

Inventrax-FalconSFT-Configuration

Ver 1.0

Operational Manual

Document Type : Operational Manual

Description : Operational Manual for Shop Floor Tracker-Configuration

Issue Date : 02 Aug 14

Originator : Purnima P.

Document State : Version 0.2

File Location :

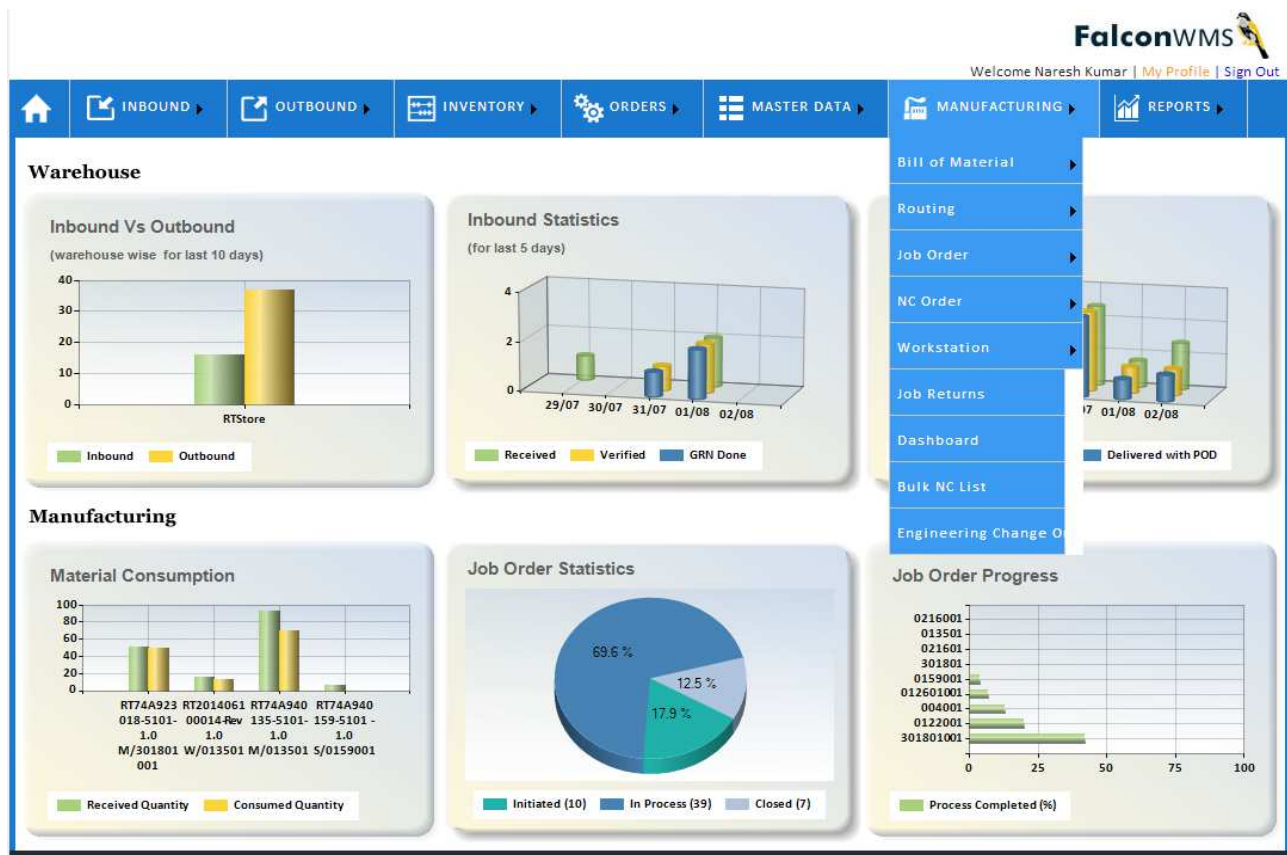
Ver.	Description of Change	Date/Time	Author	Reviewed by
0.1	Initial Draft	02 Aug 14	Purnima P	
0.2	Scree shots modifications	21 Aug 14	Purnima P	

Contents

1. Manufacturing	4
1.1. Work Station	4
1.1.1. Work Station Type List	4
1.1.2. New Work Station Type	5
1.1.3. Work Station List	6
1.1.4. New Work Station	7
1.2. Bill of Material (BOM)	8
1.2.1. Bill of Material List (BOM List)	8
1.2.2. New Bill of Material	9
1.3. Routing	12
1.3.1. Routing List	12
1.3.2. New Routing	13
1.4. Job Order	19
1.4.1. Job Order List	19
1.4.2. New Job Oder	20
1.4.3. New Phantom Job Order	23
1.4.4. Create Phantom	25
1.5. NC Order	26
1.5.1. NC Order List	26
1.5.2. New NC Order	27
1.6. Job Returns	28
1.7. Bulk NC List	29
1.8. Engineering Change Order [ECOM]	31
1.9. Dashboard	32

1. Manufacturing

1.1. Workstation




1.1.1. Workstation Type List

[Link: Menu >> Manufacturing >> Workstation >> Workstation Type List](#)

System displays workstation type list with Workstation Type, Workstation type code, Company and Description. Workstation Type List provides Search, Edit, Delete and Export to Excel functions based on the user role.

Functionality

- The WS Type details can be searched with 'Workstation Type'
- The 'Edit' function allows to modify the WS Type details
- Only the authorized users can delete the WS Type
- The 'Export to Excel' function allows to download a file that contains WS Type details

WORKSTATION TYPE LIST					
Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard					
<input type="text" value="Search Workstation Type..."/> Search 					
Total Items [9]					
Workstation Type	WS Type Code	Company	Description	<input type="checkbox"/> Delete	
Wire Marking	WM	Rossell Techsys		<input type="checkbox"/>	Edit
Kitting	KIT	Rossell Techsys		<input type="checkbox"/>	Edit
Sleeve Marking	SM	Rossell Techsys		<input type="checkbox"/>	Edit
Fabrication	FB	Rossell Techsys		<input type="checkbox"/>	Edit
Braiding Machine	BM	Rossell Techsys		<input type="checkbox"/>	Edit
Potting Machine	PM	Rossell Techsys		<input type="checkbox"/>	Edit
Packing QC	SLMP	Rossell Techsys		<input type="checkbox"/>	Edit
Packing	pck	Rossell Techsys		<input type="checkbox"/>	Edit
PanStock	PS	Rossell Techsys		<input type="checkbox"/>	Edit
				Delete	

1.1.2. New Workstation Type

[Link: Menu >> Manufacturing >> Workstation >> New Workstation Type](#)

This feature allows to create a new workstation type with WS Type code.

The mandatory fields marked in red asterisk are mandatory.

WORKSTATION TYPE DETAILS		
Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard		
Workstation Type List		
Workstation Type :	WS Type Code :	Company :
<input type="text" value="Kitting"/>	<input type="text" value="KIT"/>	<input type="text" value="Rossell Techsys"/>
Description :		
<input type="text"/>		
		<input type="button" value="Cancel"/> <input type="button" value="Update"/>

Business Rules:

- Composition of WS Type and Code must be 'Unique'
- Unable to 'Edit/Delete' WS Type details, as WS Type is configured in Workstation









1.1.3. Workstation List

[Link: Menu >> Manufacturing >> Workstation >> Workstation List](#)

System displays workstation list with Workstation, Workstation Ref.# and Workstation Type. Workstation List provides Search, Edit, Delete and Export to Excel functions based on the user role.

Functionality

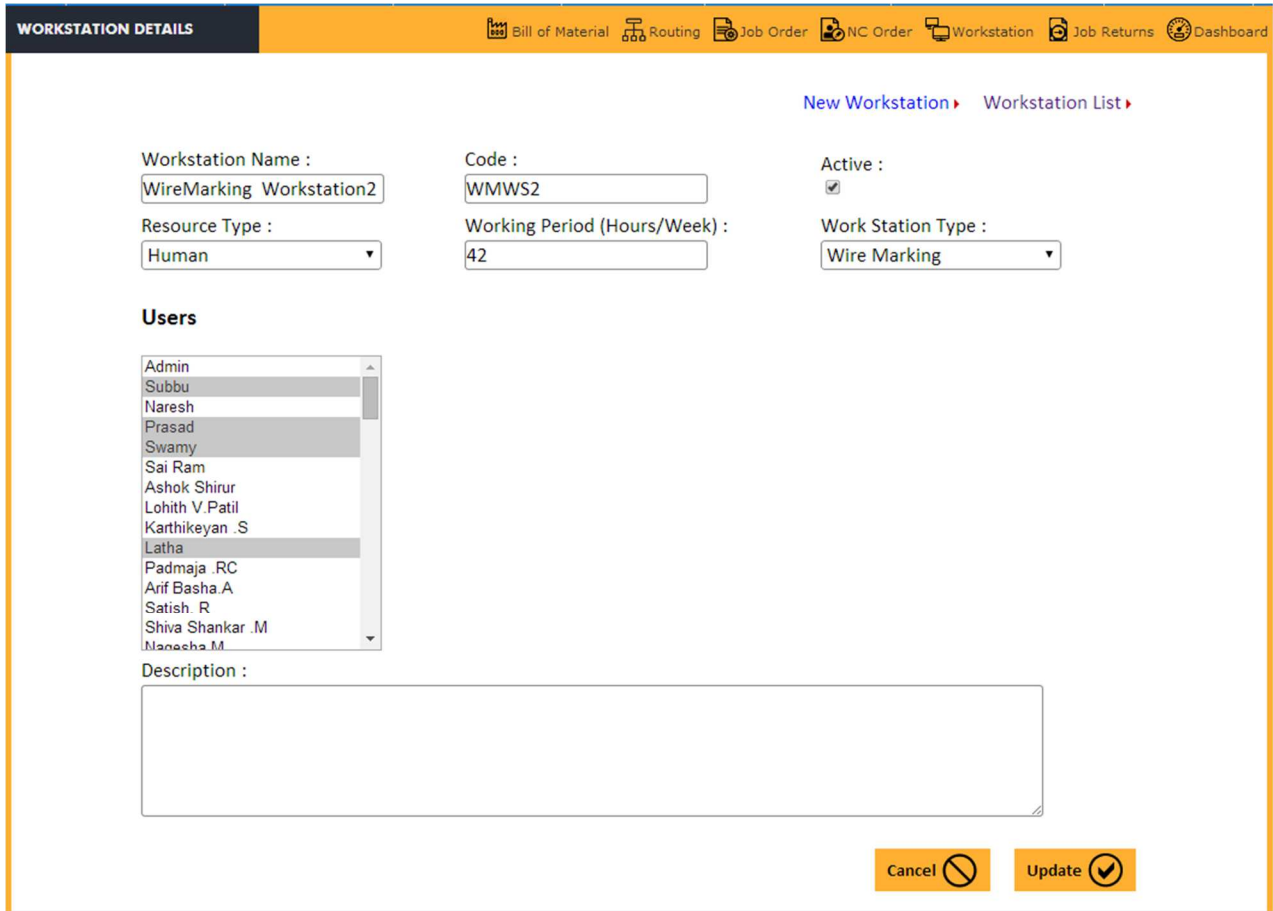
- System filters the workstation by selecting the workstation type
- The workstation details can be searched with workstation
- The 'Edit' function in Workstation List allows to modify the workstation details
- Only the authorized users can delete the WS
- The 'Export to Excel' function allows to download a file that contains workstation details

