0

EQU
Equal
Source A   Current_State
                        0
Source B   3

EQU
Equal
Source A   Next_State
                        0
Source B   3

S1_Part_Top_Elevator_Bit
─]/[─

EQU
Equal
Source A   Current_State
                        0
Source B   4

EQU
Equal
Source A   Next_State
                        0
Source B   4

EQU
Equal
Source A   Current_State
                        0
Source B   5

EQU
Equal
Source A   Next_State
                        0
Source B   5

Fault Check for
lift to go from
bottom to top
StationFaults[1].Fault_Check.LiftBtmToTop
─( )─

Fault Check for
conveyor motor ON
StationFaults[1].Fault_Check.ConveyorMtr
─( )─

1

EQU
Equal
Source A   Current_State
                        0
Source B   4

EQU
Equal
Source A   Next_State
                        0
Source B   4

EQU
Equal
Source A   Current_State
                        0
Source B   5

EQU
Equal
Source A   Next_State
                        0
Source B   5

EQU
Equal
Source A   Current_State
                        0
Source B   6

EQU
Equal
Source A   Next_State
                        0
Source B   6

2

```
        EQU                      EQU                  S1_Part_Pick_Ready_Bit
    ┌── Equal ──┐            ┌── Equal ──┐              ──] / [──
    │ Source A  Current_State │ Source A  Next_State
    │                      0  │                    0
    │ Source B            4   │ Source B            4
    │                         │
    │   EQU                   │   EQU
    │ Equal                   │ Equal
    │ Source A  Current_State │ Source A  Next_State
    │                      0  │                    0
    │ Source B            5   │ Source B            5
    │                         │
    │   EQU                   │   EQU
    │ Equal                   │ Equal
    │ Source A  Current_State │ Source A  Next_State
    │                      0  │                    0
    │ Source B            6   │ Source B            6
```

Fault Check for
object to leave lift
until it reaches
pickup spot
StationFaults[1].Fault_Check.LiftToPickup

3

```
        EQU                      EQU                  S1_ArmSenExt
    ┌── Equal ──┐            ┌── Equal ──┐         <Remote_IO:I.Data[1].1>
    │ Source A  Current_State │ Source A  Next_State    ──] / [──
    │                      0  │                    0
    │ Source B            9   │ Source B            9
    │                         │
    │   EQU                   │   EQU
    │ Equal                   │ Equal
    │ Source A  Current_State │ Source A  Next_State
    │                      0  │                    0
    │ Source B           12   │ Source B           12
```

Fault Check for the
gantry Arm cylinder
to go from retracted
to extended
StationFaults[1].Fault_Check.ArmRetToExt

4

EQU
Equal
Source A   Current_State
0
Source B   5

EQU
Equal
Source A   Next_State
0
Source B   5

S1_CylSenExt
<Remote_IO:I.Data[2].3>

EQU
Equal
Source A   Current_State
0
Source B   14

EQU
Equal
Source A   Next_State
0
Source B   14

S1_Lift_Drop_timer.DN

Fault Check for
cylinder to go from
retracted to
extended
StationFaults[1].Fault_Check.LiftCylRetToExt

5

S1_CylSenRet
<Remote_IO:I.Data[2].4>
─┤ / ├─

EQU
Equal
Source A   Current_State
0
Source B   3

EQU
Equal
Source A   Next_State
0
Source B   3

EQU
Equal
Source A   Current_State
0
Source B   4

EQU
Equal
Source A   Next_State
0
Source B   4

EQU
Equal
Source A   Current_State
0
Source B   5

EQU
Equal
Source A   Next_State
0
Source B   5

EQU
Equal
Source A   Current_State
0
Source B   6

EQU
Equal
Source A   Next_State
0
Source B   6

EQU
Equal
Source A   Current_State
0
Source B   14

EQU
Equal
Source A   Next_State
0
Source B   14

EQU
Equal
Source A   Current_State
0
Source B   1

EQU
Equal
Source A   Next_State
0
Source B   1

Fault Check for
cylinder to go from
extended to
retracted
StationFaults[1].Fault_Check.LiftCylExtToRet
( )

6

```
        EQU                              EQU                    S1_LiftSen_Bottom
        Equal                            Equal                 <Remote_IO:I.Data[1].0>
        Source A   Current_State         Source A   Next_State
                            0                             0          ] / [
        Source B         5               Source B         5

        EQU                              EQU
        Equal                            Equal
        Source A   Current_State         Source A   Next_State
                            0                             0
        Source B         6               Source B         6

        EQU                              EQU
        Equal                            Equal
        Source A   Current_State         Source A   Next_State
                            0                             0
        Source B         7               Source B         7

        EQU                              EQU
        Equal                            Equal
        Source A   Current_State         Source A   Next_State
                            0                             0
        Source B         8               Source B         8

        EQU                              EQU
        Equal                            Equal
        Source A   Current_State         Source A   Next_State
                            0                             0
        Source B         9               Source B         9

        EQU                              EQU
        Equal                            Equal
        Source A   Current_State         Source A   Next_State
                            0                             0
        Source B        14               Source B        14
```

Fault Check for
lift to go from top
to bottom
StationFaults[1].Fault_Check.LiftTopToBtm

S1_FaultCheck - Ladder Diagram   **Page 6**

MultiStation_test:MainTask:Station1_Program   5/2/2022 3:07:20 PM
Total number of rungs in routine: 10   E:\Mechatronics Project\MultiStationMaster_Version12.ACD

7

EQU
Equal
Source A   Current_State
                              0
Source B   9

EQU
Equal
Source A   Next_State
                              0
Source B   9

EQU
Equal
Source A   Current_State
                              0
Source B   10

EQU
Equal
Source A   Next_State
                              0
Source B   10

EQU
Equal
Source A   Current_State
                              0
Source B   13

EQU
Equal
Source A   Next_State
                              0
Source B   13

S1_ArmSenRet
<Remote_IO:I.Data[1].2>

Fault Check for the
gantry Arm cylinder
to go from extended
to retracted
StationFaults[1].Fault_Check.ArmExtToRet

8

S1_LimSw_Y1
<Remote_IO:O.Data[7].0>

S1_LimSw_Y2
<Remote_IO:O.Data[7].1>

S1_LimSw_Y2
<Remote_IO:O.Data[7].1>

S1_LimSw_Y1
<Remote_IO:O.Data[7].0>

Fault Check for the
motor on the Y-Axis
to be on
StationFaults[1].Fault_Check.MtrY

9

S1_LimSw_X1
<Remote_IO:O.Data[7].3>

S1_LimSw_X2
<Remote_IO:O.Data[7].2>

S1_LimSw_X2
<Remote_IO:O.Data[7].2>

S1_LimSw_X1
<Remote_IO:O.Data[7].3>

Fault Check for the
motor on the X-Axis
to be on
StationFaults[1].Fault_Check.MtrX

(End)