RAMCO AVIATION SOLUTION

ENHANCEMENT NOTIFICATION

Version 5.8.1

Maintenance

contents

WHAT'S NEW IN SHOP WORK ORDER?

Ability to set up part manufacturing information and facilitate parts manufacture through Make Work Order

Reference: AHBG-3017

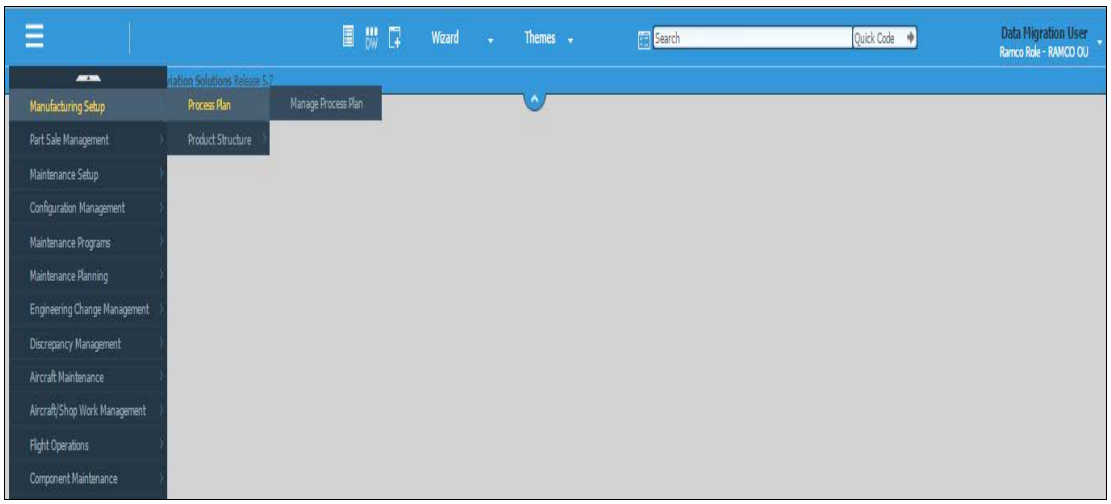
Background

Part manufacturing module is built to address the needs of Manufacturing Planning and Control in aviation manufacturing facilities. The product offers an array of features for estimating, execution of tasks, costing, lot and serial tracking, purchasing/receiving, back flushing, material verification and material requirements planning. Part manufacturing addresses many aspects of the manufacturing process. The part could be manufactured from different sources like manufacturing in-house, sub contract or purchase and stocked in multiple stocking points and warehouses. Part manufacturing helps in efficient planning considering the capacities and stock availability across locations and warehouses. Part manufacturing covers the Make-to-order environments including products, which are finished after receipt of a customer or internal demands. The final product is usually a combination of standard parts and parts custom designed to meet the special needs of the customer.

Change Details

Two new components **Product Structure** and **Process Plan** are added under new BPC **Manufacturing Setup**.

Exhibit 1: Illustrates the New Component and BPC details

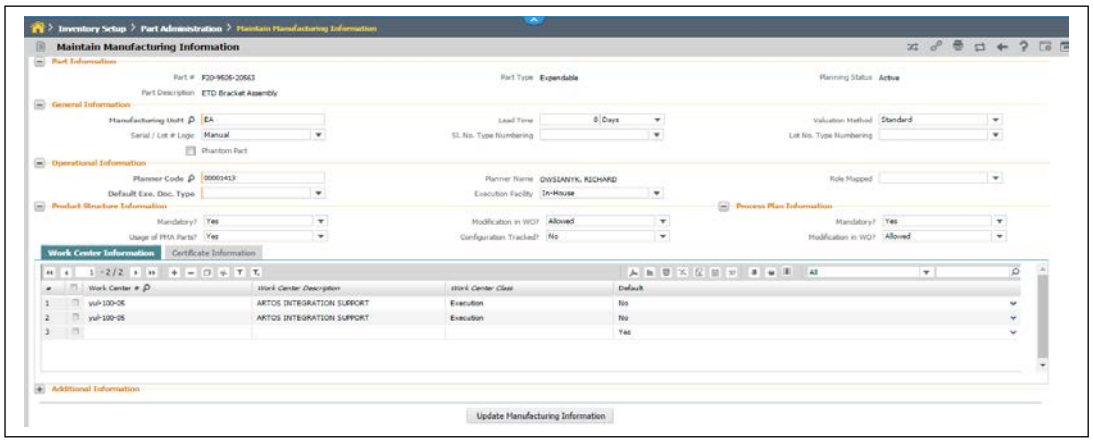


Part Manufacturing Information

Pre-requisite for manufacturing a part is to define the source as 'Make' in **Maintain Planning Information** screen. Along with defining the source as 'Make', Manufacturing Information i.e. Lead Time, UoM, Work Center Information, Certificate Information etc. need to be provided prior to creating Make Work Order.

A new screen **Maintain Manufacturing Information** has been provided in the **Maintain Planning Information** page. This new screen has been developed to provide basic manufacturing information regarding a part with source 'Make'.

Exhibit 2: Illustrates the **Maintain Manufacturing Information** screen



Bill of Material

The entire manufacturing setup in an organization depends on manufacturing of parts. Different raw materials are used to produce sub-assemblies, which are again used in building final products that are saleable. It is also likely that the same part may be produced and stocked in more than one location from different sources. In order to meet the requirements and commitments of customers, planning of raw materials and sub-assemblies that are required in manufacturing is important. For planning to be effective, requisite information about parts such as bill of materials, process plans etc. are required.

The Bill Of material (BOM) provides a hierarchical classification of the constituent parts, which form a product. The BOM shows the material, component parts subassemblies and other parts in a hierarchical structure that represents the grouping of parts on an assembly drawing or the grouping of parts that come together at a stage in the manufacturing process. The quantity requirements of each of the constituent part against the Product Structure (PS) Part are also mentioned along with.

Product Structures

Product structures are used for the purpose of defining bills of materials of parts. The product structure is a single level of Bill of material, containing a parent and its immediate child. With the product structure,

the understanding of the components, which compose a product as well as their attributes, can be represented. User can define Product Structures for parts at each level and integrate these to get the complete bill of materials.

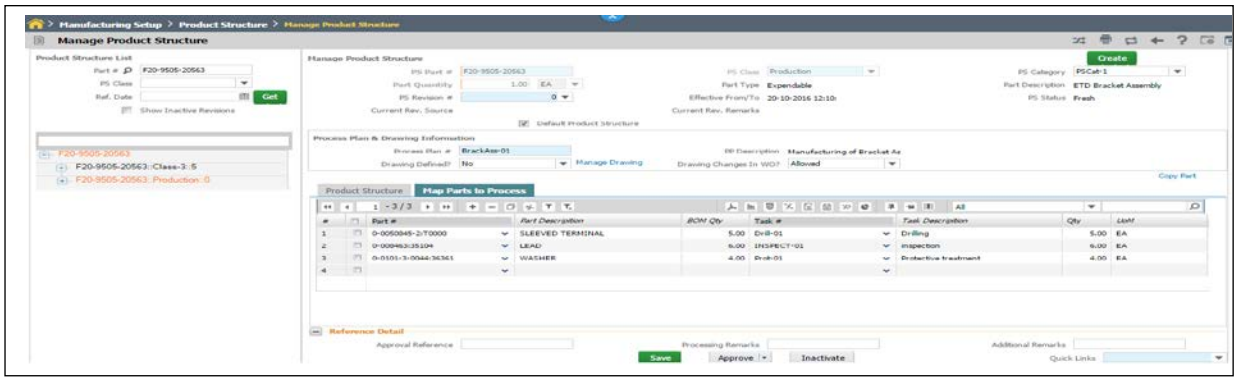
The bill of material shows the level-by-level information of all constituent parts required to produce an end product. It is convenient to define one level of information for each part of bill of material as a product structure, i.e. constituent parts and its immediate level constituent parts. Whenever required, the bill of material information for a part can be obtained using the product structures.

Create Product Structure:

This screen has been provided to create a product structure for a part that is planned to manufacture. Pre-requisite for defining the product structure is to select source as "Make" for that part in **Maintain Planning Information** screen under **Part Administration** business component.
"PS Part", "PS class" and "Effective from" are mandatory controls to define against product structure. Multiple product structures can be defined for a part. All the constituent parts should be added against product structure multiline.

In product structure multiline, user can add any constituent part which is mapped to one or all Part sources. The quantity requirements of each of the constituent part against the "PS Part" are also mentioned in the Total quantity column. If any drawings that are exists for the constituent part, then system will display the value as 'Yes' in the 'Drawing exists?' column.

Exhibit 3: illustrates **Manage Product Structure** screen



Each constituent part can have different "Sourcing strategy", which can be either 'Inventory', 'Procurement' or 'Make'. This source strategy information will be helpful for while planning of Task – Part requirements. Activate and Inactivate button will get launched once newly created product structure

details are saved.

User can revise the product structure by modifying the constituent part information in the product structure and also needs to provide the effectivity details of the product structure. Once the product structure is revised then the old revision# of the product structure will be updated with the effective to details. Each revision of the product structure can have a unique effective detail and does not overlap with each other.

Multiple Product Structures for a part

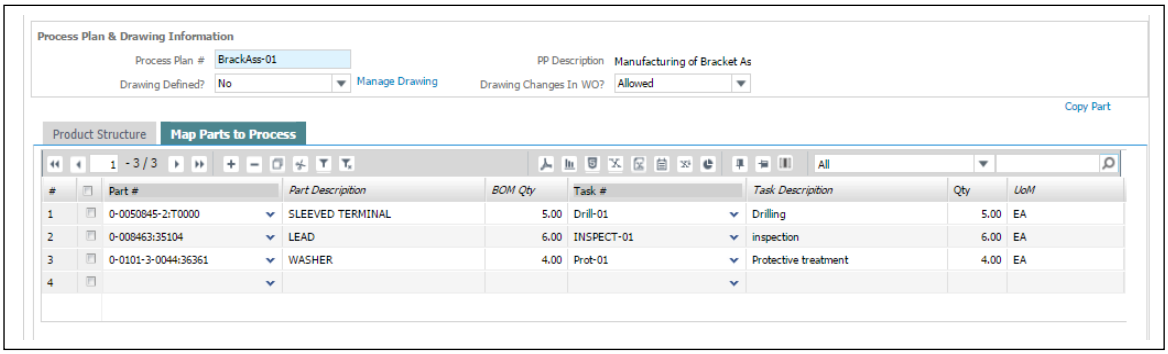
A Part may have more than one product structure of Product Structure Class due to various purposes. A company may have multiple work center facilities at different locations. The manufacturing capacities differ from location to location. For example, a location may have access to more resources and materials easily than another location. Hence it is capable of producing a part in higher lot sizes at one stretch. Also, depending on the availability of materials, each location may use different parts to manufacture a particular part. The correct product structure is selected based on the validity of the product structure. Currently multiple product structures can be handled by using the concept of PS Class. A Part can have only one default product structure and multiple alternate product structures. Since a part can have multiple product structures, always the default product structure is to be picked up for manufacturing a Part or Work Order execution.

Product Structure and Process Plan mapping

Manufacturing of Parts requires various constituent parts along with the necessary tasks to be performed to produce the finished product. These input parts are transformed into the finished product using specified process instructions. For this, the sequence in which the materials are routed through different tasks to be performed at each resource are identified. This routing information is captured in a process plan against each Task. The process plans may be part specific or generic.

Each constituent part of the product structure will be mapped with the individual task of the process plan. User can map one constituent part to many tasks in the Process plan and also multiple constituent parts can be mapped to one task. Whenever user tries to map the Constituent part with task, then he has to provide the task qty. However the mapping of parts to process plan is optional.

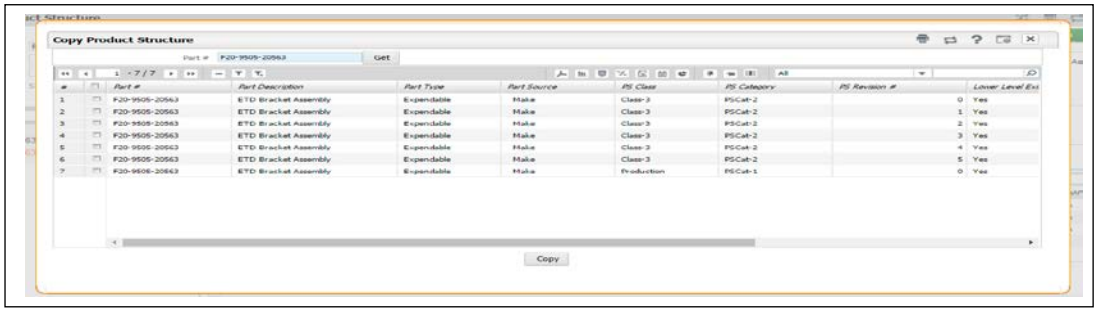
Exhibit 4: Illustrates the mapping of constituent parts to process plan



Copy part

A new screen **Copy Part** has been added to copy the existing product structure constituent details into new product structure. User can search the existing product structure details along with the PS Class and Revision # details. On using "Copy" button, constituents of selected revision will get copied into the new Product Structure tab.

Exhibit 5: Illustrates the copy part screen under **Product Structure** business component



New Revision

Whenever user modifies the constituent and part and process plan linkage, then system will display the 'New Revision' popup and mandates the user to provide details like 'Effective From', 'Source type', 'Remarks'. Once user enters all these details, the system will save the new revision details and creates a new revision for the product structure automatically.

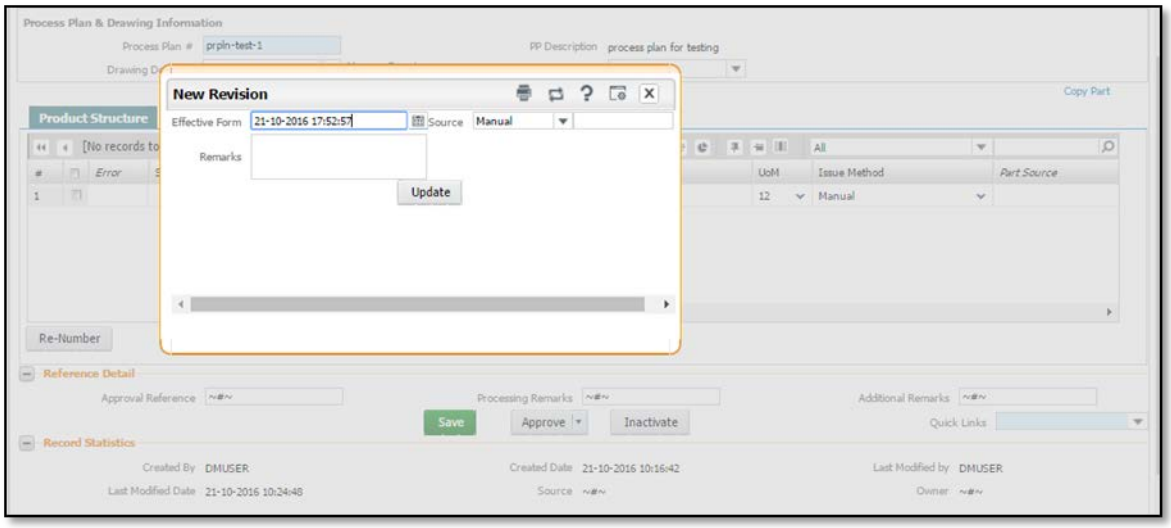


Exhibit 6: Illustrates the new revision screen under Product Structure business component

Product structure for Phantom parts

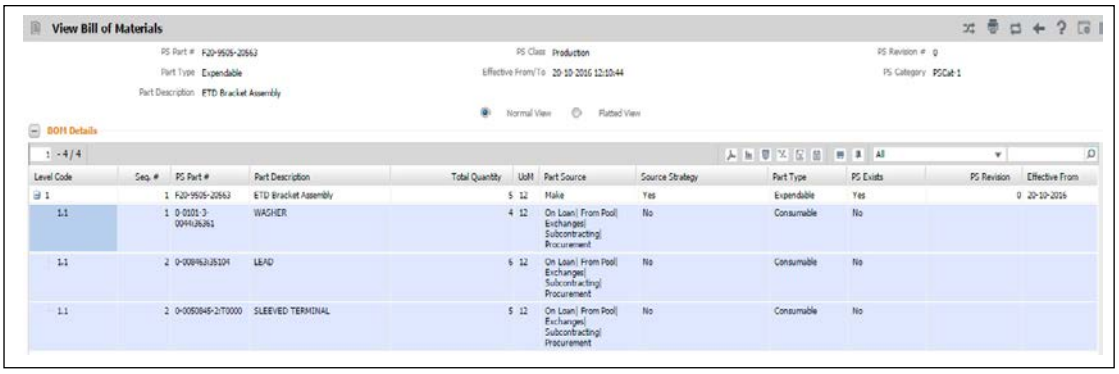
Phantom parts are a logical grouping of constituent parts that represents a transient assembly. No work orders are generated for them. These are normally consumed as soon as they are produced. However the user may configure them in the bill of material for ease of definition and view. Phantom parts may have one or more product structures. Process plans are however not linked to such product structures, as the process for these phantoms are expected to be defined as part of the process of manufacturing the parent of the phantom part.

During planning, if stock of the phantom were available then the system would explode immediately to the constituent parts of the phantom. Work order or Purchase Order for a phantom part is never raised in the system.

Viewing the Bill of Material of an part

Based on the single level product structure defined by the user, and the parent and child relationship, the system automatically builds up the multi-level bill of material. The user may view or print the multi-level bill of material along with the usage quantities of each of the constituent parts at any level. The Bill of material displays the complete details of all the constituent parts, assemblies, sub-assemblies and raw materials that go into manufacture of the finished product along with the details of the quantities of each constituent part. If multiple product structure exists for that part, the system selects the valid product structure based on the selection of PS.

Exhibit 7: Illustrates **view Bill of Materials** screen under **Product Structure** business component



The link "View BOM" in Quick Links has been provided to view complete bills of material of PS Part. A BOM is unique for PS Part #- PS Class- Revision # combination, so on clicking of "View BOM" current revision of product structure will be displayed.

The BOM information can be shown in two views: one is 'Normal View', which will display all the constituent parts and subassemblies in the hierarchical manner including phantom parts. Another view is 'Flattened View', in which phantom parts will not be displayed; instead all the constituent parts available inside the phantom part will be rolled up to one level higher.

Process Plans

For manufacturing a part, it is necessary to process the required raw materials on different resources. The constituent materials routed through these tasks are performed to transform these into the desired output. The manufactured part will be obtained after all the required tasks have been performed. A process plan is used to identify the tasks and the sequence in which they are performed to manufacture the part. It is also referred to as routing information. Two types of Process plans can be defined: 'Standard' can be used against any part manufacturing. Another is specific, which will be defined for the specific Part #.

Exhibit 8: Illustrates the sequence of Tasks

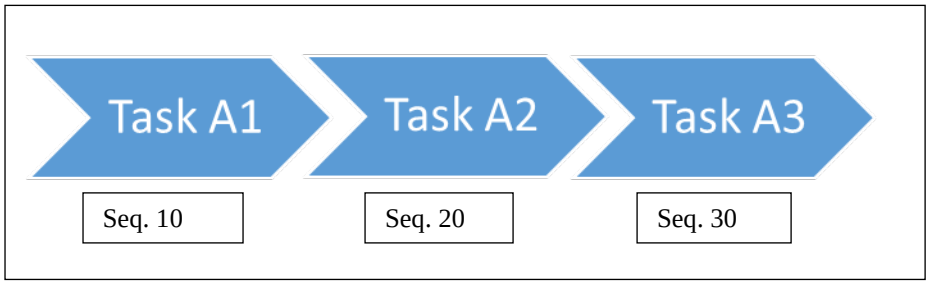
In the above figure, Activities A1, A2 and A3 are required to execute a particular process in the shop floor. Out of these 3 tasks, planning of activity A3 is important because the resource used for it may be a

bottleneck resource (A3 can be given a different color if possible). The other 2 tasks are not critical and hence detailed planning may not be necessary for them.

Process Plan Sequences

Different tasks need to be performed to manufacture a part. For example, to machine the outer race of a ball bearing, user needs to perform three activities namely turning, grinding and finish grinding.
Since the flow of constituent parts from one task to the next task of the process plan is important, the sequence of tasks has to be defined properly. To achieve this, sequence numbers are used. A unique operation sequence number identifies each position. The Sequence numbers identifies the Operation sequences in a process plan (where the tasks are performed). Depending on the flow of materials, tasks are selected in appropriate positions. The bigger the sequence number, the later the task to be performed occurs in the sequence in the process plan. That is if two tasks are in sequence 10 and 20 respectively, then the task in sequence 20 is carried out after the task in sequence 10 is completed. Figure below shows the sequence of three activities namely A1, A2, and A3 in the positions 10, 20 and 30.

Exhibit 9: Illustrate the new sequence of Tasks

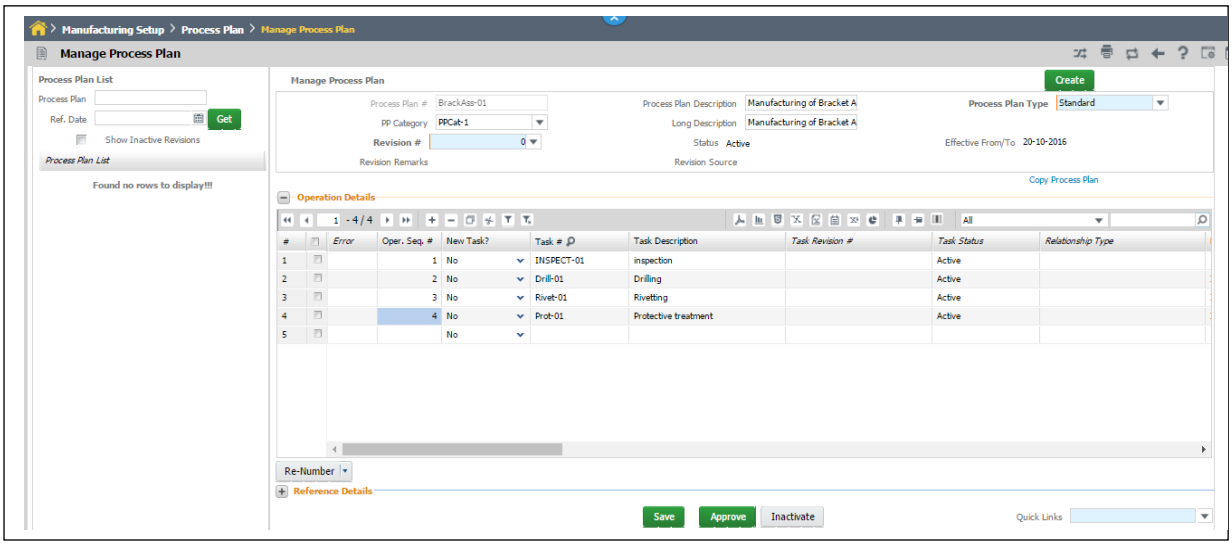


Create Process Plan

This screen has been provided to create a process plan. Process plan # is a user defined field, where user has to provide the unique Process Plan #. Process Plan #, PP type Effective From and Operational details are the mandatory detailed to create Process Plan #. Process Plan type can be selected as 'Standard' or 'Specific'. If Process Plan type is set as specific, then part # must be selected.

Tasks that are already defined in task master should be entered in operational details multiline. If the Task that is not available in the **Maintenance Task** business component and New Task is selected as 'Yes', then a new Task # will be created in authorized status in the **Maintenance Task** business component

Exhibit 10: Illustrated Manage process Plan screen under Process Plan business component



Existing process plan can be listed automatically by enabling a smart search for the Process Plan # in the Process Plan list. User can also search for the existing process plans in the Process Plan list.

Get Related Tasks, will fetch all the Tasks having the relationship with the parent Task. All Task relationships will be considered. Re-Numbering will help to introduce a new task inside the process plan.

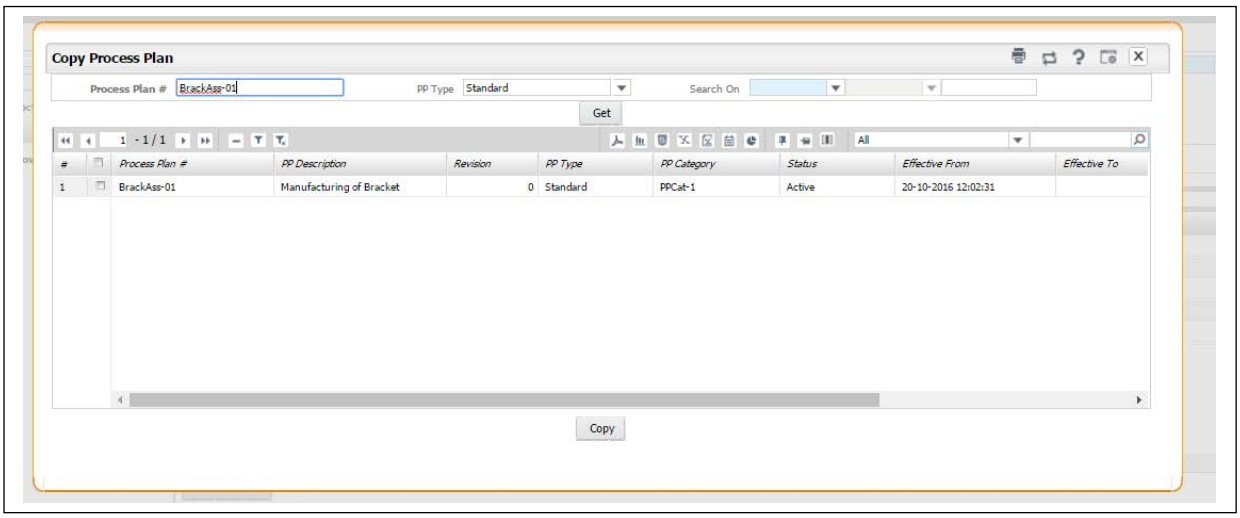
Note:

1. *All the Operational details can be saved against process plan by clicking on Save.*
2. *The Process Plan details need to be approved.*
3. *Any modification in the approved process plan creates a new revision # with the new effectivity details.*
4. *Multiple Active revisions will be available for one process plan, but one process plan is effective for the given date.*
5. *The process plans need to be inactivated, if it is no more applicable.*

Copy Operational Details

New screen 'Copy operational details' should be added under the **Process Plan** business component. This screen will help the user to copy the operational details of an existing Process plan to new process plan. Screen will list all the process plan details along with the revision details.

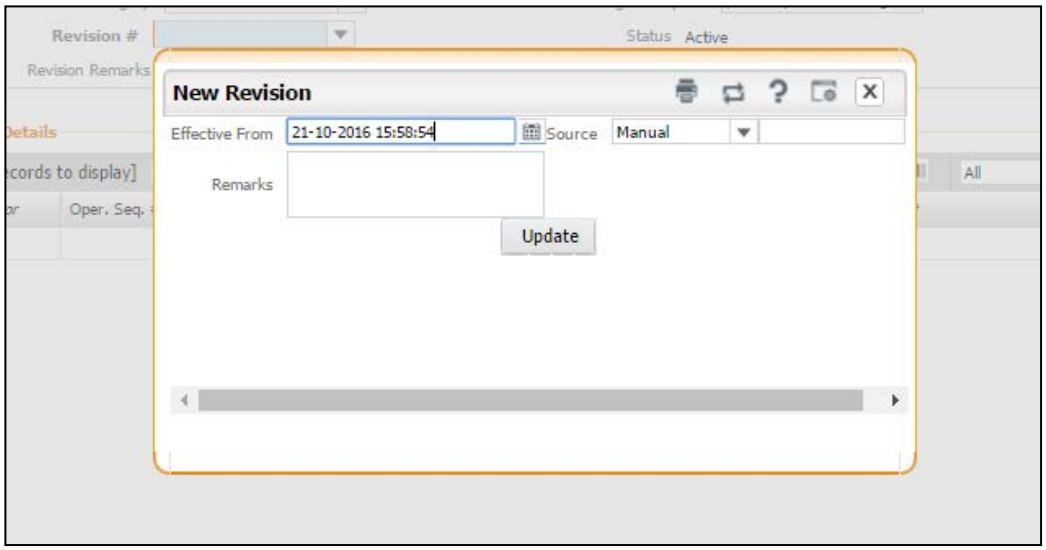
Exhibit 11: Illustrates Copy process Plan screen



New Revision

When the operations details of the process plan are modified, system displays the 'New Revision' popup and mandates the user to enter revision information like Effective from, Revision Source and Revision Remarks etc. The system saves the new revision details and generates a new revision for the process plan.

Exhibit 12: Illustrates New revision screen



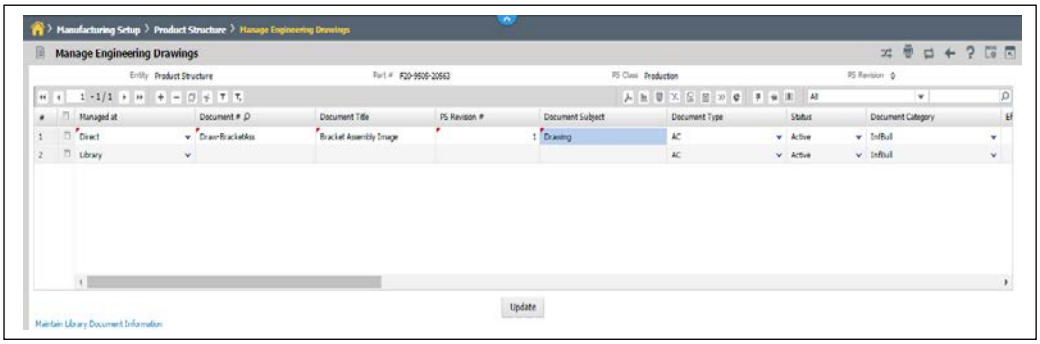
Manage Engineering Drawings:

Engineering drawings are a complete set of drawings that detail the manufacturing and assembly of products. It is an authorized document to produce the component in the shop floor. It furnishes all

dimensions, limits and special finishing processes. In addition to the materials used, it should also mention the number of parts that are required for making of the assembled unit. Engineering drawing of a component should also indicate the sub or main assembly where it will be assembled.
Engineering drawings can be defined for the Product structure Part #, Constituent Parts defined under Product Structure and also Tasks available in the Process Plan #. These Engg. Drawings can be managed at 'Library' or 'Direct'. Library documents are controlled documents, which will be revision controlled managed through Library Management Business process. If the user does not have access to library management, then user can save the drawings directly.

A new screen **Manage Engineering Drawings** is added under Product Structure component. This screen will be placed as a link in the **Manage Product Structure** and **Manage Process Plan** screens.

Exhibit 13: Illustrates the Manage Engg. Drawings for the PS Part #



Note: Important aspects of Engg. Drawings #:

1. *Engg. Drawings can be saved against each revision of the Product Structure Part #.*
2. *Simultaneously drawings can be saved against Task # in the Process Plan and also the Constituent Part in the Manage Product Structure.*
3. *New set of drawings can be added by new revision # in the Engg. Drawing.*
4. *Engg. Drawings copied from the library management will not be allowed to be modified in the Manage Engg. Drawings.*
5. *Any changes with respect to the documents added directly will be allowed to be modified.*

Plan Materials

A new button 'Create Make Order' is added in the **Plan Material** screen under **Stock Demand Management** business component. On click this button, the system will create Shop Work Order having the Job Type 'Make'.

Upon creation of Shop Work order, the system will copy the following information to create Make Work Order:

1. MR coverage Information in the Update / split coverage information. (i.e. Work Order that is created against Material Request will be copied as a MR coverage Information.)
2. Default Product structure effective for the Manufacturing Part will be copied in the **Manufacturing Data** screen under Make work order.
3. Process Plan details in the product structure will be copied in the **Manufacturing Data** screen under Make work order.
4. Manage Engg. Drawing details in the product structure effective for the Product Structure, Constituent Part drawings inside the Product Structure and also Tasks in the Process plan.
5. Default Work Center # & Default Exe. Doc Type from the part information.
6. Certificate Information from the part manufacturing information.
7. MR priority will be copied as Work Order priority.
8. MR stock status will be copied to Work order, if the Ownership of the stock status is Internal. If the MR stock status is other than Internal, then Work Order stock status will be updated with the default ownership internal stock status.

