RAMCO AVIATION SOLUTION

ENHANCEMENT NOTIFICATION

Version 5.9.0

Maintenance

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WHAT'S NEW IN TIME TRACKING?

Timebooking with Adaptive Cards in Outlook

Reference: APRP-1037

Background

A new framework to book time/start/stop a clock against any job i.e. task/discrepancy assigned to a mechanic or he/she has clocked on or booked time previously and an indirect time booking through Outlook desktop as well as in mobile application.

Change Details

Common Master

Below are the set of Process Parameters added for the feature to be customized as per the requirements.
The below sets of parameters are added under both Entity Type "Package Type" and Entity "--All Packages--" and Entity Type "Shop Work Order Type" and Entity "--All Work Order--" with the below permitted values.

S. No.	Parameter Description	Permitted Values
1	Consider Inprogress jobs against which user has entered Execution Comments / Corrective Actions as My Jobs?	Enter "0" for 'No' and "1" for 'Yes'
2	Consider Inprogress jobs against which user has clocked on as My Jobs?	Enter "0" for 'No' and "1" for 'Yes'
3	Consider Inprogress jobs against which user has booked time previously as My Jobs?	Enter "0" for 'No' and "1" for 'Yes'
4	Consider Planned/Inprogress jobs that are assigned to the user as My Jobs?"	Enter "0" for 'No' and "1" for 'Yes'

Timebooking Adaptive Card

A new smart pop-up like adaptive card with four tabs, My Jobs, Running, Manual and Review will enable to book and view the timesheet for the Mechanics (should be sent in email).
Refresh - On click of refresh icon in the Card, latest card will be fetched as a new email.
My Jobs - In My Jobs tab, based on the process parameter setting, the jobs will be displayed. Usually it will display all jobs that the user has clocked on (running) or booked time previously but is not completed yet and assigned jobs. This tab will render records in a grid/multiline like format with up to max 2 pages. In a page, max of 5 records will display. In My Jobs Multiline, first column will display the job type i.e., Task/Discrepancy. If the job is task, icon  is displayed.

If the job is discrepancy, icon  is displayed

The container of the card will display the task or discrepancy number concatenated with Aircraft Reg. #/Component # based on the Package/Work Order in which the task/discrepancy belongs to. Below that, description of that task or discrepancy, after that package #/work order # in which the task or discrepancy belongs

to in the left and work center # in the right. In addition to this we have an option to start/stop/manual book time for a job with the pushbuttons. This manual pushbutton will enable the user to book time manually against a job. And will show the job running status against each job.

Running - The Running tab will show all Tasks/Discrepancies for which clock was running at that time when the card was rendered. This tab will render records in a grid/multiline like format with up to max 2 pages. In a page, max of 5 records will display. All other display options are same as My Jobs tab.

Manual - The manual tab is a free form entry page where the user can book time for any task/work item as long as he can type it in and click the book time or start clock button. In Manual tab, first row has a series of radio buttons captioned as "Booking Type" with buttons "AME", "SWO", Indirect" and "Others" with one UI drop-down control. This dropdown will be enabled only if user selects 'Others' in the booking type radio button. Use the UI drop-down list box to select the booking type. The system lists all the active booking types as defined in the **Manage Time Booking Types** activity of the **Time Tracker** business component except the following: "AME","SWO", "Indirect".

1. If user selects AME or SWO in booking type, second row will have two editable controls as "Exe. Doc. #" in the left and "Task/Disc. #" in the right
2. If user selects Indirect in booking type, second row will have only Activity Code as a drop-down in the right side. This drop-down will load valid activity code in "Active" status as defined in the **Manage Activities** activity of the **Time Management Master** business component. The activity code selected in this field is mapped to the Booking Type selected.
3. If user selects 'Others', the Booking Type UI combo will be enabled and can select an active booking type which will enable two drop-down controls "Booking Code" in the left side and "Activity Code" in the right side. Booking Code will load valid booking code in "Active" status as defined in the **Manage Booking Code** activity of the **Time Management Master** business component. The booking code entered in this field is mapped to the "Booking Type" selected.
4. In addition to that, Start Date & Time, End Date & Time, Attendance Type and Time Classification will load as defined in the **Time Tracker** business component. And Comments to be entered and pushbutton to Start Clock or Book Time Manually for a job.

Review – The Review tab will display all jobs that the user has booked time today (i.e., the day mail triggered). Here also the container is same as My Jobs tab, will show the Job details with Edit option for Fresh records. User can edit the time booked for the fresh record by clicking on the edit icon. It will enable as Manual book time page to edit the records.

BOT Mail Id - Email ID for the adaptive card: "ramcoassistant@<Company Domain>". Company domain can be ramco, etc. When an email is received by ramcoassistant from an email address, it will identify the login user by recognizing the email recorded in **Record Contact Information** screen of HRMS components. And also consider the validity of User-Employee mapping in View User-Employee mapping screen. If the validity of user-employee mapping is not up to date or user/employee is inactive, it will reply back to the mail with the subject "Employee Time Sheet Booking" and the Body should say "Sorry, User-Employee mapping is not up to date. Please Check" or "Sorry, User/Employee is Inactive. Please Check" respectively.

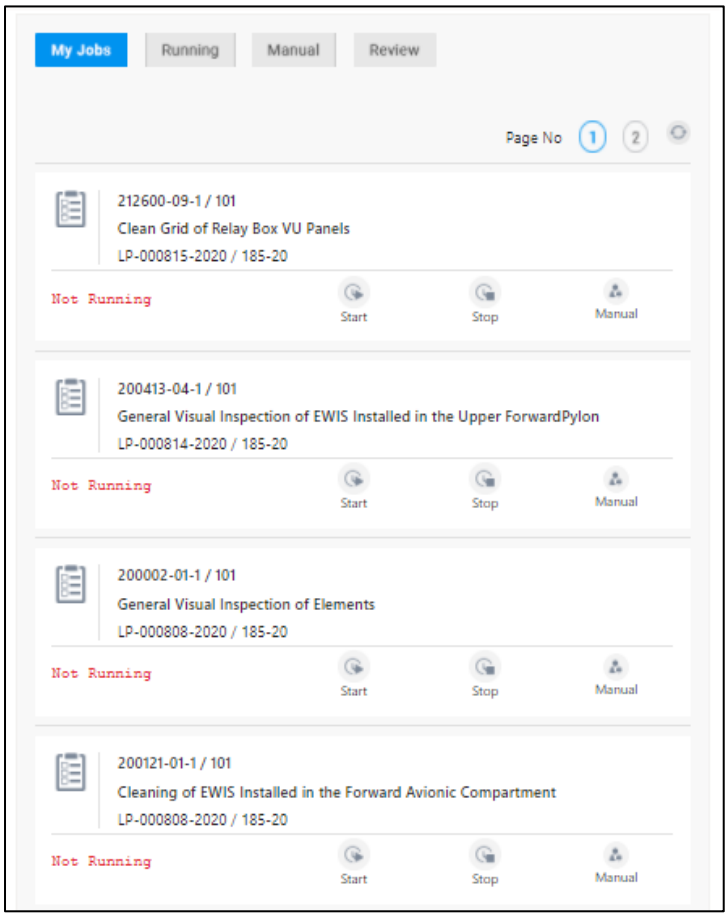
Keywords - When an email is received to ramcoassistant from an employee's mail, the adaptive cards for Time

Sheet should be sent to employee's mail only if the subject given in the mail is anyone of the following keywords:

1. Time Booking
2. Book Time
3. My Jobs
4. Running Clocks
5. Manual Booking
6. In-direct Booking
7. Review Booking
8. View Time
9. Running Jobs

API and Design – We have used the API service to call My Jobs, Running and Review Jobs for a user in the adaptive card. And it is designed to render in both desktop as well as in mobile application.

Exhibit 1: Identifies the **My Jobs** tab in **Adaptive Card Timebooking**

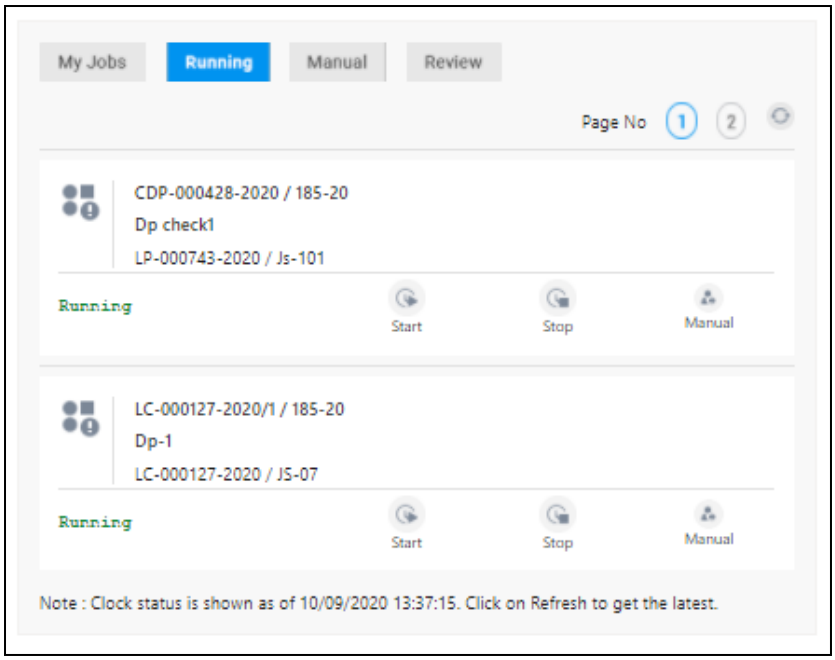


We can differentiate the job either task/discrepancy by the icon against each job. It will display the job status whether running or not running.

Against each job, it will clearly indicate the task/discrepancy #, associated aircraft/component #, task/discrepancy description, package/work order # and work center.

Against each job, there is a provision to start/stop a clock or book time manually against each job

Exhibit 2: Identifies the **Running** tab in **Adaptive Card Timebooking**



Running tab, will display all the jobs which are running at the time of card rendered

Exhibit 3: Identifies the **Manual button click** in **Adaptive Card Timebooking**

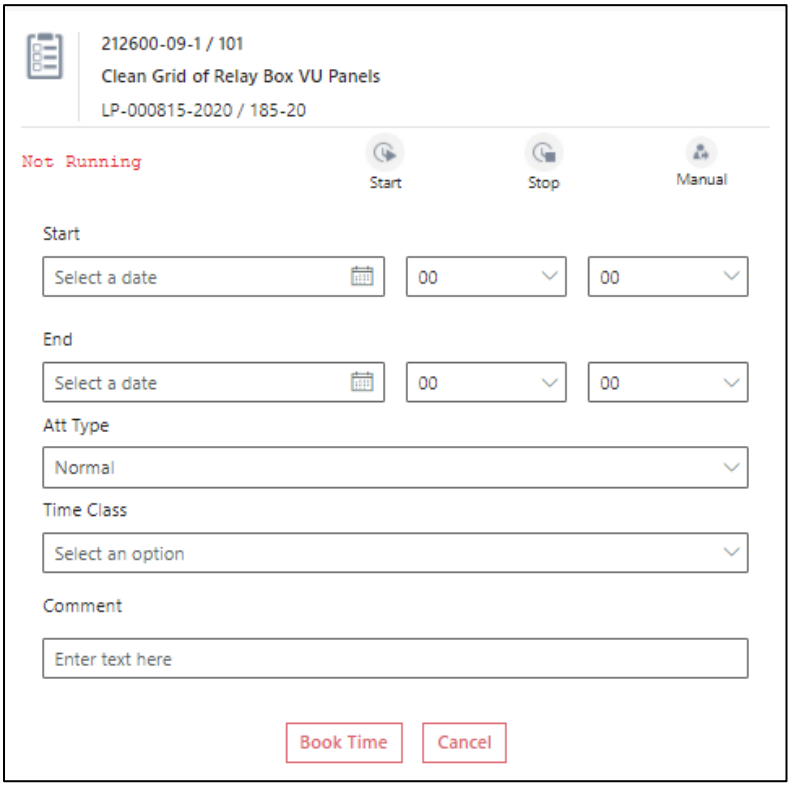
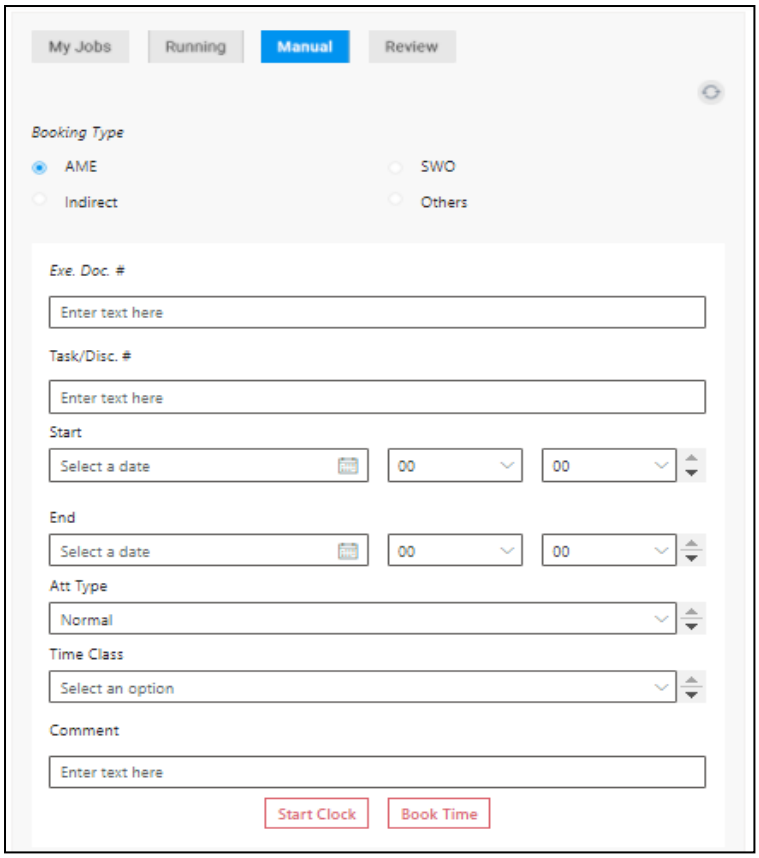


Exhibit 4: Identifies the **Manual** tab in **Adaptive Card Timebooking**

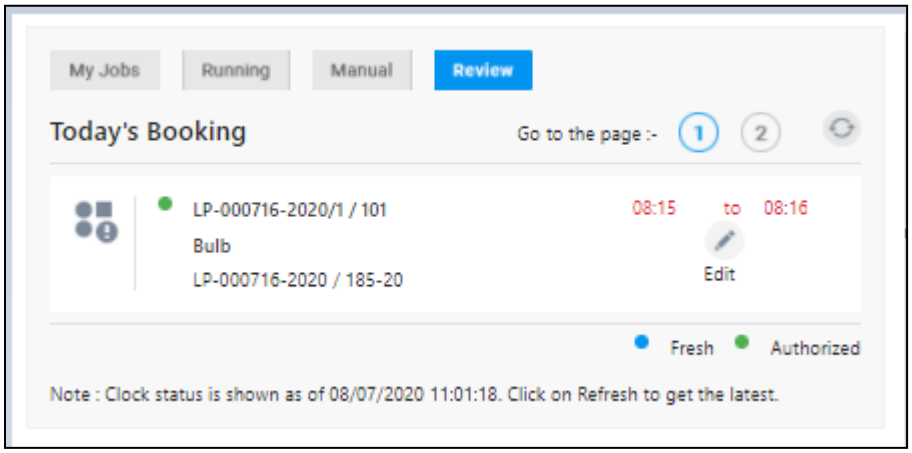


Manual tab, will have the provision to choose the booking type, based on it we can enter booking code or activity code and book time

User chooses booking type as Indirect, will disable the exce.doc. # and task/disc # control and enable Activity code to be entered.

User selects Booking Type as Others will enable another dropdown to show the user defined booking types.

Exhibit 5: Identifies the **Review** tab in **Adaptive Card Timebooking**



Review tab, will fetch only the jobs for which I have booked time for today

WHAT'S NEW IN WORK CENTER?

Ability to define Work Center Certificate Effectivity and validate if not Effective for Issue CoM & Package release

Reference: APRP-222

Background

The internal quality teams do look into the approval list for the Work Centers in terms of the customers (Maint. Operators), to whom they can provide service, and the 'Part models'/ 'Equipment category' on which they are authorized to work upon. The same information will be used in case the regulatory authority performs the audit. This information is currently being maintained in different document formats across multiple geographic locations. Hence, a single format, which could help our customers view the approval list provided for Work Centers, along with the information specified above, is needed.

Change Details

Common Master

A new process parameter "Validate Work Center-Part-Certificate effectivity during Issue CoM?" is added under the Entity Type 'Shop Work Order Type and Entity 'All user defined Work Order Type' in the **Set Process Parameters** screen of the **Define Process Entities** activity, with the following permitted values:

- 0 (No) Existing Behavior - System will not check the mapping of Certificate Type, Certifying Authority combination to the 'Part #/Part Group'/'Part Model' of Main Core Part # and Associated Core for the Primary Workcenter of the Shop Work Order in the **Work Center Certification Effectivity** screen.
- 1 (Yes) - System will check the mapping of Certificate Type, Certifying Authority combination to the 'Part #/Part Group'/'Part Model' of Main Core Part # and Associated Core for the Primary Workcenter of the Shop Work Order in the **Work Center Certification Effectivity** screen.

A new process parameter ""Validate Work Center - Aircraft effectivity during Package creation?" is added under the Entity Type 'Package Type and Entity 'All user defined package types including Log Card" in the **Set Process Parameters** screen of the **Define Process Entities** activity with the following permitted values:

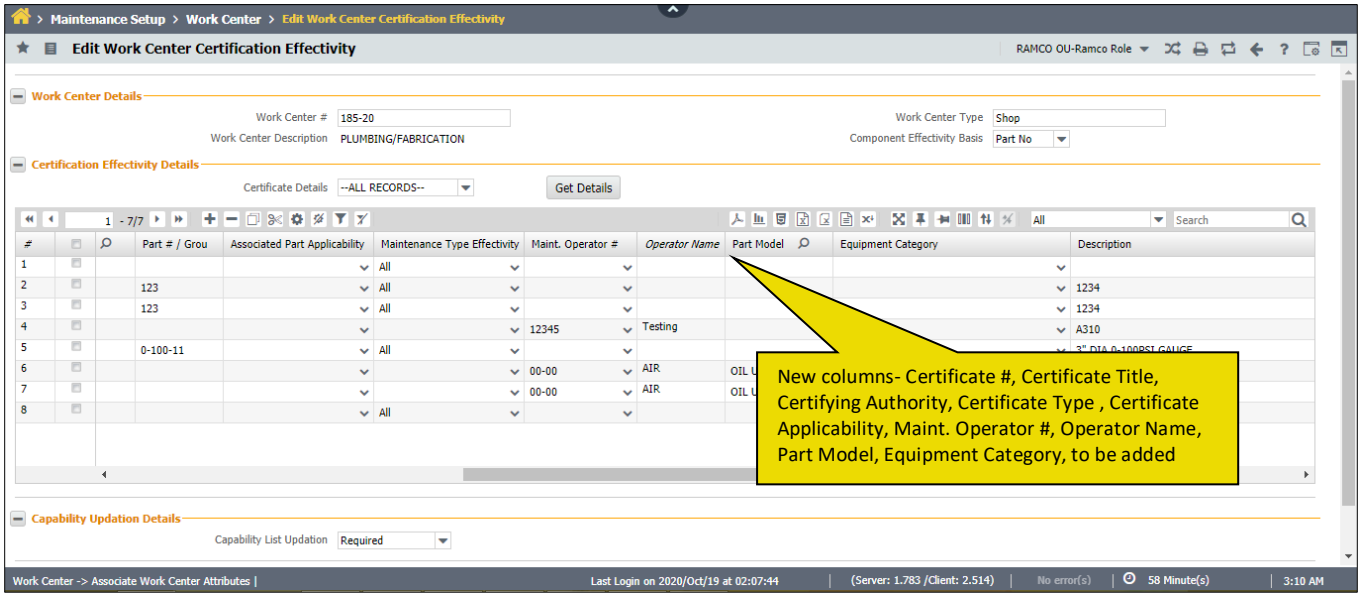
- 0 (No) Existing Behavior - System will not check the mapping of Aircraft Model #- Maint. Operator #' for the respective Aircraft Reg. # with the details in the **Edit Work Center Certification Effectivity** screen for the Work Center #
- 1 (Yes) - System will check the mapping of Aircraft Model #- Maint. Operator #' for the respective Aircraft Reg. # with the details in the **Edit Work Center Certification Effectivity** screen for the Work Center #

'Edit Work Center Certification Effectivity

New columns Certificate #, Certificate Title, Certifying Authority, Certificate Type, Certificate Applicability, Maint. Operator #, Operator Name, Part Model, Equipment Category are added in the **Edit Work Center Certification Effectivity** screen.

User can define the Maint. Operator #, Part Model and Equipment Category for a Certificate # - Certifying Authority- Certificate Type combination.

Exhibit 1: Identifies changes in **Edit Work Center Certification Effectivity** screen



WHAT'S NEW IN AIRCRAFT MAINTENANCE EXECUTION AND AIRCRAFT EXECUTION HUB?

Ability to disable compliance for Discrepancy deferrals

Reference: APRP-963

Background

In Record Maintenance Execution Details and Work Reporting Hub, when a discrepancy is deferred, the associated background task of the discrepancy goes to Completed status and compliance is updated for this discrepancy. So this discrepancy shows up in the **Track Maintenance and Compliance History** screen.

In some deferral scenarios, deferring a discrepancy means that work will be done later, therefore update of compliance should not happen for the same. Hence, a new provision is required in order to disable the update of Compliance Date & Time whenever a discrepancy is deferred.

Change Details

- To facilitate compliance update when discrepancy is deferred, the following change has been done in Ramco Aviation:

New process parameter 'Compliance update required when Discrepancy is Deferred?' introduced under the Entity type 'Package Type' and the Entity 'All user defined package types' including Logcard in the **Define Process Entities** activity of **Common Master** business component.

Process Parameter	Value	Impact in Record Maintenance Execution Details and Work Reporting Hub
Compliance update required when Discrepancy is Deferred?	"0" for 'Not Required'	System will not update the Compliance Date & Time when a Discrepancy is deferred. Since compliance is not updated, this discrepancy will not fetch in 'Track Maintenance Compliance History' screen as well.
Compliance update required when Discrepancy is Deferred?	"1" for 'Required'	System will update the Compliance Date & Time when a Discrepancy is deferred. Since compliance is updated, this discrepancy will fetch in 'Track Maintenance Compliance History' screen as well.

- The above behavior is applicable whenever discrepancy is deferred from the following screens/popups:-
    - Work Reporting Hub – Discrepancy Tab multiline
    - Work Reporting Hub - Discrepancy Actions popup
    - Record Maintenance Execution Details – Discrepancies Tab

Exhibit 1: Identifies the changes in **Work Reporting Hub**

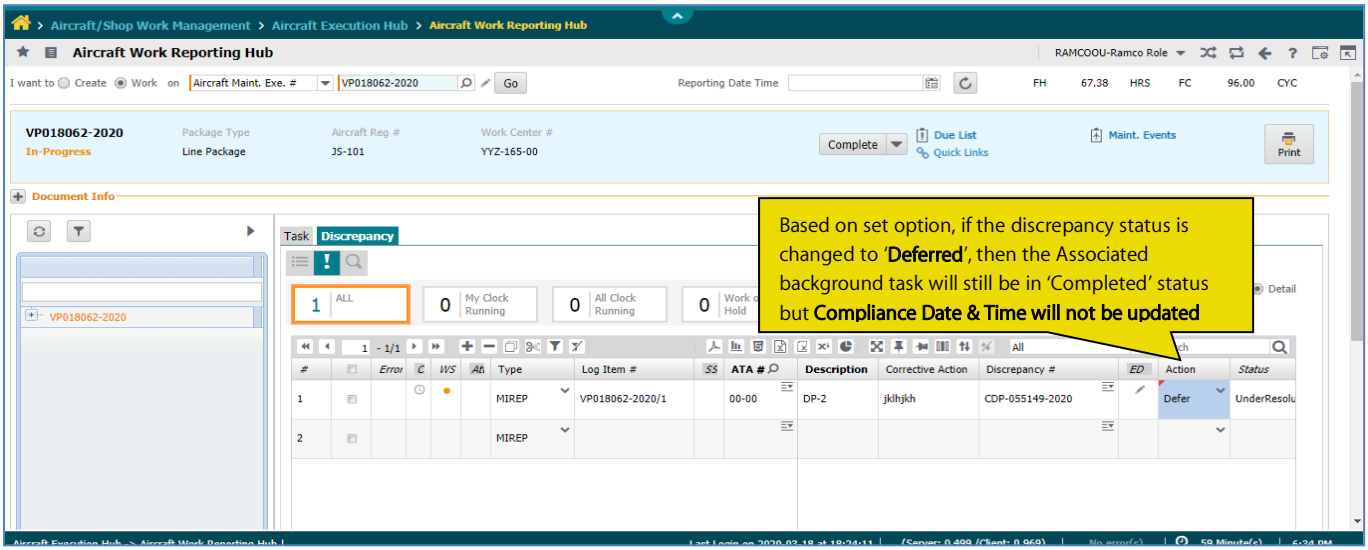
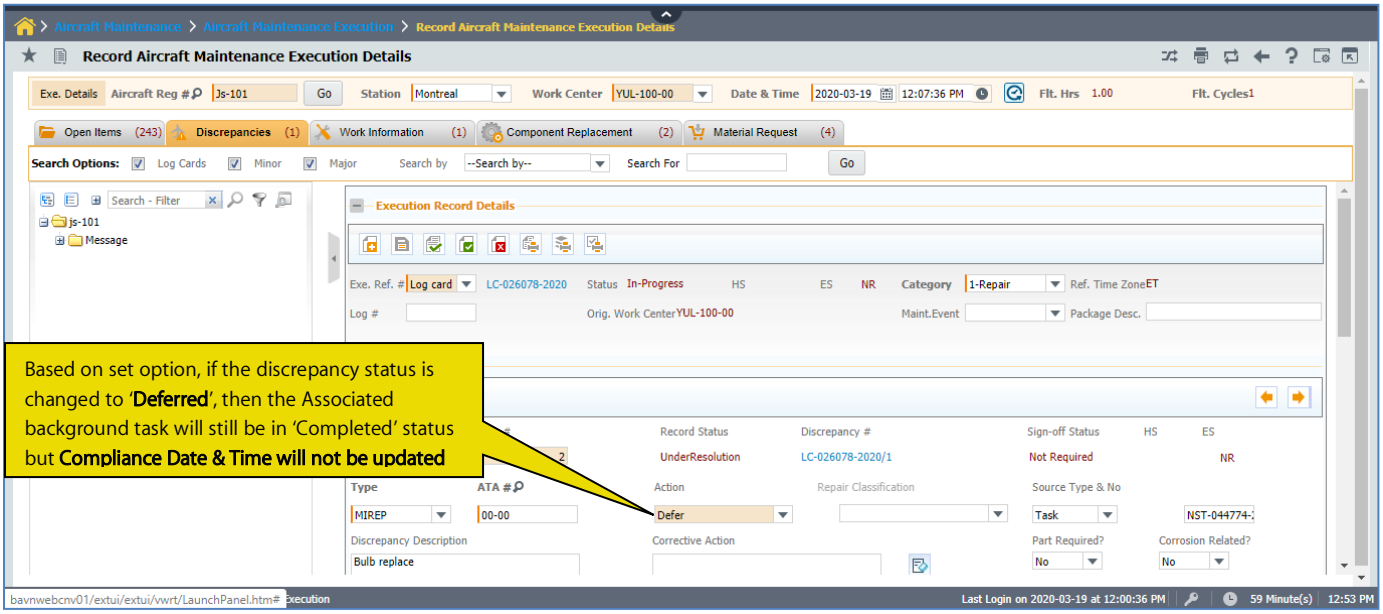


Exhibit 2: Identifies the changes in **Record Aircraft Maintenance Execution Details**



Ability to record multiple oil uplifts against a single Exe.Ref.Doc.#

Reference: APRP-978

Background

Multiple oil uplifts cannot be recorded against an Exe.Ref.Doc.# through the Record Fuel / Oil log link in the Record Aircraft Maintenance Execution Details screen.

Change Details

Record Aircraft Maintenance Execution Details

1. If Fuel/Oil Log # already exists for a Package # and user launches the **Report Fuel/Oil Log** link from **Record Aircraft Maintenance Execution Details** screen then on launch of **Record Fuel / Oil Log** screen,
    - It will not default the Fuel/Oil Log # and its details created previously for Package #.
    - Defaults the Reference Document Type combo with Execution Ref #, Reference Doc. # control with corresponding Package # and Aircraft Reg # with the A/C Reg # of the respective Package # in 'Fuel/Oil Log Details' section along with corresponding Work Center #, Station and Reference Time Zone in Execution Document Details section (associated to the Package #).

Aircraft Work Reporting Hub

1. If Fuel/Oil Log # already exists for a Package # and user launches the **Report Fuel/Oil Log** link from **Aircraft Work Reporting Hub** screen then on launch of 'Record Fuel / Oil Log' screen,
    - It will not default the Fuel/Oil Log # and its details created previously for Package #.
    - Defaults the Reference Document Type combo with Execution Ref #, Reference Doc. # control with corresponding Package # and Aircraft Reg # with the A/C Reg # of the respective Package # in 'Fuel/Oil Log Details' section along with corresponding Work Center #, Station and Reference Time Zone in Execution Document Details section (associated to the Package #).
2. A new Link **Update Fuel/Oil Log** is added in the Quick Links pop up of 'Doc Info/Strip' section in **Work Reporting Hub** screen. It will launch the **Select Fuel/Oil Record** screen of **Update Fuel/Oil Log** activity.

Exhibit 1: Identifies the **Update Fuel / Oil Log** link in **Aircraft Work Reporting Hub**

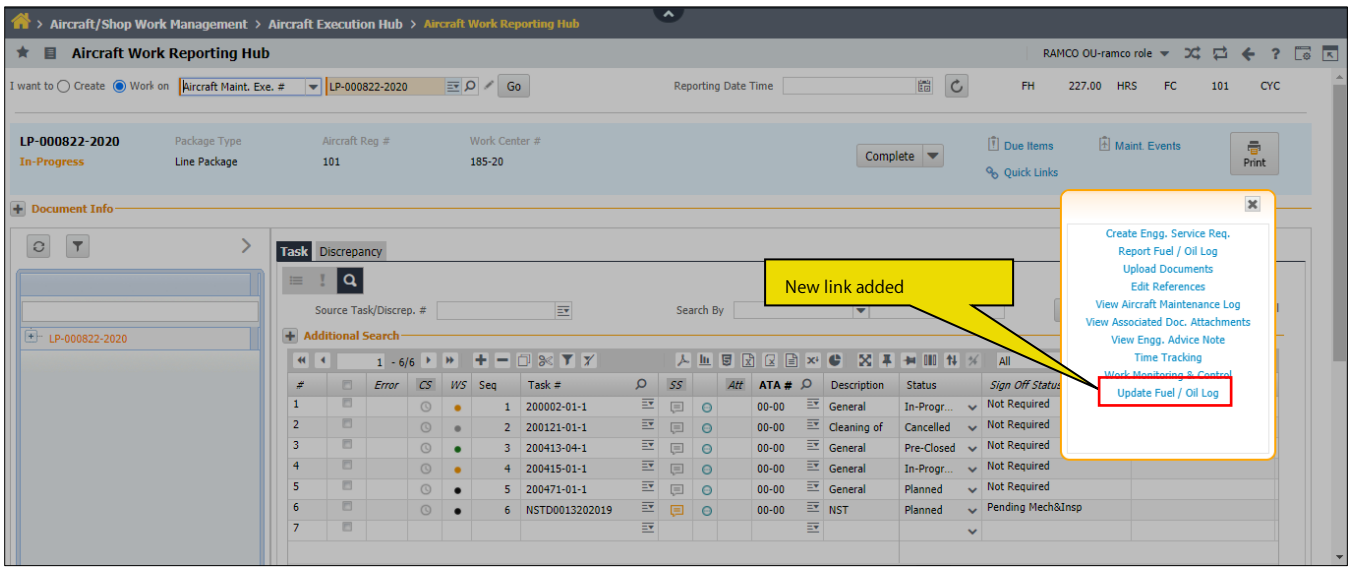
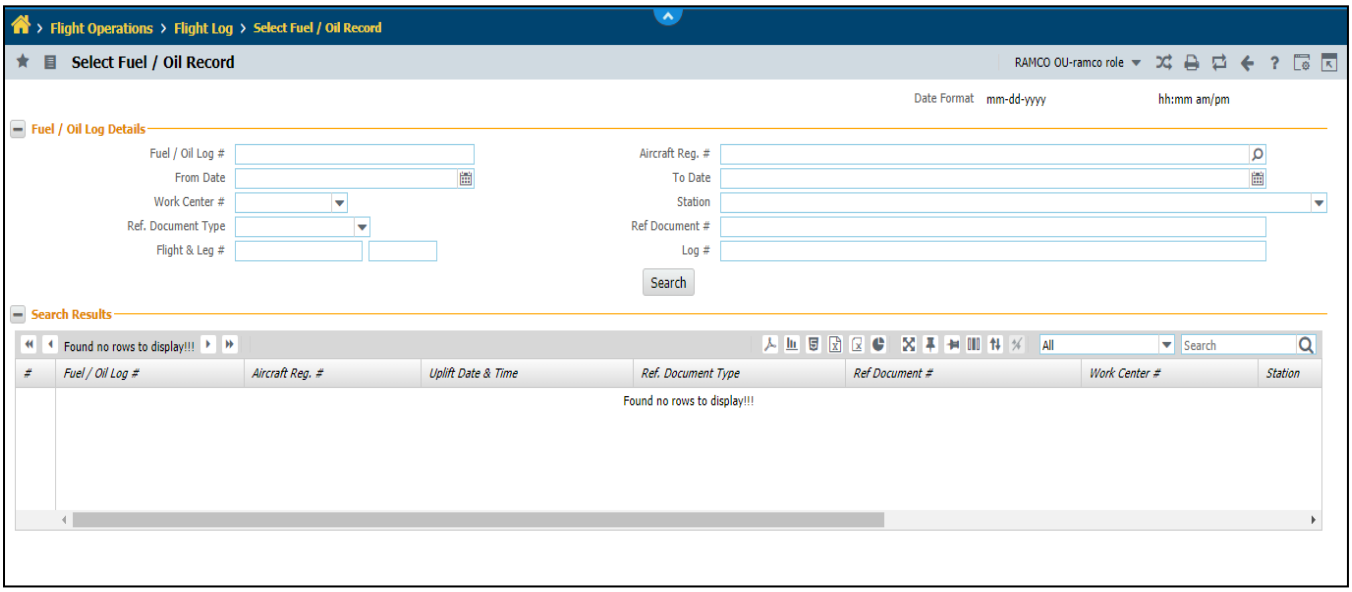


Exhibit 2: Identifies the **Select Fuel / Oil Record** screen of **Update Fuel / Oil Log** activity



Ability to Defer a Task with Sign-Off

Reference: APRP-1028

Background

'Tasks are able to be deferred in pending sign-off status. Hence, the ability to defer a task with sign-off is required.

Change Details

Common Master

A new process parameter 'Mandate Sign Off during Task Deferral?' is added under the Entity Type 'Package Type' and Entity 'All user defined package type including Log Card' in the **Set Process Parameters** screen of the **Define Process Entities** activity with the following permitted values:

- 0 (No) Existing Behavior – System will not mandate sign off during task deferral
- 1 (Yes) – System will mandate sign off during task deferral.

Record Aircraft Maintenance Execution Details

If the process parameter "Mandate Sign Off during Task Deferral?" is set as "1" (Yes) and if the user performs Deferral of a Task by selecting Execution Status as "Deferred" for a planned task and the Sign-Off status for a task is Pending Inspector or Pending Inspector and Mechanic, on save will validate the user 'Task cannot be deferred as it is pending for sign off'.

Aircraft Work Reporting Hub

If the process parameter "Mandate Sign Off during Task Deferral?" is set as "1" (Yes) and if the user performs Deferral of a Task by selecting Status as "Deferred" for a planned task and the Sign-Off status for a task is Pending Inspector or Pending Inspector and Mechanic, on save will validate the user 'Task cannot be deferred as it is pending for sign off'.

Exhibit 1: Identifies the Execution and Sign-Off status in **Record Aircraft Maintenance Execution Details** screen

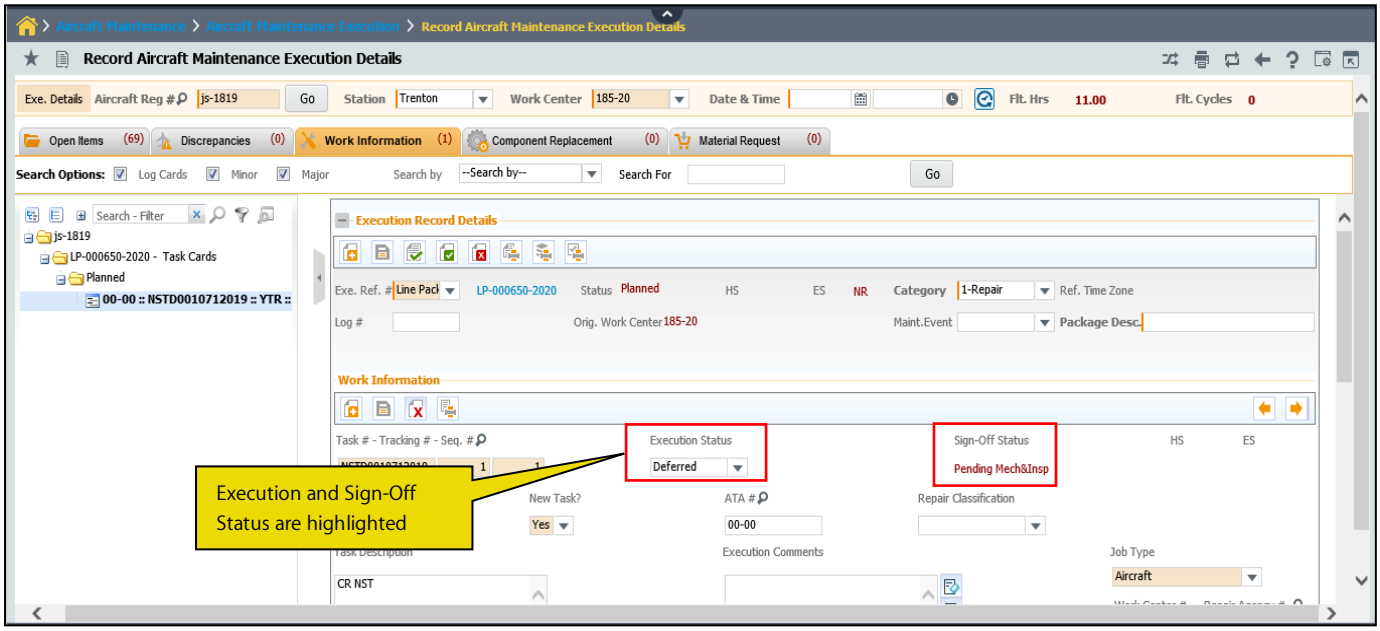
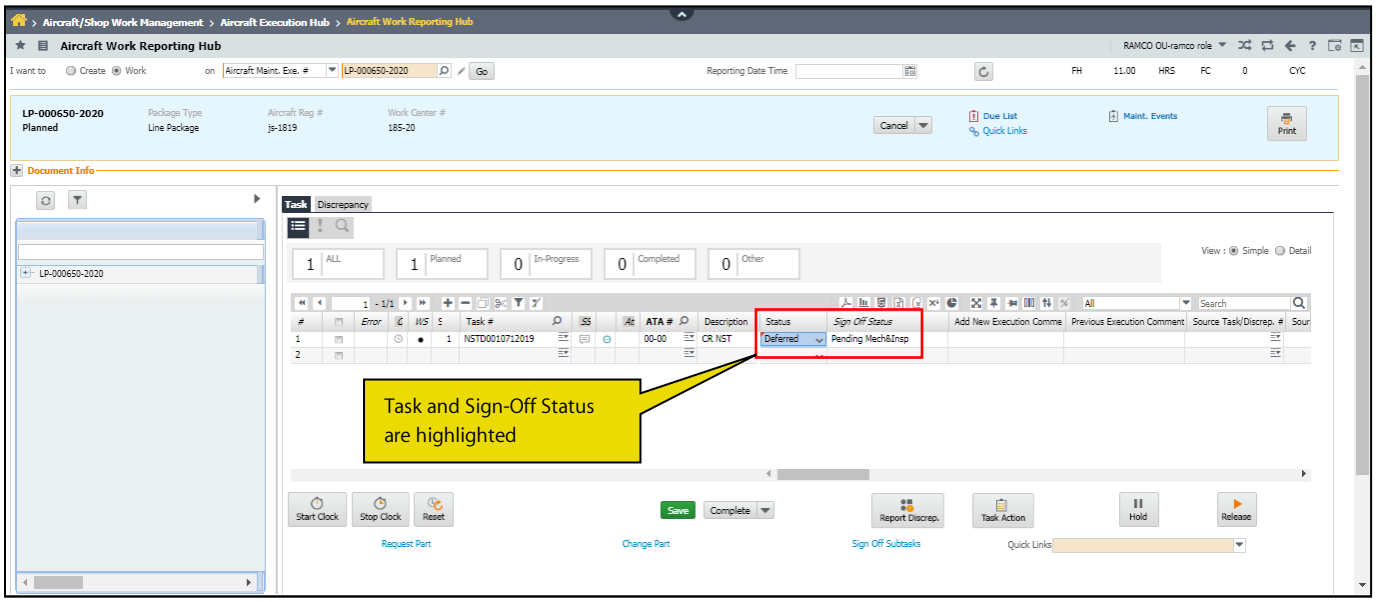


Exhibit 2: Identifies the Execution and Sign-Off status in **Aircraft Work Reporting Hub** screen



WHAT'S NEW IN AIRCRAFT MAINTENANCE EXECUTION?