WORKSTATION LIST				
<div>  Bill of Material  Routing  Job Order  NC Order  Workstation  Job Returns  Dashboard </div>				
<div> Workstation Type : ALL <input type="text" value="Search Workstation..."/> Search  </div>				
Total Items [16]				
Workstation	Workstation Ref.#	Workstation Type	<input type="checkbox"/> Delete	
INVENTRAX23	KW1	Kitting	<input type="checkbox"/>	Edit
INVENTRAX21213	KW2	Kitting	<input type="checkbox"/>	Edit
INVENTRAX21	WMWS1	Wire Marking	<input type="checkbox"/>	Edit
WireMarking Workstation2	WMWS2	Wire Marking	<input type="checkbox"/>	Edit
INVENTRAX8	SMWS1	Sleeve Marking	<input type="checkbox"/>	Edit
INVENTRAX2	PWS1	Fabrication	<input type="checkbox"/>	Edit
Production Work Station2	PWS2	Fabrication	<input type="checkbox"/>	Edit
Production Work Station3	PWS3	Fabrication	<input type="checkbox"/>	Edit
Production Work Station4	PWS4	Fabrication	<input type="checkbox"/>	Edit
BraidingWorkStation1	BWS1	Braiding Machine	<input type="checkbox"/>	Edit
BraidingWorkStation2	BWS2	Braiding Machine	<input type="checkbox"/>	Edit
INVENTRAX24	POWS1	Potting Machine	<input type="checkbox"/>	Edit
PottingWorkStation2	POWS2	Potting Machine	<input type="checkbox"/>	Edit
WorkCenter1	CUT001	Kitting	<input type="checkbox"/>	Edit
Packing9	KST1	Kitting	<input type="checkbox"/>	Edit
INVENTRAX20	PNWS1	PanStock	<input type="checkbox"/>	Edit
			Delete	

1.1.4. New Workstation

[Link: Menu >> Manufacturing >> Workstation >> New Workstation](#)

This feature allows the user to request a new workstation. The mandatory fields marked in red asterisk are mandatory.



WORKSTATION DETAILS

Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard

[New Workstation](#) ▶ [Workstation List](#) ▶

Workstation Name : WireMarking Workstation2

Code : WMWS2

Active : ☒

Resource Type : Human

Working Period (Hours/Week) : 42

Work Station Type : Wire Marking

Users

- Admin
- Subbu
- Naresh
- Prasad
- Swamy
- Sai Ram
- Ashok Shirur
- Lohith V.Patil
- Karthikeyan .S
- Latha
- Padmaja .RC
- Arif Basha.A
- Satish .R
- Shiva Shankar .M
- Manascha.M

Description :

Cancel Update

Business Rules:

- Multiple workstations can be mapped to a workstation type
- Multiple users can have access to a workstation
- Workstation name must be unique
- Composition of Workstation name and WS type must be 'Unique'
- Unable to update the is active status as production process is started

1.2. Bill of Material (BOM)



To create a BOM, components should be configured in Item Master and performed GoodsIN

1.2.1. Bill of Material List (BOM List)

[Link: Menu >> Manufacturing >> Bill of Material >> Bill of Material List](#)

System displays bill of material list with BOM Ref.#, BOM Type, UoM/Qty and Product Name. BOM List provides Search, Edit and Export to Excel functions based on the user role.

Functionality

- The BOM details can be searched with BOM Ref.#.
- The 'Edit' function allows to modify the bill of material details with BOM Ref.# and Rev.# fields as disabled
- The 'Export to Excel' function allows to download a file that contains bill of material details

BILL OF MATERIAL LIST				
<div> Work Station Routing Bill of Material Job Order Internal Order Dashboard Production Returns </div>				
<div> <div>BOM Ref. No. ...</div> <div>Search</div> </div>				
Total Items [10]				
BOM Ref.#	BOM Type	UoM/Qty	Product Name	
RT74A9202165101-2.0/3T [3]	Standard BoM	EA/2.00	Test Wire Bundle Assembly	Edit
RT74A940135-5101-1.0/2.5 [29]	Standard BoM	EA/1.00	ROSSELL WIRE BUNDLE-CIRCUIT CONFIG - GUN SAFETY SW	Edit
RT74A9202165102-3.2/3.5 [4]	Standard BoM	EA/2.00	Wire Bundle Assembly.	Edit
RT74A920216510-1.0/1 [7]	Standard BoM	EA/2.00	mouse	Edit
RT74A9202165102-3.2/3 [15]	Standard BoM	EA/2.00	Wire Bundle Assembly.	Edit
RT74A9202165101-2.0/2.1 [16]	Standard BoM	EA/2.00	Test Wire Bundle Assembly	Edit
RT74A920216510-1.0/Test Rev [1]	Standard BoM	EA/2.00	Test Wire Bundle	Edit
RT74A920216510-1.5/3 [9]	Standard BoM	EA/2.00	Wire Bundle Assembly	Edit
RT74A920216510-1.5/2 [17]	Standard BoM	EA/2.00	Wire Bundle Assembly	Edit
74A920216-5101-1.0/1.0 [50]	Standard BoM	EA/1.00	WIRE BUNDLE ASSEMBLY	Edit

1.2.2. New Bill of Material

[Link: Menu >> Manufacturing >> Bill of Material >> New Bill of Material](#)

This feature allows the user to request a new BOM with finished good-FG as BOM Ref. BOM detailed data is further segregated into BOM Line Items with BOM Ref. as a parent item.

BILL OF MATERIAL						
<div> Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard </div>						
<p>Note: * Indicates mandatory fields</p> <div>BOM List New BOM</div>						
BOM Header Details						
BOM Ref. # :	Revision Number :	UoM/Qty:	Bill of Material Type:			
RT74A920216-5101 - 1.0	2.0	EA/1.00	Standard BoM			
Product Name:		Remarks:				
ROSSELL WIRE BUNDLE- CABLE ASSEMBLY, CREW STATION		clone to mdify the components				
Effective Date: 01/08/2014		<input checked="" type="checkbox"/> IsActive <input type="checkbox"/> IsDeleted				
Clone BOM		<div> <div>Clear</div> <div>Update</div> </div>				

BOM Version Cloning:

BILL OF MATERIAL

Note: * Indicates mandatory fields

BOM List ▶ New BOM ▶

BOM Header Details

BOM Ref. #: RT74A920216-5101 - 1.0 Revision Number: 2.0 UoM/Qty: EA/1.00 Bill of Material Type: Standard BoM

Product Name: ROSSELL WIRE BUNDLE- CABLE ASSEMBLY, CREW STATION Remarks: clone to mdfy the components

Effective Date: 01/08/2014

[Clone BOM ▶](#)

Revision History

Revision: 2.5 Effective Date: 04/08/2014 Remarks: BOM version cloning to 2.5


[Create New Revision ▶](#)

☒ IsActive ☐ IsDeleted

[Clear](#) [Update](#)

The Structured BOM as follows

BOM Line Items

Total Items [23] 

RT74A920216-5101 - 1.0 [74A920216-5101] | EA/1.00 | 1.000 | FG

RT74A920216-5101W - 1.0 [74A920216-5101] | EA/1.00 | 1.000 | SA

RT203000600002 - [M22759/81-24-9] | FT/1.00 | 1.000 | RM

RT203000600009 - [M22759/92-22-5] | FT/1.00 | 3.000 | RM

RT203000600014 - [M27500B22WR2G24] | FT/1.00 | 5.000 | RM

RT74A920216-5101S - 1.0 [74A920216-5101] | EA/1.00 | 1.000 | SA

RT303001200022 - [MMS809-9-DL3/32] | EA/1.00 | 2.000 | RM

RT303001200008 - [MMS809-1-DL3/32] | EA/1.00 | 1.000 | RM

RT303001200004 - [MMS809-2-DL3/32] | EA/1.00 | 6.000 | RM

RT303001200006 - [MMS809-8-DL3/32] | EA/1.00 | 2.000 | RM

RT227000100004 - [TTVF-125-YW-100] | FT/1.00 | 2.500 | RM

RT308000200003 - [50997] | FT/1.00 | 2.000 | RM

Item Details:

MType: RM

Part Number: RT303001200022 Parent Part #: RT74A920216-5101S - 1.0


UoM: EA Quantity: 2.000

☐ Delete


[Cancel](#) [Update](#)

Materials with material type as sub-assemblies will be mapped as child items to the parent (FG)

BOM Line Items

Total Items [4] 

- RT74A9202163F - 1.0 [RT74A9202163F] | EA | 1.00 | FG
- RT74A9202165102W - 1.0 [74A920210-5101] | EA | 1.00 | SA
 - RT205001000027 [0.01] | EA | 2.00 | RM
 - RT205001000028 [0.1] | EA | 4.00 | RM



Item Details:

MType :

Part # :

UoM :

Parent Part # :

Quantity :

☐ Delete

Materials with material type as raw materials can be mapped as child items to the parent (FG/SA)

System displays the materials in the tree structure with OEM part no. , UoM, qty. and material type