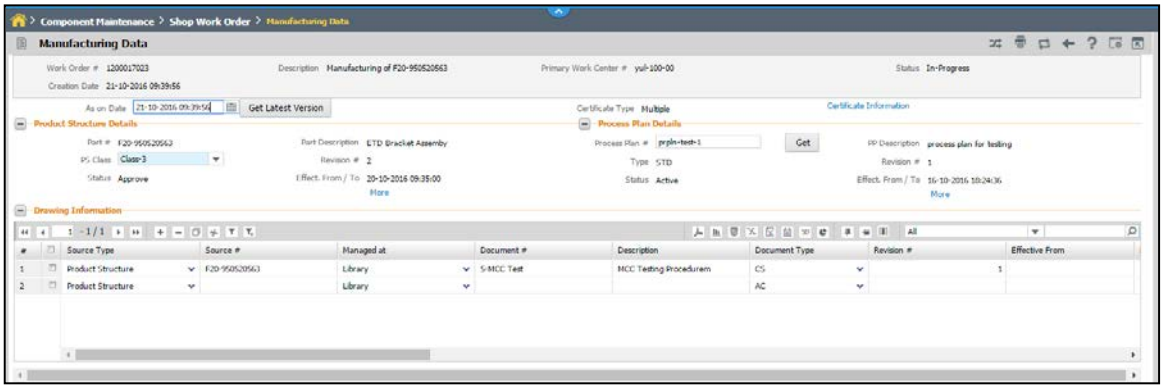
Work Order changes:

Make Work order can be created from the **Plan Material** screen or user can directly create the Work order from the **Plan Work Order** activity. As part of part manufacturing changes, two new screens **Manufacturing Data** and **Certificate Information** have been added as links in the **Plan Work Order** screen. Mfr. Serial/ Lot # will be generated automatically while releasing the Work order based on the numbering type selected for the Part # in the Part manufacturing information screen.

Manufacturing Data

A new screen **Manufacturing Data** has been added under **Shop Work Order** business component. **Manufacturing Data** screen captures the Product Structure details, Process Plan details and Engg. The Drawing information for the Manufacturing of part for the specific date, when a Work order is created from the **Plan Material** screens, then As on Date will be updated as Work order creation date. User can manually modify the As on date then new Product structure, Process plan details effective for the new date will be copied.

Exhibit 14: Illustrates Manufacturing Data screen under Plan Work order



Manufacturing Data screen provides the necessary information that are required for manufacturing of Part like Product Structure, Process plan and Engg. Drawings, etc.

Product Structure Details section displays, default product structure defined in **Manage Product Structure** screen. Still user can change the PS Class from PS Class combo, if multiple product structures are available for the manufacturing part.

Process Plan Details section displays process plan # mapped to the default product structure. If user changes the product structure by modifying the PS class, then process plan mapped to the new product structure will be copied. Still user can use any active Process Plan # having the type Standard based on flag (i.e. Changes in Work order is allowed) set in **Part Manufacturing Information** screen under **Part Administration** business component. If process plan # is changed and on click of Save will cancel the existing tasks and lists the new tasks from the Process Plan # to the task Details multiline in Plan Work Order. If the Task Part requirements are not mapped for the Product Structure and Process plan, then system will map the all the parts to the first operational task copied in the make Work order

Drawing Information section displays, list all the drawings defined for PS Part #, its constituent parts and process plan tasks in **Manage Engineering Drawings** screen. Still user can manually add any additional drawings against specific work order by selecting the "Source Type" as "Others". These modifications will be allowed only if "Drawing changes in WO ?" is set as "Allowed" for the selected product structure in **Manage Product Structure** screen under **Product Structure** business component..

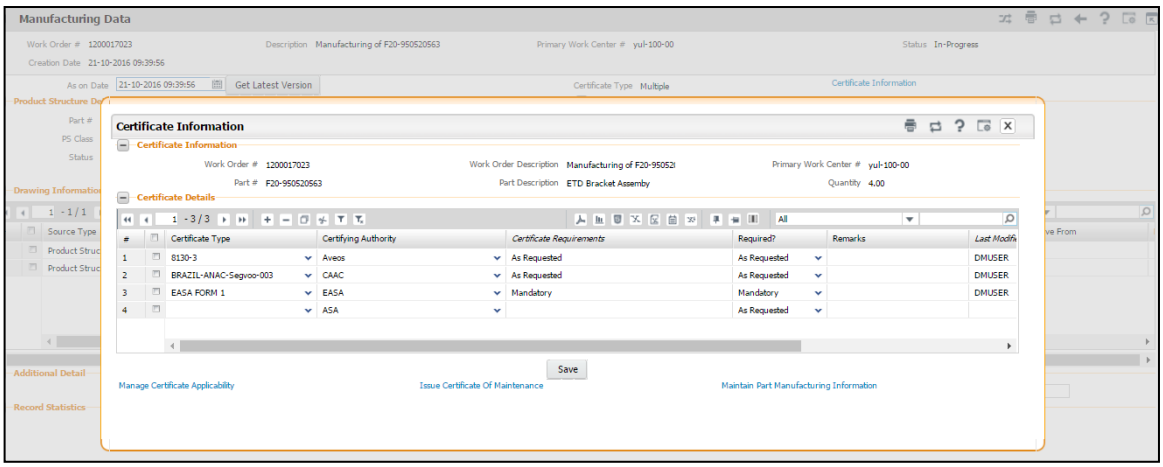
Whenever user copies the new set of manufacturing data then user has to select the Get Latest Version button by entering the As on Date. Get latest revision details will fetch the latest Product Structure,

process plan and Drawings information effective for the As on date of the manufacturing part. **Manufacturing Data** screen also lists the certificate information for the Manufacturing Part in the Work order. If only one certificate type is required then display the certificate type in the Manufacturing data screen. If multiple certificates are required then display the string 'Multiple'. User can view multiple certificate information by clicking on certificate details link.

Certificate Information

A new screen **Certificate Information** has been added under **Shop Work Order** business component. Certificate Information screen captures the Certificate Information that needs to be issued after manufacturing of parts. Certificates that are added against Part # in the Part Manufacturing information will be copied automatically in the **Certificate information** screen. User can also add new certificate information in this screen. System will mandate the user to issue all the mandatory certificates before closure of work order.

Exhibit 15: Illustrates the Certificate information for the Work order.



Review or Manage certificate Requirements

A new screen **Review or Manage Certificate requirements** has been added to review or manage the certificate requirements for the Work Order and also the list all the Certificates that needs to be printed for the Work Order #. System will list all the certificates that are required to be issued against each Part or Part – Serial / Lot combination.

List the certificate requirements for the work order based on the option setting "Issue Distinct CoM?" in **Define Process Entities** activity of the **Common Master** business component. If it is set as 'Yes', then display the distinct certificate requirements against each certificate type and also against Part – Serial

#/Lot #/ None (Qty). If it is set as No, then display the list with only one certificate requirement in the Review or Manage Certificate Requirements. Issue COM screen can be launched by selecting Issue COM from the **Record Shop Execution Details** screen, only when the Issue distinct COM is set as 'Yes'. Otherwise existing Issue COM will be launched.

Tile section has been provided to give summary to user about certificate requirements of different type of certificates associated with selected work order document. On click of search, the system should fetch Tiles information and display the count of certificates that are created or yet to be created in the respective tile for the given Search Criteria:

1. All Certificates
2. Certificate of Maintenance
3. Certificate of Conformity
4. Certificate of Calibration

Selection of each tile will display the respective documents that are already created and yet to be created. The system retrieves the Certificate that is already created, along with the existing certificate #, and the new certificates which needs to be created before closure of the work order. Existing certificates will be eligible for the Reprint and new certificates will be eligible for new certificate creation.
User can issue "Print Id tag", "Certificate of Maintenance", "Certificate of conformity" and "Certificate of Calibration" from this screen. If a work order has only one certificate and "Distinct Issue CoM" option is set as '0', then on click of "Issue certificate of Maintenance" from **Certificate Information** screen, "Issue certificates" screen will be launched.

Exhibit 16: Illustrates the Manage / Review Certificates screen

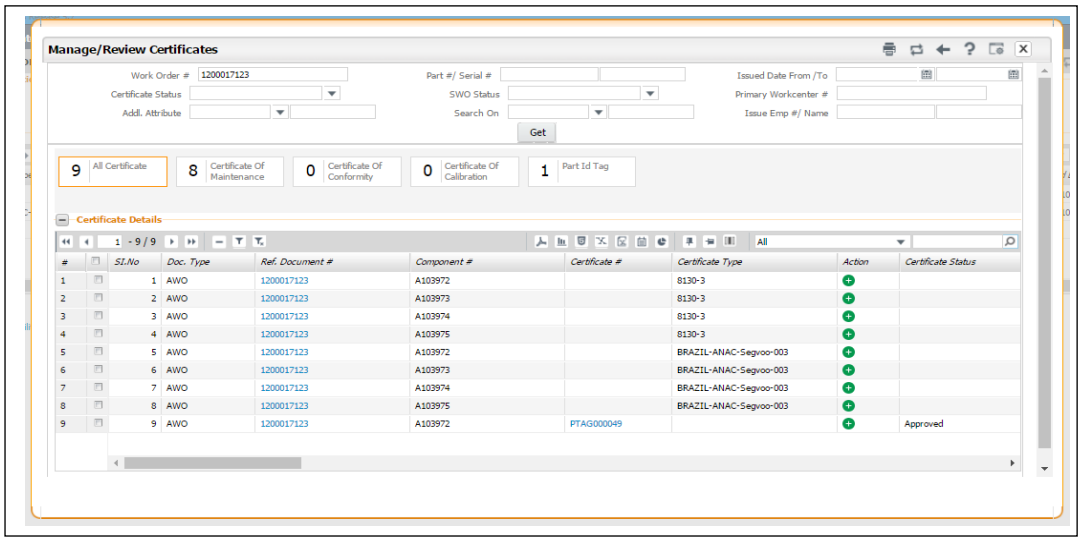


Exhibit 16: Illustrates the Manage/Review Certificates

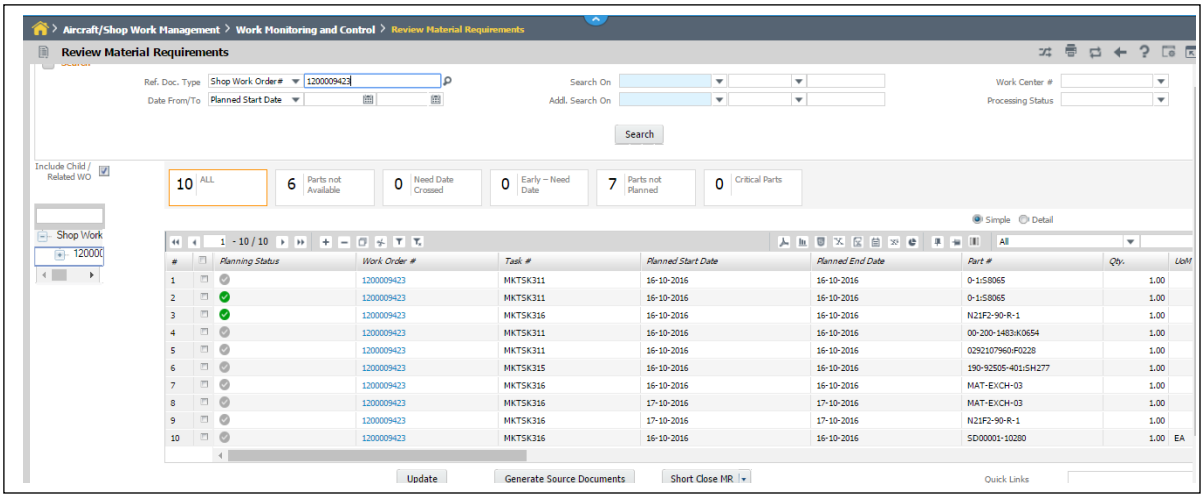
Work Monitoring and Controlling:

Review / Plan Material Requirements

A new activity **Review / Plan Material Requirements** has been added under **Work Monitoring and Control** business component to aid production planner to plan his Task – part requirements for the manufacturing job. It also aids planner to plan his materials based on the Planned Start date of the Task. This screen aims to plan his requirements effectively to complete the manufacturing job within stipulated timelines.

System also aids the planner by providing the Recommended Action for the material requirements and also displays the Proposed Order Date for the planner based on the lead times. It will help him to avoid stock out and overstocking situations of the inventory. Screen will list entire Task part Requirements and also helps him to generate the Source Documents for the material requirements. Source action for the Task – part requirements will be copied from the Product structure information of the Part #.
It also displays the Constraint information along with the Planning status for each material requirement.

Exhibit 17: Illustrates the Review/Plan Material screen



Search Criteria section will help the user to retrieve the Work Orders for which planner has to plan the Material requirements. Multiple Work orders can also be planned at a time. Tree will display the distinction between multiple work orders. If the related work order that is created because of the part requirements of the parent work order, then the related work order will be listed as a hierarchy list in the tree.

By enabling the checkbox 'Include child / related WO', will display all the parent and related work orders (i.e. New make work order created due to part requirements will be displayed in the tree by linking the Task to the new related work order.) in the tree, that was created as part of material requirements. Summary of material requirements will be displayed in the tile sections. Each tile logic is mentioned below.

A. All - All parts required to complete work order
B. Parts Not Available - Parts that are not available in the stock will be displayed in this Tile.
C. Need Date Crossed - If the Source Document Need Date is later than the Task Start Date of the Work Order.
D. Earlier - Need Date - if the parts are available before the planned Start Date of the Task in the Work Order.
E. Part Not Planned: If the material requirements are not planned for the Tasks #.
F. Critical Parts: If the Source Document need date is not matched with the Planned Start Date of the Task # in the Work order and also the lead time to need date difference is low*.

Task Part requirements will be derived from the Product structure of the manufacturing Part # defined in the Manage Product Structure screen. If the constituent parts are not mapped with any task, then system will automatically map the part with first task available in the Process Plan.

User can plan the part requirements by selecting source action defaulted from the product structure. If the Source action (i.e. Purchase Request, Work order), is selected, then the respective source document will be generated. Part requirements multiline provides the user the planning status of all parts associated with a work order. If for few parts planning is not done, "Generate Source Documents" push button has been provided to generate Material Request # for that part and also based on "Recommended Action" in multiline respective Source Document is generated.

If part is available in warehouse with required unallocated quantity, Issued document # is generated in Source document. If Recommend Action for a part is 'Procurement', Purchase Request # will be generated as source document. And Recommended Action for part is 'Make', Make Work Order # is generated.

In case, if the parts are getting delayed for the source document, then respective source document will be short closed and the same part is eligible for re-planning. Short Close MR button has been provided to short close the MR generated for a part. It will also close the Source Documents related with this MR. Similarly, Cancel Work Order button is added to cancel the existing Work Order generated for a part

requirement. In the same way Short close Purchase request button has given to short close the existing Purchase request for a part.

Accounting Pre-requisites for Part Manufacturing:

A new Automatic Post Account Type, "PRODUCTION WIP" has been introduced to account for the WIP (Work In Progress) cost incurred while manufacturing Part(s) through Shop Work Orders of Shop Job Type "Make". (Note: This new account code will be applicable for both Normal Make Work Orders and Manufacturing Make Work Orders with expense type "Revenue"). The Material, Labor, Other Resources & External Service costs incurred in Manufacturing will be accounted to this automatic posting account type during Issue of spare Parts, Return of spare Parts, Interim Return of the core etc., and the same will be knocked off during final return of the manufactured parts back to Inventory. However for Make work orders with expense Type "Capital", cost will be accounted in the existing frame to the CWIP (Capital Work in progress) account.

A new pre-defined usage "PRODVAR" (Production Variance) has been introduced to account for the variance in case Standard Cost based valuation is opted for the Manufactured Part. The difference between the Actual Cost for manufacturing and the Standard Cost will be accounted in the Production Variance account. (The default cost center for this Production Variance account can be defined in the Finance Setup→ BU Parameter Setup → Set Parameters – Default Cost Center.)
The break-up information for the balance in the PRODUCTION WIP can be reviewed in the View Account Balance report (Book Keeping → Finance Book Processing → View Account Balance) for the Transit Account Type 'PRODUCTION WIP'.

Illustration of Accounting Entries for Parts Manufacturing

Scenario 1: Manufacture of Revenue Part
SWO with Shop Job type: - Make

Particulars	Debit	Credit
Revenue Parts Issued to SWO	Production WIP A/c USD 1,000	Inventory A/c USD 1,000
Revenue Parts returned from SWO	Inventory A/c USD 300	Production WIP A/c USD 300
Capital Parts Issued and Returned against SWO	No Account Postings	No Account Postings
(A) If Manufacture Valuation Method for Part is: - Actual Cost		
Main Core Return after Manufacture	Inventory Account A/c USD 700	Production WIP A/c USD 700
(B) If Manufacture Valuation Method for Part is: - Standard Cost (USD- 2,000)		
Main Core Return after Manufacture	Inventory Account A/c USD 2,000	Production WIP A/c USD 2,000
Production Variance Accounting	Production WIP A/c USD 1300	Production Variance A/c USD 1300

Scenario 2: Manufacture with Activity Level Subcontracting: - Revenue Part
SWO Shop Job type: -

Particulars	Debit	Credit
Revenue Parts Issued to SWO	Production WIP A/c USD 1,000	Inventory A/c USD 1,000
Revenue Parts returned from SWO	Inventory A/c USD 300	Production WIP A/c USD 300
Capital Parts Issued and Returned against SWO	No Account Postings	No Account Postings
Interim Return- Activity Level Sub-Contracting- (for closed Tasks)	Inventory A/c USD 700 **(Semi-Finished Inventory)**	Production WIP A/c USD 700

Particulars	Debit	Credit
Repair Order Issue	Production WIP A/c USD 700	Inventory A/c USD 700
Repair Order Receipt	Stock Suspense A/c USD 700	Production WIP A/c USD 700
Vendor Liability for Activity level subcontracting Manufacturing (Always *Add to Stock)*	Stock Suspense A/c USD 500	Supplier Suspense- Service A/c USD 500
Repair Receipt Movement	Inventory A/c USD 1200	Stock Suspense A/c USD 1200
Main Core Issue to SWO	Production WIP A/c USD 1200	Inventory A/c USD 1200
Revenue Parts Issued to SWO	Production WIP A/c USD 50	Inventory A/c USD 50
Service/Adhoc/Direct Expense	Production WIP A/c USD 50	Supplier Suspense/Control A/c USD 50
(A) If Manufacture Valuation Method for Part is: - Actual Cost		
Main Core Return to Warehouse after Manufacture	Inventory Account A/c USD 1300	Production WIP A/c USD 1300
(B) If Manufacture Valuation Method for Part is: - Standard Cost (USD- 1,000)		
Main Core Return to Warehouse after Manufacture	Inventory Account A/c USD 1,000	Production WIP A/c USD 1,000
Production Variance Accounting	Production Variance A/c USD 300	Production WIP A/c USD 300

Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.

Ability to provide need date for Material Requests in RSED

Reference: AHBG-6739

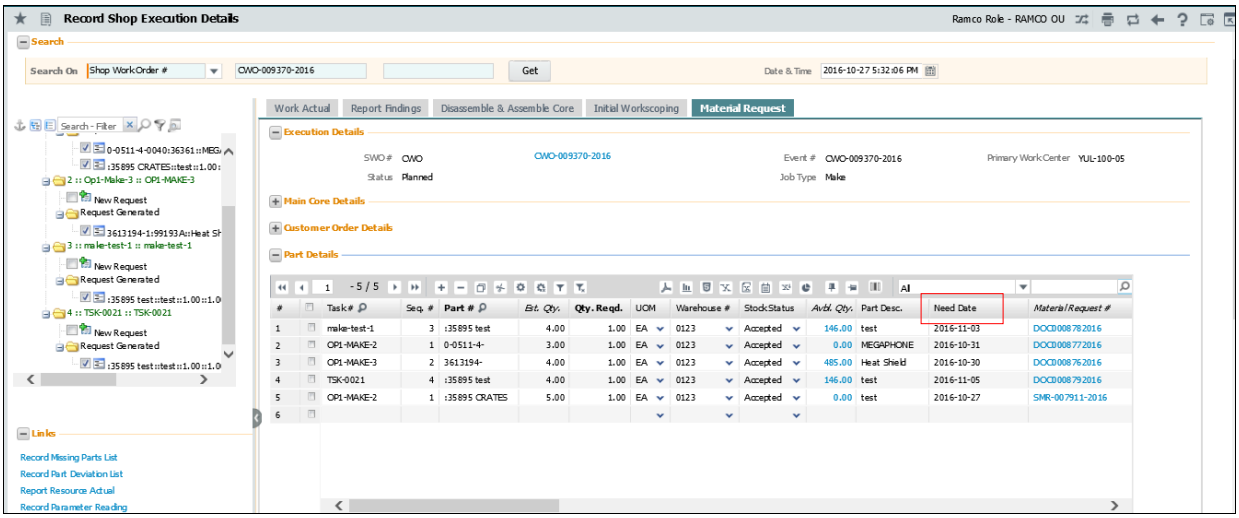
Background

Need Date is automatically derived by the system when a Shop Mechanic raises a Material Request from the **Record Shop Execution Details** page and is not available for the Mechanic to see/add the date. But sometimes, the Mechanic wants to provide the date or the Organization wants to mandate the Mechanic to enter the date. So the Need Date is introduced where user can not only enter a custom Need Date during part requests, but can also be mandated to enter the same if left blank.

Change Details

In the **Record Shop Execution Details** screen, a new column '*Need Date*' has been added in 'Part Details' multiline of **Material Request** tab.

Exhibit 1: Need Date column in **Record Shop Execution Details** screen



The user can leave it blank during a part request and let the system default the Need Date (as per below logic) or enter the Need Date manually. Only today's date or a future date is allowed to be entered as Need Date. If Need Date is not specified by user, system will derive and default Need Date based on the following logic:

- Need Date will be defaulted with the Task's 'Planned Start Date' if it is a future date.
- Need Date will be defaulted with the Current Date if the Task's 'Planned Start Date' is a past date or current date.

A set option has been provided to configure whether the Need Date should be enforced to be manually entered or to let the system default the date automatically if not provided.

Under **Common Master** business component, a new process parameter "Enforce Need Date during requisition of Parts from RSED screen?" has been added under the entity type "Shop Work Order" and entity "-All Work Order-" with permitted values as "0" (for No) and "1" (for Yes):

- If set as 'Yes', system will enforce manual entry of Need Date while requesting for parts from RSED screen.
- If set as 'No', system will not enforce manual entry of Need Date and it will be updated automatically based on Plan Start Date of the Task or current date.

Ability to track Certificate of Maintenance based on Certificate Type

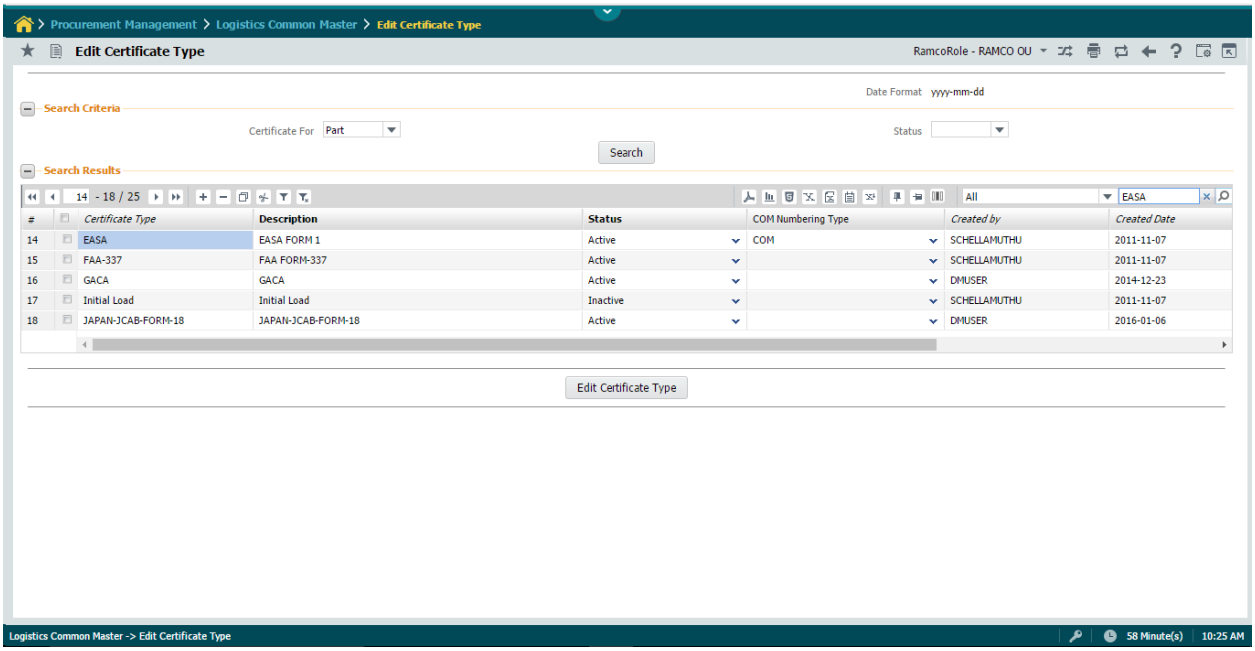
Reference: AHBG-13353

Background

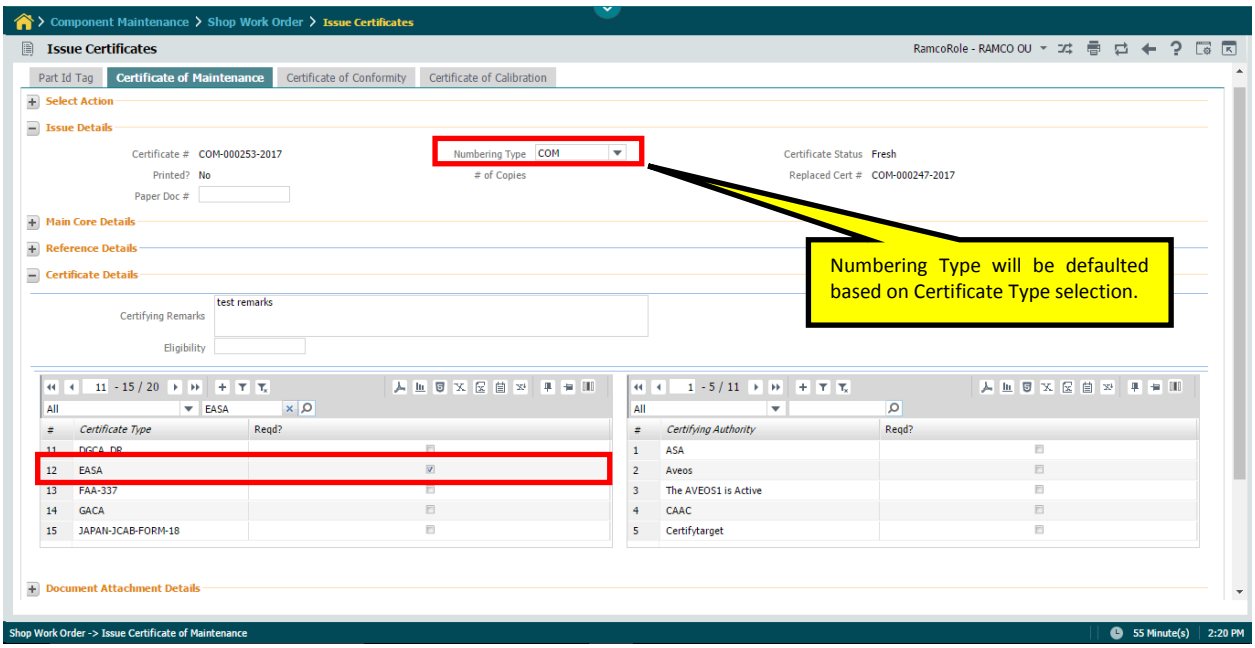
In typical MRO scenarios where Shop Maintenance activities are in compliance with regulations from multiple regulatory bodies, Certificate of Maintenance are issued for each regulatory authorities. These CoM's generated should have different Form Tracking # (i.e. Certificate #) so that it can be tracked separately for reporting purposes.

Change Details

The new **'COM Numbering Type'** column added in Create/Edit/View Certificate Type screens in Logistic Common Master business component.



While generating Certificate of Maintenance by selecting appropriate Certificate Type (say for example EASA), system will generate Certificate # based on COM Numbering Type defined for Certificate Type. Refer below snapshot for illustration:



Note: If multiple Certificate Types are selected during generation of Certificates, system will consider default Numbering Type defined for Transaction 'Certificate of Maintenance' in Document Numbering Class business component.

In order to track separate numbering for each Certificate Types, below process parameter is added in Common Master Business component:

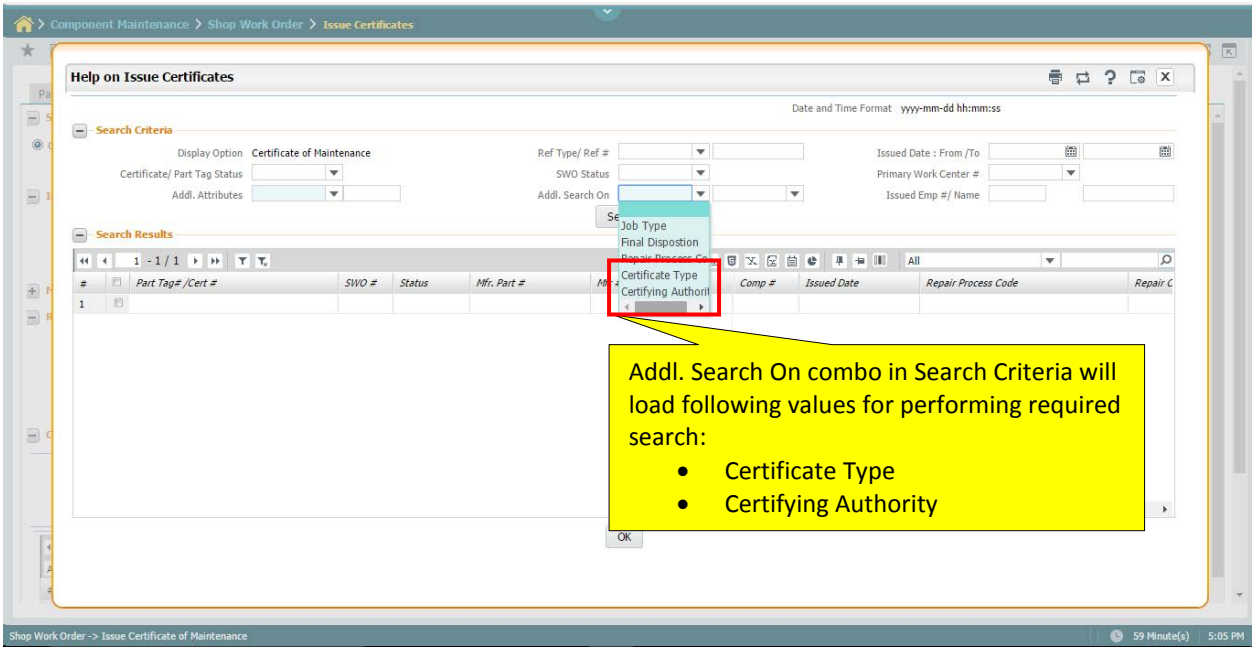
Set Process Parameter (Common Master)	
Entity Type	Shop Work Order Type
Entity	--All Work Orders--
Process Parameter	Issue distinct COM Report against individual Certificate Types.
Permitted Values	Enter "0" for 'No', "1" for 'Yes'.
Default Value	0
System behavior based on process parameter value	
1 (Yes)	System will allow generation of Certificate # with only one Certificate Type in Issue Certificate screen.
0 (No)	System will allow generation of Certificate # with multiple Certificate Type in Issue Certificate screen.

Additional Changes

Search filters in Help on Issue Certificates screen is enhanced to filter Certificate # (CoM) based on Certificate Type and Certifying Authority. 'Addl. Search On' combo in Search Criteria will load following

values for performing required search:

- Certificate Type
- Certifying Authority



Ability to not enforce CoM for removed cores from Aircraft

Reference: AHBG-12571

Background

When core returnable parts are removed from aircraft and moved for Shop maintenance, Certificate of Maintenance generation is not mandatory for removed cores as cores are finally returned back to aircraft and certificate of release to service is issued against aircraft. Whereas if the same core part is routed from warehouse for Shop execution through Route Unserviceable Parts/Components screen, system should continue to mandate CoM generation based on existing set option 'CoM Reqd.?' defined for default Shop Work Order Type of Part # in Maintain Maintenance Info. for Part screen.

Change Details

Below process parameter is added in Set Process Parameter screen of Common Master business component:

Set Process Parameter (Common Master)	
Entity Type	Disposition Code
Entity	User defined values
Process Parameter	Default Shop Work Order Type for removed cores from Aircraft?
Permitted Values	Enter a valid Shop Work Order Type defined in Common Master business component.
Default value	Blank
System behavior based on process parameter value	
User defined Value	On removal of Parts from aircraft Package with Disposition Code having value of process parameter 'Default Shop Work Order Type for removed cores from Aircraft?' set with an active Shop Work Order Type defined in Common Master business component, the Shop Work Order generated during removal will default SWO Type from value defined in above mentioned process parameter.

