RAMCO AVIATION SOLUTION
VERSION 5.9

USER GUIDE
ENGINEERING CHANGE MANAGEMENT

ABOUT THIS MANUAL

This manual briefly describes the basic processes and functions in Ramco Aviation Solution.

WHO SHOULD READ THIS MANUAL

This manual is intended for users who are managing the Aviation industry processes and are new to Ramco Aviation Solution. This manual assumes that the user is familiar with the Aviation Industry nomenclatures and systems based software.

HOW TO USE THIS MANUAL

Ramco Aviation Solution provides extensive Online Help that contains detailed instructions on how to use the application. Users are suggested to use this manual for specific references, along with the Online Help. This manual contains enough information to help the users perform the basic tasks and points toward the Online Help for more detailed information.

HOW THIS MANUAL IS ORGANIZED

The User Guide is divided into 3 chapters and index. Given below is a brief run-through of what each chapter consists of.

Chapter 1 provides an overview of the entire **Engineering Change Management** business process. The sub processes are explained in the remaining chapters.

Chapter 2 focuses on the **Engineering Document Management** sub process.

Chapter 3 dwells on the **Engineering Support Management** sub process.

Chapter 4 dwells on the **Engineering Change Order Management** sub process.

Index offers a quick reference to selected words used in the manual.

DOCUMENT CONVENTIONS

- The data entry has been explained taking into account the “Create” business activity. Specific references (if any) to any other business activity such as “Modify” and “View” are given as “Note” at the appropriate places.
- Boldface is used to denote commands and user interface labels.

Example: Enter Company Code and click the Get Details pushbutton.

- Italics used for references.

Example: See Figure 1.1.

The  icon is used for Notes, to convey additional information.

REFERENCE DOCUMENTATION

This User Guide is part of the documentation set that comes with Ramco Aviation Solution. The documentation is generally provided in two forms:

- The Documentation CD in Adobe® Systems’ Portable Document Format (PDF).
- Context-sensitive Online Help information accessible from the application screens.

WHOM TO CONTACT FOR QUERIES

Please locate the nearest office for your geographical area from www.ramco.com for assistance.

1 INTRODUCTION

Aircraft and its sub-systems are subjected to frequent changes following safety and reliability guidelines. Changes are normally either for physical configuration modifications or maintenance practices and procedures. These modifications to the physical configuration of aircraft and its sub-systems or the prescribed maintenance procedures, are classified as Engineering Changes.

While improvements in safety and reliability form the prime considerations for such modifications, factors such as operating efficiencies and economics of scales also form additional triggers. Due to the complexities of the Aircraft and its systems, maintenance execution personnel seek some technical clarifications. The Engineering department provides suitable clarifications. The Engineering Change Management business process caters to these needs. This business process comprises the Engineering Document Management, Engineering and Support Management sub processes. The Engineering Document Management sub process deals with the authoring of the maintenance change request and engineering document that trigger engineering change whereas Engineering Support Management sub process manages the technical clarification requests from field personnel.

2 ENGINEERING DOCUMENT MANAGEMENT SETUP

Operating assets in aviation are subjected to innumerable changes in their lifetime, to increase reliability and ensure maximum availability. A modification to an approved aircraft or component configuration or their maintenance procedures is referred to as “Engineering Change”. These engineering changes are typically triggered from the Original Equipment Manufacturers (OEMs) in the form of “Service Bulletins” or local aviation authorities in the form of “Airworthiness Directives” or internally generated during reliability analysis.

The Engineering Department records these change communications as Maintenance Change Requests (MCR). All such change requests raised will be processed by a committee and after evaluation of the economic feasibility and safety implications, finalizes the effectivity and work scope for the engineering change. The execution document of the engineering change is then decided as an “Engineering Document”

The Engineering Document contains the information about the engineering change to be performed on the maintenance objects such as aircraft and components. The Engineering Document Execution is planned by the Central Planning cell, which processes the engineering documents into Work Orders after identifying the execution centers and execution dates. The execution reporting of the respective Work Orders signifies the

compliance of the engineering document. The configuration changes made to the Aircraft and its subsystems due to the engineering document execution are affected.

Maintenance Change Request business component enables you to raise requests for initiating engineering changes in aircraft and components.

Engineering Document business component enables you to execute the proposed engineering change through the creation and processing of engineering documents.

2.1 SETTING UP COMMON MASTERS FOR ENGINEERING DOCUMENT MANAGEMENT

The "Common Master" business component helps you to set up common information for engineering document management. The different types of maintenance change request and reference documents that can be attached to maintenance change request and engineering document can be identified. Also the various priorities that can be set for the change documents can be defined.

2.1.1 Setting options

You can set default options for the various fields in the activities of the "Engineering Document" business component. You can also modify the options that are already defined.

1. Select the **Set Options** link under the **Engineering Document** business component. The **Option Settings Information** page appears. *See Figure 2.1*.

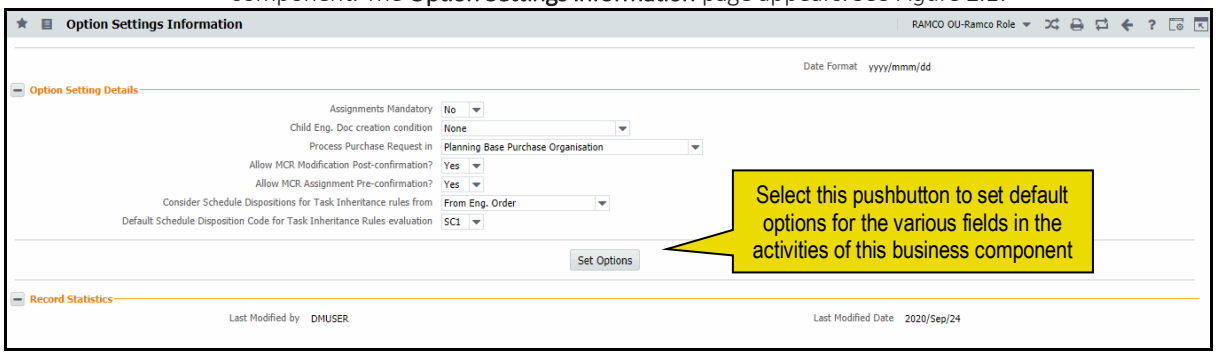


Figure 2.1 Setting options for engineering document

2. Specify whether the maintenance change request must be assigned to the employee for authoring the engineering document, in the **Assignments Mandatory** field.

3. Set the **Child Engineering Document creation condition** field to **"**Parent Released", "Parent Closed", "Parent Released or Closed" or "None" to indicate the condition under which the child engineering document can be created.

- Parent Released: Select this option to indicate that the child engineering document can be created only after the parent engineering document is released.

- Parent Closed – Select this option to indicate that the child engineering document can be created only after the parent engineering document is closed.

- Parent Released or Closed – Select this option to indicate that the child engineering document can be created only after the parent engineering document is released or closed.

- None - Select this option to indicate that the conditions are not applicable for the child engineering document creation.

4. Set the **Process Purchase Request in** field to **"**Execution Base Purchase Organization" to indicate that the purchase request must be processed in the execution base purchase organization. Set it as "Planning Base Purchase

Organization" if the purchase request must be processed in the planning base purchase organization.

5. Specify whether modification of MCR post confirmation must be allowed in the **Allow MCR Modification Post – Confirmation?** field.
6. Specify whether modification of MCR pre confirmation must be allowed in the **Allow MCR Modification Pre – Confirmation?** field.
7. Use the **Consider Schedule Dispositions for Task Inheritance rules from** drop-down list box to indicate the source from which the schedule disposition must be taken into consideration for induction of tasks into execution documents.
8. Use the **Default Schedule Disposition Code for Task Inheritance Rules evaluation** drop-down list box to select the default schedule disposition code.
9. Click the **Set Options** pushbutton to set the options.

2.1.2 Defining maintenance change request document types

To define different types of maintenance change request,

1. Select **Create Maint. Change Request Doc. Type** link under **Common Master** business component. *See Figure 2.2.*
2. Provide a unique identifier for the **MCR Doc Type**.
3. Set the **Priority** for the maintenance change request document type. The combo is loaded with values, "Grounding", "MEL / CDL", "High Mnt need", "Low Mnt need", and "Reliability".
4. Identify the **Source** of the maintenance change request document type, which could be "External" or "Internal".
5. Use the **Applicable For** drop-down list to specify the applicability of the MCR documents. The combo is loaded with values "MCR", "Eng.Doc." and "MCR & Eng. Doc".
6. Use the **MCR Processing Status** drop-down list to specify the processing status of the MCR document. The combo is loaded with values "Fresh" or "Post Confirmed".
7. Use the **Default Eng. Doc Type** drop-down list to specify the default engineering document type.

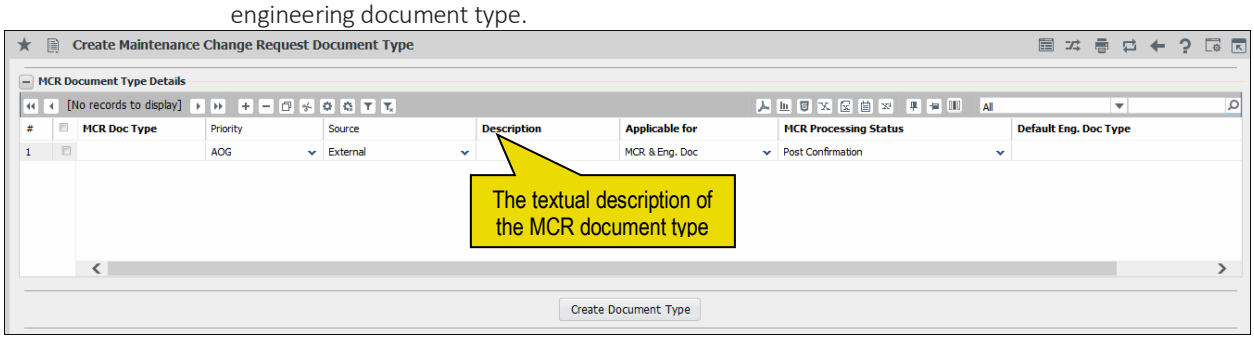


Figure 2.2 Creating maintenance change request document type

8. Click **Create Document Type** pushbutton.

2.1.3 Creating reference document types

To create reference document types,

1. Select **Create Reference Document Type** link under **Common Master** business component. *See Figure 2.3.*

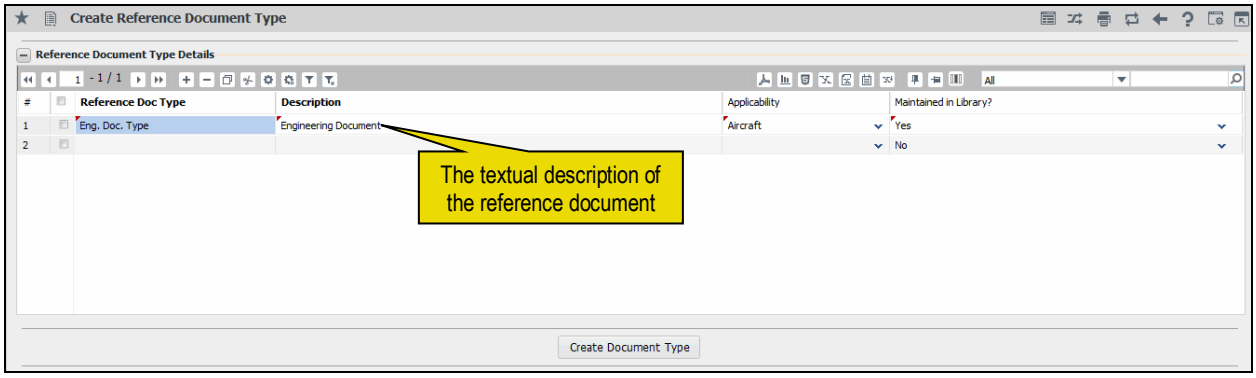


Figure 2.3 Creating reference document type

2. Provide a unique identifier for the **Reference Doc Type**.
3. Enter the **Description** for reference document type.
4. Set the **Applicability** drop-down list box to “Aircraft”, “Engine” or “Component” to indicate the applicability of reference document.
5. Use the **Maintained In Library?** drop-down list box and select "Yes" or "No" to indicate whether the reference document has to be maintained in the library.
6. Click **Create Document Type** pushbutton.

