# Test 1: Single Serial – Station 1 – Test Pass – Valid Serial

1. Set: Robot Available = 1
2. Set: Serial Trigger = 1
3. Check: PC ACK =1 (By PC)
4. Set: Serial Trigger = 0
5. Set: PC ACK = 0 (By Robot)
6. Check: Load task {New Serial=1; Station # = 0; Adapt Size= 107; Disp Size = 207; Flange Size = A307; }
7. Check: Task available for robot = 1
8. Set: Robot Available = 0
9. Check: Task available for robot = 0
10. Set: DAQ I/P Clamp = TRUE
11. Set: Station # Start Stop = 0 (station 1)
12. Set: Start Test tag= 1 (From Robot)
13. Check: PC ACK = 1 (By PC)
14. Set: DAQ DI TTA = FALSE
15. Set: DAQ DI TTB = FALSE
16. Set: Station # Start Stop = 0 (Station 1)
17. Set: Start Test tag = 0
18. Set: PCK ACK = 0 (By Robot)
19. Set: Robot Available = 1
20. Check: DAQ O/P SELECT\_TEST = TURE-FALSE- TURE-FALSE- TURE-FALSE (3 pulse to iterate from test type-4 to test type-3)
21. Set: DAQ DI TTA = TRUE (based on current test type)
22. Set: DAQ DI TTB = TRUE (based on current test type)
23. Check: DAQ O/P Start = TRUE-False (PULSE)
24. Check: DAQ O/P Light Indicator = \_\_\_\_\_
25. After some time the test is finished and the result is PASS (say 5 minutes)
26. Set: DAQ I/P PASS = TRUE-False (Check if it’s pulse)
27. Check: Unload task {New Serial=0; Test Result=1(Pass); Station # = 0}
28. Check: Task available for robot = 1
29. Set: Robot Available = 0
30. Check: Task available for robot = 0
31. Set: DAQ I/P Clamp= FALSE
32. Robot does unloads the serial to PASS conveyor
33. Set: Robot Available = 1

Test Type1: TTA:1, TTB: 0;  
Test Type2: TTA:0, TTB: 1;  
Test Type3: TTA:1, TTB: 1;  
Test Type4: TTA:0, TTB: 0;

IDLE : 100  
Test Running: 010  
Pass 110  
Fail 101

# Test 2: Single Serial – Station 2 – Test Pass – Valid Serial

1. Set: Robot Available = 1
2. Set: Serial Trigger = 1
3. Check: PC ACK =1 (By PC)
4. Set: Serial Trigger = 0
5. Set: PC ACK = 0 (By Robot)
6. Check: Load task {New Serial=1; Station # = 0; Adapt Size= 107; Disp Size = 207; Flange Size = A307; }
7. Check: Task available for robot = 1
8. Set: Robot Available = 0
9. Check: Task available for robot = 0
10. Set: DAQ DI TTA = FALSE
11. Set: DAQ DI TTB = FALSE
12. Set: DAQ I/P Clamp = TRUE
13. Check: DAQ O/P SELECT\_TEST = TURE-FALSE- TURE-FALSE- TURE-FALSE (3 pulse to iterate from test type-4 to test type-3)
14. Set: DAQ DI TTA = TRUE (based on current test type)
15. Set: DAQ DI TTB = TRUE (based on current test type)
16. Set: Station # Start Stop = 0 (station 1)
17. Set: Start Test tag= 1 (From Robot)
18. Check: PC ACK = 1 (By PC)
19. Set: Station # Start Stop = 0 (Station 1)
20. Set: Start Test tag = 0
21. Set: PCK ACK = 0 (By Robot)
22. Set: Robot Available = 1
23. Set: Serial Trigger = 1
24. Check: PC ACK =1 (By PC)
25. Set: Serial Trigger = 0
26. Set: PC ACK = 0 (By Robot)
27. Check: Load task {New Serial=1; Station # = 0; Adapt Size= 107; Disp Size = 207; Flange Size = A307; }
28. Check: Task available for robot = 1
29. Set: Robot Available = 0
30. Check: Task available for robot = 0
31. Set: Station 2 DAQ DI TTA = FALSE
32. Set: Station 2 DAQ DI TTB = FALSE
33. Set: Station 2 DAQ I/P Clamp = TRUE
34. Check: Station 2 DAQ O/P SELECT\_TEST = TURE-FALSE- TURE-FALSE- TURE-FALSE (3 pulse to iterate from test type-4 to test type-3)
35. Set: DAQ DI TTA = TRUE (based on current test type)
36. Set: DAQ DI TTB = TRUE (based on current test type)
37. Set: Station # Start Stop = 0 (station 1)
38. Set: Start Test tag= 1 (From Robot)
39. Check: PC ACK = 1 (By PC)
40. Set: Station # Start Stop = 0 (Station 1)
41. Set: Start Test tag = 0
42. Set: PCK ACK = 0 (By Robot)
43. Set: Robot Available = 1
44. Check: DAQ O/P Start = TRUE-False (PULSE)
45. Check: DAQ O/P Light Indicator = \_\_\_\_\_
46. After some time the test is finished and the result is PASS (say 5 minutes)
47. Set: DAQ I/P PASS = TRUE-False (Check if it’s pulse)
48. Check: Unload task {New Serial=0; Test Result=1(Pass); Station # = 1}
49. Check: Task available for robot = 1
50. Set: Robot Available = 0
51. Check: Task available for robot = 0
52. Set: DAQ I/P Clamp= FALSE
53. Robot does unloads the serial to PASS conveyor
54. Set: Robot Available = 1