Blank	On removal of Parts from aircraft Package with Disposition Code having value of process parameter 'Default Shop Work Order Type for removed cores from Aircraft?' set as Blank, the Shop Work Order generated during removal will default the SWO Type from 'Default Exec. Doc for Int.Repair Routing' in Maintain Maintenance Info. for Part screen. **(Existing Behavior)**

Note 1:

This process parameter is applicable only for Work Order auto-generated during removal from Aircraft package. For all other auto-generated Shop Work Orders, system will default SWO Type from 'Default Exec. Doc for Int.Repair Routing' in Maintain Maintenance Info. for Part screen.

Note 2:

Above process parameter can be defined only if value of below process parameters are set as:

Applicable Document	"1" for 'Aircraft Maint. Exec. Ref #' or "2" for 'Both'
Initial Disposition?	"1" for 'Yes'
Create Order on disposition?	"1" for 'Execution Order'

WHAT'S NEW IN COMPONENT REPLACEMENT?

Ability to Show TSN, CSN and TSO, CSO in Component Replacement

AHBG-11992

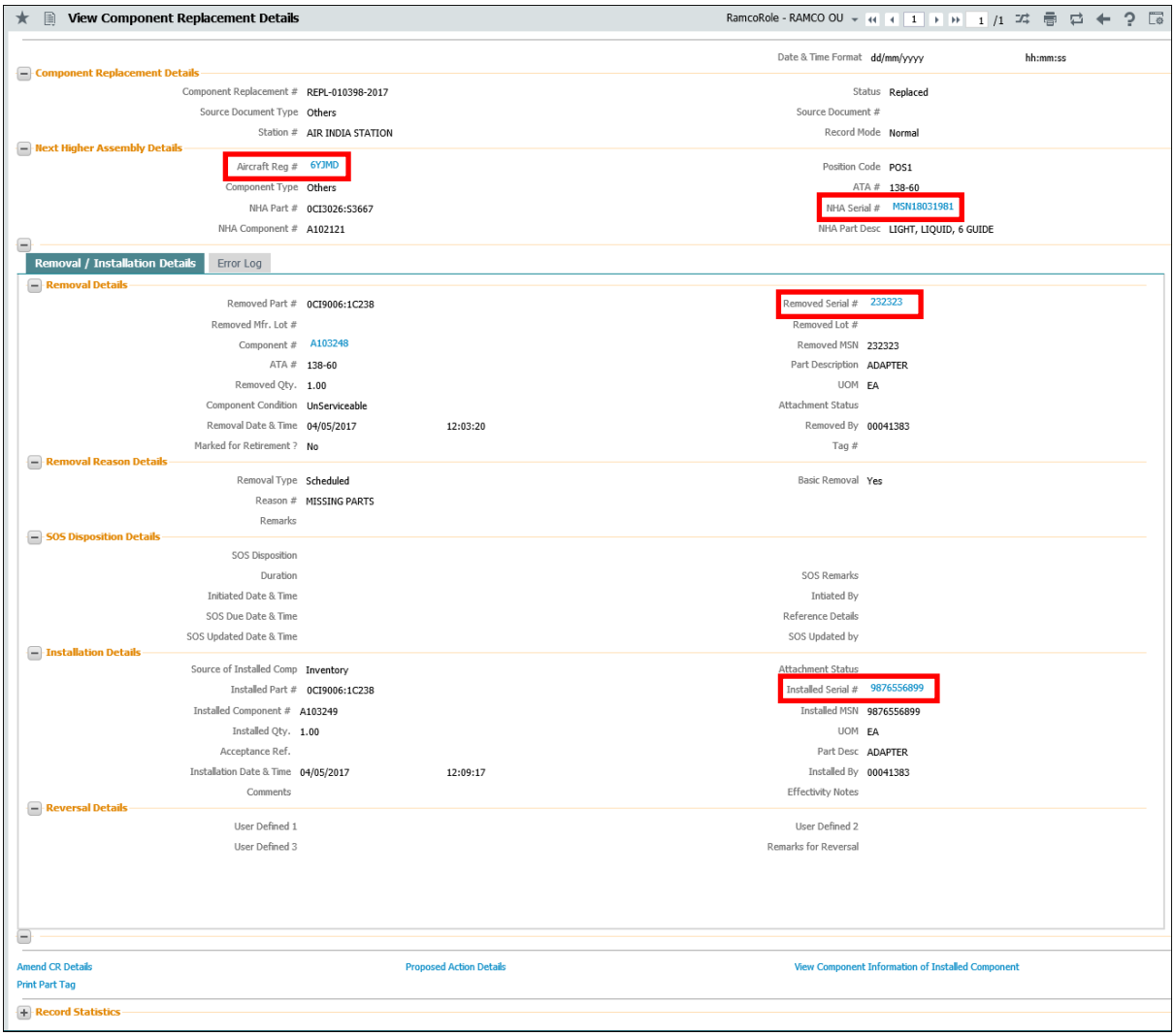
Background

When viewing component replacement records, mechanics may need to know the parameter value for the installed and removed components on removal date & installed date. Currently, users can gather this information only by navigating to the pertinent activity in the Aircraft business component.

Change Details

Data hyperlinks for have been provided in the View Component Replacement screen of the Component Replacement component to enable users to instantly access the View Parameters screen to view the parameter value for the component on removal date & installed date. Additionally, Aircraft and NHA parameter values can also be viewed as they have been armed with hyperlinks leading to the View Parameters screen.

Exhibit 1: The **View Component Replacement Details** screen



WHAT'S NEW IN ENG. CHANGE ORDER?

Ability to manage BoM, Process Plan and Mfr. Drawings through Eng. Doc

Reference: AHBG-9594

Background

This enhancement brings a new business component **Engineering Change Order** into being under the BPC **Engineering Change Managements** to regulate and track the revisions in Product Structures (BoM), Process Plans and Drawings in the Manufacturing Setup business component.

Change Details

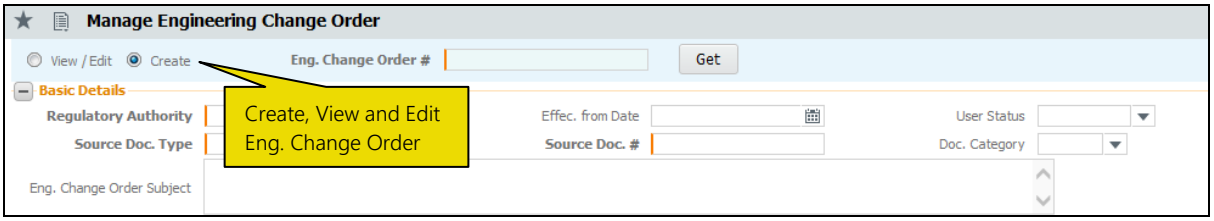
A new screen **Manage Engineering Change Order** has been introduced in the new component **Engineering Change Order**. This screen will enables users to provide an overall picture of the changes proposed to be incorporated into a specific Product Structure, Process Plan and Drawings with reference to Engineering Change Order document. To facilitate changes happening in Product Structures, Process Plans and Drawings in a controlled and foolproof manner, any revision for the changes of Product Structures, Process Plans and Drawings must be confirmed and approved by designated authority in this new component.

Manage Engineering Change Order

This Engineering document facilitate users to control and track Engineering changes to Product Structures (BoM), Process Plans and Drawings.

Exhibit 1:

Eng. Change Order – Mode

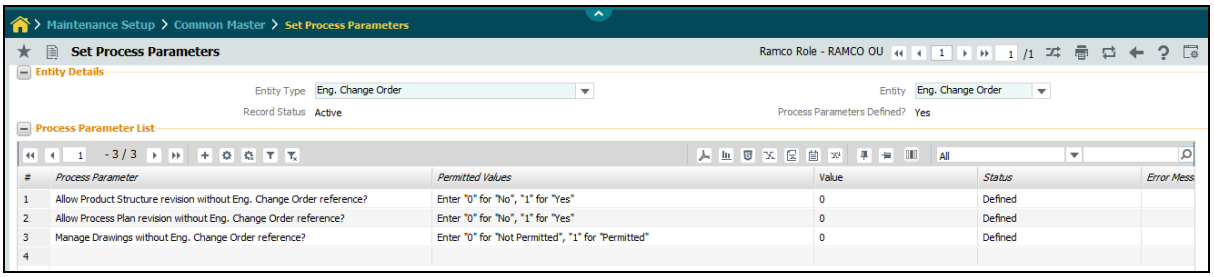


When the User clicks on Create mode a new Eng. Change Order can be created in Fresh status by saving the following mandatory information's.

- Eng. Change Order # - User entered alphanumeric like serial number of the ECO.
- Regulatory Authority – Select the Authority
- Source Doc. Type – Select the Source Document type
- Source Doc. # - User entered alphanumeric Source Document number

Exhibit 2:

Eng. Change Order – Set Options



Setting parameters in the **Define Process Entities** Business component

The following Process Parameters have been added in the **Define Process Entities** activity under the Entity Type "Eng. Change Order" and Entity "Eng. Change Order".

- Allow Product Structure revision without Eng. Change Order reference?

  If set as No, then system will not allow users to create Product structure revision if there is no ECO reference in the Approved status. If set as Yes, then system will allow users to revise and make any change in the Product Structure without Eng. Change Order reference. If value is not defined then system considers it as "1" i.e. Yes.
- Allow Process Plan revision without Eng. Change Order reference?

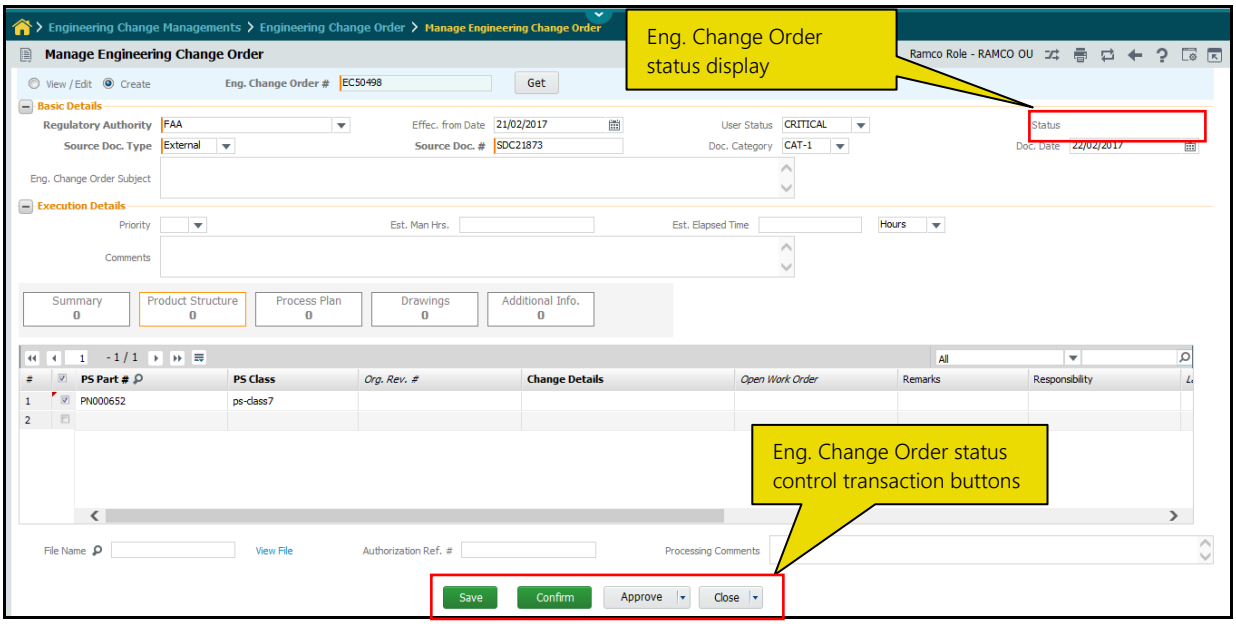
When set as No, the system will not allow users to create Process Plan revision if there is no ECO reference in the Approved status. If set as Yes, the system will allow users to revise and make any change in the Process Plan without Eng. Change Order reference. If value is not defined then system considers it as "1" i.e. Yes.

- Manage Drawings without Eng. Change Order reference?

  When set as Not Permitted, the system will not allow users to Manage Drawing changes, if there is no ECO reference in the Approved status. If set as Permitted, then system will allow users to revise and make any change in the Drawings without Eng. Change Order reference. If value is not defined then system considers it as "1" i.e. Yes.

Exhibit 3:

Eng. Change Order - Status

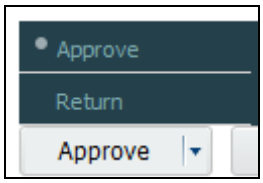


The Eng. Change Order will be created in the 'Fresh' status and can be updated to the following statuses.

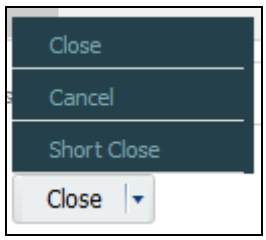
- **Confirm** – Fresh Eng. Change Order will be confirmed only when the change detail of Product Structure, Process Plan and Drawings are recorded. There should be at least one change detail in any of the one entity. Once confirmed the Eng. Change Order can be allowed to Return or Approve or Short Close.

- **Return** – When Confirmed Eng. Change Order needs modification in the saved change details of the Product Structure, Process Plan and Engineering Drawings then it could be Returned and saved again. Once Returned the Eng. Change Order can be allowed only to save it again and now the status will be from Fresh.

- **Approve** – The status Approved will be updated after Confirmed, no corrections allowed in the Eng. Change Order and then line level status will update as Pending. Once approved the Eng. Change Order can be allowed to Close or Short Close.



- **Close** – If the change details successfully incorporated by revising the Product Structure (BoM), Process Plan and Drawings, then incorporated change details in the Eng. Change Order have to be updated manually as Complete and will be updated as Closed.
- **Short Close** – Eng. Change Order will be Short Closed from Fresh, Confirmed and Approved statuses and then all the line level status will update as Short Closed.
- **Cancel** – Eng. Change Order will be cancelled from Fresh status. Once the Eng. Change Order is cancelled no further update is allowed.

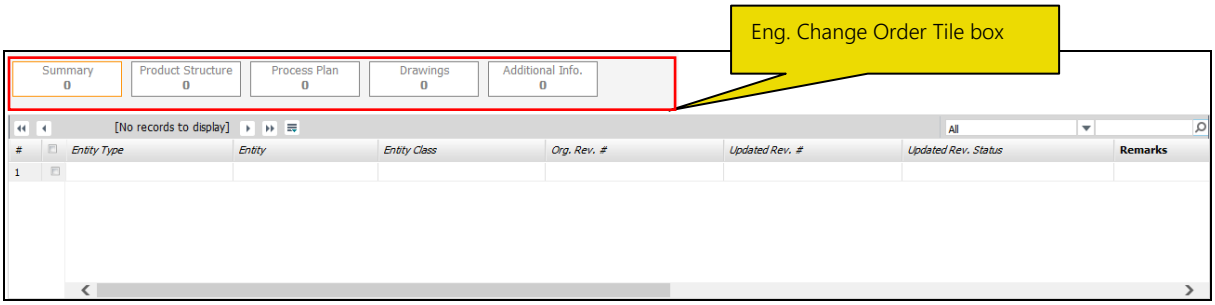


Note: Closed, Short Closed and Cancelled are considered as terminating status.

Exhibit 4:

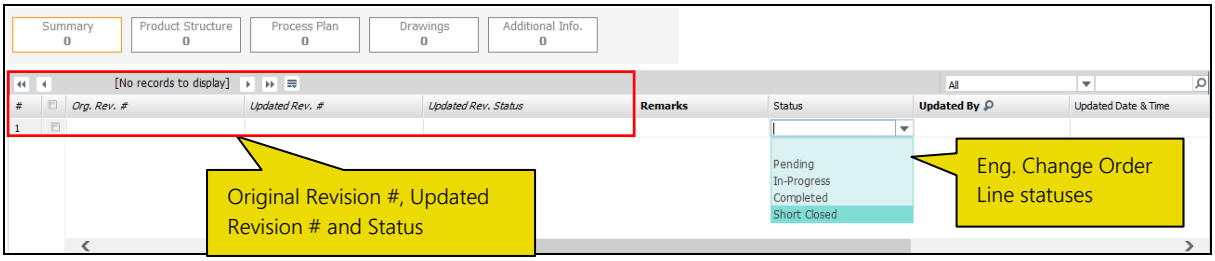
Eng. Change Order – Tile box

The following Tile boxes are given below.

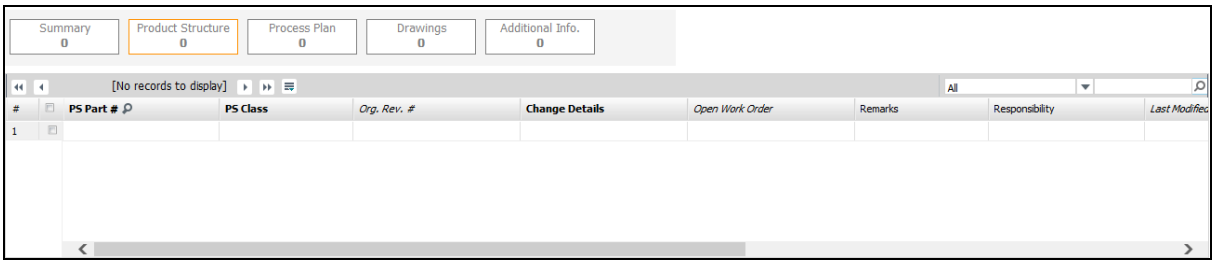


Summary, Product Structure, Process Plan, Drawings and Additional Info are the Tile Boxes in the Eng. Change Order.

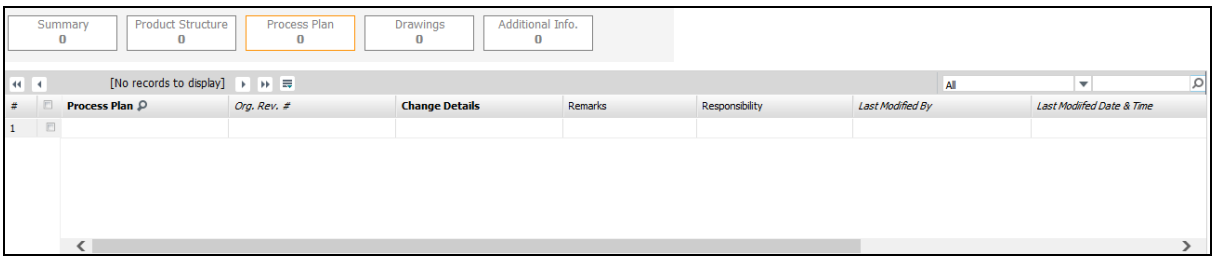
- **Summary** – It will list all the Entities of change details i.e. Product Structure, Process Plan, Drawings and Additional Info. and each status can be controlled by the user manually in Summary. **Original Rev.** will be derived from the Manufacturing Setup to the Product Structure and Process Plan when it is added to the Eng. Change Order and **Updated Rev.** is the latest revision will be derived from the Manufacturing Setup to the Product Structure and Process Plan.



- **Product Structure** – A valid Product Structure i.e. PS Part # and PS Class its change details can be saved in this tile, once saved the **Original Revision #** i.e. Revision # of the PS Part # and PS Class combination when it added to the Eng. Change Order will be displayed in the summary along with PS Part # and PS Class. **Open Work Order** will derive the count of shop work order is still not closed for the PS Part #.



- **Process Plan** – A valid Process Plan # its change details can be saved in this tile, once saved the **Original Revision #** i.e. Revision # of the Process Plan # when it added to the Eng. Change Order will be displayed in the summary along with Process Plan #.



- **Drawings** – A valid Drawing information of Product Structure (BoM) and Process Plan its change details can be recorded in this tile. If any engineering Drawing information available for PS Part #, Part # (Child Part of PS Part) and Task # (Task in Process Plan) and that needs to be modified,

then the same will be saved under the respective entity in the Drawings tile.

Document from the **Library Information** can be associated to the drawings each entity.

- **Additional Info** – Any note for references can be recorded in this tile. The user can create an entity against the Product Structure, Process Plan and Drawings and record details for the same.

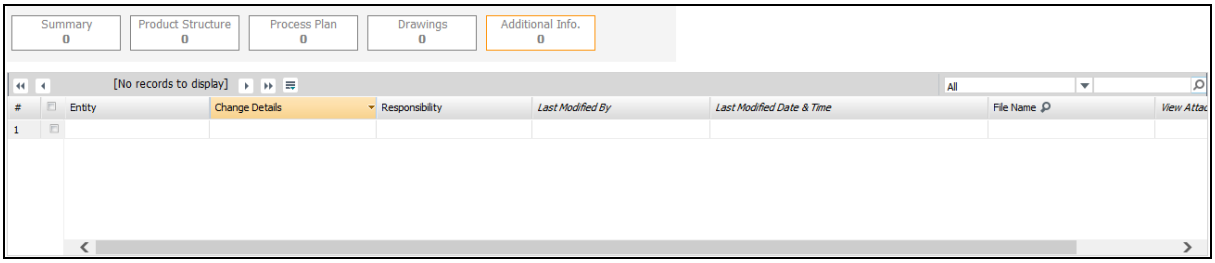
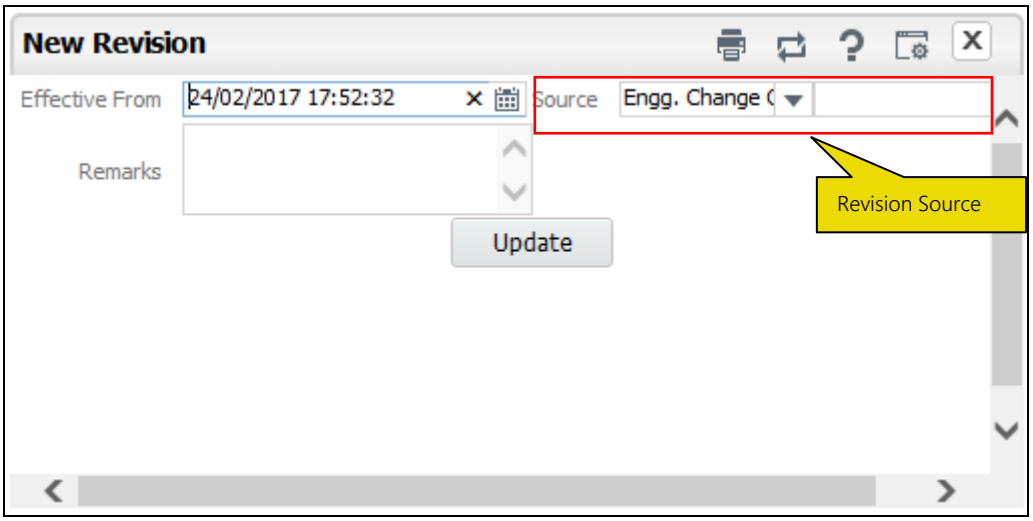


Exhibit 5:

Eng. Change Order - Revision Source in Manufacturing Setup

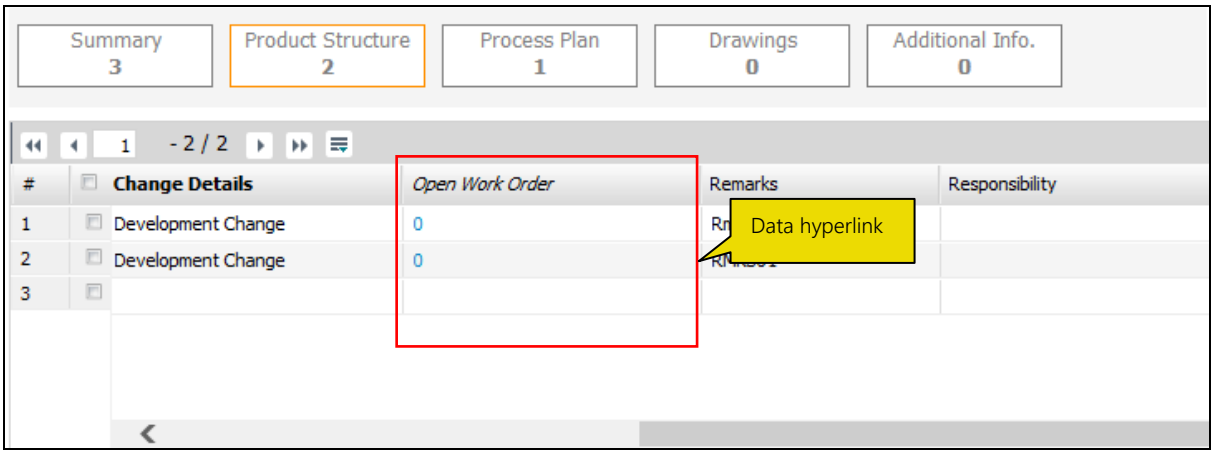


In **the Manufacturing Setup** business component, the change details saved in the Eng. Change Order for the product structure and process plan will be incorporated by saving it to the new revision. In the new revision, Source will be updated as Eng. Change Order and Eng. Change Order #. However, the Eng. Change Order document on which the revision is based must not be in the Closed, Cancelled and Short Closed status.

Upon successful revision of the product structure and process plan, the new revision # and status are back updated as 'Updated Revision #' and 'Updated Revision Status' in the Summary tile of the connected Eng. Change Order document.

Exhibit 6:

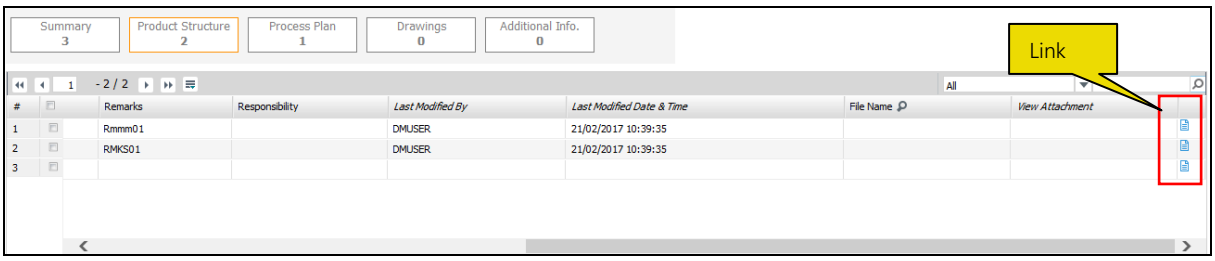
Eng. Change Order - Data hyperlink



Open Work Order – Data hyperlink will display the count of shop work order in Planned, In-progress status to the Part # in the Product Structure and it launches the Plan Work Order screen where the user can also plan for execution.

Exhibit 7:

Eng. Change Order – Link

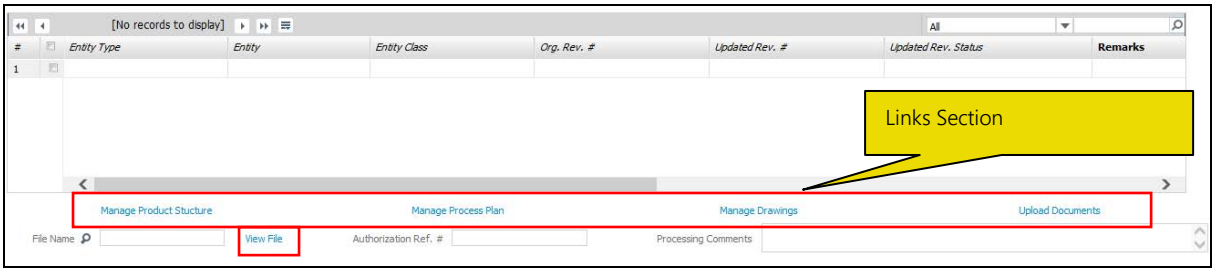


Link - - This link is available in the Product Structure, Process Plan and Drawings sections and it launches the Manage Product Structure, Manage Process Plan and Manage Engineering Drawings screens.

The following links are available in the Summary section.

- Manage Product Structure
- Manage Process Plan
- Manage Drawings

- Upload Documents
- View File



The **View File** link will open the attached file which was uploaded against the Eng. Change Order document.

Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.

WHAT'S NEW IN TECHNICAL RECORDS?

Ability to view technical records of entire fleet and direct access to Tech Records hub

Reference: AHBG-6110

Background

The new **Fleet Overview** screen caters to the business need for a top-level view of technical and exception status of the organization aircraft and, from there on the ability to traverse to the Tech Records Hub to perform Configuration, Program and Compliance tasks on individual aircraft. An innovative facility called bookmarking of specific aircraft has also been introduced in this screen. Users can now bookmark aircraft that they work with frequently or that have tasks pending to be executed / completed on them. This helps users to retain focus on specific aircraft since the last visit to the screen instead of repeated search of the entire fleet.

Change Details

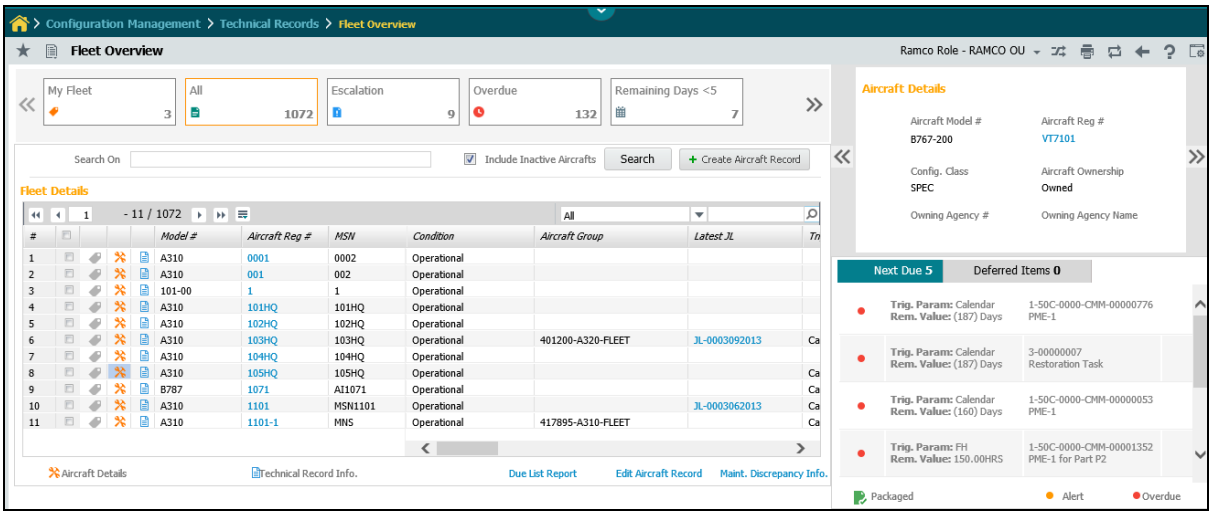
This enhancement introduces **Fleet Overview** screen of **Technical Records** business components. In Fleet Overview, the screen layout is designed as follows.

- Exception Tiles
- Search Section
- Fleet Details Grid
- Links
- Cards – for Aircraft Details, Engine Details, Parameter Details
- Next Due for scheduled maintenance
- Deferred Items

Detailed description on each of these sections follows next.

Exhibit 1:

Fleet Overview screen



Now let us understand the various sections in detail.

Exhibit 2:

Fleet Overview screen – Exception Tiles – My Fleet, All, Escalation, Overdue and Remaining Days <5

Exhibit 3:

Fleet Overview screen – Exception Tiles – Error Position, Pending Initialization and Open Package

Exception Tiles

This section displays the following tiles in the listed order:

- My Fleet - The user can click on the bookmark icon in the multiline against the aircraft to be added to the 'My Fleet'. After bookmarking an Aircraft, the Aircraft gets added to the 'My Fleet' & the icon changes to
- All – This tile displays the entire list of Aircraft available in the Organization
- Escalation – This tile displays the number of aircraft with short term escalations
- Overdue – This tile displayed the number of aircraft with overdue tasks. This exception tile

considers the attached components also (i.e.) even if the subassembly attached to the Aircraft is having overdue tasks, then the aircraft is considered to be overdue.

- Remaining Days < 5 – This tile displays the number of aircraft with tasks which will get due in 5 days. This exception tile considers the attached components also (i.e.) even if the subassembly attached to the Aircraft is having tasks with Remaining Days < 5, then the Aircraft is considered to have exception.
- Error Position – This tile displays the number of aircraft having error positions in their configuration. This exception tile considers the attached components also (i.e.) even if the subassembly attached to the Aircraft is having error position, then the Aircraft is included in the tile.
- Pending Initialization – This tile displays the number of Aircraft having Schedules to be initialized in their Maintenance Program. This exception tile considers the attached components also (i.e.) even if the subassembly attached to the Aircraft is having Tasks which are not initialized, then the Aircraft is included in the tile.
- Open Package – This tile displays the number of Aircraft having open packages (i.e.) Packages which are in the 'Planned' and 'In-Progress' status.