Ability to remove part requirements on shortclosure of Material Requests

Reference: APRP-964

Background

In **Record Maintenance Execution Details,** when a Material Request (MR) is being short closed, system still retains the requested parts as part requirements in order to aid the users to raise the same MR if required later. If a new Part Requirement is raised again for the same parts, system will identify existing part requirements of the same part and merge it so that there exists only one Part Requirement for a part at any given time for a Task.

Sometimes users are not aware about the pending parts requirements that are available when a MR is short closed. So when they try to raise a new MR for the same part, multiplication of parts in a MR occurs. This has to be limited and it should be ensured that either user chooses to raise MR from the pending part requirements or raise a unique MR for the same part with the requested quantities alone.

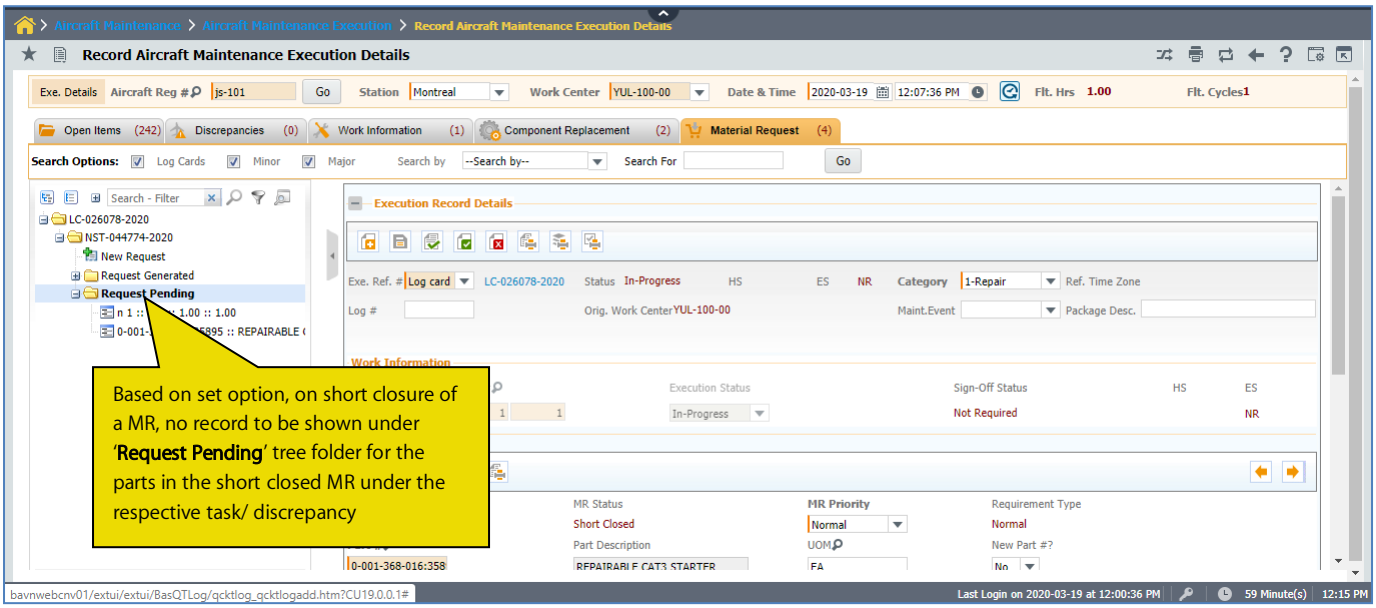
Change Details

- To facilitate show/hide of pending part requirements on short closure of a Material Request, the following process parameter has been added in the **Define Process Entities** activity of the **Common Master** business component.

New process parameter 'Show pending part requirements for short closed Material Request?' has been introduced under the Entity type 'Package Type' and the Entity 'All user defined package types' including Logcard in the **Define Process Entities** activity.

Process Parameter	Value	Impact in Record Maintenance Execution Details and Work Reporting Hub
Show pending part requirements for short closed Material Request?	"0" for 'No'	System will cancel the part requirement of the same part/quantity combination that is available against the Task/Discrepancy in the package and show no pending request record for this short closed MR part.
Show pending part requirements for short closed Material Request?	"1" for 'Yes'	System will retain the part/quantity combination that is available against the Task/Discrepancy in the package as pending request record.

Exhibit 1: Identifies the changes in **Record Aircraft Maintenance Execution Details**



Ability to default and set sign off requirement for Discrepancies without corrective action in AME

Reference: APRP-975

Background

In **Record Maintenance Execution Details**, discrepancy can be recorded even without entering corrective action. Currently, sign off requirements for a discrepancy is identified only if corrective action is entered. Mechanics need to identify the sign off requirements while recording discrepancy even before entering corrective action.

Change Details

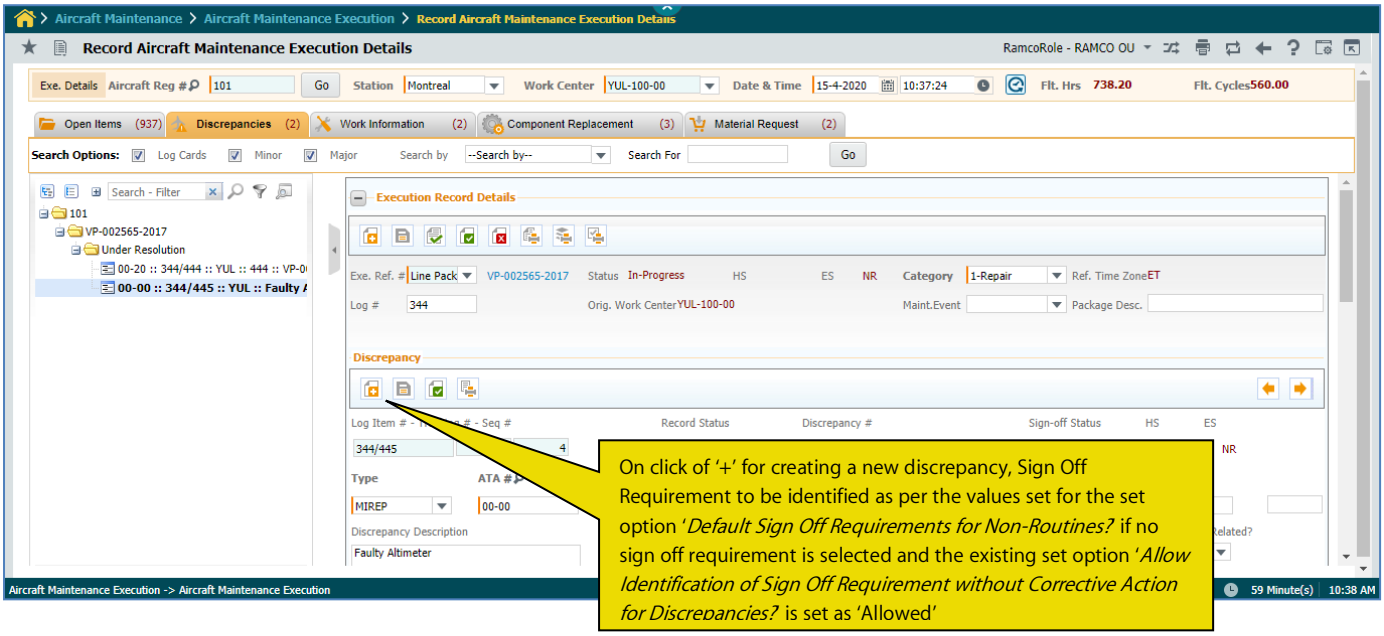
- Identification of sign off requirements even without entering corrective actions is achieved through an existing process parameter 'Allow Identification of Sign Off Requirement without Corrective Action for Discrepancies?' available under the Entity type 'Package Type' and the Entity 'All user defined package types' including Logcard in the **Define Process Entities** activity of the **Common Master** business component.
- Sign Off requirement will be identified and enabled at discrepancy level based on the above set option and the sign off requirements defined for the set option 'Default Sign Off Requirements for Non-Routines?'. On click of the 'New' icon, the check boxes for the respective sign off requirements will be auto checked.

  Note:

  a. *The defaulted sign off requirements will not be shown in 'Sign Off Status' as sign off status is updated only on addition of corrective action.*
  b. *The sign off requirements check box selection will be deselected on discrepancy creation.*
  c. *Users will be able to manually enable/ disable the defaulted sign off requirements and set the required sign off requirements during creation.*

- Defaulted/User defined sign off requirements at discrepancy level will be defaulted for the subsequent corrective actions added.
- When a discrepancy is added from Due List, then the same sign off requirements as defaulted/enabled in the previous package from which it was deferred, will be defaulted while adding to the new package.

Exhibit 1: Identifies the changes in **Record Aircraft Maintenance Execution Details** screen



WHAT'S NEW IN AIRCRAFT MAINTENANCE PLANNING?

Ability to raise Material Requests from Part Requirements for Discrepancies when Work Center is changed

Reference: APRP-960

Background

Part Requirements against Discrepancies change frequently, so there is a need to capture the most current Part Requirements at the time of work center change. Currently only the Part Requirements at the time it is added to the work center are requested.

Change Details

Common Master

A new process parameter 'Auto Generate Material Requests for Discrepancies on Work Center Change?' is added under the Entity Type 'Package Type' and Entity 'Log Card, All user defined package types' in the **Set Process Parameters** screen of the **Define Process Entities** activity with the permitted values. The table below illustrates the functionality of process parameter.

Process Parameter: Auto Generate Material Requests for Discrepancies on Work Center Change?	
Value	**Impact on MR generation for discrepancies**
0 for Not Required	The system will not auto generate MRs for the part requirements against the Discrepancies at the time of Work Center change for a package.
1 for New Part Requirements	If the process parameter "Auto Generate MR on Discrepancy Allocation for Parts/Quantities previously issued against the Discrepancy?" is also set as '0' for 'No', the system will deduct from the part requirements estimated at time of work center change: 1. The quantities that are already requested as MR against the latest/new instance of the Discrepancy in the latest/new work center. 2. The quantities that are already issued against previous instances of the Discrepancy in previous package. And 1. Generate new MRs for remaining quantities of required parts against the current work center, if any
2 for All Part Requirements	If the process parameter "Auto Generate MR on Discrepancy Allocation for Parts/Quantities previously issued against the Discrepancy?" is also set as '0' for '' 'No', the system will: 1. Short close all MRs generated against previous instances of the discrepancy 2. The quantities that are already issued against previous instances of the Discrepancy in previous packages (including the current package with the old WC reference) 3. Raise new MRs for the remaining parts/quantities of part requirements against the current work center, if any.

WHAT'S NEW IN SHOP WORK ORDER?

Improvements in Shop Quick Actions Hub

Reference: APRP-1335

Background

Shop Quick Actions Hub is a new light weight hub which saves time by having all actions available in one page, all relevant information in one screen and act as one Hub for Shop that can launch all Shop related pages. Certain functionalities like Dual Authentication during sign off, auto launch of Manage Intershop Routing popup during routing scenario and Repair Order and Exchange Order information were already available in RSED screen. Shop Quick Actions Hub is now enhanced in order to have the same provision as mentioned.

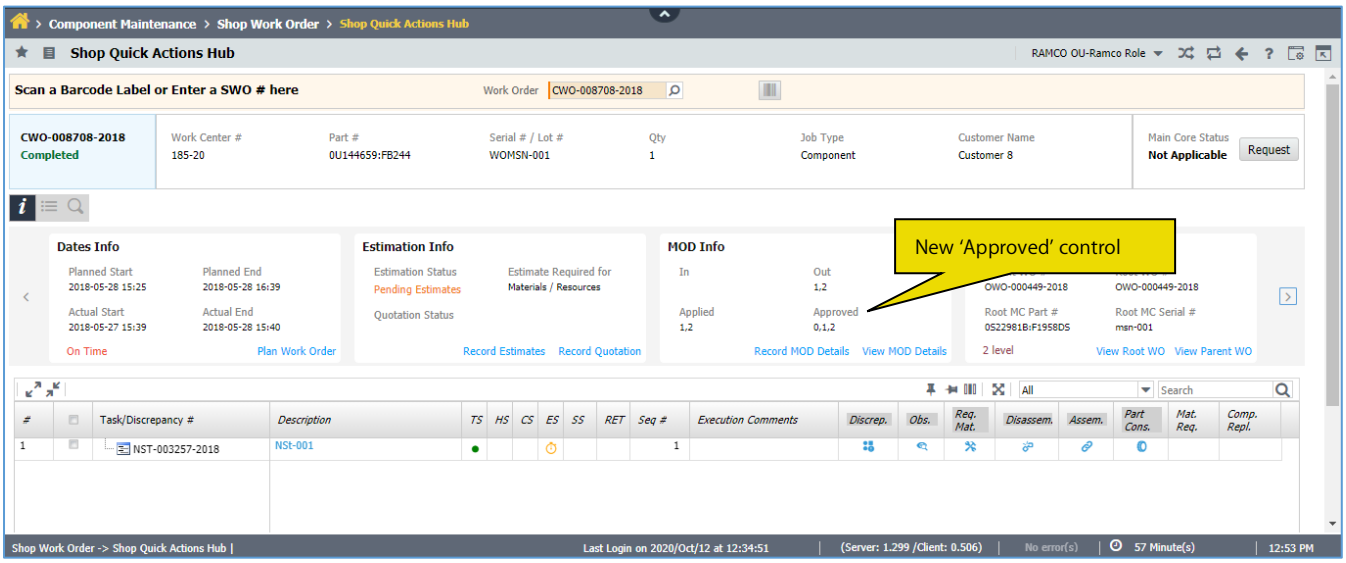
Along with the above capabilities, Shop Quick Actions Hub is also enhanced in order to view the Approved MOD info in the MOD Info card and a provision to distinguish between Internal or Customer Hold applied.

Change Details

1. **Approved MOD details in the MOD Info Card**

   A new control 'Approved' is introduced in the MOD Info card in the card section of **Shop Quick Actions Hub**. This control would display the info regarding any Approved MODs applicable to respective Shop Work Order.

Exhibit 1: Identifies the new **'Approved'** control in **Shop Quick Actions Hub**



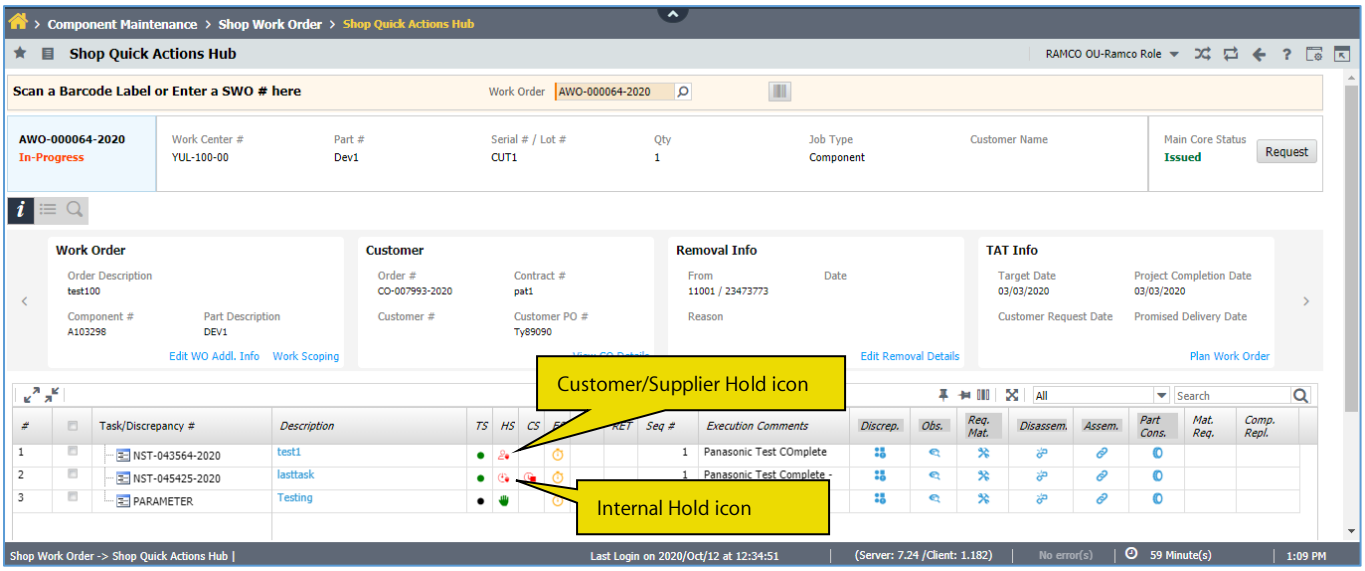
2. **Internal/Customer Hold differentiation in the HS column of the multiline**

   The 'Red' icon indicating hold applied on a task/discrepancy will now be enhanced to show if it is Internal/ Customer/ Supplier hold based on Set Option as mentioned below:-

   - : Hold code having the Process Parameter 'Caused by' under the Entity Type: Hold Codes defined as "0" for 'Internal'

- : Hold Codes having the Process Parameter 'Caused by' under the Entity Type: Hold Codes defined as anything other than "0" for 'Internal' (i.e. Customer/Supplier)

Exhibit 2: Identifies the new **Hold** icons in '**HS**' column of Shop Quick Actions Hub multiline

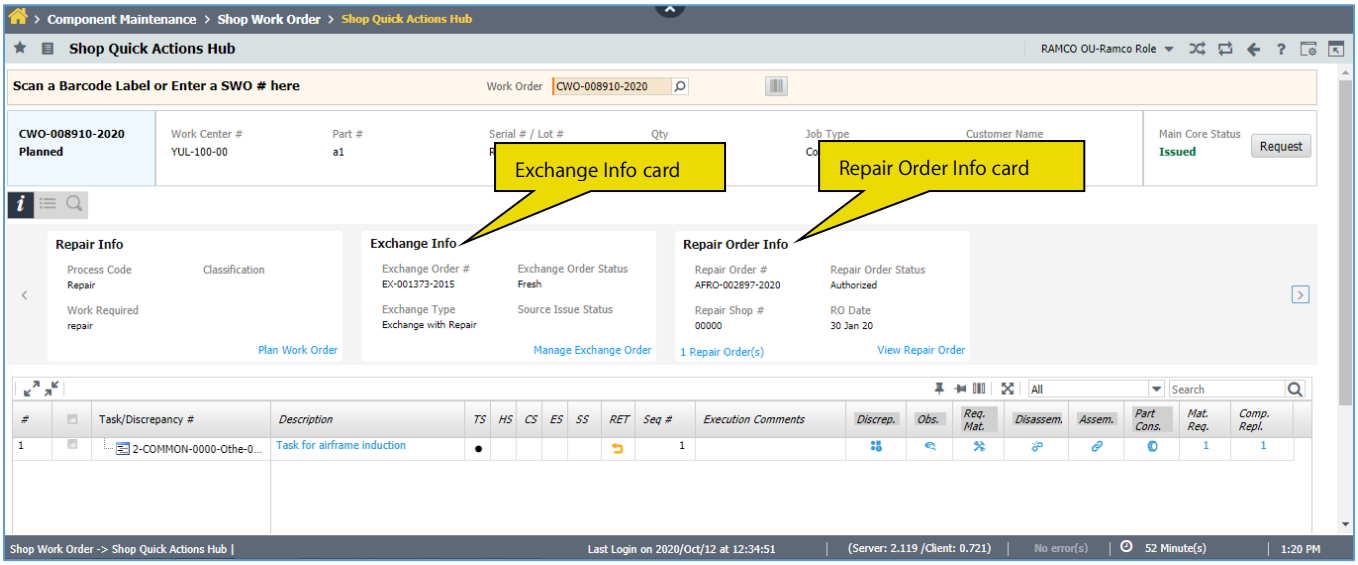


3. Repair & Exchange Order Info as Cards in Shop Quick Actions Hub

Two new cards: Repair Order Info and Exchange Info have been introduced in Shop Quick Actions Hub in order to show the info regarding repair order(s) generated against the Shop Work Order and the Exchange Order info related to the Shop Work Order.

- **Repair Order Info**: It displays Repair Order info like Repair Order #, Repair Order Status, Repair Shop # and RO Date if only one Repair Order is generated for the SWO #. If more than one Repair Order(s) exists, then the info regarding the latest generated Repair Order only will be shown as long as it is not in Cancelled status. Two links one for showing the count of total Repair Order(s) available against the SWO # which will traverse to 'Select Repair Order' screen where all the related Repair Order(s) will be listed and the other link 'View Repair Order' for viewing the current Repair Order # referenced in the card also also provided along with the relevant info.
- **Exchange Order Info**: It displays Exchange Order info related to the SWO # like Exchange Order #, Exchange Order Status, Exchange Type and Source Issue Status. Along with these info, a link Manage Exchange Order is also provided in order to navigate to 'Manage Exchange Order' screen for the Exchange Order # associated with the respective SWO #.

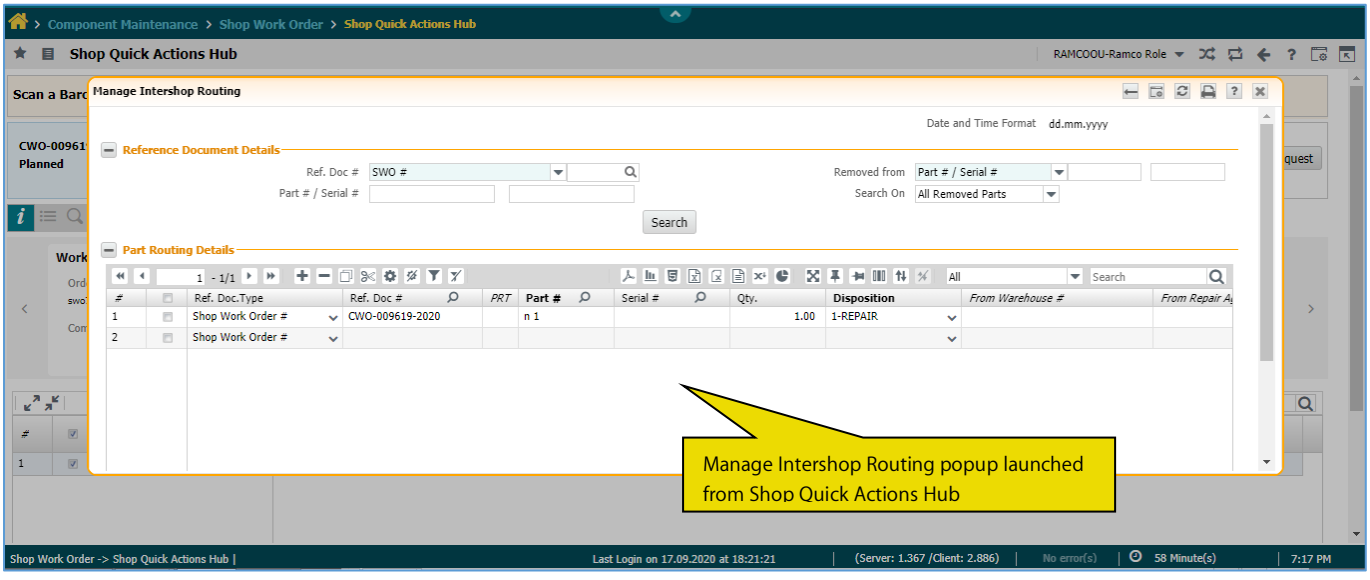
Exhibit 3: Identifies the new **Repair Order Info & Exchange Info** cards in **Shop Quick Actions Hub**



4. Auto-Route Parts from Shop Quick Actions Hub

If a Shop Work Order requires an external routing, then based on the criteria set, Manage Intershop Routing popup would be launched on completion of the respective task or on performing last sign off of the task. Manage Intershop Routing popup, can be launched from Task Action popup, Discrepancy Actions popup or Record Sign Off & Work Completion popup.

Exhibit 4: Identifies the new **'Manage Intershop Routing'** popup in **Shop Quick Actions Hub**

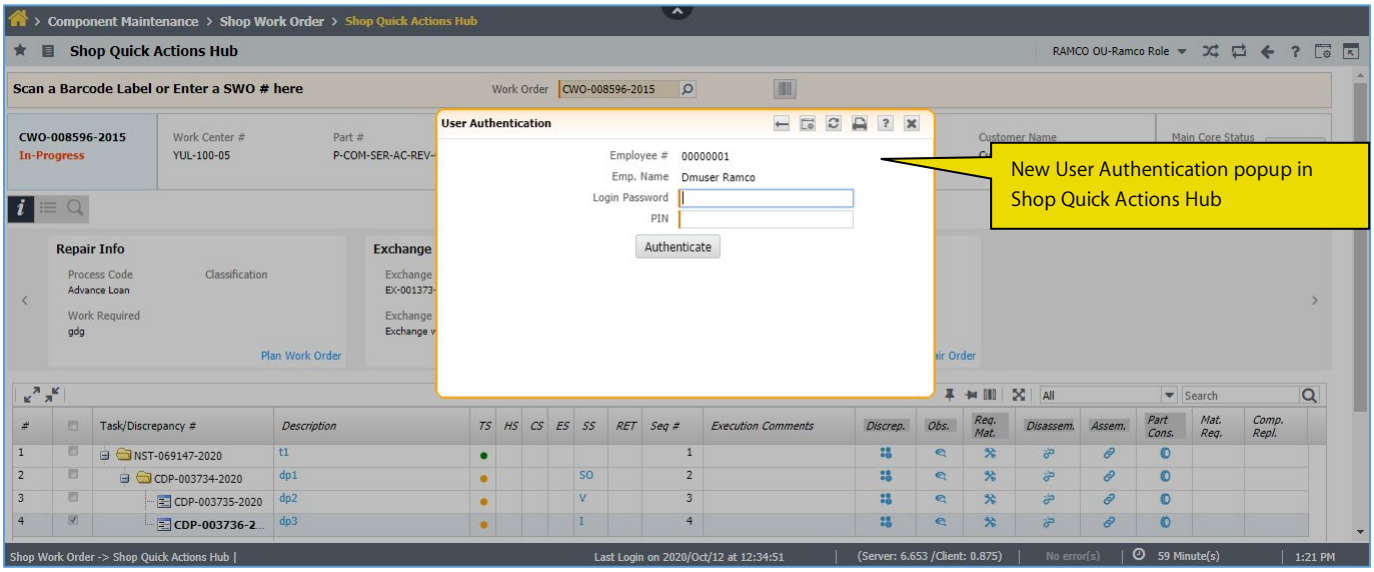


5. Dual authentication in Shop Quick Actions hub

A provision for capturing Login Password and/or PIN while performing Sign Off/ Void/ Reject is now provided in Shop Quick Actions Hub. Dual Authentication can be performed from Task Action popup, Discrepancy Actions popup or Record Sign Off & Work Completion popup. It is based on the existing Entity defined in Configure Dual Authentication screen. Another provision to launch Set/Change PIN popup is also given in

order to help the user set the PIN in case PIN has been reset. User can provide Login Password and/or PIN based on what is set in Configure Dual Authentication screen for the actions Sign Off/ Void/ Reject.

Exhibit 5: Identifies the new **Dual Authentication** popup in **Shop Quick Actions Hub**



Links to Part Disposition & Maintain Emp. Info. from Shop Quick Actions Hub

Reference: APRP-1243

Background

Currently, there is no provision to view or modify the Part Disposition and Movement Details of the Main Core and no provision to view the employee information from Shop Quick Actions Hub. Hence, Links to Part Disposition & Maintain Emp. Info. from Shop Quick Actions hub is enabled.

Change Details

Common Master

The permitted values of the process parameter 'Document Info cards display order in the Shop Quick Actions Hub?' under the Entity Type 'Shop Work Order Type' and Entity 'All user defined work order types' in the **Set Process Parameters** screen of the **Define Process Entities** activity is modified to enter the corresponding card numbers separated by commas. 2-Customer, 3-Removal Info, 4-TAT Info, 5-Dates Info, 6-Estimation Info, 7-MOD Info, 8-Parent/Root Info, 9-Repair Info, 10- Exchange Info, 11-Repair Order Info, 12-Part Disposition, 13-Movement Details.

Default Value: Order as 2-Customer, 3-Removal Info, 4-TAT Info, 5-Dates Info, 6-Estimation Info, 7-MOD Info, 8-Parent/Root Info, 9-Repair Info, 10- Exchange Info, 11-Repair Order Info, 12-Part Disposition, 13-Movement Details.

Shop Quick Actions Hub

Two new cards, 'Part Disposition and Movement Details' are introduced to view the relevant details from **Shop Quick Actions Hub**. From these cards, we can launch the new pop-up to modify the Disposition details and Movement details of a Main Core. Also, a new link 'Maintain Employee Information' is added in Quick Links combo of a **Shop Quick Actions Hub** to view the employee details.

- Part Disposition - Will show the disposition details of the Main Core along with a link to traverse to Edit Disposition Details.
- Movement Details - Will show the movement details of the Main Core along with a link to traverse to Edit Movement Details.

Edit Disposition Details - On launch of Part Disposition Details pop-up, system retrieves and display the following controls: 'Final Rep. Disposition', 'NFF?', 'Disposition Remarks' and 'BER?'. If user updates/modify the disposition details, on save, the disposition details will be updated against the work order.

Edit Movement Details - On launch of Movement Details pop-up, system retrieves and displays the following controls: 'Final Movement' and its values, 'Movement Remarks'. If user updates/modify the movement details, on save, the movement details will be updated against the work order.

Exhibit 1: Identifies the **New Cards** in **Shop Quick Actions Hub**

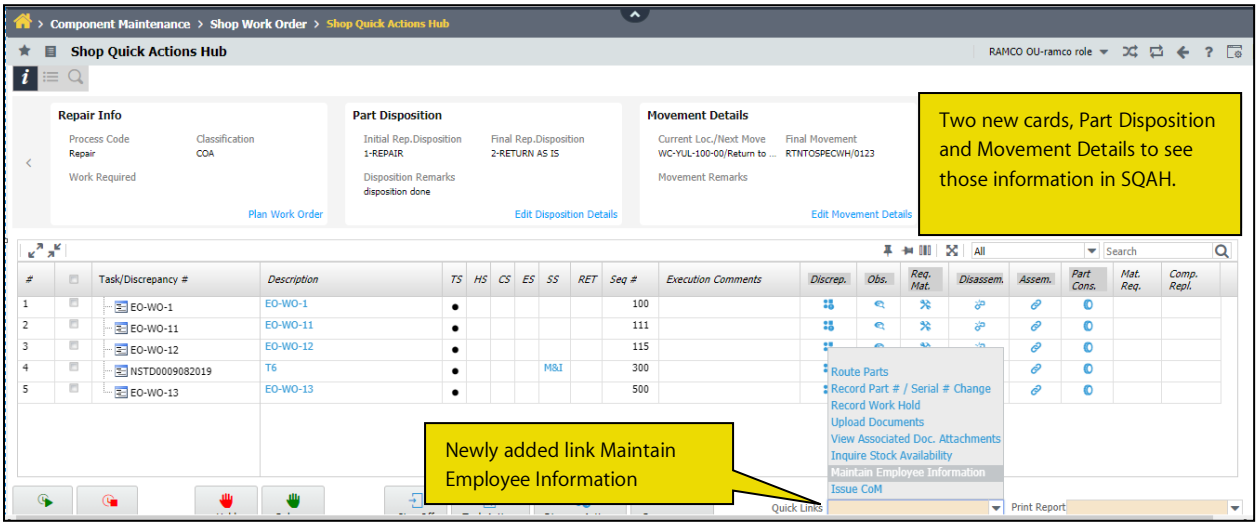


Exhibit 2: Identifies the **Part Disposition Details** pop-up

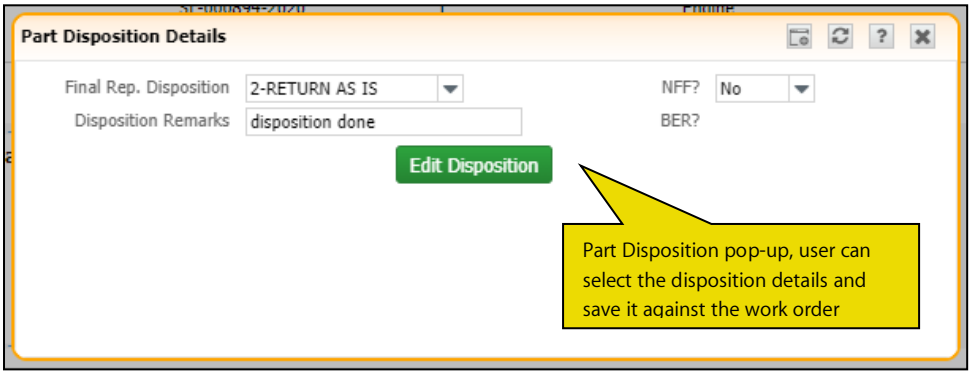
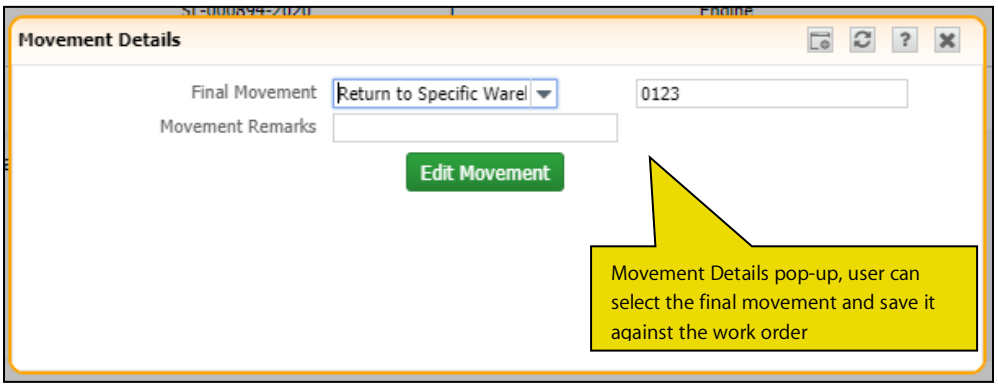


Exhibit 3: Identifies the **Movement Details pop-up**



Resequence Tasks in Shop Quick Actions hub

Reference: APRP-1159

Background

Currently in **Shop Quick Actions Hub**, mechanics will not be able to resequence task/discrepancy based on priority of execution. This can be done only from Plan Work Order.

Change Details

Shop Quick Actions Hub

Resequence button is introduced in the 'Actions' section of **Shop Quick Actions Hub** beside 'Discrepancy Actions' button. Click of Resequence button launches new 'Resequence Task/Discrepancy' popup. From the 'Resequence Task/ Discrepancy' popup, user can both update the Seq # of the task/discrepancy and also regenerate Seq # using Update Seq # & Re-Generate Seq # buttons respectively.

On click of Update Seq #, popup will be dismissed and the updated Seq # will be shown in **Shop Quick Actions Hub**.

Resequence Task/Discrepancy – Resequence Task/Discrepancy pop-up will fetch and display the following columns: Task Status, Task/Discrepancy #, Task/Discrepancy description, ATA # and Seq #. If user modifies the Seq # and updates it will reflect in the Shop Quick Actions Hub multiline.

Exhibit 1: Identifies the Resequence button in **Shop Quick Actions Hub**

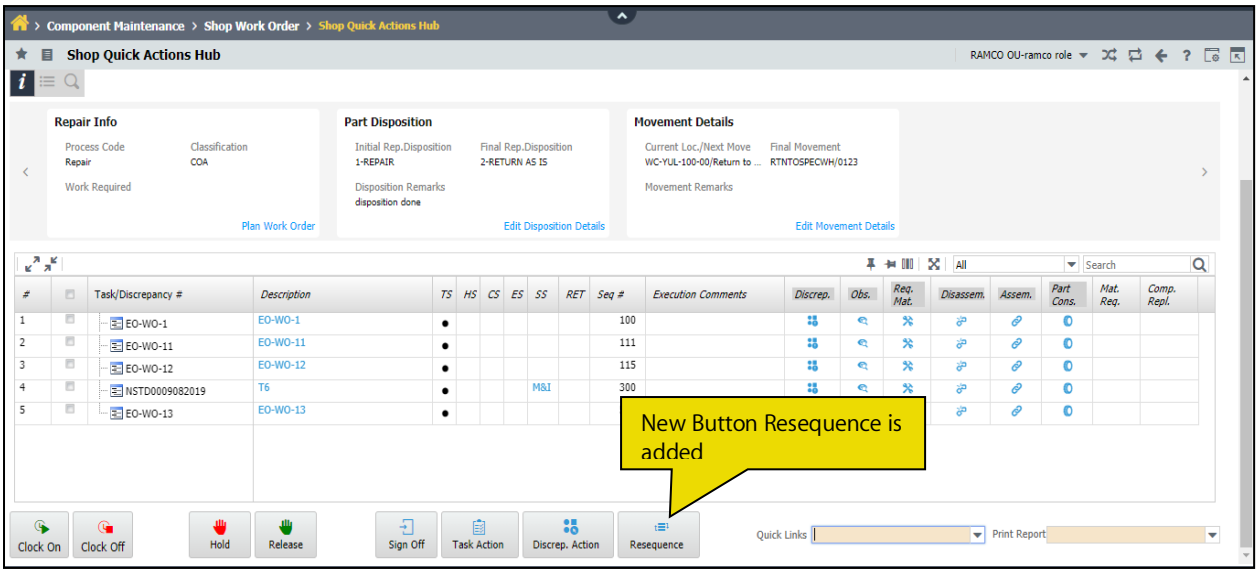
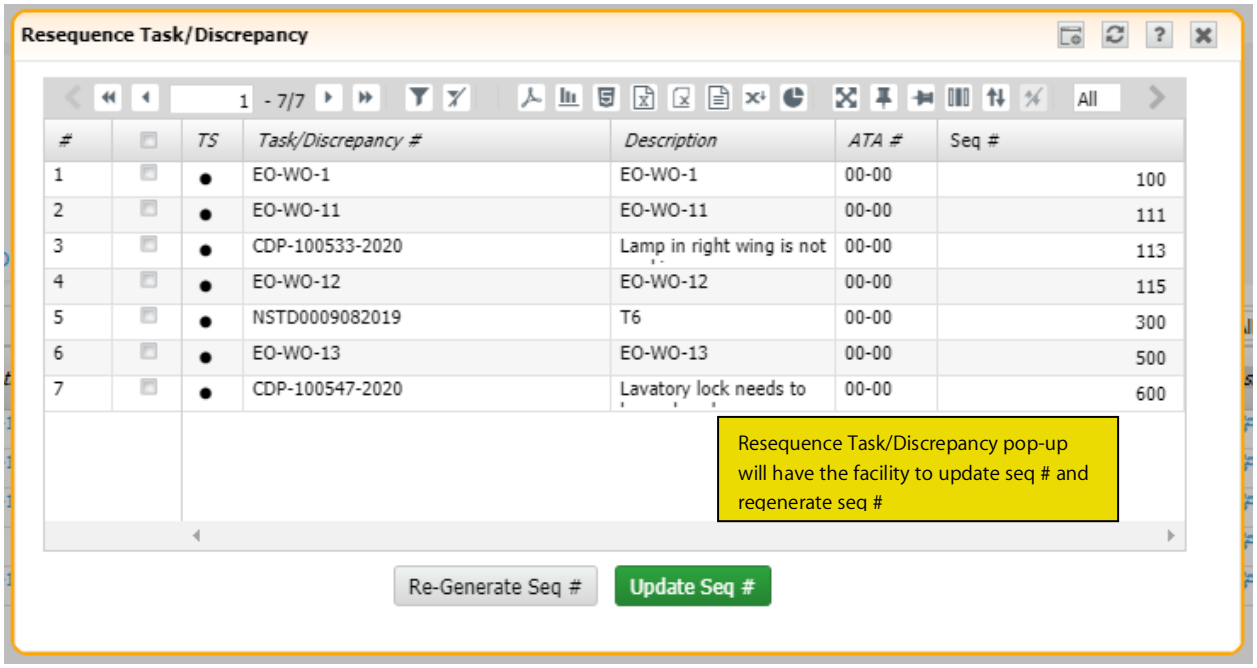


Exhibit 2: Identifies the Resequence Task/Discrepancy Pop-up



Show completed tasks by default in Shop Quick Actions hub

Reference: APRP-1244

Background

On launch of Shop Quick Action Hub, user can see only the open Tasks/Discrepancies. User can manually select the check box 'Show Completed Task' and click Get to see the completed tasks also.

There should be a provision to define that, on launch of Shop Quick Action Hub need to show the completed Task or not along with open Tasks/Discrepancies.