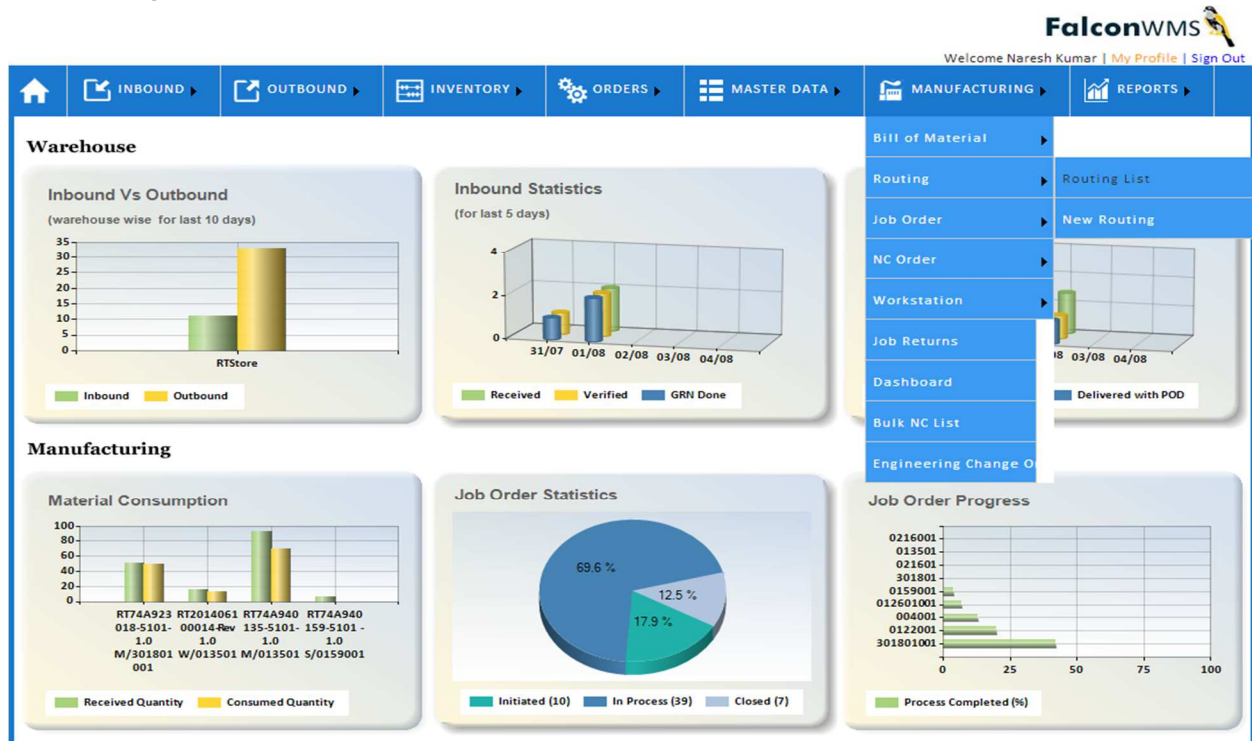
The mandatory fields marked in red asterisk must be entered.

The 'Export to Excel' function allows to download a file that contains item details

Business Rules:

- Finished good, Sub-Assemblies should be configured in the item master
- BOM Ref. list contains only the materials with material type as FG
- Composition of BOM ref. and revision must be unique
- Item details cannot be deleted, if BOM is configured in routing
- 'Part#' must be unique in item details section
- Revision should be greater than previous revision, effective date should be greater than system date
- On cloning, if finished material does not contain next higher revision, will alert the user saying, 'create new revision for the finished material' and then can clone the BOM
- If effective date of BOM revision is less than the finished material revision effective date, then after cloning the BOM, BOM ref. will not get changed
- On cloning the BOM, BOM ref. gets changed along with finished material revision

1.3. Routing



1.3.1. Routing List

[Link: Menu >> Manufacturing >> Routing >> Routing List](#)

System displays routing list with Routing Ref.#, Routing Type, BOM Ref.#, JAP Reference and Supplier Name. Routing List provides Search, Edit and Export to Excel functions based on the user role.

Functionality

- The routing can be searched with Routing Ref.#.
- The 'Edit' function allows to modify the routing details with Routing Ref.#, Rev.#, Routing Document Type, BOM Ref.# and Finished Material fields as disabled
- The 'Export to Excel' function allows to download a file that contains routing details

ROUTING LIST				
<div> Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard </div>				
<div> Route Type - All Routing Ref. No... Search </div>				
Total Items [76]				
Routing Ref. #	Routing Type	BOM Ref. #	Supplier Name	
RT74A920216-5101-2.0/2.4[10]	Main Assembly	RT74A920216-5101-2.0/2.1	Rossell Techsys	Edit ▶
IN74A940040-5101-1.0/1.0[1]	Main Assembly	IN74A940040-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A940040-5101-1.0/1.0[1]	Wire Marking	IN74A940040-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A940040-5101-1.0/1.0[1]	Sleeve Printing	IN74A940040-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A940126-5101-1.0/1.0[7]	Main Assembly	IN74A940126-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A940126-5101-1.0/1.0[1]	Wire Marking	IN74A940126-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A940126-5101-1.0/1.0[3]	Sleeve Printing	IN74A940126-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A923018-5101-1.0/1.0[7]	Main Assembly	IN74A923018-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A923018-5101-1.0/1.0[1]	Wire Marking	IN74A923018-5101-1.0/1.0	Rossell Techsys	Edit ▶
IN74A923018-5101-1.0/1.0[3]	Sleeve Printing	IN74A923018-5101-1.0/1.0	Rossell Techsys	Edit ▶
RT74A920206-5101-1.0/H1[3]	Sleeve Printing	RT74A920206-5101-1.0/1.2	Rossell Techsys	Edit ▶
RT74A920206-5101-1.0/G1[3]	Sleeve Printing	RT74A920206-5101-1.0/1.2	Rossell Techsys	Edit ▶

1.3.2. New Routing

[Link: Menu >> Manufacturing >> Routing >> New Routing](#)

This feature allows the user to request a new routing with Routing Ref. as BOM Ref. Routing detailed data is further segregated into groups such as Inspection Check List Details, Document Ref. Details and Operation Sequences/Activities.

The mandatory fields marked in red asterisk must be entered.

Functionality

On creation of New Routing following sections will be visible to update the required data

- Inspection Check List Details: Allows to update inspection check list details for the routing

INBOUND
OUTBOUND
INVENTORY
ORDERS
MASTER DATA
MANUFACTURING
REPORTS

Note: * Indicates mandatory fields

[Routing List](#) | [New Routing](#)

Routing Header

Routing Ref. #: RT74A934324-5101-1.1	Rev. #: 1.2	Routing Name: Wire bundle	Company: Rossell Techsys
Routing Document Type: Main Assembly	BOM Ref. #: RT74A934324-5101-1.1/1	Finished Material: RT74A934324-5101/1.1	JAP Reference #: \\tyrant\share_inventrax\swamy\JC_Consolidated.pdf
JRP Release Date: 04/09/2014	IC Rev.: 1.0	IC Release Date: 04/09/2014	
ECN No.: 8172	ECN Date: 04/09/2014	Effectivity: 0.1	JAP Link:
JAP Ref.:	JAP Rev.:	BTP Ref.:	BTP Rev.:
CAG Drawing Ref.:	CAG Drawing Rev.:		
JRP Prepared By:	JRP Reviewed By:	JRP Approved By:	
IC Prepared By: Karthikeyan .S	IC Reviewed By: Admin	IC Approved By: Admin	
Remarks: tst clone			
			Effective Date: 05/09/2014

TER Check Points [0]

[Clone Revision](#)

Revision History

* Revision:

* Effective Date:

* Remarks:

[Create New Revision](#)

☒ IsActive ☐ IsDeleted

Main Assembly

- ii. **TER Check Points** : Allows to configure the Test Execution Record (TER) check pints with WireID, CoreID etc. as shown below

TER Check Points [7] ▶

Check Point Details

Add Check Point ▶

Wire ID	Core ID	Circle No.	Designator	Pin No.	Designator	Pin No.	Parameter Type	Min Value	Max Value	Delete	
C412F	1	D41	52P-G022	26	84P-G035B	30				<input type="checkbox"/>	Edit ▶
L51C	1	D34	52P-G022	10	7P-G026	A				<input type="checkbox"/>	Edit ▶
-	-	B10	34P-G003	-	34P-G004	C				<input type="checkbox"/>	Edit ▶
-	-	A10	7P-G026	B5	7P-G026	D				<input type="checkbox"/>	Edit ▶
C414A	1	E22	52P-G022	C	52P-G022	15				<input type="checkbox"/>	Edit ▶
C417C	-	-	84P-G035B	F72	84P-G035B	27				<input type="checkbox"/>	Edit ▶
10	10	G69	6P-G026	G10	6P-G026	G30	Decimal	10.00	67.00	<input type="checkbox"/>	Edit ▶
										Delete ▶	

- iii. **View Routing/BOM Deficiency** will displays the raw material(s) configured in BOM with activity mapped qty.

