

# FAT - Multi processing station

## Test items:

### Powerup

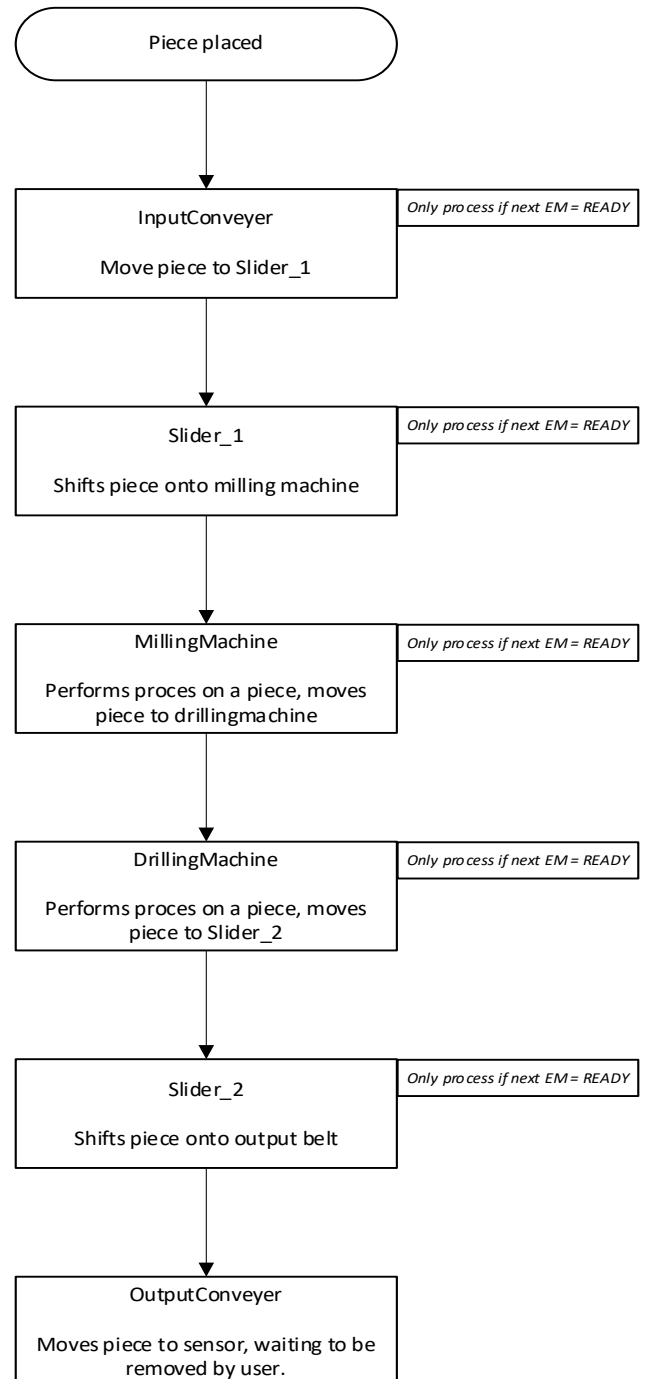
- 1 Reset: All errors are resetted
- 2 Init: All equipments are initialized (only for pushers)
- 3 Start: The station is started

### Started

- 4 If a piece is placed at th input sensor the main loop is started
- 5 More pieces can be present in the station

### Errors

- 6 The inputbelt is activated for too long
- 7 The Slider motor (slider\_1) is activated for too long
- 8 The millingBelt is activated for too long
- 9 The drillingBelt is activated for too long
- 10 The Slider motor (Slider\_2) is activated for too long
- 11 The output belt is activated for too long.



## Test #1 *Reset: All errors are resetted*

### Pre-conditions

1. The xReadyToStart bit is FALSE
2. All 'control bits' (Start, stop, reset e.g. are FALSE)
3. The slider are in Home position (Rear button is pressed)

### Test steps

1. Set xReset to TRUE

### Expected result

After the xReset is set, the different equipment modules are resetted. After all equipment are succesfully resetted, the xStartReadybit is set to TRUE.

## Test #2 *Init: All equipments are initialized (only for pushers)*

### Pre-conditions

1. The xReadyToStart bit is FALSE
2. All 'control bits' (Start, stop, reset e.g. are FALSE)
3. The slider are not in the home position (rear button is not pressed)

### Test steps

1. Set xInit to TRUE

### Expected result

After the xInit is resetted the sliders will move to the home position. After the sliders have reached the home position, testcase 1 can be performed.