2.1.4 Defining process entities

This process enables you to maintain entities that are crucial for various processes, such as aircraft maintenance, component maintenance, and inventory and sales.

Entities are classified under entity types. Typically, entity types are attributes of tasks, processes, maintenance objects or execution documents. Each entity type is associated with a set of parameters. Both entity types and their parameters are predefined in the system. Invariably, all entities inherit these parameters from the entity type to which they belong. For example, you can create CDL, MEL and DMI deferral types under the entity type Deferral Type. Likewise, you can create various types of shop work orders under entity type Shop Work Order Type to cater to the component maintenance process. Further, to aid the aircraft maintenance process, you can maintain various package types under the Package Type entity type. In this way, you could define various types of shop work orders, deferral types and package types. You can also define entities of entity type Category to classify tasks, customer orders, invoices or tool kits. However, system-defined entities, such as “All Order Types – SWO” of the entity type Shop Work Order Type also exist in the system.

To enable use of an entity in related processes, you must set the status of an entity to “Active”. To disallow use of the entity, you may set the status to “Inactive”.

You can set values for parameters of an entity, which are referred to as process parameters in the Set Process Parameters page of this process.

1. Select **Define Process Entities** link under **Common Master** business component. *See Figure 2.4.*

   *Note: Use the **Search Criteria** group box to find the entities that you want to modify. The multiline retrieves those entities that match the search criteria in the **Entity Details** multiline. You can now modify the*

details of these entities in the multiline. However, if you wish to create new entities, you can start from the Entity Details multiline without specifying any search criteria.

2. In the **Search Criteria** group box, use the **Entity Type** drop-down list box to select the retrieve details of the entities of the entity type. The drop-own list box displays the following: Eng. Doc Type, Package Type, Deferral Type, Shop Work Order Type, Hold Codes, Aircraft Entry, Component Entry, Category, Disposition Code, WBS Code and Sale Type.

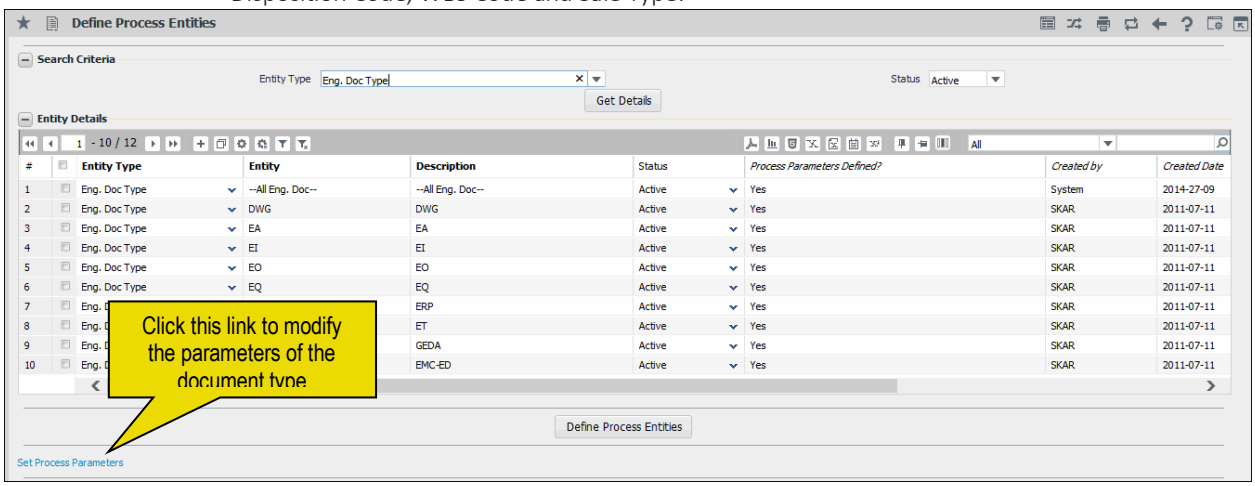


Figure 2.4 Defining process parameters

3. Further, use the **Status** drop-down list box to select the status of entity type that you want to retrieve, such as “Active” or “Inactive”.
4. Click **Get Details** pushbutton to retrieve entities in the **Entity Details** multiline.
5. In the **Entity Details** multiline, enter the **Entity** that you want to create.
6. Use the **Entity Type** drop-down list box to select the entity type of the entity you want to create, Mandatory. The drop-down list box displays the following: “Package Type”, “Deferral Type”, “Eng.Doc Type”, “Aircraft Entry” and “Component Entry”, Category", "Disposition Code" and "WBS Code".
7. Use the **Status** drop-down list box to specify the status of the entity. The combo is loaded with options “Active” and “Inactive.
8. Use the **Parameters Defined?** drop-down list box to specify whether parameters have been defined for the entity. The combo is loaded with options “Yes” and “No”.
9. Click **Set Process Parameters** pushbutton to maintain parameter details for the entity that you selected in the multiline.

To proceed further,

- Select the **Set Process Parameters** link to modify process parameters for entities.

2.1.5 Recording a request for engineering change

You can record a Maintenance Change Request (MCR), which is a formal communication raised by an OEM, aviation authority or the internal engineering and reliability departments, of an engineering change to be carried out on the operating assets.

2.1.6 Defining quick codes

Quick codes act as additional qualifiers for a business entity or document. Quick codes can assume user provided values, which can be used to categorize or group an entity or document. You can define quick codes to satisfy your organization's specific needs, especially with respect to unique reporting requirements.

For example, the sources that issue the maintenance change request can be categorized as “Supplier”, “OEM” etc. These categories are called Quick Codes. You can categorize reasons for change request creation and user-defined status of the change request. These quick codes are typically useful in viewing summary details and report generation.

1. Select **Create Quick Codes** under **Maintenance Change Request** business component. The **Create Quick Codes** page appears. *See Figure 2.5*.

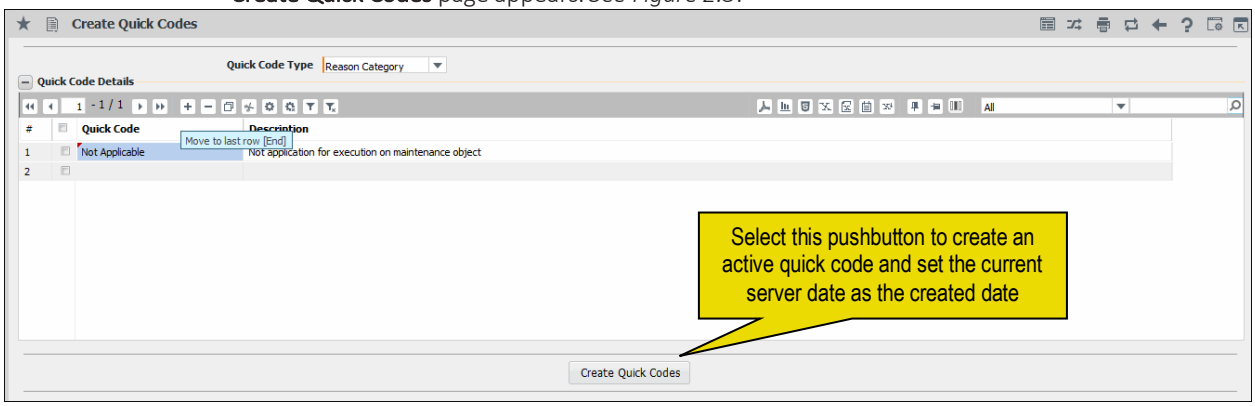


Figure 2.5 Creating maintenance change request quick codes

2. Use the **Quick Code Type** drop-down list box to select the type of quick code to be created. You can define quick codes of the type “User Defined 4”, User Defined 5”, “User Defined 6”, “Source Category”, “MCR Class”, “Reason Category” and “User Status”.
3. Enter unique quick codes for the selected type, in the **Quick Code** field in the multiline.
4. Enter the **Description** for the quick code.
5. Click the **Create Quick Codes** pushbutton.

   Note: The system assigns the "Active" status to the quick codes entered in the multiline.

2.1.7 Creating a maintenance change request

1. Select **Create Maintenance Change Request** under **Maintenance Change Request** business component. The “Create Maintenance Change Request” page appears. *See Figure 2.6.*

2. Provide a unique identifier for the Maintenance Change Request in the **MCR #** field.
3. The **Revision #** of the modified MCR.
4. Enter the title of the change request as the **Subject**.
5. Enter the **MCR Issue Date** and **Receipt Date** for the MCR.
6. If you wish to copy existing MCR details, enter the MCR number in the **MCR #** field and specify the **Copy Options** in the **Copy Details** group box.
7. Use the **Applicability** drop-down list box to indicate whether the MCR is applicable for an "Aircraft", "Engine" or "Component".
8. Enter the ATA chapter on which the MCR must be executed in the **ATA #** field.
9. Use the **Reason Category** drop-down list box to specify the user-defined reason category for the MCR.
10. Use the **Mandatory?** drop-down list box to indicate whether the engineering change must be effectively executed on the part # - serial # on which the MCR is applicable.
11. Use the **Reliability Impact?** drop-down list box to Indicates whether the part # - serial # impacted by the engineering change must be taken into consideration for component reliability analysis.
12. Use the **Impact Assessment?** drop-down list box to indicate whether the engineering change will affect / upgrade the component.
13. Enter the **Reason** and **Back Ground** details for the issue of the MCR.
14. Identify the **Consequences** of MCR execution.
15. Enter the actual **Action** or change that must be performed as recommended in the MCR.
16. In the **Source Document Details** group box, enter the manufacturer number in the **Manufacturer #** field and **Manufacturer Name**. Select the **Regulatory Authority**, **Source** and **Source Doc Type**.
17. Use the **Priority** drop-down list box in the **Execution Details** group box, to set the execution priority for the MCR.
18. Use the **Warranty Coverage** drop-down list box in the **Warranty Information** group box, to specify the warranty coverage of "Component", "Engine" or "Aircraft". The system provides the following options:
    - "Claimable" – Select this option if the warranty coverage is claimable for the "Component", "Engine" or "Aircraft".
    - "Non-Claimable – Select this option if the warranty coverage is not claimable for the "Component", "Engine" or "Aircraft".
19. Enter the **Warranty Details** pertaining to the "Component", "Engine" or "Aircraft.
20. In the **Warranty Applicability** field, check any one of the following check boxes to specify the applicability of the warranty:
    - ""Material" - Check this box if the warranty claim is applicable for the material.
    - "Labor" - Check this box if the warranty claim is applicable for the labor.