Clone Revision ▶ View Routing/BOM Deficiency ▶

ALL BOM COMPONENTS RELATED TO THIS ROUTING ARE NOT CONFIGURED

Routing/BOM Deficiency List

Part #	BOM Qty.	Activity Mapped Qty.	Qty. to Map
RT004001300006	2.000	1.00	1.00
RT207000500010	3.000		3.00

- iv. **Document Ref. Details:** Allows to add document details for the routing

Document Ref. Details

Add Doc. Ref. ▶

Document Label	Document Name	File Location	Delete	
CGM	CGM Drawing Reference		<input type="checkbox"/>	Edit ▶
BTP	BTP Drawing Reference		<input type="checkbox"/>	Edit ▶
			Delete ▶	

- v. **Operation Sequences/Activities:** Allows to add operations and activities for the routing

Operation Sequences / Activities									
Expand ▸ Collapse ▸					Add Operation Seq. ▸				
Op.Seq./ Actv.No.	Routing /Activity					D.O.	Delete		
5	Check for the Tools availability as per JAP						Add Activity[1] ▸		
5	Check for the Tools availability as per JAP	FB	SI, QCI	IC	Pre Test		Check Points [0]	Components[0]	Edit ▸
10	Indirect /Sleeve Printing - Print Center operation 10						Add Activity[1] ▸		
10	Indirect /Sleeve Printing - Print Center operation 10	SM	SI, QCI	IC			Check Points [5]	Components[3]	Edit ▸
10A	Production Kitting-10A						Add Activity[1] ▸		
10A	Production Kitting-10A	FB	SI, QCI		After Potting		Components[0]		
20	Assembly of 61J-F018 -"AA" operation 20						Add Activity[2] ▸		
20	Cable Preparation A40	FB	SI, QCI	IC			Check Points [2]	Components[3]	Edit ▸
30	Connector and Contact Preparation (61J-F018)- 5M2496-003	FB	SI, QCI	IC			Check Points [2]	Components[3]	Edit ▸
30	Assembly of 61P-R299 - "DA" operation -30						Add Activity[1] ▸		
40	Connector and Contact Preparation (61P-R299)- ST5M1425A01R	FB	SI, QCI	IC			Check Points [2]	Components[3]	Edit ▸
50	Locate & Install Band markers- INSTALL ID'S -50						Add Activity[1] ▸		
60	Locate marker ID's	FB	SI, QCI	IC			Check Points [4]	Components[3]	Edit ▸
40	Nomex Braiding - Nomex Braid Operation-40						Add Activity[1] ▸		
50	Nomex Braid	FB	SI, QCI	IC			Check Points [2]	Components[4]	Edit ▸
60	Electrical Tests - Final Test-60						Add Activity[2] ▸		
70	Continuity Checks	FB	SI, QCI	IC			Check Points [0]	Components[3]	Edit ▸
80	Hipot test	FB	SI, QCI	IC			Check Points [0]	Components[3]	Edit ▸

- a. **Add Operation Seq.:** Allows to add operation seq. to the routing

Operation Sequences /Activities				
Op.Seq./ Actv.No.	Routing /Activity	D.O.	Delete	
50	Sleeve Marking		<div> <div>Add Operation Seq. ▸</div> <div>Update Cancel</div> </div>	

- b. **Add Activity :** Allows to add activity details to each operation seq. by selecting the work station type ,Operators related to the activity
- c. Pre-configured TER checkpoints will be mapped at activity level by defining the TER Capture type

The mandatory fields marked in red asterisk must be entered to create a new activity.

Add Activity[3]

d. **Add Check Points:** Allows to add check points to the activity

Check Points [5] ▶

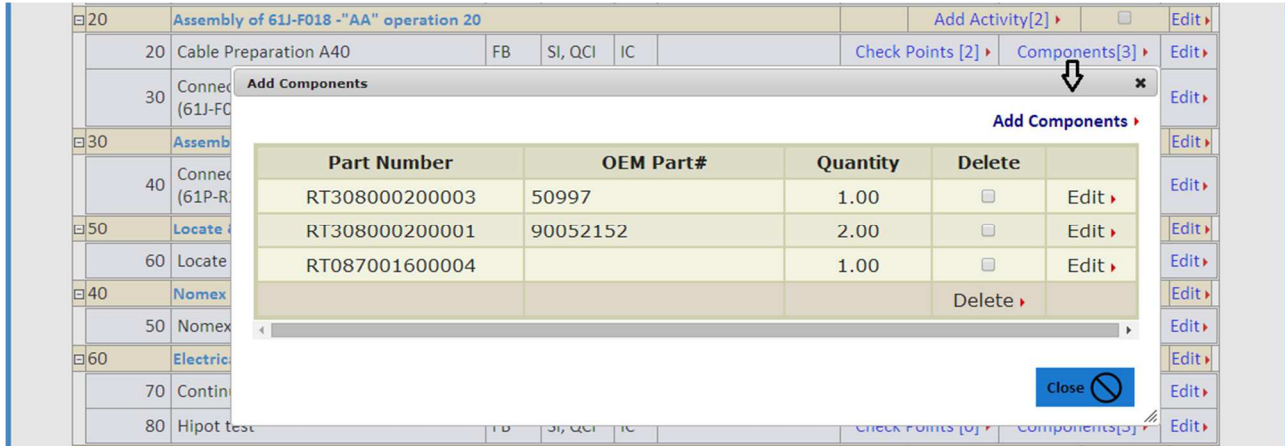
Checkpoint Format :- [Print Data] | Part Number | Reference | Dimension (Inches) | Quantity (Nos.)

Check Point	Display Order	V	M	R	Parameter Type	Min Value	Max Value	JAP Ref. Text	Delete	
Make sure required material is used as per part list	1	✓							<input type="checkbox"/>	Edit
Check for material damage	2	✓							<input type="checkbox"/>	Edit
Check for legibility, ensure printing is not smeared , weak or blurred	3	✓	✓						<input type="checkbox"/>	Edit
Check for dimension and measured the result in SPIR	4	✓		✓	Decimal	20.00	68.00		<input type="checkbox"/>	Edit
Check for COO (COUNTRY OF ORIGIN) marking on sleeve MADE IN INDIA COO Tag-Width 0.75IN	5	✓							<input type="checkbox"/>	Edit
									Delete	

Delete 

Close

- e. **Add Components** : Allows to add components to each activity which are configured in BOM



Part Number	OEM Part#	Quantity	Delete	Edit
RT308000200003	50997	1.00	<input type="checkbox"/>	Edit
RT308000200001	90052152	2.00	<input type="checkbox"/>	Edit
RT087001600004		1.00	<input type="checkbox"/>	Edit

- The 'Edit' function in operation seq./Activity allows to modify the details
- Only the authorized users can delete the Activity/Component details

Business Rules:

Routing Header

- Routing Ref. list contains only the materials with material type as 'FG'
- Composition of Routing Ref. and revision must be 'Unique'
- Finished material list contains materials based on 'Routing Document Type'
- BOM Ref.# list contains materials related to Routing Ref. with different revisions
- Unable to update the active / delete status, once production process is started
- Unable to edit/delete the TER check points, once production process is started

Revision

- On creating a new revision, previous revision components, checkpoints should be mapped to the new revision
- On creating the new revision for a new BOM revision, routing ref, BOM ref., finished material revision should get changed
- The component which got changed should be added to the activity in which it was configured

Operation Sequences/Activities

Activity

- Composition of operation seq. and activity no. must be 'Unique'

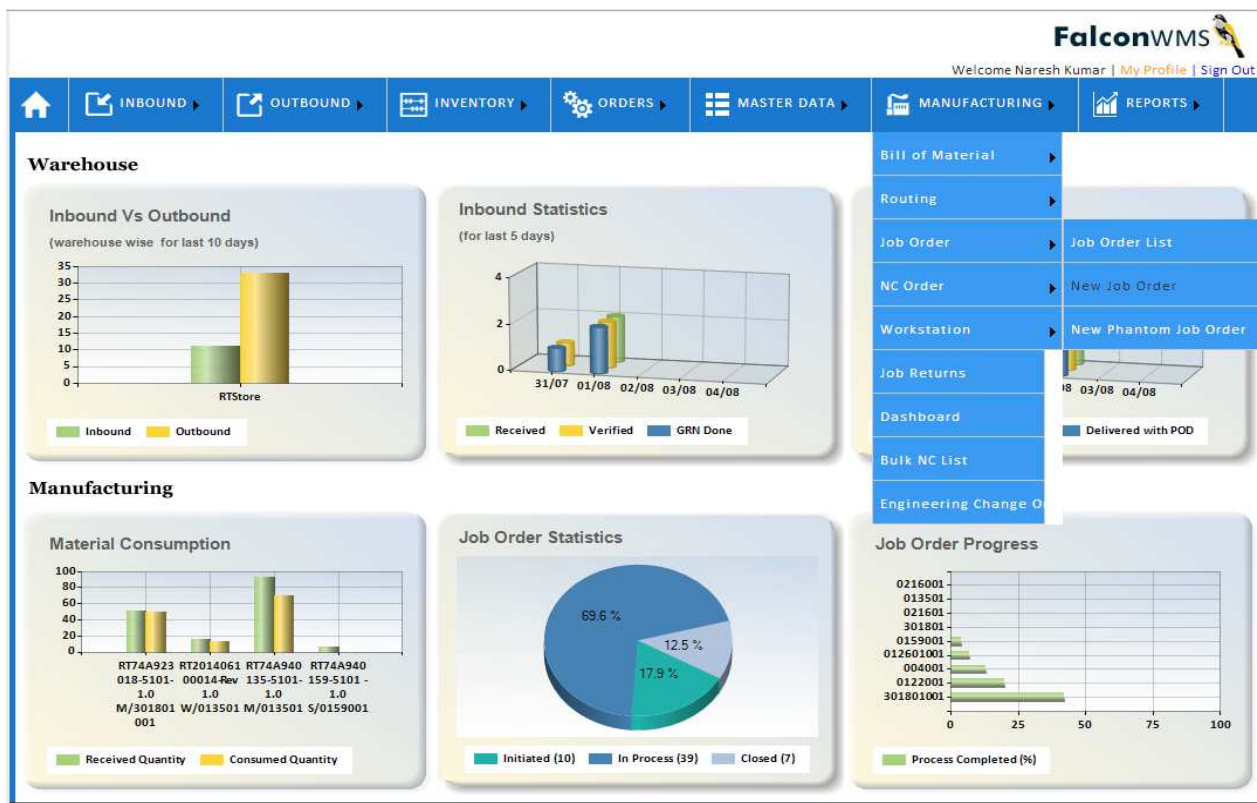
QC Parameters

- Parameter type, min. value, max.value fields exists only for recorded type QC parameter

Components

- Materials can be configured for any activity/operations, sum of quantities of components from different activities must be equal to the quantity of raw materials configured in BOM
- Unable to delete, once production process is started

1.4. Job Order































1.4.1. Job Order List

[Link: Menu >> Manufacturing >> Job Order >> Job Order List](#)

System displays job order list with Job Order Ref.#, Kit Code, WO Ref.#, Routing Ref.#, UoM, Qty and Status. Job Order List provides Search, Edit and Export to Excel functions based on the user role.