Change Details

Common Master

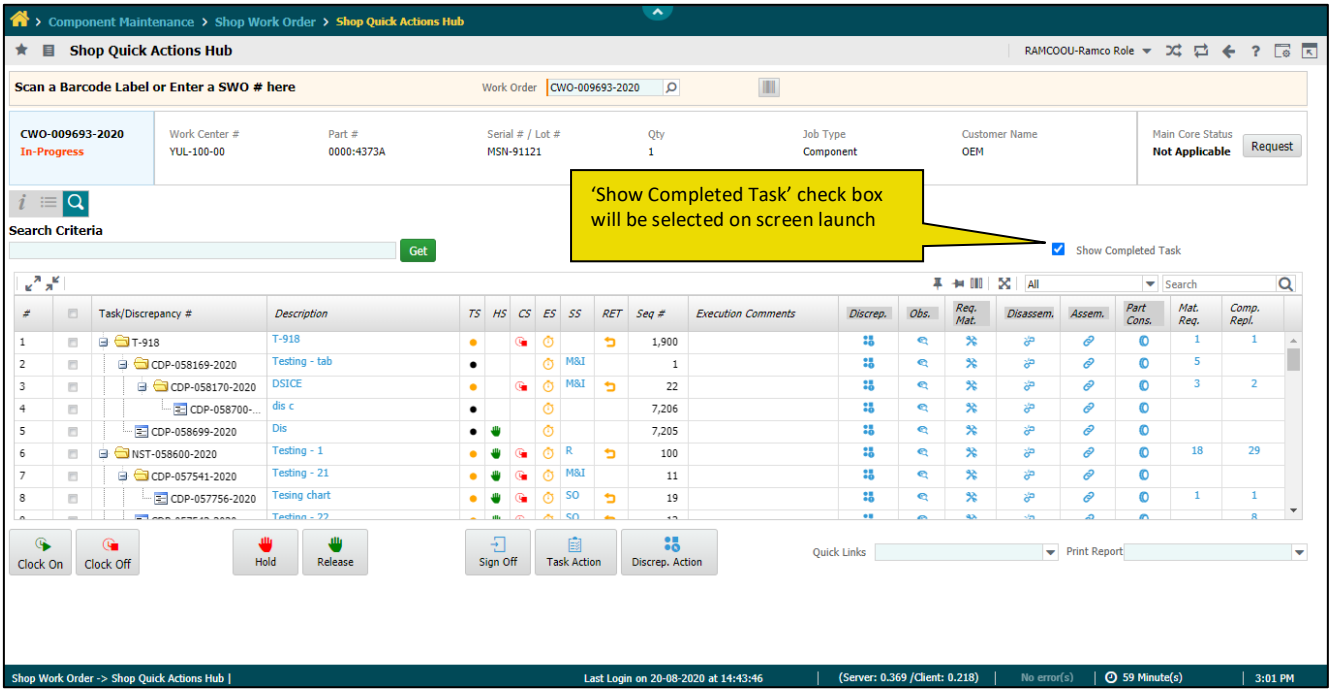
New process parameter 'Default 'Show Completed Task' checkbox on loading of Shop Quick Actions Hub?' has been introduced under the Entity Type 'Shop Work Order Type' and the Entity 'All user defined Work Order Type' in the **Define Process Entities** activity of Common Master, with the following permitted values:

- 0 (No) Existing Behavior - System will not default the 'Show Completed Task' checkbox on launch of **Shop Quick Action Hub**.
- 1 (Yes) - System will default the 'Show Completed Task' checkbox on launch of **Shop Quick Action Hub** and show the completed Task along with open Tasks/Discrepancies.

Shop Quick Action Hub

If process parameter 'Default 'Show Completed Task' checkbox on loading of Shop Quick Actions Hub?' is set as "1" (Yes) and user launches the **Shop Quick Action Hub**, then system will default the 'Show Completed Task' checkbox and show the completed Task along with open Tasks/Discrepancies.

Exhibit 1: Identifies changes in **Shop Quick Action Hub** screen



Ability to Print Task Cards for a Closed Work Order on Desktop

Reference: APRP-545

Background

Business need is to print the task card for a closed work order on desktop. Hence, provision to launch Task/Discrepancy card for a work order is enabled in View Order Details.

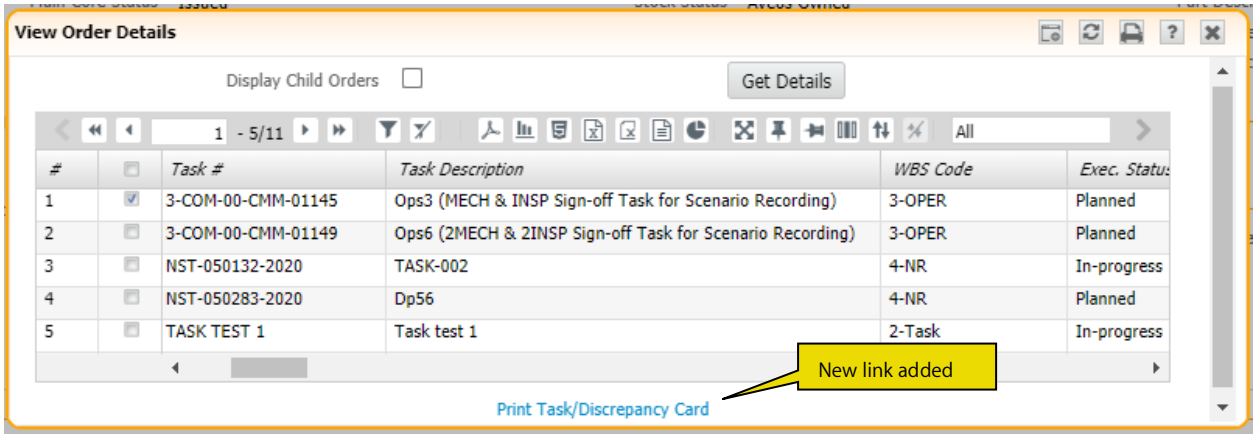
Change Details

View Order Details

A new link **Print Task / Discrepancy Card** is added in the **View Order Details** screen of **View Work Order Details** screen. If user has selected a Work Order and launched **View Order Details** screen from **View Work Order Details** screen, after selecting a Task or Discrepancy and clicking Print Task/Discrepancy Card, the system will launch the respective task/discrepancy card with the detailed information.

*Note: If user has not selected any record and launching the link will generate task card for all the task/discrepancy in the Work Order. This works as 'Print Sel. Task Card' in **Plan Work Order** screen.*

Exhibit 1: Identifies the **Print Task/Discrepancy Card** link in **View Order Details** screen



WHAT'S NEW IN COMPONENT MAINTENANCE PLANNING?

Ability to provide Reason for Stock Transfer from Route U/S page during Stock Transfer

Reference: APRP-1409

Background

When parts are moved from an unserviceable warehouse to another warehouse or location, there can be multiple reasons associated with the stock transfer. For example: Parts can be moved to a long term parking warehouse where the parts would be taken up for repair later on.

Hence, a new provision is required in order to capture this reason as remarks while the Stock Transfer is initiated and also view the same as a part of the Stock Transfer # that is generated.

Change Details

To facilitate the capture of remarks while movement of parts is initiated, the following changes have been introduced in **Route Unserviceable Components / Parts** screen:

- A new editable column 'Move Remarks' is added in 'Unserviceable Components / Parts' multiline of **Route Unserviceable Components / Parts** screen.
- User can enter Move Remarks against the selected records in **Route Unserviceable Components / Parts** screen and this Move Remarks entered will be captured and shown in the 'Remarks' control in the respective View Stock Transfer screen for both inter and intra transfers on click of 'Move Parts'.

Note: If multiple records are selected and only one Move Remarks is entered, then the same will be shown in the respective remarks control of the Stock Transfer # but if Move Remarks entered against each row and same Stock Transfer # gets generated, then any one of Move Remarks only will be captured. If more than one Stock Transfer # get generated, then the Move Remarks entered against each row will be captured for the respective Stock Transfer # generated.

Exhibit 1: Identifies the new 'Move Remarks' column in **Route Unserviceable Components / Parts** screen

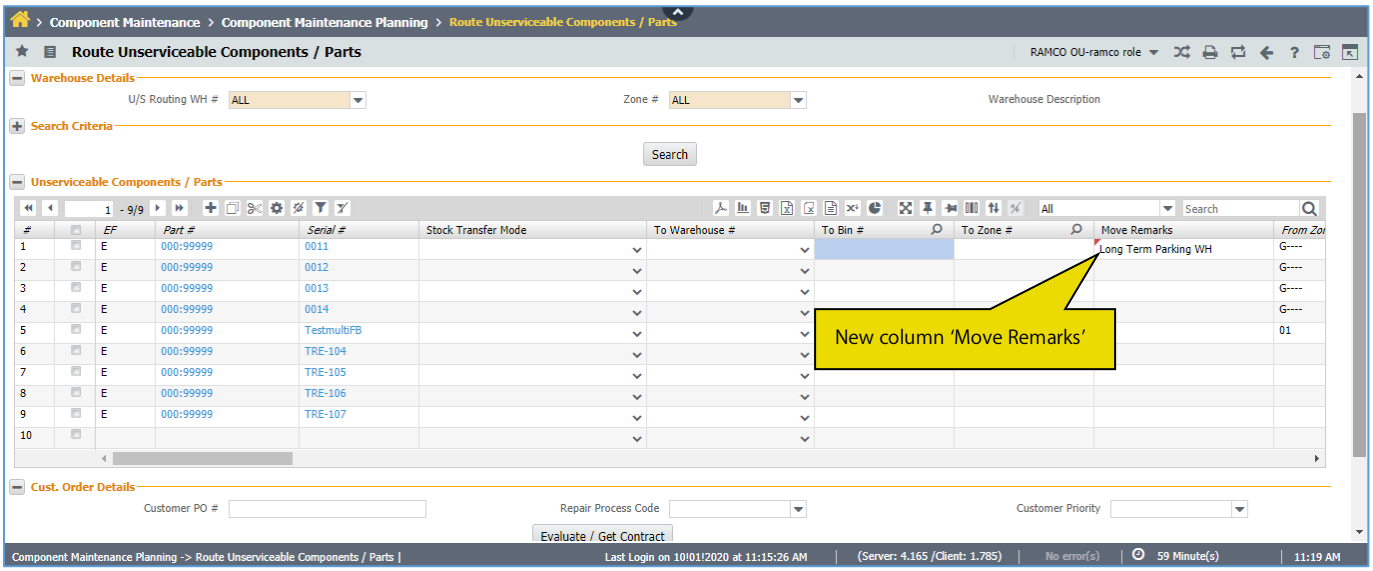
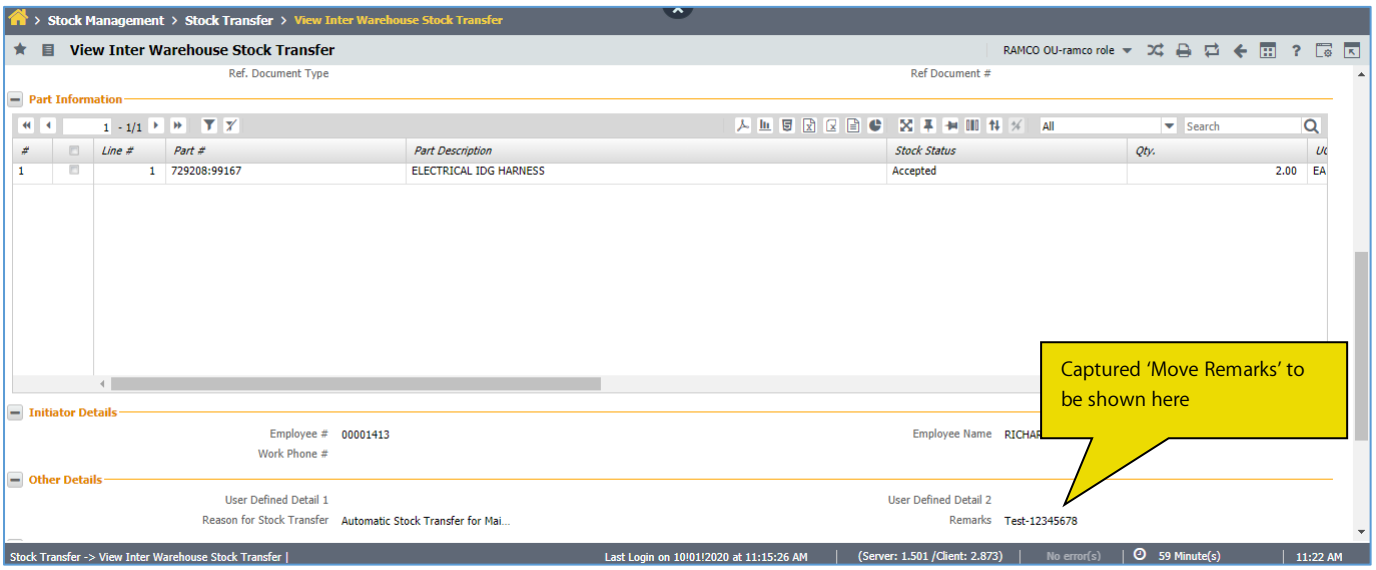


Exhibit 2: Identifies the 'Remarks' control where the captured Move Remarks will be shown



Ability to filter for Auto Routing failed records in the Route U/S page

Reference: APRP-1110

Background

When a part is failed to send for repair due to automatic execution order generation rules failure, the respective failed parts are displayed in the Route Unserviceable Components/Parts screen. But when such a part comes to an unserviceable warehouse, it becomes difficult for a warehouse clerk to search for the part for which Repair Automation has failed and take necessary actions on it due to large quantities of parts in the unserviceable warehouse.

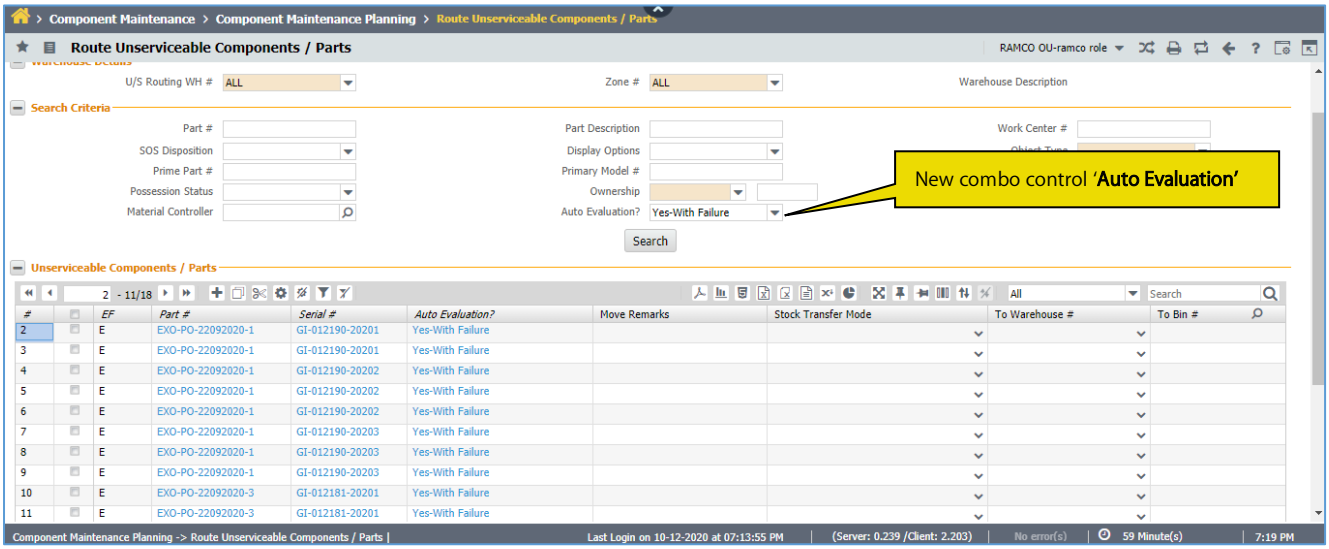
Hence, a new provision is required wherein users can search for the records that have failed the Repair Automation from the Unserviceable Components/Parts multiline.

Change Details

To facilitate searching for records that have failed the Repair Automation, the following changes have been done in the **Component Maintenance Planning** business component:

- New combo search criteria '**Auto Evaluation'** provided in the Search Criteria section of **Route Unserviceable Components/ Parts** screen.
- '**Auto Evaluation'** combo will be loaded with the values such as: Yes-With Failure, Yes-With Error, No-Not Defined Manual and No-Manual along with a BLANK value defaulted.
- User can select the required value for searching the failed records and records having the user selected 'Auto Evaluation' combo value would be fetched in the 'Unserviceable Components / Parts' multiline. Blank search on the other hand will retrieve all the records in the multiline irrespective of the failed Repair Automation records.

Exhibit 1: Identifies the new combo control '**Auto Evaluation**' in **Route Unserviceable Components / Parts**



Loan Order - Core Due in Repair Automation

Reference: APRP- 1251

Background

Whenever a part is received in unserviceable condition, there can be instance where instead of exchanging an owned part, a loaned part might be exchanged. In this scenario, an immediate repair of the part received in unserviceable condition need not be undertaken.

Currently, if a repair rule is defined for a part, it will undergo repair automation irrespective of the outstanding loan order. Hence, a new provision is required wherein the repair automation must be controlled by considering any open loan orders against the exchanging part.

Change Details

- User can define the rule for the Parameter Type as Source Document and Parameter Entity as Open Loan Order
- If the rule is defined in Parameter Entity as Open Loan Order and Exe. Order Generation? is set as "No" and any Open Loan Order (Loan Order in the Received status) is available for that Part, then the Repair Order will not be generated.
- Rule can be configured to create Repair Order also, if 'Exe. Order Generation?' is set as 'Yes' for the Parameter Entity 'Open Loan Order'.

Note: Consideration of rules will be based on the Priority defined.

Ability to re-consider for Repair Automation even if it was failed / not run previously

Reference: APRP-1252

Background

During repair automation, if repair rules are defined for a part and if that rule fails, then the corresponding part can be viewed in 'Route Unserviceable Component/Parts screen'. If the user wants to review the repair rules, the same can be done from 'Review Repair Rules' pop up. Later, even if the rule is satisfied, the user needs to create Execution Order manually. This enhancement brings the ability to evaluate the rules again, and if the rules are evaluated successfully, then the Execution Order will be generated according to the rules defined.

Change Details

- A new button 'Re-evaluate Rules' is introduced in the 'Review Repair Rules' pop up.
- User can review the failed rules from the multiline of 'Review Repair Rules' pop up, can do the necessary changes and click this 'Re-evaluate Rules' button to evaluate the rules again.
- If all the rules are evaluated successfully and Repair Order Generation is failed due to any error, then the status in 'Auto Evaluation?' column will be shown as 'Yes-With Error'. If the user is going to launch the 'Review Repair Rules' pop up for the respective record, there will be 'Regenerate RO' button available along with the 'Re-evaluate Rules' button.
- User can review the errors from the 'Message Center' and do the necessary changes and click the 'Regenerate RO' button to generate the Repair Order without evaluating the rules again. (Note: In this case, user can evaluate the rules again by clicking 'Re-evaluate' button)
- User can define the new rules for a part and click the 'Re-evaluate Rules' button to consider the newly added rules also.
- User can see the rules evaluated date and time against the control 'Rule Eval. Date & Time' in the header of 'Review Repair Rules' pop up for a particular record.

Exhibit 1: Identifies changes in 'Review Repair Rules' pop up.

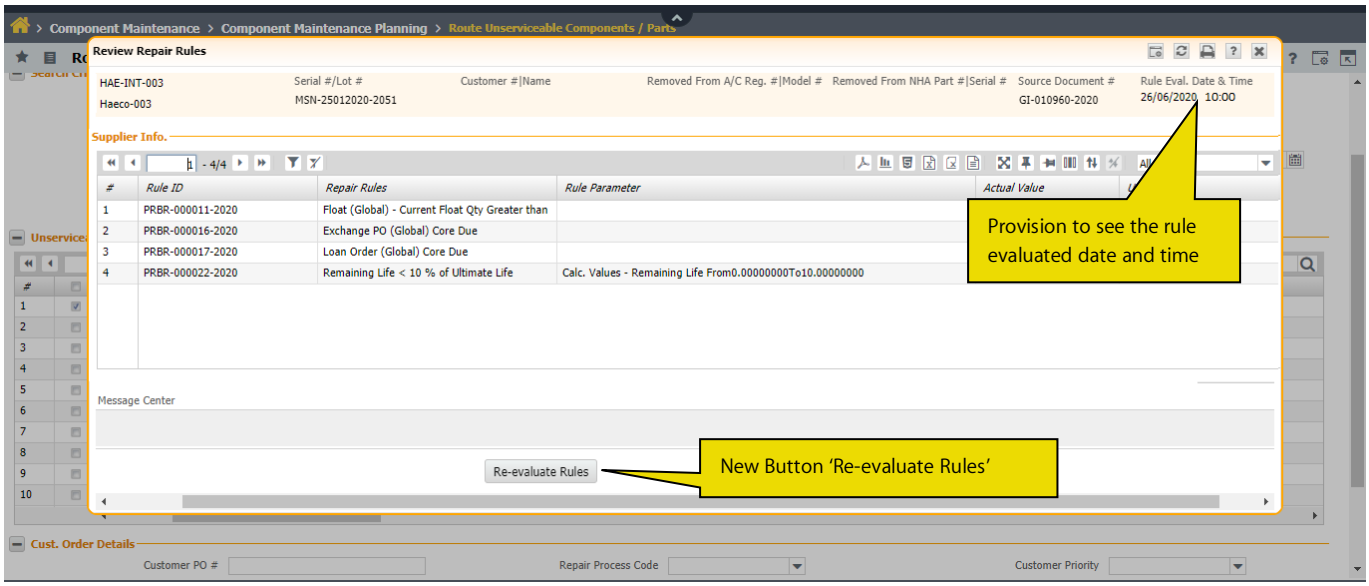
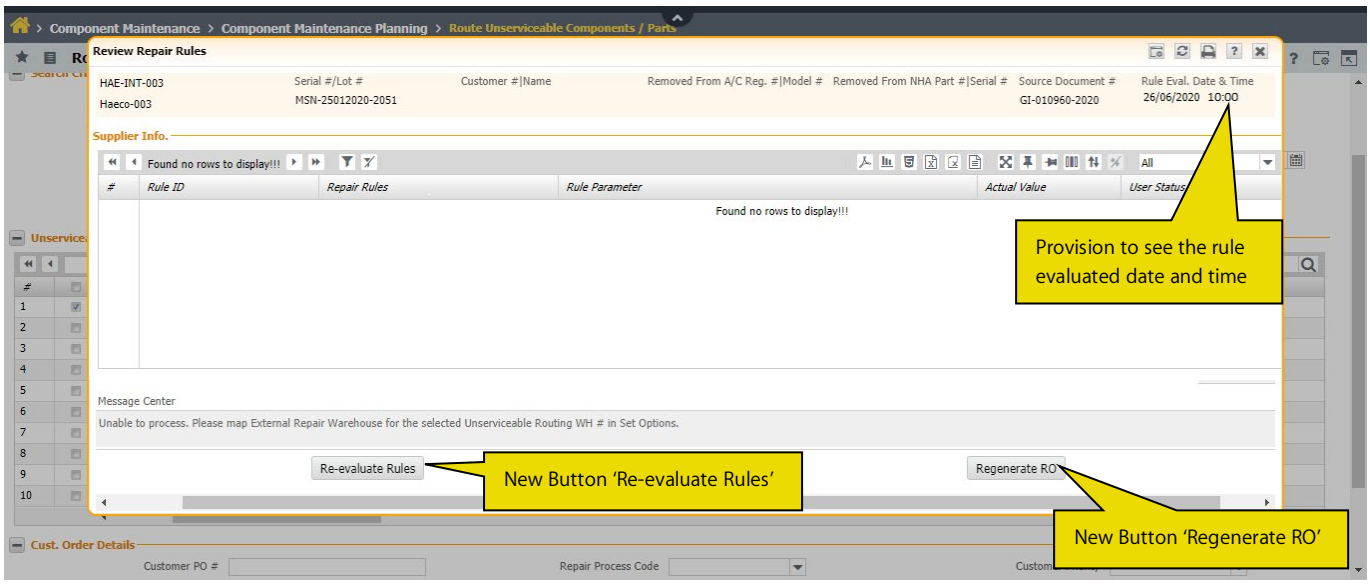


Exhibit 2: Identifies changes in 'Review Repair Rules' pop up for the status 'Yes-With Error'



Ability to enable/disable Repair Automation at Warehouse level

Reference: APRP-1253

Background

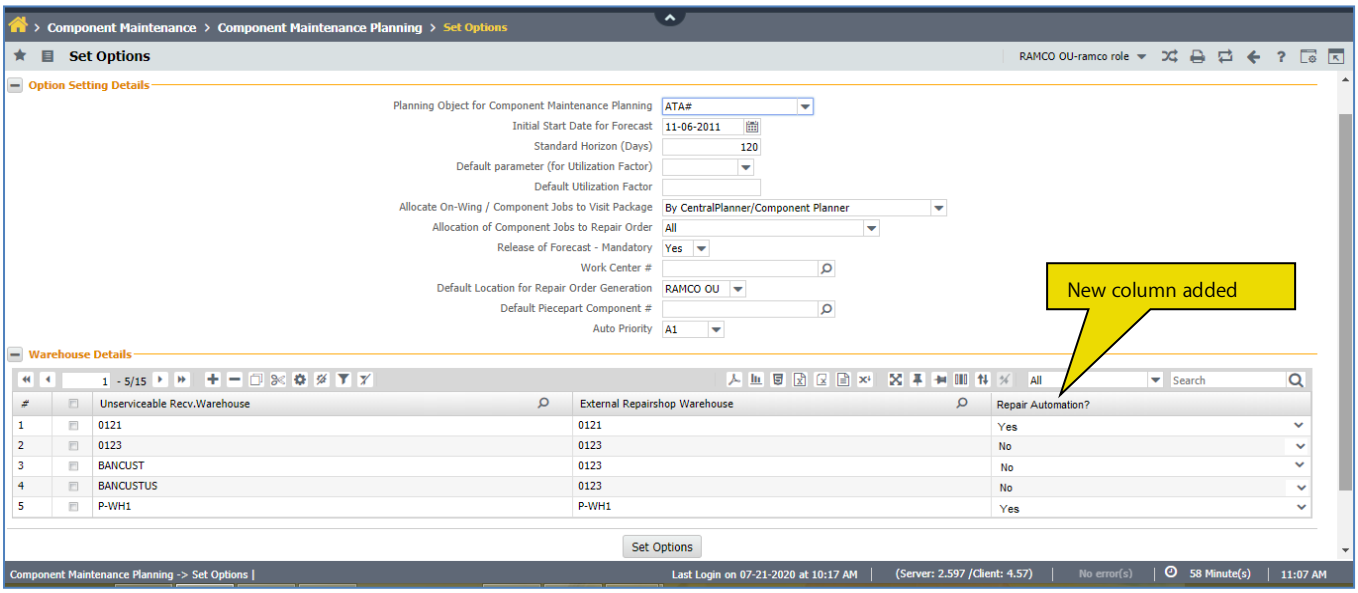
Currently if rules are defined for Part #, system considers it for auto RO generation based on the rule defined. But there are situation when a Part is routed to a particular unserviceable warehouse, user does not want Repair Order to be generated for the same and instead may only store the Unserviceable Parts. Therefore, a new provision is required to consider if auto RO generation rules have to be considered at warehouse level.

Change Details

A new column 'Repair Automation?' is introduced in the Warehouse Details multiline of **Set Options** activity of the **Component Maintenance Planning** business component. 'Repair Automation?' combo column is loaded with the values 'Yes', 'No' and 'BLANK'. By default it should load with BLANK. The value set for Repair Automation? for each warehouse to be considered before system runs the scheduler for Auto RO generation.

If user has set 'Repair Automation?' as 'No' for an Unserviceable Receivable Warehouse and a Part that has rule defined for Repair Automation is received in that Unserviceable Receivable Warehouse that has Repair Automation set as 'No', then system should not run the Repair Automation scheduler for the corresponding Part # that is received.

Exhibit 1: Identifies the 'Repair Automation?' column in **Set Options** screen



Material Controller name to be available in Route Unserviceable Parts/Components multiline

Reference: APRP-1116

Background

Sometimes more than one planner is available in an organization and each one of them holds responsibility for different Part #. In this case, Planners can search the Part # with Employee # in **Route Unserviceable Parts/Components** screen.

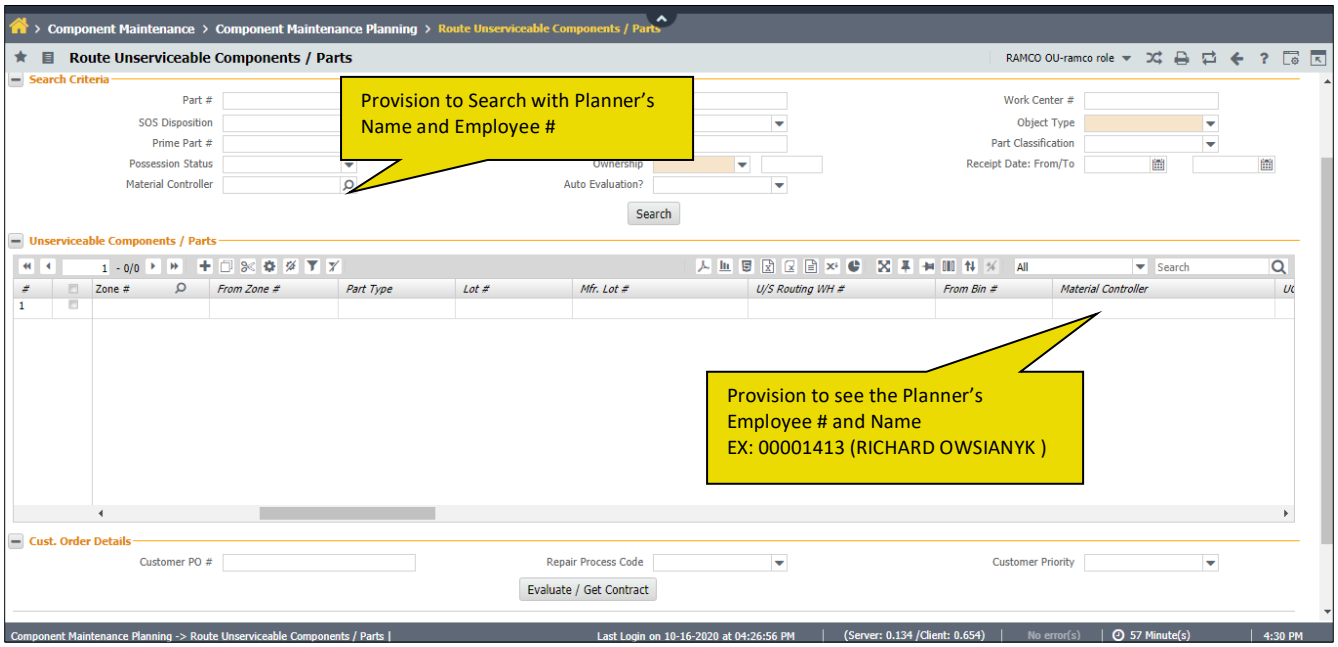
Business need is to provide the capability to search the Part # by using Planner's 'Name' in Route Unserviceable Parts/Components and the user should be able to see the Planner's Name corresponding to the Part # also.

Change Details

This enhancement brings the ability to search Part # by using Planner's name in 'Material Controller' control of **Route Unserviceable Components / Parts** screen.

User can see the Planner's Name along with Employee # in the 'Material Controller' column of 'Unserviceable Components / Parts' multiline of **Route Unserviceable Components / Parts screen**.

Exhibit 1: Identifies changes in Route Unserviceable Parts/Components screen



WHAT'S NEW IN SMART ACTIONS?

Ability to launch AME/Parts Hub on Barcode scanning from Smart Actions

Reference: APRP-663

Background

Earlier when certain barcodes were scanned for working on AME Packages, it will direct to AME screen only. The business need is to navigate to Work Reporting Hub and Parts Hub when corresponding barcodes are scanned.

Two more new actions: Record Parts Replacement and Record Material Request have been now enhanced to launch Parts Hub. Barcode labels which are printed in Package Print for Record Parts Replacement and Record Material Request can be used to launch Parts Hub. Alternatively, Barcode scanning device can also be used to scan the respective Barcodes to launch Work Reporting Hub and/or Parts Hub.

Change Details

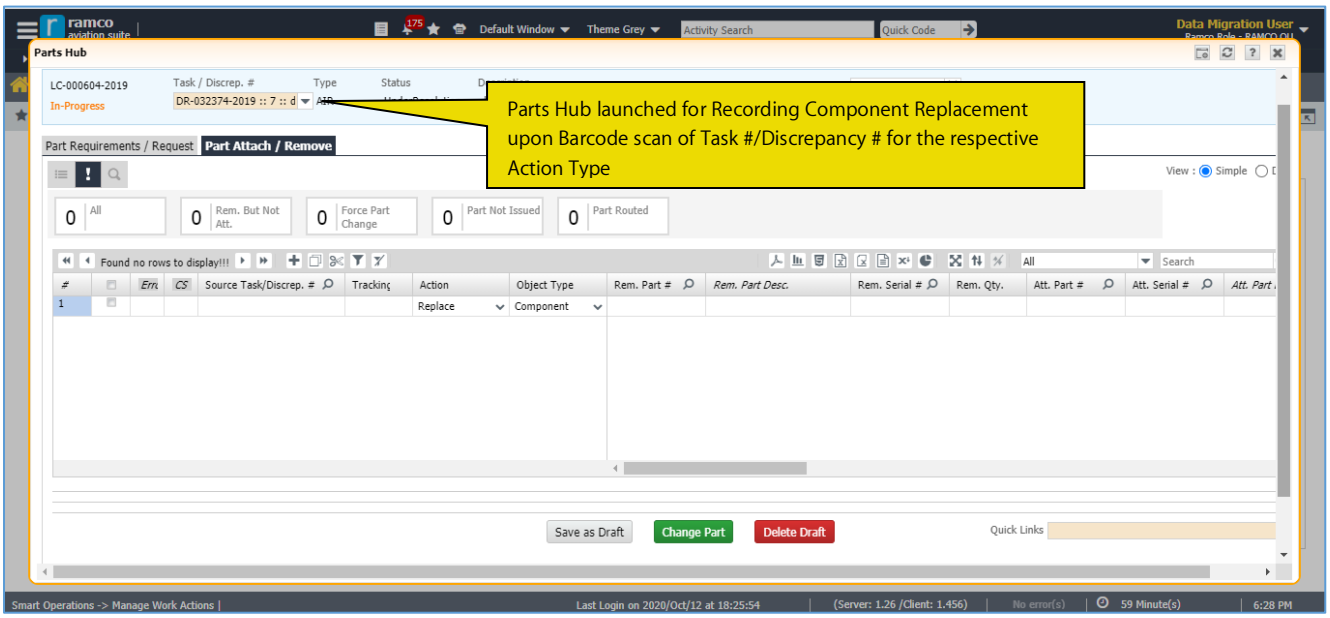
- To facilitate navigating to Parts Hub screen for recording Parts Replacement and raising Material Request, the following changes have been incorporated in Ramco Aviation:

New process parameters introduced under the Entity Type 'Package 'Print and the Entity 'Barcode Labels' in the **Define Process Entities** activity of **Common Master** business component.

Process Parameter	Value	Impact in Smart Actions
Screen to be launched for Record Parts Replacement?	"0" for 'Record Aircraft Maintenance Execution Details'	System will launch old 'Record Aircraft Maintenance Execution Details' screen when barcode scanned for performing Parts Replacement.
	"1" for 'Work Reporting Hub'	System will launch 'Parts Hub' screen when barcode scanned for performing Parts Replacement.
Screen to be launched for Record Material Request?	"0" for 'Record Aircraft Maintenance Execution Details'	System will launch old 'Record Aircraft Maintenance Execution Details' screen when barcode scanned for performing Material Request.
	"1" for 'Work Reporting Hub'	System will launch 'Parts Hub' screen when barcode scanned for performing Material Request.

- For the Action Type **Record Parts Replacement,** if Parts Hub is launched, then 'Part Attach / Remove' tab will be defaulted and the scanned Task # / Discrepancy # will be defaulted in the 'Task / Discrep. #' combo.
- For the Action Type **Record Material Request,** if Parts Hub is launched, then 'Parts Requirements / Request' tab will be defaulted and the scanned Task # / Discrepancy # will be defaulted in the 'Task / Discrep. #' combo.
- Other existing Action Types : **Review Task, Review Discrepancy, Review Execution Document and Record Discrepancy**, Work Reporting Hub will be launched based on its set option value and the corresponding tabs also will be defaulted.

Exhibit 1: Identifies the **Parts Hub** launched from **Smart Actions** screen



WHAT'S NEW IN CONFIGURATION MANAGEMENT?

Approve AC and Component Configuration without Mandatory Position codes

Reference: APRP-255

Background

During Aircraft Induction process, user will not be adding all mandatory position codes due to lack of Aircraft ground time, record data entry time, and unavailability of data. In this scenario, records team wants to make the aircraft activate. They wanted to approve the configuration (Aircraft and Component) without changing the mandatory position flag inside configuration.

Change Details

This enhancement details on the provision to approve Aircraft & Component configuration without mandatory position code parts being attached. To address this, following changes are done:

- A new process parameter "**Configuration authorization without components attached to mandatory positions**" will be added in the **Common Master** business component.
- A new check box "**Authorize without mandatory positions?**" is added in **Approve Part & Component Configuration** and **Approve Model & Aircraft Configuration** screens.

This will enable two levels of checks for the users; initially user can decide the authorization without mandatory position at process parameter level and later by using a new check box.

Exhibit 1: New Process Parameter addition

Set Process Parameter (Common Master)	
Entity Type	Tech Record Process Ctrl
Entity	Configuration
Process Parameter	Configuration authorization without components attached to mandatory positions
Permitted Values	Enter "0" Not Allowed, "1" Allowed
Default value	"0" Not Allowed
System behavior based on process parameter value	
0 (No)	The checkbox "Authorize without mandatory positions?" will be hidden and if user tries to approve the configuration without providing the mandatory positions then system will validate.
1 (Yes)	The checkbox "Authorize without mandatory positions?" will be visible and if checked in and user missed to provide the Mandatory Positions. System should approve the Configuration on click of 'Approve Configuration' and if it is Un checked System should validate on click of 'Approve Configuration'

Exhibit 2: Approve Model & Aircraft Configuration screen

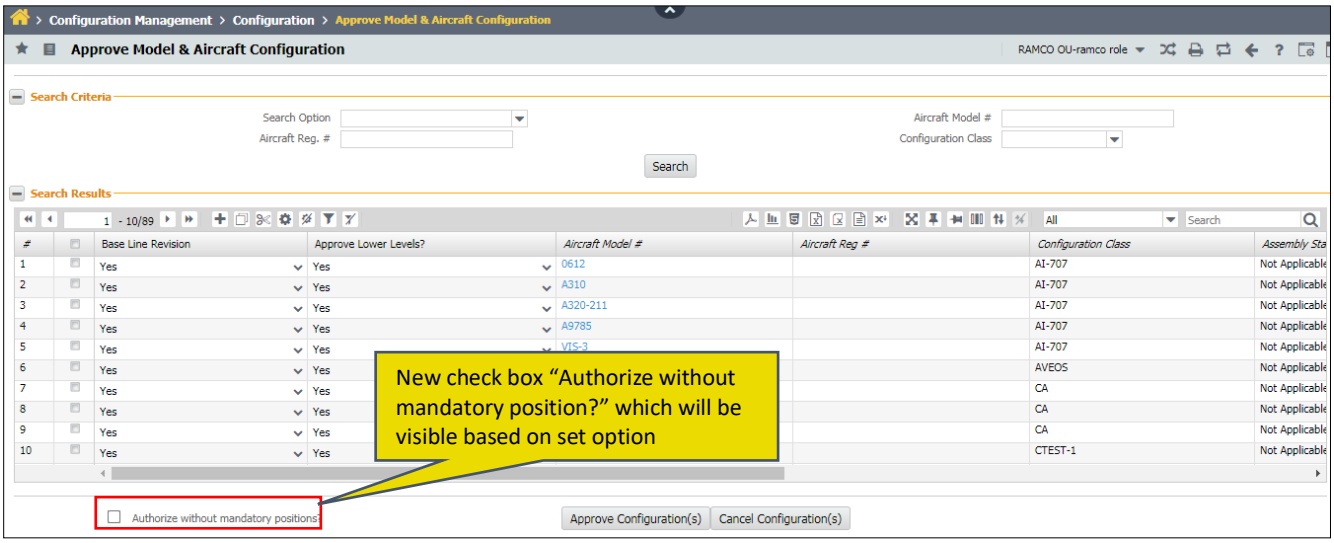
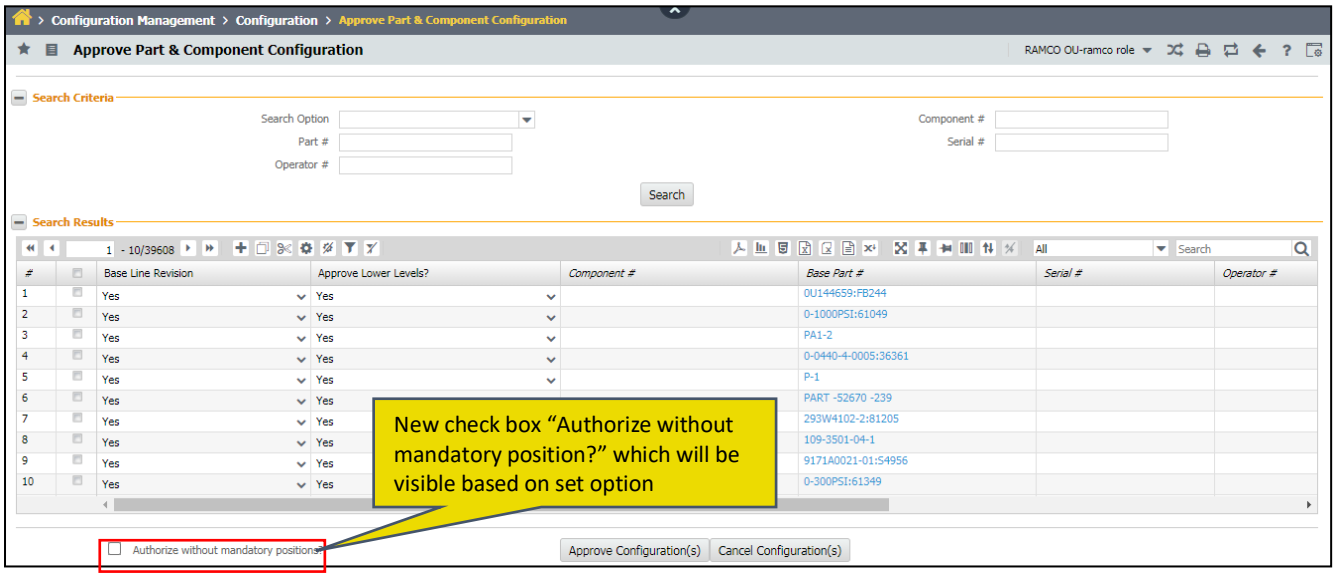


Exhibit 3: Approve Part & Component Configuration screen



WHAT'S NEW IN AIRCRAFT?