Test Type1: TTA:1, TTB: 0;  
Test Type2: TTA:0, TTB: 1;  
Test Type3: TTA:1, TTB: 1;  
Test Type4: TTA:0, TTB: 0;

IDLE : 100  
Test Running: 010  
Pass 110  
Fail 101

# Test 3 Single Serial – Test Fail but pass in second rerun – Valid Serial

1. Set: Robot Available = 1
2. Set: Serial Trigger = 1
3. Check: PC ACK =1 (By PC)
4. Set: Serial Trigger = 0
5. Set: PC ACK = 0 (By Robot)
6. Check: Load task {New Serial=1; Station # = 0; Adapt Size= 107; Disp Size = 207; Flange Size = A307; }
7. Check: Task available for robot = 1
8. Set: Robot Available = 0
9. Check: Task available for robot = 0
10. Set: DAQ DI TTA = FALSE
11. Set: DAQ DI TTB = FALSE
12. Set: DAQ I/P Clamp = TRUE
13. Check: DAQ O/P SELECT\_TEST = TURE-FALSE- TURE-FALSE- TURE-FALSE (3 pulse to iterate from test type-4 to test type-3)
14. Set: DAQ DI TTA = TRUE (based on current test type)
15. Set: DAQ DI TTB = TRUE (based on current test type)
16. Set: Station # Start Stop = 0 (Station 1)
17. Set: Start Test tag= 1 (From Robot)
18. Check: PC ACK = 1 (By PC)
19. Set: Station # Start Stop = 0 (Station 1)
20. Set: Start Test tag = 0
21. Set: PCK ACK = 0 (By Robot)
22. Set: Robot Available = 1
23. Check: DAQ O/P Start = TRUE-False (PULSE)
24. Check: DAQ O/P Light Indicator = Test Running
25. Simulate the Test result DB to produce Fail for the serial. After some time the test is finished and the result is Fail (say 5 minutes)
26. Set: DAQ I/P FAIL = TRUE-False
27. Check: DAQ O/P Light Indicator = Fail
28. Check: Rerun task {New Serial = 0; Test Result = 0 (Fail); Station #=Station 1; Rerun=1}
29. Set: Station # Start Stop = Station 1
30. Set: Start Test tag= 1 (From Robot)
31. Check: PC ACK = 1 (By PC)
32. Set: Station # Start Stop = Station 1
33. Set: Start Test tag = 0
34. Check: DAQ O/P Start = TRUE-False (PULSE)
35. Check: DAQ O/P Light Indicator = Test Running
36. Simulate the Test result DB to produce PASS for the serial. After some time the test is finished and the result is PASS (say 5 minutes)
37. Set: DAQ I/P Pass = TRUE-False
38. Check: DAQ O/P Light Indicator = Fail
39. Check: Unload task {New Serial=0; Test Result=1(Pass); Station # = 0}
40. Check: Task available for robot = 1
41. Set: Robot Available = 0
42. Check: Task available for robot = 0
43. Set: DAQ I/P Clamp= FALSE
44. Robot unloads the serial to PASS conveyor
45. Set: Robot Available = 1