- "Facilities" - Check this box if the warranty claim is applicable for the facilities.
- "Miscellaneous" - Check this box if the warranty claim is applicable for options other than "Material", "Labor" and "Facilities".

> *Note: Any one of the above mentioned check boxes under "Warranty Applicability" must be selected, if the warranty coverage is selected as "Claimable". The system ignores the check boxes selected, if the warranty coverage is set to "Non-Claimable".*

21. Enter **Contact Details**.
22. In the **Model Effectivity Details** multiline, enter the **Aircraft Model #** field to specify the aircraft model number for which the MCR is applicable.

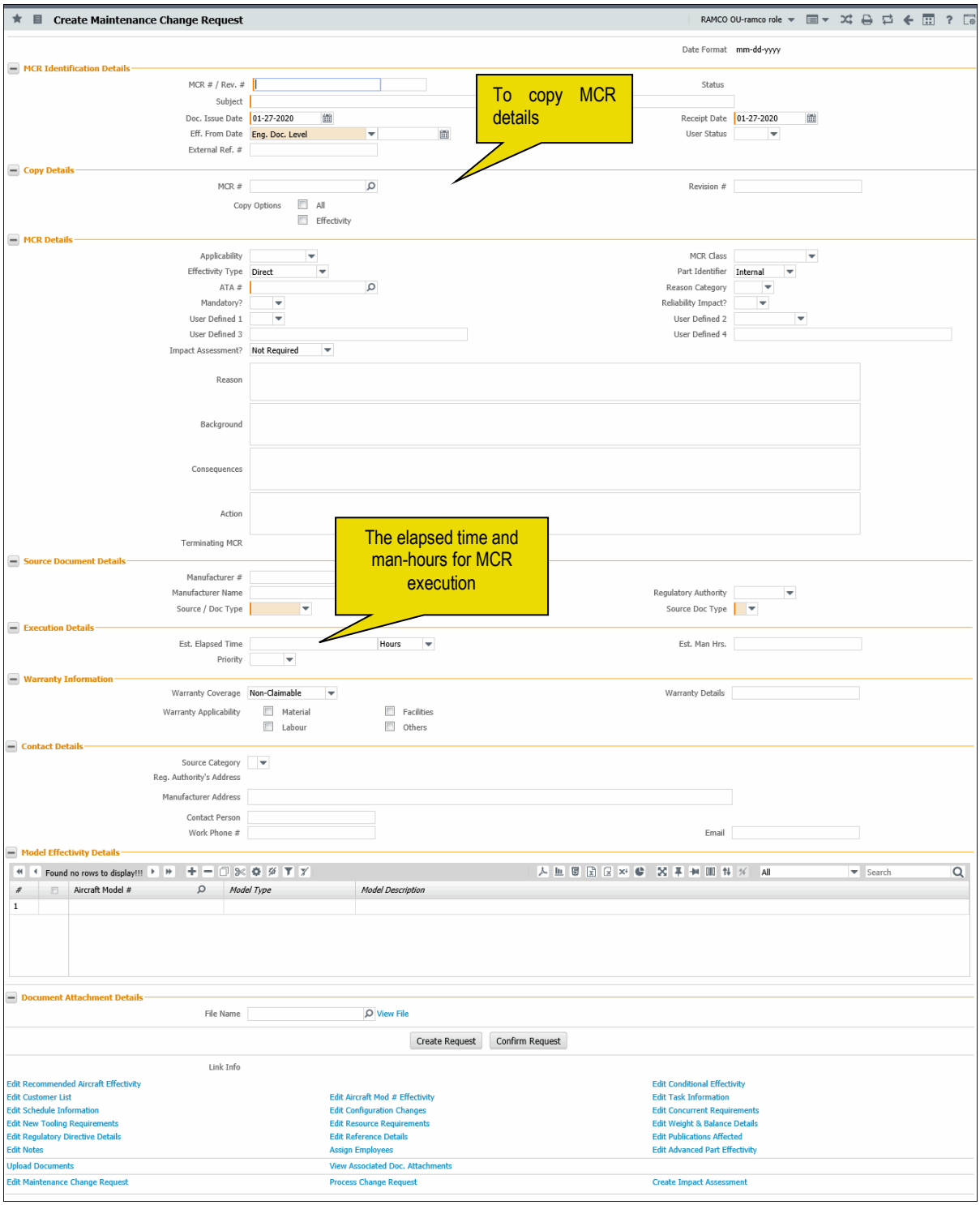


Figure 2.6 Creating maintenance change request

23. Click the **Create Request** pushbutton to create the request. The system assigns "Fresh" status to the request.

24. Click the **Confirm Request** pushbutton to confirm the request. The system changes the request status to "Confirmed". You cannot edit or cancel a confirmed request.

    Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.

To provide further details,

- Select the **Edit Recommended Aircraft Effectivity** link to specify aircraft effectivity details.
- Select the **Edit Recommended Part Effectivity** link to specify part effectivity details.
- Select the **Edit Conditional Effectivity** link to specify conditional effectivity details.
- Select the **Edit Aircraft Mod # Effectivity** link at the bottom of the page to record the details of modification done to the aircraft.
- Select the **Edit Task Information** link to specify task information.
- Select the **Edit Schedule Information** link to define the schedule details for the MCR.
- Select the **Edit Configuration Changes** link to record configuration change details.
- Edit **Concurrent Requirements** link to describe the pre-conditions for executing the current MCR.
- Select the **Edit Weight & Balance Details** link to specify weight and balance details.
- Select the **Edit Resource Requirements** link to specify resource requirement details.
- Select the **Edit New Tooling Requirement** link to specify new tooling requirement details.
- Select the **Edit Customer List** link to specify the customer list details.
- Select the **Edit Reference Details** link to record reference document details.
- Select the **Edit Regulatory Directive Details** link to record regulatory directive details.
- Select the **Edit Publications Affected** link to record affected publication details.
- Select the **Edit Notes** link to enter additional notes pertaining to the MCR.
- Select the **Edit Maintenance Change Request** link to modify the MCR details.
- Select the **Process Change Request** link to process the change request.
- Select the **Upload Documents** link to attach documents with the change request.
- Select the **Edit Advanced Part Effectivity** link to record the advanced part effectivity definition for the MCR
- Select the **Create Impact Assessment Document** link to prepare Impact Assessment document for the MCR.

Applying aircraft model restrictions

You can specify the aircraft for which the change request is applicable.

1. Select the **Edit Recommended Aircraft Effectivity** link in the **Create Maintenance Change Request** page. The **Edit Recommended Aircraft Effectivity** page appears. *See Figure 2.7*.

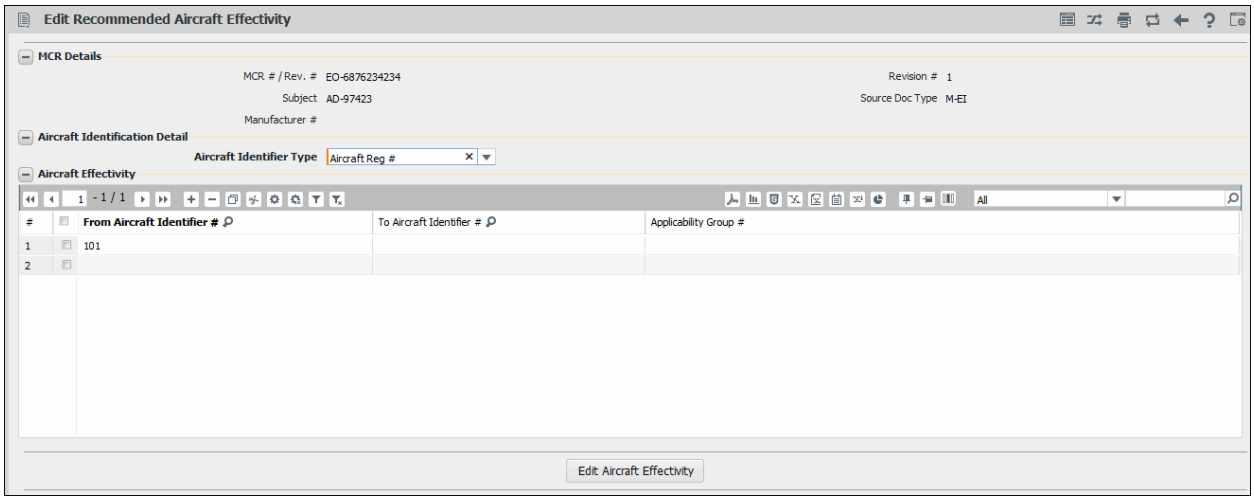


Figure 2.7 Entering aircraft effectivity details

2. Select the appropriate aircraft identifier from the **Aircraft Identifier Type** drop-down list box. The aircraft identifier can be "Aircraft Reg #", "Manufacturer Serial #", "Tail #" and "Variable Tab #". Based on the option selected here, enter the aircraft details in the multiline.

3. Define the range of aircraft identifiers for which the MCR is applicable, in the **From Aircraft Identifier #** and **To Aircraft Identifier #** fields in the multiline.

4. Provide a unique number for the **Applicability Group** under which you wish to group the aircraft.

   Note: While entering other relevant details for the MCR, you can refer to this applicability group number, to indicate the set of aircraft or component for which the compliance details, configuration changes, resources required, weight and balance details etc. are applicable.

5. Click the **Edit Aircraft Effectivity** pushbutton.

Applying component part number restrictions

You can specify the parts and components for which the change request is applicable.

1. Select the **Edit Recommended Part Effectivity** link in the **Create Maintenance Change Request** page. The **Edit Recommended Part Effectivity** page appears. *See Figure 2.8*.

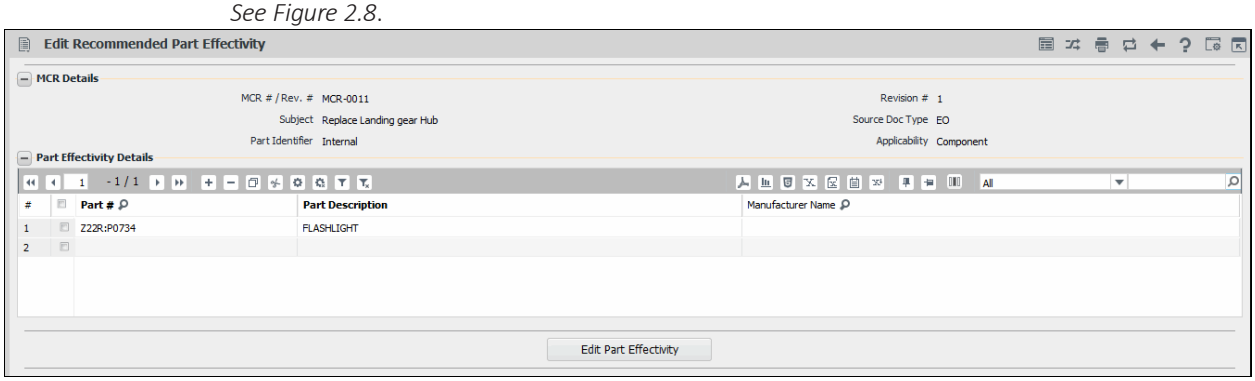


Figure 2.8 Entering part effectivity details

2. Enter the part number for which the MCR is applicable, in the **Part #** field in the multiline.

3. Click the **Edit Part Effectivity** pushbutton.

Setting conditions for change request execution

You can specify certain conditions on satisfying which the change request will be made applicable to the aircraft or component.

