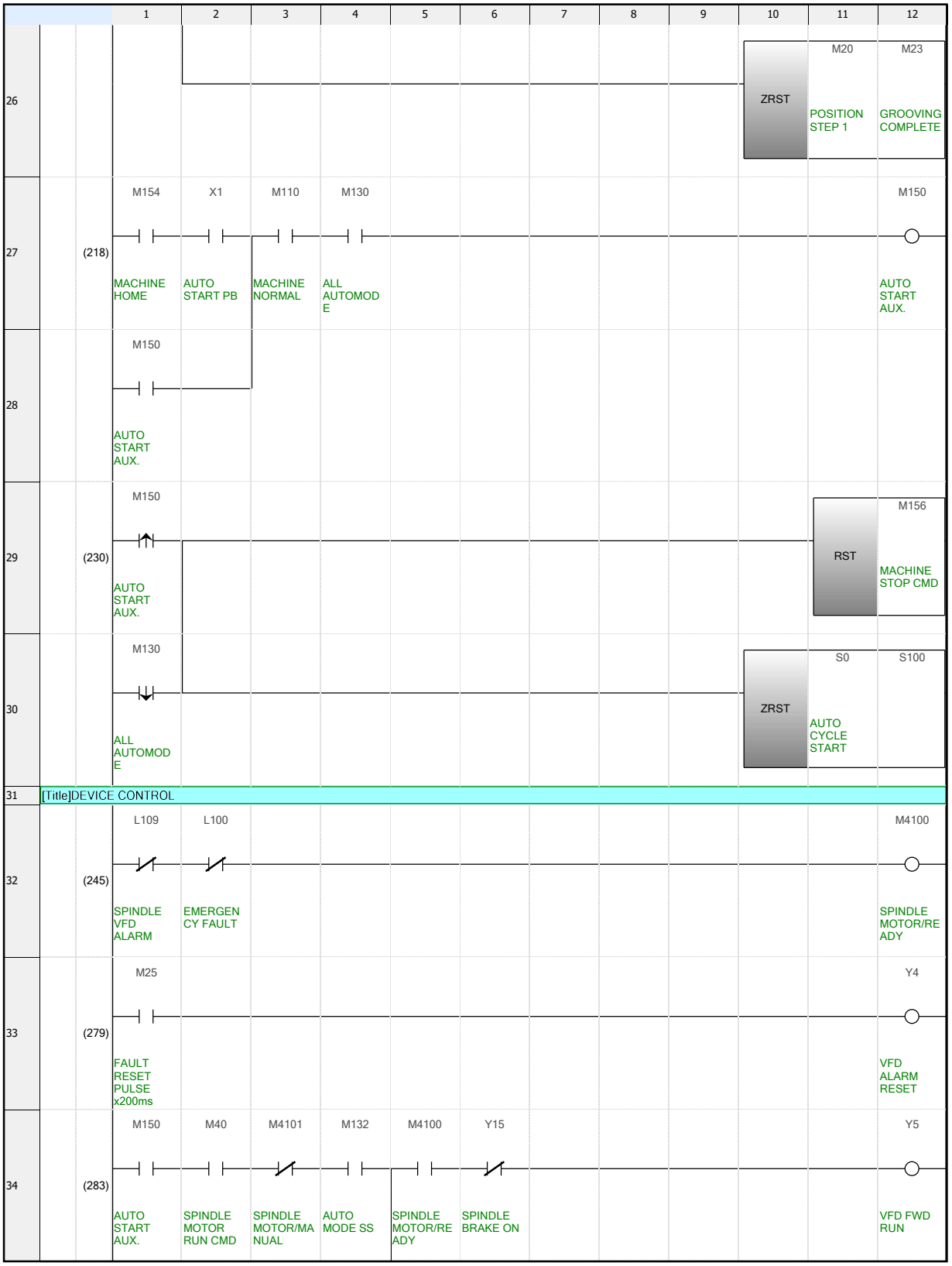
11
12
18
(150)
M150
AUTO START AUX.
Y3
PATLIGHT G
19
(154)
M140
MACHINE FAULT
SM412
1 s Clock
Y1
PATLIGHT RED & BUZZER
20
SM412
1 s Clock
SM411
200 ms Clock
21
(166)
M140
MACHINE FAULT
M110
MACHINE NORMAL
22
(170)
E<=
D5003
current position
E5
T21
FEED CYL REV END
T24
MAT CYL REV END
T27
CLAMP CYL REV END
M154
MACHINE HOME
23
(184)
M130
ALL AUTOMODE
M110
MACHINE NORMAL
M154
MACHINE HOME
M150
AUTO START AUX.
SM412
1 s Clock
M153
STOP MEMORY
SM411
200 ms Clock
Y0
AUTO RUN IL
24
M150
AUTO START AUX.
M153
STOP MEMORY
25
(206)
X1
AUTO START PB
ZRST
M151
AUTO STOP WAITING
M153
STOP MEMORY


1
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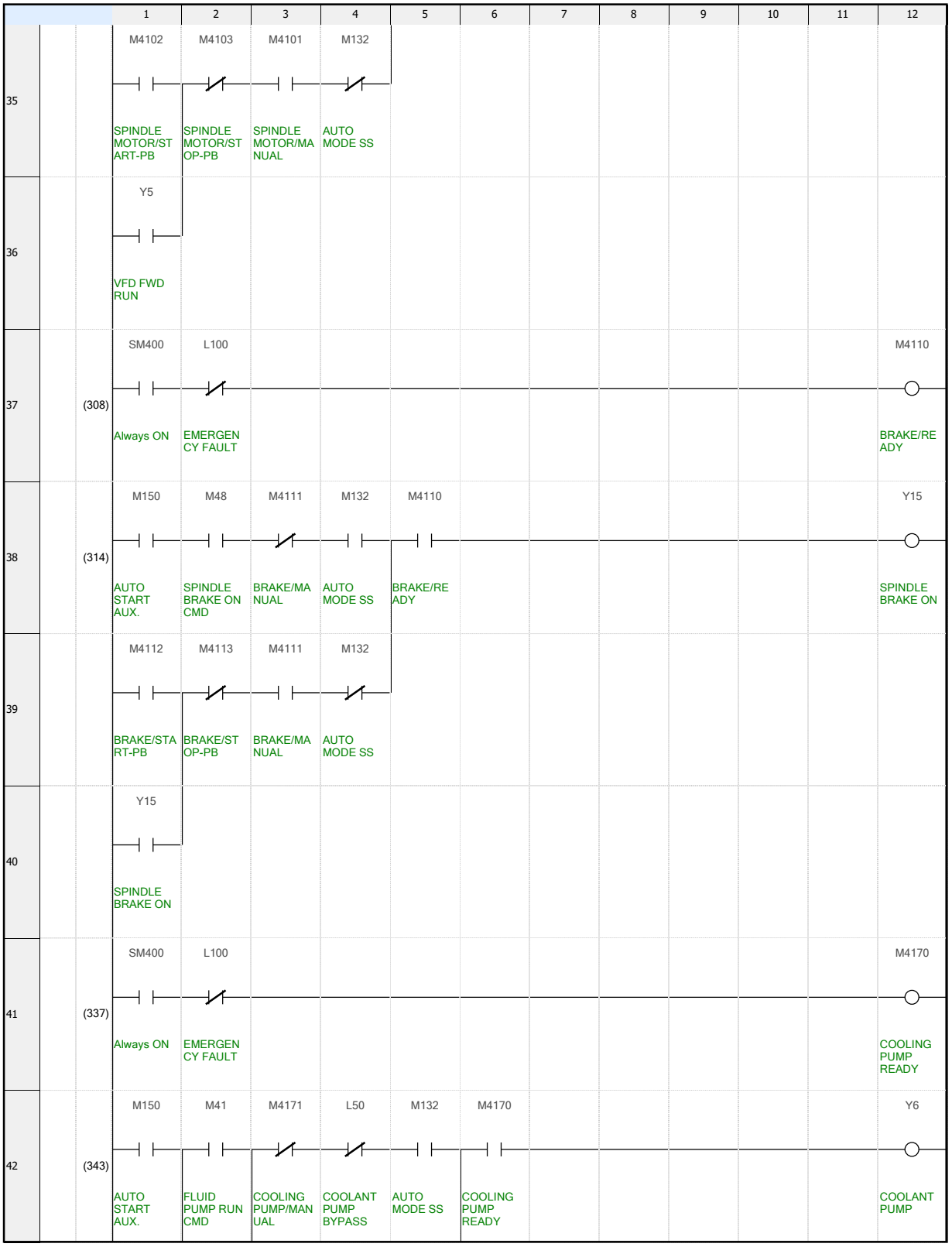
11
12
26
ZRST
M20
POSITION STEP 1
M23
GROOVING COMPLETE
27
(218)
M154
MACHINE HOME
X1
AUTO START PB
M110
MACHINE NORMAL
M130
ALL AUTOMODE
M150
AUTO START AUX.
28
M150
AUTO START AUX.
29
(230)
M150
AUTO START AUX.
RST
M156
MACHINE STOP CMD
30
M130
ALL AUTOMODE
ZRST
S0
AUTO CYCLE START
S100
31
[Title]DEVICE CONTROL
32
(245)
L109
SPINDLE VFD ALARM
L100
EMERGENCY FAULT
M4100
SPINDLE MOTOR/READY
33
(279)
M25
FAULT RESET PULSE x200ms
Y4
VFD ALARM RESET
34
(283)
M150
AUTO START AUX.
M40
SPINDLE MOTOR RUN CMD
M4101
SPINDLE MOTOR/MANUAL
M132
AUTO MODE SS
M4100
SPINDLE MOTOR/READY
Y15
SPINDLE BRAKE ON
Y5
VFD FWD RUN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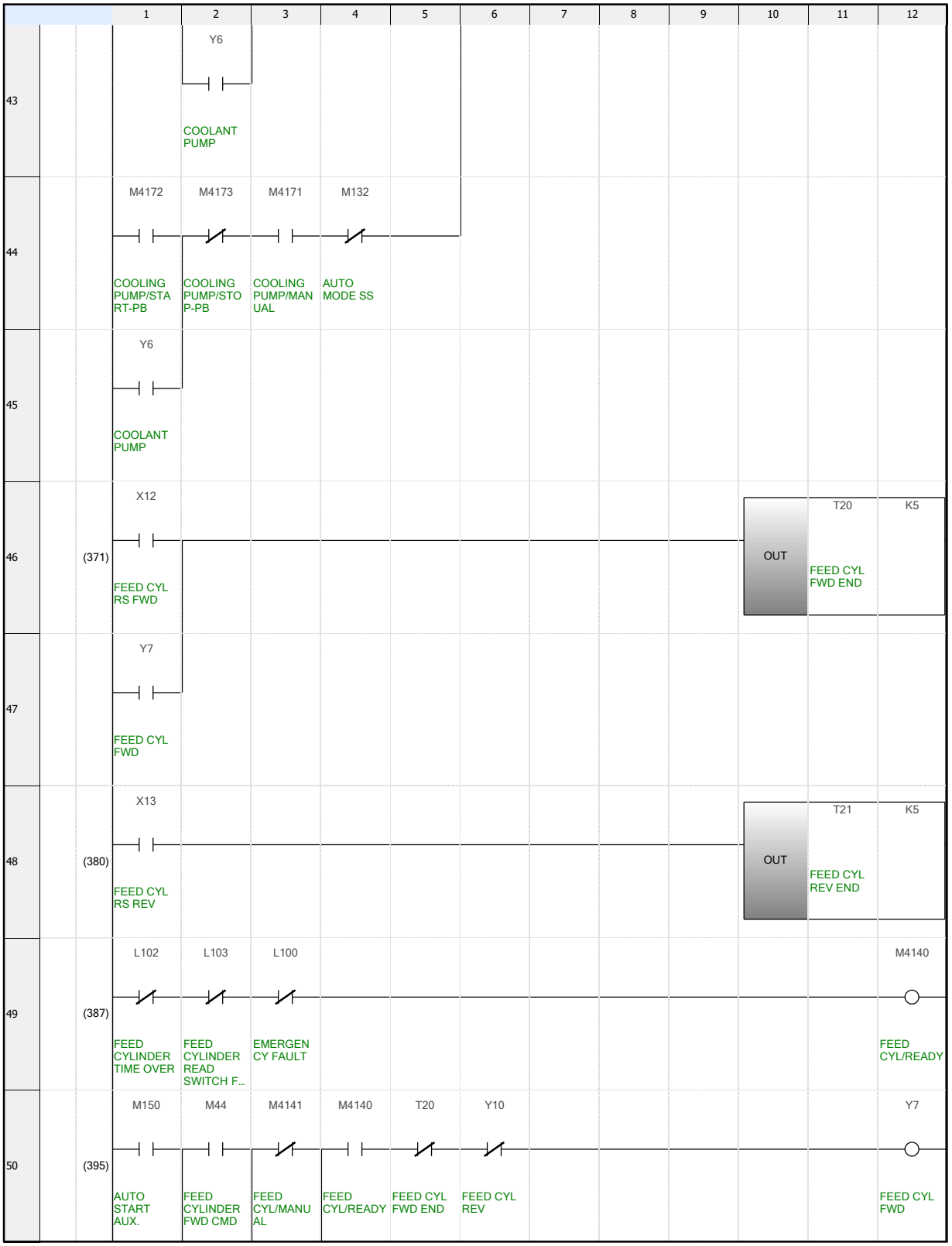
35
M4102
SPINDLE MOTOR/START-PB
M4103
SPINDLE MOTOR/STOP-PB
M4101
SPINDLE MOTOR/MANUAL
M132
AUTO MODE SS
36
Y5
VFD FWD RUN
37
(308)
SM400
Always ON
L100
EMERGENCY FAULT
M4110
BRAKE/READY
38
(314)
M150
AUTO START AUX.