Note: By default, if there are no Aircraft bookmarked in 'My Fleet', then 'All' tile will be enabled on page launch. If the user has bookmarked any Aircraft to 'My Fleet', then 'My Fleet' will be defaulted on every page launch.

Exhibit 4:

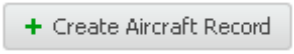
Fleet Overview screen – Search Section

Search Section

This section allows keyword search to be performed in the following

- Aircraft Reg. #
- Model #
- MSN #
- Customer #
- Aircraft Group

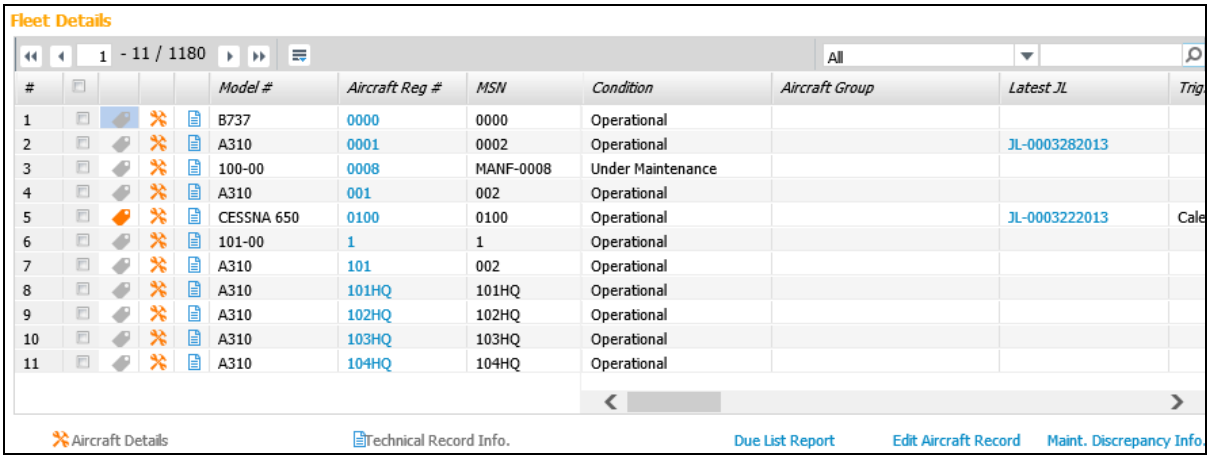
User can launch '**Create Aircraft**' screen by clicking the following icon.



When the 'Include Inactive Aircraft' is unselected, the system does not consider the Inactive Aircraft for the search operation. Search depends on the tile which is active. For example, if the user has clicked on the 'Escalation' tile (say, with 9 records) & tries to perform search operation, then the search will be performed in these 9 records only.

Exhibit 5:

Fleet Overview screen – Fleet Details Grid



Fleet Details Grid

The Grid is organized in such a way to make overview & further actions at ease & quick by providing the relevant links in place. There are 3 image links as follows.

- Adds the selected Aircraft to the 'My Fleet' tile by bookmarking it

Retrieves the additional details of the Aircraft against which the icon is clicked

Launches the Tech Records Hub (Manage Aircraft / Component Records screen) for the Aircraft

Further, data hyperlinks are provided on clicking the values in the following columns

- Aircraft Reg. # - Launches the View Aircraft Record screen to view further details of the Aircraft
- Latest JL – Launches the View Journey Log screen with the details of the latest Journey Log
- Config. Status – Launches the Configuration tab in Tech Records Hub where the user can modify build / approve / view the configuration of the aircraft & the sub-assemblies attached to the aircraft along with other Straight through processing & other actions like Re-Sequencing, Delete Position, Validation.
- Prog. Status – Launches the Program tab in Tech Records Hub where the user can associate,

edit, confirm, return or activate the Maintenance Program of the given Aircraft or the sub-assemblies attached to the Aircraft, along with other Straight through processing & other actions like Validation, Task or Schedule Deletion, Next Due Computation, etc.

- Open Package – Launches the Manage Work Assignments & Reporting screen for further processing
- Open EO – Launches the Manage Eng. Document screen to modify or release the Open Engineering Document.
- Open STE – Launches the Inquire Short Term Escalation screen to view or edit the Short Term Escalations
- Pending Verification & Audit – Launches the Track Maintenance Compliance History screen to Verify and/or Audit the pending tasks

Let us know about the columns displayed in the multiple:

1. **My Fleet** (Icon) – Indicates whether the aircraft is bookmarked (i.e.) included in 'My Fleet' or not.
2. **Aircraft Details** (Icon) – Click to update the screen with the details of the aircraft
3. **Technical Records Info**. (Icon) – Click to launch the Tech Records Hub for the respective Aircraft
4. **Model #** - Aircraft Model # of the aircraft
5. **Aircraft Reg #** - Tail # of the aircraft
6. **MSN** – Manufacturer Serial # of the aircraft
7. **Condition** – Condition of the aircraft
8. **Aircraft Group** – The Aircraft group to which the aircraft is associated. If the aircraft belongs to many Aircraft Groups, all these aircraft groups will be displayed.
9. **Latest JL** – Latest Journey Log against the respective aircraft. This column will be blank if the aircraft is having no Journey Logs. Only Journey Logs in Fresh and Confirmed status will be considered
10. **Trig. Param**. – The parameter which makes the aircraft due for Maintenance
11. **Due Value** – Due Value of the Triggering Parameter. If the Due Value has crossed the Alert Value then it will be displayed in Orange text. If the value is Overdue, then it will be displayed in Red text
12. **Rem. Value** – Remaining Value until the task becomes due for maintenance.
13. **Earliest Due Task / Discrepancy** – Task / Discrepancy which is the earliest to become due for Maintenance
14. **Open Def. Count** – Deferred Items in 'Open' status. '0' will be displayed if there are no Open Def. Count
15. **Record Status** –Record Status of the respective aircraft (i.e.) Active, Inactive, Under Creation
16. **Aircraft Status** – Quick code defined by the user & tagged to the aircraft record

17. **Config. Status** – Configuration Status of the respective Aircraft (i.e.) Fresh, Active, etc. This column will display hyphen data hyperlink (-) when the aircraft is having no Configuration
18. **Assy. Status** – Assembly Status of the aircraft (i.e.) Dormant, Complete, etc.
19. **Prog. Status** – Program Status of the respective Aircraft (i.e.) Fresh, Confirm, Active, etc.
20. **Open Package** – The count of 'Planned' and 'In-progress' packages of the respective Aircraft. The count will be displayed as '0', when there is no Open Package for the Aircraft
21. **Open EO** – The count of released Engineering Documents which are effective for the Aircraft but the Tasks are not complied yet. The count will be displayed as '0', when there is no Open EO for the Aircraft
22. **Open STE** - Displays the count of Processed STE documents against the respective Aircraft. The count will be displayed as '0', when there is no Open STE against the Aircraft
23. **Pending Verification & Audit** - This column will display the count of tasks that are pending to be verified and audited based on the Set Option '**Verification/Auditing of Compliance in "Track Maintenance Compliance History"** screen. The count '0' will be displayed, if there are no tasks pending for compliance verification and/or audit for the aircraft.

Links

The following links are also provided

- Due List Report – to check the list of tasks that are due & overdue against the selected Aircraft
- Edit Aircraft Record – to modify the Aircraft record
- Maintain Discrepancy Information – To process open discrepancies & revise deferral limits

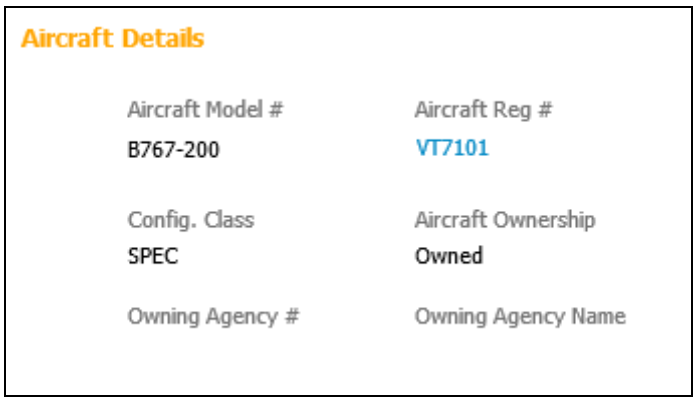
Cards section

The Card section has 3 cards which provides additional information related to the aircraft selected in the grid – namely – Aircraft Details, Engine Details and Parameter Details

1. Aircraft Details

Exhibit 6:

Fleet Overview screen – Card Section – Aircraft Details



The following details are displayed in the Aircraft Details section

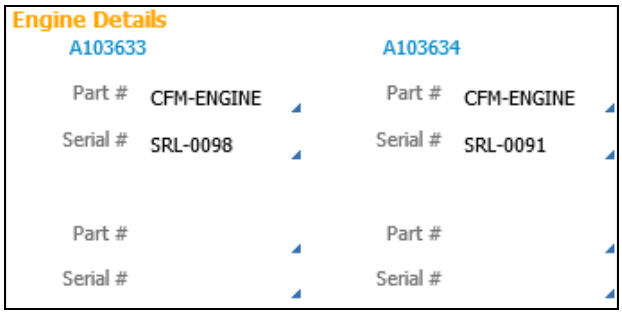
- Aircraft Model #
- Aircraft Reg. #
- Config. Class
- Aircraft Ownership
- Owning Agency #
- Owning Agency Name

Aircraft Reg. # is hyperlinked to '**View Aircraft Record**' to view further details of the aircraft.

2. Engine Details

Exhibit 7:

Fleet Overview screen – Card Section – Engine Details



The following details are displayed in the Engine Details section for each engine attached to the aircraft.

- Component #
- Part #
- Serial #

The section displays the details for a maximum of 4 engines. Component # for the engines is hyperlinked to '**View Component Record**' to view further details of the Component.

3. Parameter Details

Exhibit 8:

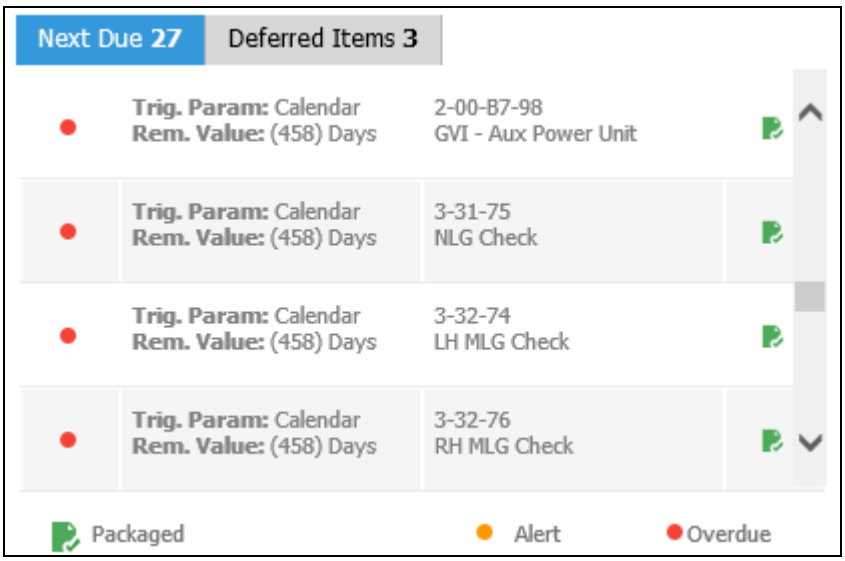
Fleet Overview screen – Card Section – Parameter Details

The following details are displayed in the Parameter Details section for the aircraft in context.

- Total Hrs.
- Total Cycles
- Flight Date (displays the latest Flight date)
- Link to 'View Consumption & Range Parameters' screen

Exhibit 9:

Fleet Overview screen – Next Due



Next Due

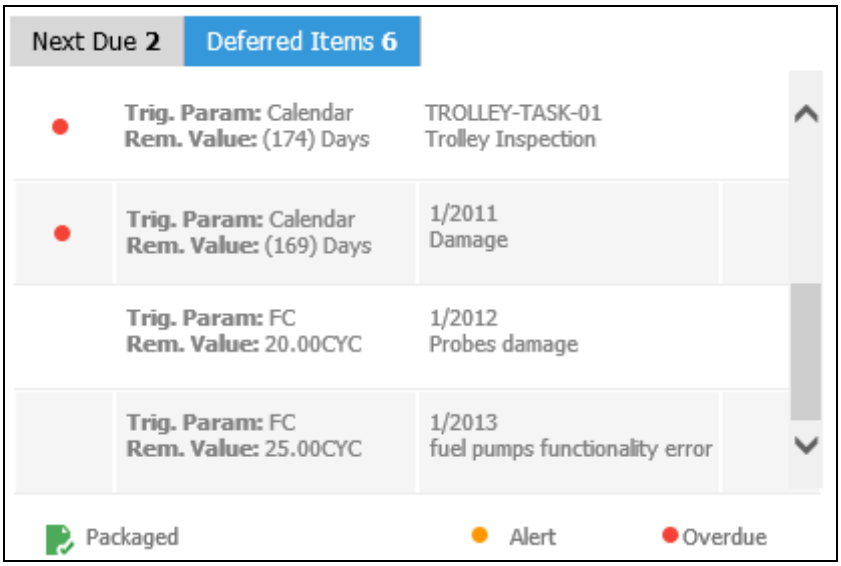
Next Due displays the count of tasks which fall within the horizon as set by the option 'Planning Horizon for Job Allocation (Days)'. For each of these tasks, the system displays the following information

- Alert/Overdue icons
  - Alert – The system displays an Orange dot [●] when the Task has crossed its Alert Value
  - Overdue – The system displays a Red dot [●] when the Task is overdue
- Triggering Parameter & Remaining Value
- Task # & Task Description
- Packaged? – When the task is already packaged, the system displays the Packaged icon [ ] against the Task #

> *Note: If Remaining Value of the parameter is negative, it is displayed in parenthesis.*

Exhibit 10:

Fleet Overview screen – Deferred Items



Deferred Items

Deferred Items display the count of the 'Deferred' discrepancies for the given aircraft. For each of these discrepancies, the system displays the following information using Alert/Overdue icons:

- Alert – [●] if the task has crossed its Alert Value
- Overdue – [●] if the task is overdue
- Triggering Parameter & Remaining Value
- Discrepancy # & Discrepancy Description

> *Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.*

Ability to view Parameter Values in Tech Records Hub

Reference: AHBG-7939

Background

This enhancement brings about improvements in the **Manage Aircraft / Component Records** screen of the **Technical Records** business component. It addresses the need of the Tech Records personnel who while working on the Configuration and Program details of an aircraft / a sub-assembly may want to view the parameter values of the maintenance object and also its attached sub-assemblies.

Change Details

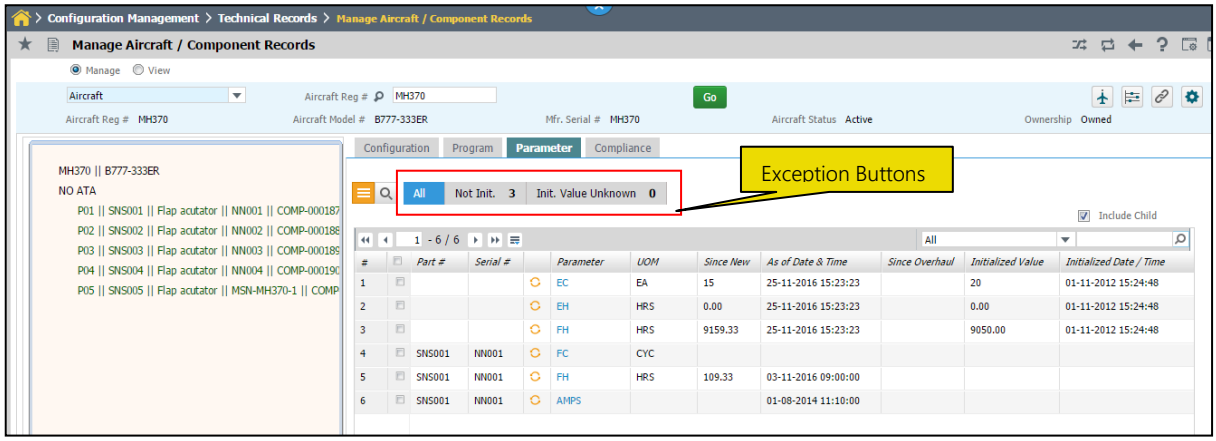
A new tab **Parameter** is added along with the existing tabs namely **Configuration**, **Program** and **Compliance**. The tab will display the details of all the parameters mapped to the searched maintenance object. There is also provision to display the parameter details of all the sub-assemblies attached to the maintenance object.

Parameter tab

This tab facilitates viewing of the details of the parameter mapped to the searched maintenance object and also its attached sub-assemblies in one go. Further, exception filters and search are provided in the **Parameter** tab in the **Technical Records** hub

Exhibit 1:

Parameter tab – Exception Buttons



The following exceptions filters are available for the user:

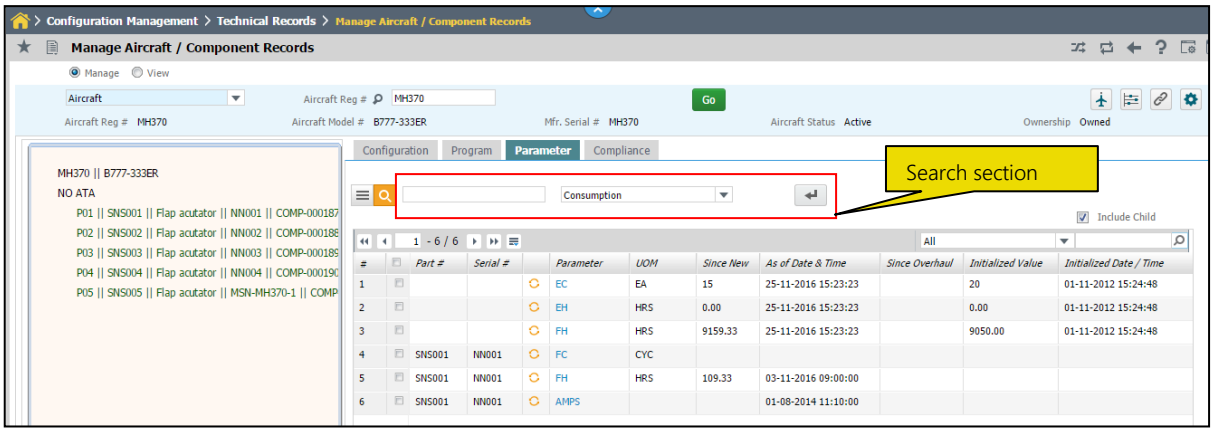
- **All** – Retrieves those parameters that are mapped to the maintenance object
- **Not Init.** – Retrieves those parameters that are not initialized and displays their count
- **Init. Value Unknown** – Retrieves those parameters with 'Init. Value Unknown' flag set as 'Yes' and displays their count.

> *Note: If 'Include Child' is selected then the exception filters retrieves the corresponding parameters of the maintenance object along with those of all the sub-assemblies attached to the maintenance object.*

The user can click on the required exception filter to retrieve the criteria-matching records in the multiline.

Exhibit 2:

Parameter tab – Search section



Following searches are available to the user.

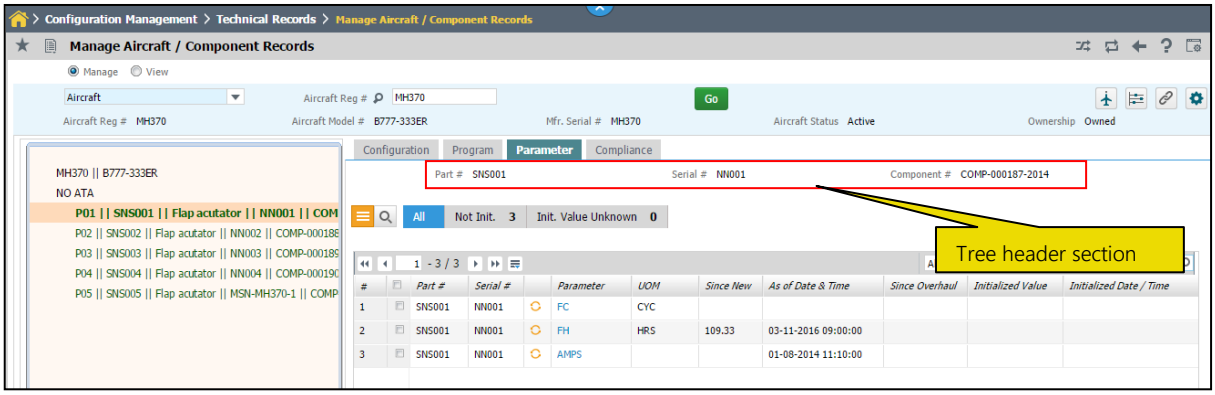
- Keyword search in the following attributes – Part #, Serial #, Parameter, Parameter Description
- **Search by** using Parameter Type (i.e.) Consumption, Range, Attribute and Technical

> *Note: If 'Include Child' is selected then the search will also be performed on the parameters of all the sub-assemblies attached to the maintenance object along with the parameters of the maintenance object*

The user can provide the required search text and click on the **Get** button to retrieve the search results in the multiline.

Exhibit 3:

Parameter tab – Tree Header section

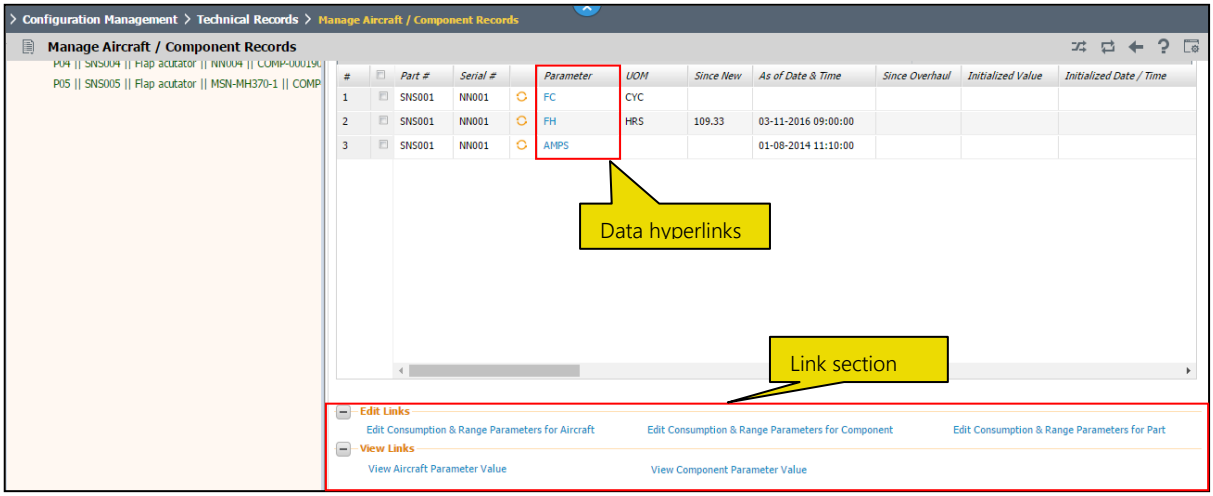


When the user clicks on any node in the **Configuration** tree, the details of the exception filters will be updated for the selected sub-assembly and the following details will be displayed in the **Tree** header section.

- Part #
- Serial #
- Component #

Exhibit 4:

Parameter tab – Link section



The following links are available to the user for further processing of the parameters.

Data Hyperlinks

- **PV icon** link - - This link launches the **Re-Initialize / Update Parameter Values** screen where the user can validate, re-initialize or update the parameters. Based on the context of the row on which the icon is clicked, (i.e.) aircraft / sub-assembly, an auto-search is performed while launching the link screen to retrieve all the parameters for the respective Maintenance Object
- **Parameter** link – This link launches **View Aircraft Parameter History** screen or **View Component Parameter History** screen based on the context of the row (i.e.) Aircraft / Sub-assembly. For example when the Parameter link is clicked for a Sub-assembly, then **View Component Parameter History** screen will be launched.

Edit Links

- **Edit Consumption and Range Parameters for Aircraft**
- **Edit Consumption and Range Parameters for Component**
- **Edit Consumption and Range Parameters for Part**

View Links

- View Aircraft Parameter Value
- View Component Parameter Value

Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.

WHAT'S NEW IN CONFIGURATION MANAGEMENT?

Increase in the number of inheritable parameters to 50

Reference: AHBG-4837

Background

This enhancement brings improvements in **Identify Inheritable Parameters** screen of the **Aircraft** business component, which is launched as a link from the **Set Base Parameters** screen under the same business component. Currently, the system allows only 10 inheritable parameter values for aircraft and components. However, users would require additional inheritable parameter values for tracking in the newly purchased aircraft models.

Change Details

This enhancement allows definition of 40 additional inheritable parameters. Now, you can record values for a total number of 50 inheritable parameters in the system.

Exhibit 1: Identifies the changes in **Identify Inheritable Parameters** screen

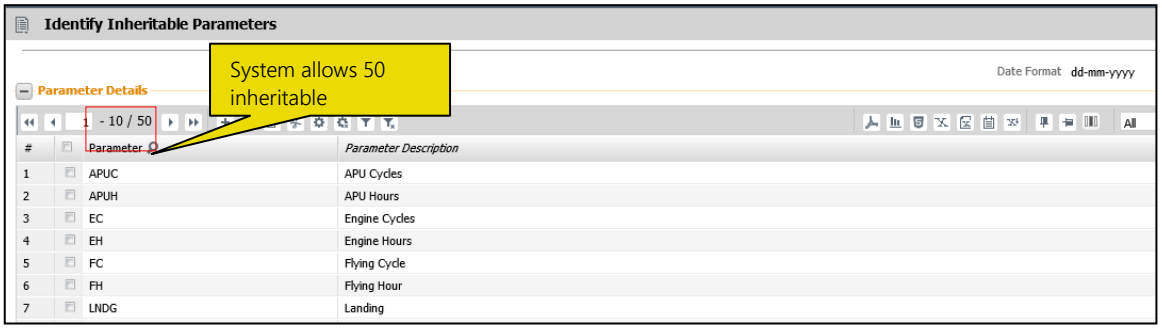
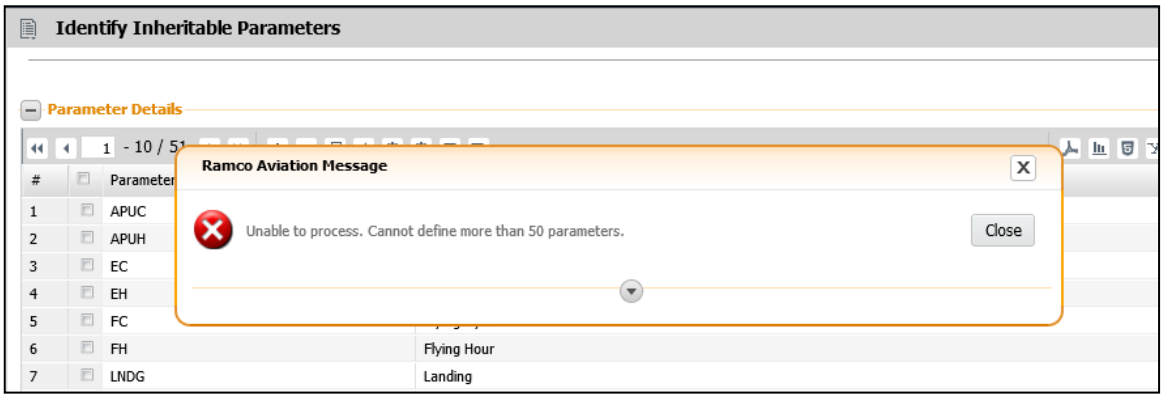


Exhibit 2:

The existing validation of preventing the user from adding more than 10 inheritable parameters is modified to handle a maximum of 50 inheritable parameters.



Ability to conditionally delete parameters mapped to Aircraft and Component

AHBG-11982

Background

In specific scenarios, the Technical, Attribute, Consumption and Range parameters mapped to aircraft and components become redundant or mapped wrongly and hence may need to be disassociated from the maintenance object. Currently, users are not allowed to delete parameters mapped to aircraft and components. Conversely, owing to changed circumstances, some of the deleted parameters could become applicable to the maintenance object yet again.

Change Details

This enhancement enables deletion of parameters mapped to maintenance objects based on a new process parameter 'Allow deletion of parameters for Aircraft and Component'.

The process parameter 'Allow deletion of parameters for Aircraft and Component' under the entity type 'Tech Records Process Ctrl' for the entity 'Manage Technical Records' in the Define Process Entities activity of Common Master has been introduced to ascertain whether the user is allowed or disallowed to delete the parameters.

Process Parameter value	Impact
1/Yes	The user can delete aircraft and component parameters in the **Aircraft** component
0/No	The user cannot delete aircraft and component parameters in the **Aircraft** component

In the Aircraft component, as facilitated by this enhancement, users can now delete the Technical, Attribute, Consumption and Range parameters associated with aircraft and components as illustrated in the table.

Activity	Pages
Edit Aircraft Record	Edit Technical and Attribute Parameters Edit Consumption and Range Parameters
Edit Component Record	Edit Technical and Attribute Parameters Edit Consumption and Range Parameters

Note: The deleted parameters are disassociated from the aircraft and component and not from the attached components/sub-assemblies.