1. Select the **Edit Conditional Effectivity** link in the **Create Maintenance Change Request** page. The **Edit Conditional Effectivity** page appears. *See Figure 2.9.*
2. Indicate whether the change must be carried out on the component when it is fitted to aircraft or not, by checking **On-Wing** or **Inventoried** check boxes in the Component Effectivity group box.
3. Enter **Parameter** and **Parameter Descriptions** in the multiline, based on which the change request is executed.
4. Enter any **Other Conditions**.

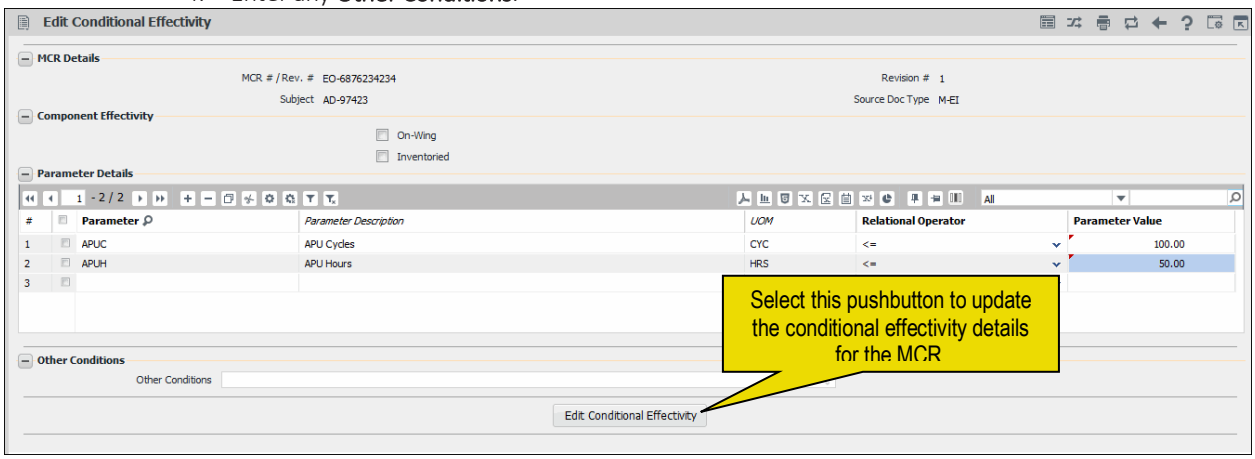


Figure 2.9 Entering conditional effectivity details

5. Click the **Edit Conditional Effectivity** pushbutton.

Specifying concurrent requirements

The current MCR can be related to one or more MCRs raised earlier, that describe the pre-conditions for the execution of the current MCR. For example, you may need to execute an MCR raised earlier (SB#1) before executing the current MCR (SB#3). Such requirements are termed as “Concurrent requirements”.

1. Select the **Edit Concurrent Requirements** link in the **Create Maintenance Change Request** page.
2. Select the applicability group from the **Applicability Group #** drop-down list box.
3. Enter the maintenance change request number in the **MCR #** field that is identified as the concurrent requirement for the current MCR.
4. Set the **Relationship Type** drop-down list box to “Simultaneous”, “Preceding” or “Related” to indicate the relationship type of the concurrent requirement MCR.
5. Click **Edit Concurrent Requirements** pushbutton.

Defining compliance details

You can define the compliance requirements for a maintenance change request. The compliance of an MCR can be based on time or usage of the maintenance object.

1. Select the **Edit Schedule Information** link in the **Create Maintenance Change Request** page. The **Edit Schedule Details** page appears. *See Figure 2.10.*
2. Select the type of schedule from the **Schedule Type** drop down list box in the "MCR Details" group box. The options listed are "One Time", "Recurring", "As Required', and "Perpetual".
3. Select the applicability group from the **Applicability Group #** drop-down list box.

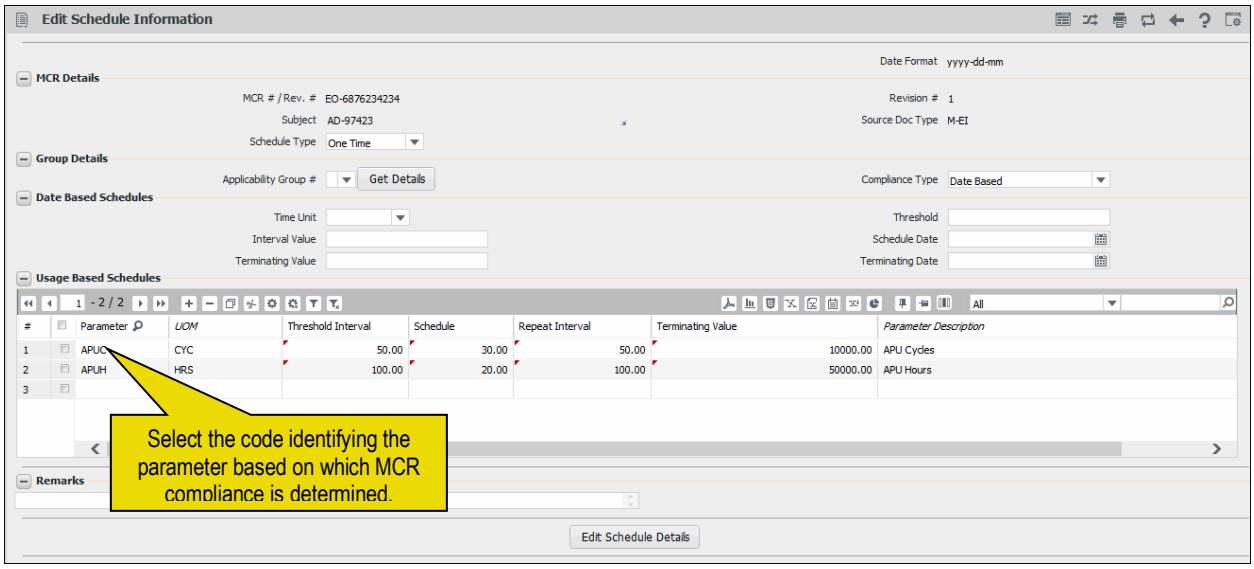


Figure 2.10 Entering schedule details

Enter the following in the **Schedule Details** group box:

4. Enter the **Schedule Date** for the MCR.
5. Select the **Time Unit** for MCR compliance. Ensure that a value is selected in this field, if the compliance type is set to either "Date Based" or "Date & Usage Based".
6. Set the **Schedule Type** drop-down list box to "One Time" or "Recurring" or "As Required" or "Perpetual" to define the schedule options for MCR.
7. Enter the **Threshold Value** for MCR execution.
8. Specify **Interval Value** for MCR execution, in terms of parameters or days.
9. Specify the **Terminating Value** for the MCR execution in terms of parameters or days.
10. Enter the **Terminating Date** for MCR execution.

To enter parameter details for usage based MCR,

11. Enter the **Parameter** code of the consumption parameter, based on which the MCR compliance will be determined.
12. Enter the interval at which the execution of MCR must be carried out for the consumption parameter in the **Threshold Interval** field

13. Enter the **Schedule** for the consumption parameter.

    Note: Ensure that either "Threshold Interval" or "Schedule" is entered for the parameter, if the "Compliance Type" is "Usage Based" or "Date & Usage Based".

14. Specify the **Terminating Value** for the consumption parameter.

15. Click **Edit Schedule Details** pushbutton.

Recording regulatory directive details

Directives are engineering change communications, which relate to critical safety and reliability improvements of the aircraft or its components. Directives that are propagated by the regulatory authorities are referred to as "Airworthiness Directives" (AD) while those originating from the OEMs are described as "Air Operators Telex" (AOT).

You can record the details of the Regulatory Directive that is translated into the maintenance change request.

1. Select the **Edit Regulatory Directive Details** link in the Create Maintenance Change Request page. The Edit Regulatory Directive Details page appears. *See Figure 2.11.*

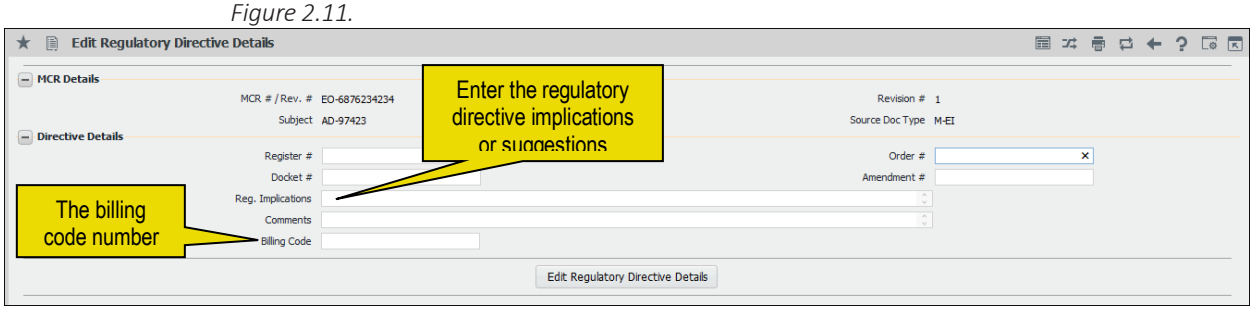


Figure 2.11 Entering regulatory directive details

2. Enter Register number, Order number, Docket number and Amendment number in the **Directive Details** group box.

3. Click **Edit Regulatory Directive Details** pushbutton.

Specifying weight and balance details

The execution of MCR may result in weight and moment change of the aircraft. You can specify the weight and moment details of the aircraft after MCR execution.

1. Select **Edit Weight & Balance Details** link in the Create Maintenance Change Request page.

2. Select the applicability group from the **Applicability Group #** drop-down list box.

3. Click the **Get Details** pushbutton to retrieve the part details that are already defined for the selected applicability group.

4. Enter the part number in the **Part #** field in the multiline.

    *Note: You can retrieve the new parts that are defined as part of the configuration changes in the multiline and enter the weight and moment details. For this, you need to click **Get Parts** pushbutton.*

5. Enter the **Change in Weight** and **Change in Moment** after MCR execution.

6. Enter the **Net Change in Weight** and **Net Change in Moment** if you want to

specify net change in weight or moment for the MCR as a whole.

7. Enter the **Change in Electrical Load** after MCR execution.
8. Click **Edit Weight & Balance Details** pushbutton.

Recording reference information

You can state the reference documents that can be used during change request execution.

1. Select the **Edit Reference Details** link in the Create Maintenance Change Request page.
2. Select the applicability group from the **Applicability Group #** drop-down list box.
3. Select the applicable document category from the **Reference Doc Type** drop-down list box and enter other details such as **Document #**, **Description** and **Remarks**.
4. Click the **Edit Reference Details** pushbutton.

Identifying affected publications

The modifications suggested by MCR might affect various publications such as AMM (Aircraft Maintenance Manual), CMM (Calibration Memory Module) and SRM (Structural Repair Manual). You can identify such manuals as affected publications.