Functionality

- System filters the job order by selecting the job order status
- The job order can be searched with 'Job Order Ref. No.'
- The 'Edit' function in Job Order List allows to modify the job order details
- The 'Export to Excel' function allows to download a file that contains job order details
- /* NC request raised during production process, will be displayed in the job order list and system directs to NC order page on selecting 'New NC Order' */

JOB ORDER LIST									
<div>  Bill of Material  Routing  Job Order  NC Order  Workstation  Job Returns  Dashboard </div>									
Status: <input type="text" value="All"/> Job Order Ref. No... <input type="text" value="Search"/> 									
<div>  Indicates Job order has insufficient materials to release </div>									
JO Ref.#	Routing Type	Kit Code	WO Ref.#	Routing Ref.#	Qty.	Order Date	Start Date	Status	
 RT74A923018-5101-D	Main Assembly	301801001	WO1400001	RT74A923018-5101-1.0/1.0 M	1.00	20/08/14	20/08/14		Edit
 RT74A920216-5101-D	Main Assembly	021601	WO1400021	RT74A920216-5101-1.0/1.9 M	1.00	19/08/14	19/08/14		Edit
 RT74A923213-5101-A	Wire Marking	321301	WO1400040	RT74A923213-5101-1.0/1.0 W	1.00	19/08/14	19/08/14		Edit
 RT74A940159-5101 -C	Sleeve Printing	01590012	WO1400039	RT74A940159-5101 -1.0/1.0 S	1.00	19/08/14	19/08/14		Edit
RT88A920-1003P-B	Sets/Phantoms	PH1400023		RT88A920-1003P-1.2/1.5 S	1.00	02/08/14	02/08/14		Edit
 RT74A920216-5101-C	Main Assembly	021601	WO1400021	RT74A920216-5101-1.0/2.3 M	1.00	01/08/14	01/08/14		Edit
 IN74A940040-5101-C	Main Assembly	040001	WO1400032	IN74A940040-5101-1.0/1.0 M	1.00	25/07/14	25/07/14		Edit
 IN74A940040-5101-B	Wire Marking	040001	WO1400032	IN74A940040-5101-1.0/1.0 W	1.00	25/07/14	25/07/14		Edit
 IN74A940040-5101-A	Sleeve Printing	040001	WO1400032	IN74A940040-5101-1.0/1.0 S	1.00	25/07/14	25/07/14		Edit
 IN74A940126-5101-C	Main Assembly	0126001	WO1400030	IN74A940126-5101-1.0/1.0 M	1.00	25/07/14	25/07/14		Edit

1.4.2. New Job Oder

[Link: Menu >> Manufacturing >> Job Order >> New Job Order](#)

This feature allows the user to request a new job order with job order ref. as BOM ref.

Work order with finished good as a line item should be created. The mandatory fields marked in red asterisk must be entered.

On creation of job order, status will be 'Initiated'.

JOB ORDER
Bill of Material
Routing
Job Order
NC Order
Workstation
Job Returns
Dashboard

Note: * Indicates mandatory fields
[Workstation Configuration](#)

Main Assembly Job Order Header

* Finished Good Ref.:#:
IN74A940040-5101-1.0

* Job Type:
Production

* Job Order Date:
25/07/2014

* Work Order Ref. # :
WO1400032

* UoM :
EA

CoC Number:
1829

Shop Acceptance By:

Additional Observations:

Remarks:

* Job Order Ref.:#:

* Kit Code:
040001

* Start Date:
25/07/2014

* Routing Version Ref. #:
IN74A940040-5101-1.0/1.0 M

Quantity:
1.00

CoC Date:

Supervisor Acceptance By:

IN PROCESS

* Due Date:
15/08/2014

* Manufacturing Date:
25/07/2014

Contract No.:

QA Acceptance By:

☒ IsActive
☐ IsDeleted

Release Job

Clear

Update

Functionality

View Material Deficiency

Material Deficiency list displays the raw materials required qty. (product of job order qty. and raw materials qty. configured in BOM), available qty. and deficiency (qty. will be displayed in B.UoM point of view)

THIS JOB ORDER HAS INSUFFICIENT MATERIALS TO RELEASE

View Material Deficiency ▶

Release JO ✓

Clear ✗

Update ✓

Material Deficiency List

MCode	Required Qty.	Available Qty.	Deficiency
RT207003100006	29.00	19.50	9.50

Workstation Configuration: Allows to assign work stations for the routing configured in job order

JOB ORDER

Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard

Note: * Indicates mandatory fields

Workstation Configuration ▶

Main Assembly Workstation Configuration

Job Ref. No.:
Quantity: 1.00
Routing Ref. No.: IN74A940040-5101-1.0/1.0

Workstation Type	Workstation	Status
Braiding Machine	Select Workstation	Not Assigned
Fabrication	INVENTRAX22	Assigned
Kitting	Select Workstation	Not Assigned
PanStock	Select Workstation	Not Assigned
Potting Machine	Select Workstation	Not Assigned
Sleeve Marking	Select Workstation	Not Assigned
Wire Marking	Select Workstation	Not Assigned

Close ✗ Assign Workstation ✓

IsActive IsDeleted

Job order will be released to start the production process.

On releasing job order, outbound with a delivery pick note will be generated to pick the raw materials configured in routing and status of job order will be 'In Process'

Business Rules:

- Job Order Ref. list contains only the materials with material type as 'FG'
- Composition of Job Order Ref. and Routing Version Ref. must be 'Unique'
- Routing Version Ref. list contains the routing ref. with routing types related to job order ref.
- Kit Code will be same for all routing ref. types configured in job order, and varies when work order for the same finished good changes
- Job order quantity should not exceed work order quantity
- On assigning the work stations, 'Release JO' button will be visible
- On releasing the job order, mandatory fields, IsActive/deleted checkbox gets disabled
- Job order can be released if there exists atleast one material without deficiency
- After releasing the job order, 'assign work station' button in job order report page gets disabled
- User clicks 'Change New Routing Version', system displays pop-up message whether to change the revision, and if any revision exists for the current job, job revision gets changed
- If no revision exists for the current job, then system displays error message saying, 'no revision exists'
- On cloning the job revision, new materials/modified material configured in BOM will be displayed in the material pending list

1.4.3. New Phantom Job Order

[Link: Menu >> Manufacturing >> Job Order >> New Phantom Job Order](#)

This feature allows the user to request a new phantom job order with job order ref. as Routing ref. and auto-generated kit code (PH*****). The mandatory fields marked in red asterisk must be entered.

On creation of phantom job order, status will be 'Initiated'.

PHANTOM JOB ORDER

Bill of Material Routing Job Order NC Order Workstation Job Returns Dashboard

Note: * Indicates mandatory fields

Phantom Job Order Header

Job Order Ref.# : RT74A92000-5001P-1.4 Kit Code: PH1400019 **INITIATED**

Job Order Date: 01/07/2014 Start Date: 01/07/2014 Due Date: 22/07/2014

Manufacturing Date: 01/07/2014 Routing Version Ref. #: RT74A92000-5001P-1.4/1.5 UoM : EA

Quantity: 1.00

Remarks:

☒ IsActive ☐ IsDeleted

Clear Update

System displays various combinations of materials with different batch numbers and possible quantity

Phantom Material Possibility Matrix [240]

Part Number	RT20010001	RT20010002	RT20010003	RT20010004	Possible Phantom Qty.	Require Qty.
[BoM Ratio]	[4.000]	[5.000]	[4.000]	[5.000]		
Batch No	9230	8001	7001	6001	1	<input checked="" type="checkbox"/> 1
[Total Qty]	[4.80]	[7.00]	[16.80]	[5.00]		
Batch No	9231	8001	7001	6001	1	<input type="checkbox"/>
[Total Qty]	[18.20]	[7.00]	[16.80]	[5.00]		
Batch No	9232	8001	7001	6001	1	<input type="checkbox"/>
[Total Qty]	[6.00]	[7.00]	[16.80]	[5.00]		
Batch No	No BatchNo	8001	7001	6001	1	<input type="checkbox"/>
[Total Qty]	[10.00]	[7.00]	[16.80]	[5.00]		
Batch No	9230	8001	7002	6001	1	<input type="checkbox"/>
[Total Qty]	[4.80]	[7.00]	[24.00]	[5.00]		
Batch No	9231	8001	7002	6001	1	<input type="checkbox"/>
[Total Qty]	[18.20]	[7.00]	[24.00]	[5.00]		

Selected combination with given required quantity will create an Outbound (PR*****) and delivery pick note for the selected combination directs to 'Goods-Out' page with available quantity to pick the item

1.4.4. Create Phantom

[Link: Menu >> Inventory >> Create Phantom](#)

System displays the phantom kit item details with Batch No., and Quantity.



PHANTOM JOB ORDER FOR INBOUND

Goods Receipt (IN) Active Stock Inter Store Transfer Customer Returns Supplier Returns

Note: * Indicates mandatory fields

Job Order Details

* Kit Code * Line Number

Get Details  Cancel 

PH1400001
PH1400002
PH1400003
PH1400004
PH1400005
PH1400006
PH1400008
PH1400009
PH1400010
PH1400012

- System creates an inbound with invoice attached to it with invoice qty. as require qty. configured in phantom material possibility matrix



PHANTOM JOB ORDER FOR INBOUND

Goods Receipt (IN) Active Stock Inter Store Transfer Customer Returns Supplier Returns

Note: * Indicates mandatory fields

Job Order Details


Kit Code Line Number

Get Details  Cancel 

Phantom Kit Items

Part Number	Batch No.	Quantity
RT20010001 [OEM0001] EA/2.00	9230	2.00
RT20010002 [OEM0002] BAG/3.00	8001	2.50
RT20010003 [OEM0003] BAG/2.00	7001	2.00
RT20010004 [OEM0004] BAG/2.00	6001	2.50

Finished good Part No: **RT74A92000-5001P** and Quantity: **0.50**

Add Phantom line item 

Business Rules

- Entered quantity should be less than or equal to the possible combination
- PGI done shipments will be available for the selected kit code

1.5. NC Order

1.5.1. NC Order List

[Link: Menu >> Manufacturing >> NC Order >> NC Order List](#)

System displays NC Order List with NC Order Ref.#, Job Order Ref.#, Work Station and Status Information. NC Order List provides Search, Edit and Export to Excel functions based on the user role.