M48
SPINDLE BRAKE ON CMD
M4111
BRAKE/MANUAL
M132
AUTO MODE SS
M4110
BRAKE/READY
Y15
SPINDLE BRAKE ON
39
M4112
BRAKE/START-PB
M4113
BRAKE/STOP-PB
M4111
BRAKE/MANUAL
M132
AUTO MODE SS
40
Y15
SPINDLE BRAKE ON
41
(337)
SM400
Always ON
L100
EMERGENCY FAULT
M4170
COOLING PUMP READY
42
(343)
M150
AUTO START AUX.
M41
FLUID PUMP RUN CMD
M4171
COOLING PUMP/MANUAL
L50
COOLANT PUMP BYPASS
M132
AUTO MODE SS
M4170
COOLING PUMP READY
Y6
COOLANT PUMP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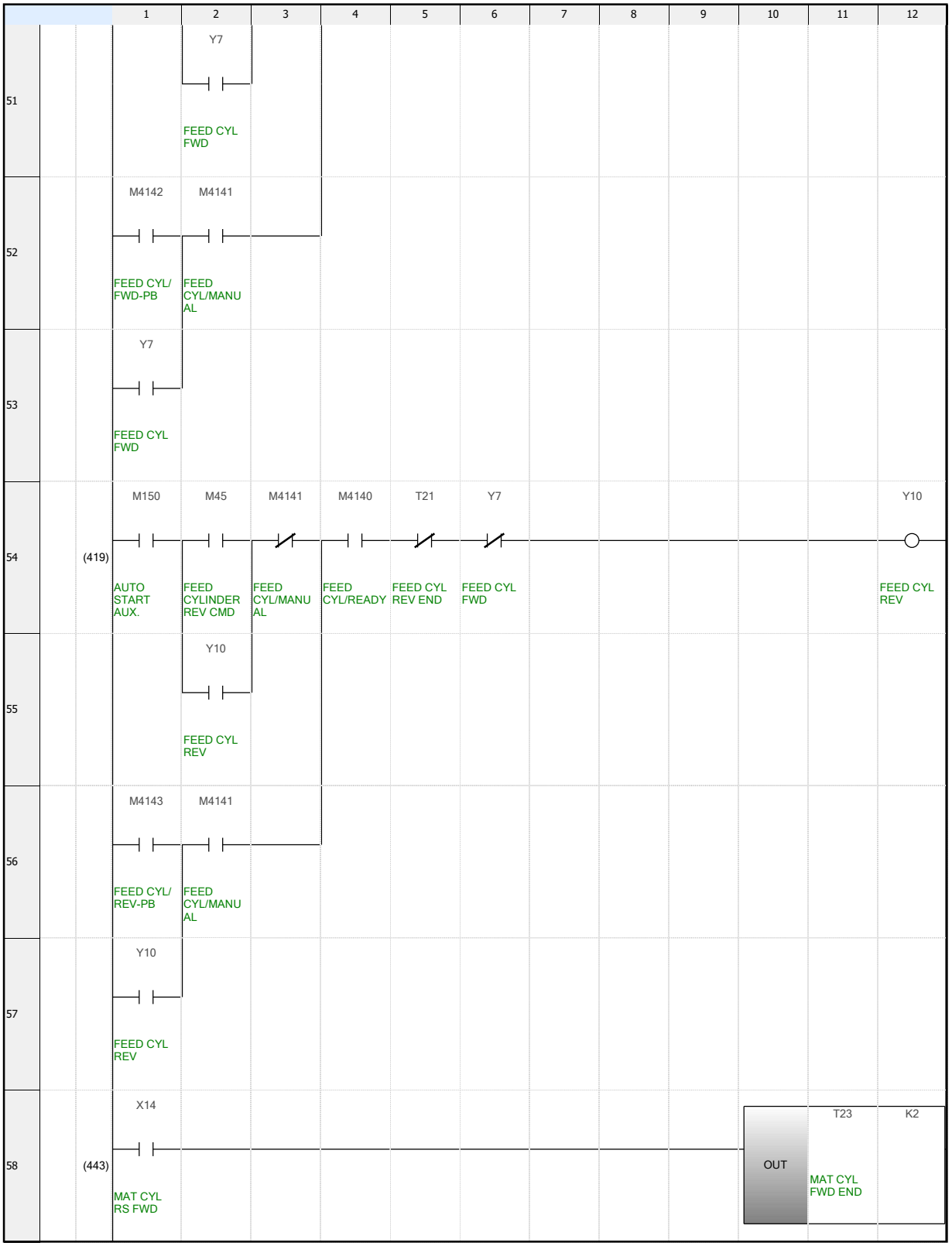
12
43
Y6
COOLANT PUMP
44
M4172
COOLING PUMP/START-PB
M4173
COOLING PUMP/STOP-PB
M4171
COOLING PUMP/MANUAL
M132
AUTO MODE SS
45
Y6
COOLANT PUMP
46
(371)
X12
FEED CYL RS FWD
OUT
T20
FEED CYL FWD END
K5
47
Y7
FEED CYL FWD
48
(380)
X13
FEED CYL RS REV
OUT
T21
FEED CYL REV END
K5
49
(387)
L102
FEED CYLINDER TIME OVER
L103
FEED CYLINDER READ SWITCH F...
L100
EMERGENCY FAULT
M4140
FEED CYL/READY
50
(395)
M150
AUTO START AUX.
M44
FEED CYLINDER FWD CMD
M4141
FEED CYL/MANUAL
M4140
FEED CYL/READY
T20
FEED CYL FWD END
Y10
FEED CYL REV
Y7
FEED CYL FWD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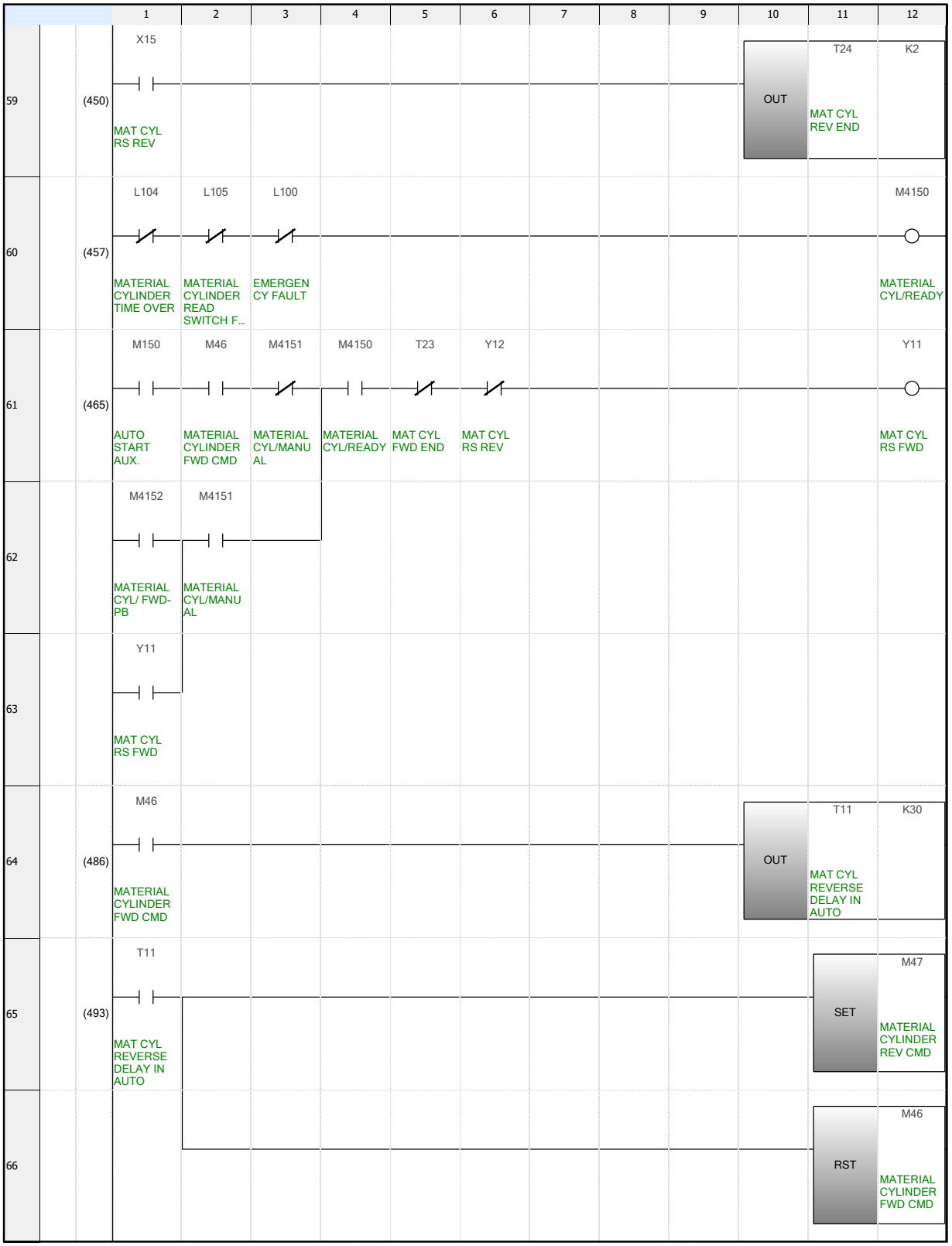
51
Y7
FEED CYL FWD
52
M4142
M4141
FEED CYL/ FWD-PB
FEED CYL/MANU AL
53
Y7
FEED CYL FWD
54
(419)
M150
M45
M4141
M4140
T21
Y7
Y10
AUTO START AUX.