Ability to default Employee #, License #, Skill # & Date in Generate Serviceable Certificate screen

Reference: APRP-546

Background

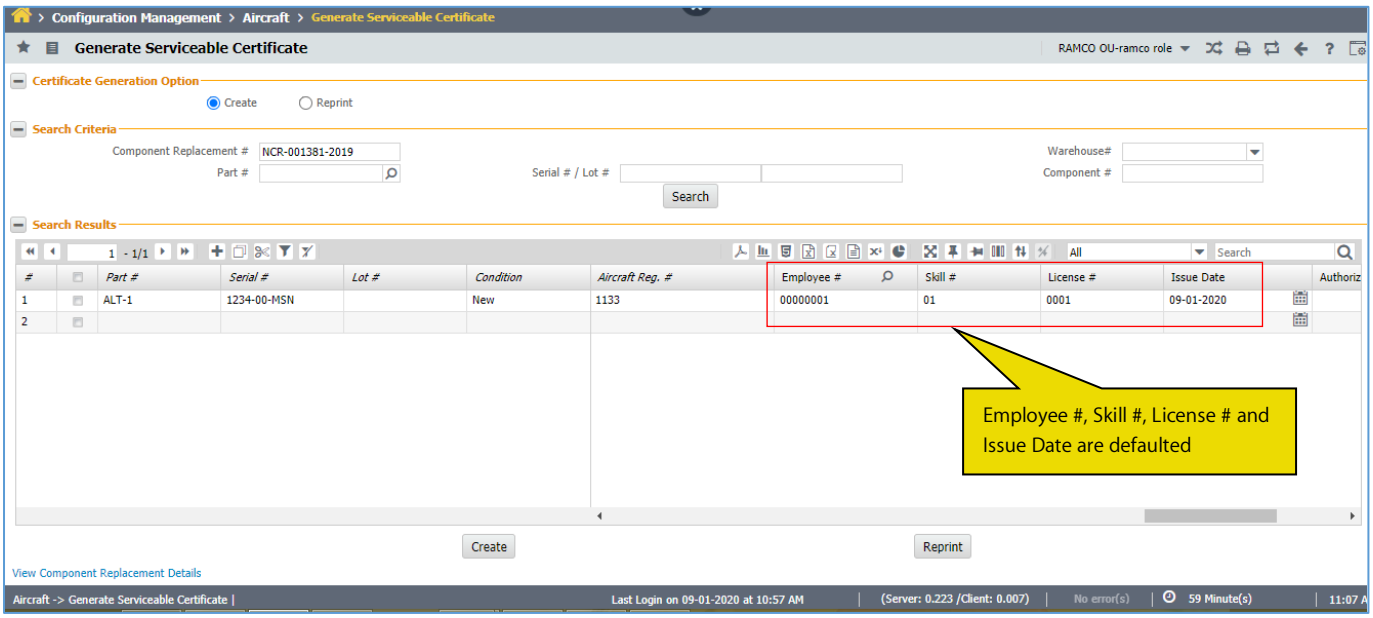
While generating Serviceable Certificate, users will have to always enter Employee #, License #, Skill # and Issue Date which is time consuming. A provision is required where Employee #, License #, Skill # and Issue Date can be defaulted so that user needs to not spend time in entering these details manually.

Change Details

To facilitate the defaulting of Employee #, License, Skill # and Issue Date, the following logic have been introduced in **Generate Serviceable Certificate**:

- **Employee #:** Default login user's Employee #.
- **Skill # & License #:** Default if the login user has any one Skill-License mapping which exists for the A/C Model # of the respective Package's A/C Reg # or Part #/ Part Group # of the respective Shop Work Order's main core. If there is no definition of skill-license mapping for the current Aircraft/Part, then both Skill and License will be left blank. Defaults will happen if there is only one Skill/License combination for the current Aircraft/Part or when there is more; Primary Skill-License combination for the current Aircraft/Part will be considered as long as the Primary Skill/License combination itself is not duplicated.
- **Issue Date:** Default the current date of the station of the Work Center # of the respective Package/ Shop Work Order (Exec. Ref. Doc. #).

Exhibit 1: Identifies the defaults in **Generate Serviceable Certificate** screen



Ability to identify TSA as a parameter, record it in Initialize & Re-initialize Parameter values and View the same in View Parameter Values & View History of PV update

Reference: APRP-907

Background

Tracking of component maintenance is typically done based on the usage of the component while it is fitted to an Aircraft. This usage is the actual time/cycles that the component has been run for while attached onto an Aircraft. Apart from Maintenance tracking, the reliability of the component is also tracked based on this usage, where in, components which get removed from aircraft at usages lesser than the anticipated usage are flagged to be Rogue units.

Change Details

New column to identify and capture 'Time since Attachment' has been introduced in the following User interfaces:

- 'Initialize Consumption & Range Parameter Values' for a given Component in activity **Create/Edit Component Record**, under the business component **Aircraft** and business process **Configuration Management**.
- 'Re-Initialize / Update Parameter Values' for a given component in activity **Re-Initialize / Update Parameter Values**, under the component **Aircraft** and business process **Configuration Management.**
- 'View. Parameter values' for a component, in activity 'View Component Record', under the component **Aircraft** and business process **Configuration Management**.
- 'View History of Parameter value Update' for a component, in activity **View Component Record**, under the component **Aircraft** and business process **Configuration Management.**
- 'Manage Part Technical data Requirement' for a Part in component **Part Administration** and business process **Inventory Setup**.

Exhibit 1: Initialize Consumption & Range Parameter values

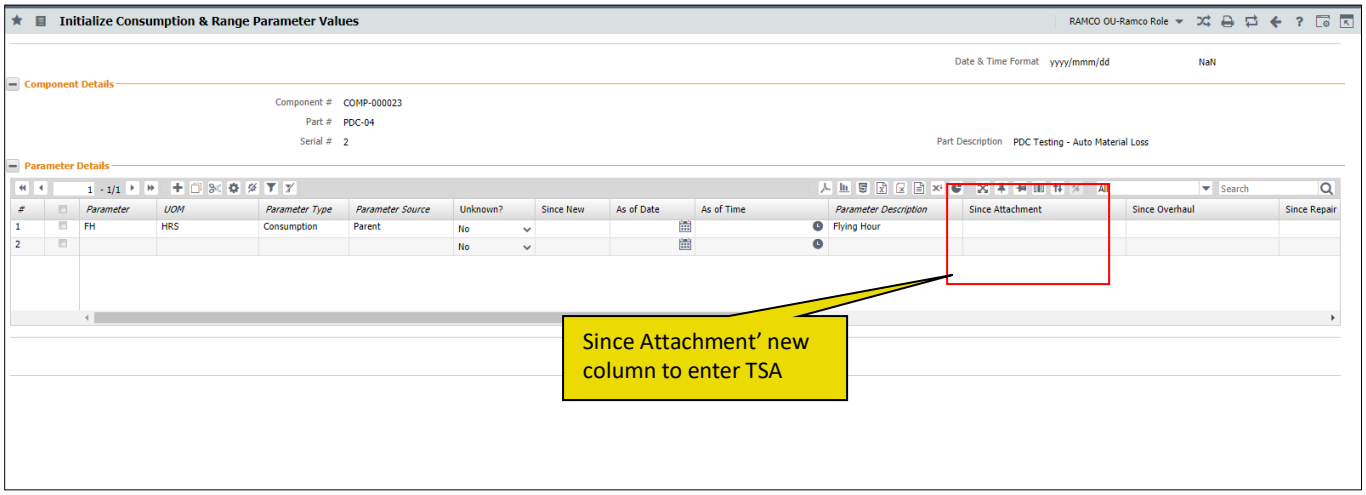


Exhibit 2 : Re-Initialize / Update Parameter values

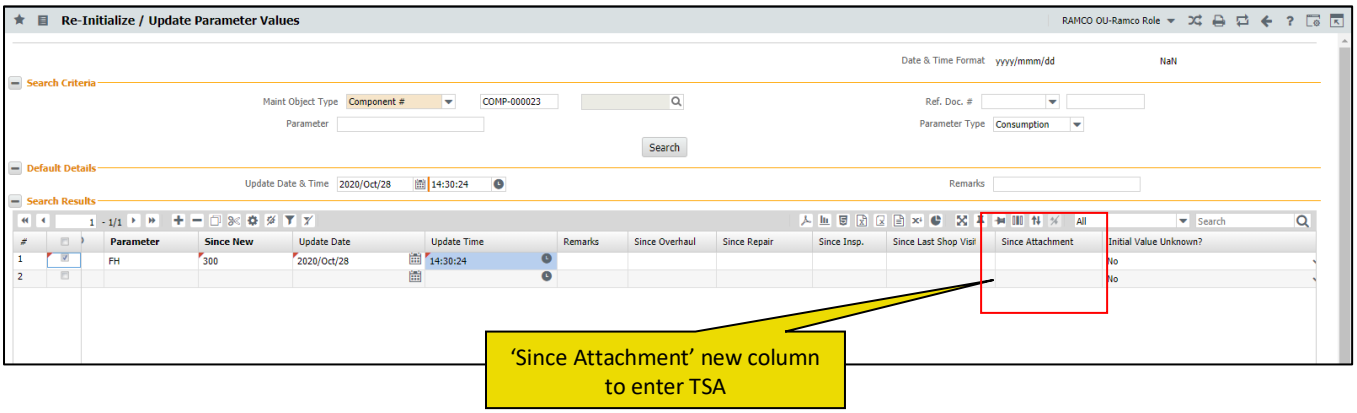


Exhibit 3 : View Parameter Values

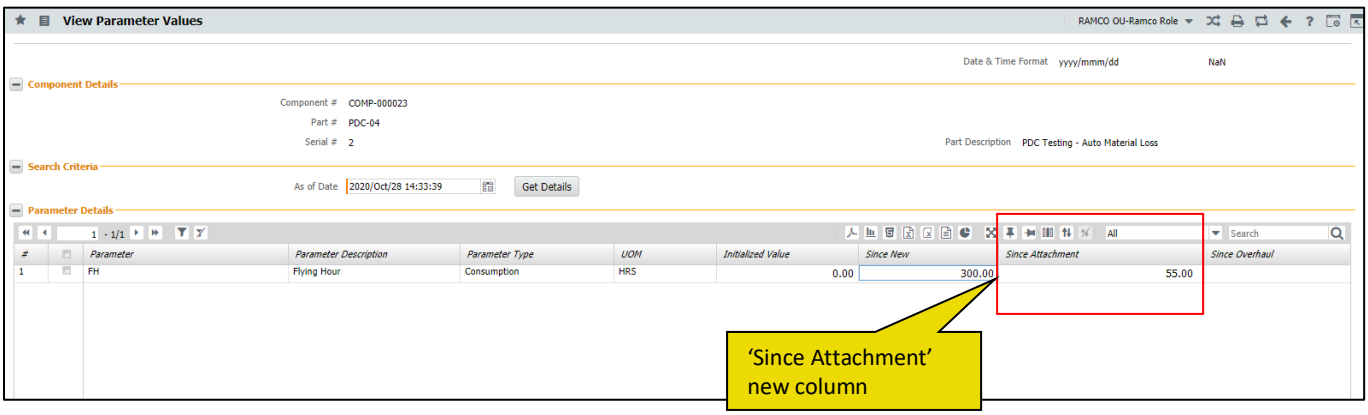


Exhibit 4 : View History of Parameter Value Update

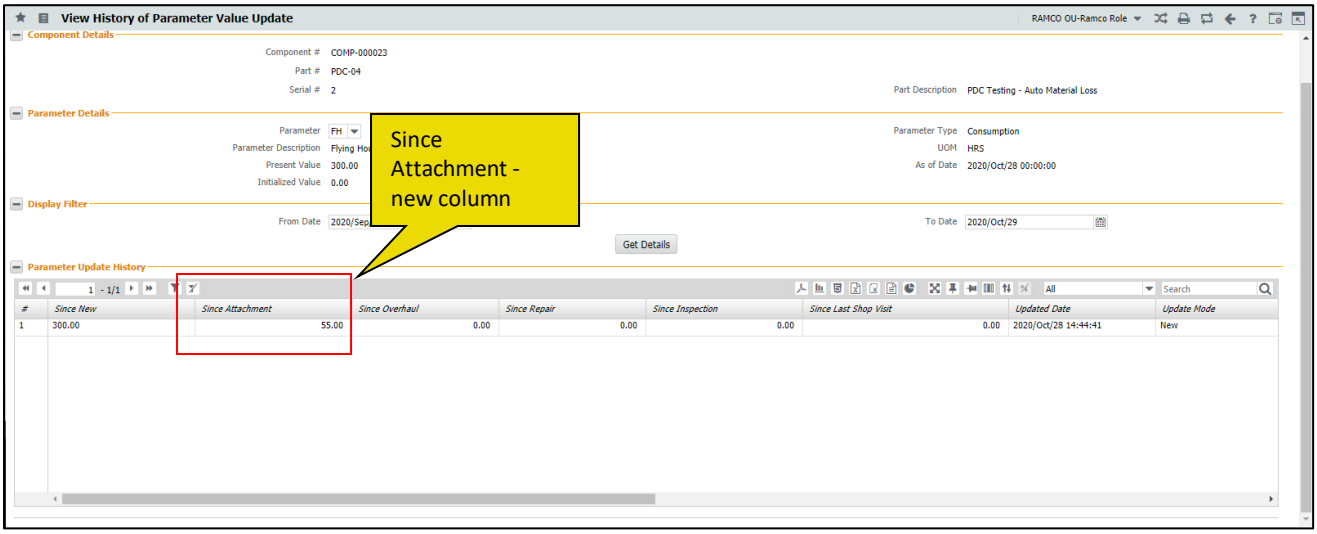
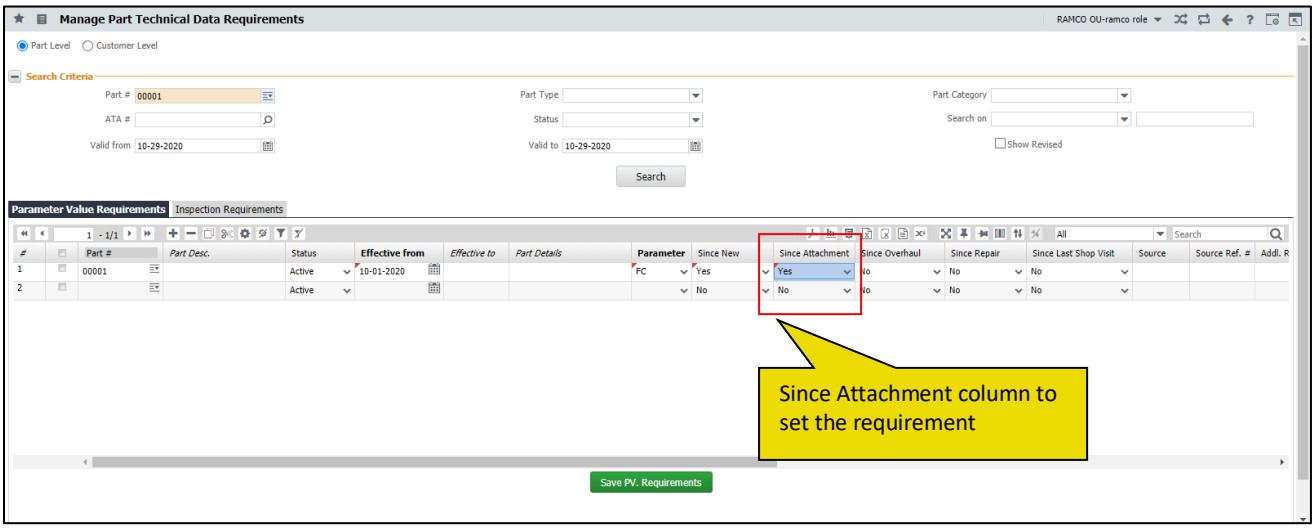


Exhibit 5 : Manage Part Technical Data requirements



WHAT'S NEW IN MAINTENANCE PROGRAM?

Ability to auto-activate or inactivate Tasks in Component Program based on Maint. Operator mapping and Warehouse Receipt Confirmation

Reference: APRP-1130, APRP-1034

Background

Organizations that are operating across the globe in different regions need a way to maintain region specific maintenance program since each region's regulatory may have different maintenance standards. Maintaining multiple programs for this purpose would get cumbersome, hence there was a need to maintain tasks from different regions in one program.

Components can move from one region to another and the tasks applicable to a specific region need to be active and tracked against the component when it is present in that region.

Change Details

To enable this functionality, the following new developments have been incorporated in the **Component Maintenance Program** business component:

- A new process parameter "**Auto Activation/Inactivation of schedule status of tasks in CMP based on Maint. Operator change?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: 'Tech. Records Process Ctrl', Entity: 'Part Prog', Permitted values: 0 (No) ; 1 (Yes).
- If the above listed set options are set as 'No', then system will not auto activate or inactivate tasks in the component maintenance program (CMP) based on Maint. Operator (MO) of the component. If the above set options are set as 'Yes' then the system will auto activate tasks in CMP that are applicable to the MO of the Component and inactivate tasks in CMP that are not applicable to the MO of the component.
- A scheduler was developed to periodically check the Maint. Operator (MO) of the component and activate all tasks in the program which are applicable to the MO of the component and inactivate all other tasks which are not applicable to the MO of the component. System will consider any task without MO mapping as applicable to all MO.
- All components attached to an aircraft or another component will inherit the aircraft's MO or Parent Component's MO. Hence on attachment and removals, the tasks in Component Maintenance Program (CMP) will auto activate and inactivate based on MO change.
- All components stocked in a warehouse will inherit the MO of the warehouse which is maintained in Logistics Common Master (LCM). Hence on warehouse transfers, receipt and issue transactions, tasks in CMP will auto activate or inactivate based on MO change.

Auto Activation/Inactivation of schedule status of tasks in CMP based on Maint. Operator change?	
1 for Yes	System will auto activate or inactive tasks in CMP based on Maintenance Operator of the Component
0 for No	System will not activate or inactive tasks in CMP based on Maintenance Operator of the Component

Ability to auto-activate or inactivate Tasks in Aircraft Program based on Maint. Operator mapping

Reference: APRP-270

Background

Organizations that are operating across the globe in different regions need a way to maintain region specific maintenance program since each region's regulatory may have different norms. Maintaining multiple programs for this purpose would get cumbersome, hence there was a need to maintain tasks from different regions in one program. Tasks belonging to the region in which the aircraft is present, needs to be active and tracked.

Change Details

To enable this functionality, the following new developments have been incorporated in the **Aircraft Maintenance Program** business component

- A new process parameter "**Auto Activation/Inactivation of schedule status of tasks in AMP based on Maint. Operator change?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: Tech. Records Process Ctrl, Entity: Aircraft Maintenance Prog, Permitted values: 0 (No) ; 1 (Yes).
- If the above listed set options are set as 'No' then system will not auto activate or inactivate tasks in the Aircraft maintenance program (AMP) based on Maint. Operator (MO) of the Aircraft. If the above set options are set as 'Yes' then the system will auto activate tasks in AMP that are applicable to the MO of the Aircraft and inactivate tasks in AMP that are not applicable to the MO of the Aircraft.
- The auto activation and inactivation will be triggered when the Aircraft Specific Maintenance Program is associated to a Maintenance Program or when the Aircraft Specific Maintenance Program is activated or revised.

Auto Activation/Inactivation of schedule status of tasks in AMP based on Maint. Operator change?	
1 for Yes	System will auto activate or inactive tasks in AMP based on Maintenance Operator of the Component
0 for No	System will not activate or inactive tasks in AMP based on Maintenance Operator of the Component

WHAT'S NEW IN CMP?

Provision to cancel Fresh revisions of CMP

Reference: APRP-1025

Background

This enhancement brings the ability to cancel fresh revisions of CMP which might possibly have been created mistakenly by making an unwanted change to an Authorized CMP. Initially, such fresh revisions could not be cancelled and they exist indefinitely in the system. Now with this enhancement, such fresh revisions could be cancelled and the CMP would be reverted back to the last authorized revision. By cancelling an unwanted Fresh revision, we eliminate the possibility of authorization of that revision by a user in future.

Change Details

A new button 'Cancel CMP' has been introduced in **Component Maintenance Program** screens. When a CMP revision is in 'Fresh' status, it can be cancelled from two screens namely:

1. **Edit Component Maintenance Program** screen in **Maintain Component Maintenance Program** activity.
2. **Authorize Component Maintenance Program** screen.

Note that only Fresh revisions could be cancelled and such cancelled revisions can be viewed through 'CMP Status' filter in **View Component Maintenance Program** activity.

Exhibit 1: Identifies the **Edit Component Maintenance Program Information** screen

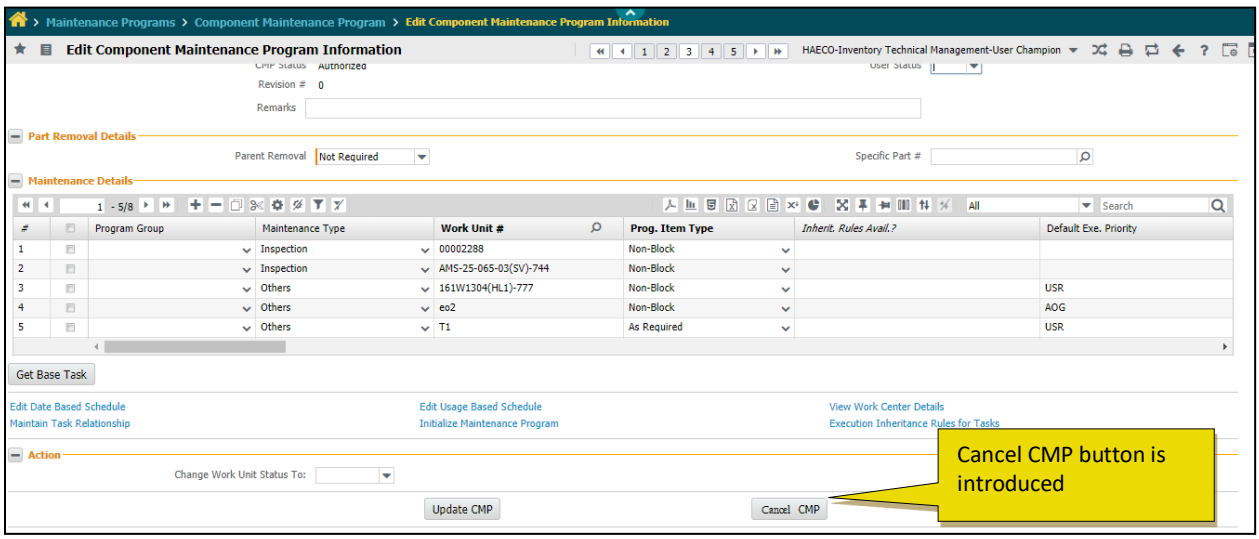


Exhibit 2: Identifies the **Authorize Component Maintenance Program** screen

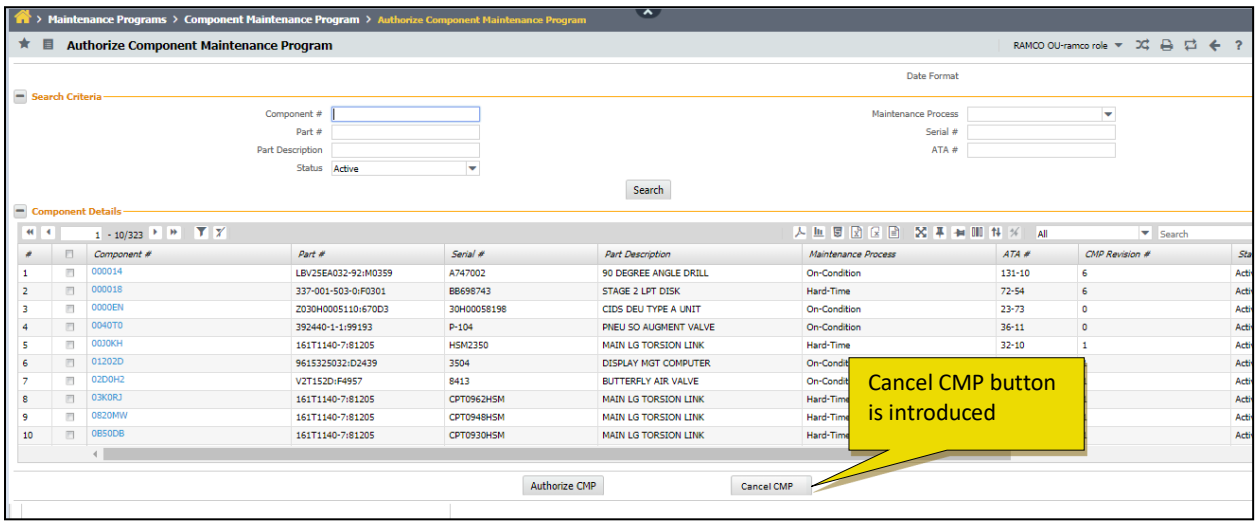
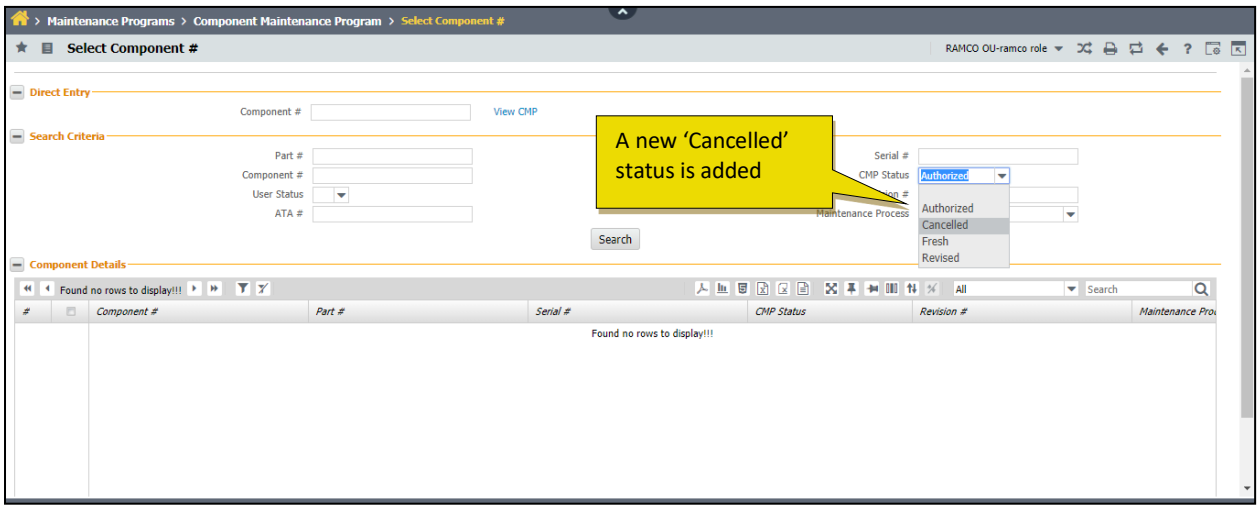


Exhibit 3: Identifies the **View Component Maintenance Program** screen



WHAT'S NEW IN REPAIR ORDER SETUP?

Auto Inheritance of Perpetual Task into Repair Order

Reference: APRP-1343

Background

This enhancement brings improvement to Repair Order Setup. Perpetual tasks are performed on components whenever they reach a shop regardless of schedule. While our product has provision to accommodate such tasks in Component Maintenance Program (CMP), they would not be added into a repair order (RO) automatically.

Repair events do not follow a schedule unlike Maintenance events; they are triggered as and when required. So, whenever a component is sent to shop for repair, perpetual tasks should be performed in addition to the specific repair tasks. This feature ensures through a process parameter that perpetual tasks are added automatically whenever a Repair Order is generated.

For an organization that considers certain tasks as 'Perpetual tasks'; for example, "Cleaning of Oxygen cylinder Lids", this feature comes handy to ensure that such tasks are always added into RO without any manual intervention and are completed along with repair tasks.

Change Details

Define Process Entities

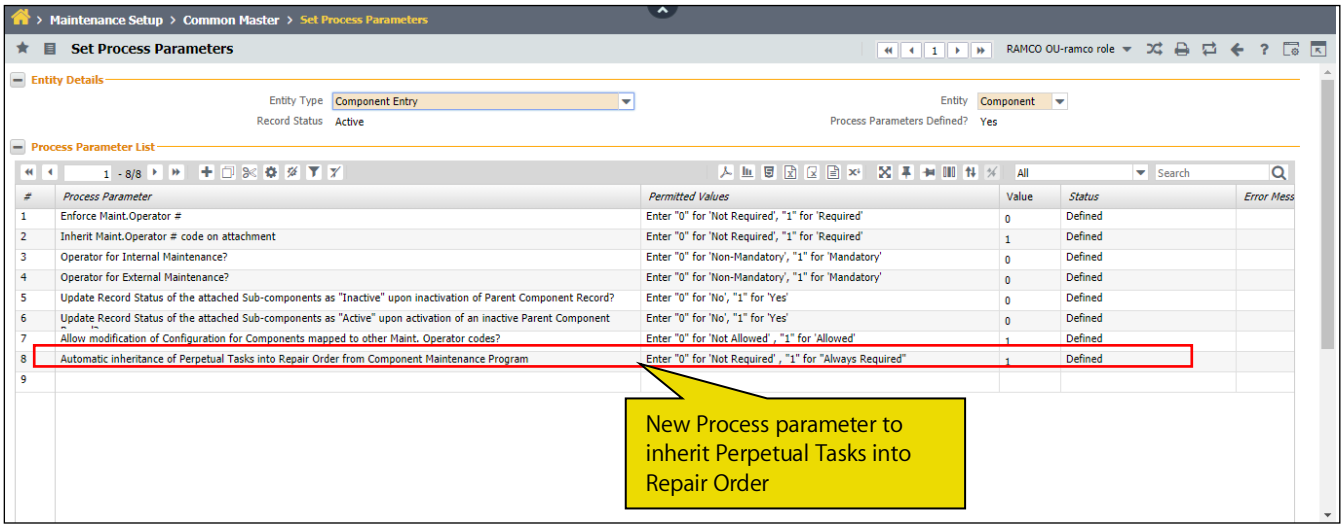
A new process parameter "Automatic inheritance of Perpetual Tasks into Repair Order from Component Maintenance Program" is added under the Entity Type 'Component Entry' and Entity 'Component' in the **Set Process Parameters** screen of the **Define Process Entities** activity of the **Common Master** business component.

- If the set option is set as '0' (Not required), then perpetual tasks are not automatically inherited into Repair Order.
- If the set option is set as '1' (Always required), then perpetual tasks are automatically inherited into Repair Order.

By default, the parameter is set as '0' (Not required).

When the parameter is set as '1' (Always Required), tasks of the category 'Perpetual' defined in the Part Program or in Component Maintenance Program for a component will be added automatically into RO.

Exhibit 1: Parameter addition in **Set Process Parameters** screen



WHAT'S NEW IN ENGINEERING CHANGE MANAGEMENT?

Ability to set task inheritance rules at Eng. schedule disposition level

Reference: APRP- 1099

Background

Any given MOD task can only be performed once in a component's life cycle. These MODs are sometimes initiated through a non-mandatory SB. In ITM organizations, these MODs are requested by customers in a case to case basis. ITM organizations perform these MODs based on an agreed set of rules that drives when these MODs need to be performed. These rules are usually based on the various removal conditions that the customer returns the pre MOD components. Finally based on the rules, these MOD tasks need to be inherited an auto repair order that gets created with the pre MOD component on receipt.

Change Details

To enable this functionality, the following new developments have been incorporated in the **Manage Engineering Document** and **Common Master** business components.

- A new **Entity Type** called **Schedule Disposition Code** has been introduced in **Define Process Entities** screen in **Common Master** business component. Each Entity defined by the user will be considered as a Schedule Disposition Code that can be used in Engineering Change Management.
- A new process parameter "**Removal Type to be considered for auto inheritance of As Required Task to Repair Order**" is introduced under the Entity Type 'Schedule Disposition Code' which will be available for every Entity created under it, with permitted values: '0' for 'Scheduled', '1' for 'Unscheduled', '2' for 'Both', '3' for 'Not Applicable'. System will only auto inherit as required engineering task to a RO if the component was received in the set Removal Type.

Removal Type to be considered for auto inheritance of As Required Task to Repair Order	
3 for Not Applicable	System will not auto inherit engineering as required task to RO based on Removal Type
2 for Both	System will auto inherit engineering as required task to RO if the component was received with removal type as scheduled or unscheduled
1 for Unscheduled	System will auto inherit engineering as required task to RO only if the component was received with removal type as unscheduled
0 for Scheduled	System will auto inherit engineering as required task to RO only if the component was received with removal type as scheduled

- A new process parameter "**Removal Condition to be considered for auto inheritance of As Required Task to Repair Order**" is introduced under the Entity Type 'Schedule Disposition Code' which will be available for every Entity created under it, with permitted values: '0' for 'Serviceable' , '1' for 'Unserviceable' , '2' for 'Both', '3' for 'Not Applicable'. System will only auto inherit as required engineering task to a RO if the component was received in the set Removal Condition

Removal Condition to be considered for auto inheritance of As Required Task to Repair Order	
3 for Not Applicable	System will not auto inherit engineering as required task to RO based on Removal Condition
2 for Both	System will auto inherit engineering as required task to RO if the component was received with removal type as serviceable or unserviceable
1 for Unserviceable	System will auto inherit engineering as required task to RO only if the component was received with removal type as unserviceable
0 for Serviceable	System will auto inherit engineering as required task to RO only if the component was received with removal type as serviceable

- A new process parameter "**Removal Reason to be considered for auto inheritance of As Required Task to Repair Order**" is introduced under the Entity Type 'Schedule Disposition Code' which will be available for every Entity created under it, with permitted values: any valid removal reason in the system. System will only auto inherit as required engineering task to a RO if the component was received in the set Removal Reason

Removal Reason to be considered for auto inheritance of As Required Task to Repair Order	
Valid Removal Reason	System will only auto inherit as required engineering task to a RO if the component was received in the set Removal Reason

- A new process parameter "**One Time auto inheritance of As Required Task to Repair Order**" is introduced under the Entity Type 'Schedule Disposition Code' which will be available for every Entity created under it, with permitted values: '0' for 'No' , '1' for 'Yes'. System will auto inherit as required engineering task to a RO only once if this option is enabled.

One Time auto inheritance of As Required Task to Repair Order	
1 for Yes	System will auto inherit as required engineering task to a RO only once until compliance
0 for No	System will auto inherit as required engineering task to a RO as many times as the other conditions are satisfied

- A new set option "**Rules based Inheritance of As Required tasks to Execution documents**" is introduced under Component Maintenance Program Set Options with 'Applicable' and 'Not Applicable' as two options. System will auto inherit as required engineering task to a RO based on rules configured under a schedule disposition code if this set option is enabled.

Rules based Inheritance of As Required tasks to Execution documents	
Applicable	System will auto inherit as required engineering task to a RO based on rules configured under a schedule disposition code
Not Applicable	System will not auto inherit as required engineering tasks based on schedule disposition

- A new set option "**Alert Value based inheritance of Scheduled tasks into Execution Documents**" is introduced under Component Maintenance Program Set Options with 'Applicable' and 'Not Applicable' as two options. System will auto inherit alerted task to a RO if this set option is enabled.

Alert Value based inheritance of Scheduled tasks into Execution Documents	
Applicable	System will auto inherit schedule tasks if it reaches alert value
Not Applicable	System will not auto inherit schedule tasks based on alert value

- A new set option "**Consider Schedule Dispositions for Task Inheritance rules from**" is introduced under Engineering Order Set Options with 'From Eng. Order' and 'From Impact Assessment' as two options. System will auto inherit alerted task to a RO based on schedule disposition code defined in Impact Assessment or Engineering Order based on the option set.

Consider Schedule Dispositions for Task Inheritance rules from	
From Eng. Order	System will consider schedule disposition for a component from Engineering Document
From Impact Assessment	System will consider the schedule disposition for the component from the Impact Assessment linked to the Engineering Order

- A new set option "**Default Schedule Disposition Code for Task Inheritance Rules evaluation**" is introduced under Engineering Order Set Options with 'From Eng. Order' and 'From Impact Assessment' as two option. The specified schedule disposition code will be considered as the default disposition code if a rules based inheritance is enabled and a schedule disposition is not defined.

Default Schedule Disposition Code for Task Inheritance Rules evaluation	
Valid Schedule Disposition Code	The specified schedule disposition code will be considered as the default disposition code if a rules based inheritance is enabled and a schedule disposition is not defined.

- If auto inheritance of as required tasks is enabled based on rules and if schedule disposition is set to be inherited from Engg. Order, Then a component received, will inherit 'As required' task from engineering orders in the components program to auto RO generated, based on the schedule disposition defined for the component in the Engineering Order and the rules setup against the schedule disposition.
- If auto inheritance of as required tasks is enable based on rules and if schedule disposition is set to be inherited from Impact Assessment, Then a component received, will inherit 'as required' task from engineering orders in the components program to auto RO generated, based on the schedule disposition defined for the component in the Impact Assessment linked to the Engineering order and the rules setup against the schedule disposition. If the same part has different schedule disposition based on customer, customer contract, sale type and removed from aircraft in the Impact Assessment, then system will consider the schedule disposition based on customer, customer contract, sale type and removed from aircraft in the Goods Inward doc.

Provision to generate & confirm PCR/EO with Part alone and Auto Embodiment enabled

Reference: APRP-1046

Background

This enhancement brings improvements in **'Engineering Change Management'**.

- SB/AD/VSB/SIL has various effectivity criteria which are evaluated at the time of creating an MCR in the system. Any new part that is added into the system after releasing the change request does not auto embody the change.
- System needs to evaluate Eng. change for new serials of parts that did not have a serial# at the time of EO release or new parts that are added into the system after EO release.

With our existing screens there is no provision to generate PCR/EO without Serial # which will be taken care in this enhancement.

Change Details

This enhancement speaks about the provision to generate & confirm PCR/EO with Part alone and Auto Embodiment enabled.

- PCR and EO will be enhanced to evaluate part # without serial# at the time of PCR creation or EO creation.
- This feature will help to create PCR & EO with Auto embodiment enabled without providing serial #.

Exhibit 1: New Process parameter addition

Set Process Parameter (Common Master)	
Entity Type	Eng. Doc Type
Entity	All Eng Doc
Process Parameter	Enable Part level MCR / EO processing ?
Permitted Values	Enter "0" for 'No', "1" for 'Yes'.
Default value	0 (No)
System behavior based on process parameter value	
0 (No)	Then system should follow the existing behavior.
1 (Yes)	System should allow user to create PCR/release EO without serial # with auto embodiment enabled.

If the process parameter "**Enable Part level MCR / EO processing?**" is set as "1", then user can able to create PCR/EO by providing the Part # lone, with Auto Embodiment enabled the Task which are added for that Part # will get included for all the serials which are added to that Part #. Previously system will validate if user missed the Serial #, this issues are overcome by this enhancement.

WHAT'S NEW IN MCR?

Applicable Customer list to MCR

APRP-1044

Background

This enhancement brings improvements in Engineering Change Management screens with the ability to capture the list of customers and aircraft models against Engineering Change Orders. Through this enhancement, Engineering Change Orders can be tracked at customer level as well as aircraft model level. This simplifies the implementation of EOs for an organization dealing with multiple customers owning different aircrafts.

Engineering Changes are of various kinds ranging from a Part/serial-specific change to an Aircraft model- specific change. For an organization implementing such a change on components or aircrafts, it is essential to track those changes with respect to customer requesting the change and the model against which the change is implemented. When the changes are tracked at these two levels, it becomes more convenient for the organization as well as their customers to be aware of the changes that are implemented.

For instance, when an organization has data on the number of customers implementing a specific change, it indirectly influences or reaches the other customers to weigh in the necessity for the change and implement it if really required. Model-level tracking on the other hand gives a quick picture of the models that have undergone engineering changes.

Change Details

Four new Controls are added in **Edit Customer List** to capture Customer and Aircraft Model data.