The enhancement also provides for the following to ensure the retrieval of the present value of the parameter in the event of associating deleted parameters to the aircraft/component again:

- Maintains a log to save the details of the deleted parameter
- Retains the history of the parameter value update

Exhibit 1: The **Edit Technical and Attribute Parameters** screen in the **Edit Aircraft Record** activity

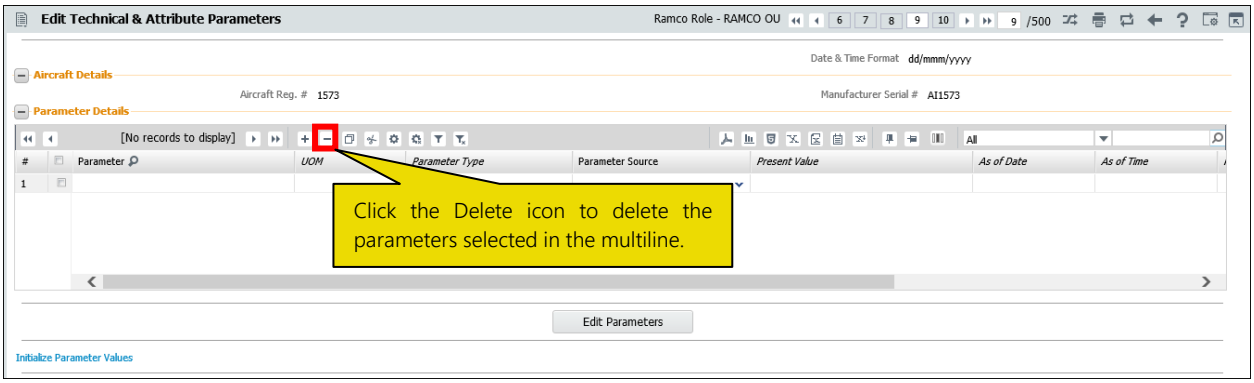


Exhibit 2: The **Edit Consumption and Range Parameters** screen in the **Edit Aircraft Record** activity

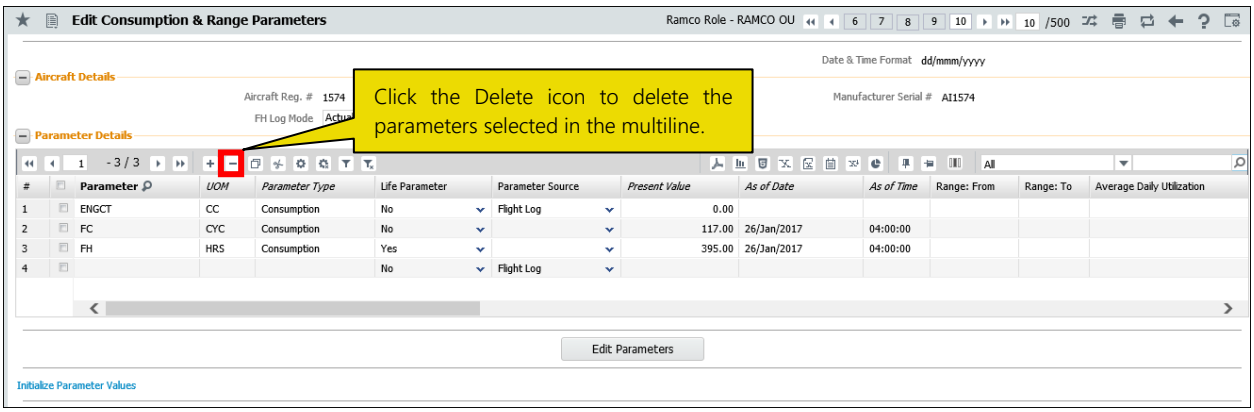


Exhibit 3: The **Edit Technical and Attribute Parameters** screen in the **Edit Component Record** activity

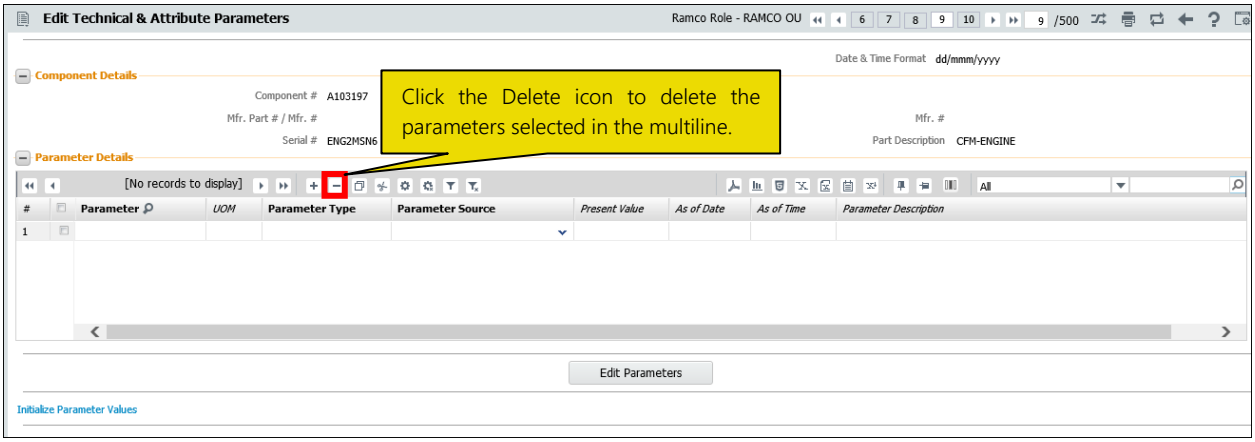
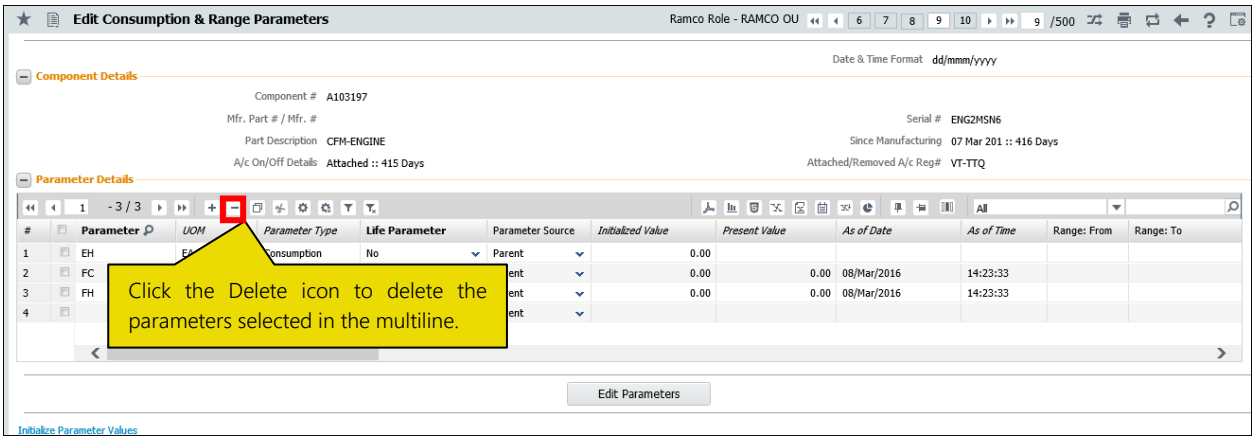


Exhibit 4: The **Edit Consumption and Range Parameters** screen in the **Edit Component Record** activity



Ability to update Parameter value for aircraft with Update Option as “New"

AHBG-11983

Background

Presently, though, update of parameter values for components in Update Mode as New is supported by the system, the same facility is not available for aircraft.

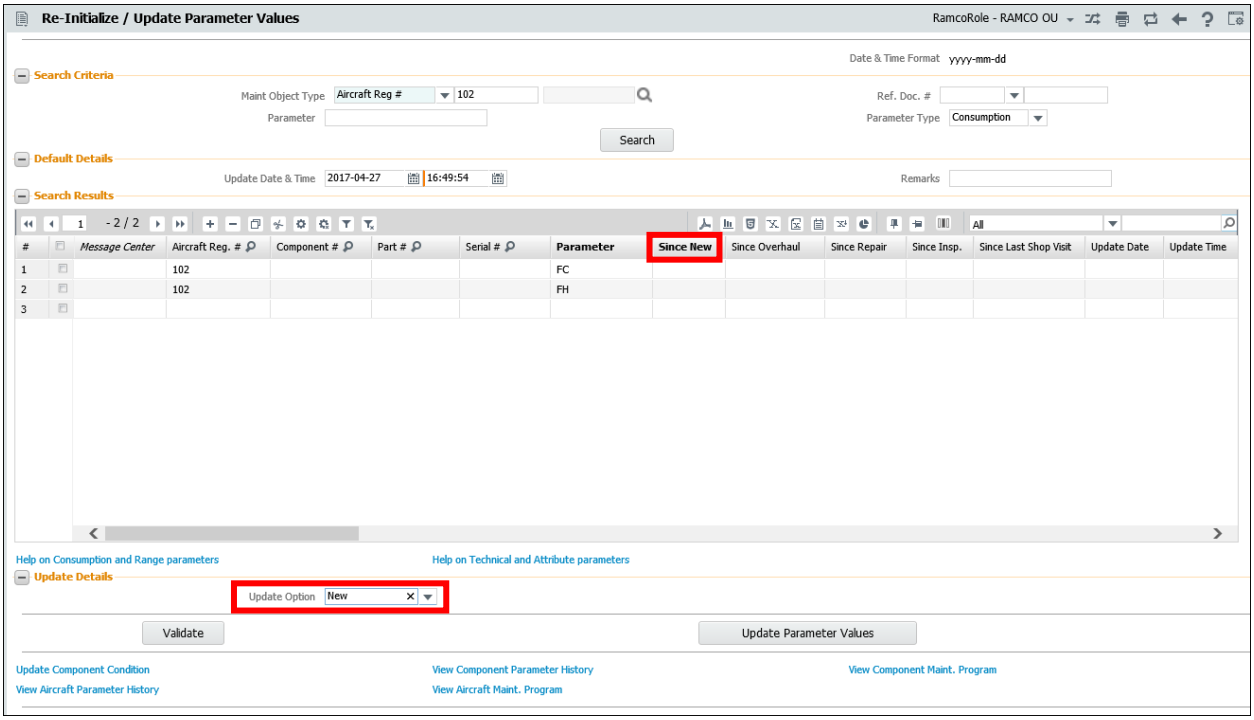
It would enhance usability, if the update of parameter values for aircraft is allowed under Update Mode as ‘New’ instead of Update Mode ‘Delta’ alone.

Change Details

As a result of the enhancement, users can now update parameter value in the Since New field for aircraft under Update Mode ‘New’ depending on the value of a new process parameter. The process parameter ‘Allow New mode update for Aircraft parameter?’ under the entity type 'Tech Records Process Ctrl' for the entity ‘Manage Technical Records’ in the Define Process Entities activity of Common Master allows or disallows the user to update parameter value under Update Mode ‘New’.

Process Parameter value	Impact
1/Yes	The user can update the **Since New** field under **Update Mode** ‘New’
0/No	The user cannot update the **Since New** field under **Update Mode** ‘New’.

Exhibit 1: The **Re-Initialize / Update Parameter Values** screen



WHAT'S NEW IN ENGG CHANGE MANAGEMENT?

Ability to Collaborate in Maintenance Change Request, Process Change Request, Engineering Document, Engineering Service Request & Engineering Advice Note

Reference: AHBG-6450

Background

This enhancement brings improvements in 16 screens of the 4 business components namely, **Maintenance Change Request, Engineering Document, Engineering Service Request** and **Engineering Advice Note**. The screens are improvised to enable Collaboration based on the Reference Doc in context and also have the ability to search the Messages posted for the related upstream and downstream documents along with related entities. For example, when the user is working on a Process Change Request, any new message posting will be against the PCR # on which the user is working. Also, the user will be able to search the messages posted for the upstream (i.e.) MCR # & also downstream (i.e.) Eng. Doc # & the related entities, say Part #, etc.

Change Details

To enable the Collaboration feature a new **Smart Bar** is enabled in all the 16 screens. The Smart Bar launches a pop-up with the Collaboration icon. Clicking this icon launches the **Collaboration** screen where the user can post new messages and start collaborating.

The Collaboration feature is implemented in the following screens.

Maintenance Change Request

- Create Maintenance Change Request
- Edit Maintenance Change Request
- Revise Maintenance Change Request
- View Maintenance Change Request

Engineering Document

- Manage Engineering Order
- Initialize Eng. Doc Schedules
- Process Change Request
- Evaluate Change Request

Engineering Service Request

- Create Engineering Service Request
- Edit Engineering Service Request
- View Engineering Service Request

Engineering Advice Note

- Create Advice Note
- Associate Existing Advice Notes
- Edit Engineering Advice Note
- Revise Engineering Advice Note
- View Engineering Advice Note

We can consider a sample screen to understand the enhancement, say **View Maintenance Change Request** screen.

The user can click on the Smart Bar icon in the screen toolbar. Kindly refer the screenshots. This launches the Collaborate icon. On clicking the Collaborate icon, the **Collaborate** screen is launched as a pop-up.

Exhibit 1:

Toolbar in **View Maintenance Change Request** screen

Exhibit 2:

Toolbar in **View Maintenance Change Request** screen

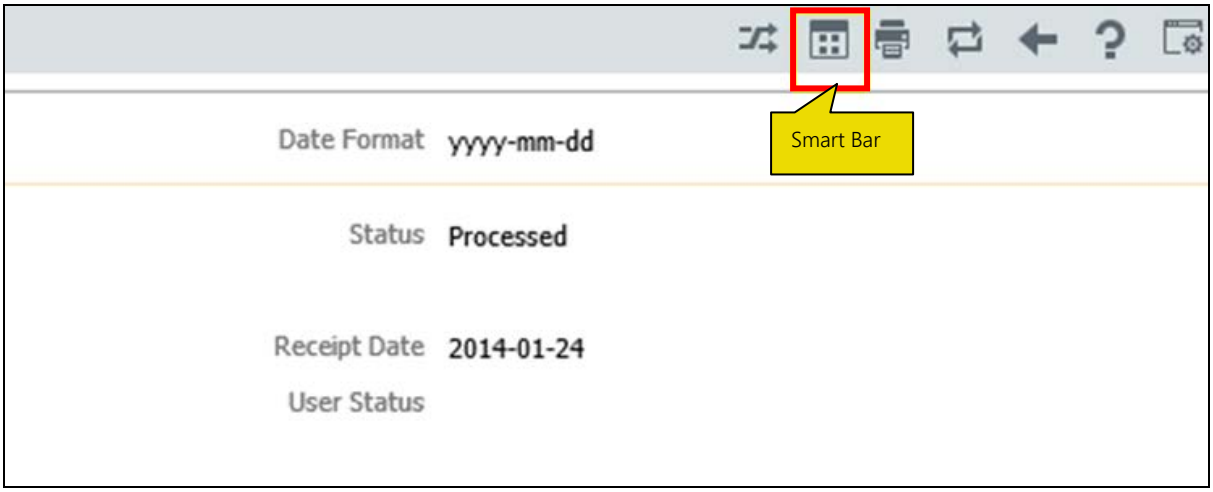


Exhibit 3:

Click on the **Collaborate icon in the Smart Bar**

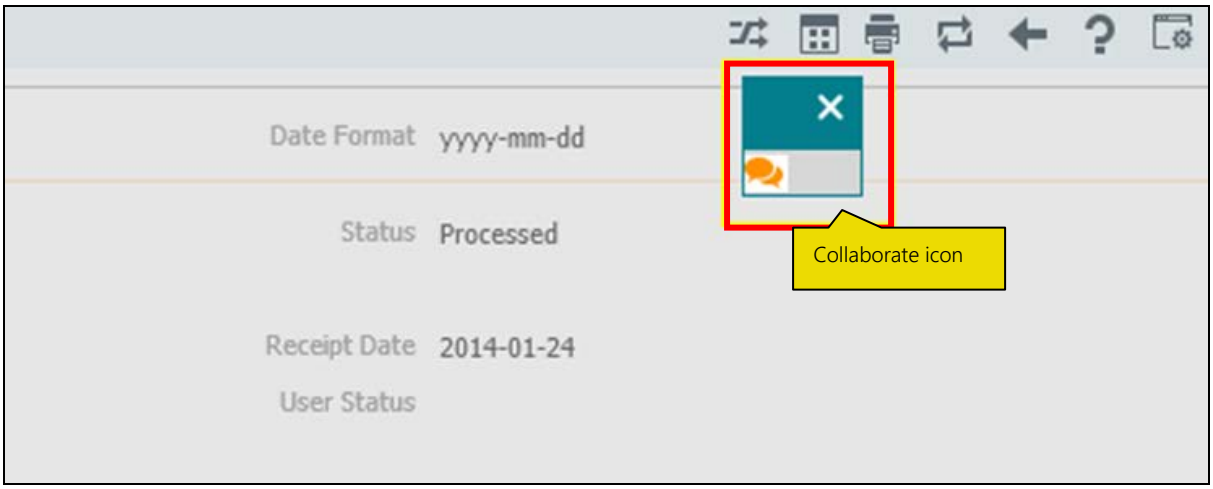
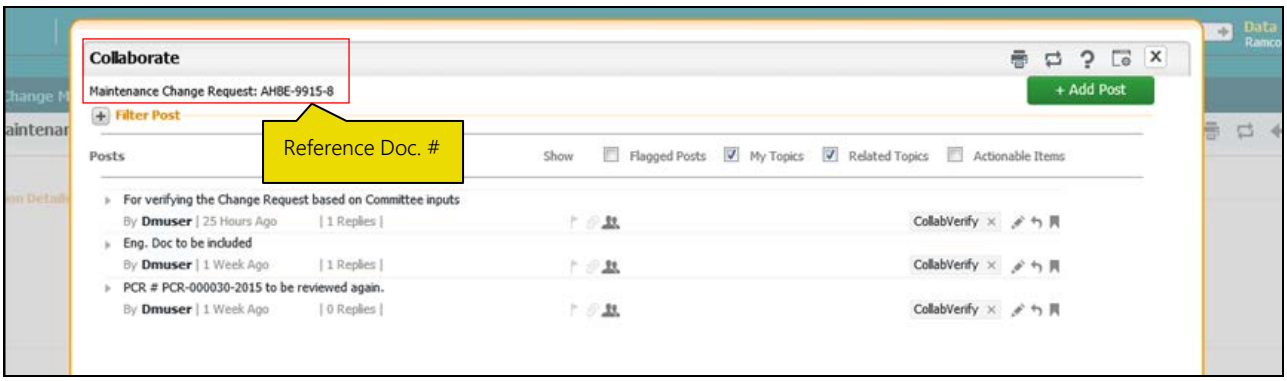


Exhibit 4:

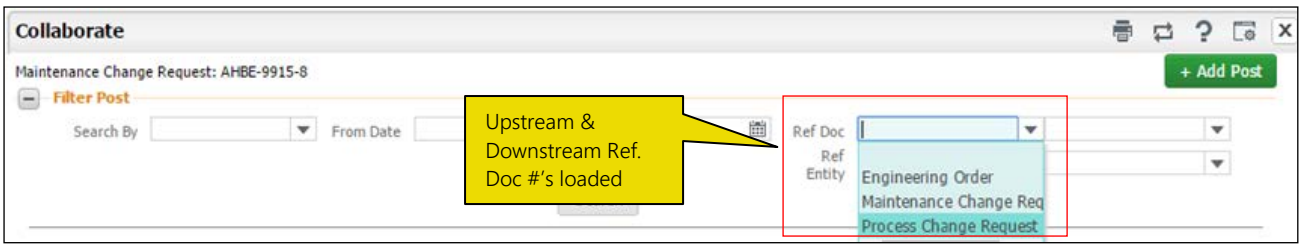
Collaborate screen launched as a pop-up from **View Maintenance Change Request** screen



The Reference Doc. # is displayed as shown above. Any new posts created using the 'Add Post' button will be tagged under the mentioned Reference Doc. #. Also for an MCR, there can be 2 downstream documents such as Process Change Request and Eng. Doc. When such a valid document is available, the Ref. Doc. combo is loaded with the details of these documents. This is to facilitate the user to search for the messages related to these upstream & downstream documents

Exhibit 5:

Ref. Doc. combo with details of upstream and downstream documents



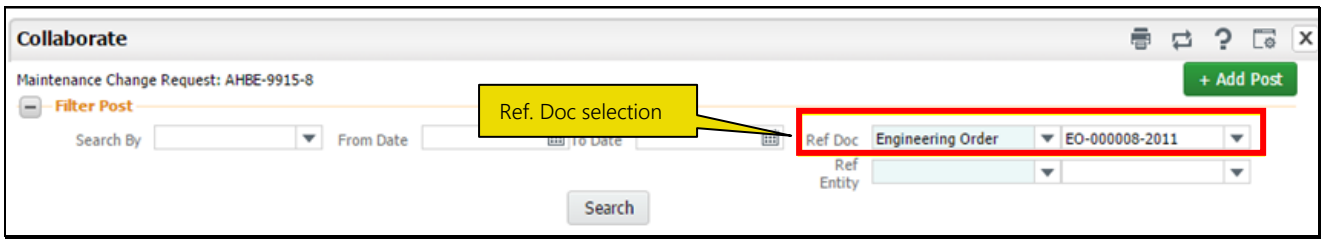
When the user selects any Ref. Doc #, say for example 'Engineering Order', then the system loads the combo with the Eng. Doc # (EO-000008-2011, in our case) which was created using the MCR # (AHBE-9915-8, in our case) on which the user is working. With this, the user can search for the posts created against the Engineering Document.

> *Note: In scenarios where an MCR has only PCR but an Eng. Doc is not yet created, then the 'Ref. Doc. #' will be loaded with 'Maintenance Change Request' and 'Process Change Request' only. The 'Ref. Doc. #' combo will not be loaded with 'Engineering Order'*

Exhibit 6:

Selection of a Ref. Doc.

The details of the screen-wise 'Ref. Doc. #' & the 'Ref. Entity' is given below for reference.



Business Component: Engineering Advice Note

1. Create Advice Note
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request

b. Ref. Entity
    i. Aircraft Reg. #
    ii. Component #
    iii. Part #

2. Associate Existing Advice Notes
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
        iii. Work Order
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component #
        iii. Part #
        iv. Task #
        v. Work Center #
3. Edit Engg. Advice Note
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component #
        iii. Part #

4. Revise Engg Advice Note
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component #
        iii. Part #

5. View Engg. Advice Note
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component
        iii. Part #

Business Component: Engineering Service Request

1. Create Engg. Service Request
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
        iii. Work Order
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component #
        iii. Part #
        iv. Task #
        v. Work Center #
2. Edit Engg. Service Request
    a. Ref. Doc. #
        i. Engineering Advice Note
        ii. Engineering Service Request
        iii. Work Order
    b. Ref. Entity
        i. Aircraft Reg. #
        ii. Component #
        iii. Part #
        iv. Task #
        v. Work Center #
3. View Engg. Service Request
    a. Ref. Doc. #

i. Engineering Advice Note
ii. Engineering Service Request
iii. Work Order

b. Ref. Entity
i. Aircraft Reg. #
ii. Component #
iii. Part #
iv. Task #
v. Work Center #

Business Component: Engineering Document

1. Manage Engineering Order
   a. Ref. Doc. #
      i. Maintenance Change Request
      ii. Process Change Request
      iii. Engineering Order
   b. Ref. Entity
      i. Aircraft Reg. #
      ii. Component #
      iii. Part #
      iv. Task #
2. Initialize Eng. Doc Schedules
   a. Ref. Doc. #
      i. Maintenance Change Request
      ii. Process Change Request
      iii. Engineering Order
   b. Ref. Entity
      i. Aircraft Reg. #
      ii. Component #
      iii. Part #
      iv. Task #
3. Process Change Request
   a. Ref. Doc. #
      i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

b. Ref. Entity

i. Aircraft Reg. #

ii. Component #

iii. Part #

4. Evaluate Change Request

a. Ref. Doc. #

i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

Business Component: Maintenance Change Request

1. Create Maintenance Change Request

a. Ref. Doc. #

i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

2. Edit Maintenance Change Request

a. Ref. Doc. #

i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

3. Revise Maintenance Change Request

a. Ref. Doc. #

i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

4. View Maintenance Change Request

a. Ref. Doc. #

i. Maintenance Change Request

ii. Process Change Request

iii. Engineering Order

Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.

WHAT'S NEW IN AIRCRAFT MAINTENANCE EXECUTION?

Dual Authentication during Modification of Exe. Comments

Reference: AHBG-7333

Background

Aircraft Maintenance Execution in Ramco is recently enhanced to have additional authentication of the user credentials during Task sign-offs. With this feature, Mechanics and Inspectors were enforced to enter their Login Password or PIN while performing Task sign-off. As sign-off of a task is a critical step which is subject to regulatory procedures, addition / modification of Execution Comments of Task after sign-off is highly controlled.

Business need is to have a provision to have additional authentication on the addition of new Execution Comments (or modification of existing Execution Comments) post sign-off.

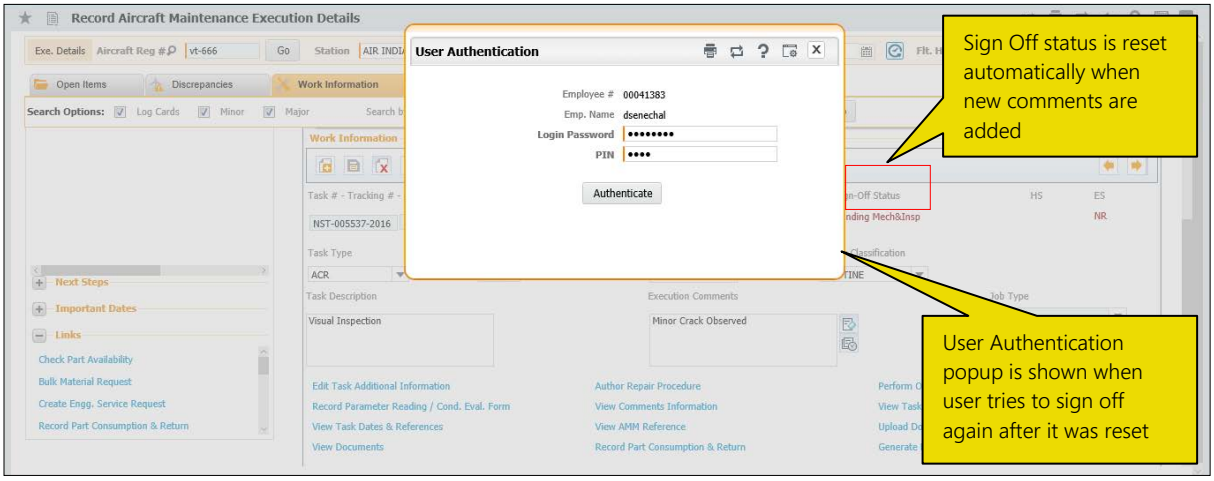
Change Details

A new set option "Revert Sign-off while recording new Execution Comments for a Signed-Off Task?" is added in the **Define Process Entities** activity under the Entity Type "Package Type". This option will be available for all the entities defined under this entity type.

- If this option is set as "Yes", system will revert the Sign-off status to pending on addition of new Execution Comments for a task which is already signed-off (i.e. Sign-off Status is 'Signed-off').
- If this option is set as "No", system will retain the Sign-off status on addition of Execution Comments for a task which is already Signed-off. This is the existing functionality.

As sign-off status gets reset, it is required for the mechanic/inspector to perform sign-off again, during when the user will be re-authenticated (as per the existing dual authentication capability as displayed below).

Exhibit 1: Dual Authentication popup



Another option "Allow Exe. Comments modification after Task Sign-Off?" is added in the **Define Process Entities** activity under the Entity Type "Package Type".

- If this option is set as "Yes", system will allow modification of existing Execution Comments even for a task which is already signed-off (i.e. Sign-off Status is 'Signed-off'). This is the existing functionality.
- If this option is set as "No", system will restrict modification of existing Execution Comments for a task which is already signed-off (i.e. Sign-off Status is 'Signed-off'). User has to manually remove existing sign off information and then modify the execution comments and perform sign-off again, during which the user will be authenticated.

Note: Modification of Corrective Action is not allowed if the Discrepancy is already Signed-Off (i.e. Sign-off Status is Signed-Off). This is an existing behaviour and is not controlled by any set option.

> ***Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.***

WHAT'S NEW IN AIRCRAFT / SHOP WORK MANAGEMENT?

Ability to Display Customer Name in Work Monitoring and Control screen

Reference: AHBG-7978

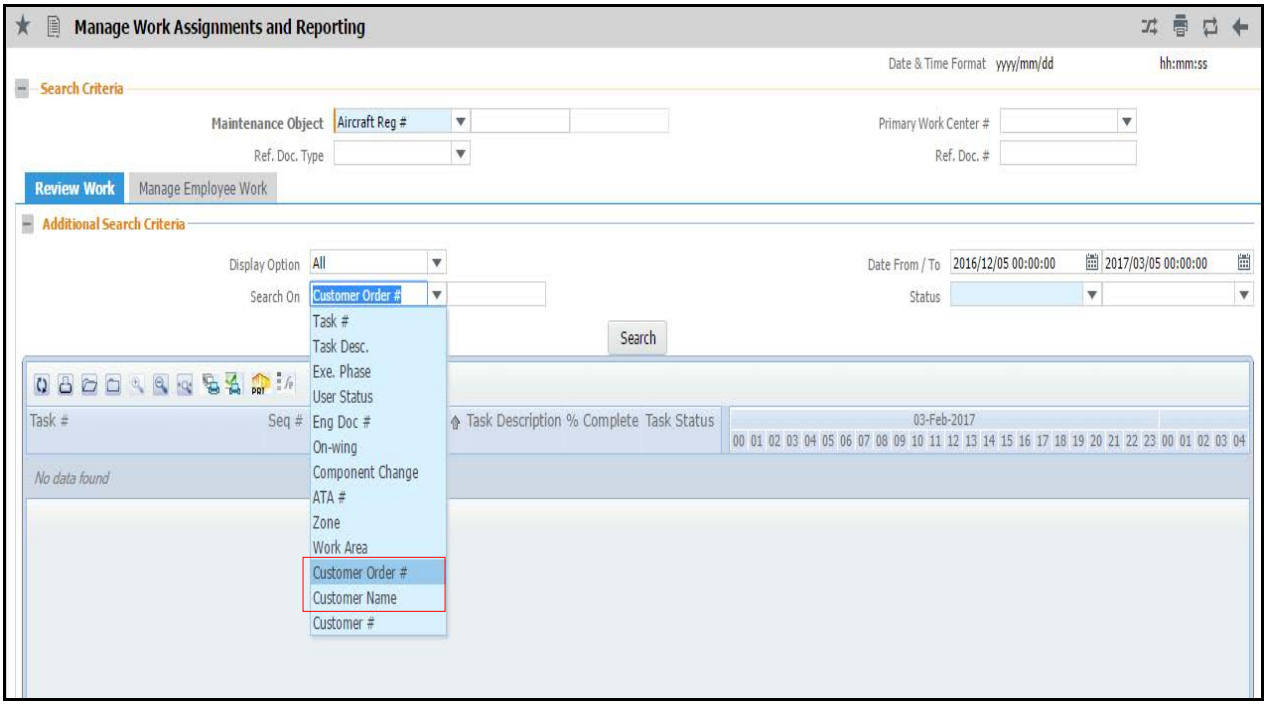
Background

Commercial personnel often visit **Manage Work Assignment and Reporting** screen to review the work status of each project. But customer details like Customer Name and Customer Order # of the respective aircraft or components in work centers which are vital information for the project analysis, are not displayed in **Manage Work Assignment and Reporting** screen. To meet this requirement, Customer Order # and Customer Name fields are added in the **Review Work** multiline.

Change Details

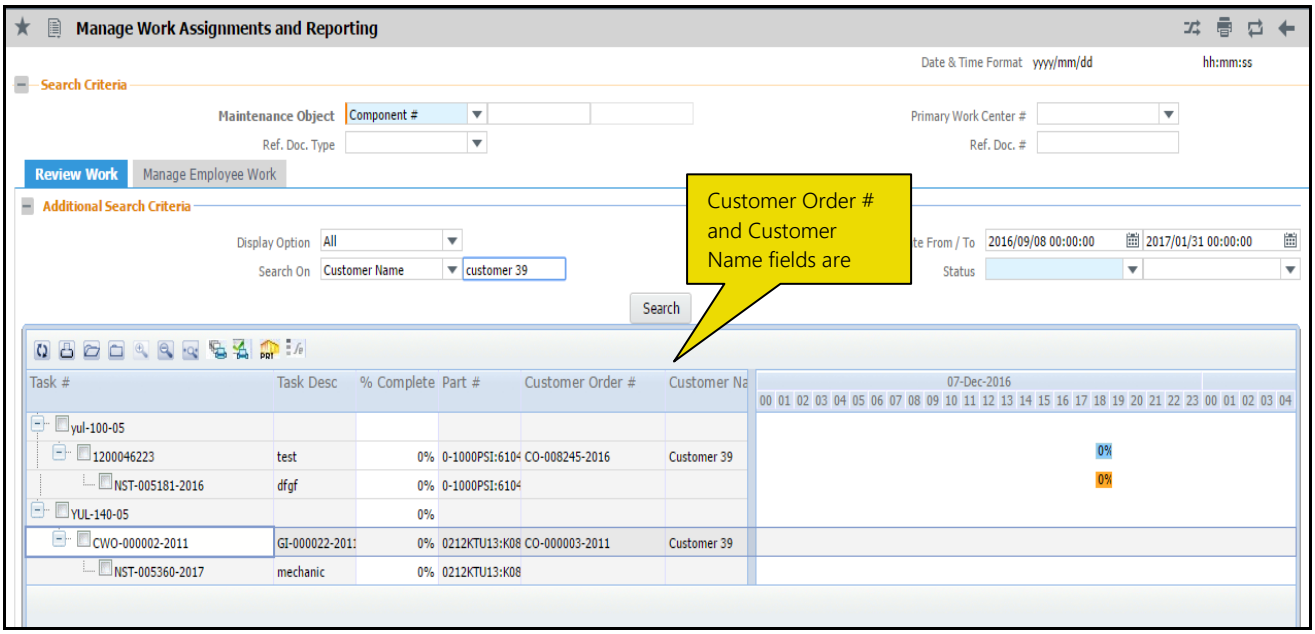
In **Manage Work Assignment and Reporting** screen, new columns 'Customer Name' and 'Customer Order #' have been added in **Review Work** multiline. Also, to aid the search of a Package or Shop Work Order for a customer, new values 'Customer order #', 'Customer Name' and 'Customer #' have been added in 'Search On' drop-down.

Exhibit 1: 'Customer Order #', 'Customer Name' and 'Customer #' values in 'Search On' drop-down



User can search a Package or Shop Work Order created for a Customer, by invoking Search after providing 'Customer Name', 'Customer #' or 'Customer Order #' in 'Search On' field.

Exhibit 2: 'Customer Order #' and 'Customer Name' columns in **Review Work** multiline



The user can view the Customer Order # and Customer Name if a Package or Shop Work Order has reference to the Customer Order #. If the user invokes the search to view the work status of a Package or Shop Work Order, Customer Name and Customer Order # will be defaulted against Package # and Shop Work Order #.

WHAT'S NEW IN WORK REPORTING HUB?

Work Reporting Hub for Aircraft Maintenance Execution

Reference: AHBG-11247

Background

Mechanics, Inspectors, Aircraft Maintenance Engineers and Technical Records Personnel use the **Record Aircraft Maintenance Execution Details** screen to report work performed on an Aircraft. The user can select a Task/Discrepancy and report work on the same, create new Package, record one or more Discrepancies, Defer Discrepancies, Signoff against the work performed, Add Execution Comments for Tasks, Add Corrective Actions for Discrepancies, Record Component Removal, Request Parts, etc.