FEED CYLINDER REV CMD
FEED CYL/MANU AL
FEED CYL/READY
FEED CYL REV END
FEED CYL FWD
FEED CYL REV
55
Y10
FEED CYL REV
56
M4143
M4141
FEED CYL/ REV-PB
FEED CYL/MANU AL
57
Y10
FEED CYL REV
58
(443)
X14
MAT CYL RS FWD
OUT
T23
K2
MAT CYL FWD END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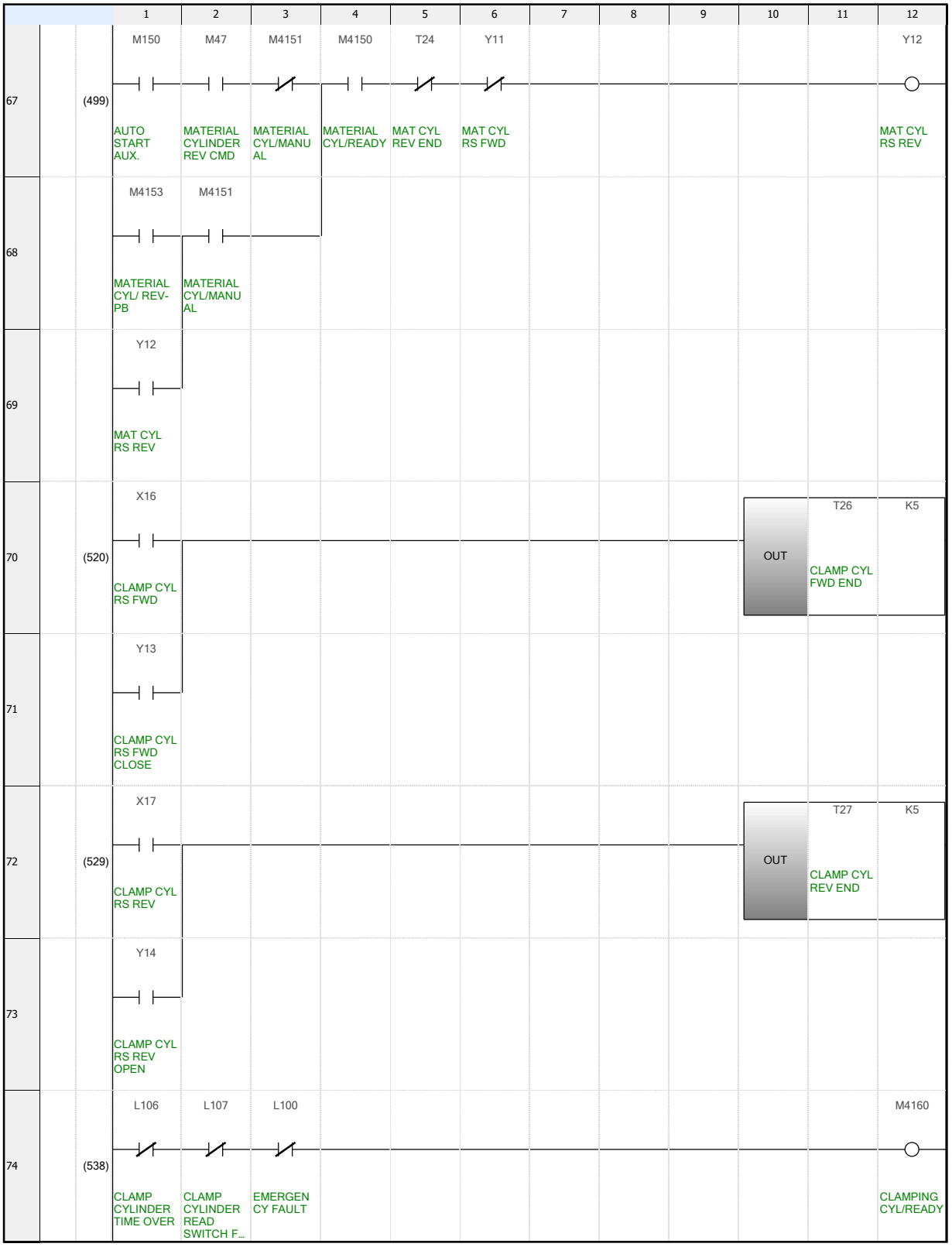
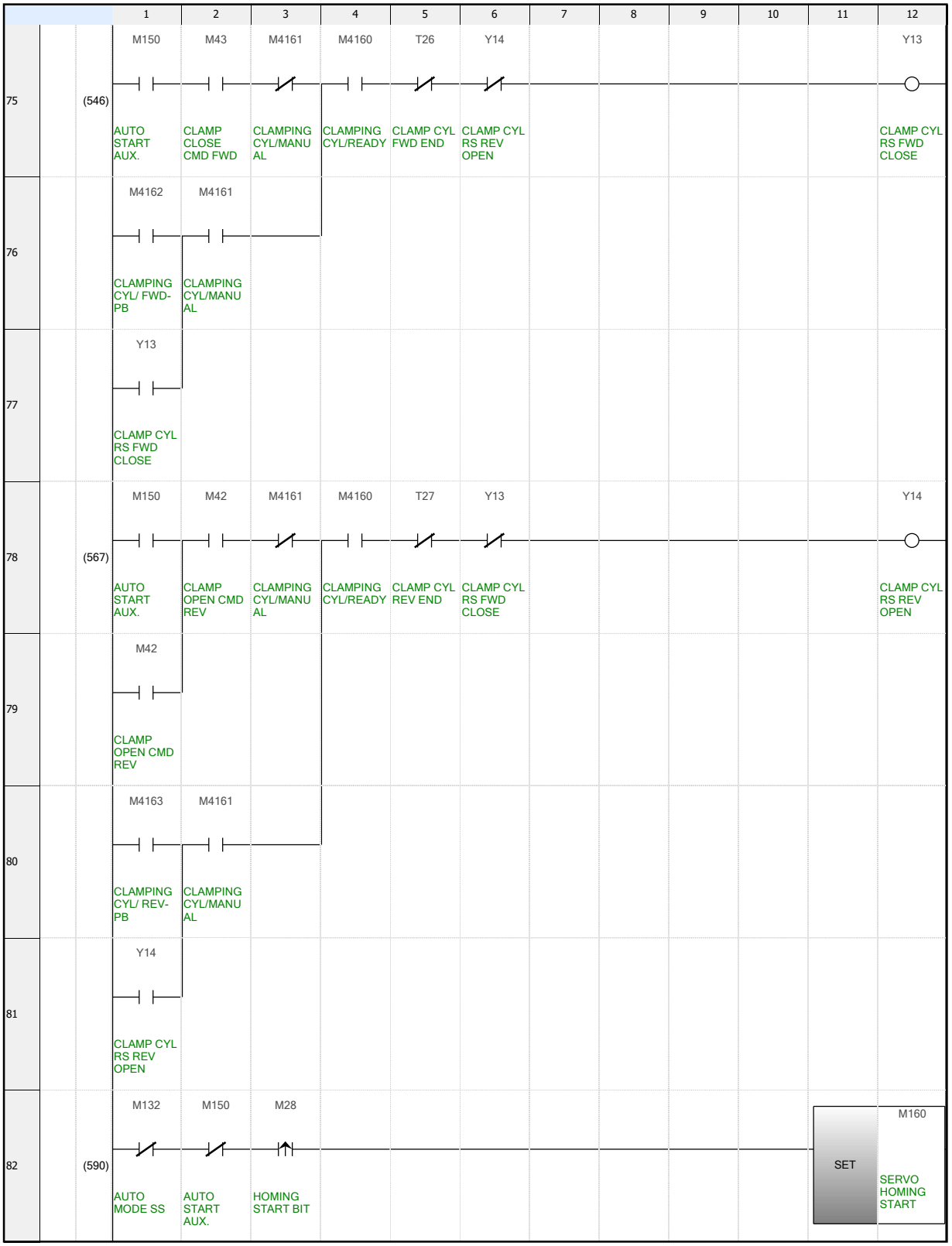
12
59
(450)
X15
MAT CYL RS REV
OUT
T24
MAT CYL REV END
K2
60
(457)
L104
MATERIAL CYLINDER TIME OVER
L105
MATERIAL CYLINDER READ SWITCH F...
L100
EMERGEN CY FAULT
M4150
MATERIAL CYL/READY
61
(465)
M150
AUTO START AUX.
M46
MATERIAL CYLINDER FWD CMD
M4151
MATERIAL CYL/MANU AL
M4150
MATERIAL CYL/READY
T23
MAT CYL FWD END
Y12
MAT CYL RS REV
Y11
MAT CYL RS FWD
62
M4152
MATERIAL CYL/ FWD-PB
M4151
MATERIAL CYL/MANU AL
63
Y11
MAT CYL RS FWD
64
(486)
M46
MATERIAL CYLINDER FWD CMD
OUT
T11
MAT CYL REVERSE DELAY IN AUTO
K30
65
(493)
T11
MAT CYL REVERSE DELAY IN AUTO
SET
M47
MATERIAL CYLINDER REV CMD
66
RST
M46
MATERIAL CYLINDER FWD CMD


1 2 3 4 5 6 7 8 9 10 11 12
67 (499)
M150 M47 M4151 M4150 T24 Y11 Y12
AUTO START AUX.
MATERIAL CYLINDER REV CMD
MATERIAL CYL/MANUAL
MATERIAL CYL/READY
MAT CYL REV END
MAT CYL RS FWD
MAT CYL RS REV
68
M4153 M4151
MATERIAL CYL/ REV-PB
MATERIAL CYL/MANUAL
69
Y12
MAT CYL RS REV
70 (520)
X16
CLAMP CYL RS FWD
OUT
T26 K5
CLAMP CYL FWD END
71
Y13
CLAMP CYL RS FWD CLOSE
72 (529)
X17
CLAMP CYL RS REV
OUT
T27 K5
CLAMP CYL REV END
73
Y14
CLAMP CYL RS REV OPEN
74 (538)
L106 L107 L100 M4160
CLAMP CYLINDER TIME OVER
CLAMP CYLINDER READ SWITCH F...
EMERGENCY FAULT
CLAMPING CYL/READY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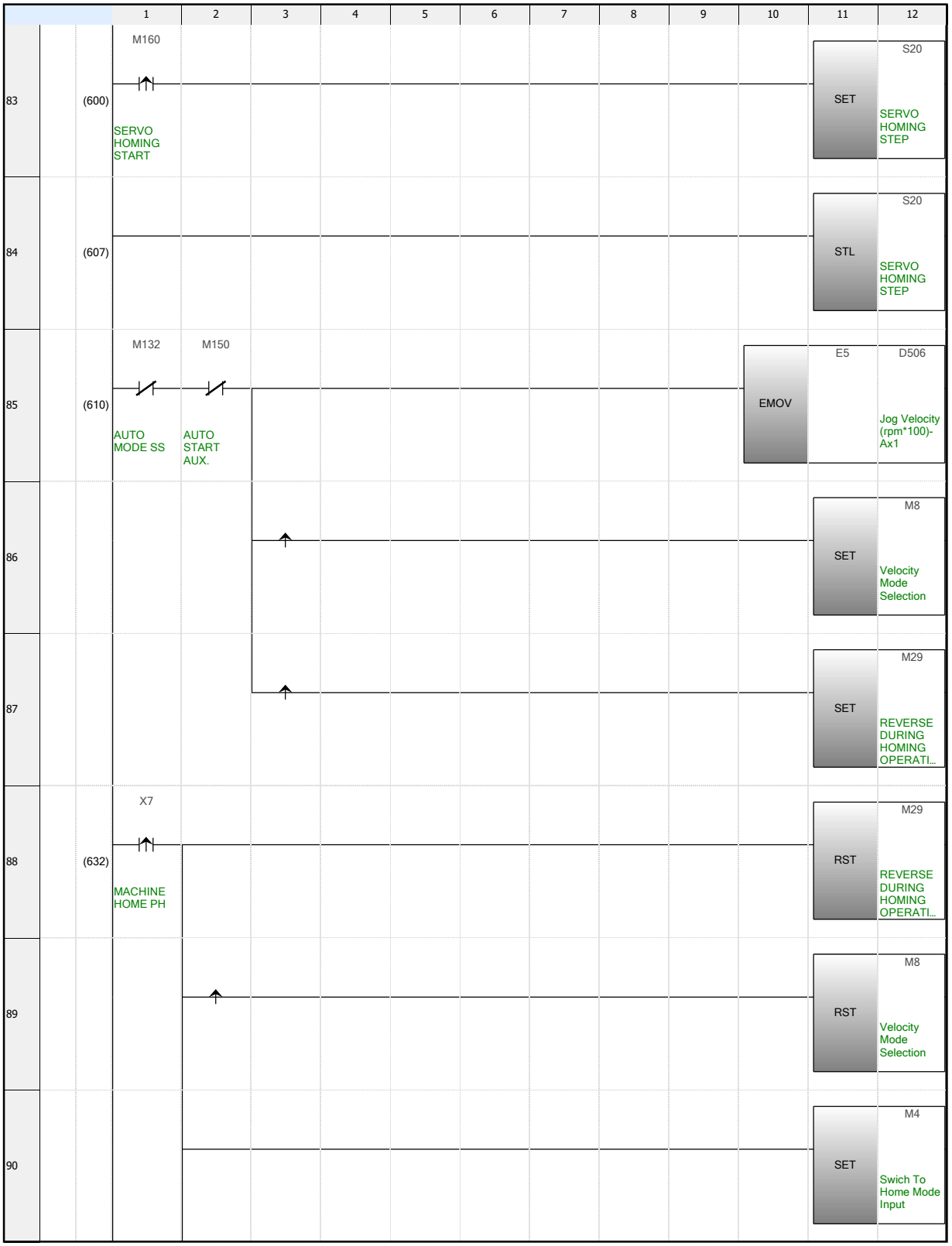
11
12
75
(546)
M150
M43
M4161
M4160
T26
Y14
Y13
AUTO START AUX.