1. Select the **Edit Publications Affected** link in the Create Maintenance Change Request page.
2. Select the applicability group from the **Applicability Group #** drop-down list box.
3. Select the applicable document category from the **Reference Doc Type** drop-down list box and enter other details such as **Document #**, **Chapter-Section** and **Remarks**.
4. Click the **Edit Publications Affected List** pushbutton.

Identifying resource requirements

You can identify the tools, equipment and other resources that are required for change request execution.

1. Select the **Edit Resources Requirements** link in the Create Maintenance Change Request page.
2. Select the applicability group from the **Applicability Group #** drop-down list box.
3. Enter the facility number in the **Facility #** field and the estimated time in the **Est. Time** field in the multiline.
4. Click the **Edit Resource Requirements** pushbutton.

Estimating task requirements

You can define the various tasks and sub tasks that need to be carried out for performing the modification stated in the change request.

1. Select the **Edit Task Information** link in the **Create Maintenance Change Request** page. The **Edit Task Information** page appears. *See Figure 2.12*.

2. Select the aircraft model from the **Aircraft Model** drop-down list box.
3. Select the applicability group from the **Applicability Group #** drop-down list box.
4. Set the **Task Classifier** to "New", "Improvised" or "Existing" to classify the task.
5. Enter the task number in the **Task #** field and the revision number in the **Revision #** field in the multiline.

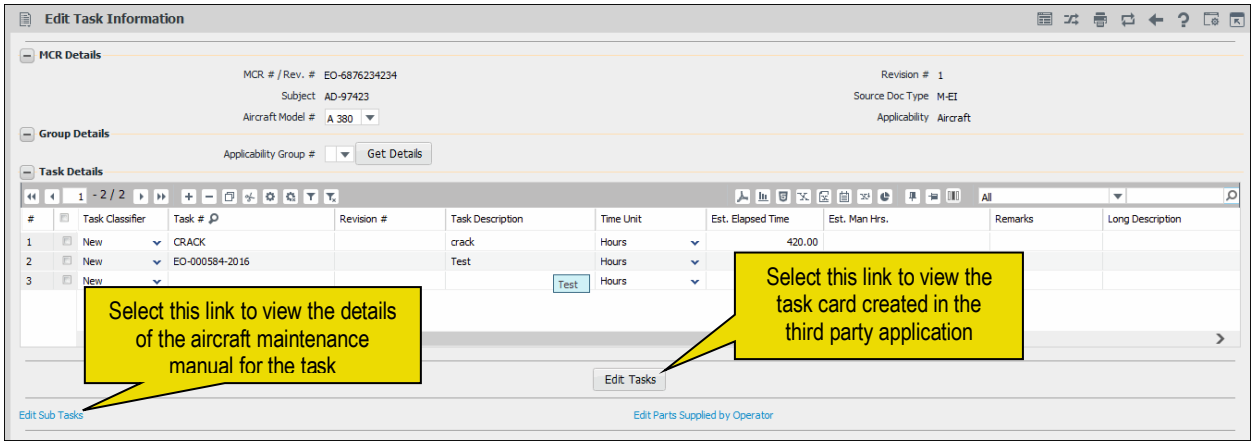


Figure 2.12 Specifying task requirements

6. Enter other task details such as **Time Unit, Est. Elapsed Time, Est. Man Hrs** and **Remarks**.
7. Click the **Edit Tasks** pushbutton.
8. To define the sub tasks, select the **Edit Sub Tasks** link. To edit the parts provided by the operator, select the **Edit Parts Supplied by Operator** link.

Updating configuration changes

You can update the changes in the configuration of the aircraft model or the aircraft due to the change request execution.

1. Select the **Edit Configuration Changes** link in the **Create Maintenance Change Request** page. The **Edit Configuration Change Information** page appears. *See Figure 2.13*.

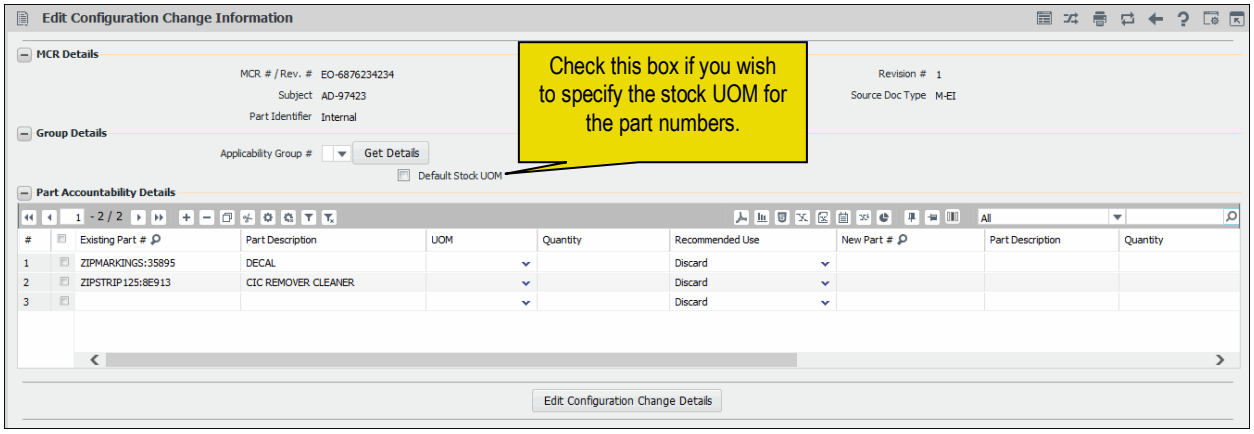


Figure 2.13 Entering configuration change details

2. Select the applicability group from the **Applicability Group #** drop-down list box.

3. Enter the existing part number in the **Existing Part #** field and the **Quantity** of parts to be replaced.
4. Enter the new part number in the **New Part #** field and the **Quantity** of the parts.
5. Define the **Interchangeability** for the parts, which could be "One Way", "Two Way" or "None".
6. Click the **Edit Configuration Change Details** pushbutton.

Maintaining customer list

You can define the list of customers who would execute the MCR on their aircraft. You can define the customer list only for the MCR whose applicability is "Aircraft".

1. Select the **Edit Customer List l**ink in the **Create Maintenance Change Request** page. The **Edit Customer List** page appears.
2. Select the appropriate aircraft identifier type from the **Aircraft Identifier Type** drop-down list box.
3. In the **Customer Details** multiline, enter **Customer #** associated with the MCR #/Revision #.
4. Enter **Aircraft Model #** impacted by the MCR #/Revision #.
5. Enter the **Operator #** and **Operator Name** in the multiline.
6. Specify the range of aircraft identifiers in the **From Aircraft Identifier #** and **To Aircraft Identifier #**.
7. Click **Edit Customer List** pushbutton.

Updating advanced part effectivity for MCR

1. Click the **Edit Advanced Part Effectivity** link in the **Create / Edit / Revise Maintenance Change Request** page. The **Edit Advanced Part Effectivity** page appears. *See Figure 2.14.*

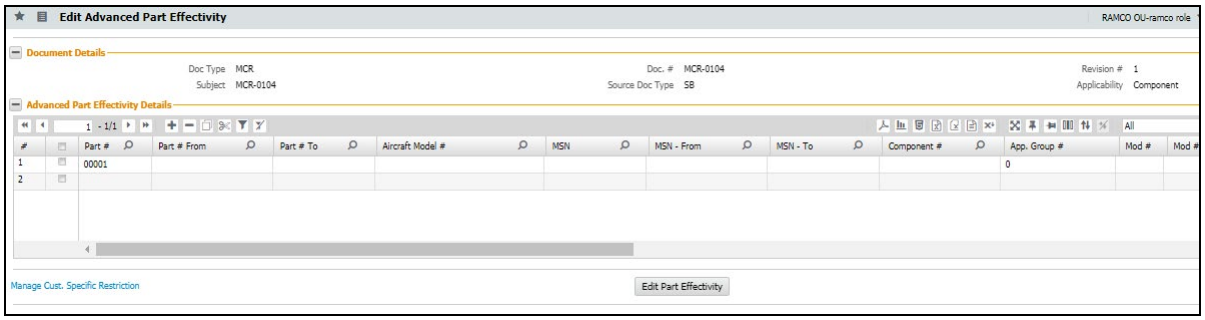


Figure 2.14 Defining Advanced Part Effectivity for MCR

2. Enter **Part #** on which the advanced part effectivity is applicable for the MCR.
3. Alternately, you can specify **From Part #** and **To Part #** to specify the range of parts on which the advanced part effectivity id applicable for the MCR.
4. Enter Serial # of the part on which the advanced part effectivity is applicable for the MCR.
5. Alternately, you can specify **MSN – From** and **MSN – To** to specify the range of manufacturing serial # of those parts on which the advanced part effectivity is applicable for the MCR.

6. Enter **Component #** on which the advanced part effectivity is applicable for the MCR.
7. Enter **Mod #** performed on part # on which the advanced part effectivity is applicable for the MCR.
8. Alternately, you can specify **From Mod #** and **To Mod #** to specify the range of Mod # executed on those parts on which the advanced part effectivity is applicable for the MCR.
9. Enter **Aircraft Model #** on which configured parts are effective for the MCR.
10. Enter **Mfg. Date From** and **Mfg. Date To** to specify the range of manufacturing dates of those parts on which the advanced part effectivity is applicable for the MCR.
11. Enter **Repair Date From** and **Repair Date To** to specify the period in which those parts received from the repair agencies will be affected by the advanced part effectivity for the MCR.
12. Enter **Repair Agency,** the parts received from which become affected by the advanced part effectivity for the MCR.
13. Use the **Restricted?** drop-down list box to indicate whether restricted or non-restricted parts become affected by the advanced part effectivity for the MCR
14. Use the **Restriction Code** drop-down list box to specify the restriction code mapped to those parts on which the advanced part effectivity is applicable for the MCR
15. Click the **Edit Part Effectivity** pushbutton to save the details entered in the page.
16. Select the **Manage Cust. Specific Restrictions** link to record restrictions for an applicability group for a customer.

Recording customer specific restrictions for applicability groups

1. Select the **Manage Cust. Specific Restrictions** link in the **Edit Advanced Part Effectivity** page. The **Manage Cust. Specific Restrictions** page appears.
2. Use the **Restriction Code** drop-down list box to select the restriction code to be mapped to the customer.
3. Enter **Restrictions Remarks**.
4. Click the **Save** pushbutton.

2.1.8 Confirming or canceling a change request

You can confirm or cancel change requests, which are in “Fresh” status.

1. Select **Edit Maintenance Change Request** under Maintenance Change Request business component. The **Select Maintenance Change Request** page appears.
2. Enter the **MCR #** directly or enter search criteria, to retrieve change requests that are already created.
3. Select the change request to be confirmed or cancelled, in the multiline. You can also select multiple change requests for confirmation or cancellation.

   *Note: If you wish to confirm or cancel the change requests without modifying the details, click the **Confirm MCR(S)** and **Cancel MCR(S)** pushbuttons in this page.*

To modify the MCR details before confirmation,

1. Select the hyper linked MCR number in the multiline of the **Select Maintenance Change Request** page. The **Edit Maintenance Change Request** page appears. *See Figure 2.15*.
2. Modify the required details.
3. Click the **Confirm MCR** pushbutton to confirm the maintenance change request.
4. Click the **Cancel MCR** pushbutton to cancel the maintenance change request.