Functionality

- The NC Order can be searched with 'NC Order Ref. No.'
- The 'Edit' function in NC Order List allows to modify the NC Order details
- The 'Export to Excel' function allows to download a file that contains NC Order details

NC ORDER LIST

Bill of Material

Routing

Job Order

NC Order

Workstation

Job Returns

Dashboard

NC Order Ref No...

Search

Indicates NC order has insufficient materials to release

<div>123456789101112131415</div>					
NC Order Ref.#	Job Order Ref.#	Work Station	Reason for request	Status	
NC1400145 [2]	RT74A920216-5101-2.0	INVENTRAX2	Production Delay	Created Outbound	Edit
NC1400144 [2]	RT74A920216-5101-2.0	INVENTRAX2	Production Delay	Created Outbound	Edit
NC1400143 [1]	RT74A920216-5101-2.0	INVENTRAX8	Production Delay	Created Outbound	Edit
NC1400142 [1]	RT74A920216-5101-2.0	INVENTRAX8	Production Delay	Created Outbound	Edit
NC1400141 [1]	RT74A920216-5101-2.0	INVENTRAX8	Material Damage	Created Outbound	Edit
NC1400140 [1]	RT74A920216-5101-2.0	INVENTRAX8	Production Delay	Created Outbound	Edit
NC1400139 [2]	RT74A920216-5101-2.0	INVENTRAX2	Production Delay	Created Outbound	Edit
NC1400138 [1]	RT74A920216-5101-1.0	INVENTRAX8	Production Delay	Created Outbound	Edit
NC1400137 [1]	RT74A920216-5101-1.0	INVENTRAX8	Production Delay	Created Outbound	Edit
NC1400136 [1]	RT74A920216-5101-1.0	INVENTRAX21	Production Failures	Created Outbound	Edit

1.5.2. New NC Order

Link: [Menu >> Manufacturing >> Job Order List >> Job Order Ref.# \(Column\) >> NC Ref.No.>> New NC Order](#)

This feature allows the user to request a new NC. NC Ref. No is auto-generated control.NC detailed data is further segregated into NC Order Material List for its operations convenience.

The mandatory fields marked in red asterisk must be entered.

On creation of NC order, status will be 'initiated'

Functionality

On creation of new NC following section will be visible to update the required data

- i. NC Order Material List: Allows to add NC material(s)

NC ORDER DETAILS

Work Station
Routing
Bill of Material
Job Order
NC Order
Dashboard
Production Returns

Note: * Indicates mandatory fields

NC Order Header Details

* NC. Ref. No.:
NC1400001

* Job Order Ref. No.:
RT74A940135-5101-1.0 S

* Activity:
90b

Remarks:
Production failure

* KitCode:
0135|01|001

* Work Station:
INVENTRAX2

* Reason for request:
Production Failures

**CREATED
OUTBOUND**

* Routing Operation:

* Requested By:
Prasad v G

☒ IsActive
 ☐ IsDeleted

Clear
Update

NC Order Material List

[New Material](#)

Part Number	UoM/Qty	Quantity	Mfg. Date	Exp. Date	Serial No.	Batch No.	Plant	Stock Type	Calb. On Dt.	Calb. Due Dt.	Delete	
RT303001200012	EA/1.00	10.50									<input type="checkbox"/>	Edit
											<input type="checkbox"/>	Delete

Once NC materials are created, 'Release NC' Button will be made visible

On releasing the 'NC order', outbound with delivery pick note will be generated to pick the NC materials and the status of 'NC order' will be 'Created Outbound'

Business Rules:

- Job order ref. list contains the 'In Process' status job orders related to the kit code
- Work station list contains the work stations configured in routing
- Routing operation list contains the operation seq. related to the job order ref.
- Activity list contains the activities related to the routing operation
- On releasing the NC order, mandatory fields, IsActive/deleted checkbox, new material button gets disabled
- Part number list contains materials configured in BOM

1.6. Job Returns

[Link: Menu >> Manufacturing >> Job Returns](#)

The following screen displays the list of line items to the selected KitCode and Job Order Ref.No.

JOB RETURNS

Bill of Material

Routing

Job Order

NC Order

Workstation

Job Returns

Dashboard

KitCode:

012601001

Job Order Ref. No.

RT74A940126-5101-1.0 M

Get Details

Line No.	Part Number	IUoM/Qty.	KitID	Quantity	Returned Qty.	Mfg. Date	Exp. Date	Serial No.	Batch No.	Plant	Stock Type	Calb. Dt.	Calb. Due Dt.	OEM BatchNo	Select	Return Qty.
1	RT207014200004 [D-436-0186]	EA/1.00		4.00	0.00				1203-02						<input type="checkbox"/>	<input type="text" value="4.00"/>
2	RT226001300001 [M8805/100-017]	EA/1.00		1.00	0.00				1088-01						<input type="checkbox"/>	<input type="text" value="1.00"/>
1	RT087001700001	EA/1.00		2.00	0.00				BCH 1						<input type="checkbox"/>	<input type="text" value="2.00"/>
3	RT087001700001	EA/1.00		1.00	0.00	04/06/2014			8021						<input type="checkbox"/>	<input type="text" value="1.00"/>

Return

Line Items are with Line No., Part Number (raw materials and NC materials), IUoM/Qty, Return Qty. User can return the selected line item

The Return Qty. Permitted column of the screen allows to return the quantity of each of the Line Item.

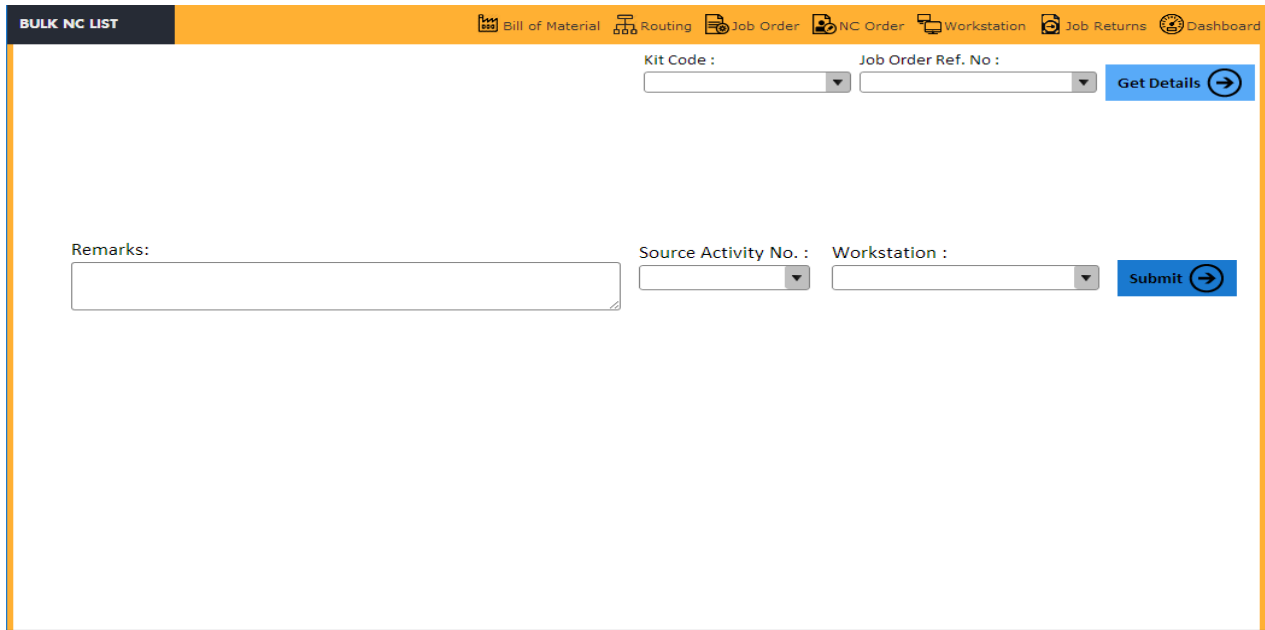
Once the return item is updated, the system displays the following message "Successfully returned the materials with Store Ref. No.: RPRRTS*****."

Business Rules:

- Job orders with status as 'In Process' will be available in the list
- On returning the material, a dummy inbound with a PO and invoice attached to it will be created, RTR will be generated
- Quantity column contains the picked quantities of raw materials
- Returned quantity should be less than or equal to the available quantity

1.7. Bulk NC List

[Link: Menu >> Manufacturing >> Bulk NC List](#)



The screenshot shows the 'BULK NC LIST' form. At the top, there is a navigation bar with icons for Bill of Material, Routing, Job Order, NC Order, Workstation, Job Returns, and Dashboard. Below the navigation bar, the form contains the following fields and buttons:

- Kit Code :** A dropdown menu.
- Job Order Ref. No :** A dropdown menu.
- Get Details** button with a right arrow icon.
- Remarks:** A large text area for entering remarks.
- Source Activity No. :** A dropdown menu.
- Workstation :** A dropdown menu.
- Submit** button with a right arrow icon.