### Test #3

*Start: The station is started*

#### Pre-conditions

1. The xReadyToStart bit is TRUE
2. All 'control bits' (Start, stop, reset e.g. are FALSE)

#### Test steps

1. Set xStart to TRUE

#### Expected result

After the xStart is set, the result as described in testcase #4 should be expected.

### Test #4

*If a piece is placed at th input sensor the main loop is started*

#### Pre-conditions

1. Testcase #3 has been run

#### Test steps

1. Place piece at input sensor on the input belt

#### Expected result

Same loop which is visible on the mainpage should run.

## Test #5 *More pieces can be present in the station*

### Pre-conditions

1. Testcase #4 has been run

### Test steps

1. Add second piece (after xReadyToReceive bit is TRUE on inputConveyer equipment module).

### Expected result

Same loop which is visible on the mainpage should run twice (in parralel). When a next equipment is still busy with an other piece the current equipment module will wait till the next EM is ready.

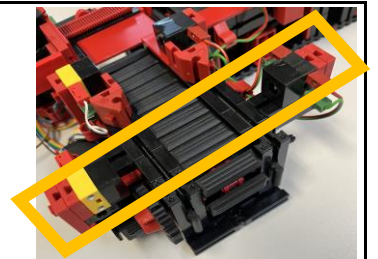
## Test #6 *The inputbelt is activated for too long*

### Pre-conditions

1. The rsOperational.q bit is TRUE

### Test steps

1. Activate the input sensor on the input belt



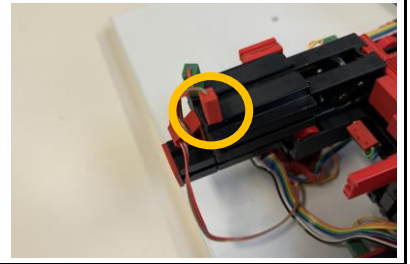
### Expected result

After X time the belt will stop, the rsOperational bit will reset. An error is active.

**Test #7**    *The Slider motor (slider\_1) is activated for too long*

Pre-conditions

1. The rsOperational.q bit is TRUE
2. Remove a wire from the slider motor



Test steps

1. Place a piece on the input belt

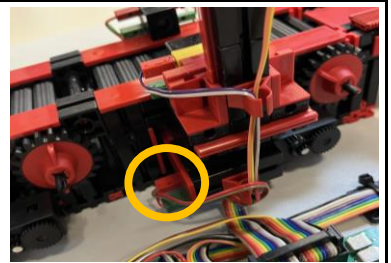
Expected result

Because the loose wire the slider will not run.  
After X time, the rsOperational bit will reset. An error is active.

**Test #8**    *The millingBelt is activated for too long*

Pre-conditions

1. The rsOperational.q bit is TRUE
2. Remove a wire from the millingBelt motor



Test steps

1. Place a piece on the input belt

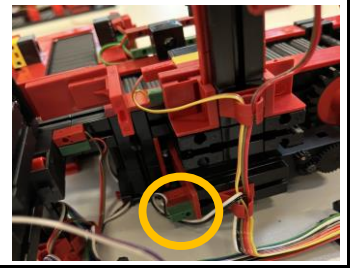
Expected result

The belt cannot run, after X time the rsOperational bit will reset. An error is active.

**Test #9**    *The drillingBelt is activated for too long*

Pre-conditions

1. The rsOperational.q bit is TRUE
2. Remove a wire from the drillingBelt motor



Test steps

1. Place a piece on the input belt

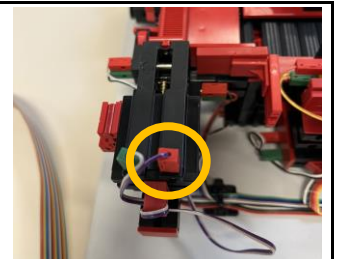
Expected result

The belt cannot run, after X time the rsOperational bit will reset. An error is active.

**Test #10**    *The Slider motor (Slider\_2) is activated for too long*

Pre-conditions

1. The rsOperational.q bit is TRUE
2. Remove a wire from the slider motor



Test steps

1. Place a piece on the input belt

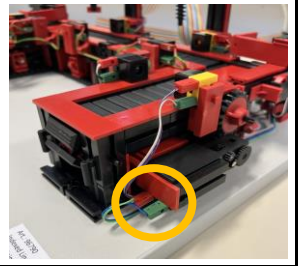
Expected result

Because the loose wire the slider will not run.  
After X time, the rsOperational bit will reset. An error is active.

**Test #11** *The output belt is activated for too long.*

Pre-conditions

1. The rsOperational.q bit is TRUE
2. Remove a wire from the outputBelt motor



Test steps

1. Place a piece on the input belt

Expected result

The belt cannot run, after X time the rsOperational bit will reset. An error is active.