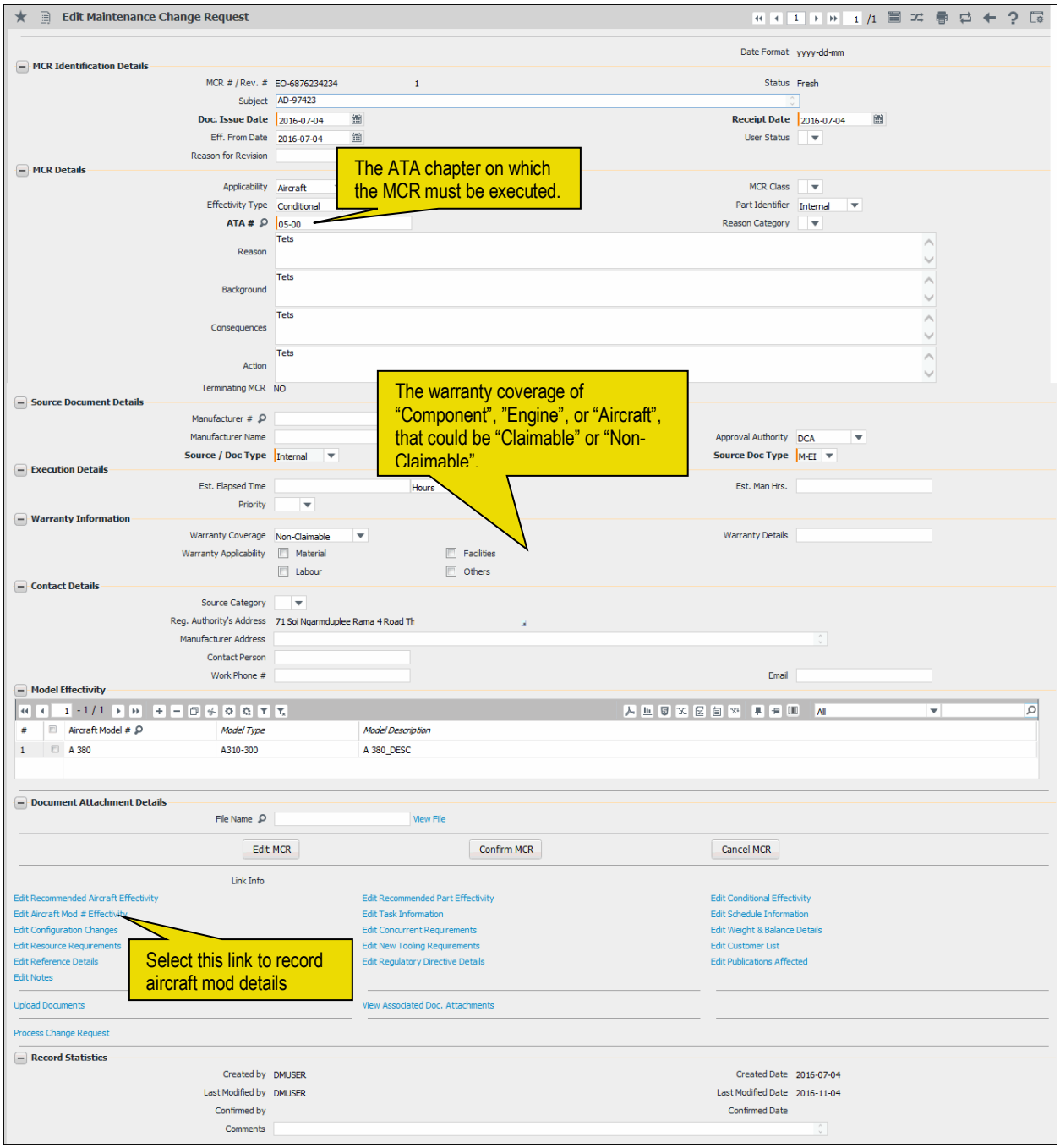


Figure 2.15 Confirming or canceling a maintenance request

2.1.9 Recording change request revisions

The change request undergoes revisions on the basis of the "Revision Transmittals" propagated by the supplier or OEM or regulatory authority. You can record a revised

change request directly or revise the details of an existing change request.

> *Note: You can revise only those MCR documents that are in "Confirmed" or "Processed" status.*

1. Select **Revise Maintenance Change Request** under **Maintenance Change Request** business component.
2. Enter the maintenance change request number in the **Direct Entry** group box and select the **Revise MCR** link to revise the maintenance change request. Or provide filter criteria to search for change request that must be revised.
3. Select the hyperlinked MCR number to be revised, in the multiline. The **Revise Maintenance Change Request** page appears. *See Figure 2.16*.

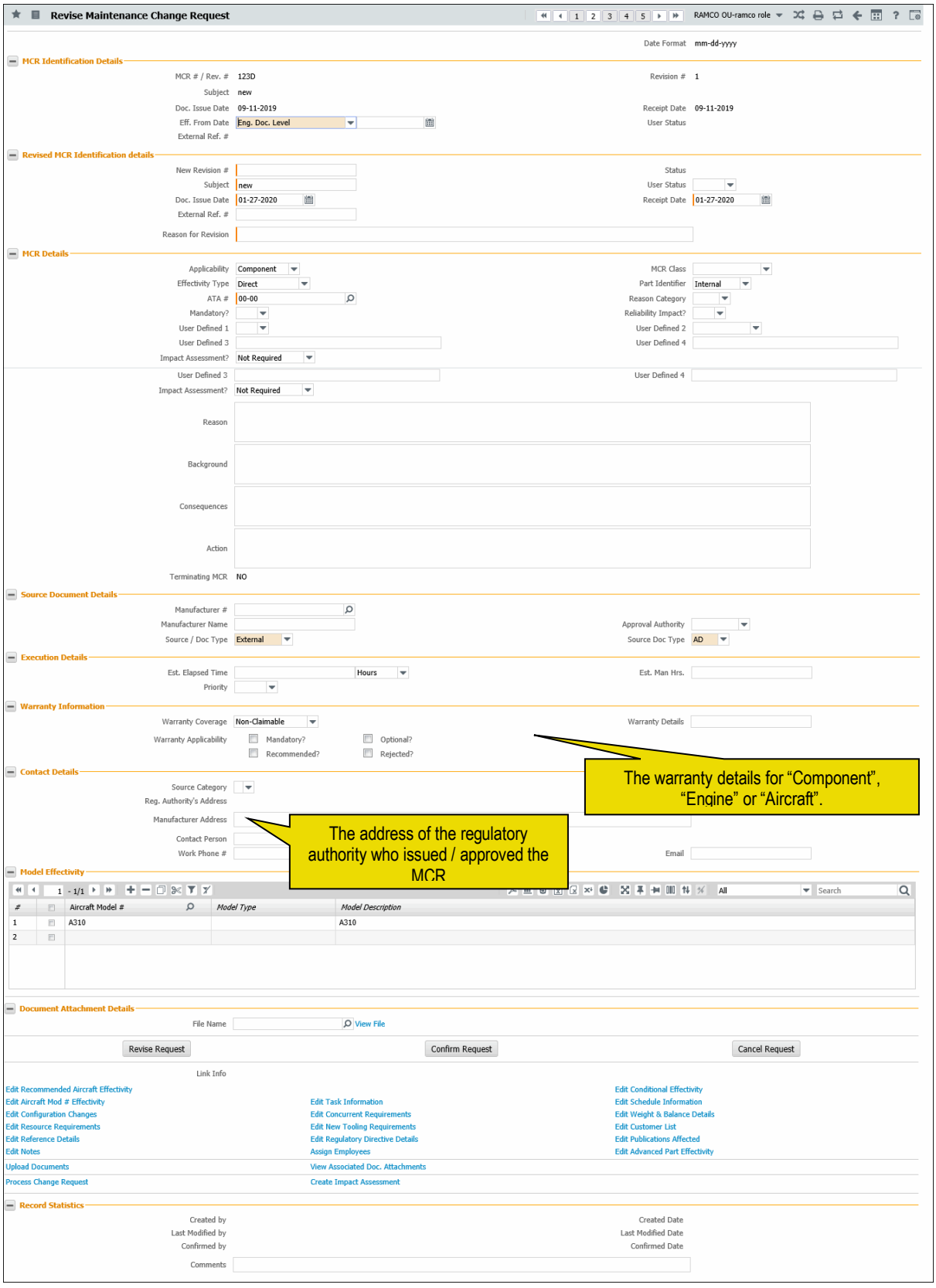


Figure 2.16 Revising maintenance change request

4. Enter the **New Revision #** and the revised details for the change request.
5. Enter the textual description of the maintenance change request, in the **Subject** field.
6. The date on which the maintenance change request is issued, in the **Issue Date**

field.

7. The date on which the maintenance change request was received into the airline operator's records, in the **Receipt Date** field.
8. Specify **Applicability** of the MCR, **MCR Class**, **Effectivity Type**, **Part Identifier**, **ATA #**, and **Reason Categor**y in the **MCR Details** group box.
9. Use the **Mandatory?** drop-down list box to indicate whether the engineering change must be effectively executed on the part # - serial # on which the MCR is applicable.
10. Use the **Reliability Impact?** drop-down list box to Indicates whether the part # - serial # impacted by the engineering change must be taken into consideration for component reliability analysis.
11. Use the **Impact Assessment?** drop-down list box to indicate whether the engineering change will affect / upgrade the component.

    *Note: The "**Impact Assessment?" field is available only if the** process parameter "Applicability of Impact assessment for MCR" under the entity type Eng. Doc Type and the entity "All-Eng-Doc" is set as '2' in the Define Process Entities activity of Common Master. In addition, this field will be set to 'Required' by default, if "Applicability of Impact assessment for MCR" is set as '2'.*
12. Specify the **Manufacturer #** and **Manufacturer Name** who issued the MCR, in the **Source Document Details** group box.
13. Specify the **Est. Elapsed Time, Est. Man Hrs**. and **Priority** in the **Execution Details** group box.
14. Specify the **Warranty Coverage**, **Warranty Details** and **Warranty Applicability** in the **Warranty Information** group box. The warranty applicability can be specified by checking any one of the following check boxes:
    - Material" - Check this box if the warranty claim is applicable for the material.
    - "Labor" - Check this box if the warranty claim is applicable for the labor.
    - "Facilities" - Check this box if the warranty claim is applicable for the facilities.
    - "Others" - Check this box if the warranty claim is applicable for options other than "Material", "Labor" and "Facilities".

    Note: Any one of the above mentioned check boxes under "Warranty Applicability" must be selected, if the warranty coverage is selected as "Claimable". The system ignores the check boxes selected, if the warranty coverage is set to "Non-Claimable".
15. Click the **Revise Request** pushbutton to revise the MCR.
16. Click the **Confirm Request** pushbutton to confirm the revisions made in the MCR.
17. Click the **Cancel Request** pushbutton to cancel the revisions made in the MCR

    Note: The change request attains "Revised" status and is ready for processing in the "Engineering Document" business component.

To provide further details,

- Select the **Edit Recommended Aircraft Effectivity** link to specify aircraft effectivity details.