System displays Bulk NC List with Operations, Activities, Components and Qty. configured in routing information by providing KitCode and Job Order Ref.No. to raise an NC Order at activity / components level

Details

- System displays activity details and material details of each activity with their batch no. and consumed quantity
- **Activity Level NC:** User selects one or more activity to scrap and enters remarks, selects source activity no. and work station
- **Material NC:** User selects one or more activity and material configured for activity to scrap and NC Order is released for the selected materials

BULK NC LIST

Bill of Material
Routing
Job Order
NC Order
Workstation
Job Returns
Dashboard

Kit Code :

Job Order Ref. No :

Get Details

10 Wire Harness Identification - Print Center operation - 10

- 90a Print (Wire Bundle Production Part Number Marker) 1 No
 - 90b print (Bundle Serial Number and Date of Bundle Manufacture) 1 No
 - RT303001200005 | (MMS809-3-DL3/32) | Batch No. : 1235-02 | Qty: 1.00
 - RT227000100004 | (TTVF-125-YW-100) | Batch No. : 1202-16 | Qty: 1.00
 - 90c Print (Band Marker) 2 No
 - RT303001200004 | (MMS809-2-DL3/32) | Batch No. : 1236-06 | Qty: 3.00
 - RT303001200022 | (MMS809-9-DL3/32) | Batch No. : 1235-01 | Qty: 1.00
 - 90d print (Country of origin) 1 No
 - RT303001200005 | (MMS809-3-DL3/32) | Batch No. : 1235-02 | Qty: 1.00
 - RT227000100004 | (TTVF-125-YW-100) | Batch No. : 1202-16 | Qty: 1.00

25 Colour code wire Identification - (Print Center operation - 25)

- 100 Print wire ID's on MMS809-9-DL - 3/16 -22 Nos
 - RT303001200006 | (MMS809-8-DL3/32) | Batch No. : 1237-07 | Qty: 1.00
 - RT303001200023 | (MMS809-9-DL3/16) | Batch No. : 1202-19 | Qty: 2.00
- 110 Print wire ID's on MMS809-2-DL - 3/32 - 6 Nos
 - RT303001200006 | (MMS809-8-DL3/32) | Batch No. : 1237-07 | Qty: 1.00
 - RT303001200023 | (MMS809-9-DL3/16) | Batch No. : 1202-19 | Qty: 1.00
- 120 Print wire ID's on MMS809-3-DL - 3/32 - 2 Nos
 - RT507010010001 | (5070-1) | Batch No. : 1720 | Qty: 1.50
 - RT709010010001 | (7090-1) | Batch No. : 3014 | Qty: 1.00
- 130 Print wire ID's on MMS809-8-DL - 3/32 - 2 Nos
 - RT608010010001 | (6080-1) | Batch No. : 2013 | Qty: 0.50
 - RT608010010001 | (6080-1) | Batch No. : 2014 | Qty: 1.00
 - RT709010010001 | (7090-1) | Batch No. : 3015 | Qty: 1.00
- 140 Print wire ID's on MMS809-9-DL - 3/32 - 2 Nos
 - RT507010010001 | (5070-1) | Batch No. : 1720 | Qty: 1.00
 - RT608010010001 | (6080-1) | Batch No. : 2013 | Qty: 0.50
 - RT608010010001 | (6080-1) | Batch No. : 2014 | Qty: 1.00

Remarks :

Source Activity No. :

Workstation :

Submit

Business Rules:

- Scrap quantity should be less than consumed quantity
- Quantity cannot be zero
- Selected activities gets failed along with the source activity selected
- Consumed materials only displayed in the NC list with respective activity

1.8. Engineering Change Order [ECOM]

[Link: Menu >> Manufacturing >> Engineering Change Order](#)

System displays the ECOM page, lists available revisions of FG, BOM and Routing with KitCode for the selected Part Number and Routing type as shown below

ENGINEERING CHANGE ORDER
Bill of Material
Routing
Job Order
NC Order
Workstation
Job Returns
Dashboard

Part Number:
 Main Assembly
 Search

Job Order History for transfer transactions to New Routing Revision

Material Revision	BOM Revision	Routing Revision	Kit code list
2.0 [01/08/2014] ↑ 1.0	2.1 [01/08/2014] ↑ 1.0	2.4 [01/08/2014] ↑ 2.3	0216001 Upgrade (021601)
1.0 [14/07/2014]	1.9 [14/07/2014] ↑ 1.0	2.1 [24/07/2014] ↑ 1.0	

User selects the routing revision and clicks upgrade kitcode (green color), system updates the job order with new routing revision

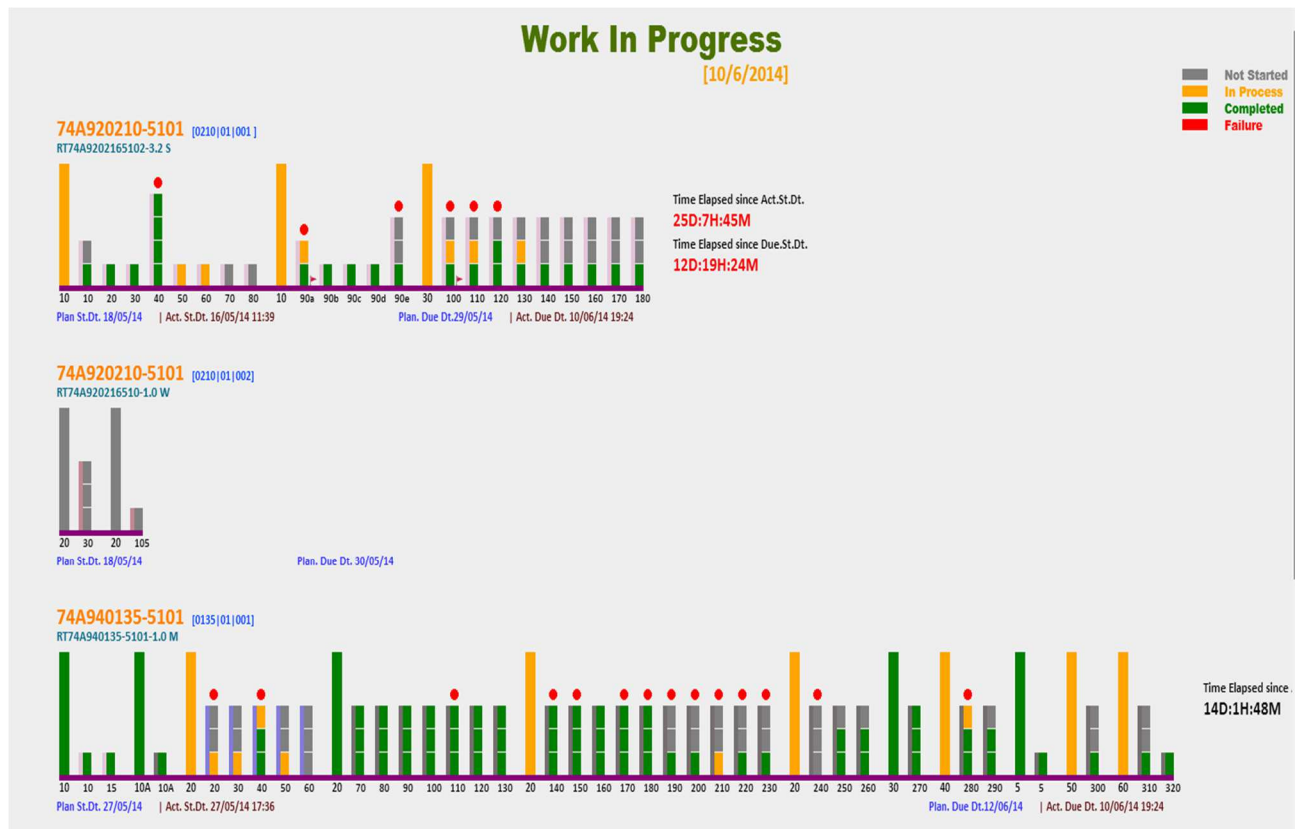
Business Rules

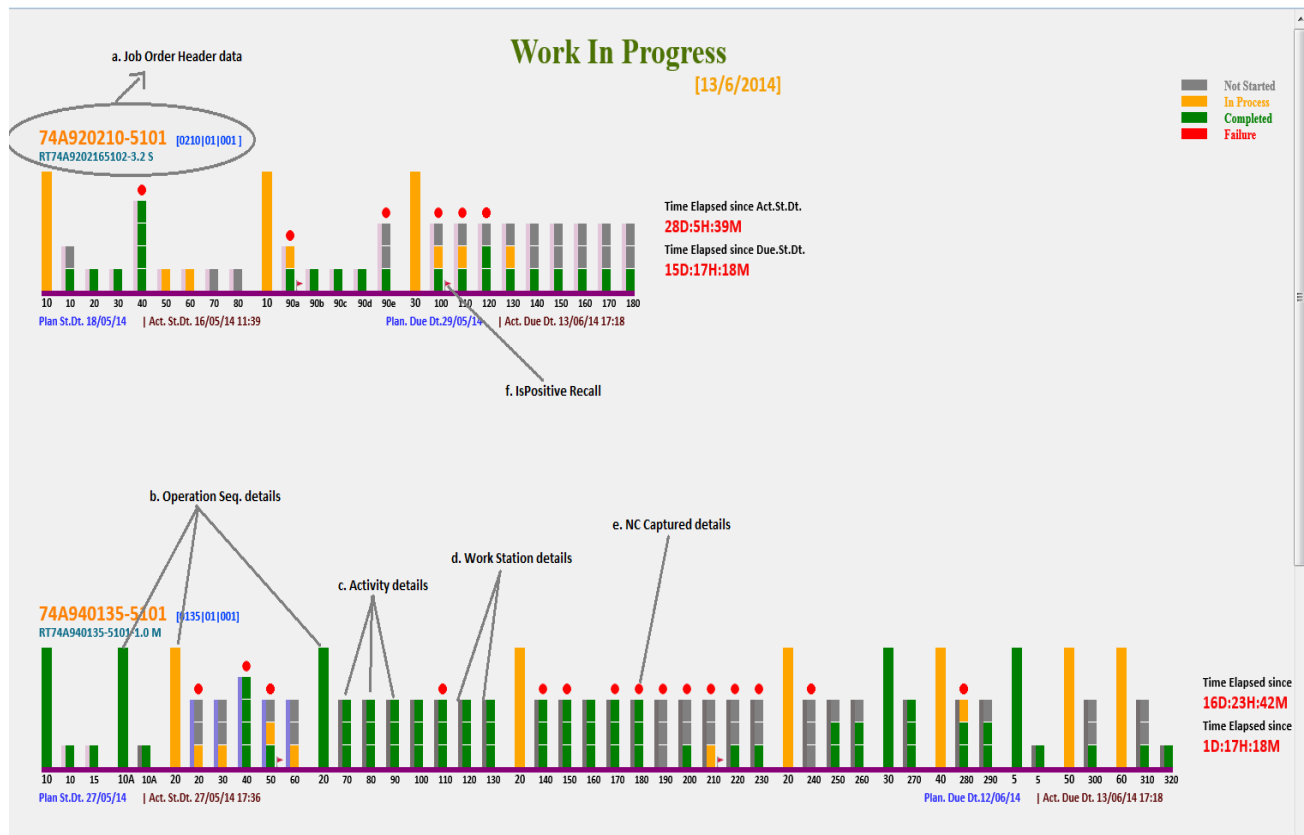
- If more than one revision is available, until the first configured revision is transferred, cannot update the latest revisions
- If effected date of routing is greater than the system date, then kit code will be displayed in grey color and cannot be transferred until the effective date reaches the system date