1. Customer #
2. Customer Name
3. Aircraft Model #
4. Model Type

Among the above four, Customer # and Aircraft Model # are editable controls that receive input in **Edit Customer List** screen while the other two will fetch Customer Name and Model Type respectively from master data. In **View Customer List** screen, all the four controls will display data from saved records. Tracking is possible at three levels namely:

1. Customer – Model level
2. Customer level
3. Model level

Exhibit 1: Identifies the **Edit Customer List** screen

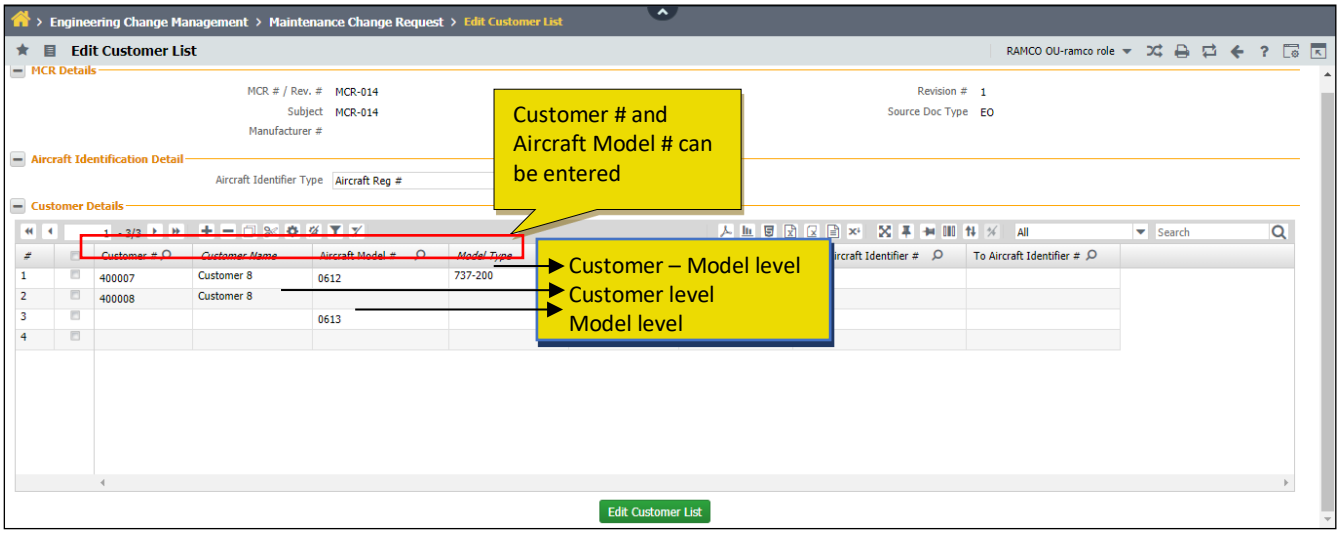
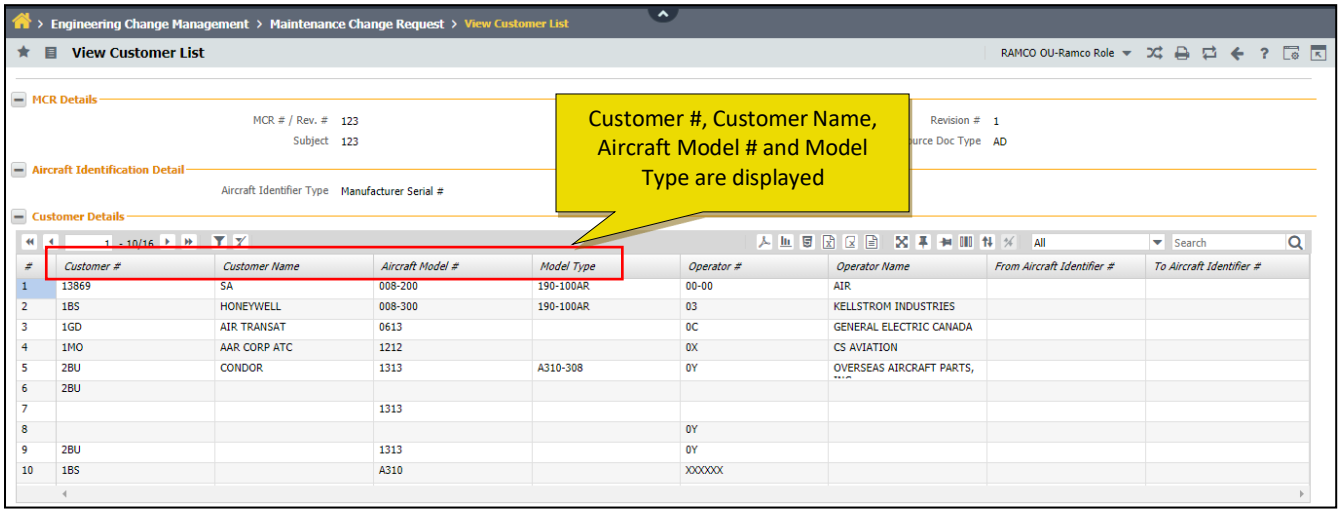


Exhibit 2: Identifies the **View Customer List** screen



WHAT'S NEW IN AIRCRAFT and MCR?

Provision to enable Search based on Addl. Criteria in Re-Initialize PV, Edit, View and Revise MCR and EO

Reference: APRP-956

Background

This enhancement brings improvements in **'Aircraft and Change Request'**, for an ITM vendor.

- There is a need to visualize Parameter Values of Aircraft on the basis of Aircraft Group. Currently, we do not have any provision to search based on Aircraft Group # in Re-Initialize and Update Parameter values.
- In **Edit Concurrent Requirements** screen, user is required to remember the MCR # to update them. But currently there is no help on enabled for this.
- In select screens of 'Edit/Revise/View Maintenance Change Request' Value engineer is in a need to filter out records based on "Reference Document #" which is currently not available.

Change Details

This enhancement speaks about addressing the above mentioned issues,

- New metadata "Aircraft Group #" will be added in 'Maint. Object Type' control, under 'Aircraft Model #' along with that a combo control is added to load the available Aircraft Groups' in the system in **Re-Initialize/ Update Parameter Values** screen.
- Help on will be enabled for MCR # column control in **Edit Concurrent Requirements** screen.
- A new combo control will be enabled for the user to search with the exact Ref. Doc. # in **Select Maintenance Change Request** screen.

User can visualize Parameter Values on the basis of Aircraft Group in **Re-Initialize/ Update Parameter Values** screen. Also usability will be improved.

Exhibit 1: Edit Concurrent Requirements

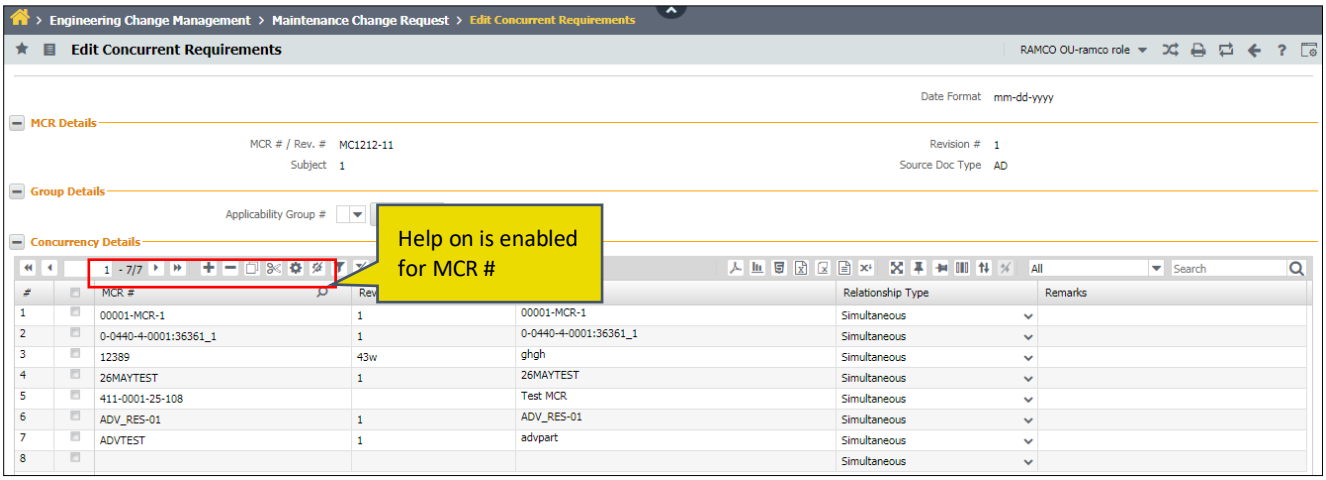


Exhibit 2: Re-Initialize / Update Parameter Values

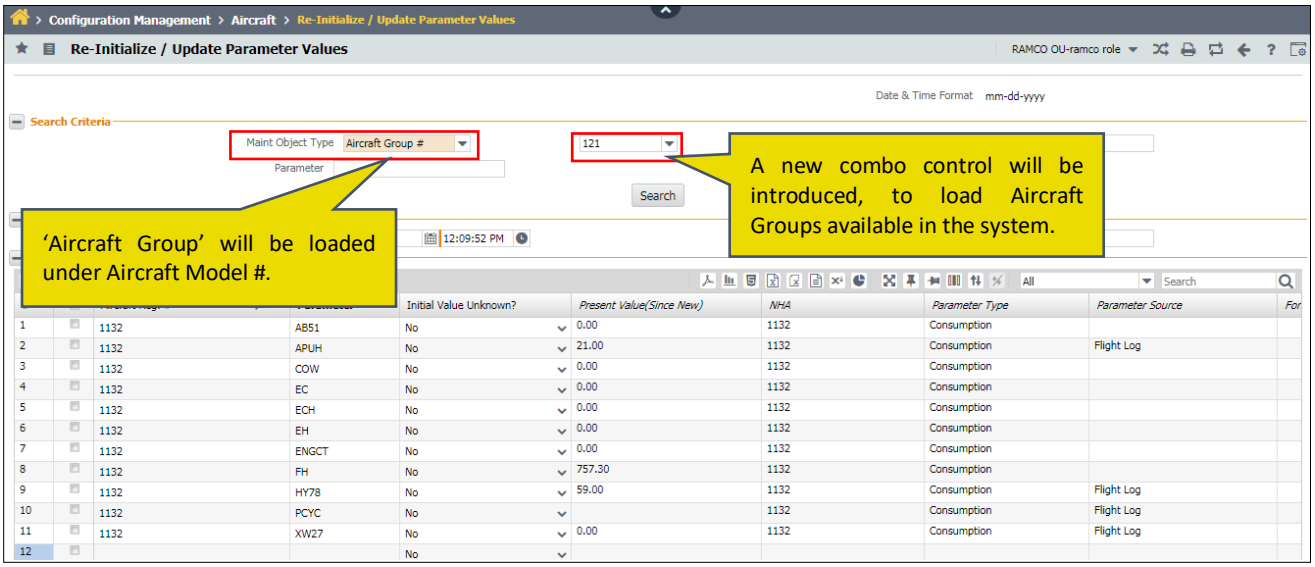


Exhibit 3: Edit Maintenance Change Request

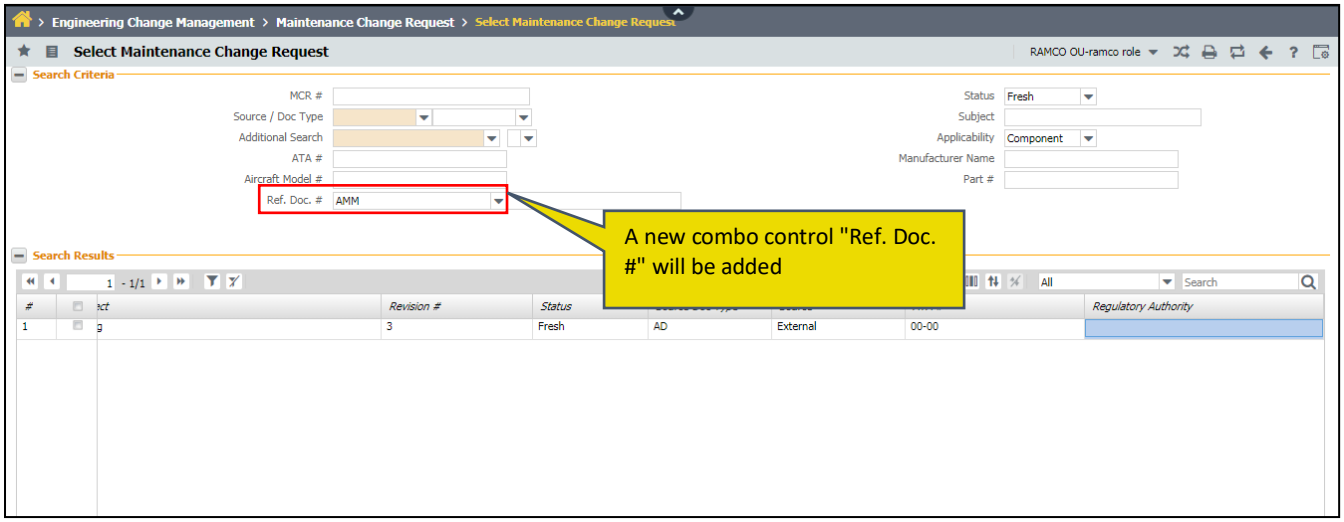


Exhibit 4: Revise Maintenance Change Request

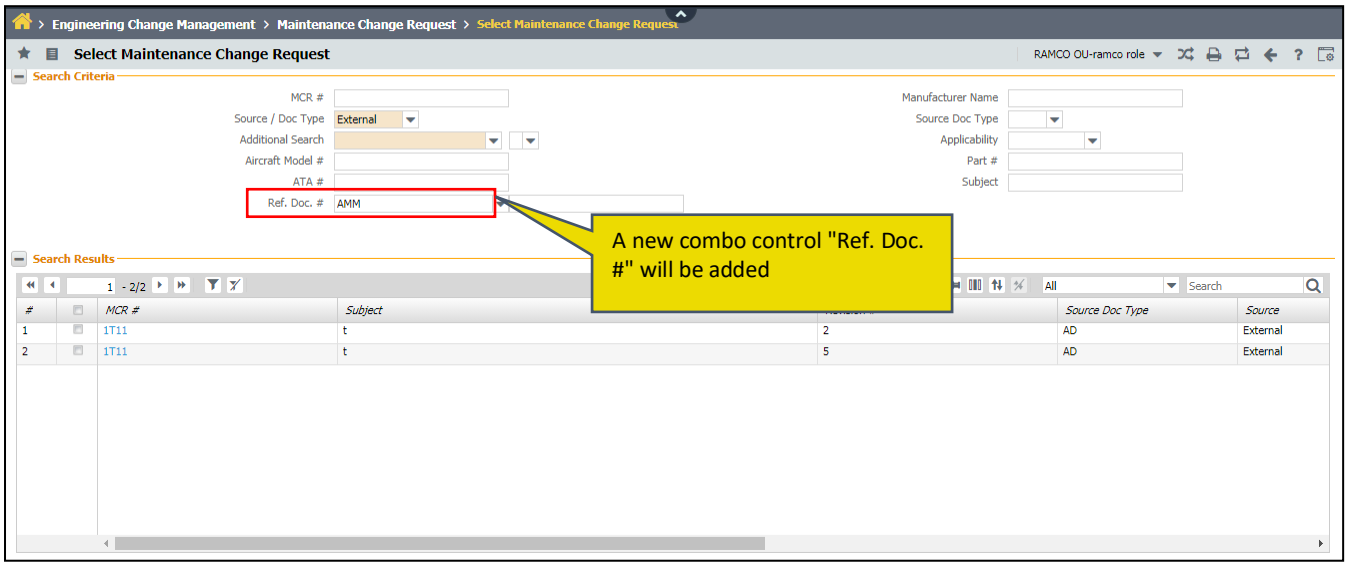
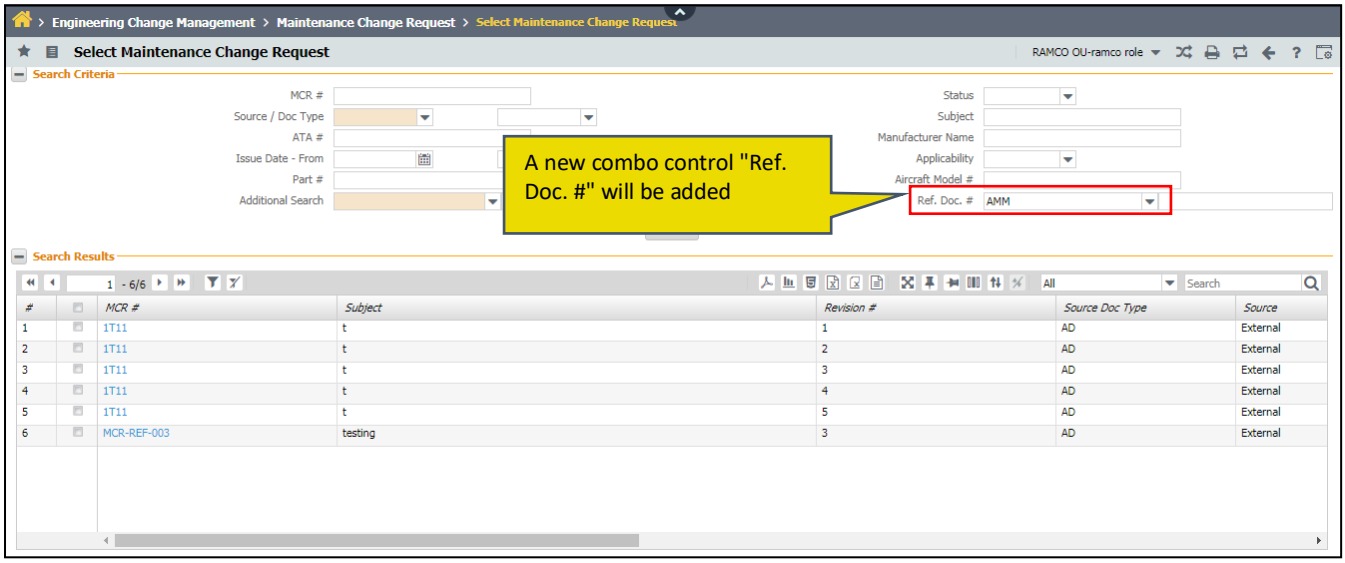


Exhibit 5: View Maintenance Change Request



WHAT'S NEW IN ENGINEERING DOCUMENT?

Provision to View Approved Impact Assessments

APRP-1305

Background

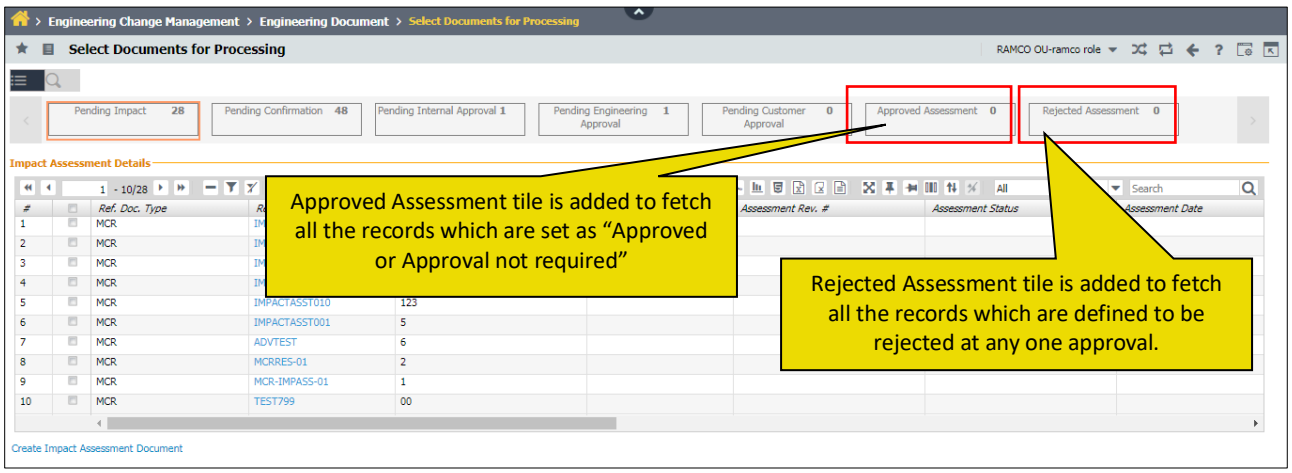
Impact Assessment was a new document introduced which aids to assess impacted Customers who have an agreed for servicing of a part which happens to be applicable for an engineering document. The Impact assessment document carries the quantity that is agreed to be serviced/sold to the customer post the engineering document application and the billable rate for the same. Thus, it is subjected to Customer Approval. This enhancement solves the issue of not having a way to review already approved Impact Assessments with a quick filter tile and rather always having to use a details search filter. While the Approvals were already in place, there was no specific quick filter tile to review the Approved/Rejected Impact Assessments easily.

Change Details

This enhancement details on the provision to view Approved and Rejected Impact Assessments along with other Pending approvals.

- Two new tiles "Approved Assessments" and "Rejected Assessments" are added **in Select Documents for Processing** screen.
- Approved Assessment tile is added to fetch all the records which are set as "Approved" or "Approval not required".
- Rejected Assessment tile is added to fetch all the records which are defined to be rejected at any one approval.

Exhibit 1: Component Removal Dashboard



Approved Assessment: System will consider if any of the following: "Internal Approval, Engineering Approval, and Customer Approval" is set as 'Approved' or they are set as 'Not required'.

Rejected Assessment: System will consider if any of the following: "Internal Approval, Engineering Approval, and Customer Approval" is set as Rejected. If any one option is set as 'Approved' or 'Not required', system will give priority to Rejected.

Ability to manage customer MOD compliance tracking based on issue & billing of upgraded part

Reference: APRP-252

Background

Impact Assessment was a new document which was introduced in product to allow a Customer wise analysis to identify those Customers who have been agreed with a contract to provide certain parts which be impacted by the Engineering MOD document being processed. The final outcome of Impact Assessment was a Customer approval for the engineering document with the agreed quantity of Parts to be supplied at a fixed/variable rate along with a program based on which the Engineering MOD would be applied on to the components. While this structure is already established in product, the downstream tracking of this agreed quantity and a check on the billed value and quantity was yet to be done.

This enhancement concentrates on tracking the compliance of an Engineering document for the agreed quantity and billable value under the agreed program.

Change Details

Track MOD Compliance for Customer Contracts

A new activity called **Track MOD Compliance for Customer Contracts** has been introduced under **Engineering Document** business component.

The UI is designed to list all Customer approved Impact Assessment rows along with the Task information from the corresponding Engineering Order. The following quantities will be tracked against the Agreed/Approved Quantity;

1. Issued Quantity
2. Pending Quantity
3. Received Quantity
4. Planned Repair Quantity
5. In-Repair Quantity

And finally 'Billed Quantity' gets tracked against the 'Agreed Billable quantity'.

- MOD Compliance is tracked based on Advance exchange transactions
- MOD Compliance Tracking can be initiated manually from this UI, meaning only on initiation system will consider the EO for auto task inheritance to RO and qty will get automatically counted for compliance. Else, based on a parameter, compliance tracking can be initiated automatically upon EO release itself.
- Issued quantity for a Part gets counted based on the latest MOD of the issued component. A parameter controls if Issue should be counted only if latest MOD of Issued component is the post MOD mapped in the respective Engineering Order.
- Similarly, Billing quantity also gets counted based on latest MOD of issued component. Billing can be done only if the issued component against the received & repaired unserviceable unit was of post MOD in respective EO, again, based on a parameter.
- Each quantity displayed in this UI is a hyperlink and can be clicked to launch a UI with list of documents

which were counted to show the eligible count. For example – Issued quantity can be clicked to see the list of Issues and In-Repair qty to see the list of Repair Orders.

Exhibit 1: Track MOD Compliance & Tracking

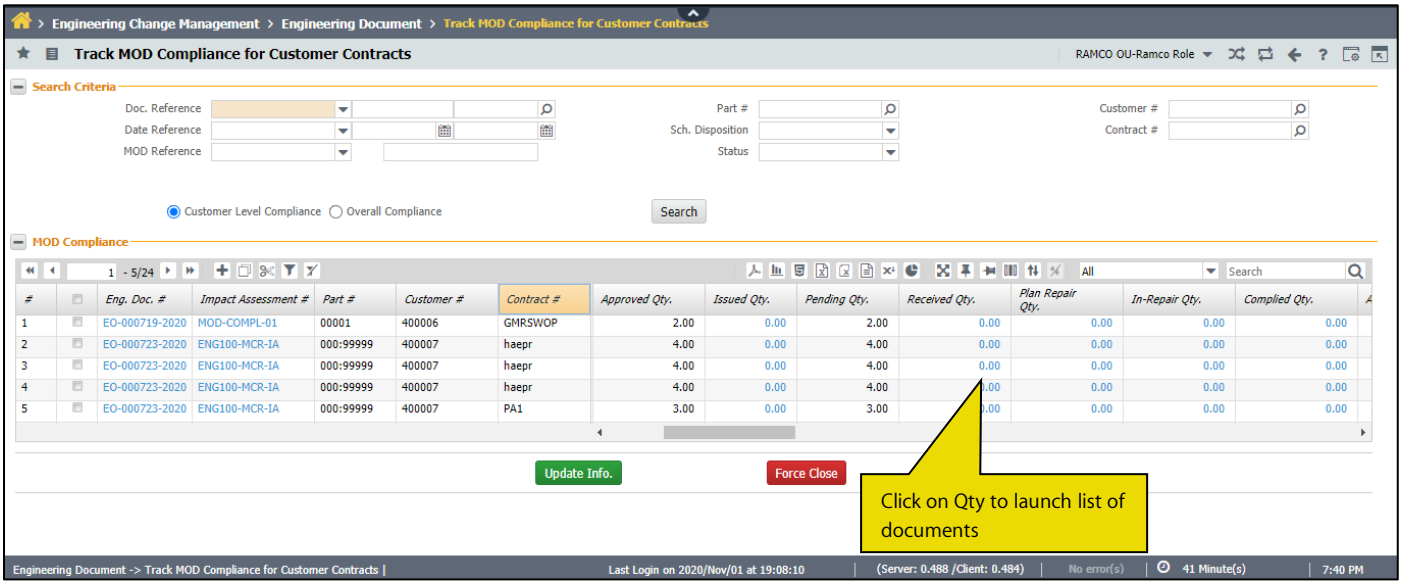
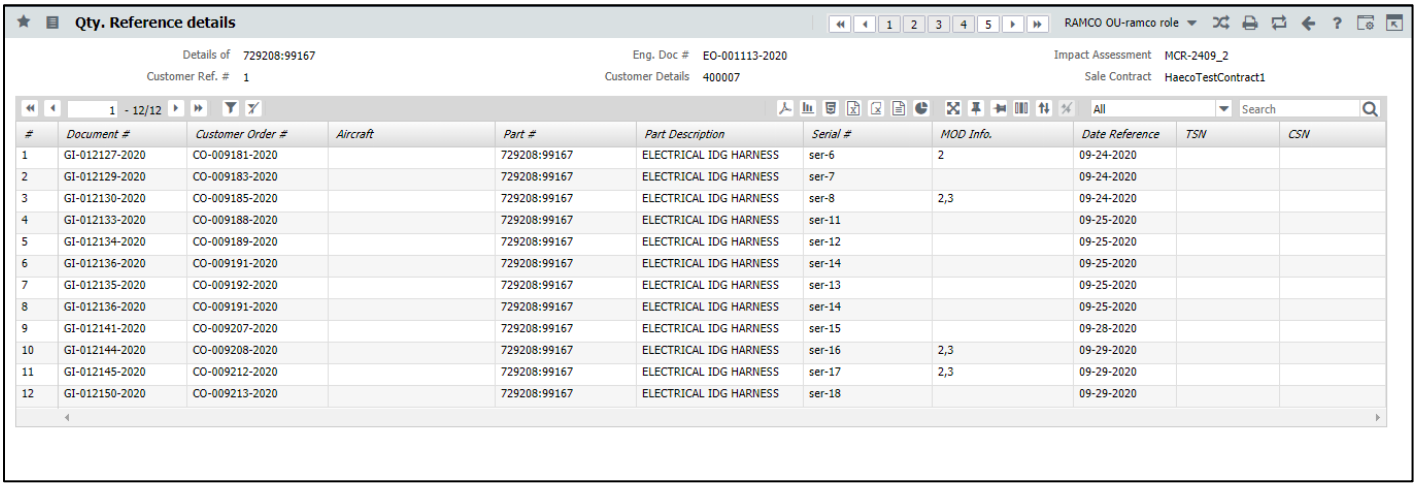


Exhibit 2: Track MOD Compliance & Tracking – Quantity Reference Details



Provision to define Maint. Operator at Engineering document level and update the applicable Aircraft Program based on Maint. Operator

Reference: APRP-273

Background

In a global organization using one program to manage maintenance schedules of aircrafts and components across different regions, there is a need to author region specific tasks from an EO. Hence when the task updates the program, it needs to get updated in active or inactive status based on the region in which the Maint. Object is present.

Since one EO accessible across all regions will be used to manage a particular change applicable to a specific region, there is a need for user level security based on Maintenance Operator in EO.

Change Details

To enable this functionality, the following new developments have been incorporated in the **Engineering Document** business component:

- A new process parameter "**Allow addition/modification of Aircraft & Component from other Maint. Operator codes in EO?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: Eng. Doc Type, Entity: All Eng Doc, Permitted values: 0 (No) ; 1 (Yes)
- If the above listed set options are set as 'No' then system will prevent user who are not mapped to the MO of the Maint. Object from adding or modifying the Maint. Object in the effectivity tab. If the above set option is set as 'Yes' then the system will not restrict any user.

Allow addition/modification of Aircraft & Component from other Maint. Operator codes in EO?	
1 for Yes	It allows the addition/modification of Maint. Objects mapped to other Maint. Operator codes in EO
0 for No	It does not allow the addition/modification of Maint. Objects mapped to other Maint. Operator codes in EO

Default: '1' Yes

- A new process parameter "**Allow addition/modification of tasks from other Maint. Operator codes in EO?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: Eng. Doc Type, Entity: All Eng Doc, Permitted values: 0 (No) ; 1 (Yes)
- If the above listed set options are set as 'No' then system will prevent user who are not mapped to the MO of the Task from adding or modifying the Task in the Task tab. If the above set option is set as 'Yes' then the system will not restrict any user.

Allow addition/modification of tasks from other Maint. Operator codes in EO?	
1 for Yes	It allows the addition/modification of tasks mapped to other Maint. Operator codes in EO
0 for No	It does not allow the addition/modification of tasks mapped to other Maint. Operator codes in EO

Default: '1' Yes

- A new editable control called Maint. Operator has been added in the task tab of Engineering Order. When a new task is being authored or an existing task is being revised, one Maint. Operator can be mapped to the task from EO. On release of EO, the task's effectivity gets updated with the Maint. Operator code specified in the EO.
- A new process parameter "**Auto Activation/Inactivation of schedule status of Eng. Doc. tasks in AMP based on Maint. Operator?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: Eng. Doc Type, Entity: All Eng Doc, Permitted values: 0 (No) ; 1 (Yes)
- Is the above set option is set as 'Yes' system will automatically update all tasks that belong to the MO of the Aircraft that it updates in Active Status and all other tasks in Inactive Status. If it is set as 'No' system will retain its existing behavior when it comes to task update to aircraft program from EO.

Auto Activation/Inactivation of schedule status of Eng. Doc. tasks in AMP based on Maint. Operator?	
1 for Yes	System will auto activate or inactivate tasks released from EO in AMP based on Maint. Operator
0 for No	System will not auto activate or inactivate tasks released from EO in AMP based on Maint. Operator

Default: '1' No

- A new process parameter "**Auto Activation/Inactivation of schedule status of Eng. Doc tasks in CMP based on Maint. Operator?**" has been added in the **Define Process Parameters** activity of the **Common Master** business component. Entity Type: Eng. Doc Type, Entity: All Eng Doc, Permitted values: 0 (No) ; 1 (Yes)
- Is the above set option is set as 'Yes' system will automatically update all tasks that belong to the MO of the Component that it updates in Active Status and all other tasks in Inactive Status. If it is set as 'No' system will retain its existing behavior when it comes to task update to component program from EO.

Allow addition/modification of tasks from other Maint. Operator codes in EO?	
1 for Yes	System will auto activate or inactivate tasks released from EO in CMP based on Maint. Operator
0 for No	System will not auto activate or inactivate tasks released from EO in CMP based on Maint. Operator

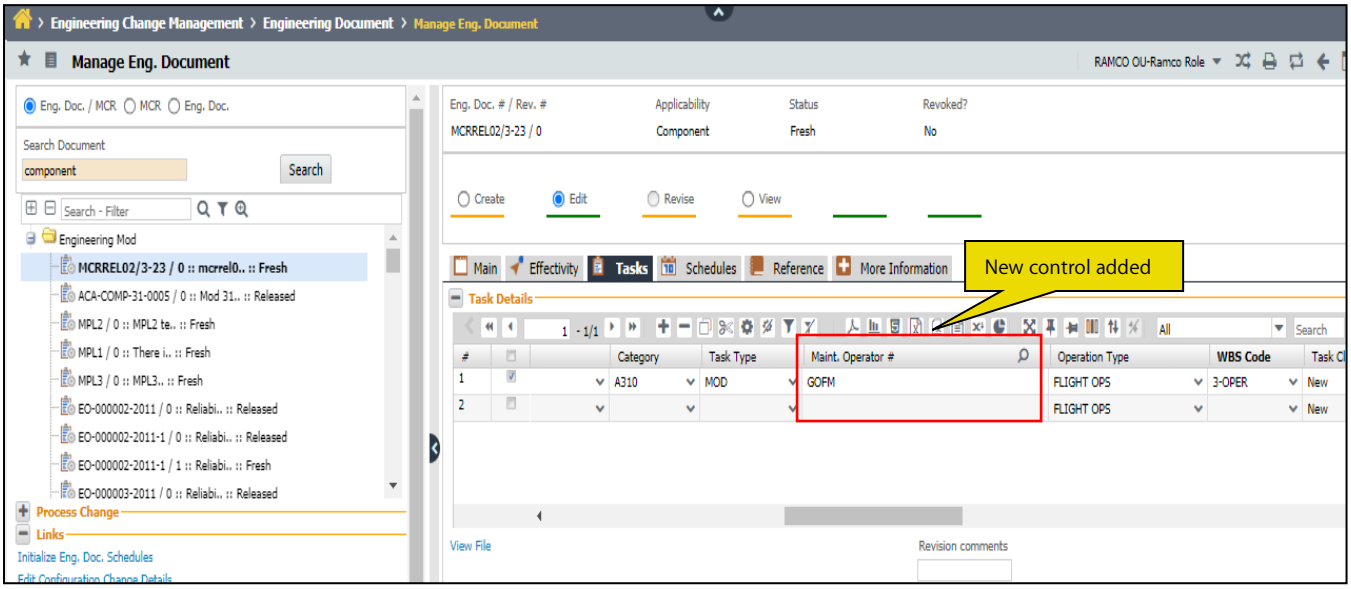
Default: '1' No

- A new process parameter "**Update Maint. Operator Effectivity to task on release of EO?**" has been added in the Define Process Parameters activity of the Common Master business component. Entity Type: Eng. Doc Type, Entity: All Eng Doc, Permitted values: 0 (No) ; 1 (Yes)
- If the above set option is set as 'No' then system will not update the Maint. Operator effectivity to New and Improvised task upon release of EO.

Update Maint. Operator Effectivity to task on release of EO?	
1 for Yes	System updates the Maint. Operator Effectivity of a New or Improvised Task on release of EO
0 for No	System does not update the Maint. Operator Effectivity of a New or Improvised Task on release of EO

Default: '1' No

Exhibit 1: Indicates the new controls in the **Manage Eng. Document** screen



WHAT'S NEW IN FLIGHT LOG?

Ability to View Parameter Reading recorded for a Closed Task in View AME page

Reference: APRP-705

Background

Unable to review/check the value recorded in **Record Parameter Reading/Cond.Eval.Form** in **Work Reporting Hub** or in **Record Aircraft Maintenance Execution Details** screen, once the work package is closed. Need to review parameter readings after a Work Package is closed.

Change Details

View Work & Sign-Off Information

A new UI **View Parameter Reading/Eval. Form** is added as a link in **View Work & Sign-Off Information** screen. This new screen provides the ability to view the parameter recordings done for a task in a package.

View Parameter Reading/Eval. Form - This screen has two different tabs: **Parameter Reading Details** and **Conditional Maint. Evaluation** to view the Parameter and Evaluation details of a task recorded in execution in a package, respectively. This screen will list down only the tasks having parameter recordings done in a Package. This screen will have the Execution details section, Task Details and Component Details section.

Parameter Reading Details tab will have all the necessary information as a multiline, regarding the parameter details of a task in a package. **Conditional Maint. Evaluation** will have all the evaluation details of a parameter against a task in a package.

Exhibit 1: Identifies the new link in **View Work & Sign-Off Information** screen

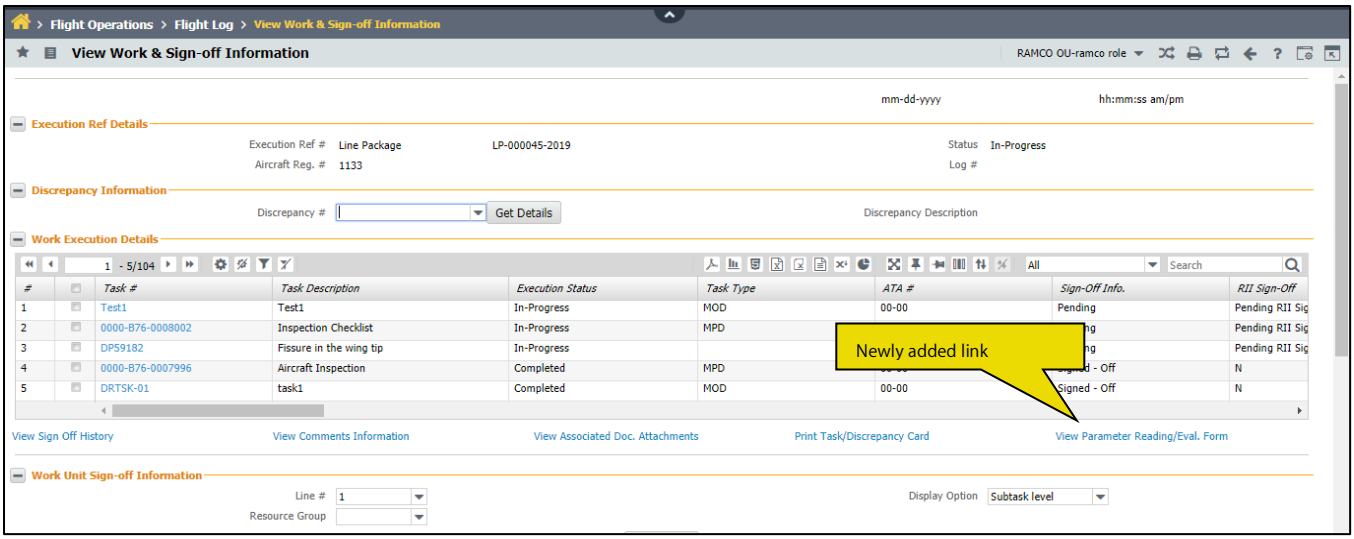


Exhibit 2: Identifies the **Parameter Reading Details** tab in **View Parameter Reading/Eval. Form** screen

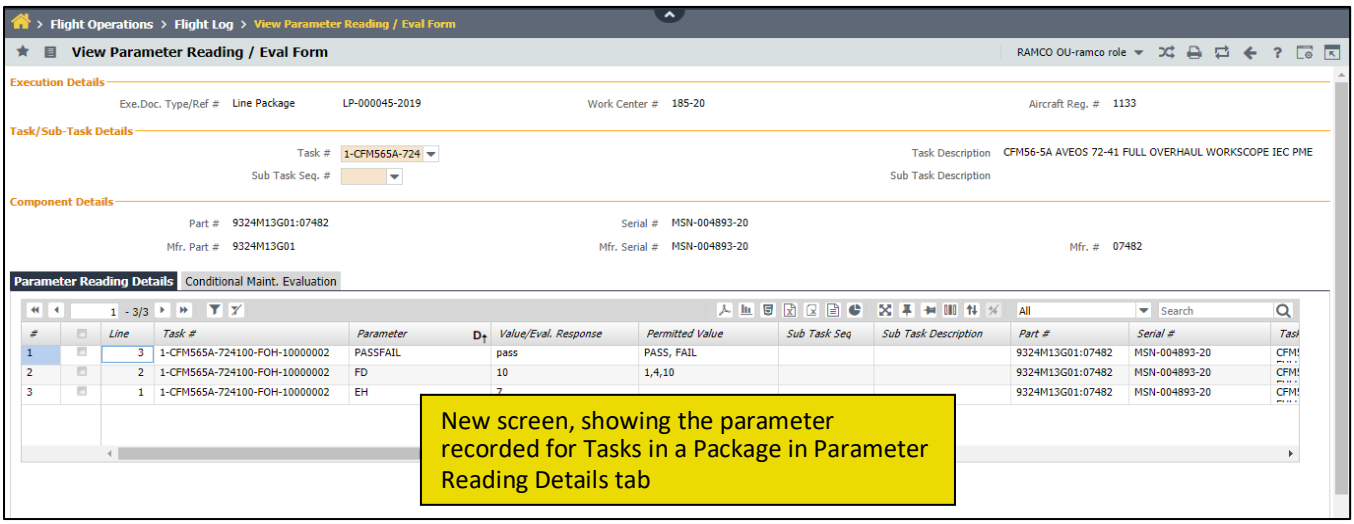
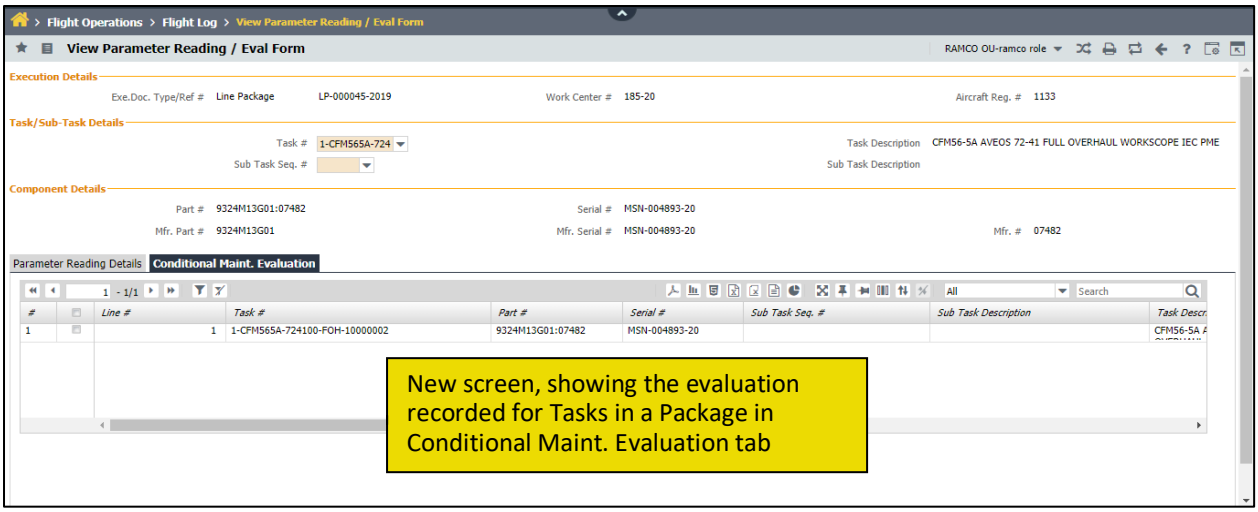


Exhibit 3: Identifies the **Conditional Maint. Evaluation** tab in **View Parameter Reading/Eval. Form** screen



Capture a minimum of 50 line level parameters in Flight Log

Reference: APRP-256

Background

This enhancement brings improvements in **'Flight Log'**, for an Airline operator. Journey log being platform where user can record a range of information that includes delays, ground service, crew, fuel, waypoint etc. Currently the system can capture up to certain line level parameters and there is a need that the customers can use up to 50 line level parameters. With our existing framework there is no provision to capture such information which has been taken care with this enhancement.