- Select the **Edit Recommended Part Effectivity** link to specify part effectivity details.
- Select the **Edit Conditional Effectivity** link to specify conditional effectivity details.
- Select the **Edit Aircraft Mod # Effectivity** link at the bottom of the page to record the details of modification done to the aircraft.
- Select the **Edit Task Information** link to specify task information.
- Select the **Edit Schedule Information** link to define the schedule details for the MCR.
- Select the **Edit Configuration Changes** link to record configuration change details.
- Select the **Edit Concurrent Requirements** link to describe the pre-conditions for executing the current MCR.
- Select the **Edit Weight & Balance Details** link to specify weight and balance details.
- Select the **Edit Resource Requirements** link to specify resource requirement details.
- Select the **Edit New Tooling Requirement** link to specify new tooling requirement details.
- Select the **Edit Customer List** link to specify the customer list details.
- Select the **Edit Reference Details** link to record reference document details.
- Select the **Edit Regulatory Directive Details** link to record regulatory directive details.
- Select the **Edit Publications Affected** link to record affected publication details.
- Select the **Edit Notes** link to enter additional notes pertaining to the MCR.
- Select the **Process Change Request** link to process the change request.
- Select the **Upload Documents** link at the bottom of the page to attach documents with the change request.
- Select the **View Associated Doc. Attachments** link to view documents associated with the change request.
- Select the **Edit Advanced Part Effectivity** link to enter the additional part effectivity details for the MCR.
- Select the **Create Impact Assessment Document** link to prepare Impact Assessment document for the MCR.

  Note: The "Create Impact Assessment Document" link is available only if the process parameter "Applicability of Impact assessment for MCR" under the entity type Eng. Doc Type and the entity "All-Eng-Doc" is set as 1 or 2 in the Define Process Entities activity of Common Master.

2.1.10 Performing cost benefit analysis of change request

You can perform an economic analysis on the affected aircraft, to evaluate the change request.

A Change Request of the MCR can be subjected to economic analysis as the MCR communicates engineering change through modification documents (Service Bulletin, Airworthiness Directive etc.)

2.1.11 Defining quick codes

1. Select **Create Quick Codes** under **Engineering Document** business component. The **Create Quick Codes** page appears. *See Figure 2.17*.

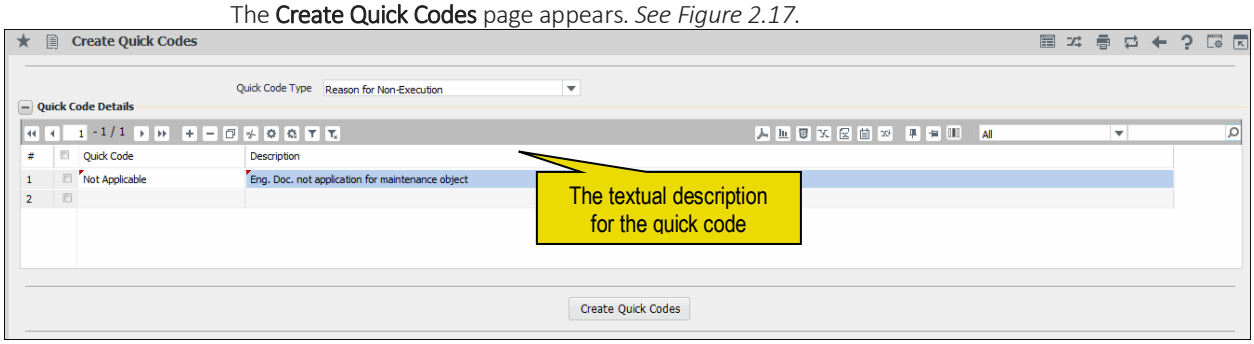


Figure 2.17 Creating quick codes for engineering document

2. Use the **Quick Code Type** drop-down list box to select the type of quick code to be created. You can define quick codes of the type " Eng. Doc-Category", "Eng Doc-User Status", "Recommendation Category", "Evaluation - User Defined Category", Reason for Non-Execution", "Eng. Change Order – User Status", "Eng. Change Order – Doc. Category", "Impact Category", " "User Defined 4", "User Defined 5", "User Defined 6", "User Defined 7", "User Defined 8", "User Defined 9", "User Defined 10", "EO User Defined 10", "EO User Defined 11", "EO User Defined 12" and "MOD Compl. User Status.
3. Enter unique quick codes for the selected type, in the **Quick Code** field in the multiline.
4. Enter the **Description** for the quick code.
5. Click the **Create Quick Codes** pushbutton.

   Note: The system assigns the "Active" status to the quick codes entered in the multiline.

2.1.12 Assigning employees to change request

*Note: Employee assignment to the change request is mandatory when **Assignments Mandatory** option is set as "Yes" in **Set Options** activity.*

1. Select **Assign Employees** under Engineering Document business component.
2. Provide filter criteria to retrieve the change requests for assigning employees. The MCRs in "Confirmed" status can be retrieved.
3. Click the **Search** pushbutton.
4. Click the hyper linked **Change Request #** in the multiline. The **Assign Employees** page appears. *See Figure 2.18*.

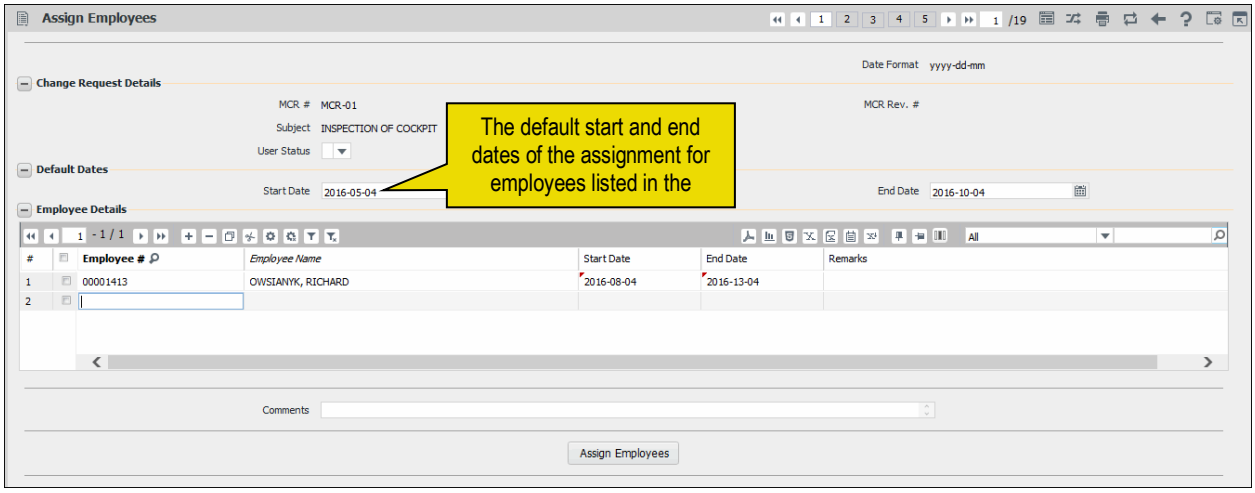


Figure 2.18 Assigning employees to change request

5. Enter the **Employee code** that you wish to associate to the change request.
6. Identify the **Start Date** and **End Date** of change request evaluation
7. Click **Assign Employees** pushbutton.

   Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.

2.1.13 Processing change request

You can analyze the change request and identify the consequences of its compliance and non-compliance. Any implication regarding the change request execution can be given in terms of recommendation. You can identify the affected aircraft and components and include more aircraft considering the economic impact of the change request.

1. Select **Process Change Request** under Engineering Document business component. The Select Change Request page appears.
2. Provide filter criteria to retrieve the change requests for evaluation.

   Note: Only MCRs in "Processed" or "Confirmed" status are retrieved.
3. Click **Search** pushbutton.
4. Select the **Change Request #** in the multiline.
5. Select the **Evaluate Change Request** link, to evaluate the change request.
6. Select the **Process Change Request** link, to process the change request.

Evaluating the change request

1. Select the **Evaluate Change Request** link in the **Process Change Request** page. The **Evaluate Change Request** page appears. *See Figure 2.19* .

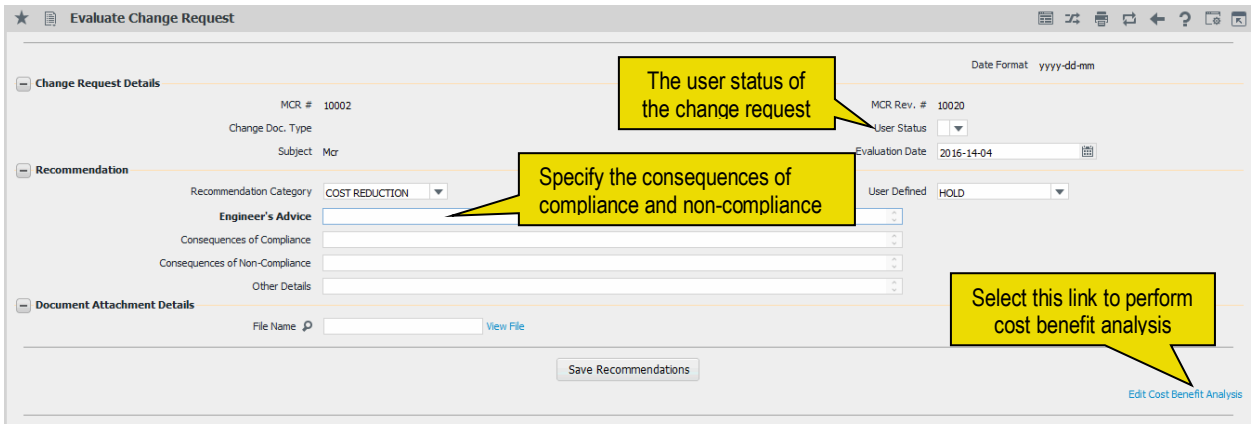


Figure 2.19 Evaluating change request

2. Enter the **Engineer's Advice** regarding change request compliance.
3. Click the **Save Recommendations** pushbutton.

   To provide further details,

- Select the **Edit Aircraft Effectivity** link to specify aircraft effectivity details.
- Select the **Edit Part Effectivity** link to specify part effectivity details.
- Select the **Edit Cost Benefit Analysis** link to perform cost benefit analysis on the change request.

Performing cost benefit analysis

You can specify the material, resource, downtime and miscellaneous costs that will be incurred and the maintenance, operational and miscellaneous savings that can be achieved, per maintenance object. The system projects the fixed and recurring expenses and savings for the affected entities (aircraft or component).