CLAMP CLOSE CMD FWD
CLAMPING CYL/MANUAL
CLAMPING CYL/READY
CLAMP CYL FWD END
CLAMP CYL RS REV OPEN
CLAMP CYL RS FWD CLOSE
76
M4162
M4161
CLAMPING CYL/ FWD-PB
CLAMPING CYL/MANUAL
77
Y13
CLAMP CYL RS FWD CLOSE
78
(567)
M150
M42
M4161
M4160
T27
Y13
Y14
AUTO START AUX.
CLAMP OPEN CMD REV
CLAMPING CYL/MANUAL
CLAMPING CYL/READY
CLAMP CYL REV END
CLAMP CYL RS FWD CLOSE
CLAMP CYL RS REV OPEN
79
M42
CLAMP OPEN CMD REV
80
M4163
M4161
CLAMPING CYL/ REV-PB
CLAMPING CYL/MANUAL
81
Y14
CLAMP CYL RS REV OPEN
82
(590)
M132
M150
M28
M160
SET
AUTO MODE SS
AUTO START AUX.
HOMING START BIT
SERVO HOMING START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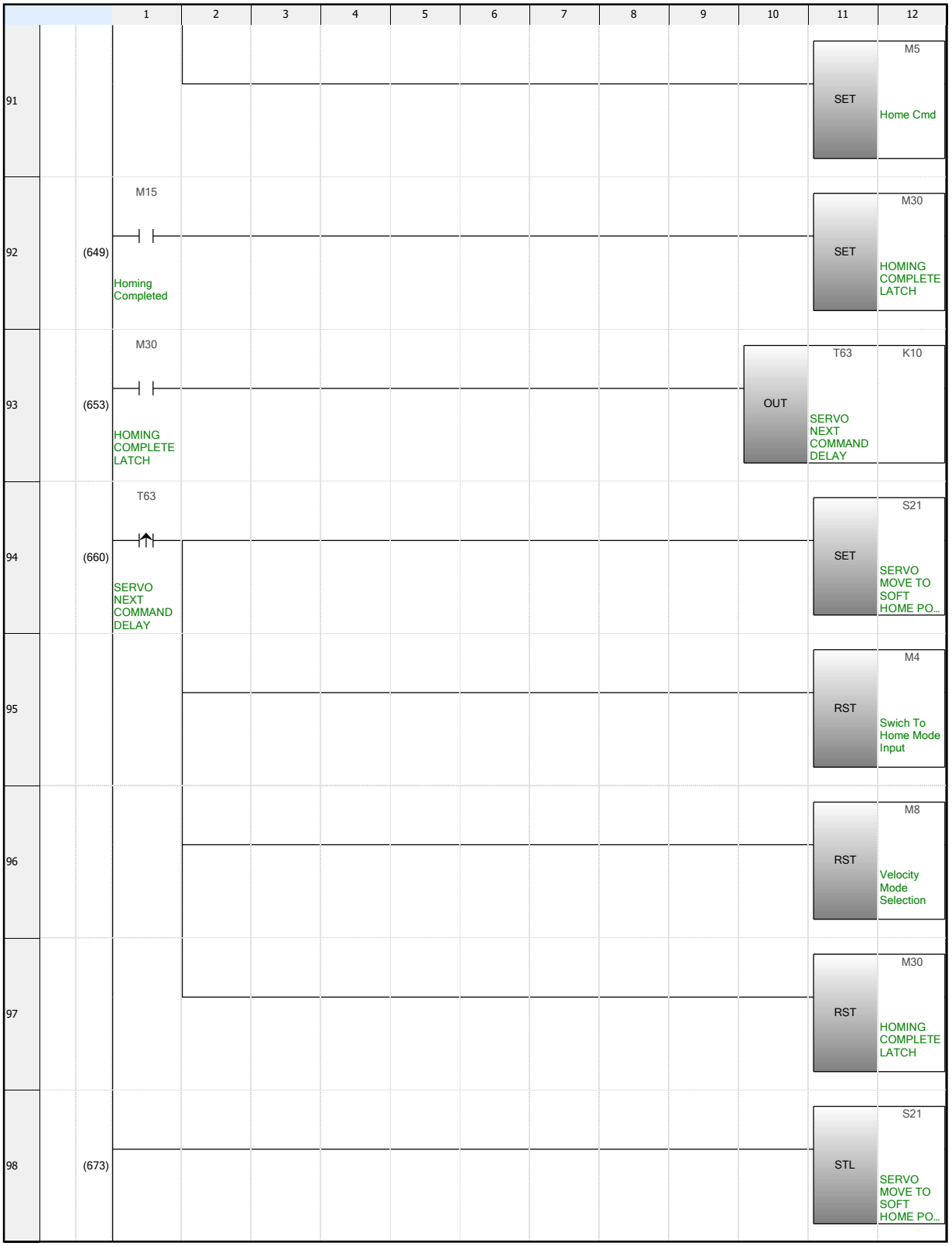
11
12
83
(600)
M160
SERVO HOMING START
SET
S20
SERVO HOMING STEP
84
(607)
STL
S20
SERVO HOMING STEP
85
(610)
M132
AUTO MODE SS
M150
AUTO START AUX.
EMOV
E5
D506
Jog Velocity (rpm*100)-Ax1
86
SET
M8
Velocity Mode Selection
87
SET
M29
REVERSE DURING HOMING OPERATI...
88
(632)
X7
MACHINE HOME PH
RST
M29
REVERSE DURING HOMING OPERATI...
89
RST
M8
Velocity Mode Selection
90
SET
M4
Swich To Home Mode Input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11
12
91
SET
M5
Home Cmd
92
(649)
M15
Homing Completed
SET
M30
HOMING COMPLETE LATCH
93
(653)
M30
HOMING COMPLETE LATCH
OUT
T63
SERVO NEXT COMMAND DELAY
K10
94
(660)
T63
SERVO NEXT COMMAND DELAY
SET
S21
SERVO MOVE TO SOFT HOME PO...
95
RST
M4
Swich To Home Mode Input
96
RST
M8
Velocity Mode Selection
97
RST
M30
HOMING COMPLETE LATCH
98
(673)
STL
S21
SERVO MOVE TO SOFT HOME PO...

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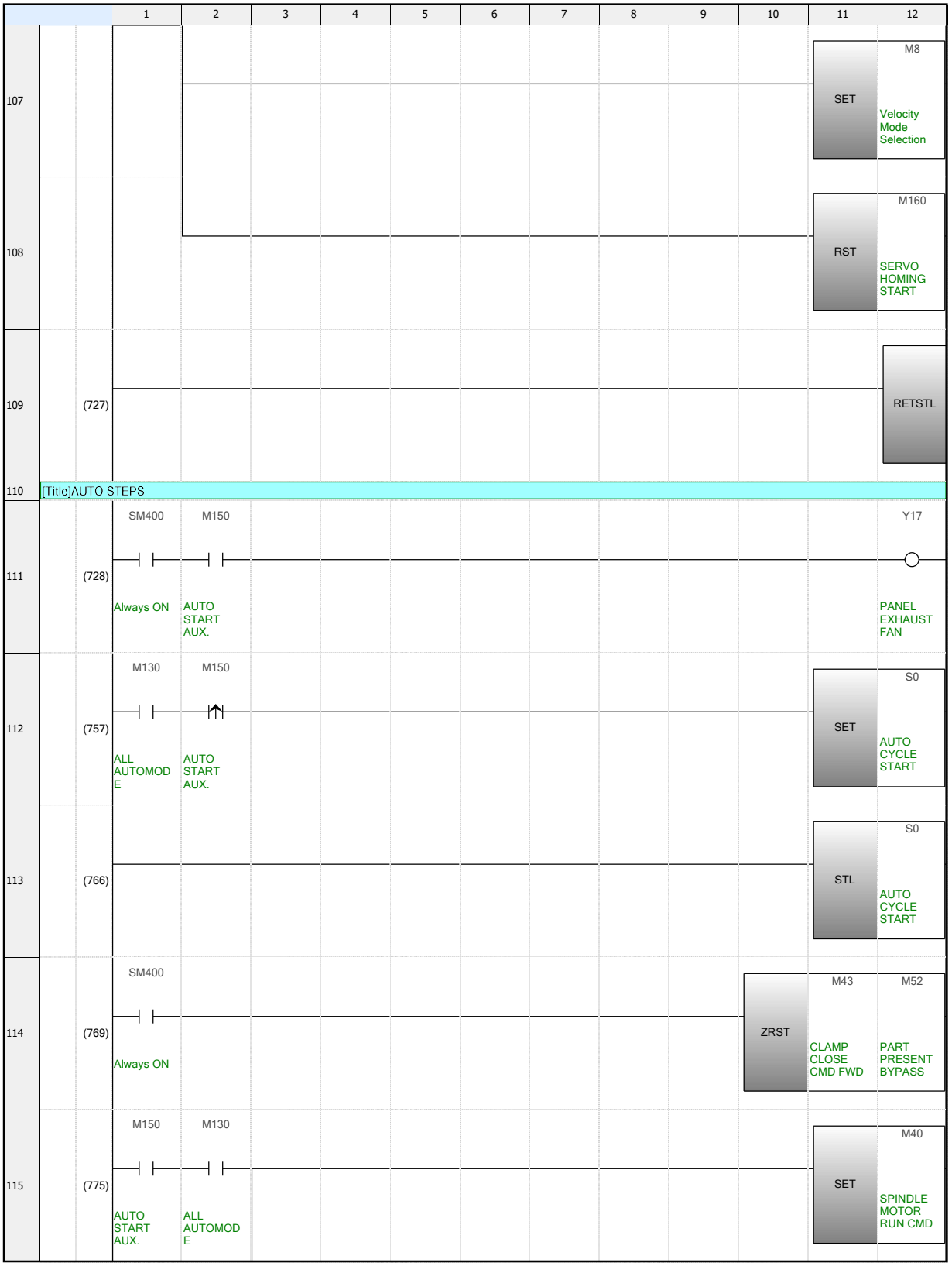
11
12
99
(676)
M132
M150
AUTO MODE SS
AUTO START AUX.