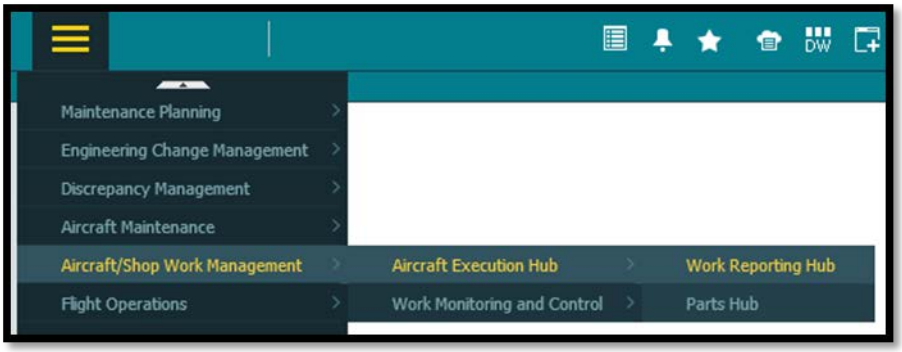
The new screen **Work Reporting Hub** retains all the functionalities of the **Record Aircraft Maintenance Execution Details** screen and allows bulk actions as well. With a fresh, clean interface that is easy to navigate, performing maintenance activities has never been easier. Whether it is to see a Package Info quickly or perform repair Tasks under a Discrepancy or raise a Material Request or just track pending work items, the Hub will get the job done in just a few clicks. Critical actions can be performed in a single screen without the need of jumping between different screens which enables the Mechanic and Inspector to save more time amidst their busy schedule.

Change Details

A new activity is available under:

Aircraft/Shop Work Management → Aircraft Execution Hub → Work Reporting Hub

Exhibit – 1:



Activity Location

On Page Launch, user is given the choice between creating a new Package # and directly jumping into an existing Package #. You can use the radio button provided in the top left corner of the page so set your intention.

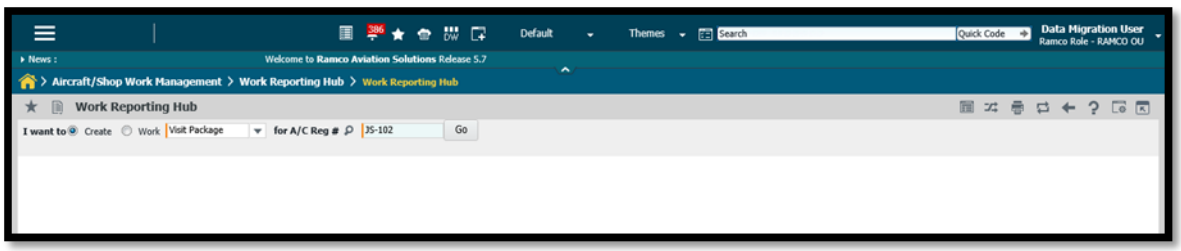
Create a Package

To create a new Package, follow the below steps:

1. Click on the 'Create' radio button.

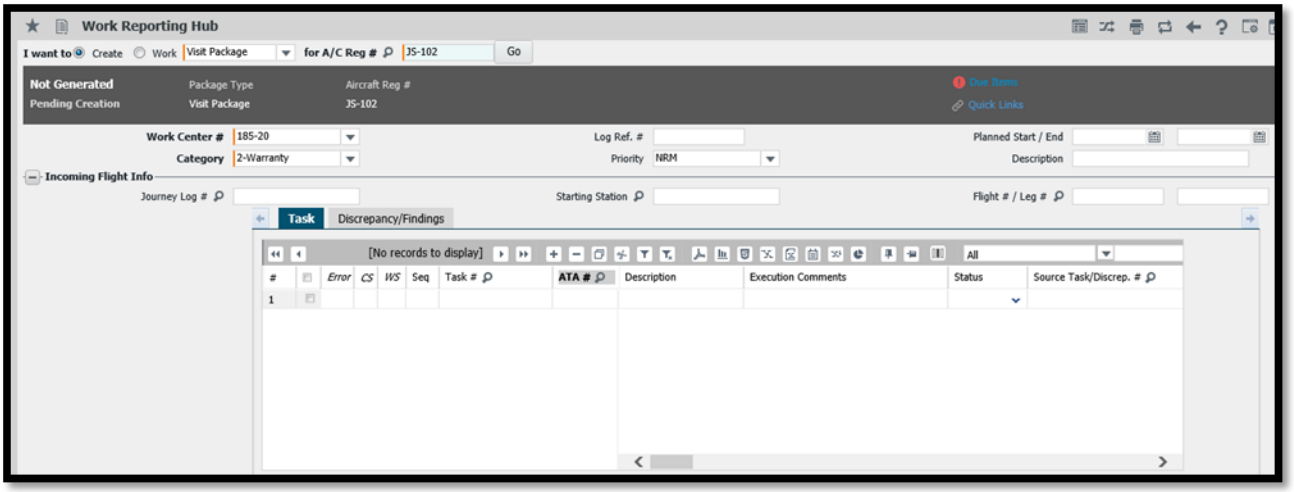
Exhibit – 2:

I want to Create



2. Select a Package Type.
3. Type in the Aircraft Reg. # for which the Package is to be created.
4. Click on the 'Go' button or just press the Enter key to go to the *Create Mode*.

Exhibit – 3:



Create Mode

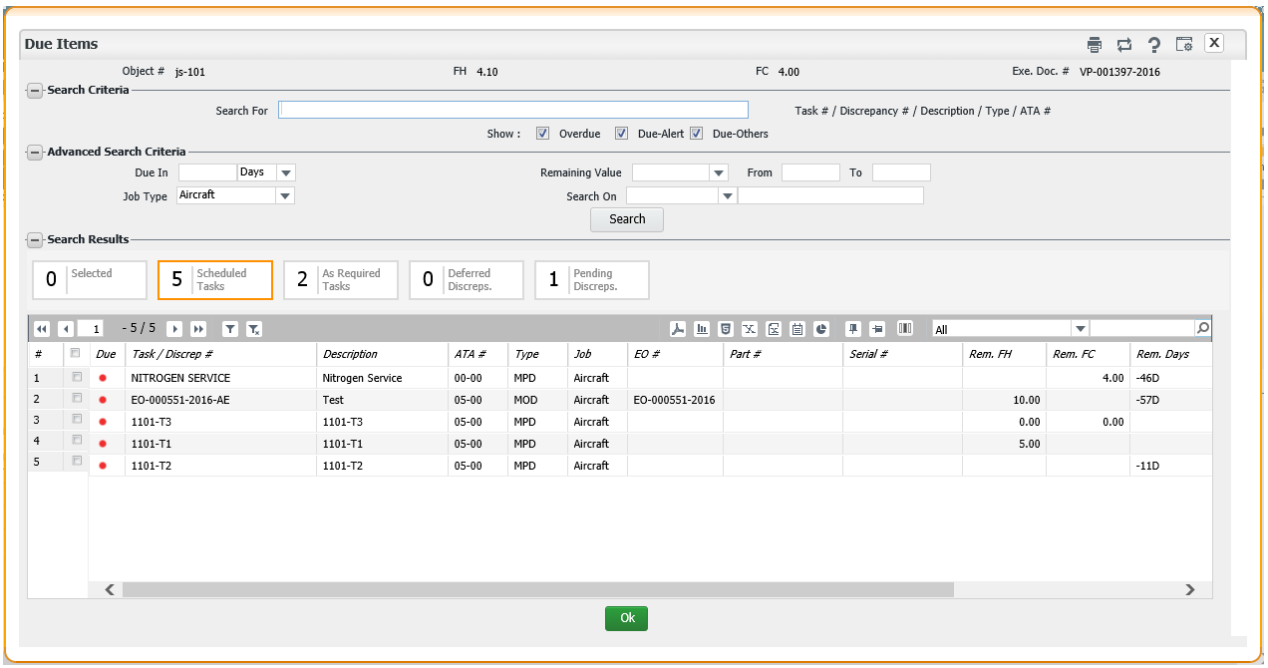
5. Select Work Center # and provide other necessary information.
6. (Optional) Add Tasks/Discrepancies in the multiline. You can also use the Due List.
7. Scroll down and click on the 'Create Package' button.

System will create a new Package # and directly launch this package in *Work Mode*.

You can also pick Tasks and Discrepancies from the Due List during creation of the Package. To do so, click on the Due Items link provided in the top right corner of the page.

Exhibit – 4:

Due Items popup



You can search for Task # / Discrepancy # / Type / ATA # in the Global Search that is provided. Pick one or multiple Scheduled Tasks, As Required Tasks and Deferred.

Discrepancies and Pending Discrepancies and click Ok to add to the Task/Discrepancy multiline in the Work Reporting Hub.

Note: If you select one more item(s) under one group and switch over to another group, you can go to the first 'Selected' group to see all the items you have picked. Remember to select the items before clicking Ok.

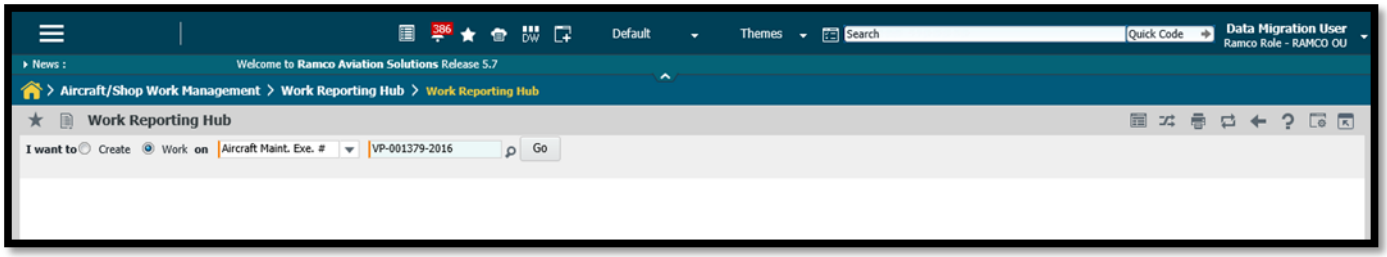
Work on a Package

If you already have Package # to work on, follow the below steps:

1. Launch the Work Reporting Hub page.
2. Click on the 'Work' radio button.

Exhibit – 5:

I want to Work



3. Select 'Aircraft Maint. Exe. #'.
4. Enter the Package # (or) Take help on Package # and select one.
5. Click on the 'Go' button or just press the Enter key.

System will launch the package in *Work Mode* as shown in Exhibit – 6.

The *Work Mode* is divided into 4 major sections:

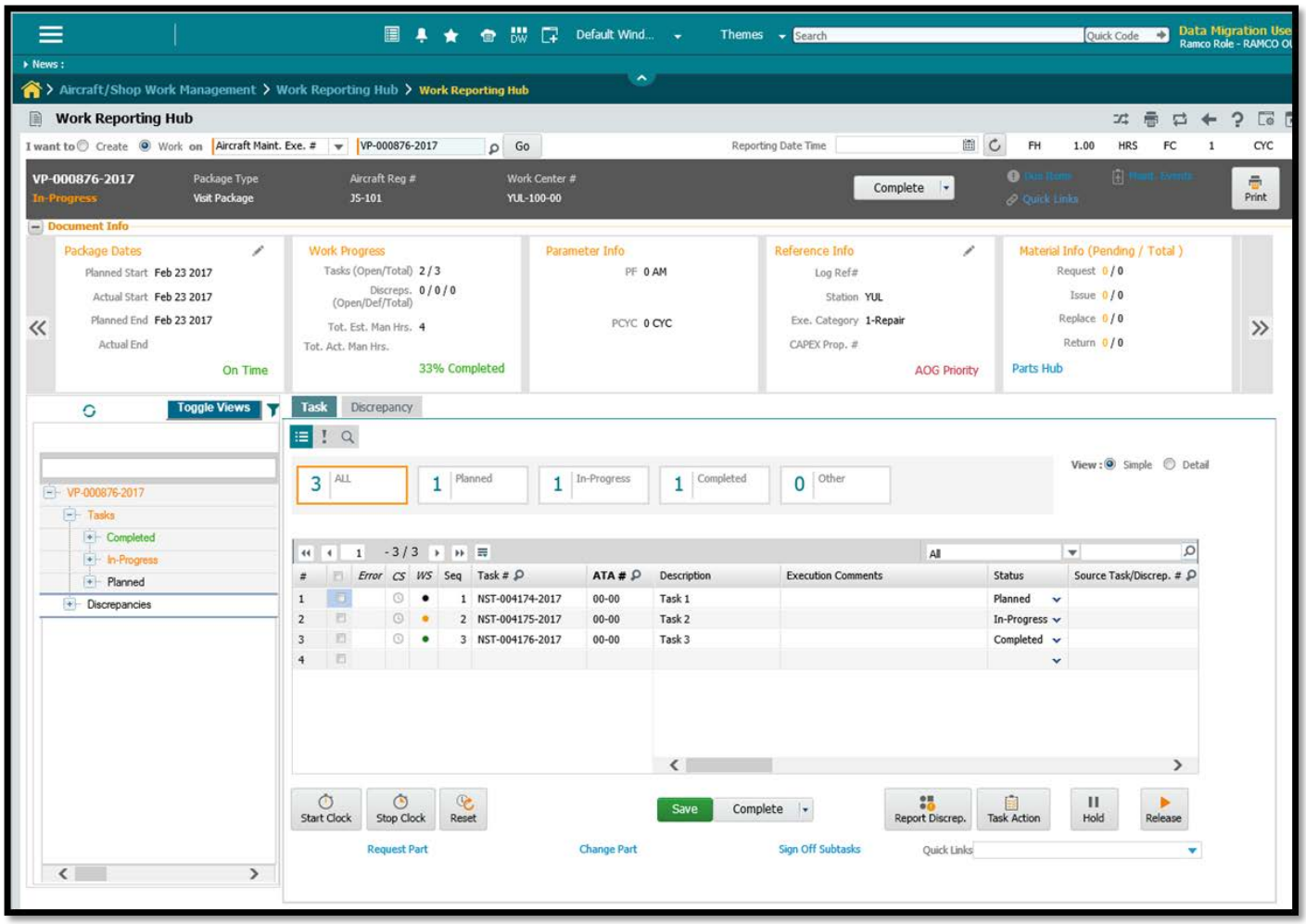
1. Context Section.
2. Document Info section.
3. Tree section.
4. Task and Discrepancy Tabs section.

The Context section is the black bar at the top. It shows the context information of the current Package.

The Document Info section is the Card Carousel section. It shows all the Package level information as a set of scrollable cards (collapsing of the cards section will be supported in a future software update). The tree section is available in the left of the page. It is always visible and provides an anchor point for the whole hub displaying the Tasks and Discrepancies in the Package. Finally, we have the Task and Discrepancy tabs with their own multiline.

Exhibit – 6:

Work Mode



Context

Package info is available in the Context section (black background).

The following info are shown:

1. Package #.
2. Package Status.
3. Package Type.

4. Aircraft Reg. #.
5. Work Center #.
6. Customer Name (if Aircraft is customer aircraft).

Apart from these, Action Items are also shown:

1. Package Action

   Shows next possible Package Status. Click to change Package status.

   If Package is in *Planned* status, it will show *Cancel* option.

   If Package is in *In-Progress* status, it will show *Complete* option.

   If Package is in *Completed* status, it will show *Close* option.

2. Due Items.

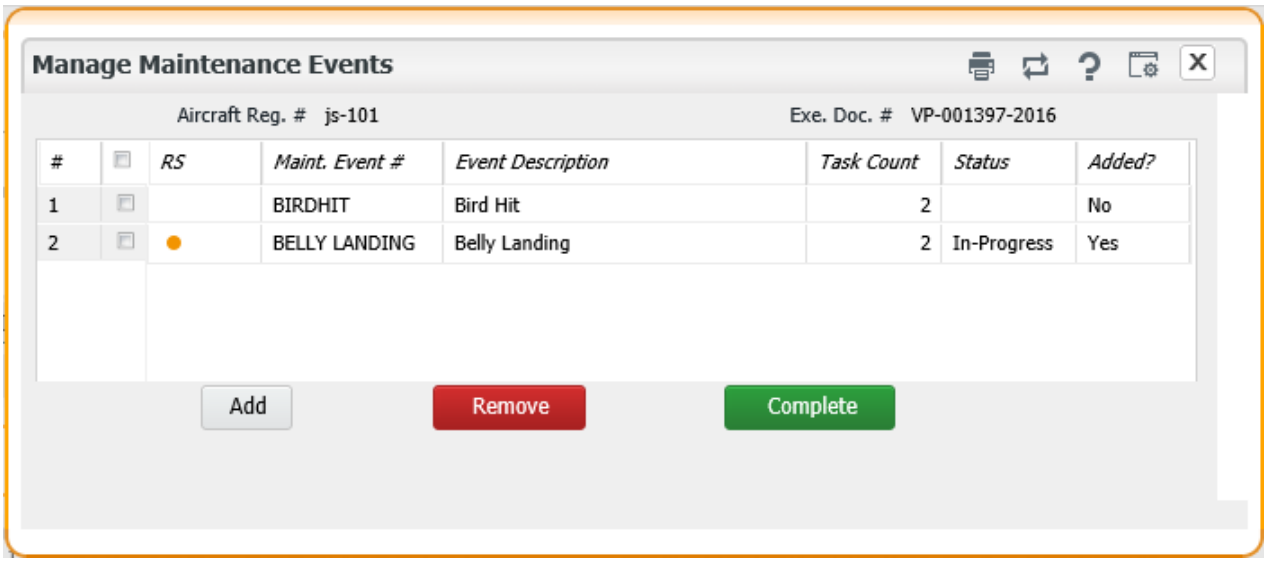
   The Due Items link icon is colour coded. If there is at least one item in the Due List that is overdue, the Due Items link icon will be in 'Red' colour. Or if there are no overdue items but there is at least one alert item, the Due Items link icon will be in 'Orange' colour. If there are no Overdue or Alert items, the Due Items link icon will be in 'Grey' colour. Click on the Due Items link to launch the Due Items popup.

3. Maint. Events.

   The Maint. Events link icon is colour-coded. If there is one item in Maintenance Events that was already added to the Package, the Maint. Events link icon will be in 'Green' colour. If not, the link icon will be in 'Grey' colour. Click on Maint. Events link to launch the Manage Maintenance Events popup.

Exhibit – 7:

Manage Maintenance Events popup



You can see a list of all applicable Maintenance Events that are available for the current Aircraft Reg. #. Select a Maintenance Event and click on 'Add' button to add the set of Tasks to the current package. Or you can also click on 'Complete' button which will not only add the Tasks but also Complete them in one click provided signoff is not required for the Tasks. 'Remove' button is provided to revert any Maintenance Events that are already added but not started.

4. Quick Links.

   Click on the Quick Links for a callout showing all possible links that can be launched from the Work Reporting Hub at the Package level.

5. Print.

   Clicking on the Print button will perform Package Print for the whole Package. If a couple of Tasks or Discrepancies are already selected prior to click of the button, only those Tasks or Discrepancies will be printed.

Document Info

The Document Info section displays a carousel section of a set of cards that displays Package level information. Following are the possible cards:

1. Customer Info

   This card will be visible only if the current aircraft is a Customer Aircraft. It displays Customer #, Customer Order #, Contract # and Promised Delivery Date. It also shows a countdown to the Promised Delivery Date in the bottom right of the card (if available).

2. Object Info

   This card will display Aircraft Model #, Aircraft MSN #, Last Journey Log #, Next Due Item. It also shows a warning in the bottom right of the card if there is any Overdue or Alert Item.

3. Important Dates

   This card will display Hangar-In Date, Hangar-Out Date and Proj. Completion Date. It also shows a countdown to the Proj. Completion Date in the bottom right of the card.

4. Package Dates

This card will display Planned Start Date, Actual Start Date, Planned End Date and Actual End Date at the Package level. It also shows delay information in the bottom right of the card if there's a discrepancy between the Planned and Actual Dates.

5. Reference Info

This card will display Log Ref. #, Station, Exe. Category and CAPEX Proposal #. It also shows the Priority of the Package in the bottom right of the card.

6. Material Info (Pending/Total)

This card will display the Pending/Total counts of Material Requests, Issued, Component Replacements and Returns. It also shows a warning if requested parts are not available in the bottom right of the card.

7. Flight Info

This card will be visible only if a Journey Log # exists against the Package. It will display Journey Log #, Flight #, Leg #, Starting Station and Actual Arrival Date. It also shows delay information in the bottom right of the card if the Actual Arrival Date is later than Scheduled Arrival Date.

Note: Scheduled Arrival Date and Actual Arrival Date are taken from the Package and not from the Journey Log #. You can edit these dates in the eLog section of the MechanicAnywhere app.

8. Cost Info

This card will display the Estimated/Actual Costs of Labour, Material, Facility and Additional. It will also show the total Estimated/Actual Costs in the bottom right of the card.

9. Parameter Info

This card will display 4 last updated parameters of the aircraft. It will also show the last updated date and time in the bottom right of the card.

10. Work Progress

    This card will display the Open/Total counts of all the Tasks and Discrepancies in the current Package. It will also show a percentage count in the bottom right of the card which is just a sum of Tasks/Discrepancies completed to the Total Tasks/Discrepancies. The card also shows the Total Estimated Man Hours and Actual Man Hours.

Tree

The tree shows all the Task and Discrepancies in the current Package. Clicking on a Task # or Discrepancy # from the tree will apply the filter for that Task/Discrepancy in the Task/Discrepancy multiline.

The Task items in the tree are colour coded:

Red – On Hold.

Black – Planned.

Orange – Inprogress.

Green – Completed/Closed/Incomplete/Preclosed.

Grey – Cancelled/Duplicate.

The Discrepancy items in the tree are colour coded:

Red – On Hold.

Black – UnderResolution with no work recorded.

Orange – UnderResolution with work already recorded.

Green – Closed/Deferred/Transferred.

Grey – Cancelled.

The tree displays the information in 4 folders:

1. Tasks

   All the Tasks in the current Package that do not fall under an Engineering Order or a Maintenance Event will show up here.

2. Discrepancies

   All the Discrepancies that are in the current Package will show up here.

3. Engineering Orders

   All the Tasks in the current Package that are from an Engineering Order will show up here with the Engineering Order # as the parent folder.

4. Maintenance Events.

All the Tasks in the current Package that are from a Maintenance Event will show up here with the Maintenance Event # as the parent folder.

> *Note: Click on Toggle View button to maximize the tree. Clicking again will restore the tree to its original size.*

Task and Discrepancy Tabs

The Task and Discrepancy multiline allow the user to report work on Tasks and Discrepancies directly on the multiline. Bulk actions are also supported.

The search above the multiline is provided with 3 different options:

1. Status
2. Exception
3. Search

Status View shows 5 tiles, that shows the count of the items in the multiline in various status. Exception View shows another set of 5 tiles that shows the count of the items in the multiline in various exceptions. Search has the traditional Search Criteria and Advanced Search Criteria.

> *Note: Status/Exception/Search are all exclusive of each other. You cannot combine the filters. Toggling between them will reset the search filter applied by the previous filter.*

A Simple/Detail toggle is available above the multiline. The simple view hides 15 Display Only columns so the important columns are easily accessible.

Error column is available in the multiline to highlight the records that are in error. You can use this info to identify the error records to clear them by using the newly added Message Center (last column).

WS column available in the multiline shows a colour coded circle to identify the Work Status of the record. Colour coding is explained below (same as the tree).

For Tasks:

Red – On Hold.

Black – Planned.

Orange – Inprogress.

Green – Completed/Closed/Incomplete/Preclosed.

Grey – Cancelled/Duplicate.

For Discrepancies:

Red – On Hold.

Black – UnderResolution with no work recorded.

Orange – UnderResolution with work already recorded.

Green – Closed/Deferred/Transferred.

Grey – Cancelled.

You can select one or multiple items from the Task/Discrepancy multiline and click on the Start Clock button provided under the multiline. Doing so starts the clock for those items. The clock status is shown in the CS column in the multiline. Similarly, you can also Stop and Reset Clock for multiple items.

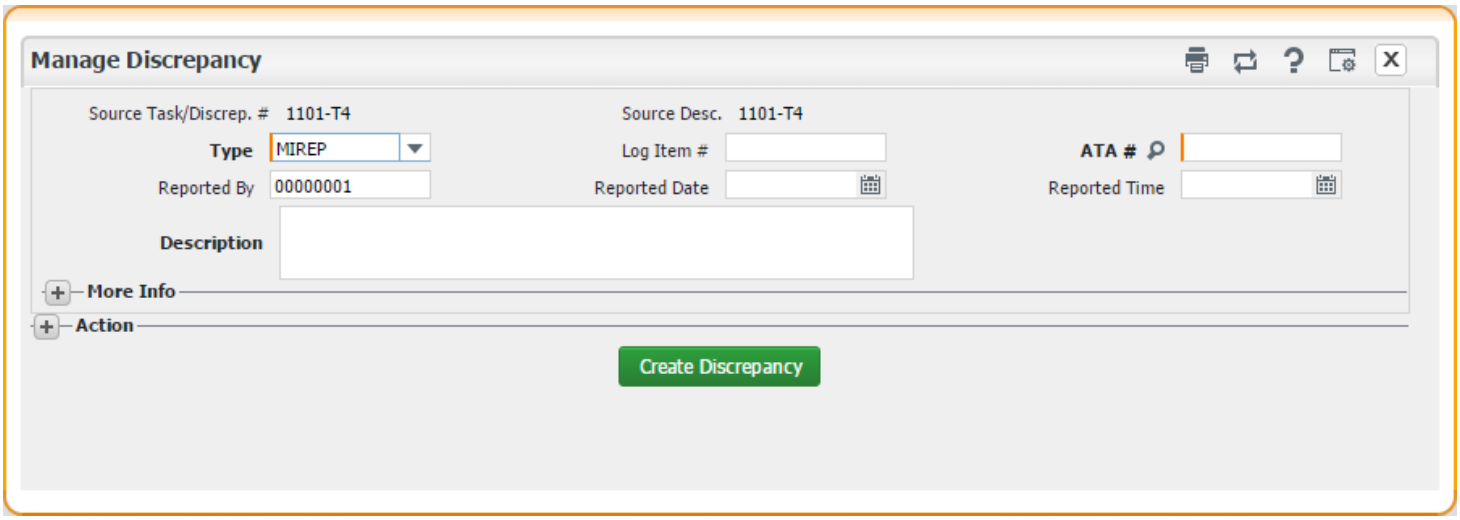
Alternatively, you can also click on the Clock icon available under the CS column in the multiline to toggle the clock for that specific record.

If you want to change status for multiple records in the multiline, instead of manually changing the status in the multiline, you can select the required items and use the provided 'Quick Status Combo' button (near the 'Save' button). Clicking on the combo button provides you with multiple status options, selecting one of which will push the selected items to that status.

Report a Discrepancy

To report a Discrepancy against an item, just select that item first in the Task/Discrepancy multiline and then click on the 'Report Discrepancy' button provided under the multiline.

Exhibit – 8:



Report Discrepancy popup

Provide the required information such as the Discrepancy Description, Type, ATA # and then click on the 'Create Discrepancy' button to quickly create the Discrepancy without even having to visit the Discrepancy tab.

Alternatively, you can always visit the Discrepancy tab, manually mention the Source Task # / Discrepancy # and then report the Discrepancy.

Note: You can also Signoff, Closed/Defer the Discrepancy during creation with the Report Discrepancy popup. Just expand the 'Action' section for the required controls.

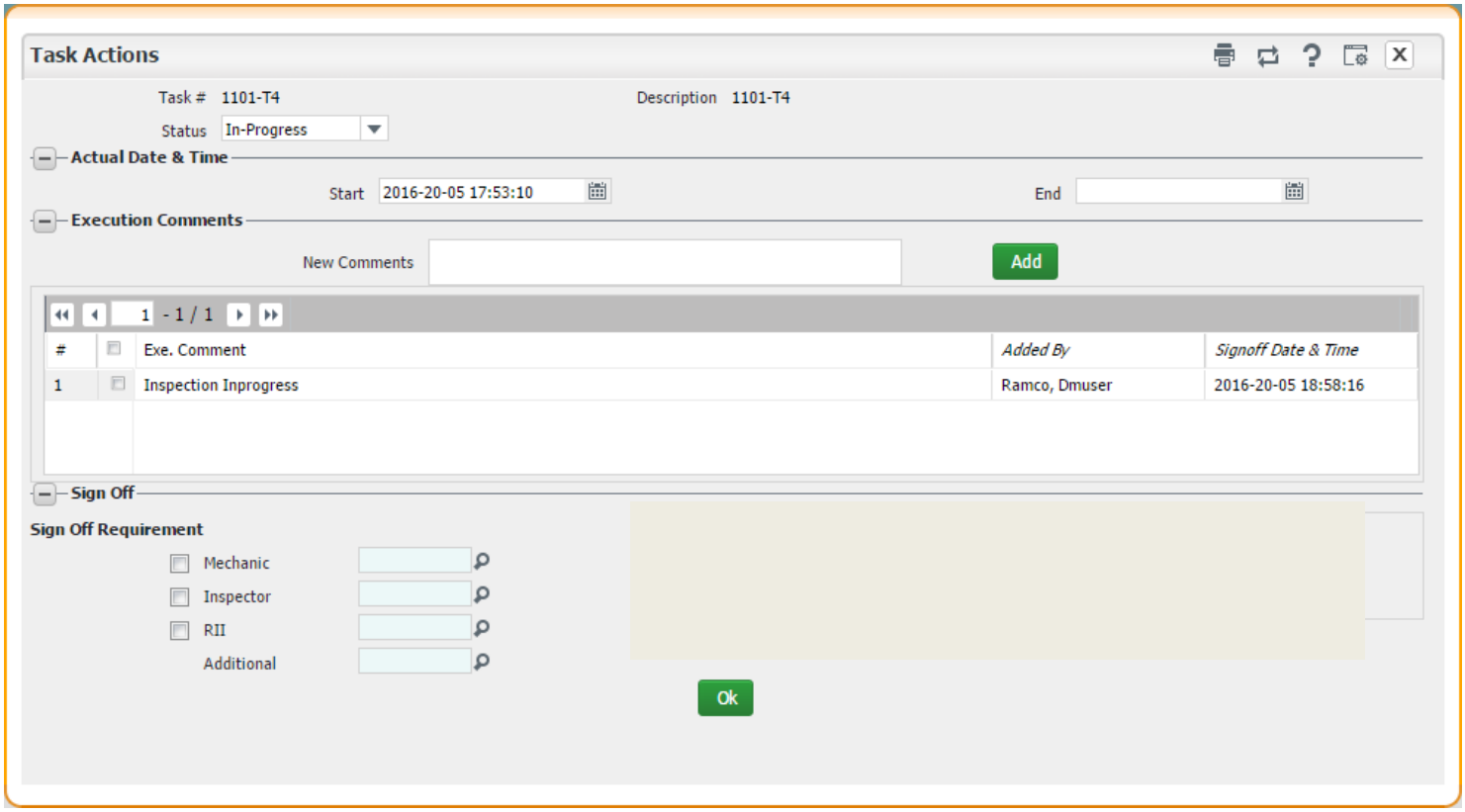
Act on a Task

To report work on a Task, you can update the information in the multiline and click on the 'Save' button.

Alternatively, you can also use the newly provided Task Action popup.