Change Details

This enhancement speaks about the provision to capture a minimum of 50 line level parameters, to address this, a new popup **Manage Add'l Journey Parameters** will be developed to capture additional parameters at a journey leg level.

Manage Add'l Journey Parameters will be added as a link in the below mentioned screens,

1) Create Journey Log
2) Edit Journey Log
3) Amend Journey Log
4) View Journey Log

This gives the ability for the user to review the assessment dashboard from various screens instead of traversing to Component Removal Assessment Dashboard.

Exhibit 1: Create Journey Log

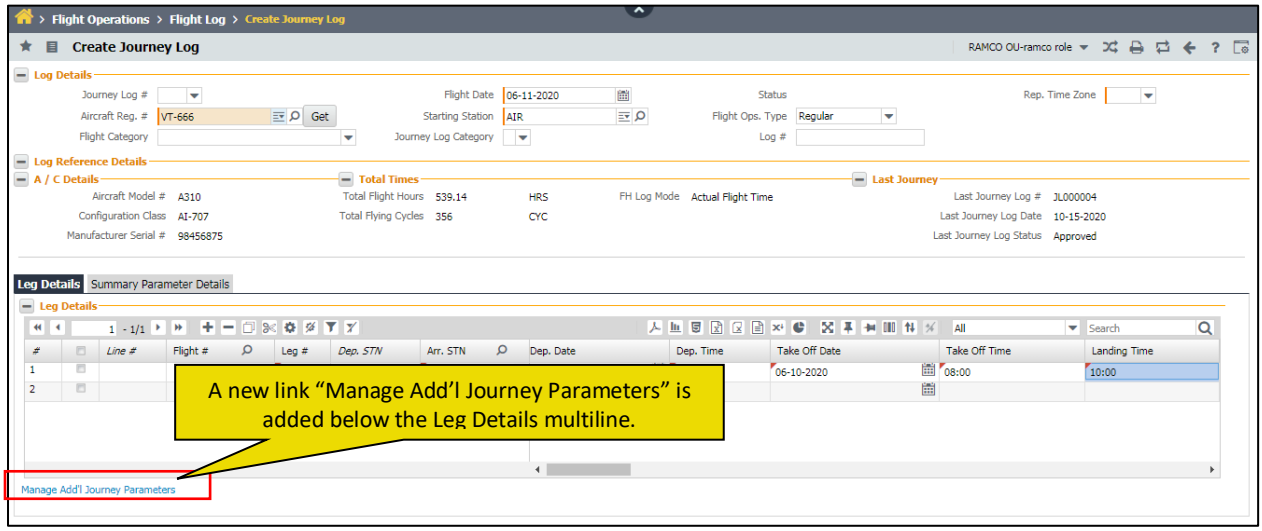


Exhibit 2: Edit Journey Log

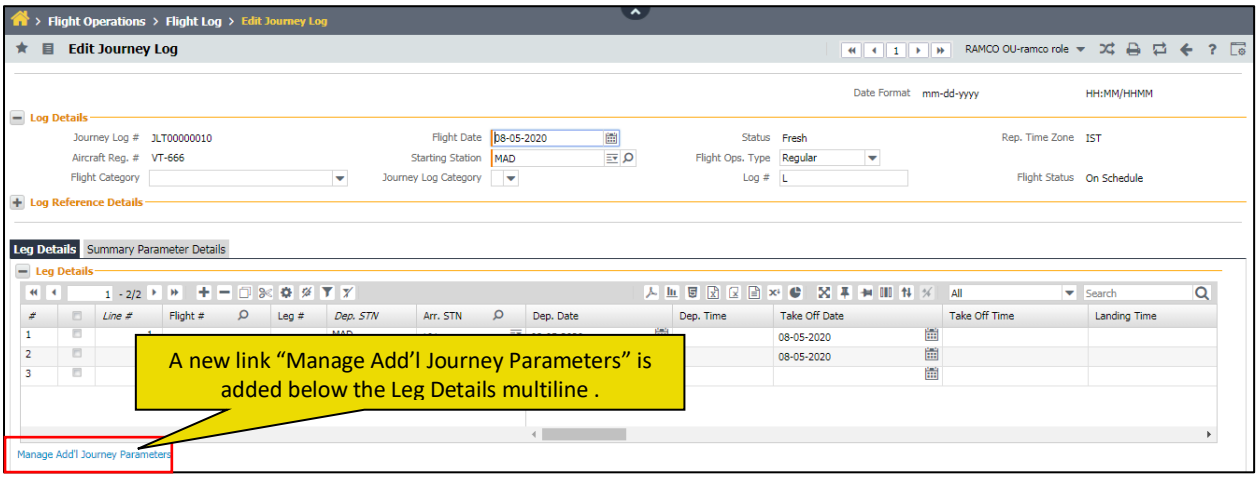


Exhibit 3: Amend Journey Log

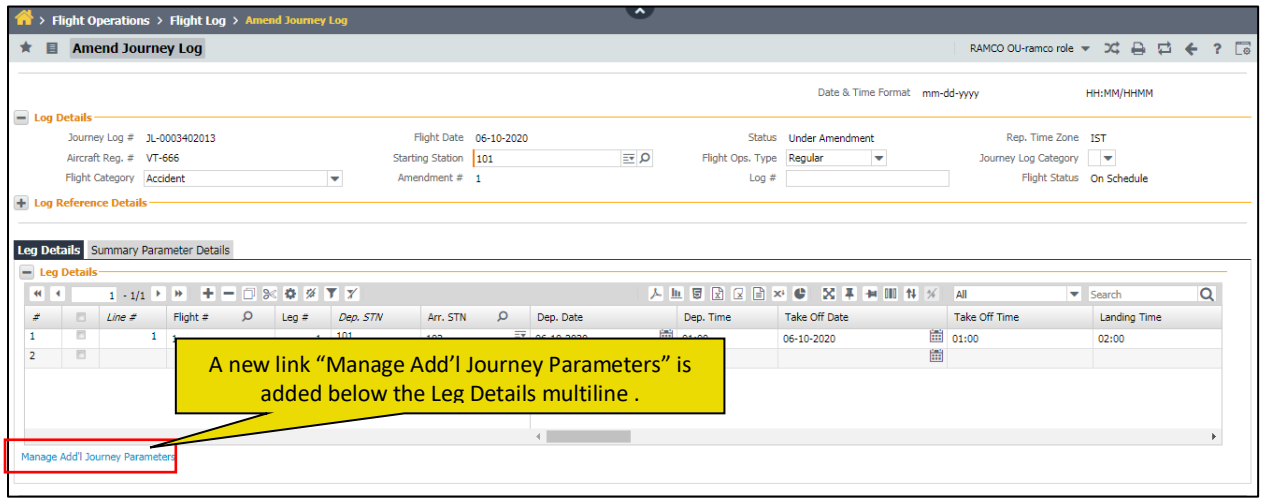


Exhibit 4: View Journey Log

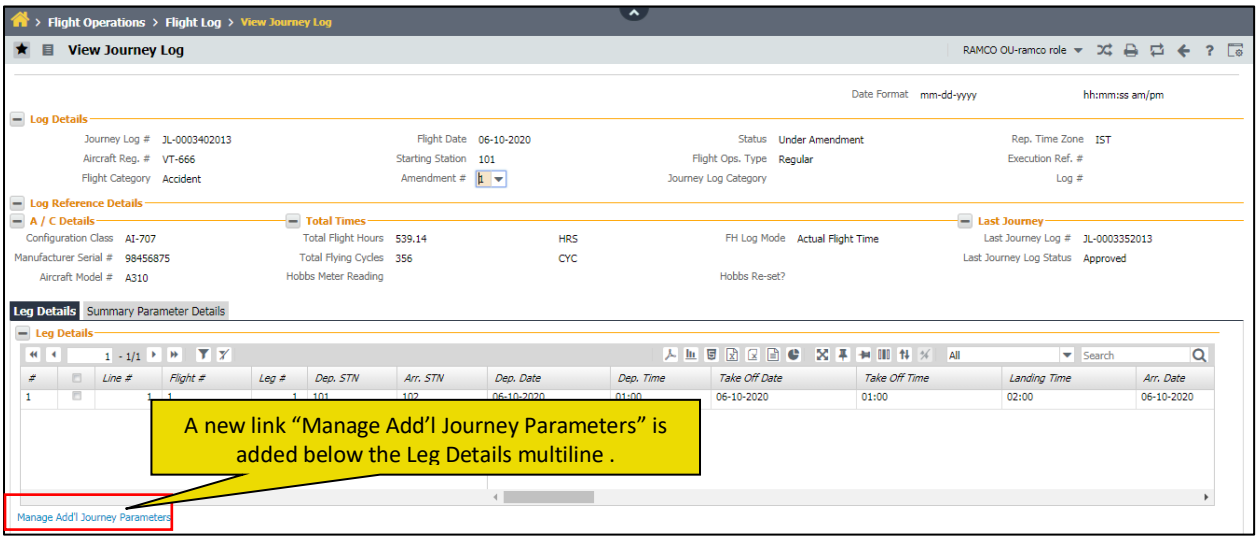
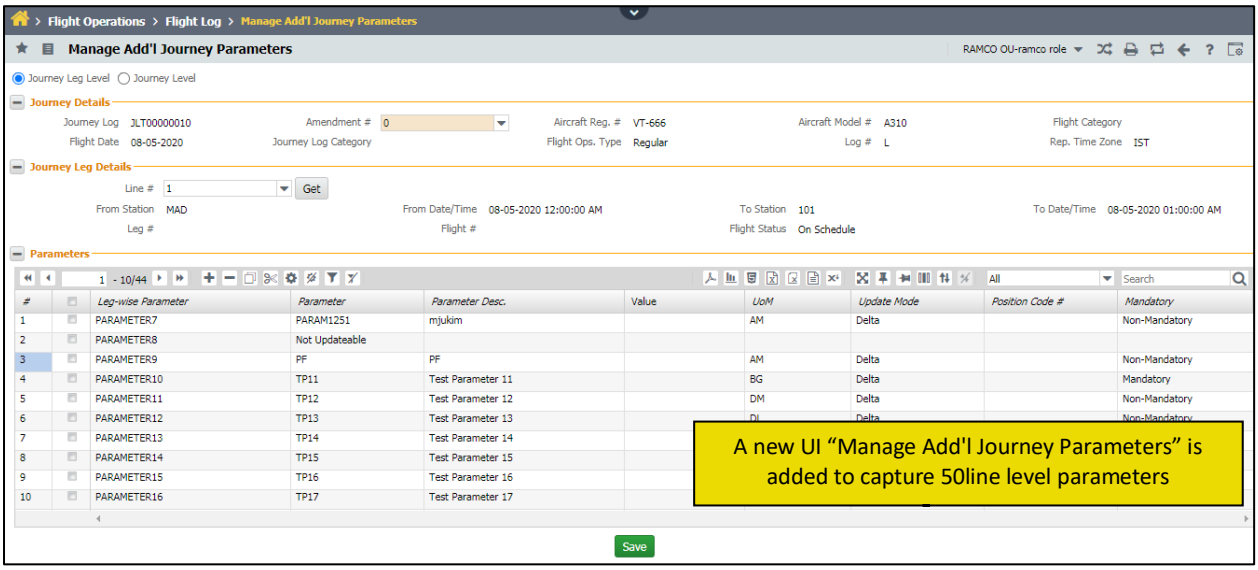


Exhibit 5: Manage Add'l Journey Parameters



Manage Add'l Journey Parameters can be used to add Leg-wise Parameters at each Line #. Those parameters can be captured at both Leg and Journey level.

WHAT'S NEW IN COMPONENT REPLACEMENT?

Nose # Search in Record CR, Edit CR and Amend CR

Reference: APRP-945

Background

Some of the organization uses actual Manufacturer serial # in Aircraft Reg. # field and Actual tail # will be in Nose # field. So mechanic will be more familiar with Actual tail #. Hence, provision to search the Aircrafts based on the Nose # is enabled in select screen of Record, Edit and Amend CR screens.

Change Details

Record Component Replacement Details

In Select Part # screen of **Record Component Replacement** Details screen, for the control Aircraft Reg # in Search Criteria section smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

Edit Component Replacement Details

In Select Component Replacement # screen of **Edit Component Replacement Details** screen, for the control Aircraft Reg # in Search Criteria section, smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

Amend Component Replacement Details

In Select Component Replacement # screen of **Amend Component Replacement Details** screen, for the control Aircraft Reg # in Search Criteria section, smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

Exhibit 1: Identifies the **Smart Search** enabled control in **Select Part #** screen of **Record Component Replacement Details** screen.

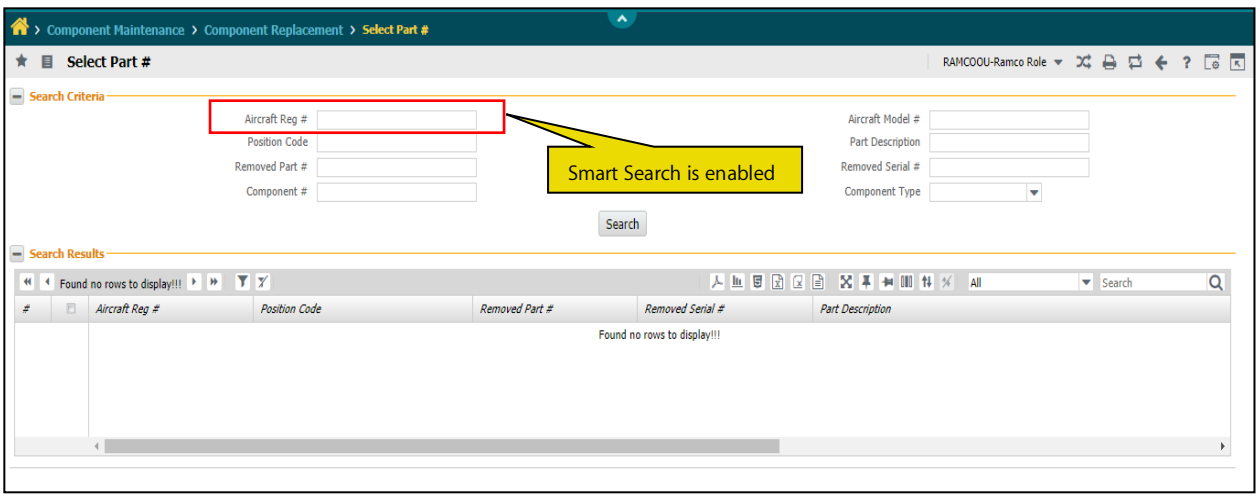


Exhibit 2: Identifies the **Smart Search** enabled control in **Select Component Replacement #** screen of **Edit Component Replacement Details** screen

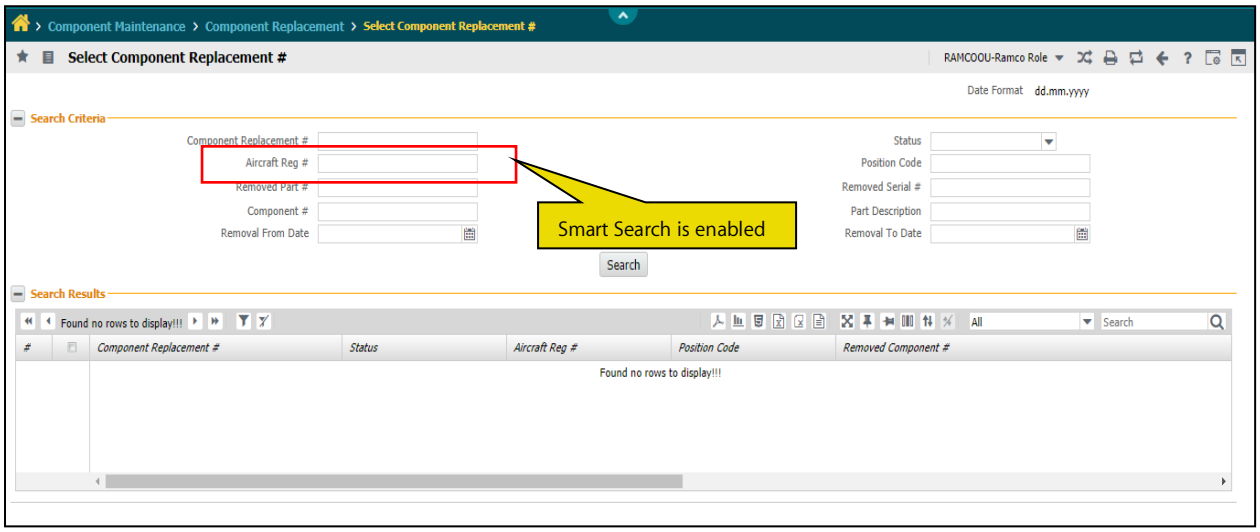
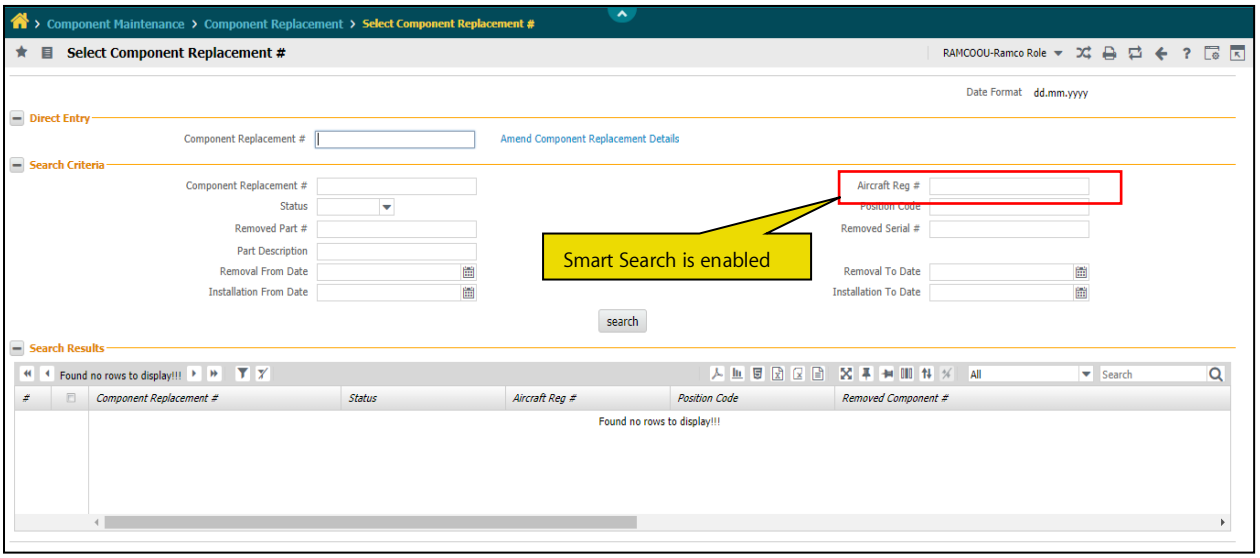


Exhibit 3: Identifies the **Smart Search** enabled control in **Select Component Replacement #** screen **of Amend Component Replacement Details** screen



WHAT'S NEW IN COMPONENT REPLACEMENT AND DISCREPANCY PROCESSING?

Nose # Search in Bulk CR, View CR and View Discrepancy

Reference: APRP-944

Background

Some of the organization uses actual Manufacturer serial # in Aircraft Reg. # field and Actual tail # will be in Nose # field. So mechanic will be more familiar with Actual tail #. Hence, provision to search the Aircrafts based on the Nose # is enabled in Manage Bulk CR, select screen of View CR and View Discrepancy screens.

Change Details

Manage Bulk Component Replacement

In **Manage Bulk Component Replacement** screen, for the control A/C Reg # in Primary Search Criteria section, smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

View Component Replacement Details

In Select Component Replacement # screen of **View Component Replacement Details** screen, for the control Aircraft Reg # in Search Criteria section, smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

View Discrepancy

In Select Discrepancy screen of **View Discrepancy** screen, for the control Aircraft Reg # in Search Criteria section, smart search is enabled and enhanced to accept the input as Nose # and suggest Aircraft Reg # based on the Nose #. Even partial match also allowed.

Exhibit 1: Identifies the **Smart Search** enabled control in **Manage Bulk Component Replacement** screen

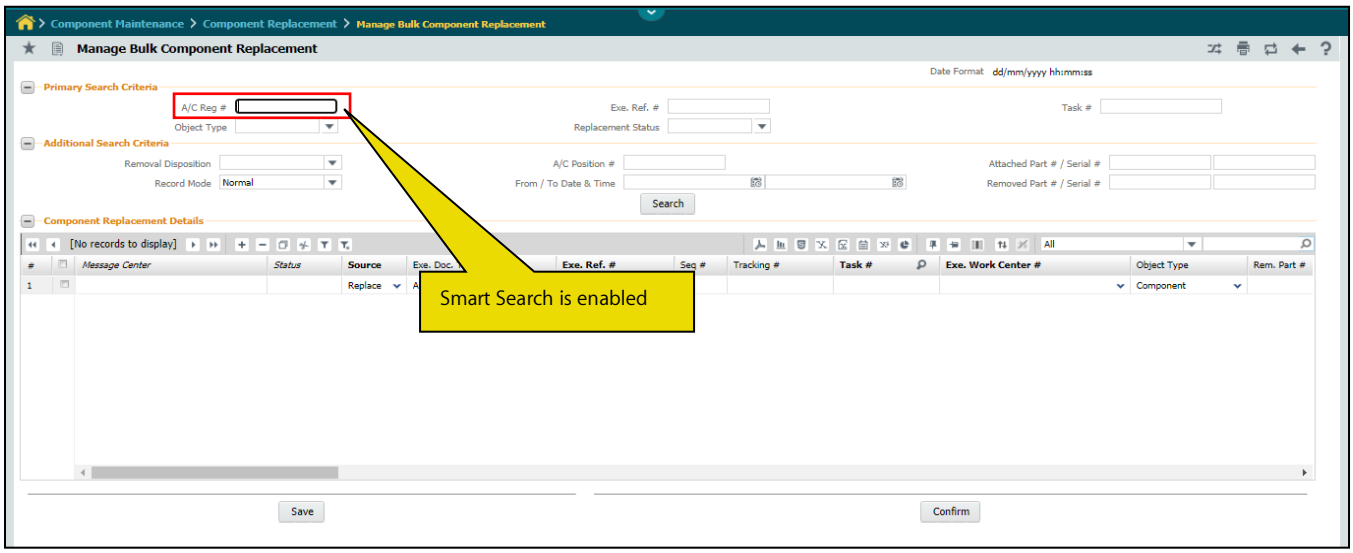


Exhibit 2: Identifies the **Smart Search** enabled control in **Select Component Replacement #** screen of **View Component Replacement Details** screen.

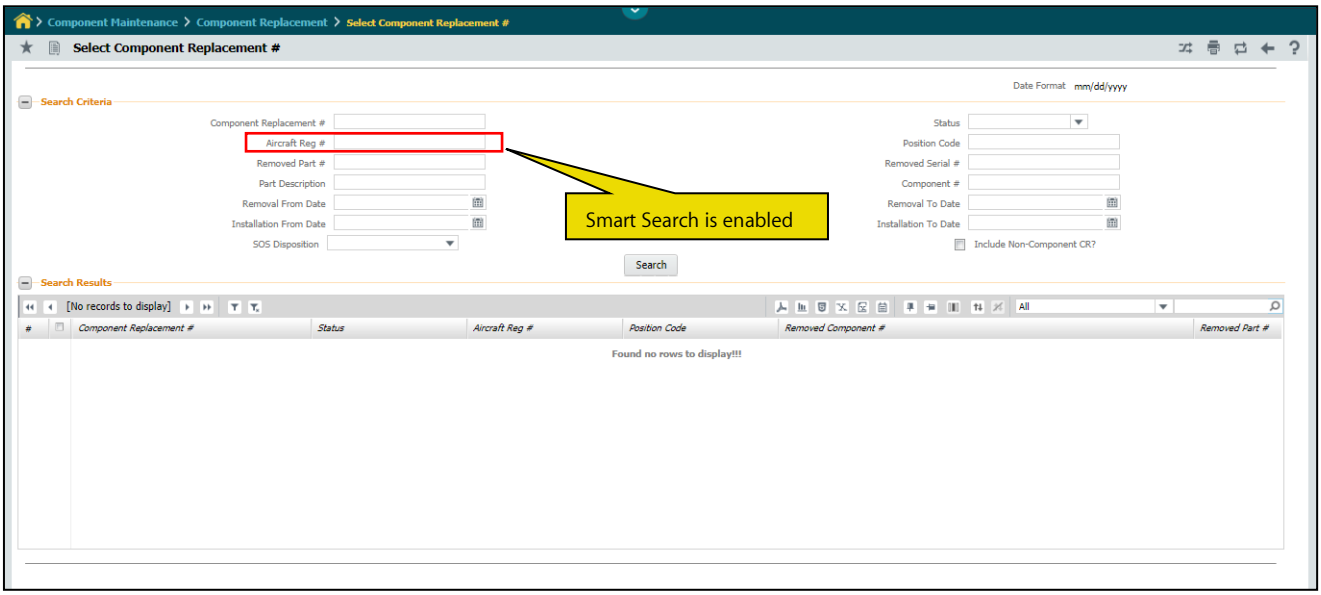
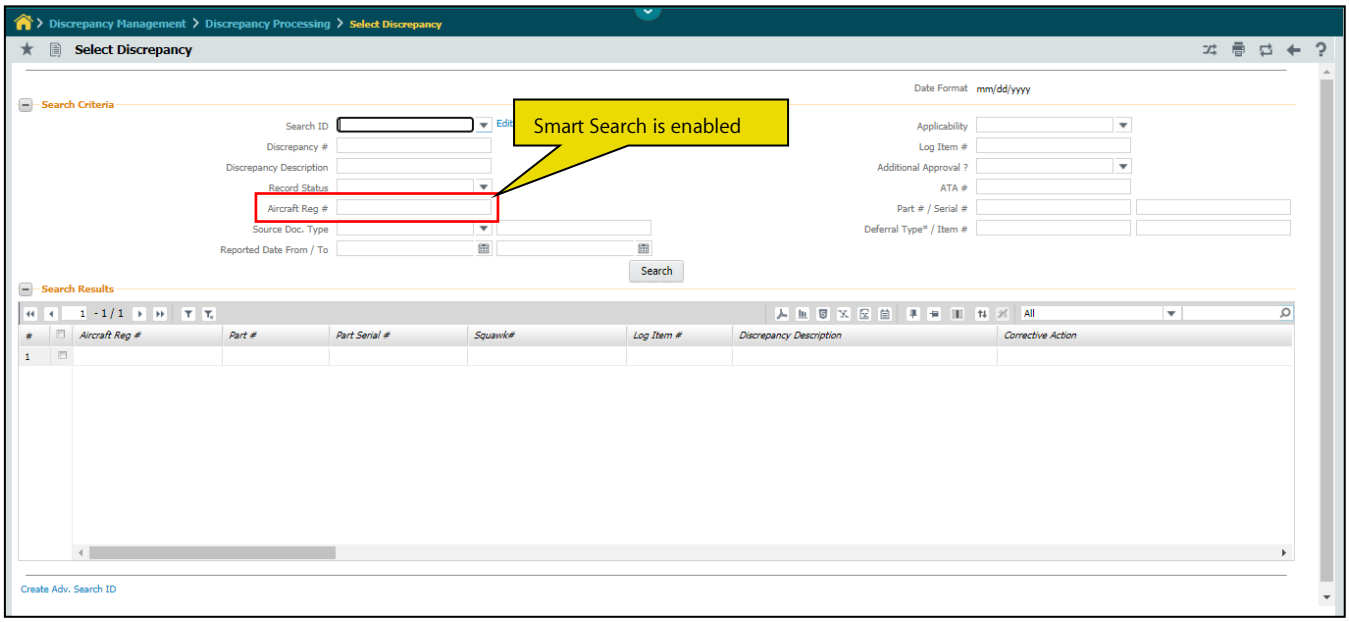


Exhibit 3: Identifies the **Smart Search** enabled control in **Select Discrepancy** screen of **View Discrepancy** screen**.**



WHAT'S NEW IN RELIABILITY ANALYSIS?

Set NFF alert rules based on additional options

Reference: APRP-1049

Background

This enhancement brings improvements to Reliability Alert Definition business component in terms of flexibility to define alert rules for NFF. For performing component Reliability Analysis on NFF, alert rules depending on the business operations. While various options based on NFF count, and NFF rate has already been provided, a few more options were requested for a varying time frame.

Change Details

Define Rules

In **Manage Reliability Alert Definition**, while setting Alert Rules for NFF, in Define Rules screen, three additional values are added to the first combo:

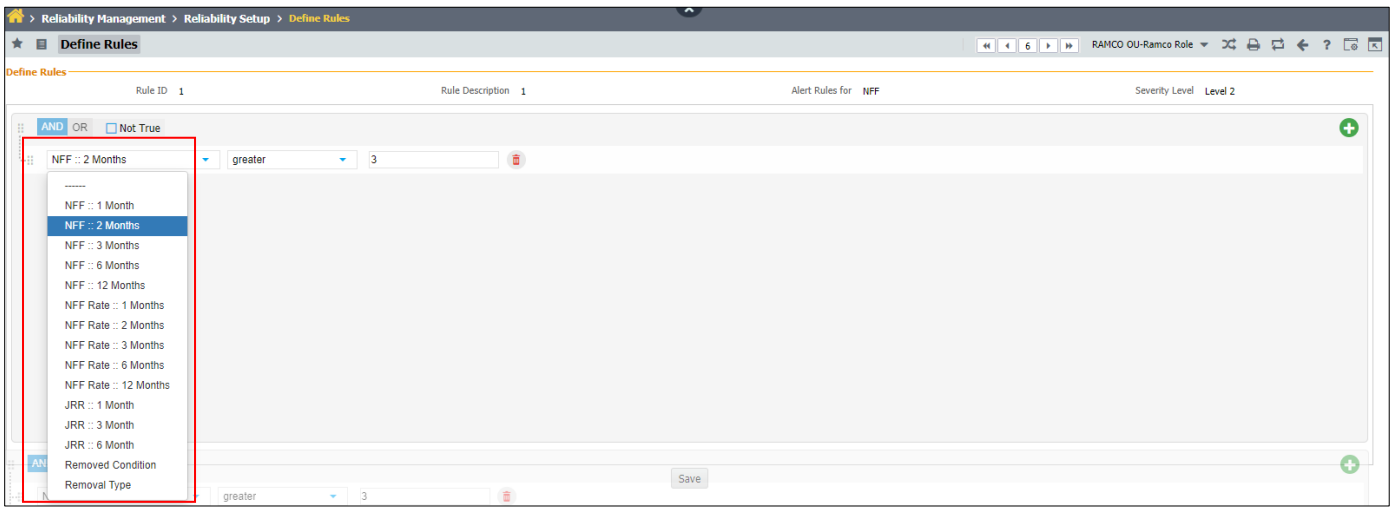
6. NFF :: 2 Months
7. NFF :: 12 Months
8. NFF Rate :: 2 Months

Conditional operators available:

1. greater
2. greater or equal
3. less
4. less or equal
5. equal
6. not equal

On selecting NFF :: 2 Months or NFF :: 12 Months and a conditional operator, a value can be entered in the third control which is an editable control that accepts numeric values.

Exhibit 1: Define Rules – New additional values



Logic for NFF auto categorization

Via Goods Inward – On Initial Assessment

If the set option "NFF confirmation for Components based on" is set as "Initial Assessment", the Confirmed NFF flag is updated as 'Yes' on completion of Good Inward.

Via Goods Inward – On Post Repair Confirmation for Repair Order

If the set option "NFF confirmation for Components based on" is set as "Post Repair Confirmation", system will check "Confirmed NFF" as "yes" based on the following options if part is sent for repair via a Repair Order:

** Manage Repair Quote - Status "Completed"

If the set option "Event for NFF confirmation for Components sent on External Repair" is set as "Repair Quote Completion" (or)

** Work Shop - Status "Completed"

If the set option "Event for NFF confirmation for Components sent on External Repair" is set as "Work Shop Completion" (or)

**Goods Inward - Status "Completed"

If the set option "Event for NFF confirmation for Components sent on External Repair" is set as "RO Closure" if the component is identified as "NFF" in Work shop.

Via Goods Inward – On Post Repair Confirmation for Shop Work Order

If the set option "NFF confirmation for Components based on" is set as "Post Repair Confirmation" , system to check "Confirmed NFF" as "yes" based on the following options if part is sent on SWO for repair :

** Shop Work Order - Status "Completed"

If the set option "Event for NFF confirmation for Components sent on Internal Repair" is set as "Work Order Completion" (or)

** Shop Work Order - Status "Closed"

If the set option "Event for NFF confirmation for Components sent on Internal Repair" is set as "Work Order Closure"

Formula for evaluating NFF Rate

NFF rate over a given period

= (Count of NFF identified at the given period *100) / (No. of U/S Removals)

** U/S Removals – Unscheduled Removals*

If the NFF rate evaluated from given formula satisfies the set rule, then a part can be classified as NFF, note that Count of NFF in identified period should be the count of confirmed NFF in the Component Assessment table divided by total unscheduled removals for the part in identified period (irrespective of NFF flag)

Formula for evaluating JRR

JRR over a given period

= Count of JRR identified at the given period *100) / (No. of NFF)

If the JRR as per given formula satisfies the set rule, then part can be classified as NFF, note that Count of JRR in identified period must be derived from 'Justified Removal' column and only those serials which have Justified Removals as 'Yes; must be counted.

Analyze NFF, LTR at Customer level

Reference: APRP-1045

Background

This enhancement brings improvements to Reliability Setup business component with its ability to map alert rules set for NFF and LTR to specific customer and model. NFF and LTR alert rules once set, mapping can be done to customer, aircraft model or model type. Through this, multiple level mapping is also made possible.

Change Details

Manage Reliability alert Rules

In **Manage Reliability Alert Rules** screen, rules can be set for MTBUR, NFF and LTR. Previously alert rules were set generically. Now, for NFF and LTR, alert rules can be set at three additional levels. When value in 'Alert Rules For' combo is selected as NFF/LTR, the adjacent combo 'Rules for' will load the following values:

1. Customer
2. Aircraft Model
3. Customer-Model
4. Generic

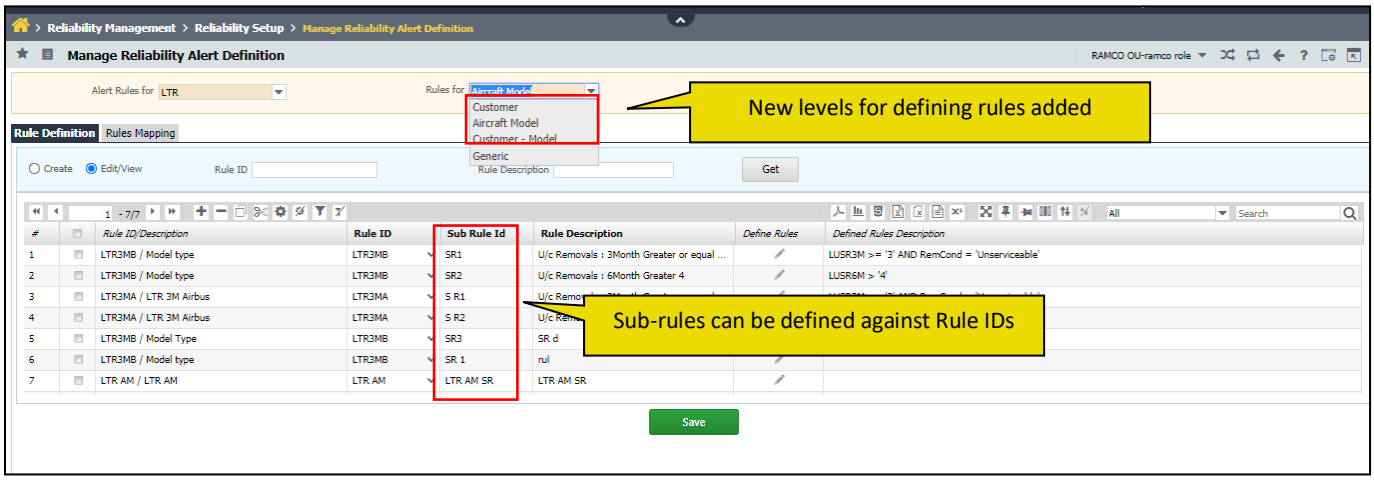
When any of the first three values is selected (i.e. values other than Generic), user can map alert rules at any of the above levels in the 'Rules Mapping' tab. Rule definition is enhanced with the 'Sub Rule ID' control in which multiple sub-rules can be defined against a Rule ID.

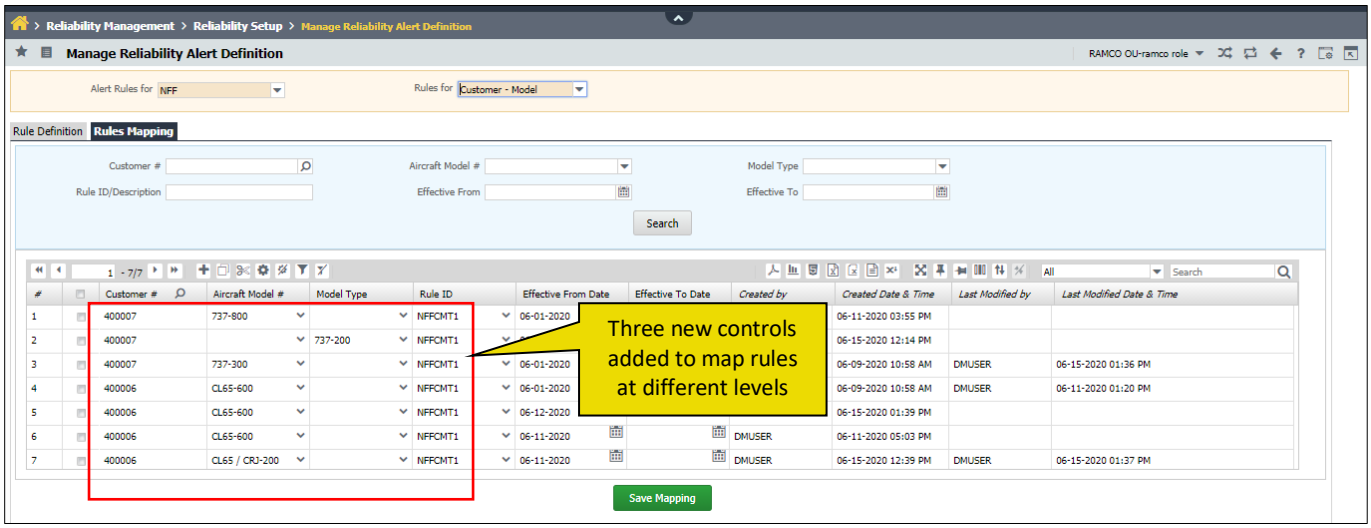
With these enhancements, alerts rules can be defined effectively and can be mapped flexibly to different customers and aircraft models, thereby creating a smooth and efficient flow of operations in Reliability Analysis.