RST
M4
Swich To Home Mode Input
100
SET
M6
Switch to Position Mode Pp
101
EMOV
E-21
D500
Command Position(Pp) Ax1
102
EMOV
E10
D502
Command Speed Pp (rpm)
103
(701)
M6
Switch to Position Mode Pp
OUT
T63
K10
SERVO NEXT COMMAND DELAY
104
(708)
T63
SERVO NEXT COMMAND DELAY
SET
M11
Start Abs Positioning
105
(712)
W2.A
AXIS TARGET REACHED
ZRST
S20
S23
SERVO HOMING STEP
106
RST
M6
Switch to Position Mode Pp


1
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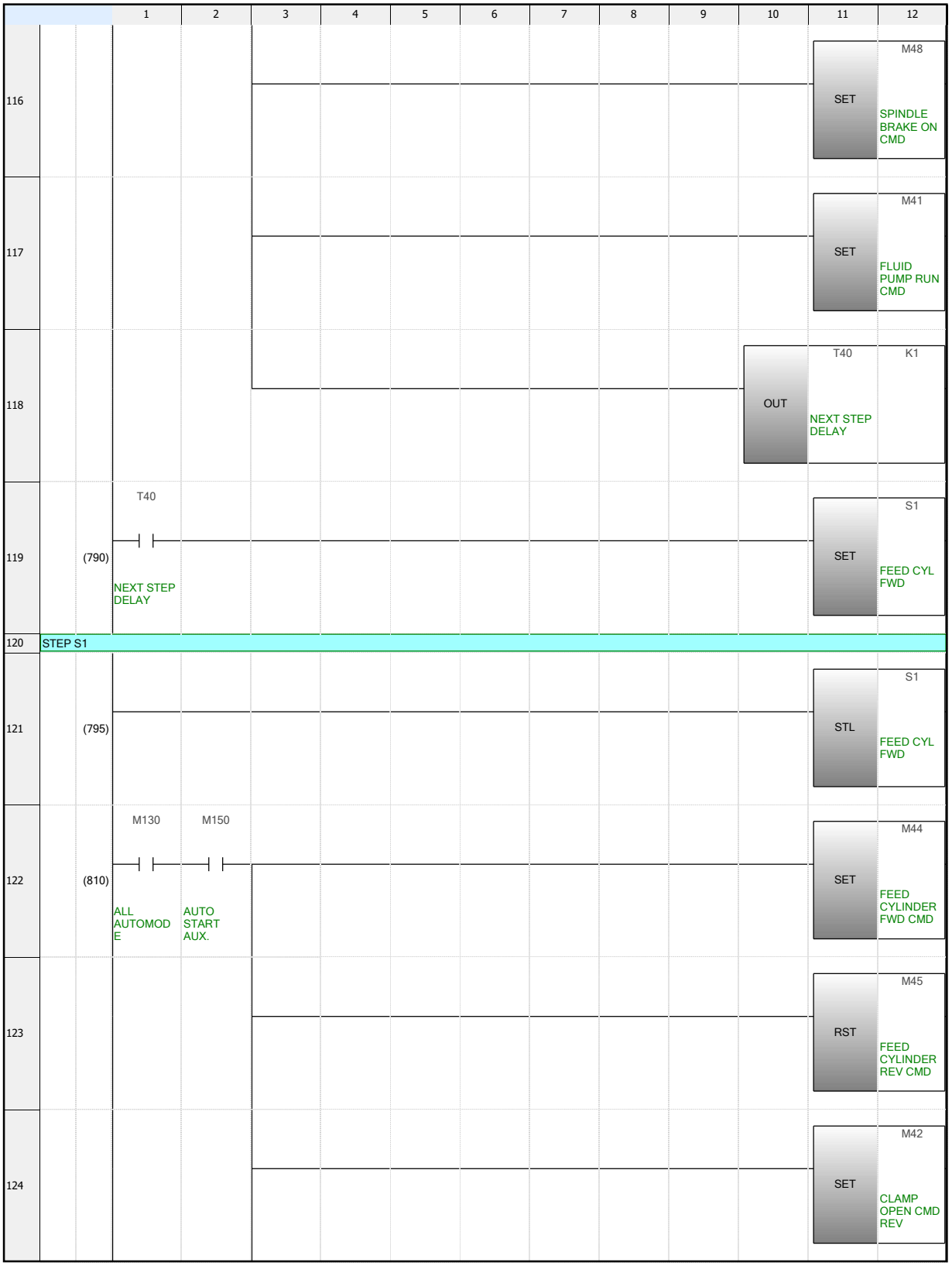
11
12
107
SET
M8
Velocity Mode Selection
108
RST
M160
SERVO HOMING START
109
(727)
RETSTL
110
[Title]AUTO STEPS
111
(728)
SM400
Always ON
M150
AUTO START AUX.
Y17
PANEL EXHAUST FAN
112
(757)
M130
ALL AUTOMODE
M150
AUTO START AUX.
SET
S0
AUTO CYCLE START
113
(766)
STL
S0
AUTO CYCLE START
114
(769)
SM400
Always ON
ZRST
M43
CLAMP CLOSE CMD FWD
M52
PART PRESENT BYPASS
115
(775)
M150
AUTO START AUX.
M130
ALL AUTOMODE
SET
M40
SPINDLE MOTOR RUN CMD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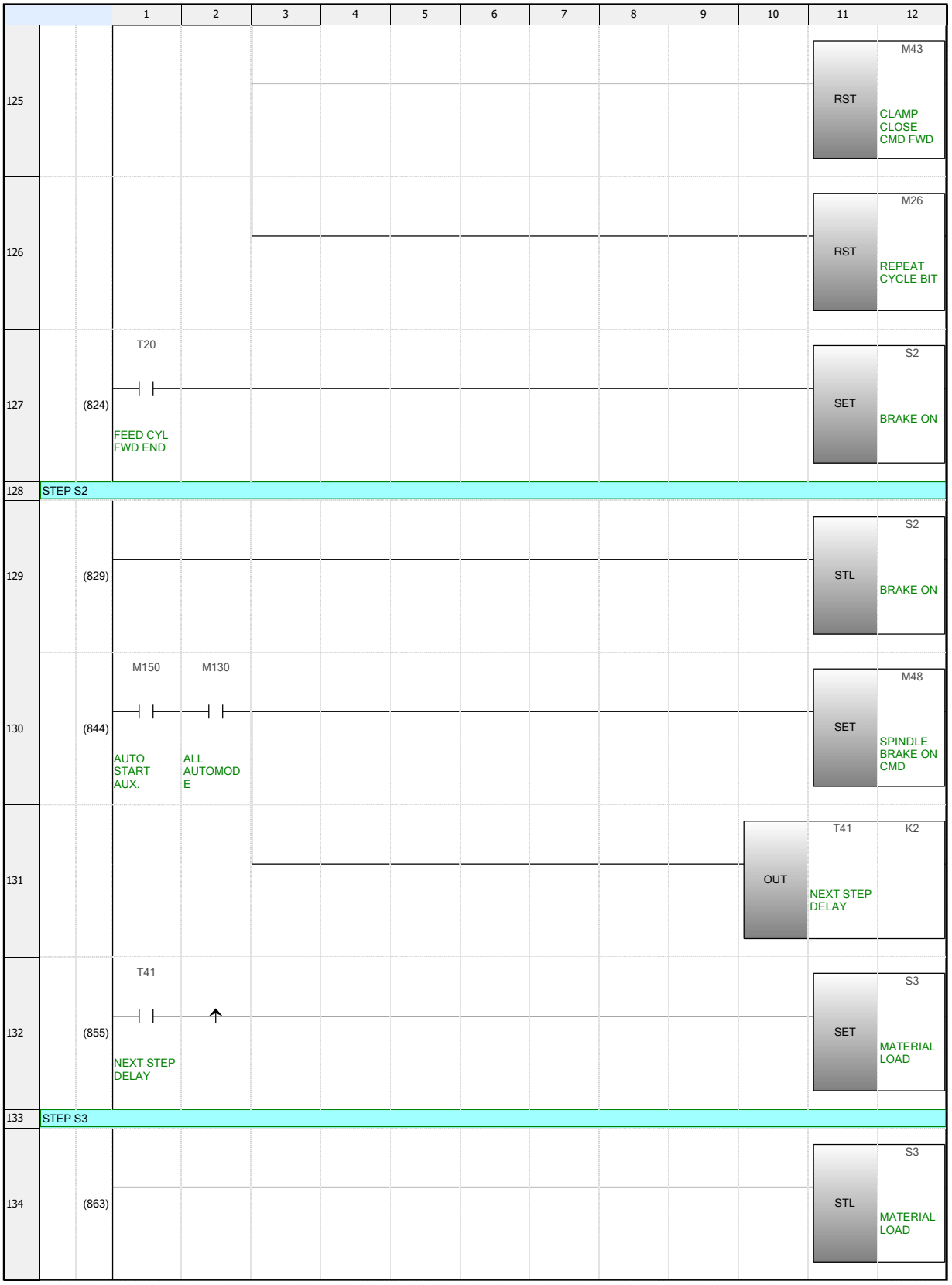
116
SET
M48
SPINDLE BRAKE ON CMD
117
SET
M41
FLUID PUMP RUN CMD
118
OUT
T40
K1
NEXT STEP DELAY
119
(790)
T40
NEXT STEP DELAY
SET
S1
FEED CYL FWD
120
STEP S1
121
(795)
STL
S1
FEED CYL FWD
122
(810)
M130
ALL AUTOMODE
M150
AUTO START AUX.