Exhibit – 9:

Task Action popup



You can do the following things in the Task Action popup:

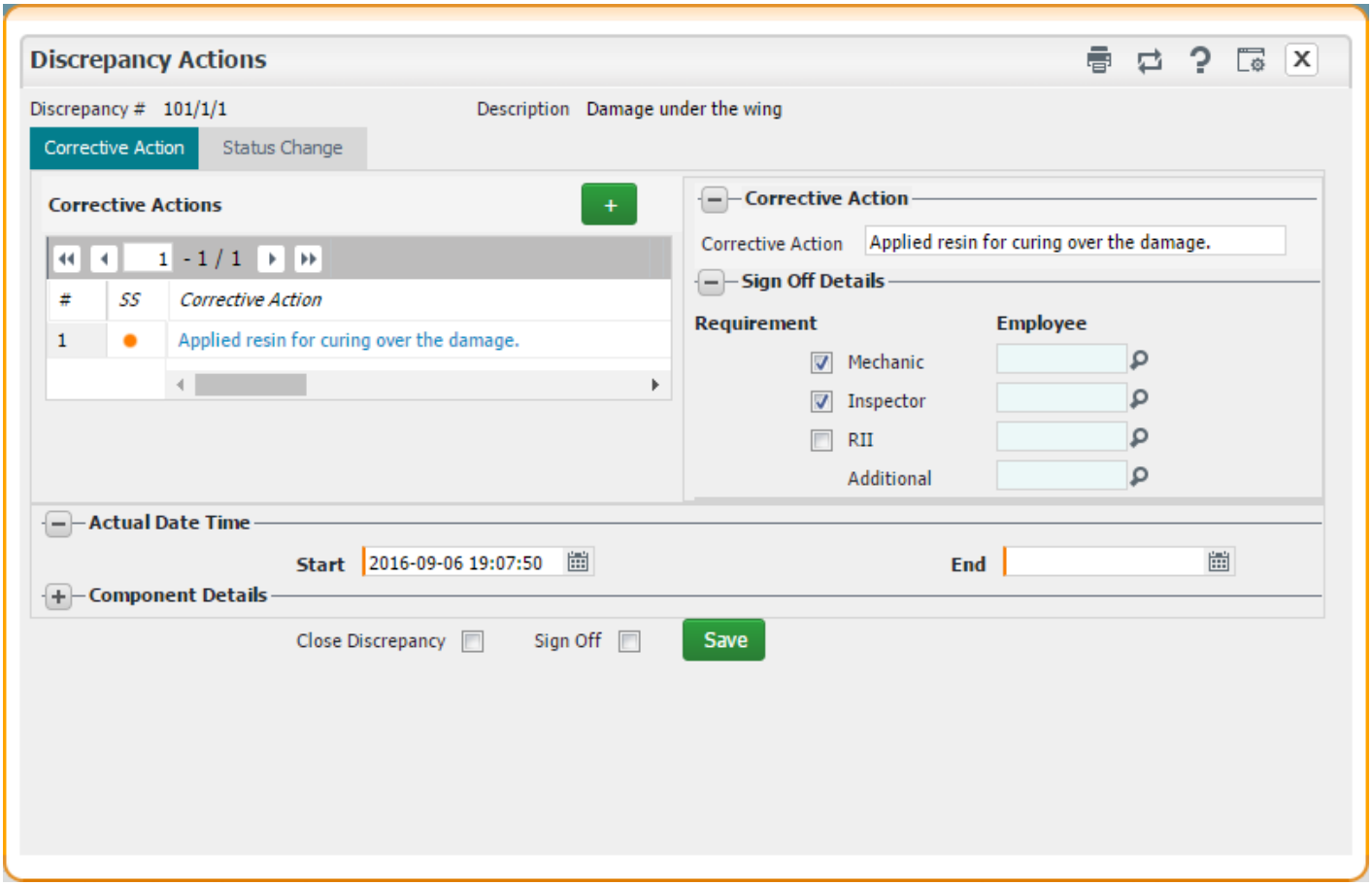
- Change Task Status.
- Update Actual Start Date & Time.
- Update Actual End Date & Time.
- Add New Execution Comments.
- Edit/View/Delete Existing Execution Comments.
- Modify Signoff Requirement.
- Signoff.
- Do the above in any combination.

Act on a Discrepancy

To report work on a Discrepancy, you can update the information in the multiline and click on the 'Save' button or use the newly provided Discrepancy Action popup.

Exhibit – 10:

Discrepancy Action popup



Click on a Corrective Action from the left pane to view the Corrective Action, Signoff Requirement and Signoff Details in the right pane, which you can edit. To add new, click on the "+" icon provided in the left pane.

Similar to the Task Action popup, you can do the following actions against a Discrepancy:

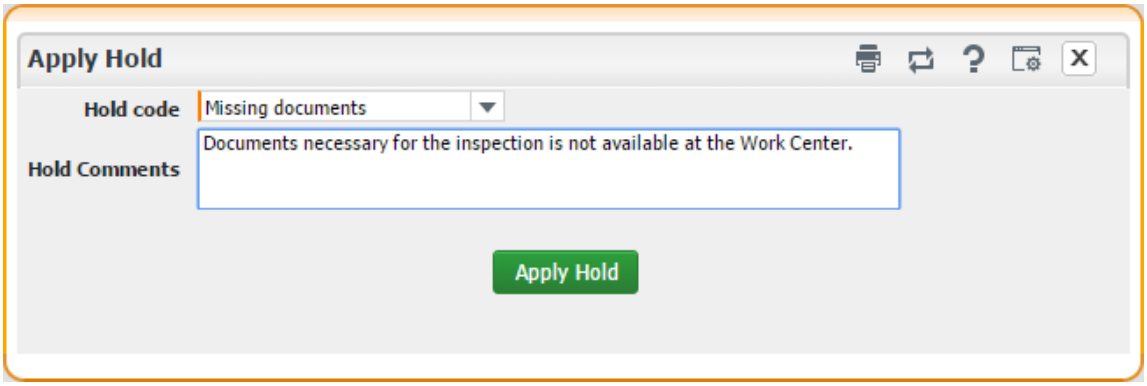
- Change Discrepancy Status.
- Update Actual Start Date & Time.
- Update Actual End Date & Time.
- Add New Corrective Action.
- Edit/View Existing Corrective Action.
- Modify Signoff Requirement.
- Signoff against a Corrective Action.
- Do the above in any combination.

Apply Hold

To Apply Hold on an item(s), select the item(s) and click on the 'Apply Hold' button provided under the multiline.

Exhibit – 11:

Apply Hold popup



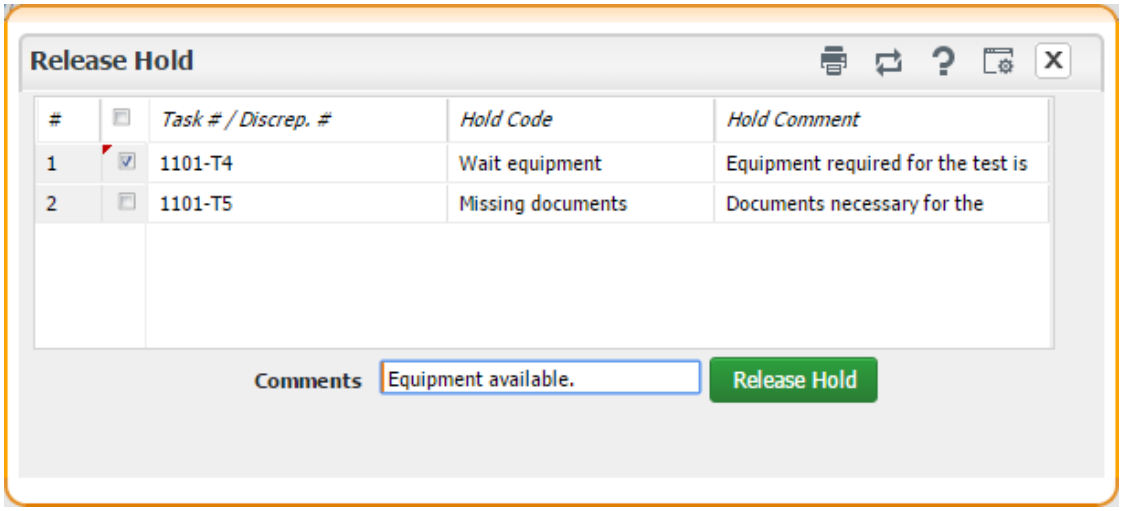
Select a Hold Code, provide Hold Comments and click on Apply Hold.

Release Hold

To Release Hold on an item(s), select the item(s) and click on the 'Release Hold' button provided under the multiline.

Exhibit – 12:

Release Hold popup



Select an item that is on hold, provide Release Comments and click on the 'Release Hold' button.

Change Part

To perform Component Replacement, click on the Change Parts link provided below the Task or Discrepancy multiline. This opens the **Record Aircraft Maintenance Execution Details** page with the Package # already loaded.

Select the Task or Discrepancy from the tree, open the Component Replacement tab and perform the replacement. Once completed, click on the back button to go back to the Work Reporting Hub.

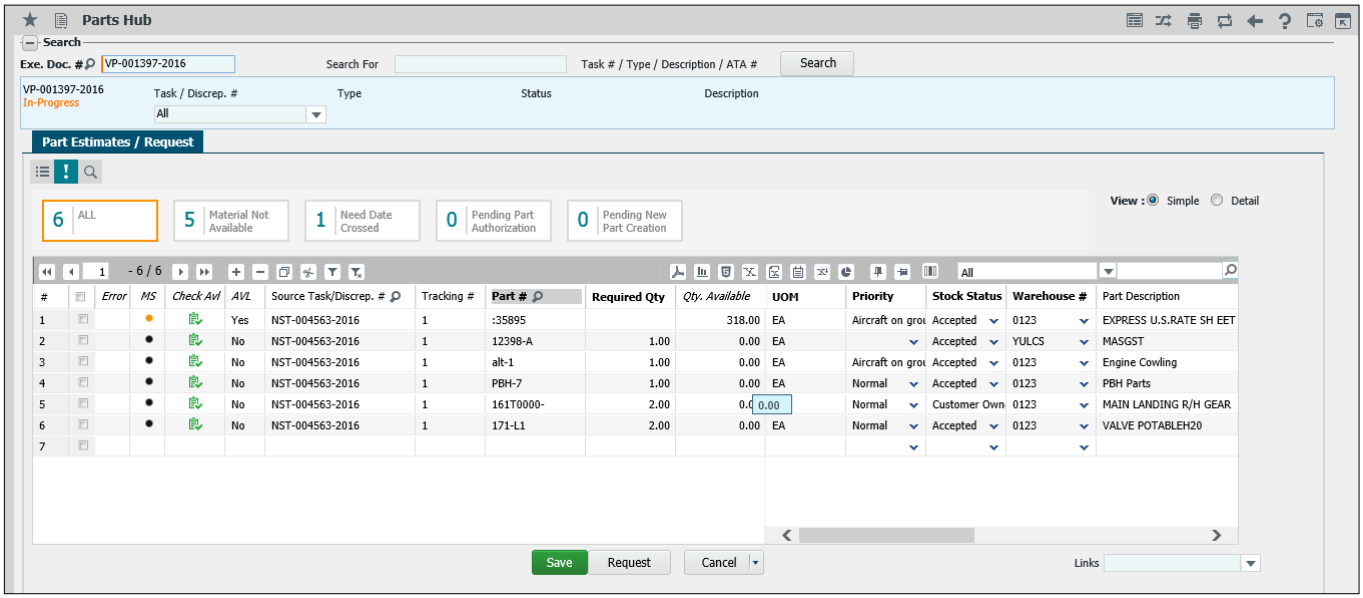
> *Note: Bulk Component Replacement feature will be available in the Parts Hub as part of a future software update.*

Request Part

To request parts for a Task/Discrepancy, select the item and click on the Request Part link provided below the multiline. This opens the **Parts Hub** page.

Exhibit – 13:

Parts Hub



The Parts Hub can be launched either from the left pane at **Aircraft/Shop Work Management → Aircraft Execution Hub → Parts Hub** or as a link from the Work Reporting Hub. To launch from the Work Reporting Hub, click on the Request Part link provided under the Task or Discrepancy multiline. If no Tasks or Discrepancies are selected in the multiline prior to the link click, the Parts Hub will open with the Package # as context and shows Parts Estimates and Requests available for all the Tasks and Discrepancies in the current Package. If one or more Tasks or Discrepancies are selected in the multiline

prior to the link launch, the Parts Hub will show Parts Estimates and Requests available for those Tasks and Discrepancies only. Note that you can reset the filter anytime in the Parts Hub.

Provide an Exe. Doc. # in the top left corner of the page to view all Part Estimates and Requests done against the Package. You can also use the Global Search provided to search with the following:

- Task # / Description #.
- Type.
- Description.
- ATA.

The Task / Discrep. # combo shows all the Tasks & Discrepancies that match the Search Criteria. You can either leave it at 'All' or select a specific Task. When a Task is selected, the Task Type, Status and Description is shown beside it and all the Part Estimates and Requests done against that specific Task in that Package is shown in the multiline.

You can raise Material Requests in the provided multiline. Similar to the Plan Material page, you can view existing requests and raise new requests.

The search above the multiline is provided with 3 different options:

- Status.
- Exception.
- Search.

Status View shows 5 tiles, that shows the count of the items in the multiline in various status. Exception View shows another set of 5 tiles that shows the count of the items in the multiline in various exceptions. Search has the traditional Search Criteria and Advanced Search Criteria.

> *Note: Status/Exception/Search are all exclusive of each other. You cannot combine the filters. Toggling between them will reset the search filter applied by the previous filter.*

A Simple/Detail toggle is available above the multiline. The simple view hides 15 Display Only columns so the important columns are easily accessible.

Error column is available in the multiline to highlight the records that are in error. You can use this info to identify the error records to clear them by using the newly added Message Center (last column).
MS column available in the multiline shows a color coded circle to identify the MR Status of the record.

Color coding is explained below.

For Tasks:

Orange – Pending Requests, i.e., Material Request # is not yet generated.

Green – Requested but not yet Issued.

Grey – Issued/Short Closed.

You can select a few records and choose the 'Check Part Availability' option available in the Combo Button provided below the multiline. A record level Check Part Availability button is also provided in the multiline so it can be done for a single record in one click.

To Cancel a Pending Request record or Short Close a Material Request, select the records from the multiline and click on the Combo button for the options.

Links to other pages are available in the Quick Links combo. Just select a link from the combo to launch the relevant page.

Subtasks Sign Off

To perform Subtask Sign Off for a Task/Discrepancy, select the record from the multiline and click on the Subtasks Sign Off link provided below the multiline. This opens the **Bulk Sign Off** page with the Package # and Task # already loaded.

You can see all the Subtasks in the multiline. Perform Sign Off by providing Mechanic / Inspector employee code against the Subtasks. Once completed, click on the back button to go back to the Work Reporting Hub.

> *Note: You can also select more than one Task/Discrepancy from the multiline and invoke the Subtasks Sign Off link. Doing so will show all Subtasks of the selected Tasks in the Bulk Sign Off page and the search in the page will work within the selection made in the previous page.*

Report Resource Estimates / Actuals

To report resource estimates and actuals for a Task/Discrepancy, select the record from the multiline and click on the Report Resource link provided below the multiline. This opens the **Report Resource Estimates / Actuals** page with the Package # and Task # already loaded.

You can see all the Subtasks in the multiline. Perform Sign Off by providing Mechanic / Inspector

employee code against the Subtasks. Once completed, click on the back button to go back to the Work Reporting Hub.

Record Return and Report Consumption

To record Part Return and report Part Consumption for a Task/Discrepancy, select the record from the multiline and click on the Return & Report Consumption link provided below the multiline. This opens the **Record Part Consumption & Return** page with the Package # and Task # already loaded.

Return unconsumed parts in the first tab, return removed cores in the second tab and report direct part consumption in the third tab. Once completed, click on the back button to go back to the Work Reporting Hub.

Other Features

Apart from the highlighted functionality, the Hub also has the following capabilities:

- Child items on the tree. Clicking on the "+" icon next to a Task/Discrepancy will open up the folder and show Child items under that Task/Discrepancy.
- Tree Refresh button is available to refresh the whole tree and show the latest info.
- The Document Info section can be collapsed by default based on set options.
- The Cards in the Document Info section can be re-sorted or hidden based on set options.
- Search Tasks and Discrepancies with Skill # / Zone # / Work Area #.
- Create Discrepancies while mentioning Skill # / Zone # / Work Area #.
- Tree Filter popup to change Group By option and show only open items.
- Tree Search available above the tree.

> *Note: This feature involves commercials and is not available for all customers. Please contact your Ramco Account Manager.*

WHAT'S NEW IN MECHANIC ANYWHERE?

Ability to record Fuel/ Oil uplift in MechanicAnywhere App

Reference: AHBG-9263

Background

Prior to every flight departure, Line Mechanics inspects fuel or oil levels in aircraft and will uplift fuel/oil based on the next flight requirements. Line Mechanics should have a provision to record the Uplift details like Arrival Qty, Uplift Qty., Receipt # etc. against the Line Package. This capability already exists in Ramco desktop application, same needs are brought in Mobility (Mechanic Anywhere App).

Change Details

With this enhancement in Mechanic Anywhere app, user can perform following activities:

- Generate 'Fuel/Oil Log #' to track Fuel/Oil uplift against the package
- Record Fuel Distribution Details in each Fuel tank
- Record Oil Uplift in Engines, APU's and other positions
- Record Hydraulic oil uplifts

Following changes are done in MechanicAnywhere App and Desktop application respectively:

1. A new tab 'Fuel/Oil Uplift' has been added to record Fuel or Oil Uplift record against a Package in E-Log screen of MechanicAnywhere app.
2. In the Maintain Flight Log Parameter screen in Desktop, two new columns 'Item Type' and 'Position Code' have been added in Maintain Oil uplift Details multiline. 'Item Type' column is loaded with values 'Fuel', 'Hydraulic' and 'Oil'. User should define Item # against Item Type's to record Fuel/Oil for Fuel, Hydraulic and Oil in MechanicAnywhere app.

Exhibit 1: New Fuel/Oil Uplift tab in E-Log screen of MechanicAnywhere app

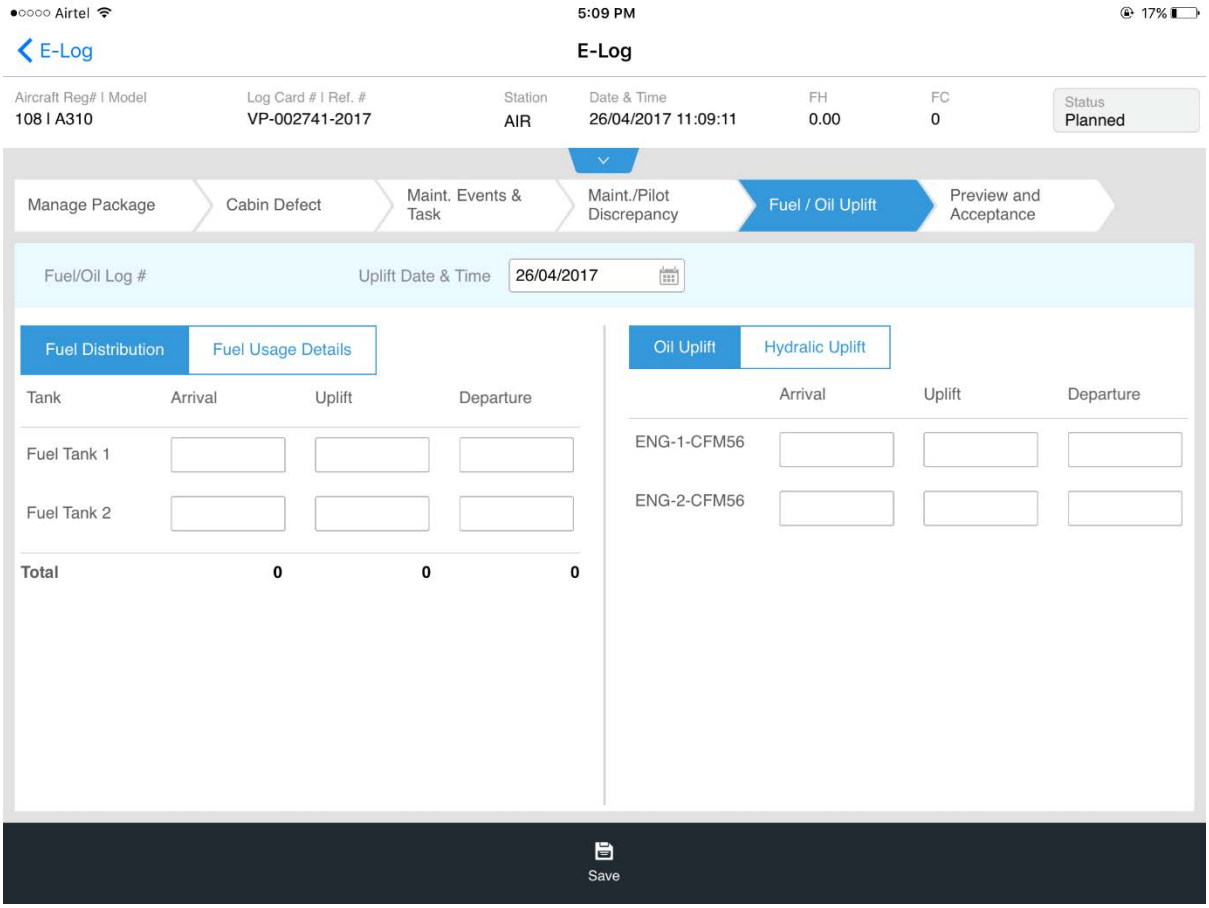
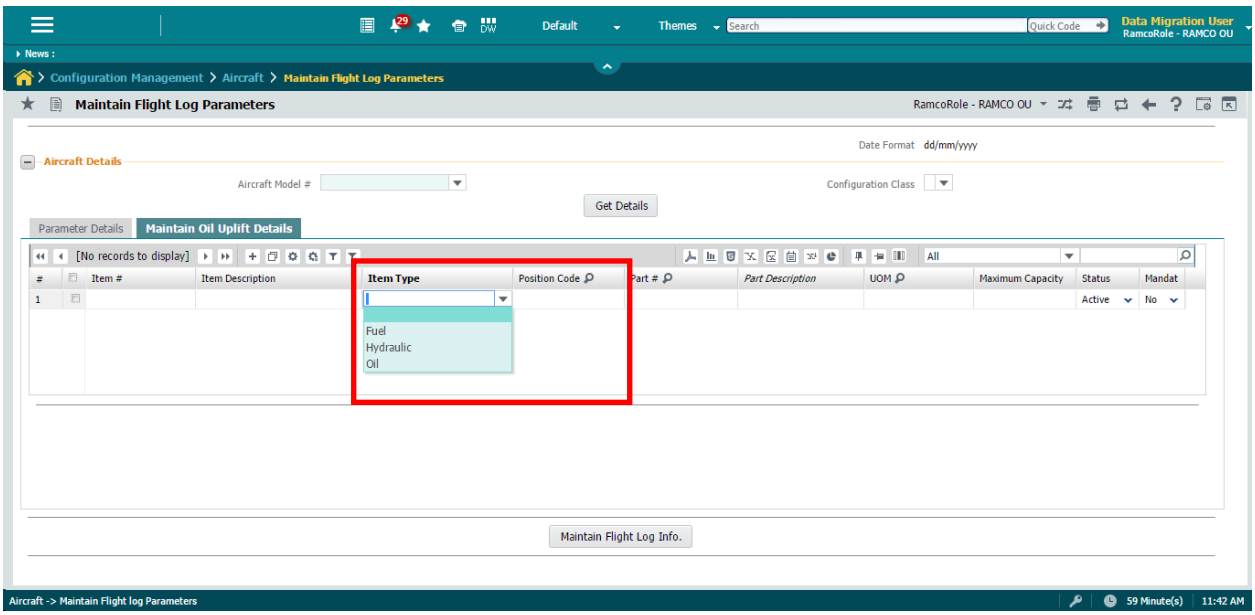


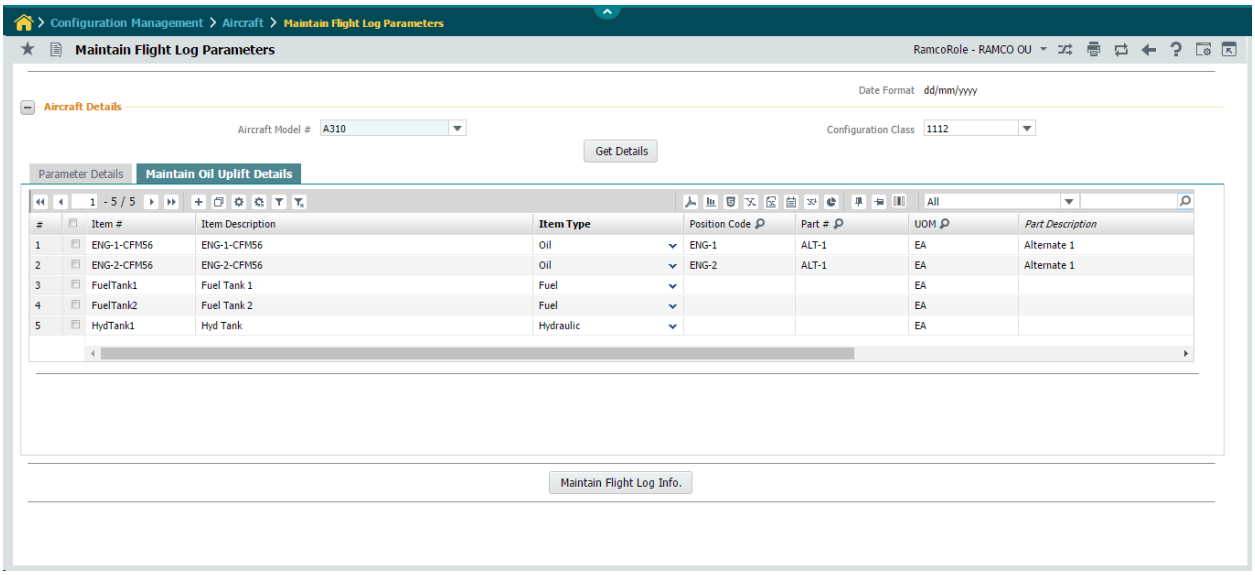
Exhibit 2: Item Type and Position Code columns added in Maintain Flight Log Parameters screen



Steps to configure Fuel/Oil uplift in MechanicAnywhere app:

Step 1: Launch Maintain Flight Log Parameter screen

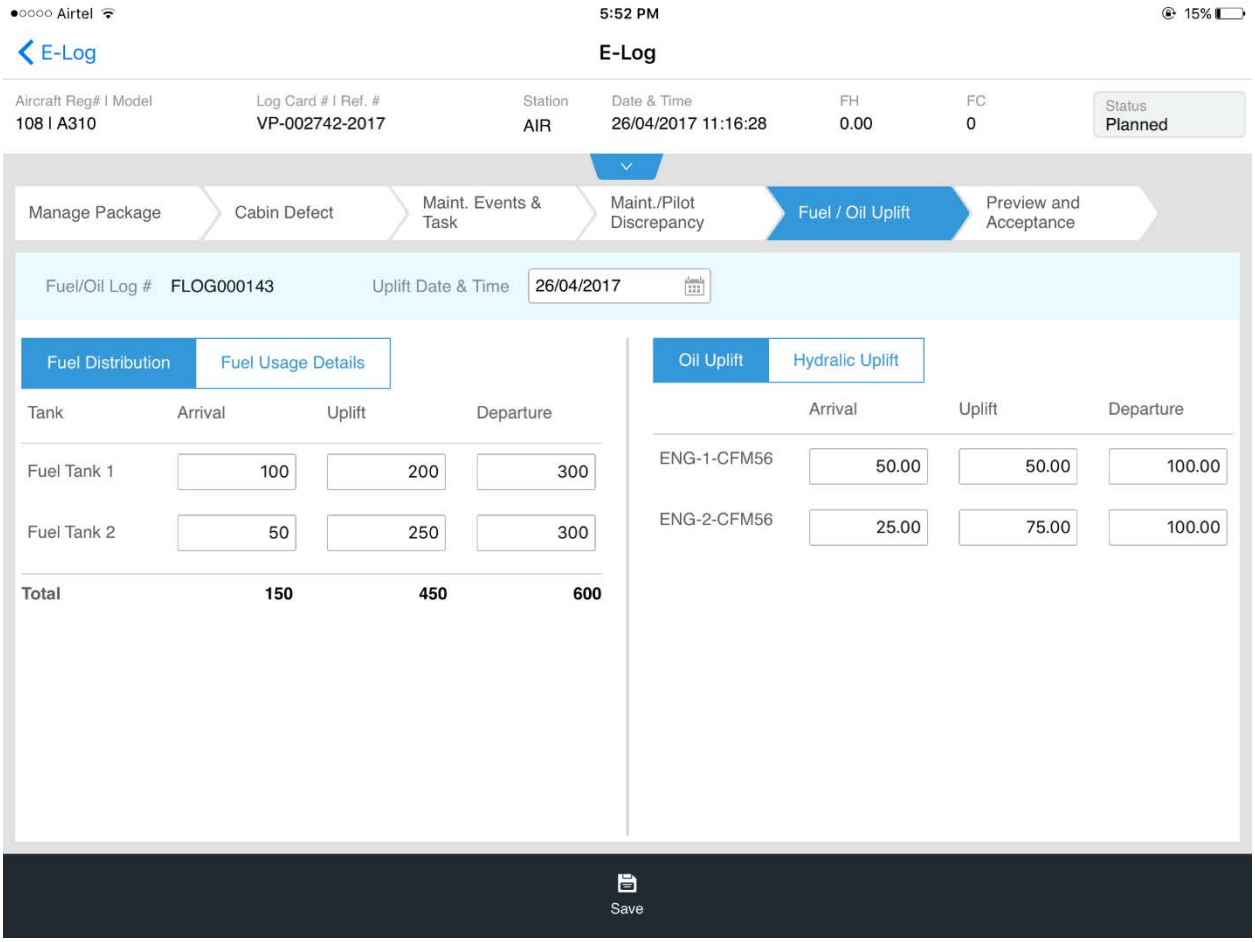
Step 2: Select appropriate Aircraft Model # and Configuration Class and define Item #'s for Item Type 'Fuel', 'Oil' and 'Hydraulic'. Please refer below snapshot for example.

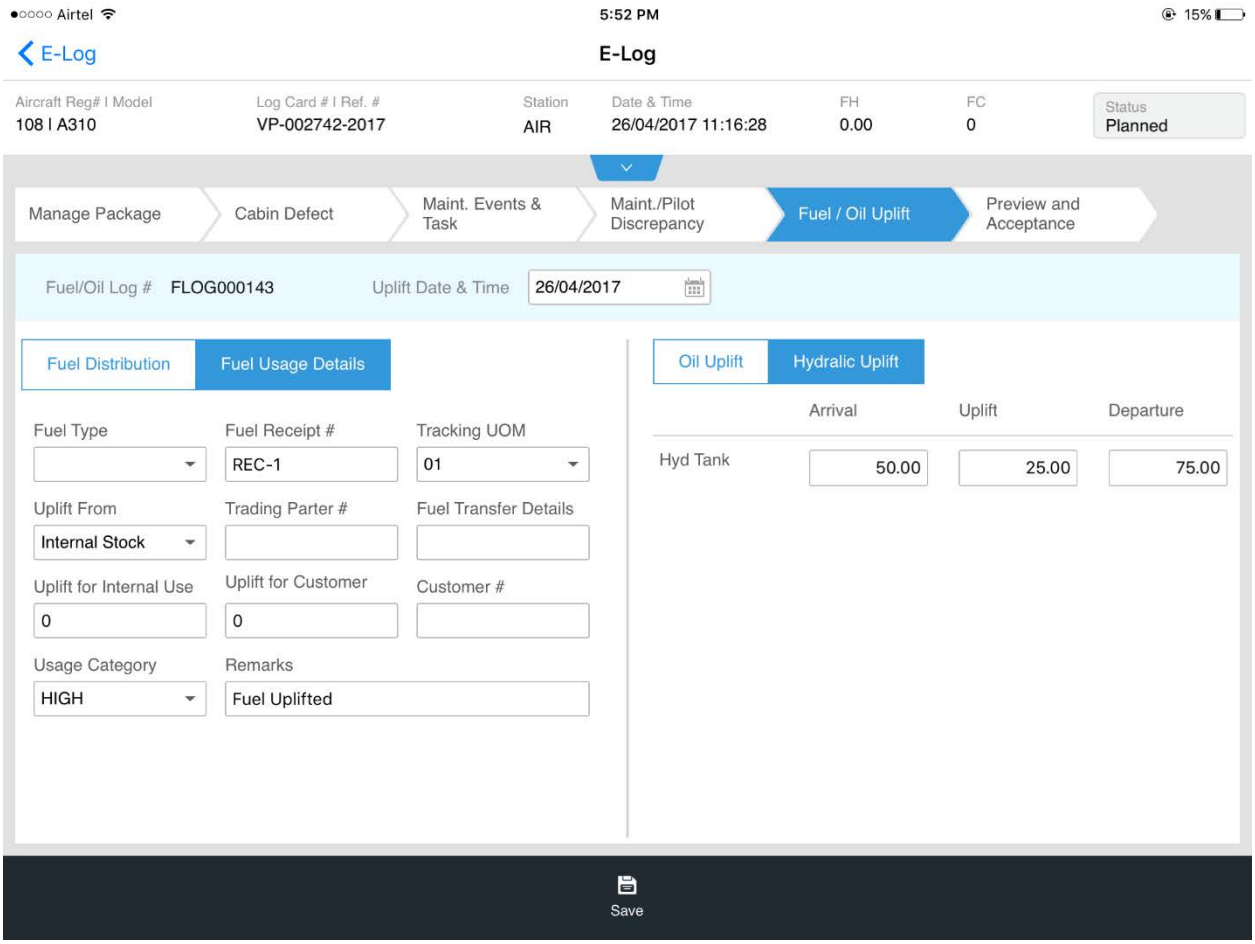


Note:

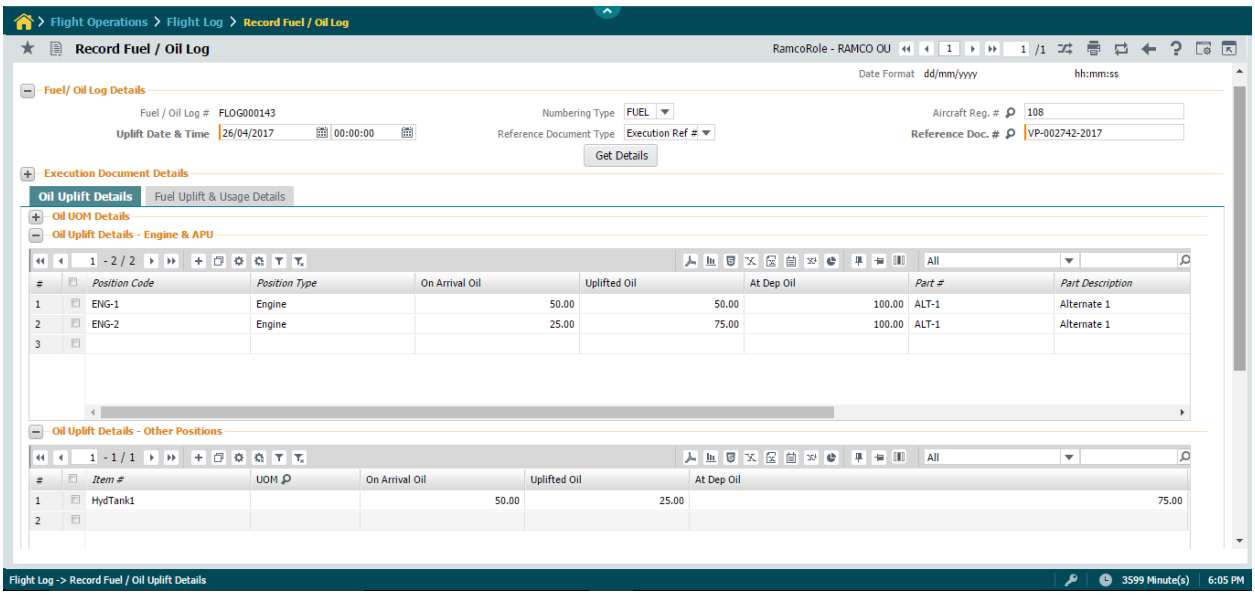
- The Position Code and Part # should be defined against Item Type 'Oil' for uplifting oil in Engine and APU positions of aircraft via. MechanicAnywhere App.
- The UoM defined against Item # in Maintain Flight Log parameter will be considered during recording done through MechanicAnywhere App.