Illustration: Rule Definition

While defining alert rules, sub rule definitions come handy to group rules based on different needs. For example, consider an organization dealing with customers from different backgrounds, say, different countries. In that case, a Rule ID can be defined with different sub rules to create a basic set of rules, say, for customers from a country. So that, this basic rule can be mapped to all customers in that country and then customer-specific rules can be defined and mapped to each customer separately. This way, the burden of defining rules for each customer the same set of rules repeatedly is avoided.

Exhibit 1: Manage Reliability alert Rules – Sub Rule definition





Component Removal Dashboard

In Component Removal Dashboard, while adding items to watchlist, four columns – Mfr. Part #, Appl. Customer #, Removed from A/C Model # and Model Type. In addition to that, four user defined editable controls are added. All the above said controls are added to Search screen and every tile in Tiles view except 'Restrictions' tile in which only Applicable Customer # and Mfr. Part # are visible.

Exhibit 3: Component Removal Dashboard – Add Items to Watchlist

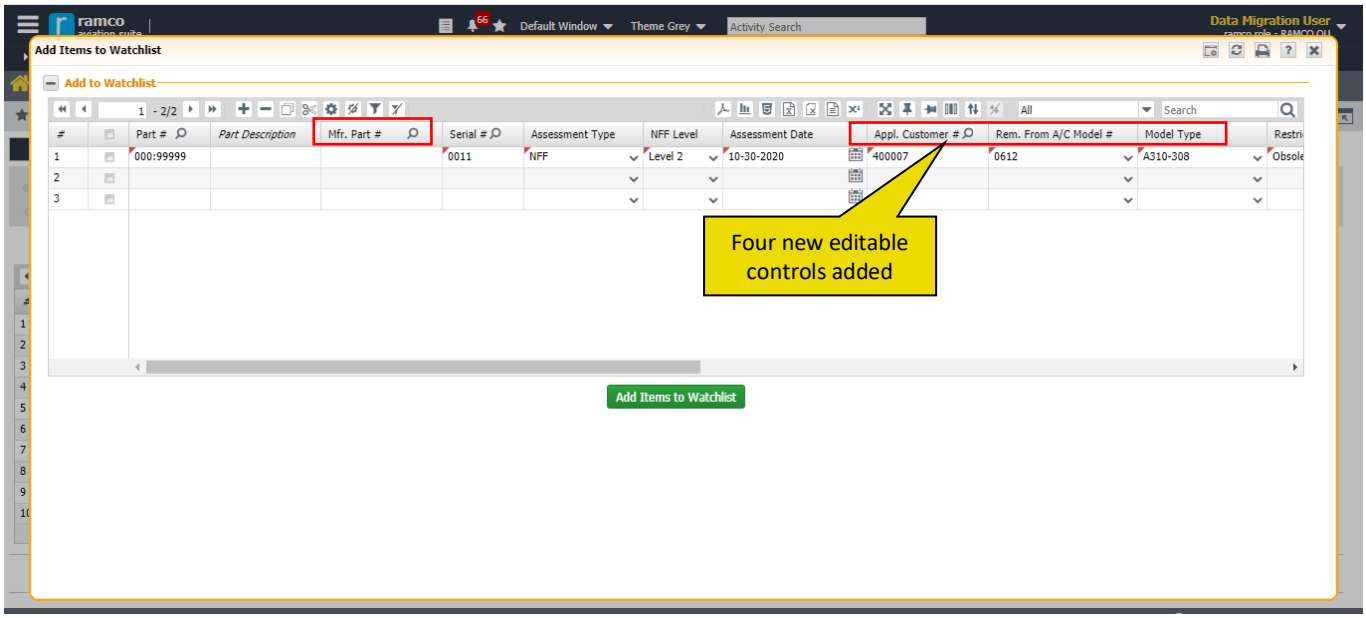


Exhibit 4: Component Removal Dashboard – Tiles View

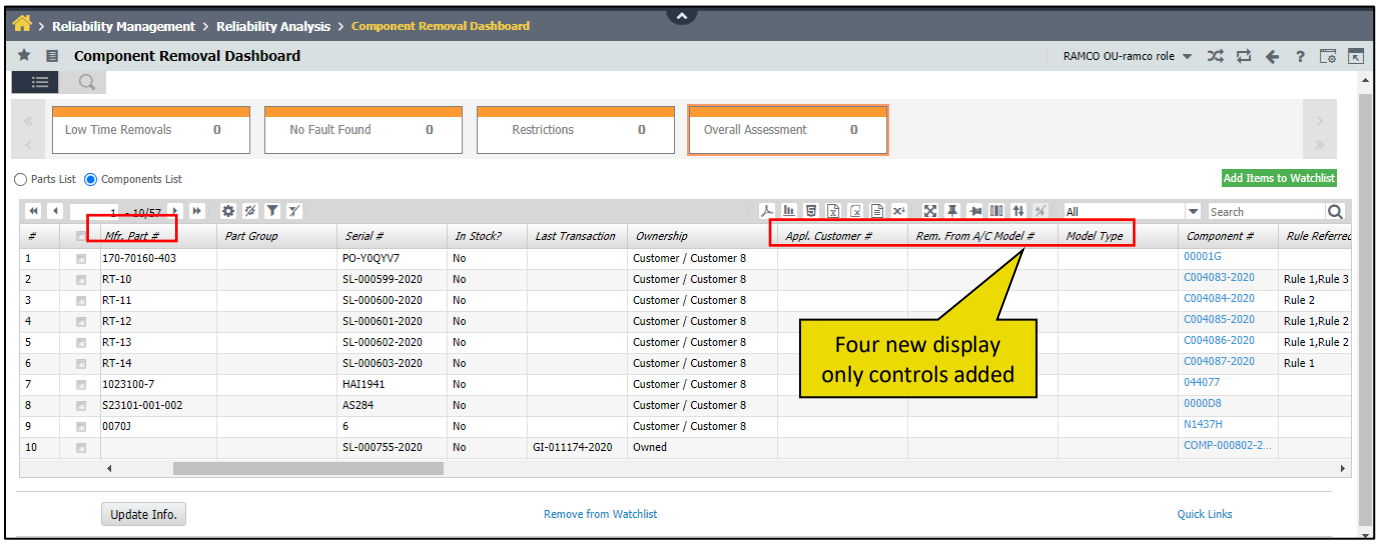
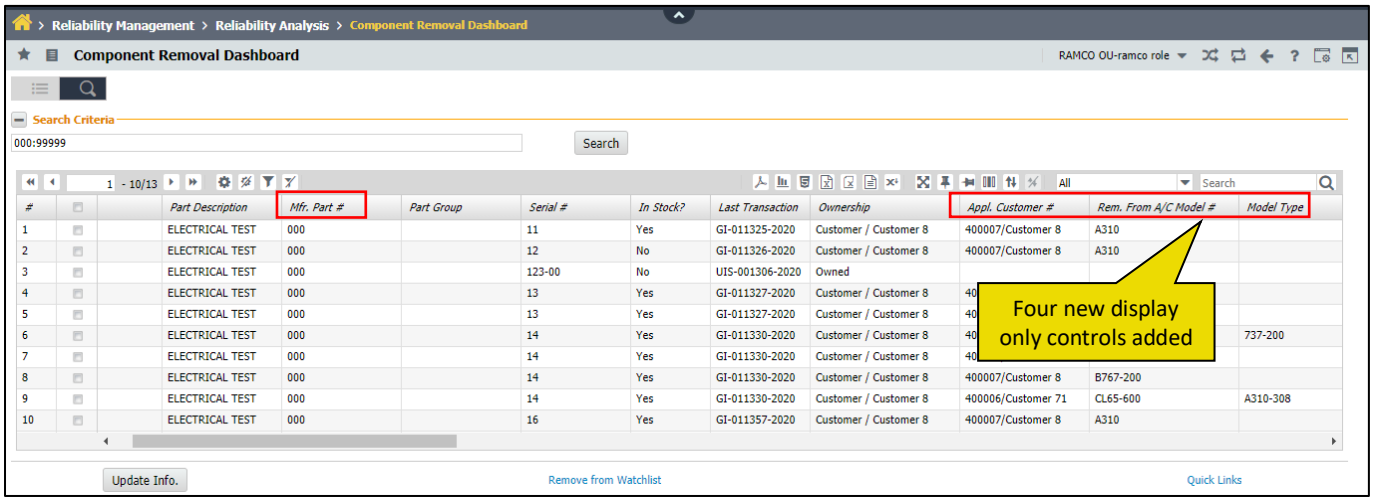


Exhibit 5: Component Removal Dashboard – Search View



Ability to automatically inherit parameter values from Re-initialize Parameter values for Reliability Aircraft Utilization info.

Reference: APRP-946

Background

Aircraft Utilization is the key information in order to perform Reliability assessment for components attached to the aircraft and the aircraft itself. A new activity had recently been introduced to capture the Aircraft Utilization on a periodic interval for the purpose of reliability assessment.

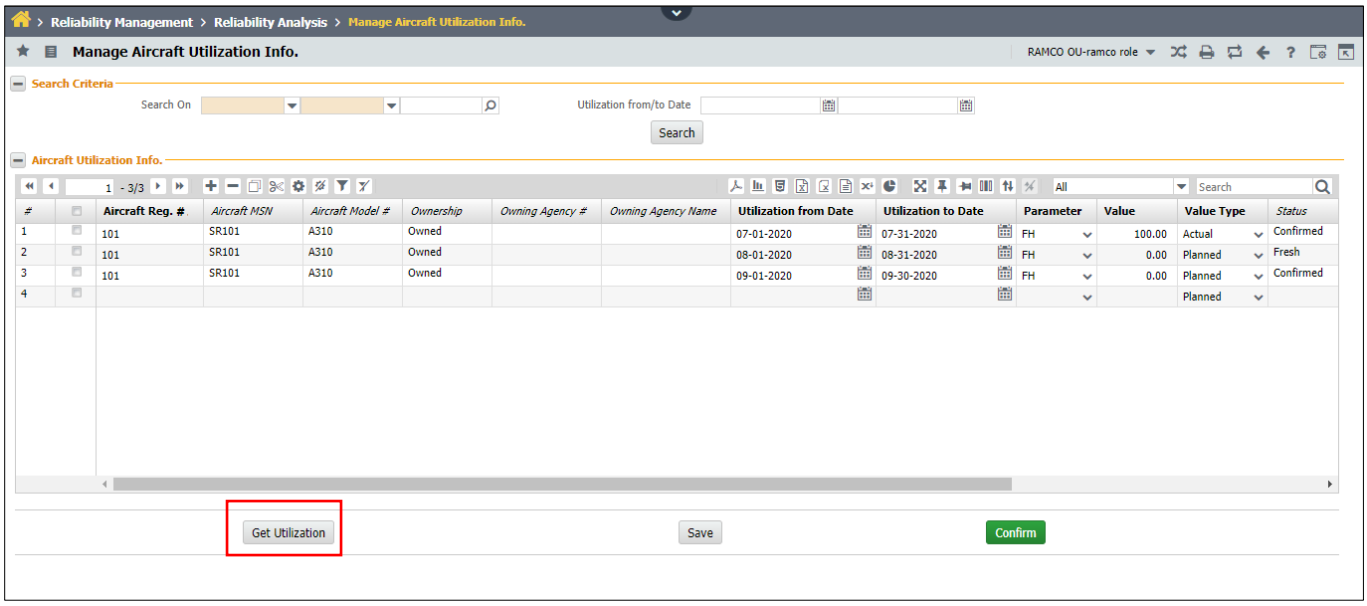
But, the need here is to inherit the Utilization from Re-initialize / Update Parameter Values UI which is already been periodically updated with utilization data, to avoid an additional update on to the reliability UI.

Change Details

Manage Aircraft Utilization Info.

A new button has been introduced, 'Get Utilization' in **Manage Aircraft Utilization Info.** screen under **Reliability Analysis** business component. The purpose of the button is to retrieve the usage value of given Aircraft in the 'Aircraft Utilization Info.' multiline from **Re-initialize / Update Parameter Values** screen, for the Utilization from-to period given and the Parameter selected.

Exhibit 1: Define Rules – New additional values



Search based on Part Group in Reliability analysis

Reference: APRP-1062

Background

This enhancement brings improvements to Search feature while analyzing Component Removal Information in Reliability Analysis Business component. Parts can be grouped based on different criteria in the product and one part can belong to multiple such groups. Part groups can be created for different purposes; one such purpose is 'Reliability'. While performing Reliability Analysis, it would be useful for the Value engineer to filter out part records based on Part Group. So, this enhancement enables the product to take into account of the 'Reliability'-Part Group(s) to which removed part-serial belong to.

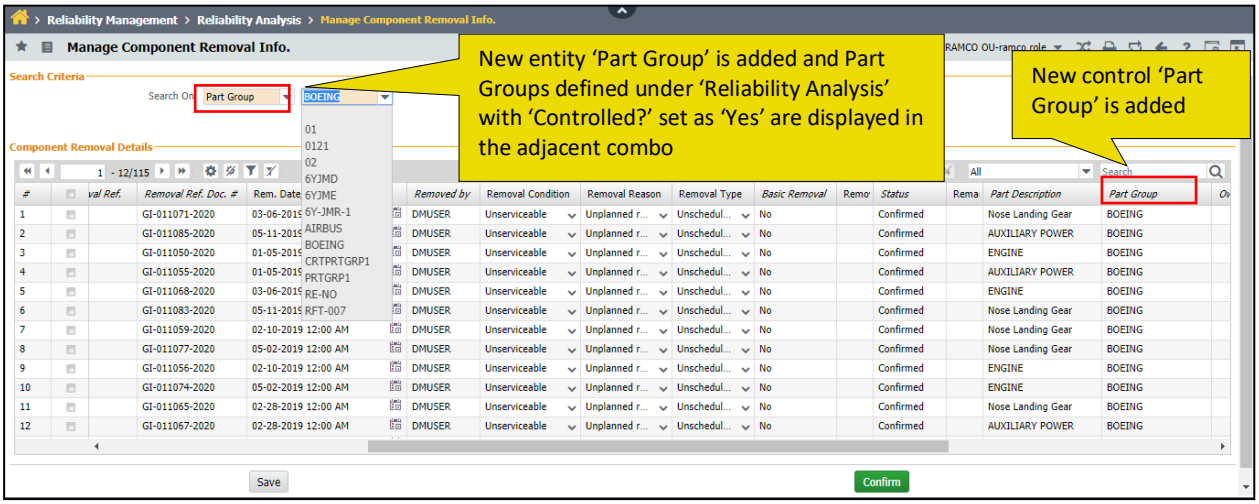
Note that only Part Groups created under the purpose 'Reliability' are considered in this enhancement. In Manage Component Removal Info and Component Removal Dashboard screens, parts belonging to specific 'Reliability' Part Groups could be fetched through Search. Part Group data for parts are also displayed when available.

Change Details

Manage Component Removal Info.

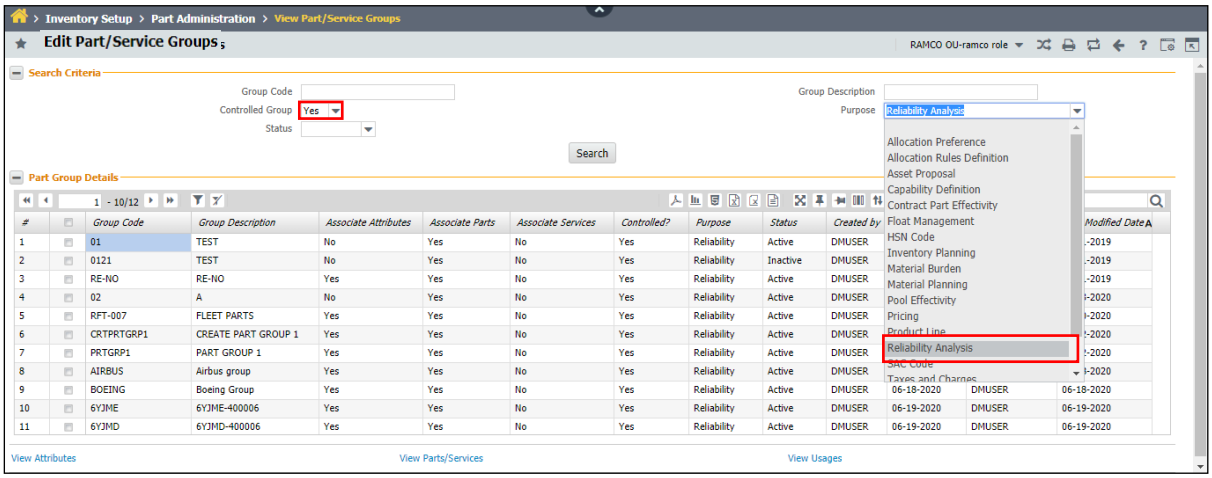
In Manage Component Removal Info screen, a new entity 'Part Group' is added to 'Search On' combo. On selecting the entity 'Part Group', Part Groups tagged with purpose **'Reliability Analysis'** and **'Controlled'** set as **'Yes'** in masters will be displayed in adjacent combo which can be selected to search all parts belonging to that Part Group. When search results are fetched, part details are displayed along with the Part Group to which they belong to. When search is done using Part #, multiple part groups are displayed in 'Part Group' column separated by comma.

Exhibit 1: Manage Component Removal Info.



Only those Part Groups defined with Purpose 'Reliability Analysis' and Controlled Group 'Yes' will be displayed in the Search combo of **Manage Component Removal Info** screen. Below is the screen in Part Administration business component where such definitions could be edited.

Exhibit 2: Part/Service Groups



Component Removal Dashboard

In **Component Removal Dashboard** screen under **Reliability Analysis** business component, the Global search field is enhanced with ability to fetch Part-serial belonging to Part Groups tagged with purpose **'Reliability Analysis'** and **'Controlled'** set as **'Yes'.** Similar to the previous screen, Part group of a Part is displayed in the search results.

Exhibit 3: Component Removal Dashboard

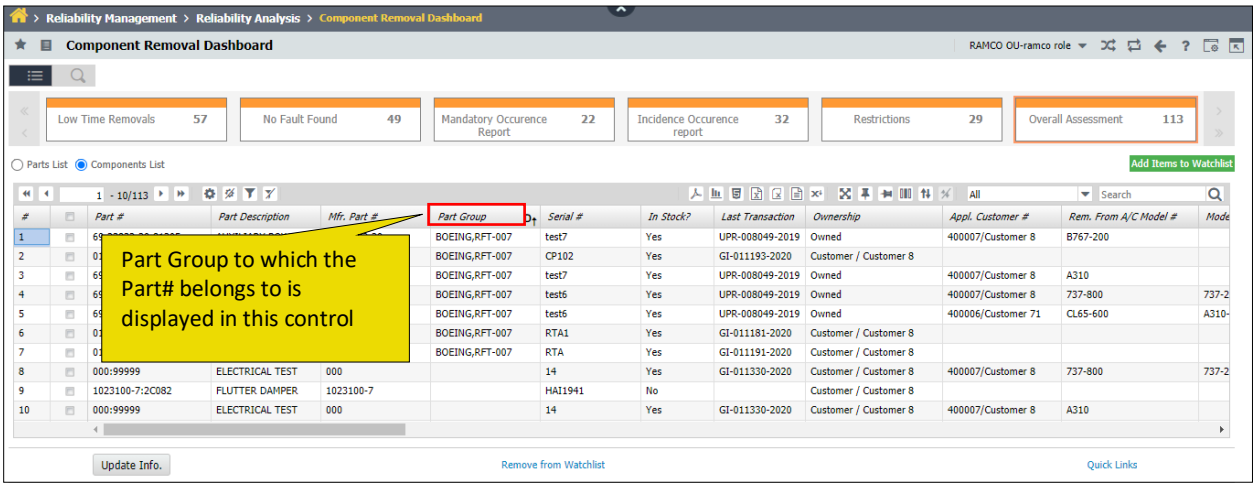
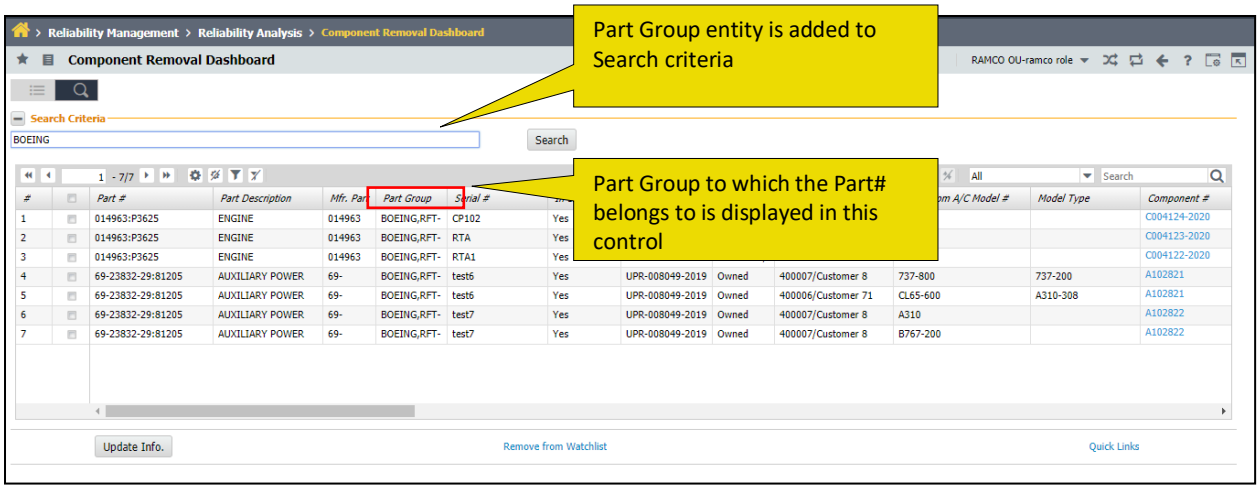


Exhibit 4: Component Removal Dashboard



Ability to render LTR flag based on Time since Attachment value

Reference: APRP-908

Background

Low Time removal / Rogue unit analysis is a Reliability Assessment which is based on the time that a component remains attached to an aircraft and lower the usage value means the component seems to be failing fairly quickly. 'Time since attachment' is a direct parameter attribute which helps in identifying LTR components.

Change Details

Alert Rule definition for LTR has been enabled with two additional options as below to facilitate TSA based assessment:

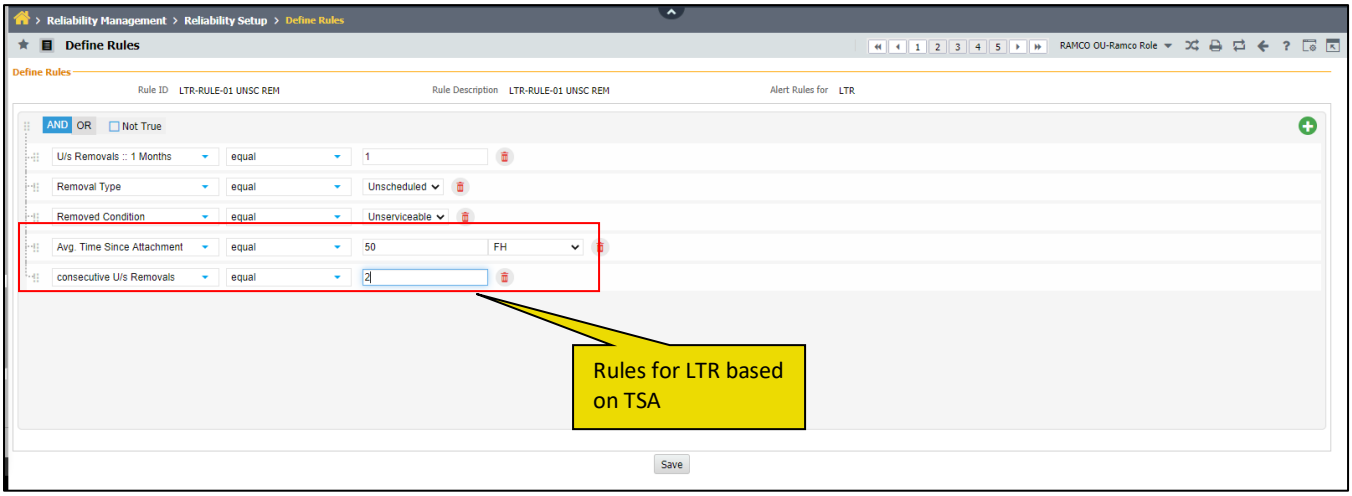
- Avg. Time Since Attachment
- Consecutive Removal

The above 2 parameters will trigger the calculation of Average Time Since attachment value of 2 or more consecutive removals based on which a component will be tagged as LTR.
For example – Let Alert rule be, **Consecutive removals = 2 AND Avg. Time Since Attachment <= 100**
Assume current date is 15-May-20, last 3 removals of component P1 S1 were as follows:

i. 15-May-2020 with TSA as on date as 90 FH
ii. 30-Apr-2020 with TSA as on date as 85 FH
iii. 17-Apr-2020 with TSA as on date as 110 FH

Applying above LTR rule, TSA between removal instances (i) & (ii) is 87.5 FH which is <= 100 , hence P1 S1 should be flagged LTR

Exhibit 1: Manage Reliability Alert Definition



Visibility of CRAD from Component Record, RO & Manage Repair Quote

APRP-234

Background

This enhancement brings improvements in **Reliability Analysis'** for an ITM vendor. User is required to access Component Removal Dashboard from **Component Record**, **Repair Order** and **Manage Repair Quote** screens. This will enhance the user's usability perspective; if user is inspecting any component or he is verifying any ROs created for some parts and there is a need to ensure the reliability aspects, user can only analyze them by launching the screen from the left pane. These difficulties are addressed in this enhancement.

Change Details

This enhancement speaks about the provision to launch **Component Removal Dashboard** from the following screens:

1) Edit Component Record
2) View Component Record
3) Create/Edit/View Repair Order
4) Manage Repair Quote

A link **Review Component Removal Assessment** will be added in the above screens. By clicking on this link, user will be allowed to traverse and analyze the Removal Assessments straight away from the respective screens.

Exhibit 1: Edit Component Record

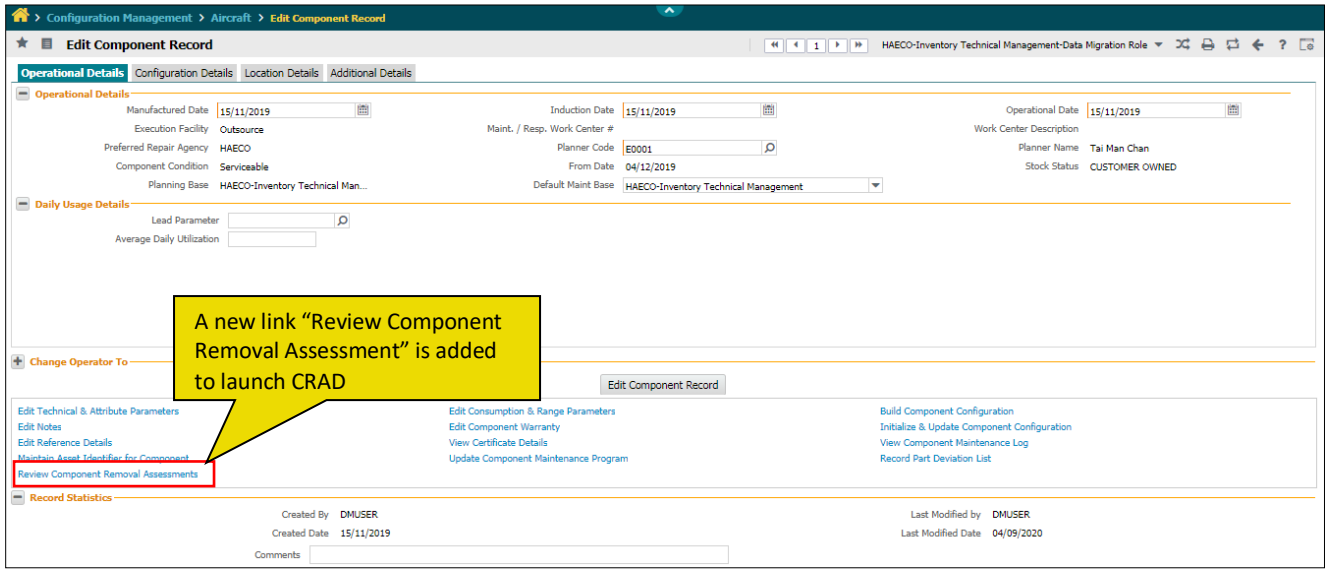


Exhibit 2: View Component Record

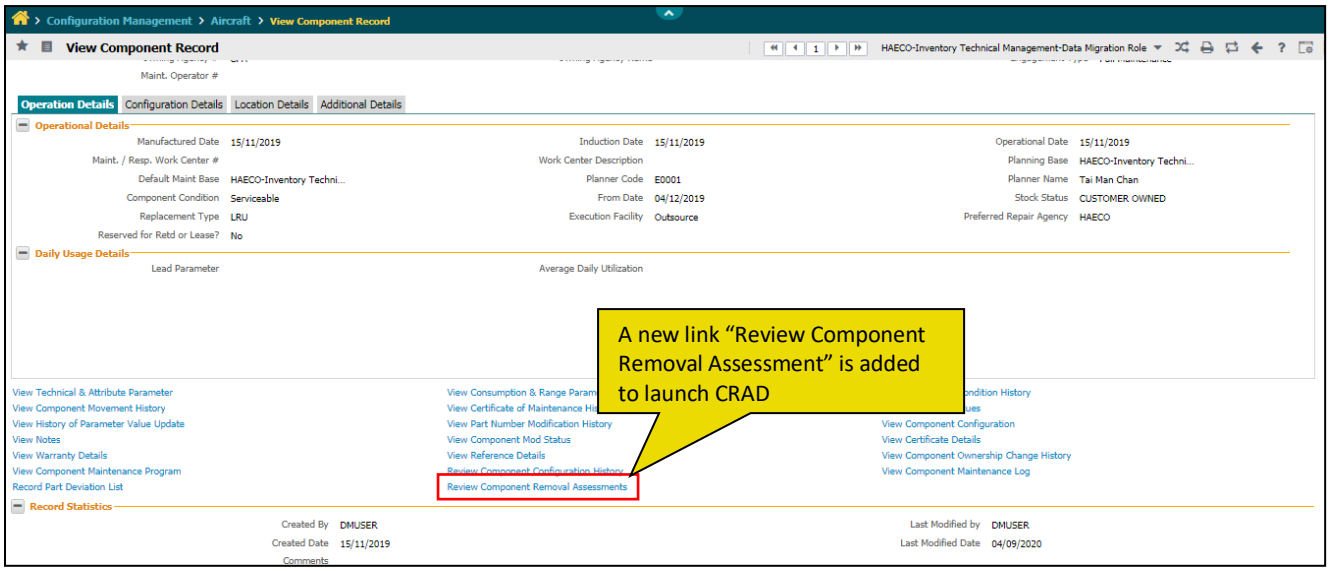


Exhibit 3: Edit Repair Order

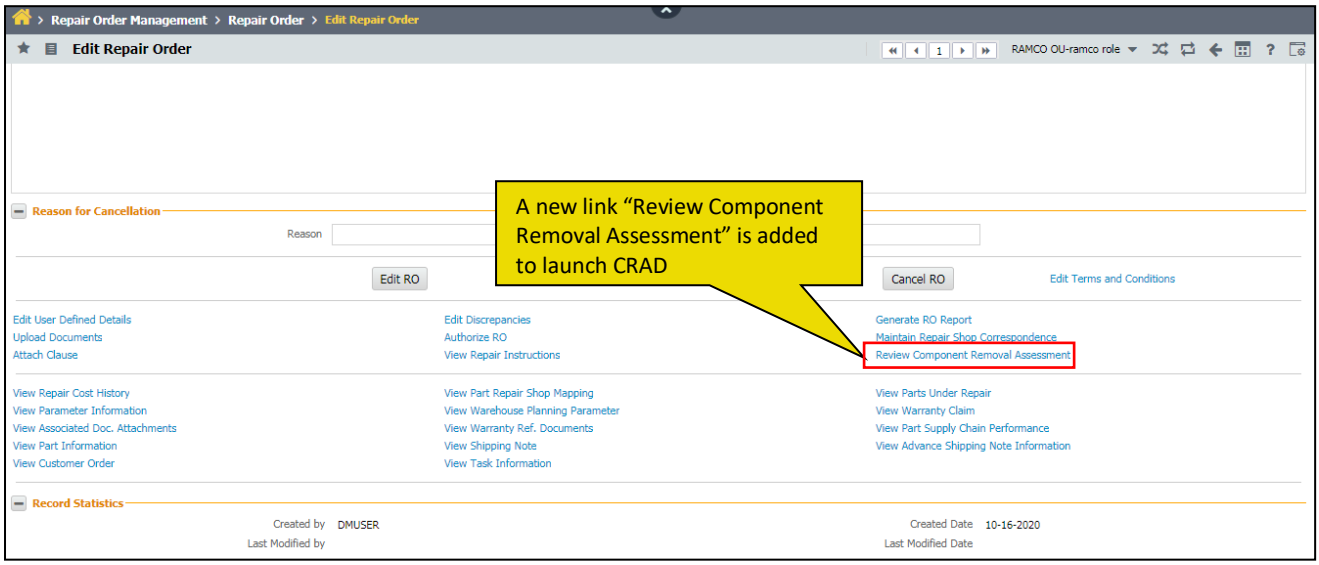


Exhibit 4: View Repair Order

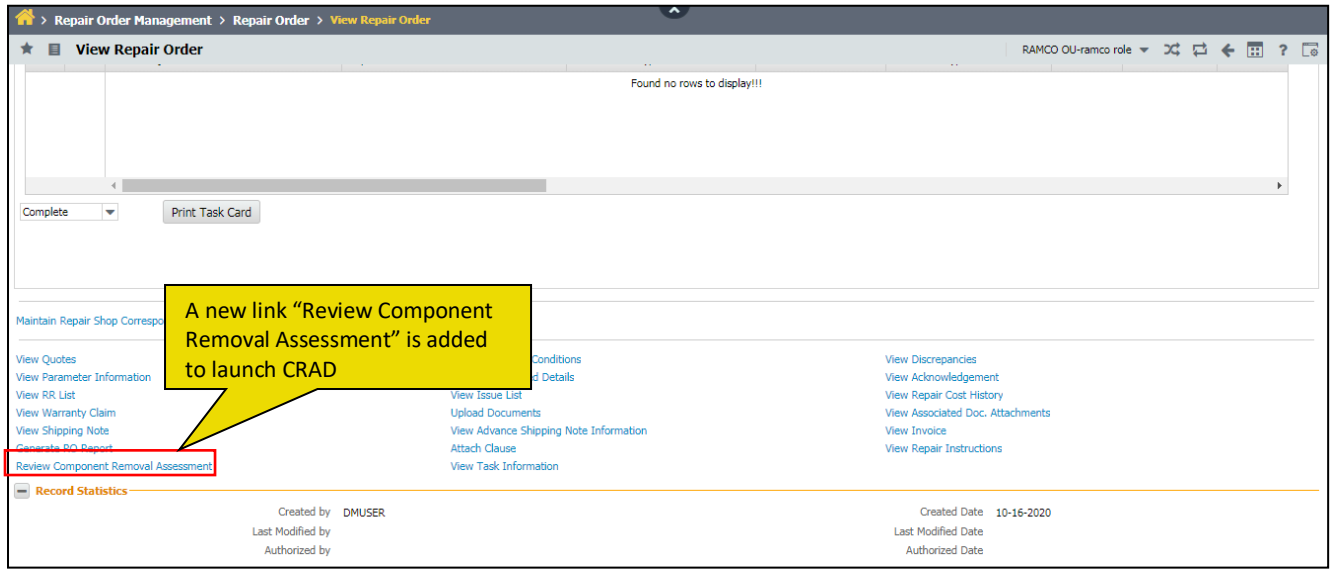


Exhibit 5: Manage Repair Quote

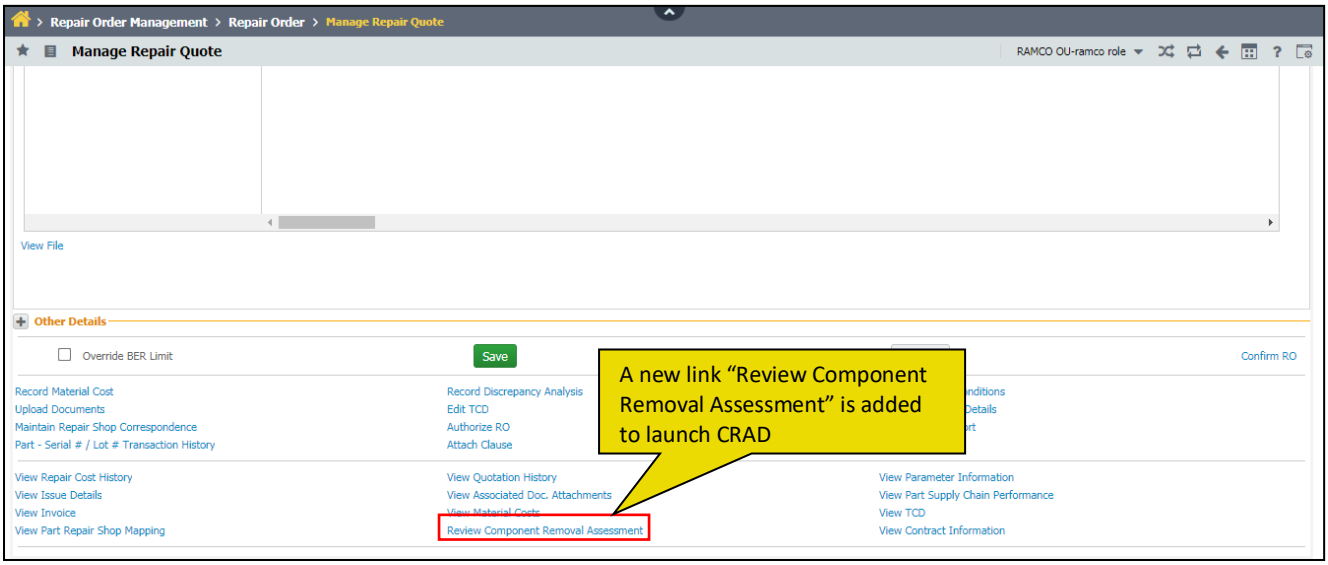
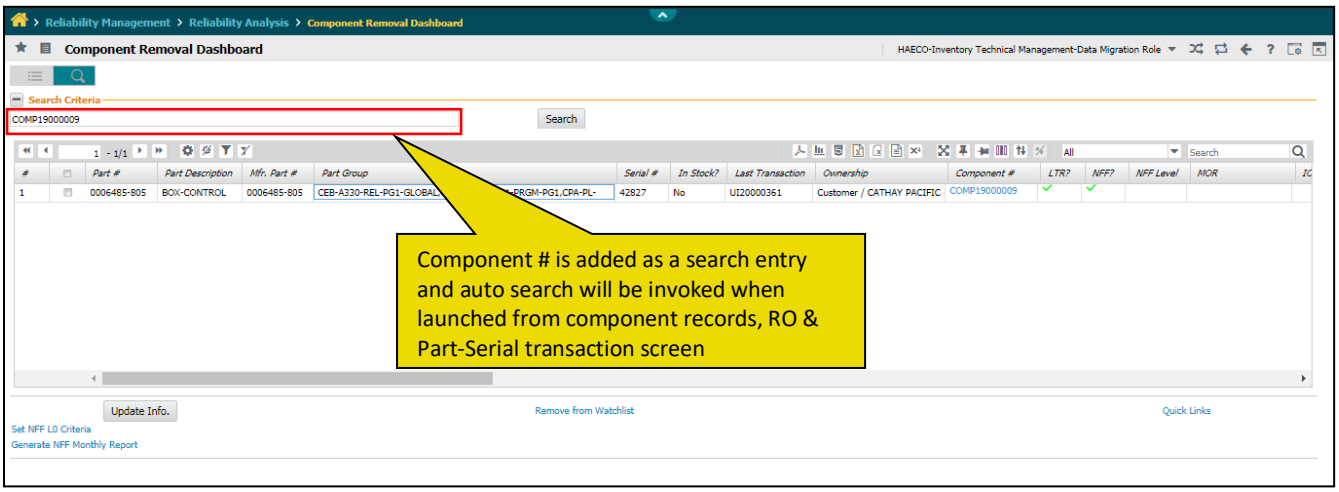


Exhibit 6: View Component Record



View Repair Shop findings from Component Removal Dashboard

Reference: APRP-951

Background

This enhancement brings improvements in **Reliability Analysis**, for an ITM vendor. An ITM industry maintains its Parts/Components with the help of Reliability Reports as they do not conduct any MRO services. There is a need for Tech Records team to review the component Reliability. The value engineer is required to review the Shop findings and other Repair information from Component Removal Dashboard. Through this he can analyze the reason behind the frequent tagging of such Parts/Components. With the existing screens there is no provision to view such information which has been taken care with this enhancement.

Change Details

This enhancement details on the provision to view and analyze the shop findings from Component Removal Dashboard. A multiline column "**Repair History**" will be introduced. Clicking on this Icon will launch **Work Completion and Teardown Report** screen, where user will be able to review the Shop findings, Utilization Info., Certification details, Repair Agency, etc.