SET
M44
FEED CYLINDER FWD CMD
123
RST
M45
FEED CYLINDER REV CMD
124
SET
M42
CLAMP OPEN CMD REV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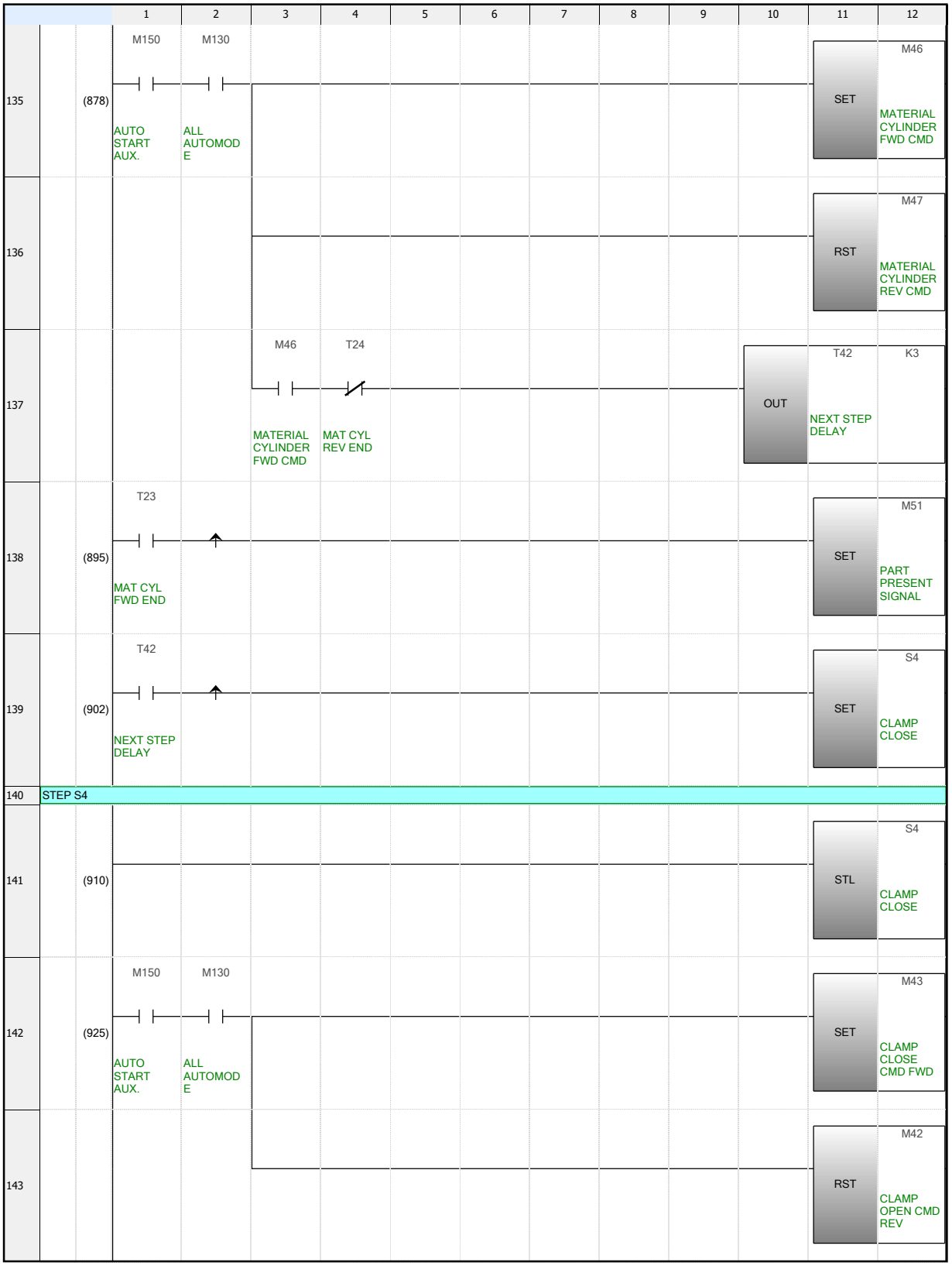
12
125
RST
M43
CLAMP CLOSE CMD FWD
126
RST
M26
REPEAT CYCLE BIT
127
(824)
T20
FEED CYL FWD END
SET
S2
BRAKE ON
128
STEP S2
129
(829)
STL
S2
BRAKE ON
130
(844)
M150
AUTO START AUX.
M130
ALL AUTOMODE
SET
M48
SPINDLE BRAKE ON CMD
131
OUT
T41
NEXT STEP DELAY
K2
132
(855)
T41
NEXT STEP DELAY
SET
S3
MATERIAL LOAD
133
STEP S3
134
(863)
STL
S3
MATERIAL LOAD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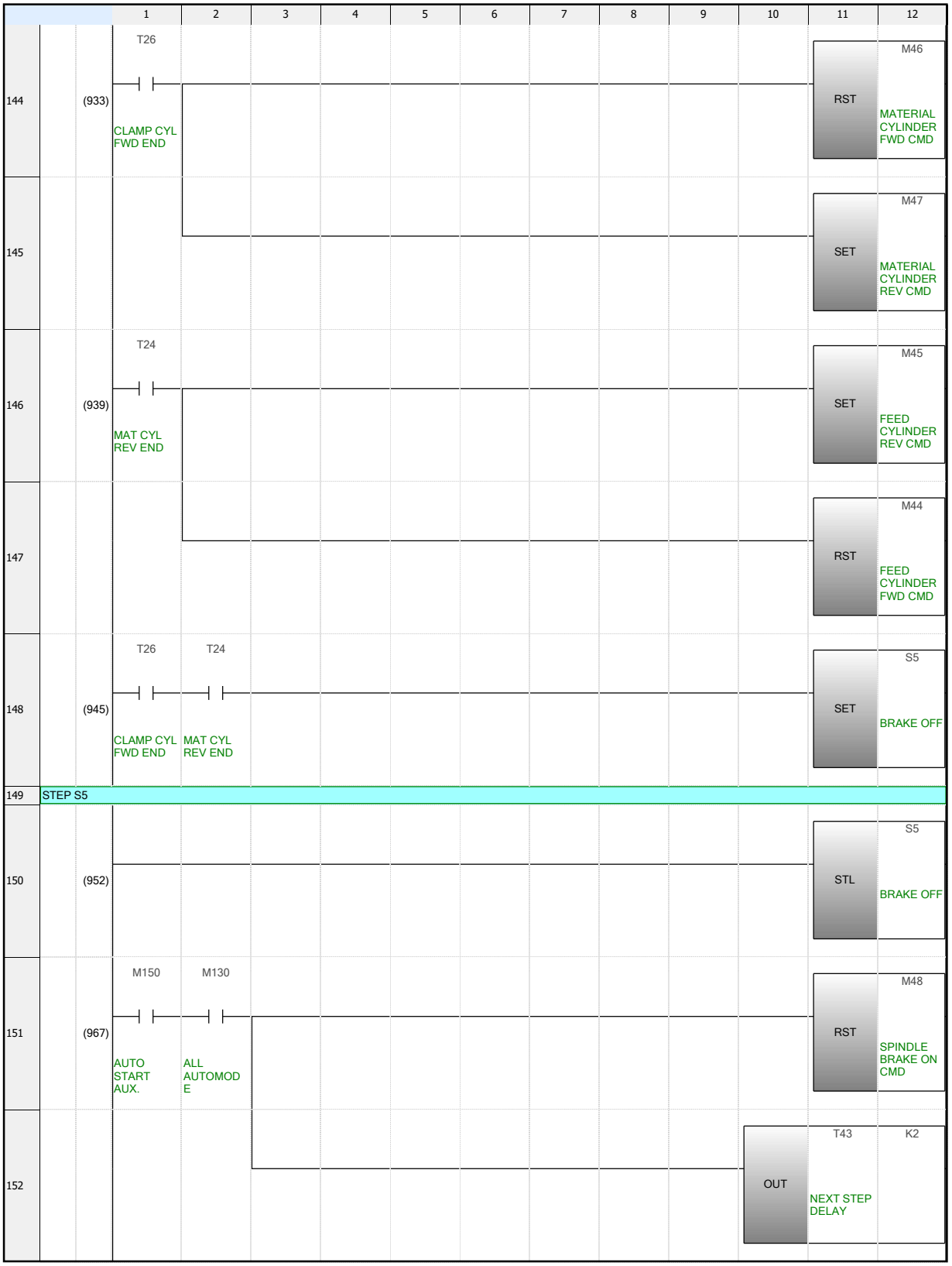
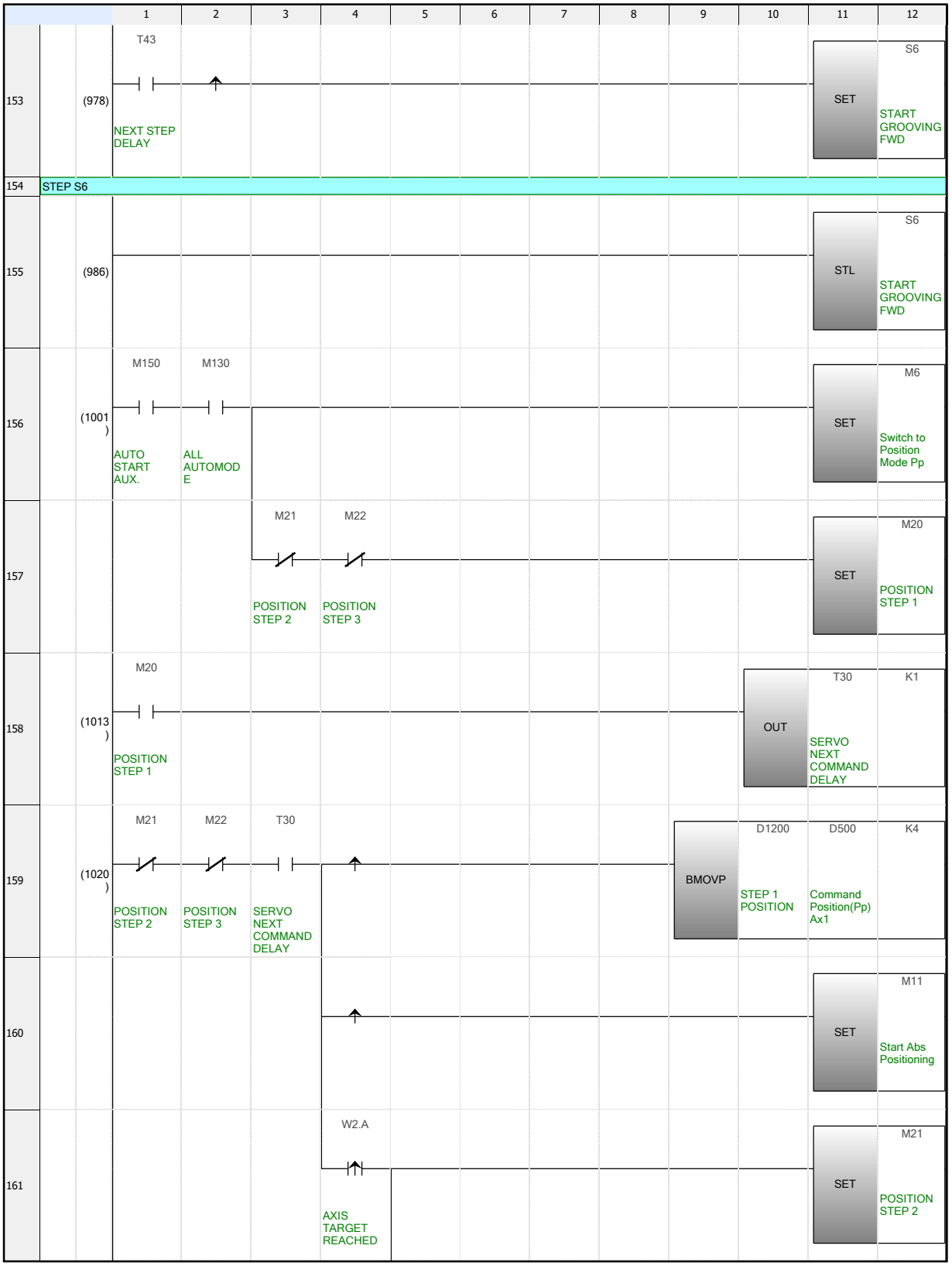
12
135
(878)
M150
AUTO START AUX.
M130
ALL AUTOMODE
SET
M46
MATERIAL CYLINDER FWD CMD
136
RST
M47
MATERIAL CYLINDER REV CMD
137
M46
MATERIAL CYLINDER FWD CMD
T24
MAT CYL REV END
OUT
T42
NEXT STEP DELAY
K3
138
(895)
T23
MAT CYL FWD END
SET
M51
PART PRESENT SIGNAL
139
(902)
T42
NEXT STEP DELAY
SET
S4
CLAMP CLOSE
140
STEP S4
141
(910)
STL
S4
CLAMP CLOSE
142
(925)
M150
AUTO START AUX.