Test Type1: TTA:1, TTB: 0;  
Test Type2: TTA:0, TTB: 1;  
Test Type3: TTA:1, TTB: 1;  
Test Type4: TTA:0, TTB: 0;

IDLE : 100  
Test Running: 010  
Pass 110  
Fail 101

# Test 4: Single Serial – Test Fail in all rerun (2 reruns) – Valid Serial

1. Set: Robot Available = 1
2. Set: Serial Trigger = 1
3. Check: PC ACK =1 (By PC)
4. Set: Serial Trigger = 0
5. Set: PC ACK = 0 (By Robot)
6. Check: Load task {New Serial=1; Station # = 0; Adapt Size= 107; Disp Size = 207; Flange Size = A307; }
7. Check: Task available for robot = 1
8. Set: Robot Available = 0
9. Check: Task available for robot = 0
10. Set: DAQ DI TTA = FALSE
11. Set: DAQ DI TTB = FALSE
12. Set: DAQ I/P Clamp = TRUE
13. Check: DAQ O/P SELECT\_TEST = TURE-FALSE- TURE-FALSE- TURE-FALSE (3 pulse to iterate from test type-4 to test type-3)
14. Set: DAQ DI TTA = TRUE (based on current test type)
15. Set: DAQ DI TTB = TRUE (based on current test type)
16. Set: Station # Start Stop = 0 (Station 1)
17. Set: Start Test tag= 1 (From Robot)
18. Check: PC ACK = 1 (By PC)
19. Set: Station # Start Stop = 0 (Station 1)
20. Set: Start Test tag = 0
21. Set: PCK ACK = 0 (By Robot)
22. Set: Robot Available = 1
23. Check: DAQ O/P Start = TRUE-False (PULSE)
24. Check: DAQ O/P Light Indicator = \_\_\_\_\_
25. Simulate the Test result DB to produce Fail for the serial. After some time the test is finished and the result is Fail (say 5 minutes)
26. Set: DAQ I/P FAIL = TRUE-False
27. Check: Rerun task {New Serial = 0; Test Result = 0 (Fail); Station #=0; Rerun=1}
28. Set: Station # Start Stop = 0 (Station 1)
29. Set: Start Test tag= 1 (From Robot)
30. Check: PC ACK = 1 (By PC)
31. Set: Station # Start Stop = 0 (Station 1)
32. Set: Start Test tag = 0
33. Check: DAQ O/P Start = TRUE-False (PULSE)
34. Check: DAQ O/P Light Indicator = \_\_\_\_\_
35. Simulate the Test result DB to produce Fail for the serial. After some time the test is finished and the result is Fail (say 5 minutes)
36. Set: DAQ I/P Fail = TRUE-False
37. Check: Unload task {New Serial=0; Test Result=0(Fail); Station # = 0}
38. Check: Task available for robot = 1
39. Set: Robot Available = 0
40. Check: Task available for robot = 0
41. Set: DAQ I/P Clamp= FALSE
42. Robot unloads the serial to Fail conveyor
43. Set: Robot Available = 1

Test Type1: TTA:1, TTB: 0;  
Test Type2: TTA:0, TTB: 1;  
Test Type3: TTA:1, TTB: 1;  
Test Type4: TTA:0, TTB: 0;

IDLE : 100  
Test Running: 010  
Pass 110  
Fail 101

# Test 5: Single Serial – Invalid Serial

# Test 5 – Multi Serial – Valid Serials – All Test Pass

# Test 6 – Multi Serial – Valid Serials – Few Serials Pass and Few serials fail (1,2 Passes ; 3,4 fail but pass in second rerun)

# Test 7 – Multi Serial – Few valid serials – Few invalid serials. – All serial pass in station

# Test 8 – Multi Serial – Few valid serials – Few invalid serials. – Few serial fail in station; few passes in 2nd rerun; rest fails in both rerun.

# Test 9 – Adverse Behaviour of Robot Side –Clamping doesn’t happen –Clamping happens before Start Signal