Exhibit 1: Component Removal Dashboard

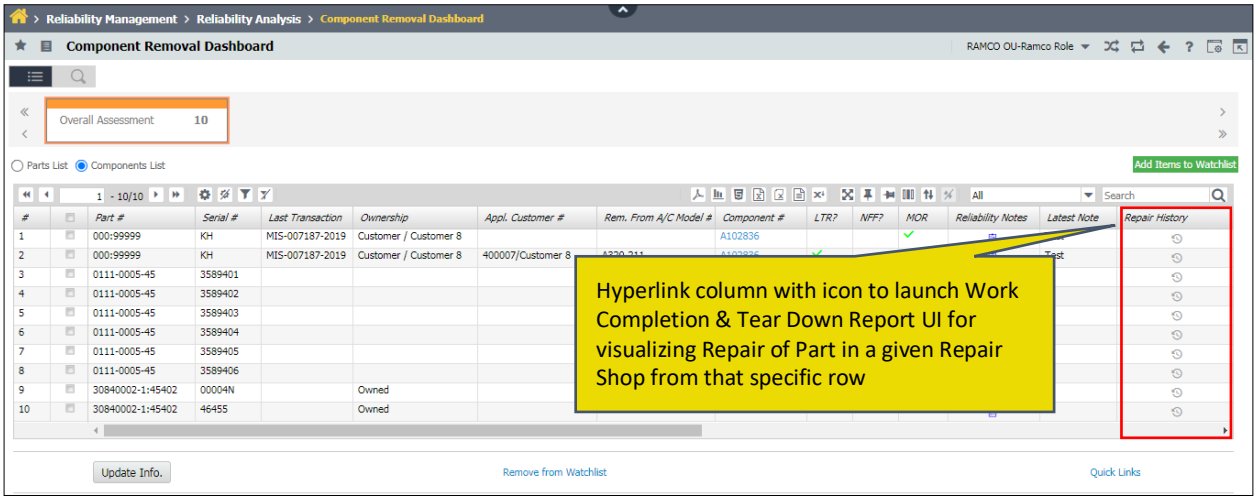
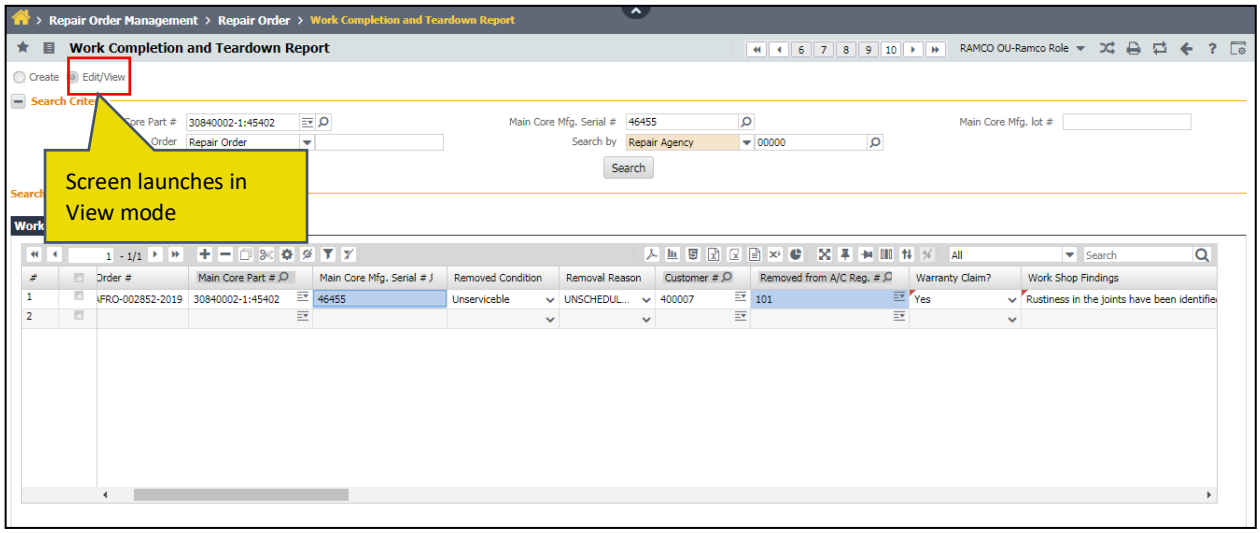


Exhibit 2: Work Completion and Teardown Report



Ability to launch MOD compliance history to review the MOD history of a component from Component Removal assessment Dashboard

Reference: APRP-911

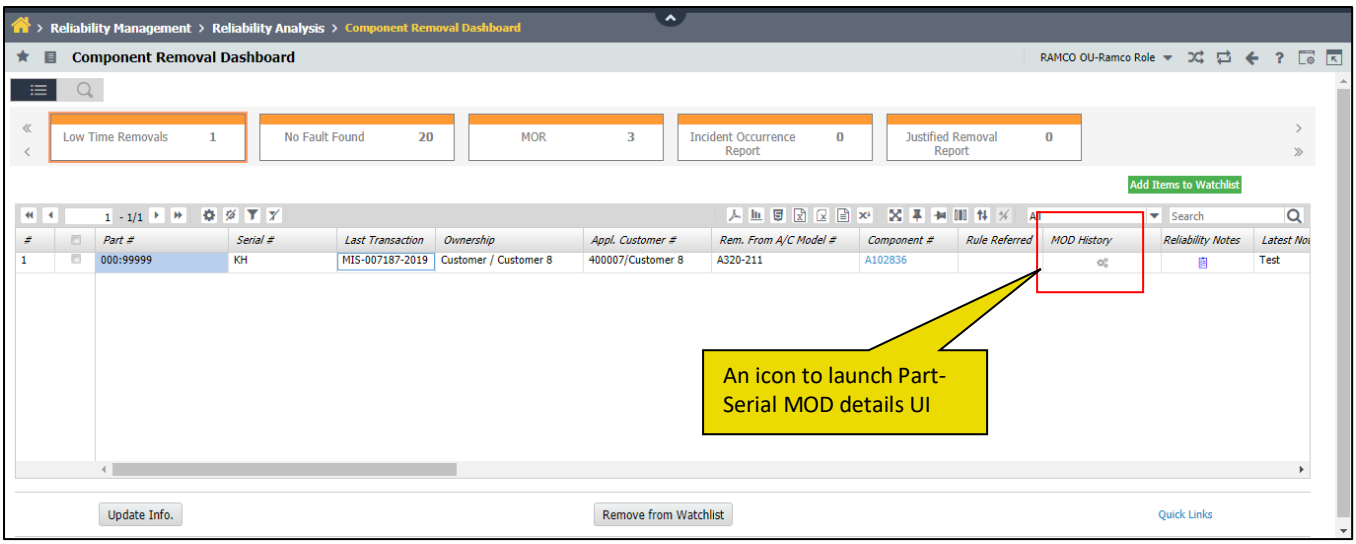
Background

Component Removal Assessment Dashboard provides a complete visibility on all components & Parts which have been identified with a Reliability Assessment flag and the corresponding repair details and repair instructions. The details of MOD upgrades done on the given Part or Component is another essential information to assess the next repair steps required to improve the reliability of the part/component.

Change Details

A new column is added in **Component Removal Assessment Dashboard** under both Part and Component Assessment tiles called 'MOD History'. A click on this column would launch **Manage Part-Serial MOD Details** User interface (which is an existing UI), with the Part # / Component set as a context on the Search criteria. This allows user to review the MOD details for the selected Part/Component.

Exhibit 1: Component Removal Dashboard



WHAT'S NEW IN RELIABILITY REPORTS?

Ability to generate NFF report along with the part level NFF levels and its investigation details for the respective customers

Reference: APRP-229

Background

A no fault found report or a NFF report is one of the reports to track reliability of components in any organization. It contains the fault found statistics, repair details and removal information of a part in a specific period. Since components are being shared by customers through a common pool, they are more interested in the performance of the parts attached to their aircrafts. Hence the report is usually viewed at a customer level.

Change Details

- NFF Level 1 and Level 3 report can be launched for any part that is tagged under a NFF level 1 or level 3 rule defined in the system. If the part gets tagged under a customer specific rule then NFF level 1 or level 3 report can be launched for that part and customer combination.
- The report will consider all removals from the specific customer in the last 'n' months where 'n' is the number of months setup for NFF in the Rule Referred that the part was tagged under.

Exhibit 1: Indicates NFF Level 1 Report

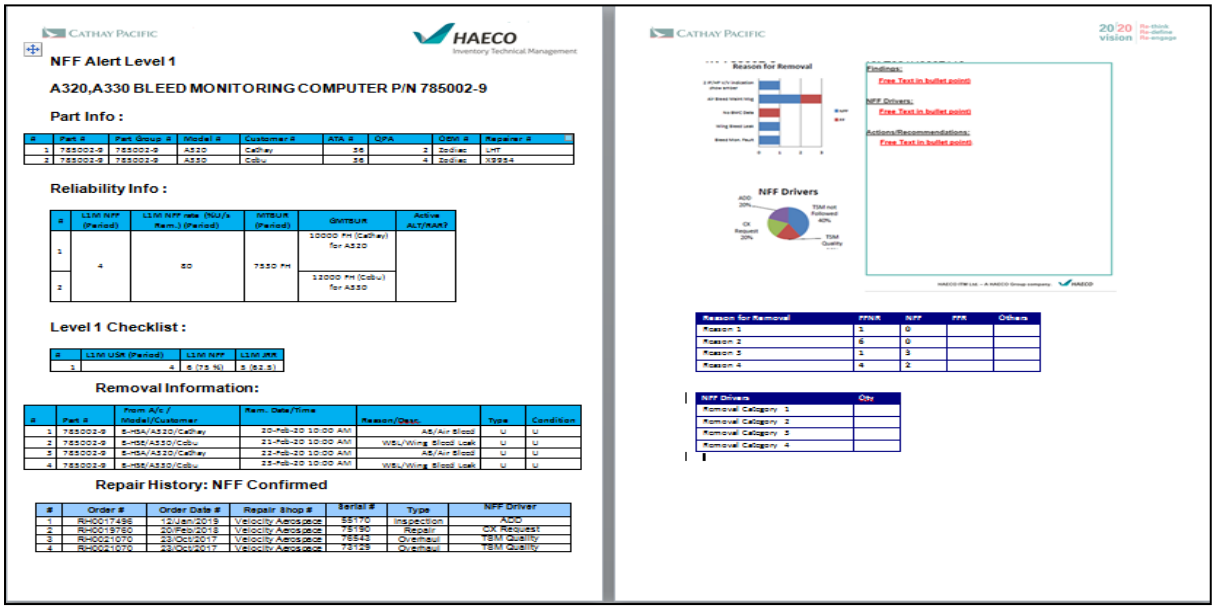
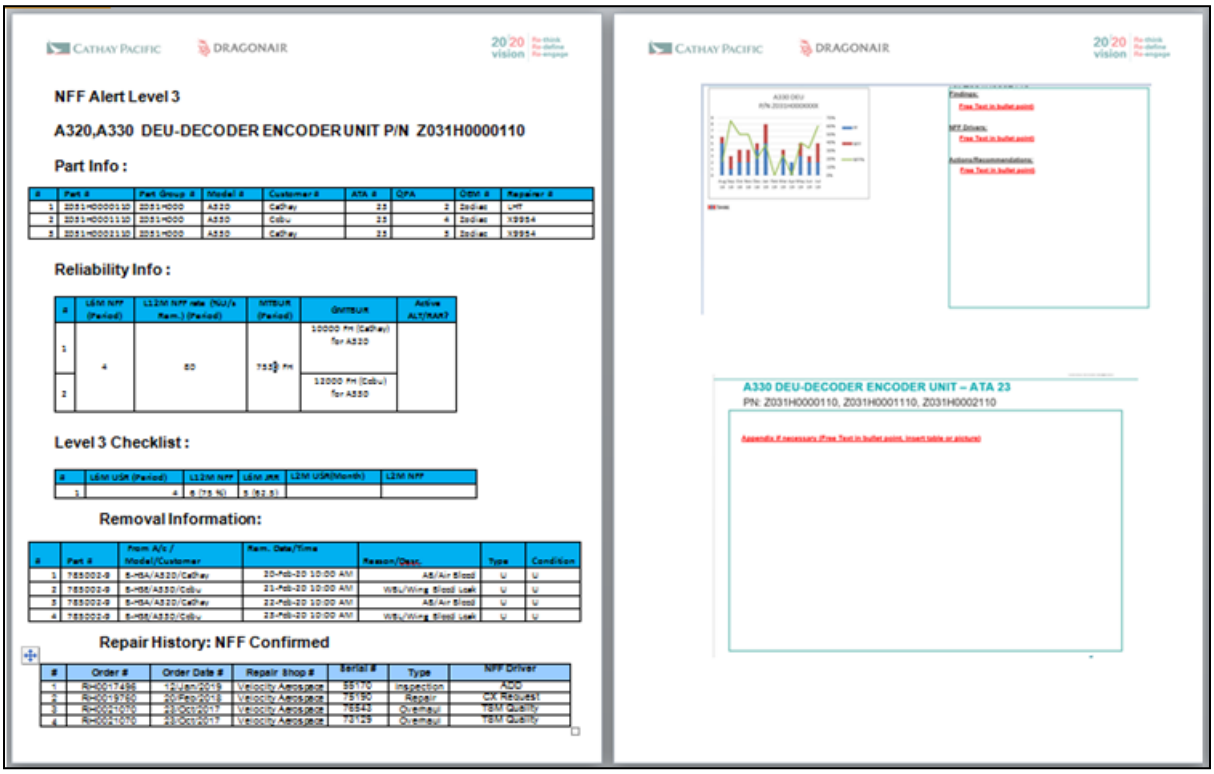


Exhibit 2: Indicates NFF Level 3 Report



CATHAY PACIFIC DRAGONAIR 20/20 vision

NFF Alert Level 3

A320,A330 DEU-DECODER ENCODER UNIT P/N Z031H0000110

Part Info :

#	Part #	Part Group #	Model #	Customer #	ATA #	OPA	Oth #	Repairer #
1	2031H0000110	2031H000	A320	CxPac	23	2	2nd/ac	LHT
2	2031H0001110	2031H000	A330	Cebu	23	4	2nd/ac	XIMSA
3	2031H0002110	2031H000	A330	CxPac	23	3	2nd/ac	XIMSA

Reliability Info :

#	L6M NFF (Period)	L12M NFF rate (NU/k Rem.) (Period)	MTBUR (Period)	Ontbur	Active ALT/RAM?
1	4	80	7550 FH	10000 FH (CxPac) for A320	
2				12000 FH (Cebu) for A330	

Level 3 Checklist :

#	L6M USR (Period)	L12M NFF	L6M JRR	L2M USR(Month)	L2M NFF
1	4	6 (75 %)	5 (62.5)		

Removal Information:

#	Part #	From A/c / Model/Customer	Rem. Date/Time	Reason/Desc.	Type	Condition
1	785002-8	5-HSA/A320/CxPac	20-Feb-20 10:00 AM	AS/Air Bleed	U	U
2	785002-8	5-HSB/A330/Cebu	21-Feb-20 10:00 AM	WBL/Wing Bleed Leak	U	U
3	785002-8	5-HSA/A320/CxPac	22-Feb-20 10:00 AM	AS/Air Bleed	U	U
4	785002-8	5-HSB/A330/Cebu	23-Feb-20 10:00 AM	WBL/Wing Bleed Leak	U	U

Repair History: NFF Confirmed

#	Order #	Order Date #	Repair Shop #	Serial #	Type	NFF Driver
1	RH001Y456	15/Jan/2019	Velocity Aerospace	55170	Inspection	ADD
2	RH001Y500	20/Feb/2019	Velocity Aerospace	75190	Repair	CX Request
3	RH001Y010	23/Oct/2017	Velocity Aerospace	76543	Overhaul	TSM Quality
4	RH001Y010	23/Oct/2017	Velocity Aerospace	73129	Overhaul	TSM Quality

Findings.
Free Text in bullet point

NFF Drivers:
Free Text in bullet point

Actions/Recommendations:
Free Text in bullet point

A330 DEU-DECODER ENCODER UNIT – ATA 23

PN: Z031H0000110, Z031H0001110, Z031H0002110

Appendix if necessary (Free Text in bullet point, insert table or picture)

Generate Component Reliability Report for Configured Customer's Reliability Fleet

Reference: APRP-248

Background

This enhancement brings Improvements in MTBUR analysis on Components which is periodically done for every month. The analysis outcome is to identify the list of parts which cross a certain threshold value of MTBUR (called the Alert value) and maintain a separate Watch list.

While Ramco already has MTBUR analysis based on fixed Alert values, the Alert value was introduced to be periodically calculated based on a standard formula. Again, while the formula is standard, the multipliers involved could vary from one Customer fleet to another which is required to be configured. Periodic MTBUR analysis is required to be done and watch list is expected to be derived based on comparison with the computed Alert values at a fleet level.

Based on the above analysis a detailed version of MTBUR analysis is required for the value engineer to verify the reliability aspects and to achieve this, a detailed CRR report is being generated. This can be further used in for planning any necessary maintenance on the Part/Component. CRR report will contain important aspects like Removal Info., Model wise assessment, consolidated assessment and a graphical representation for the better understanding.

Change Details

1. Reliability process parameters have already been identified with parameters to handle the variation in multipliers of the Alert level formula.
2. Based on an option setting, system will identify Alerts either based on existing threshold / Alert MTBUR for parts or based on the computed Alert values.
3. The existing screen of Analyze MTBUR for parts will be retained and enhanced to represent the watchlist based on the configured Alert values.
4. A link **Generate MTBUR Report** is added below Part removal details multiline of **Analyze MTBUR for Parts** screen.

On launching the link **Generate MTBUR Report**, Component Reliability Report gets generated in excel format.

The report will contain the following information:

Cover Sheet: This sheet contains the following information:

1) Fleet - for which report is generated
2) Time of generation of report
3) Aircraft Models involved in this report
4) Instructions about Customer, URR, MTBUR computation.

Removals Sheet: This sheet contains the following information:

1) Part – involved in the assessment.

2) Removed from Aircraft, Model
3) Removal condition, reason, type.
4) Removal date and other parameters etc

CRR-Consolidated Sheet: "CRR-Consolidated" sheet displays the removal and other analysis info at each Part/Pat group level (Based on process parameter).
Analysis information like URR of 1 month, 3 month, 6 month, 12 month and 24 months will be available. Along with that other computation like MTBUR, RSPL MTBUR, Alerts are computed. For computing the FH and other inputs will be considered at fleet level.

CRR-Model Sheet: "CRR-Model" sheet displays the removal and other analysis info at each Part/Pat group level (Based on process parameter) at each individual Model #.
Based on Model #, the sheets will increase or decrease.
Analysis information like URR of 1 month, 3 month, 6 month, 12 month and 24 months will be available. Along with that other computation like MTBUR, RSPL MTBUR, Alerts are computed. For computing the FH and other inputs will be considered based on the Model for which the sheet is available.

Graph Sheet: "Graphs" sheet represents Removals and URR computations at different time period in a graphical notation. Some of the essentials graphs are,

1) Monthly Vs 3Month URR
2) Monthly Vs 3Month Removals
3) Removals by ATA Chapter (1 year from the date of generation of report)
4) Removals by ATA Chapter (Last 6 month will be considered)

Exhibit 1: Analyze MTBUR for Parts

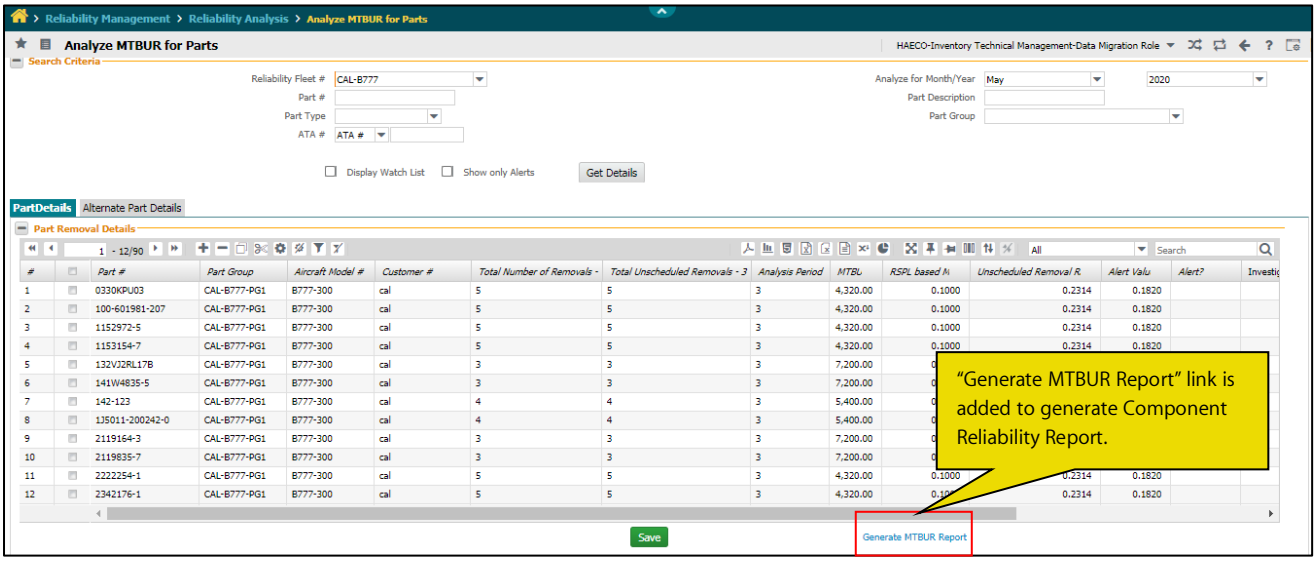
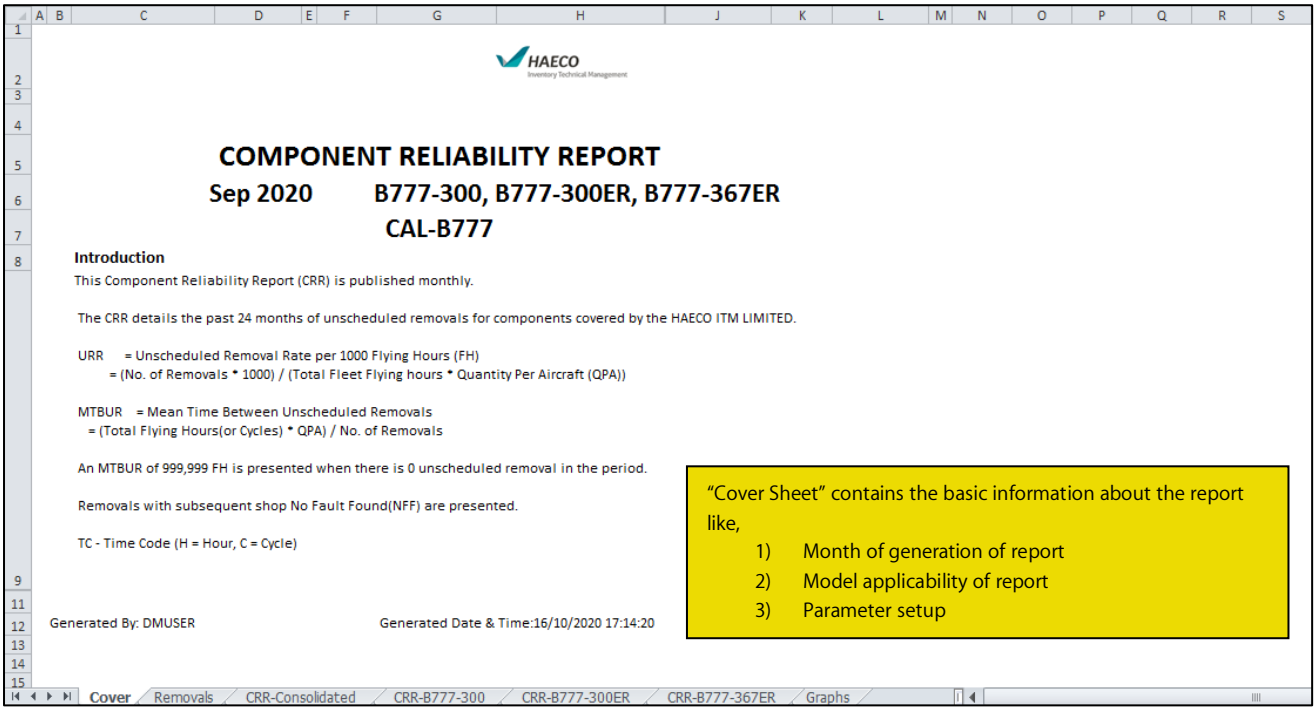


Exhibit 2: Cover Sheet



HAECO
Inventory Technical Management

COMPONENT RELIABILITY REPORT

Sep 2020 B777-300, B777-300ER, B777-367ER

CAL-B777

Introduction

This Component Reliability Report (CRR) is published monthly.

The CRR details the past 24 months of unscheduled removals for components covered by the HAECO ITM LIMITED.

URR = Unscheduled Removal Rate per 1000 Flying Hours (FH)
= (No. of Removals * 1000) / (Total Fleet Flying hours * Quantity Per Aircraft (QPA))

MTBUR = Mean Time Between Unscheduled Removals
= (Total Flying Hours(or Cycles) * QPA) / No. of Removals

An MTBUR of 999,999 FH is presented when there is 0 unscheduled removal in the period.

Removals with subsequent shop No Fault Found(NFF) are presented.

TC - Time Code (H = Hour, C = Cycle)

Generated By: DMUSER

Generated Date & Time:16/10/2020 17:14:20

Cover | Removals | CRR-Consolidated | CRR-B777-300 | CRR-B777-300ER | CRR-B777-367ER | Graphs

"Cover Sheet" contains the basic information about the report like,

1) Month of generation of report
2) Model applicability of report
3) Parameter setup

Exhibit 3: Removals Sheet

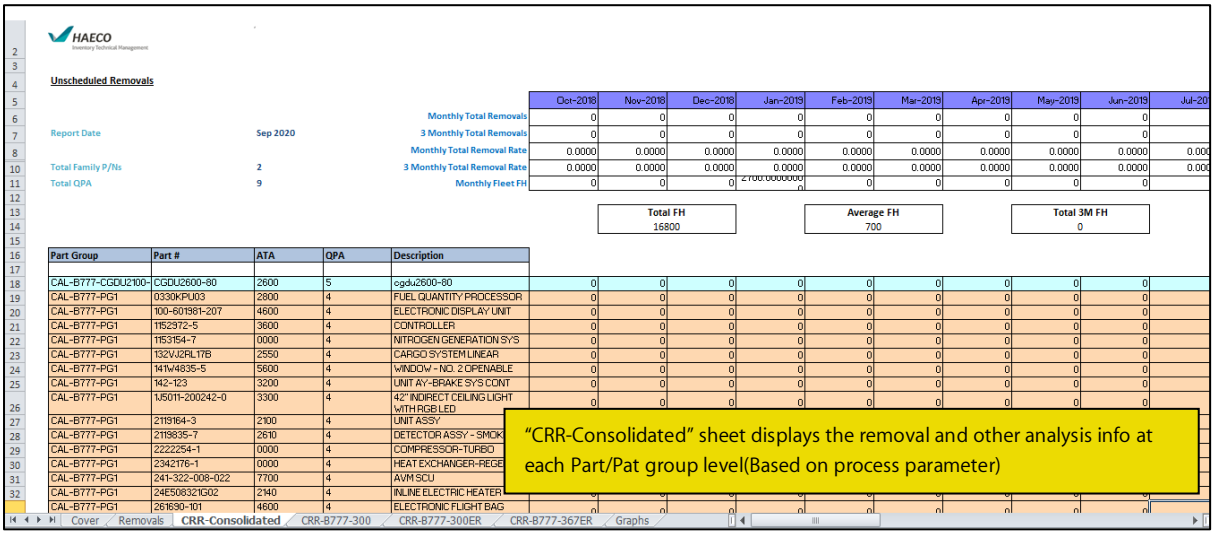
#	Part No	ATA	Part Description	Serial No	Goods Inward #	Removal Date & Time	Removal Type	Removed Condition	Removal Reason #	Removal Reason	Removed from Aircraft #	Removed from Aircraft Model #	Removed Customer
1	0330KPU03	2800	FUEL QUANTITY PROCESSOR UNIT	1	CGR20000-00-T1	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18001	B777-300	CAL
2	0330KPU03	2800	FUEL QUANTITY PROCESSOR UNIT	181	CGR20000-00-T181	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18053	B777-300	CAL
3	0330KPU03	2800	FUEL QUANTITY PROCESSOR UNIT	271	CGR20000-00-T271	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18051	B777-300	CAL
4	0330KPU03	2800	FUEL QUANTITY PROCESSOR UNIT	361	CGR20000-00-T361	3/3/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18051	B777-300	CAL
5	0330KPU03	2800	FUEL QUANTITY PROCESSOR UNIT	91	CGR20000-00-T91	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18001	B777-300	CAL
6	100-601981-207	4600	ELECTRONIC DISPLAY UNIT	182	CGR20000-00-T182	5/15/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18055	B777-300	CAL
7	100-601981-207	4600	ELECTRONIC DISPLAY UNIT	2	CGR20000-00-T2	5/15/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18002	B777-300	CAL
8	100-601981-207	4600	ELECTRONIC DISPLAY UNIT	272	CGR20000-00-T272	5/15/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18052	B777-300	CAL
9	100-601981-207	4600	ELECTRONIC DISPLAY UNIT	362	CGR20000-00-T362	3/15/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18052	B777-300	CAL
10	100-601981-207	4600	ELECTRONIC DISPLAY UNIT	92	CGR20000-00-T92	5/15/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18002	B777-300	CAL
11	1152972-5	3600	CONTROLLER	183	CGR20000-00-T183	5/25/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18001	B777-300	CAL
12	1152972-5	3600	CONTROLLER	273	CGR20000-00-T273	5/25/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18053	B777-300	CAL
13	1152972-5	3600	CONTROLLER	3	CGR20000-00-T3	5/25/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18003	B777-300	CAL
14	1152972-5	3600	CONTROLLER	363	CGR20000-00-T363	3/25/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18053	B777-300	CAL
15	1152972-5	3600	CONTROLLER	93	CGR20000-00-T93	5/25/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18003	B777-300	CAL
16	1153154-7	0000	NITROGEN GENERATION SYS CTRL	184	CGR20000-00-T184	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18002	B777-300	CAL
17	1153154-7	0000	NITROGEN GENERATION SYS CTRL	274	CGR20000-00-T274	5/5/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18055	B777-300	CAL
18	1153154-7	0000	NITROGEN GENERATION SYS CTRL	364	CGR20000-00-T364	3/3/2020 12:00:00 AM	Unscheduled	Unserviceable	BF	Bite Test Faulty	B-18055	B777-300	CAL
19	1153154-7	0000	NITROGEN GENERATION SYS CTRL	4	CGR20000-00-T4	5/5/2020 12							
20	1153154-7	0000	NITROGEN GENERATION SYS CTRL	94	CGR20000-00-T94	5/5/2020 12							
21	132VJ2RL17B	2550	CARGO SYSTEM LINEAR ACTUATOR	185	CGR20000-00-T185	5/15/2020 12							
22	132VJ2RL17B	2550	CARGO SYSTEM LINEAR ACTUATOR	275	CGR20000-00-T275	5/15/2020 12							
23	132VJ2RL17B	2550	CARGO SYSTEM LINEAR ACTUATOR	365	CGR20000-00-T365	3/15/2020 12							
24	132VJ2RL17B	2550	CARGO SYSTEM LINEAR ACTUATOR	5	CGR20000-00-T5	5/15/2020 12							
25	132VJ2RL17B	2550	CARGO SYSTEM LINEAR ACTUATOR	95	CGR20000-00-T95	5/15/2020 12							
26	141W4835-5	5600	WINDOW - NO. 2 OPENABLE	186	CGR20000-00-T186	5/25/2020 12							

Cover | Removals | CRR-Consolidated | CRR-B777-300 | CRR-B777-300ER | CRR-B777-367ER | Graphs

"Removals" Sheet contains information like,

1) Removed from Aircraft, Model
2) Removed condition, reason, type.
3) Removal date and other parameters

Exhibit 4: CRR-Consolidated Sheet



HAECO

Unscheduled Removals

Report Date	Sep 2020	Monthly Total Removals	
		3 Monthly Total Removals	
		Monthly Total Removal Rate	
Total Family P/Ns	2	3 Monthly Total Removal Rate	
Total QPA	9	Monthly Fleet FH	

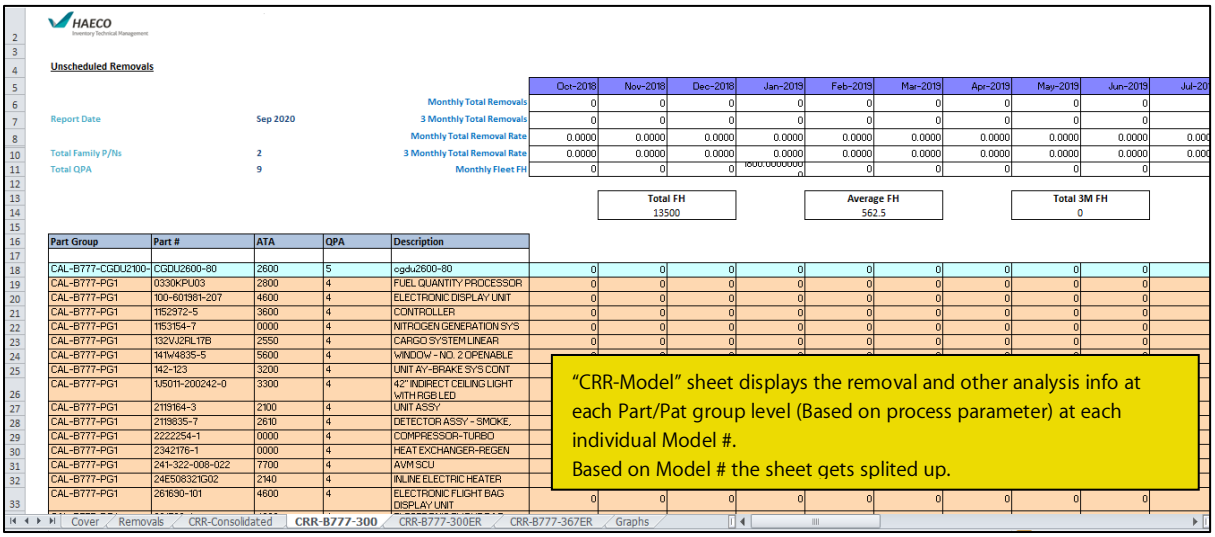
Total FH	Average FH	Total 3M FH
16800	700	0

Part Group	Part #	ATA	QPA	Description	Oct-2018	Nov-2018	Dec-2018	Jan-2019	Feb-2019	Mar-2019	Apr-2019	May-2019	Jun-2019	Jul-20
CAL-B777-CGDU2100-	CGDU2600-80	2600	5	cgdu2600-80	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	0330KPU03	2800	4	FUEL QUANTITY PROCESSOR	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	100-601361-207	4600	4	ELECTRONIC DISPLAY UNIT	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	1152972-5	3600	4	CONTROLLER	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	1153154-7	0000	4	NITROGEN GENERATION SYS	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	132VJ2RL17B	2550	4	CARGO SYSTEM LINEAR	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	141W4835-5	5600	4	WINDOW - NO. 2 OPENABLE	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	142-123	3200	4	UNIT AY-BRAKE SYS CONT	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	1J5011-200242-0	3300	4	42" INDIRECT CEILING LIGHT WITH RGB LED	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	2119164-3	2100	4	UNIT ASSY										
CAL-B777-PG1	2119835-7	2610	4	DETECTOR ASSY - SMOK										
CAL-B777-PG1	2222254-1	0000	4	COMPRESSOR-TURBO										
CAL-B777-PG1	2342176-1	0000	4	HEAT EXCHANGER-REGE										
CAL-B777-PG1	241-322-008-022	7700	4	AVM SCU										
CAL-B777-PG1	24E508321G02	2140	4	INLINE ELECTRIC HEATER										
CAL-B777-PG1	261690-101	4600	4	ELECTRONIC FLIGHT BAG										

Cover | Removals | **CRR-Consolidated** | CRR-B777-300 | CRR-B777-300ER | CRR-B777-367ER | Graphs

"CRR-Consolidated" sheet displays the removal and other analysis info at each Part/Pat group level(Based on process parameter)

Exhibit 5: CRR-Model Sheet



HAECO

Unscheduled Removals

Report Date	Sep 2020	Monthly Total Removals	
		3 Monthly Total Removals	
		Monthly Total Removal Rate	
Total Family P/Ns	2	3 Monthly Total Removal Rate	
Total QPA	9	Monthly Fleet FH	

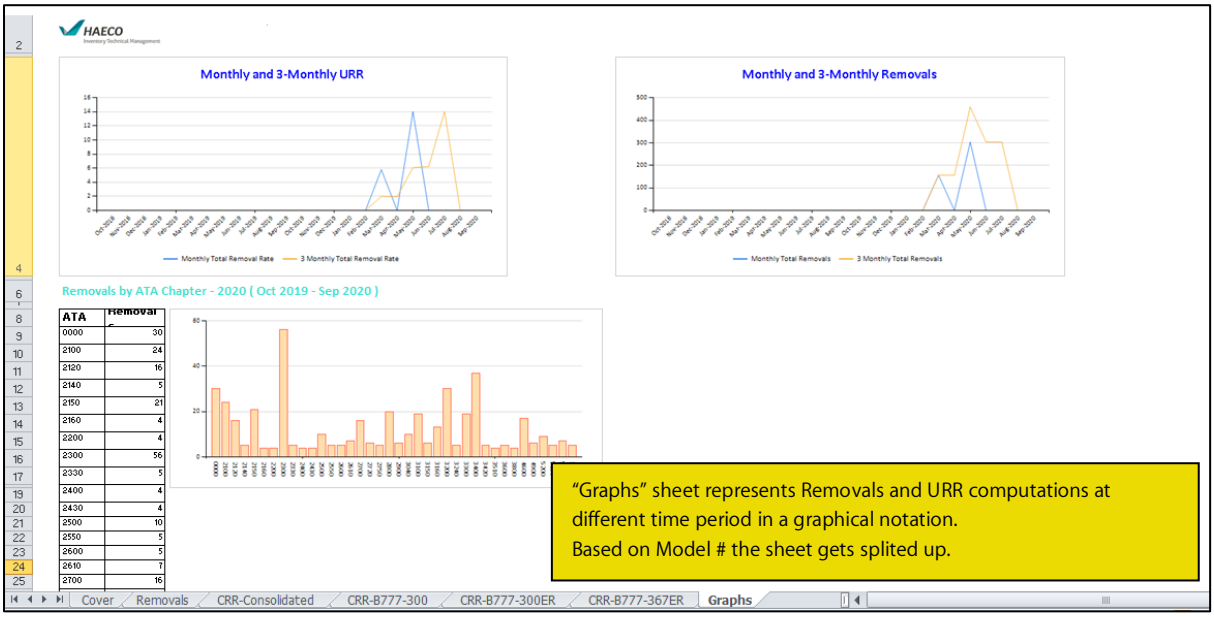
Total FH	Average FH	Total 3M FH
13500	562.5	0

Part Group	Part #	ATA	QPA	Description	Oct-2018	Nov-2018	Dec-2018	Jan-2019	Feb-2019	Mar-2019	Apr-2019	May-2019	Jun-2019	Jul-20
CAL-B777-CGDU2100-	CGDU2600-80	2600	5	cgdu2600-80	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	0330KPU03	2800	4	FUEL QUANTITY PROCESSOR	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	100-601361-207	4600	4	ELECTRONIC DISPLAY UNIT	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	1152972-5	3600	4	CONTROLLER	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	1153154-7	0000	4	NITROGEN GENERATION SYS	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	132VJ2RL17B	2550	4	CARGO SYSTEM LINEAR	0	0	0	0	0	0	0	0	0	
CAL-B777-PG1	141W4835-5	5600	4	WINDOW - NO. 2 OPENABLE										
CAL-B777-PG1	142-123	3200	4	UNIT AY-BRAKE SYS CONT										
CAL-B777-PG1	1J5011-200242-0	3300	4	42" INDIRECT CEILING LIGHT WITH RGB LED										
CAL-B777-PG1	2119164-3	2100	4	UNIT ASSY										
CAL-B777-PG1	2119835-7	2610	4	DETECTOR ASSY - SMOKE,										
CAL-B777-PG1	2222254-1	0000	4	COMPRESSOR-TURBO										
CAL-B777-PG1	2342176-1	0000	4	HEAT EXCHANGER-REGEN										
CAL-B777-PG1	241-322-008-022	7700	4	AVM SCU										
CAL-B777-PG1	24E508321G02	2140	4	INLINE ELECTRIC HEATER										
CAL-B777-PG1	261690-101	4600	4	ELECTRONIC FLIGHT BAG DISPLAY UNIT	0	0	0	0	0	0	0	0	0	

Cover | Removals | CRR-Consolidated | **CRR-B777-300** | CRR-B777-300ER | CRR-B777-367ER | Graphs

"CRR-Model" sheet displays the removal and other analysis info at each Part/Pat group level (Based on process parameter) at each individual Model #.
Based on Model # the sheet gets splited up.

Exhibit 6: Graph Sheet



Corporate Office and R&D Center

Ramco Systems Limited,
64, Sardar Patel Road, Taramani,
Chennai – 600 113, India
Office + 91 44 2235 4510 / 6653 4000
Fax +91 44 2235 2884
Website - www.ramco.com