M130
ALL AUTOMODE
SET
M43
CLAMP CLOSE CMD FWD
143
RST
M42
CLAMP OPEN CMD REV


1 2 3 4 5 6 7 8 9 10 11 12
144 (933) T26 CLAMP CYL FWD END RST M46 MATERIAL CYLINDER FWD CMD
145 SET M47 MATERIAL CYLINDER REV CMD
146 (939) T24 MAT CYL REV END SET M45 FEED CYLINDER REV CMD
147 RST M44 FEED CYLINDER FWD CMD
148 (945) T26 CLAMP CYL FWD END T24 MAT CYL REV END SET S5 BRAKE OFF
149 STEP S5
150 (952) STL S5 BRAKE OFF
151 (967) M150 AUTO START AUX. M130 ALL AUTOMODE RST M48 SPINDLE BRAKE ON CMD
152 OUT T43 NEXT STEP DELAY K2


1
2
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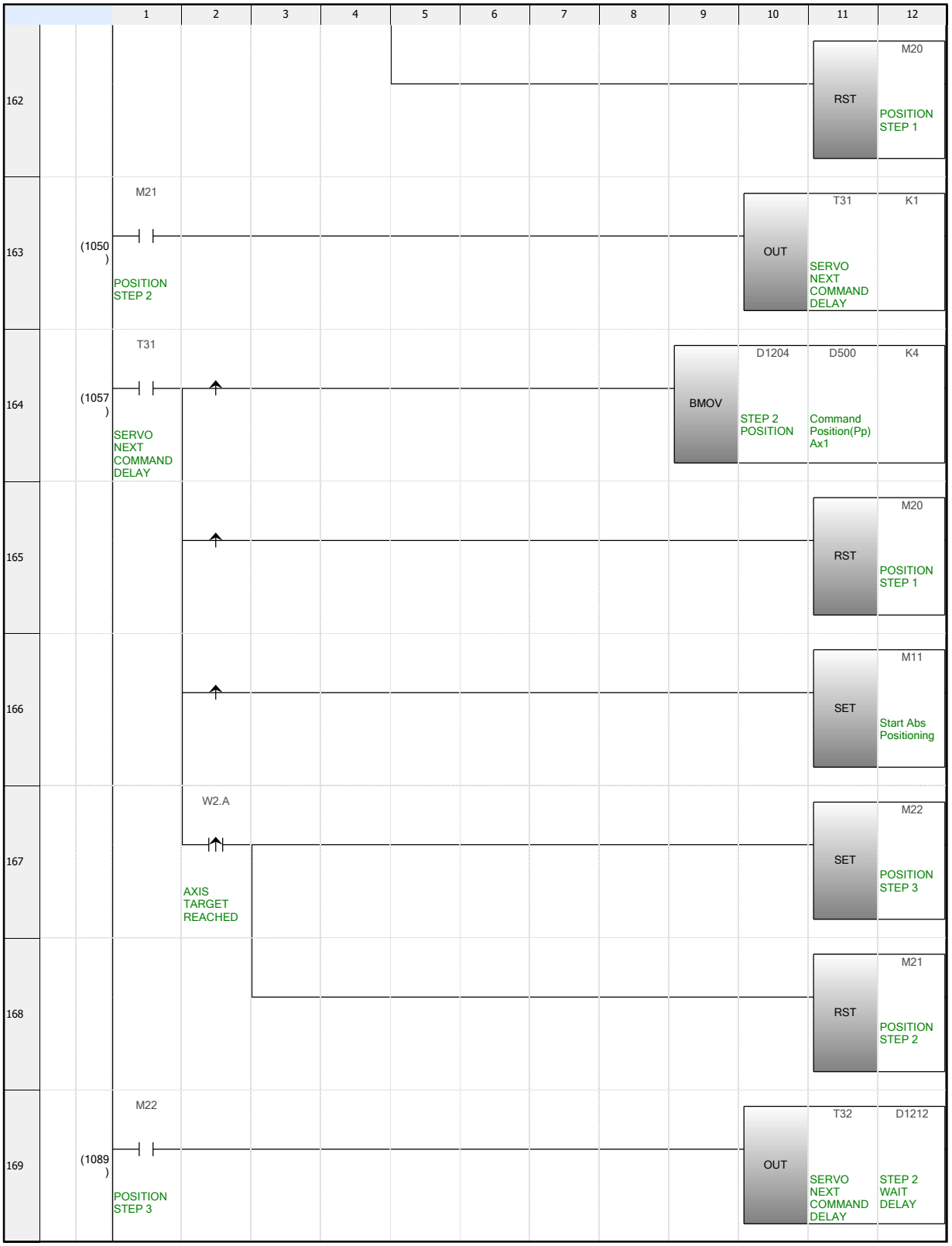
9
10
11
12
153
(978)
T43
NEXT STEP DELAY
SET
S6
START GROOVING FWD
154
STEP S6
155
(986)
STL
S6
START GROOVING FWD
156
(1001)
M150
AUTO START AUX.
M130
ALL AUTOMODE
SET
M6
Switch to Position Mode Pp
157
M21
POSITION STEP 2
M22
POSITION STEP 3
SET
M20
POSITION STEP 1
158
(1013)
M20
POSITION STEP 1
OUT
T30
SERVO NEXT COMMAND DELAY
K1
159
(1020)
M21
POSITION STEP 2
M22
POSITION STEP 3
T30
SERVO NEXT COMMAND DELAY
BMOVP
D1200
STEP 1 POSITION
D500
Command Position(Pp) Ax1
K4
160
SET
M11
Start Abs Positioning
161
W2.A
AXIS TARGET REACHED
SET
M21
POSITION STEP 2


1
2
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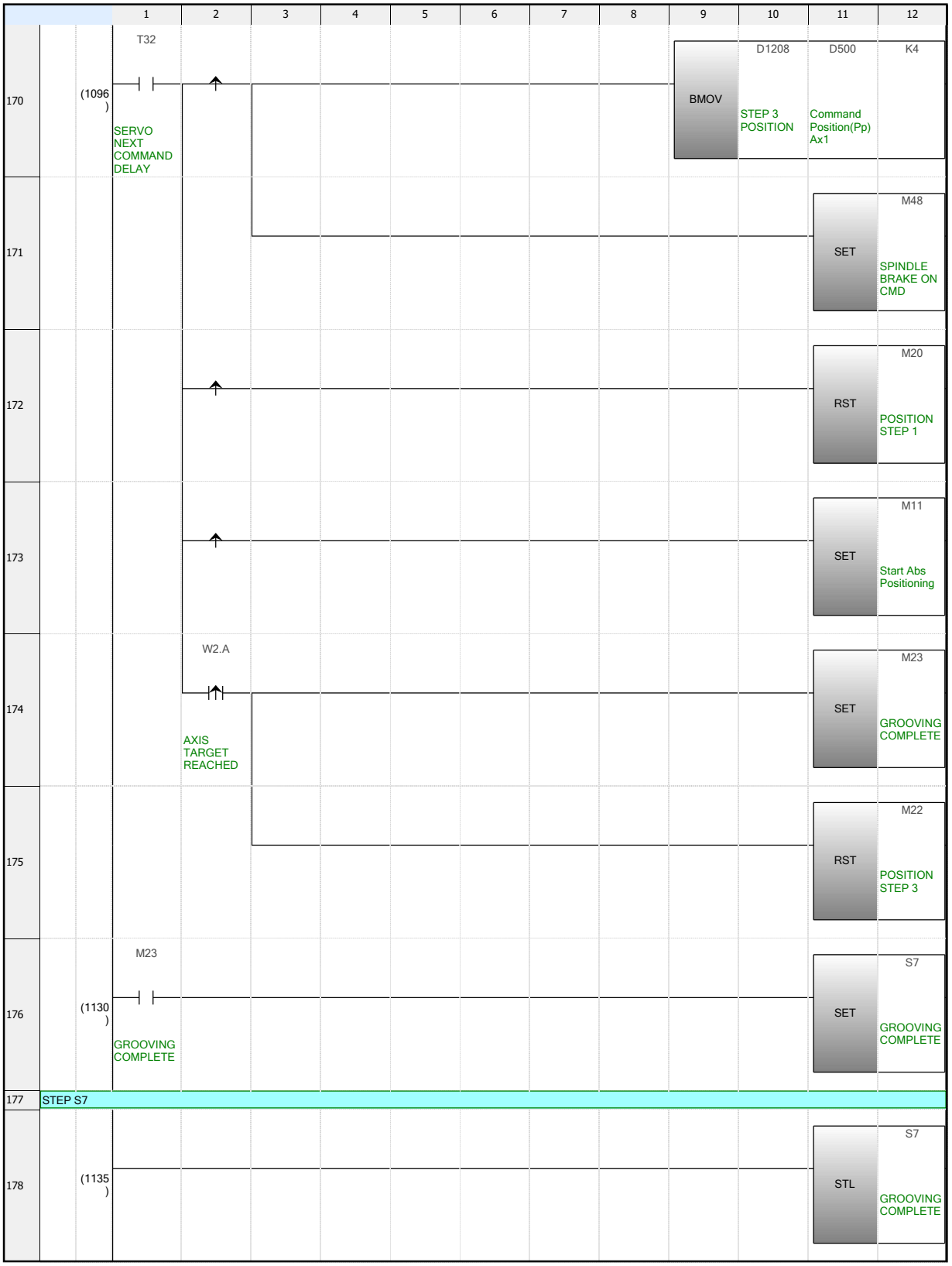
11
12
162
RST
M20
POSITION STEP 1
163
M21
(1050)
POSITION STEP 2
OUT
T31
K1
SERVO NEXT COMMAND DELAY
164
T31
(1057)
SERVO NEXT COMMAND DELAY
BMOV
D1204
STEP 2 POSITION
D500
Command Position(Pp) Ax1
K4
165
RST
M20
POSITION STEP 1
166
SET
M11
Start Abs Positioning
167
W2.A
AXIS TARGET REACHED
SET
M22
POSITION STEP 3
168
RST
M21
POSITION STEP 2
169
M22
(1089)
POSITION STEP 3
OUT
T32
D1212
SERVO NEXT COMMAND DELAY
STEP 2 WAIT DELAY


1
2
3
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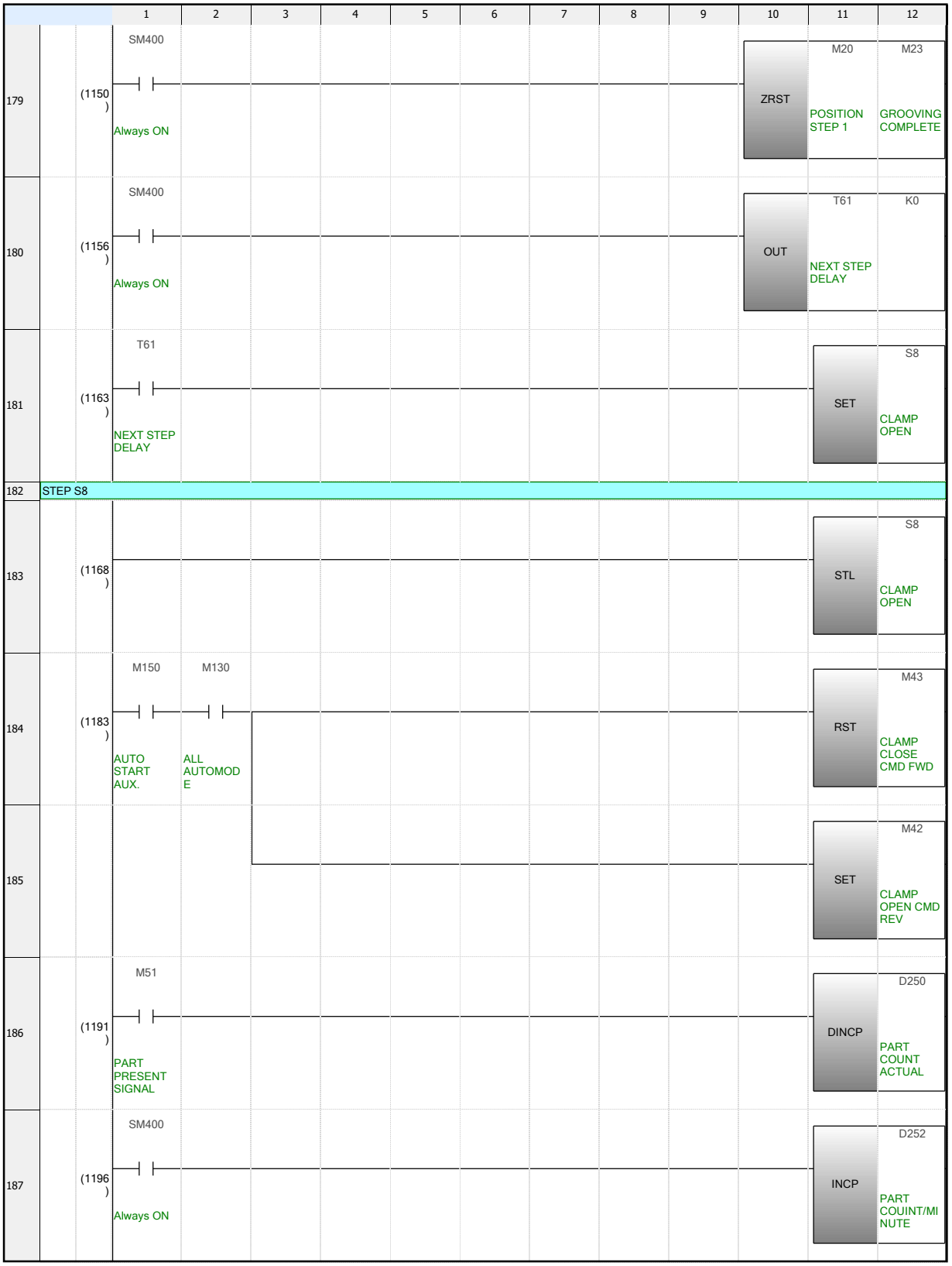
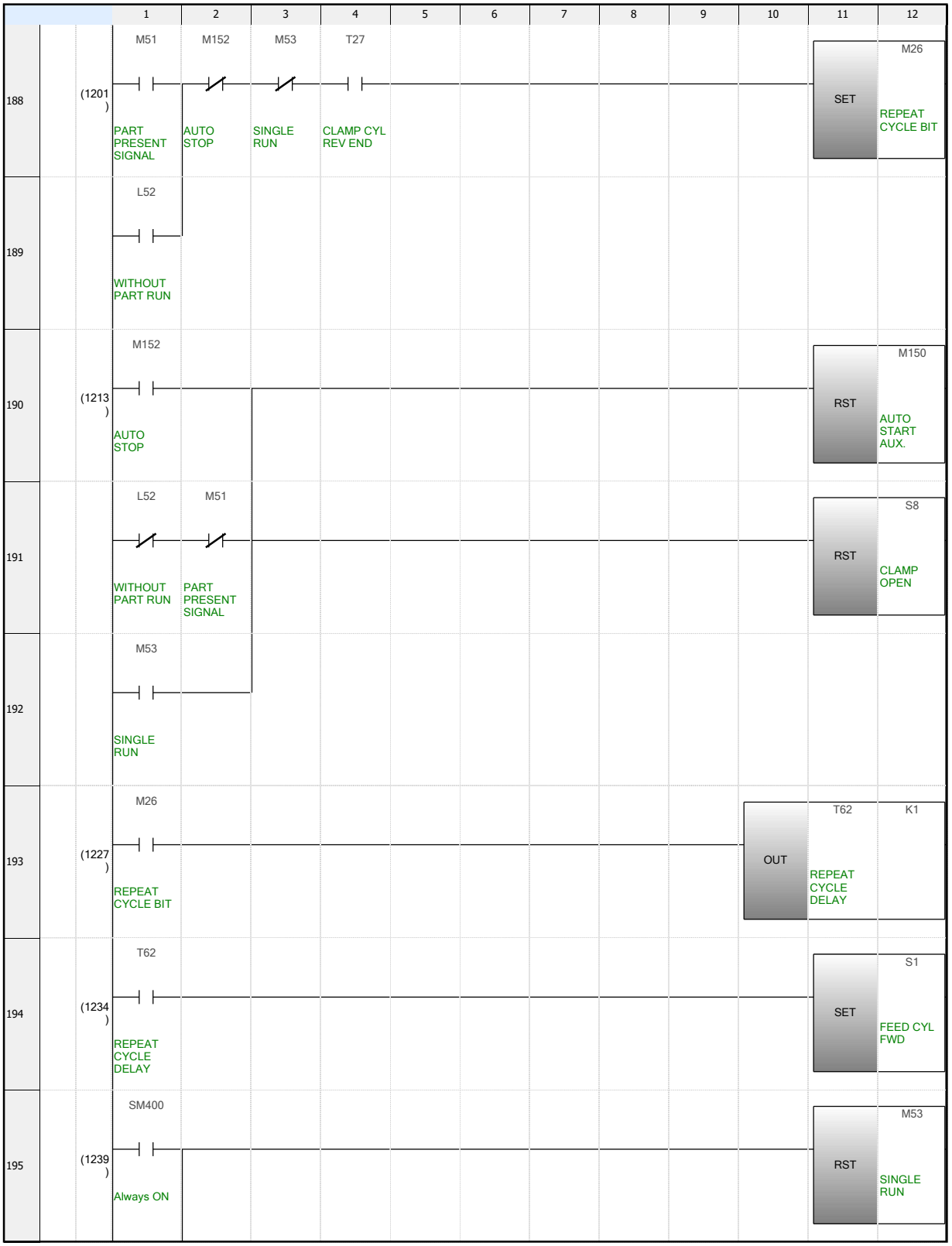