1.9. Dashboard

[Link: Menu >> Manufacturing >> Dashboard](#)

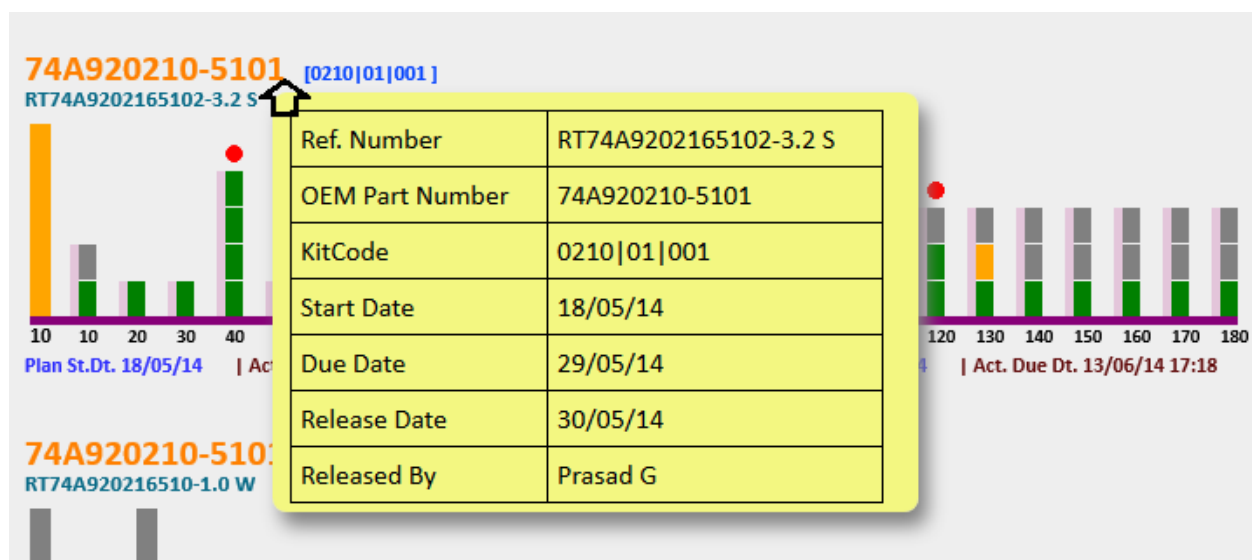
The following screen displays the list of materials in Work In Progress i.e., processed/configured in Job Order and process status of activities





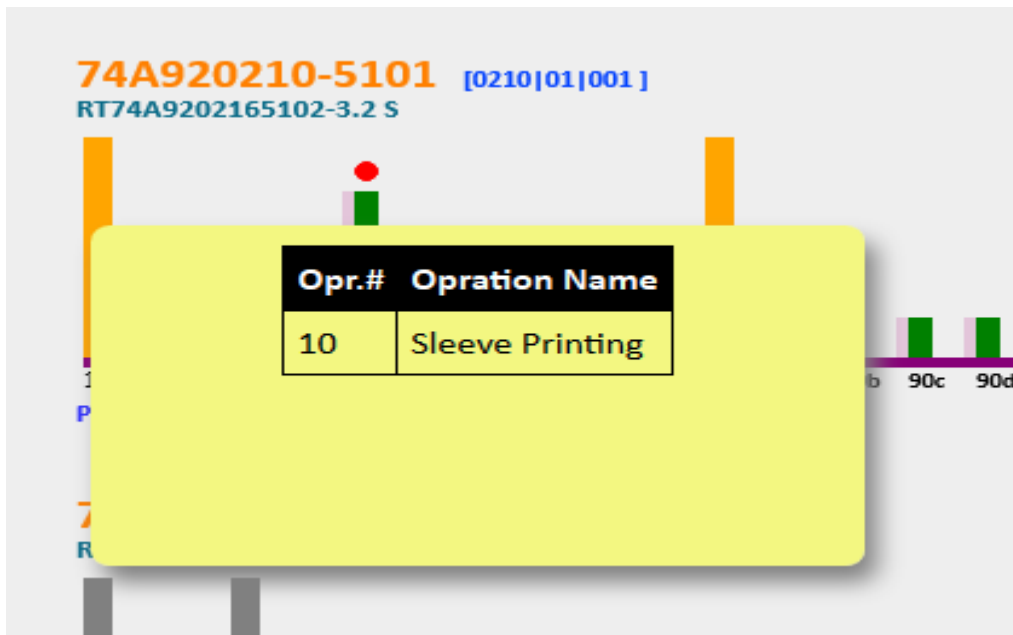
a. Job Order Header data

On mouse over control of Part Number, job order details tooltip will be displayed with KitCode, Start Date, Due Date etc.



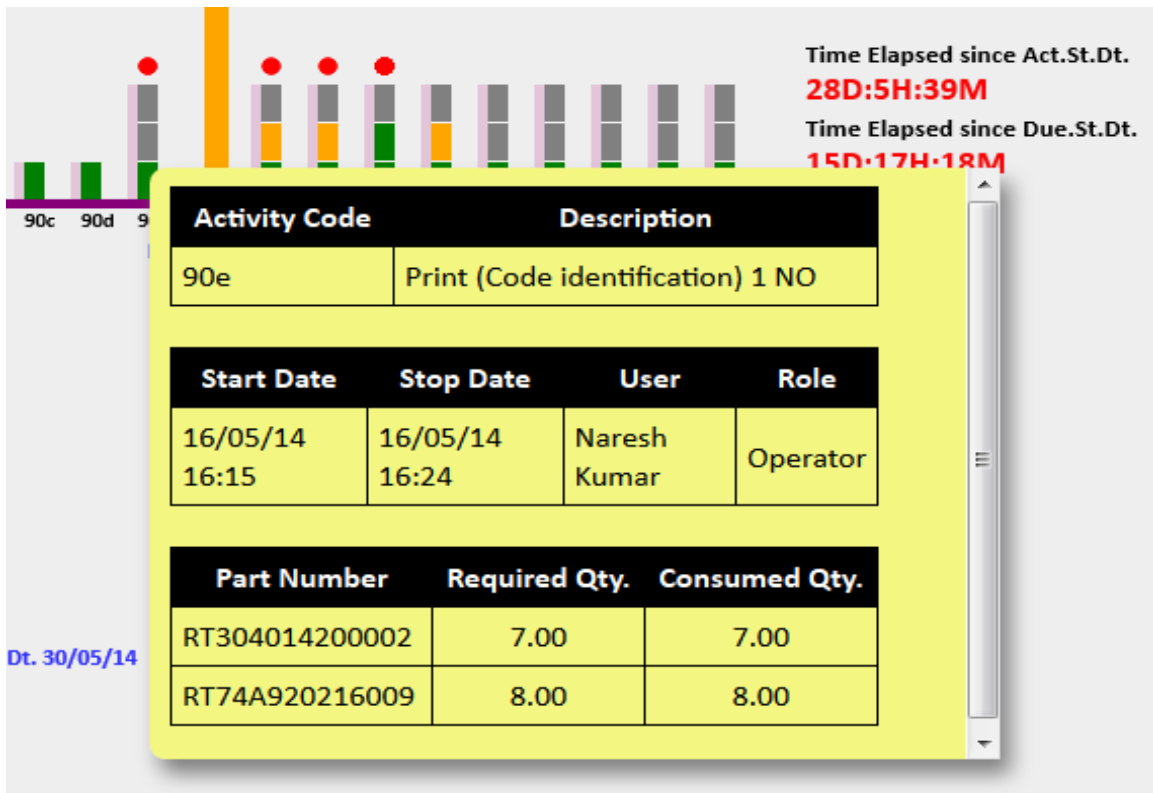
b. Operation Seq. Details

On mouse over control of operation seq. tooltip will be displayed with oprn.# and name



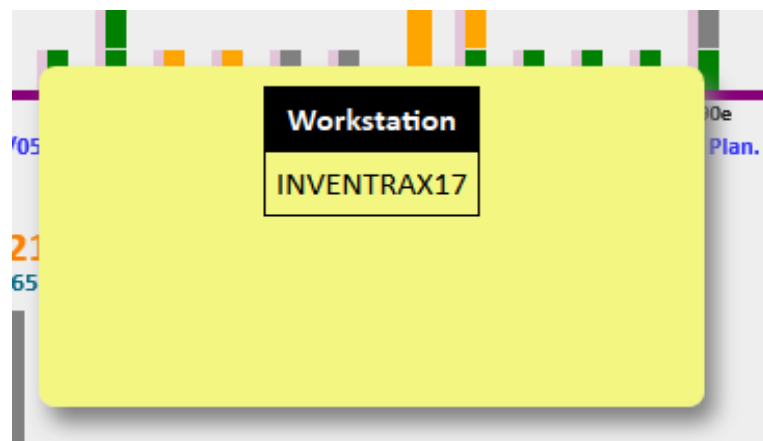
c. Activity Details

On mouse over control of activity, tooltip will be displayed with activity details, operator details and raw material details (req. & cons.qty)



d. Work Station details

On mouse over control of work station, tooltip will be displayed with work station name



e. NC Details

On mouse over control of NC captured details, tooltip will be displayed with NC details (NC Ref.#, Part Number ,Qty.)

NC No.	Remarks	Raised By	Raised On	User Role
4283		Swami P	09/06/14	QC

NC Ref. No.	Part Number	Qty.
NC1400011	RT303001000001	3.00

f. Positive Recall Flag

On mouse over control of flag, tooltip will be displayed with Part Number, Batch No., and status of recall

Part Number	Batch No.	recall ON	recall OFF
RT308000200008	MSFB 15	Prasad G [13/06/14]	Prasad G [13/06/14]
RT207014200001	MSFB	Prasad G [13/06/14]	Prasad G [13/06/14]
RT207014200001	MSFB	Prasad G [13/06/14]	