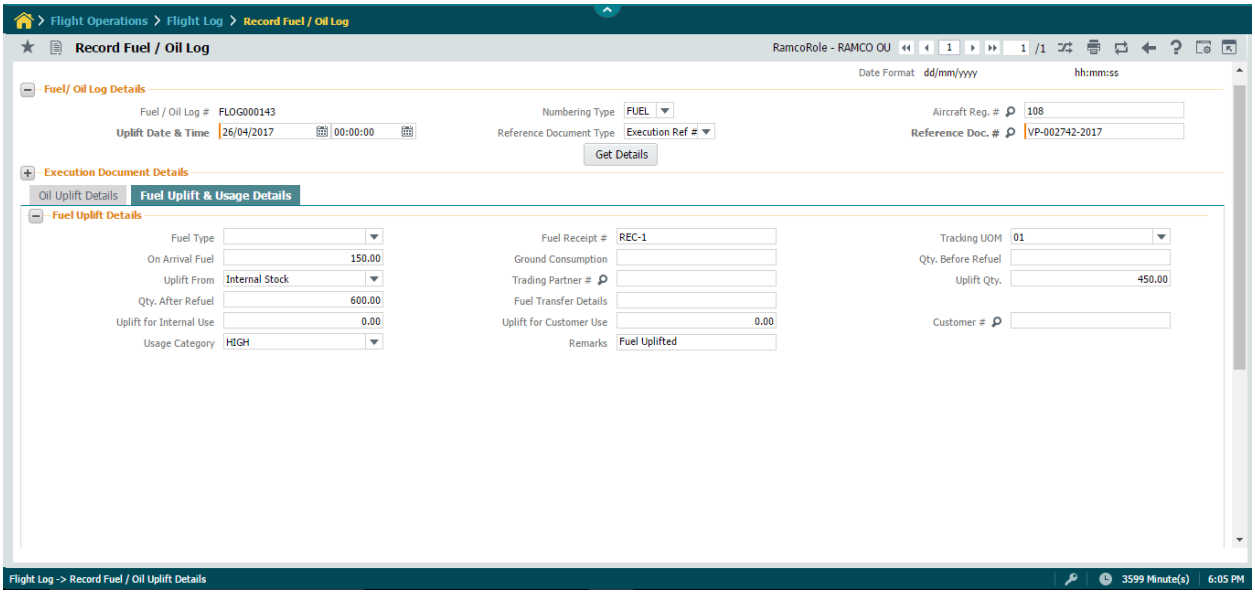
Step 3: Now traverse to Fuel/Oil Uplift tab in E-Log screen of MechanicAnywhere App for the aircraft and generate a Fuel/ Oil Log # by recording uplift details. Please refer below snapshot for example.





Step 4: Uplift Details recorded through MechanicAnywhere for Fuel Distribution, Engine/APU Oil and Hydraulic Oil will get updated against Fuel/ Oil Log # and will be displayed in Fuel/Oil Uplift Details screen in Flight Log business component in desktop. Please refer below snapshot for example.




Flight Operations > Flight Log > Record Fuel / Oil Log
Record Fuel / Oil Log
RamcoRole - RAMCO OU
Date Format dd/mm/yyyy hh:mm:ss
Fuel/ Oil Log Details
Fuel / Oil Log # FLOG000143
Numbering Type FUEL
Aircraft Reg. # 108
Uplift Date & Time 26/04/2017 00:00:00
Reference Document Type Execution Ref #
Reference Doc. # VP-002742-2017
Get Details
Execution Document Details
Oil Uplift Details
Fuel Uplift & Usage Details
Fuel Uplift Details
Fuel Type
Fuel Receipt # REC-1
Tracking UOM 01
On Arrival Fuel 150.00
Ground Consumption
Qty. Before Refuel
Uplift From Internal Stock
Trading Partner #
Uplift Qty. 450.00
Qty. After Refuel 600.00
Fuel Transfer Details
Uplift for Internal Use 0.00
Uplift for Customer Use 0.00
Customer #
Usage Category HIGH
Remarks Fuel Uplifted
Flight Log -> Record Fuel / Oil Uplift Details
3599 Minute(s)
6:05 PM

Ability to Print Return Document from Mechanic Anywhere APP

Reference: AHBG-11903

Background

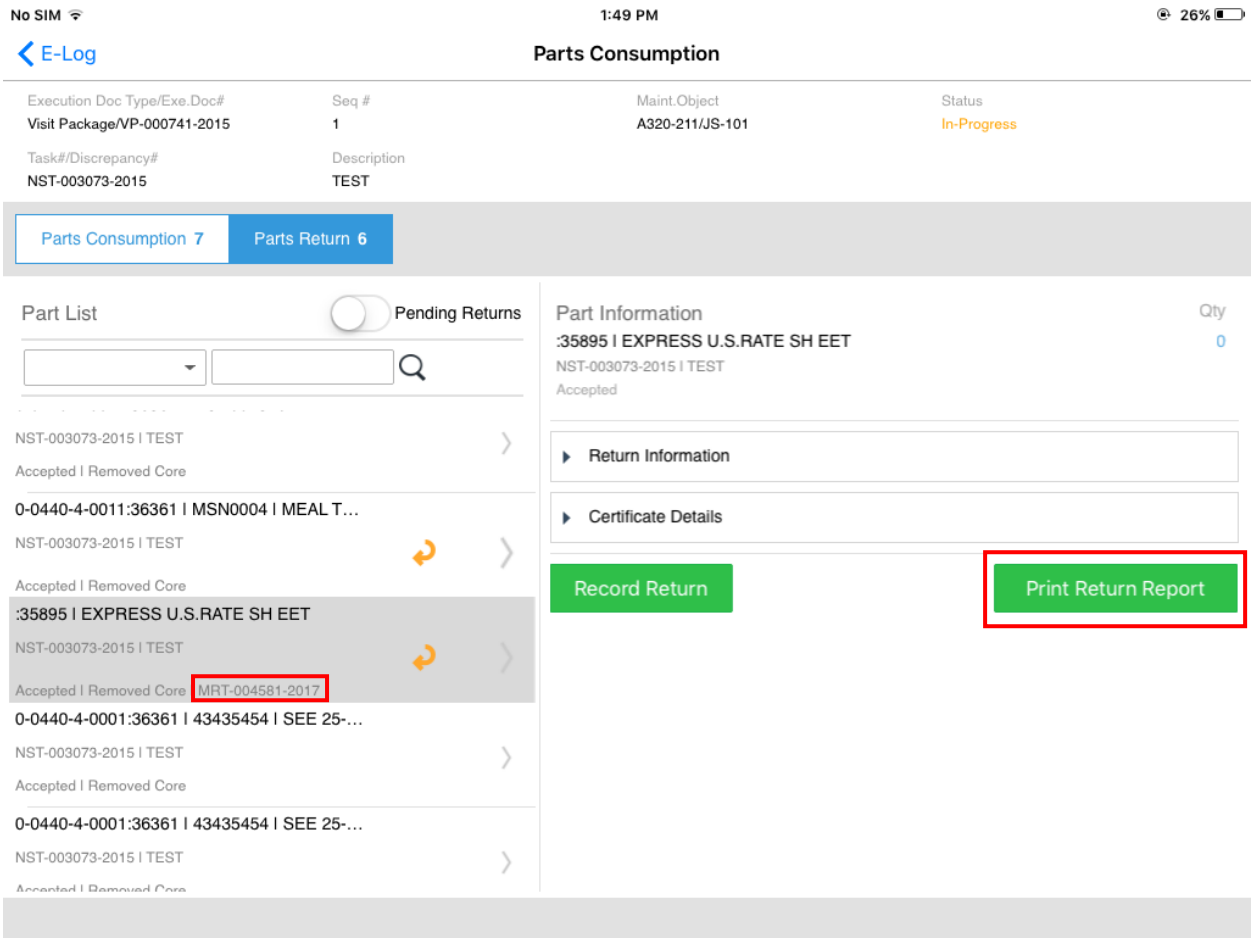
The enhancement brings the ability to generate Return Document from MechanicAnywhere once part returns are recorded.

Change Details

To provide the ability to print the Return report, the new button **Print Return Report** has been added in the **Parts Consumption** screen of Mechanic Anywhere.

Note: The button will be visible only if Material Return # exists for the record and is only applicable for "**AME**" returns.

Exhibit 1: 'Print Return Report" in Parts Consumption screen



Steps to Configure the Print Return Report

Step 1: Launch Parts Consumption screen from Mechanic Anywhere

Step 2: Navigate to **Parts Return** tab

Step 3: Once return is recorded, disable the Pending Returns toggle button

Step 4: Select the returned part which has a Return #, the **Print Return Report** button will be visible.

Step 5: Press **Print Return Report**.

Ability to filter Child Positions in the Configuration Screen of Mechanic Anywhere

Reference: AHBG-12265

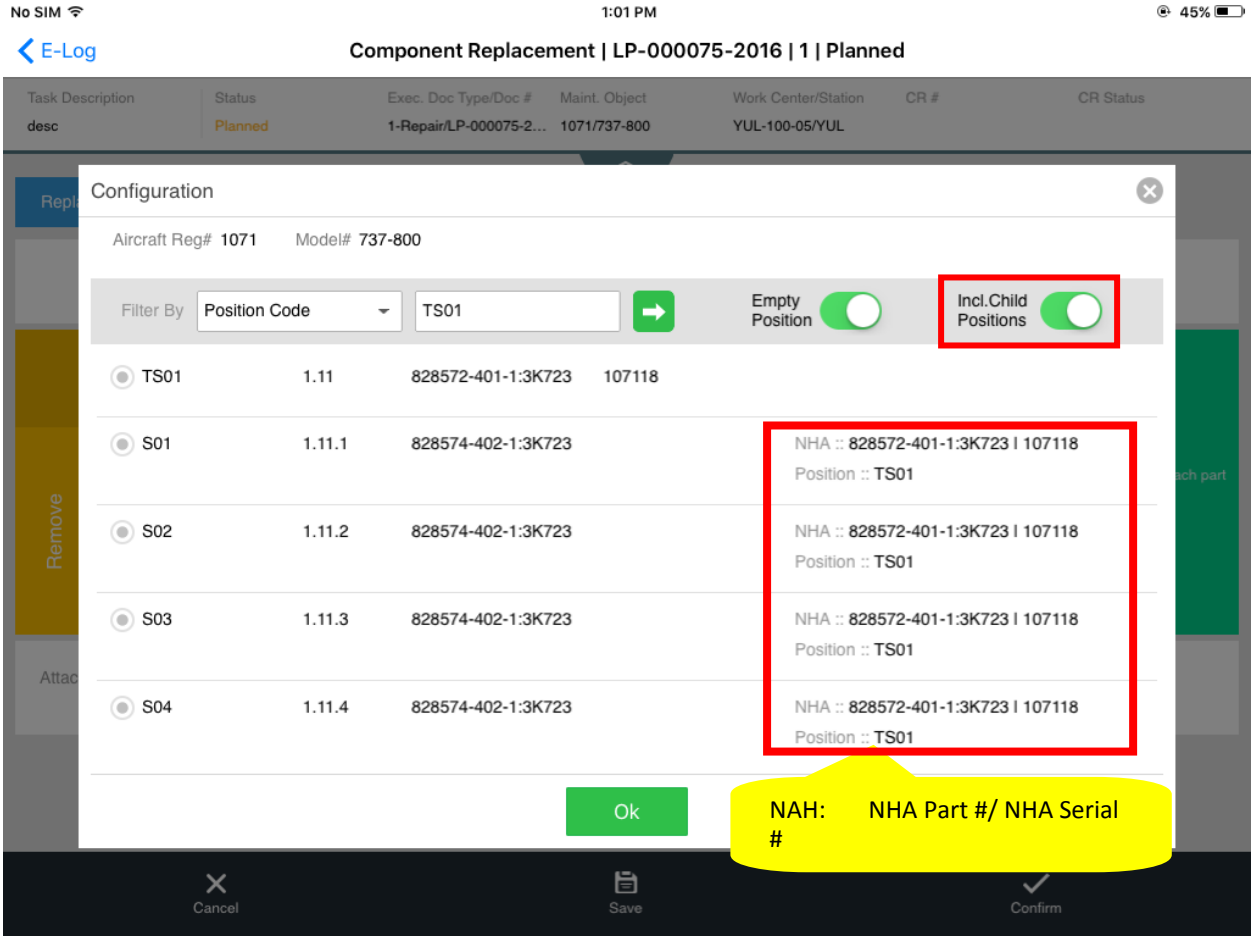
Background

During removal/installation of sub-assemblies from an aircraft in the **MechanicAnywhere** app, the positions of sub-assemblies are displayed hierarchically as in the aircraft configuration. As a result, specific part # may be attached in multiple positions of the aircraft and searching with Part # in the **Configuration** screen in MechanicAnywhere will list the records from multiple positions. Currently, the **Configuration** screen in **MechanicAnywhere** lists sub-assembly positions with Level Codes but in reality Level Codes are just system generated codes and mechanics do not relay on them.

Change Details

In the **Configuration** screen, a new toggle button **Incl. Child Positions** has been added. If **Incl. Child Position** is enabled during search with Position Code/ Level Code, the system will display the sub levels of Position Code/Level Code along with the requested position/level. Further, it will have no impact, if search is executed on the basis of Part #.

Exhibit 1: The Incl. Child Positions toggle button and NHA Part details column in the Configuration screen

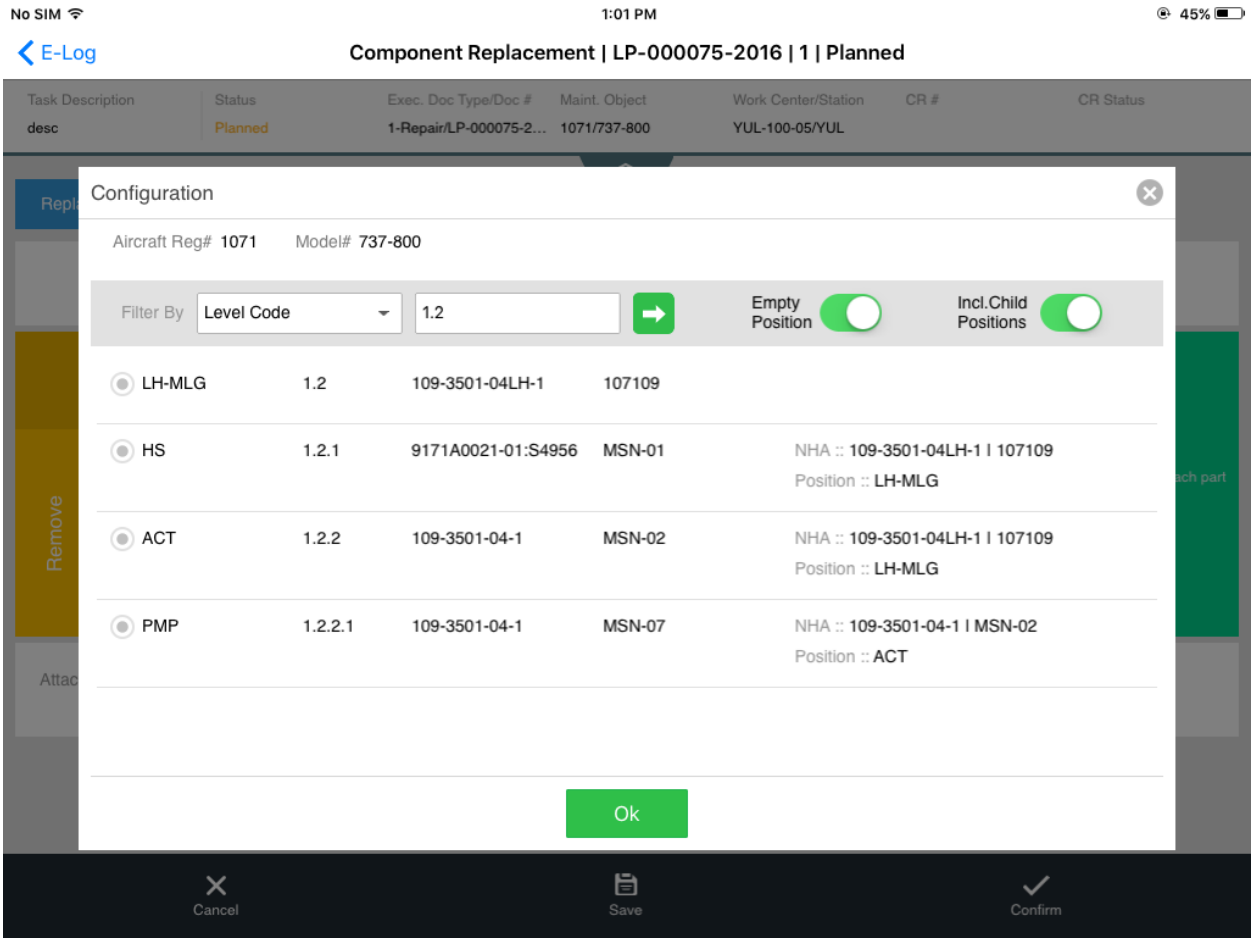


Note: Added 'Incl. Child Positions' toggle button and 'NHA Part Details' Column in the Configuration screen of Mechanic Anywhere.

Steps to filtering the child positions based on Position Code:

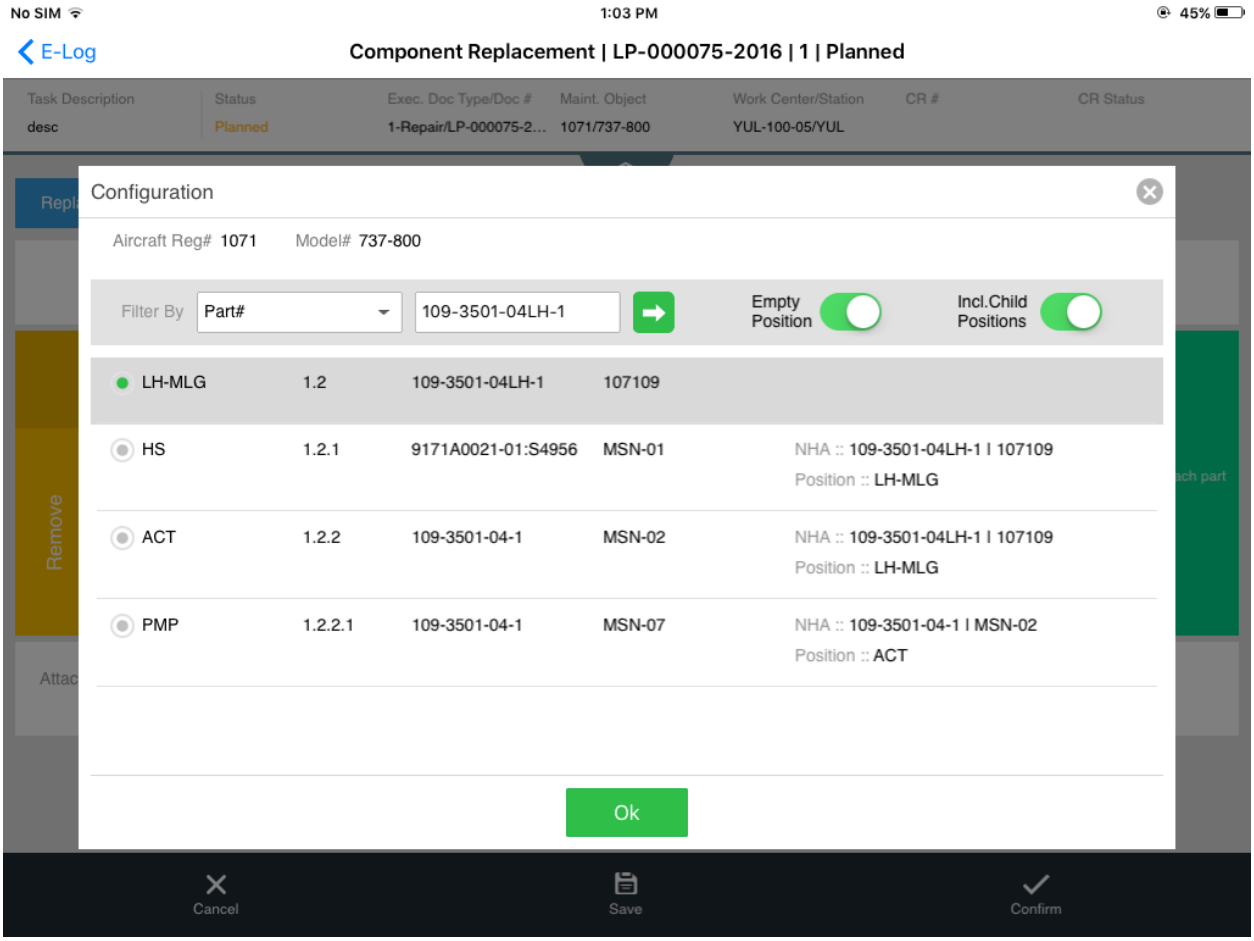
- Step 1: Launch Component Replacement screen under E-Log
- Step 2: Launch Configuration screen by Clicking Help on Position
- Step 3: Enable "Incl. Child Positions" toggle button and execute search with Position Code/Level Code of NHA Part or EIPN
- Step 4: the system will list the searched Position Code/Level Code Part with its child level components.
- Step 5: Now, users can select the appropriate sub-assembly record to removal or attachment as required.

Exhibit 2:



With this enhancement, users can search for Level Code by enabling toggle button 'Incl. Child Positions', and the system will retrieve the sub levels of Level Code along with requested Level Code. If search is executed for Level Code by disabling the toggle button, system will retrieve records of searched level code only.

Exhibit 3:



Steps to filter the Searched Part:

- Step 1: Set the filter as 'Part'
- Step 2: Enter the Part and invoke search
- Step 3: Searched part will be fetched even the 'Include Child Positions' button is enabled,

Note: It doesn't have any impact if search is executed for the Part #

Ability to add Corrective Action and perform Sign-off together in Mechanic Anywhere

Reference: AHBG-11921

Background

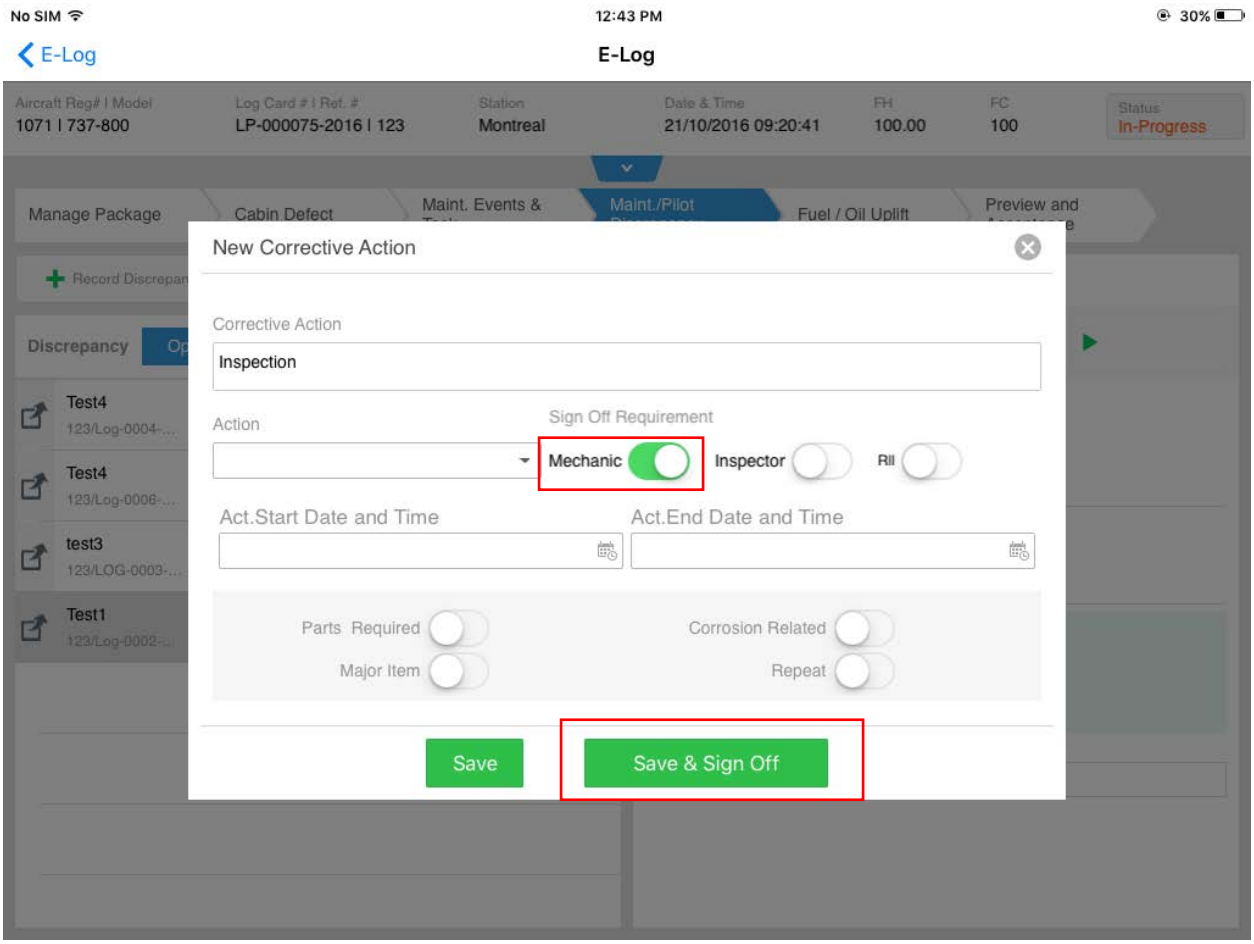
Corrective Action performed against the discrepancies are vital information to be tracked and reported to regulatory bodies. Each corrective action recorded against a discrepancy requires sign-off from skilled and certified mechanics or inspectors. Normally as a work practice, mechanics/inspectors record and sign-off the corrective actions together. Mechanic Anywhere App has provisions to record corrective action and perform sign-off separately. However, in real time scenarios, users would prefer to record corrective action and perform sign-off at one go.

Change Details

A new **Save & Sign off** button is added in the **New Corrective Action** pop up screen in Mechanic Anywhere

Note: The **Save & Sign Off** button will be visible only if Sign off Requirement "Mechanic, Inspector and RII" is enabled. Once Sign off Requirement is disabled, the Save & Sign off button also will be disabled.
On click of **Save & Sign off**, the system will launch the **E-Sign off** pop up screen and then the user can sign off the corrective action.

Exhibit 1: The new **Save & Sign Off** button in the **New Corrective Action** pop up



Steps to Save & Sign off Corrective Action:

Step 1: Launch E-log from Mechanic Anywhere

Step 2: Select Appropriate package # and launch Maint./Pilot Discrepancy tab

Step 3: Create Discrepancy and launch New Corrective Action pop up screen

Step 4: Enter the Corrective Action and select appropriate “Sign off Requirement (Mechanic, Inspector)

Step 5: Press “Save & Sign Off”

Step 6: System will launch “E-sign off” screen, with this user can sign off the corrective action.

Note: If user doesn’t want to sign off and closes the **E-Sign off** screen, the system will save the corrective action recorded and he can then sign off whenever he wants.

Ability to Display App Version # in Hamburger menu

Reference: AHBG-13312

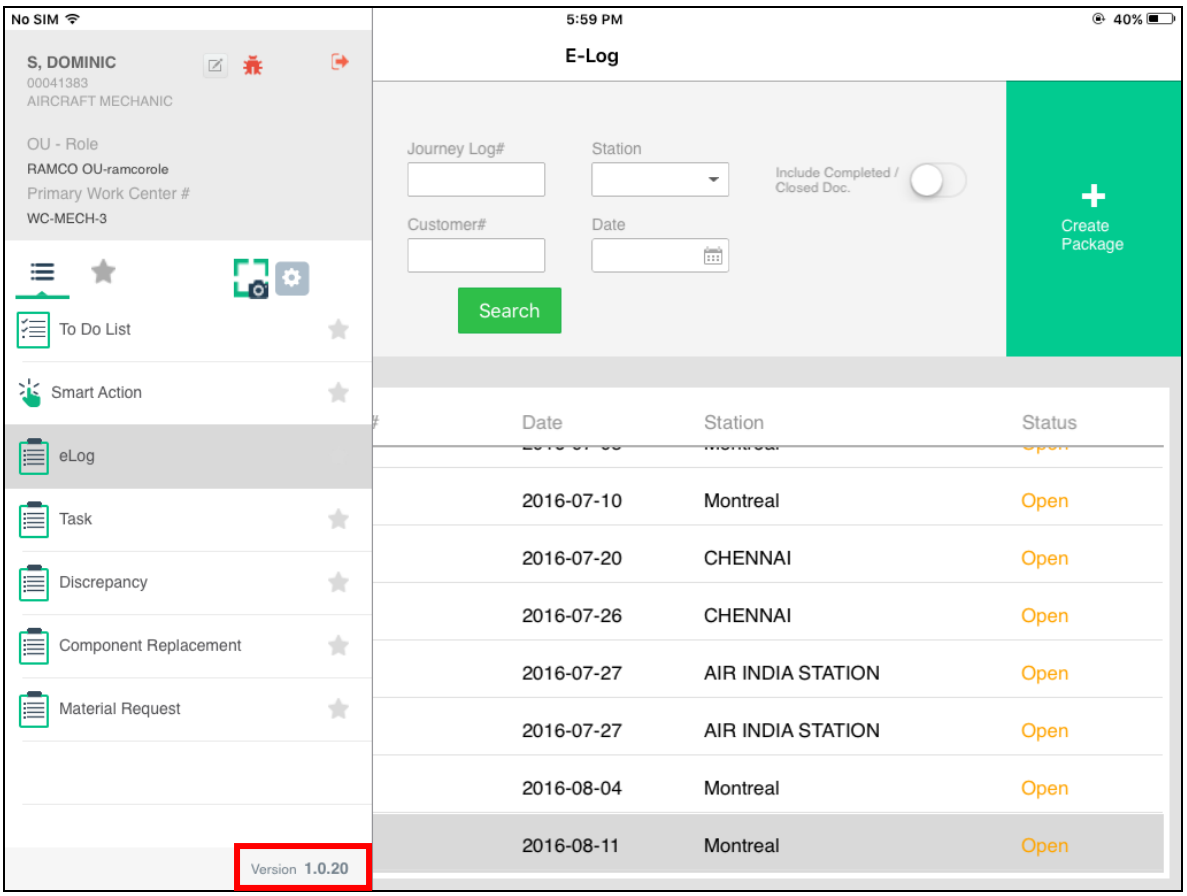
Background

The display of App version # in Mobility Apps can help user ensure that they are working with the latest version. This helps mechanics in the shop floors to be aware of the application version.

Change Details

The Hamburger menu in MechanicAnywhere App has been enhanced to display App version #.

Exhibit 1: App Version # in Hamburger menu



Note: Users can view the App Version # through Hamburger menu; this will help to ensure that they are in the latest App Version.

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