8
9
10
11
12
170
T32
(1096)
SERVO NEXT COMMAND DELAY
BMOV
D1208
STEP 3 POSITION
D500
Command Position(Pp) Ax1
K4
171
SET
M48
SPINDLE BRAKE ON CMD
172
RST
M20
POSITION STEP 1
173
SET
M11
Start Abs Positioning
174
W2.A
AXIS TARGET REACHED
SET
M23
GROOVING COMPLETE
175
RST
M22
POSITION STEP 3
176
M23
(1130)
GROOVING COMPLETE
SET
S7
GROOVING COMPLETE
177
STEP S7
178
(1135)
STL
S7
GROOVING COMPLETE


1 2 3 4 5 6 7 8 9 10 11 12
179 (1150) SM400 Always ON ZRST M20 POSITION STEP 1 M23 GROOVING COMPLETE
180 (1156) SM400 Always ON OUT T61 NEXT STEP DELAY K0
181 (1163) T61 NEXT STEP DELAY SET S8 CLAMP OPEN
182 STEP S8
183 (1168) STL S8 CLAMP OPEN
184 (1183) M150 AUTO START AUX. M130 ALL AUTOMODE RST M43 CLAMP CLOSE CMD FWD
185 SET M42 CLAMP OPEN CMD REV
186 (1191) M51 PART PRESENT SIGNAL DINCP D250 PART COUNT ACTUAL
187 (1196) SM400 Always ON INCP D252 PART COUINT/MINUTE


1
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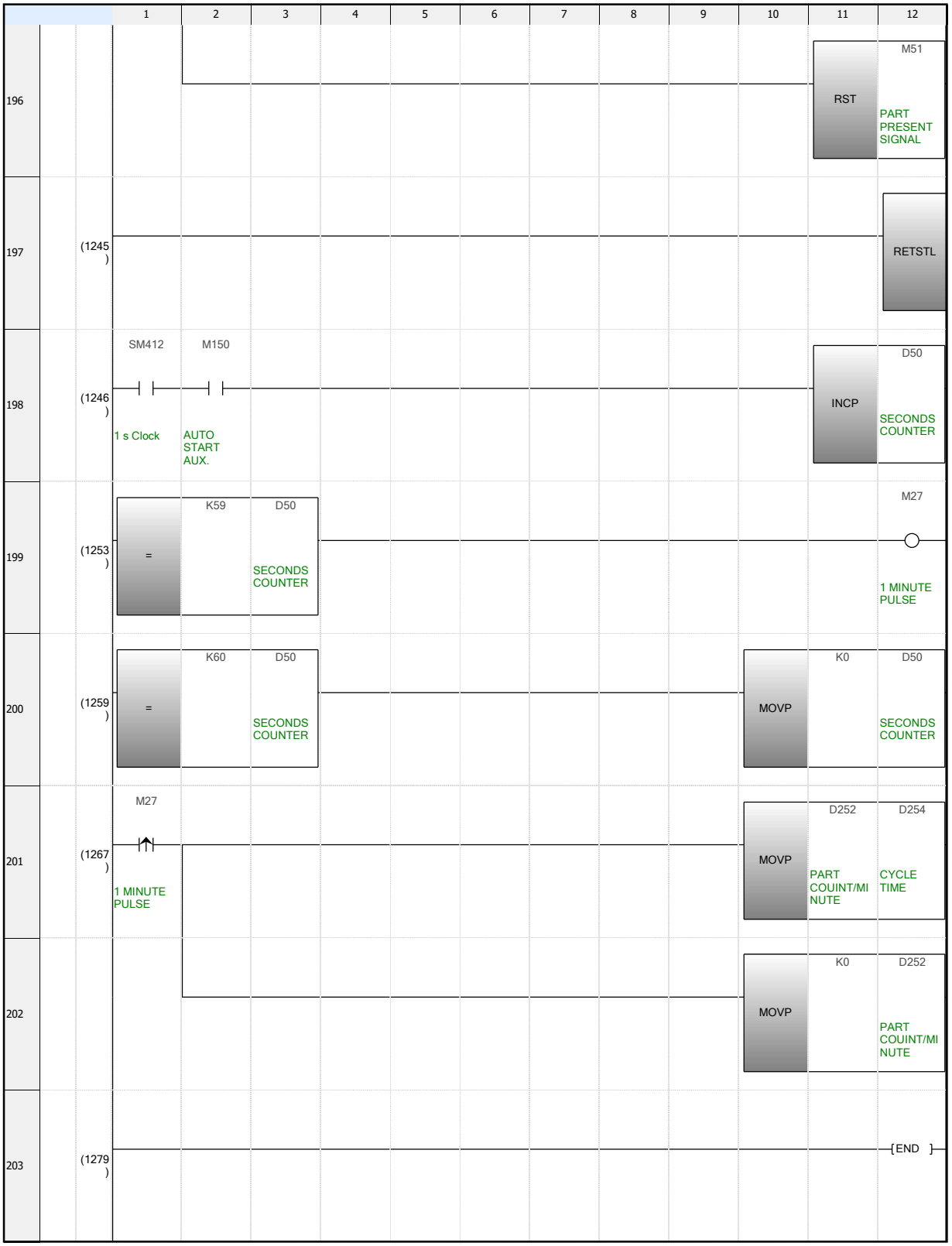
7
8
9
10
11
12
188
(1201)
M51
PART PRESENT SIGNAL
M152
AUTO STOP
M53
SINGLE RUN
T27
CLAMP CYL REV END
SET
M26
REPEAT CYCLE BIT
189
L52
WITHOUT PART RUN
190
(1213)
M152
AUTO STOP
RST
M150
AUTO START AUX.
191
L52
WITHOUT PART RUN
M51
PART PRESENT SIGNAL
RST
S8
CLAMP OPEN
192
M53
SINGLE RUN
193
(1227)
M26
REPEAT CYCLE BIT
OUT
T62
REPEAT CYCLE DELAY
K1
194
(1234)
T62
REPEAT CYCLE DELAY
SET
S1
FEED CYL FWD
195
(1239)
SM400
Always ON
RST
M53
SINGLE RUN


1
2
3
4
5
6
7
8
9
10
11
12
196
RST
M51
PART PRESENT SIGNAL
197
(1245)
RETSTL
198
SM412
M150
(1246)
1 s Clock
AUTO START AUX.
INCP
D50
SECONDS COUNTER
199
(1253)
=
K59
D50
SECONDS COUNTER
M27
1 MINUTE PULSE
200
(1259)
=
K60
D50
SECONDS COUNTER
MOVP
K0
D50
SECONDS COUNTER
201
M27
(1267)
1 MINUTE PULSE
MOVP
D252
PART COUINT/MINUTE
D254
CYCLE TIME
202
MOVP
K0
D252
PART COUINT/MINUTE
203
(1279)
{END }