1. Select the **Edit Cost Benefit Analysis** link in the **Evaluate Change Request** page. The **Edit Cost Benefit Analysis** page appears. *See Figure 2.20.*

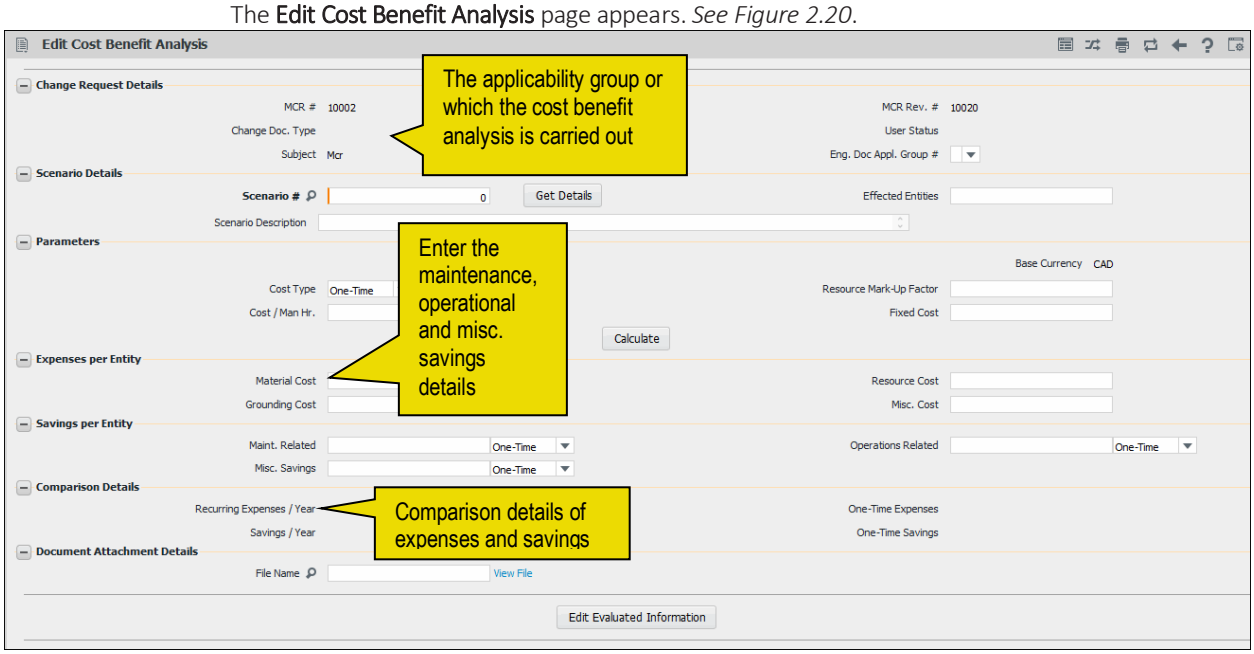


Figure 2.20 Performing cost benefit analysis

2. Define a **Scenario #** for which the cost benefit analysis is carried out. Provide a unique number for the **Scenario,** and enter the number of **Effected Entities** and the **Scenario Description.**

3. Enter the **Resource Mark-Up Factor** for calculating the cumulative material and resource cost.

   This resource mark-up factor is multiplied with the total material and resource cost estimated for the change request in the "Maintenance Change Request" business component for MCR. Enter Cost / Man Hr. and Fixed Cost in the Parameter group box.

4. Click the **Calculate** pushbutton.

5. Enter the **Material Cost, Resource Cost, Grounding Cost** and **Misc. Cost** expected of the change request execution on a single Aircraft, Component or Engine in the **Expenses per Entity** group box.

6. Enter the expected savings related to **Maintenance, Operations and Miscellaneous** work on a single Aircraft, Component or Engine, in the **Savings Per Entity** group box.

7. Click **Edit Evaluated Information** pushbutton.

Processing evaluated change request

You can process the evaluated change request in the process change request. The chairman and a few members who would analyze the change request implications and approve or deny it accordingly in the process change request.

1. Select the **Process Change Request** link in the **Select Change Request** page. The **Process Change Request** page appears. *See Figure 2.21.*

2. In the **Processing Details** group box, record the **Execution Decision**. This is the decision taken in the process whether to "Execute", "Not To Execute" or "Hold" the change request.

3. Select the **Auto-Embodiment Required?** check box to indicate whether the system must automatically carry out the auto-embodiment of the part.

   In the **Default Details** group box,

4. Identify the **Mode of Execution** of change request as "New Eng. Doc.", "Existing Eng. Doc." or "Revised Eng. Doc".

5. Use the drop-down list box to specify whether the change request is applicable, not applicable or is on hold in the **Applicable?** field and provide the **Eng. Doc #.**

6. Specify **Eng. Doc. Appl. Group#** to specify the number identifying the engineering document applicability group

7. Use the **Restricted?** drop-down list box to indicate whether the part #- serial # impacted by the engineering change can be restricted to specific transactions.
   - Yes - Generic, if the part has been restricted from usage as stipulated by SB or AD
   - Yes - Cust. Specific, if the part has been restricted from usage as stipulated by SB or AD for specific customer
   - No, if the usage of the part is not restricted in operations

8. Use the **Restriction Code** drop-down list box to select the restriction code for the part # - serial # impacted by the engineering change, if you have selected

Yes - Generic in the **Restricted?** field.

9. Use the **Schedule Disposition Code** drop-down list box to select the disposition code applicable for the part # - serial # impacted by the engineering change.

10. Use the drop-down list box to specify the **Action on Rev. Effectivity**, **Reason for Non-Execution** and **Category** to which the engineering document belongs.

11. Provide any information relating to the selection of applicability in the **Applicability Notes** field.

12. Enter the details in the **Default Details** group box to default the values in the **Effectivity Details** multiline.

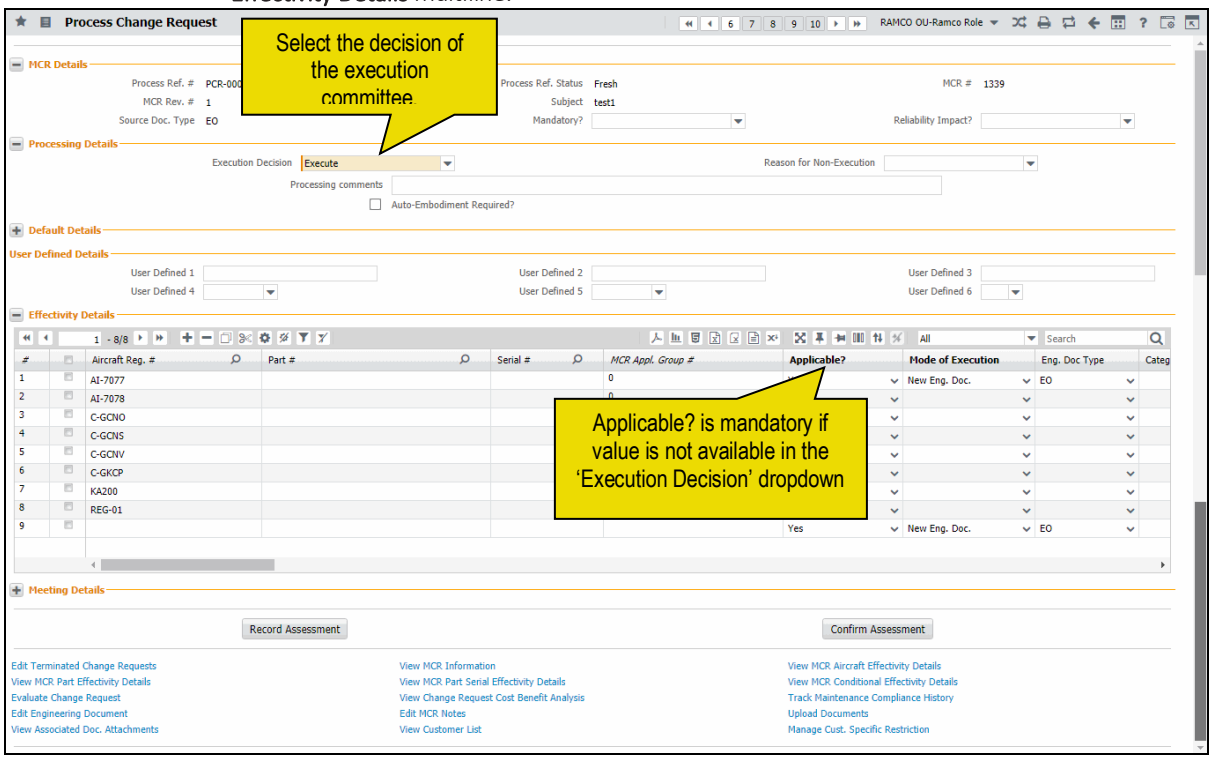


Figure 2.21 Processing change request

In the **Effectivity Details** multiline,

13. Specify the fields, **Aircraft Reg. #, Applicable? Mode of Execution** and other details.

> *Note: The system defaults the values in the "Effectivity Details" multiline based on the values entered in the "Default Details" group box.*

In the **Meeting Details** group box:

14. Provide a unique number for the approval in the **Approval #** field In case of approving a change request. Enter the **Approved Date**. You can approve multiple change requests in the multiline.

> *Note: If you wish to approve all the change requests related to the current change request, click Get Related Change Requests pushbutton. The system retrieves all the change requests that are defined as concurrent requirements.*

15. Click the **Confirm Assessment** pushbutton to confirm the processed change request. The process reference status is updated to "Confirmed".

> *Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management"*

business component.

To provide further information,

- Select the **View MCR Information** link at the bottom of the page to view the details of the MCR.
- Select the **View MCR Aircraft Effectivity Details** link to specify aircraft effectivity details.
- Select the **View MCR Part Effectivity Details** link to specify part effectivity details.
- Select the **View MCR Part Serial Effectivity Details** link to view the part effectivity details of the MCR.
- Select the **View MCR Conditional Effectivity Details** link to view the effectivity details of the MCR.
- Select the **Evaluate Change Request** link to evaluate the change request.
- Select the **View Change Request Cost Benefit Analysis** link to view the cost implications of the change request execution on the affected entities.
- Select the **Track Maintenance Compliance History** link to view details of completion of tasks.
- Select the **Edit Engineering Document** link to create / modify / revise the engineering document.
- Select the **Upload Documents** link at the bottom of the page to upload the documents against the Process Change Request.
- Select the **View Associated Doc. Attachments** link at the bottom of the page to view the documents associated to the Process Change Request.
- Select the **View Customer List** link to view the customers associated with the MCR # / Revision # referenced to the PCR.
- Select the **Manage Cust. Specific Restriction** link to record restrictions for an applicability group for a customer.

2.2 AUTHORING AN ENGINEERING DOCUMENT

Engineering document contains information regarding various engineering changes that have to be carried out on a maintenance object (aircraft or component). Typically an engineering change involves modification of the component / part numbers, or change in the maintenance programs and so on. You can create / edit / revise / view / cancel engineering document in a single screen. You can perform various operations from creation of Process Change Request to releasing an engineering document, in a single screen.

2.2.1 Managing engineering document

You can create / edit / revise / view engineering document in a single screen. You can perform various operations from creation of Process Change Request to releasing an engineering document, in this page.

Progress bar is displayed in the screen to indicate document completion and icons are provided to represent an engineering document, Maintenance Change Request, compliance status of the engineering document and so on.

The salient features of this activity are mentioned below:

- Creating / Editing / Viewing / Revising engineering document in a single screen.
- Auto generation of Process Change Request based on MCR.
- Editing released Engineering document without revision, based on option setting.
- Viewing entire effectivity defined for an engineering document, irrespective of revision and 'Applicable?'.
- Defining action on revision at effectivity level.
- Defining a document as previously complied at effectivity level.
- Terminating a task through engineering document.
- Categorizing task as 'Self-Compliance' or 'Related Task Compliance'.
- Defining "As-Required" and "Schedule Tacked" tasks in an engineering document.
- Definition of 'Schedule Type' at task level.
- Capturing Engineering document as reference document.
- Optional resetting of task schedules of already-initialized tasks.

1. Select **Manage Engineering Document** activity under the **Engineering Document** business component. The **Manage Eng. Document** page appears. *See Figure 2.22.*

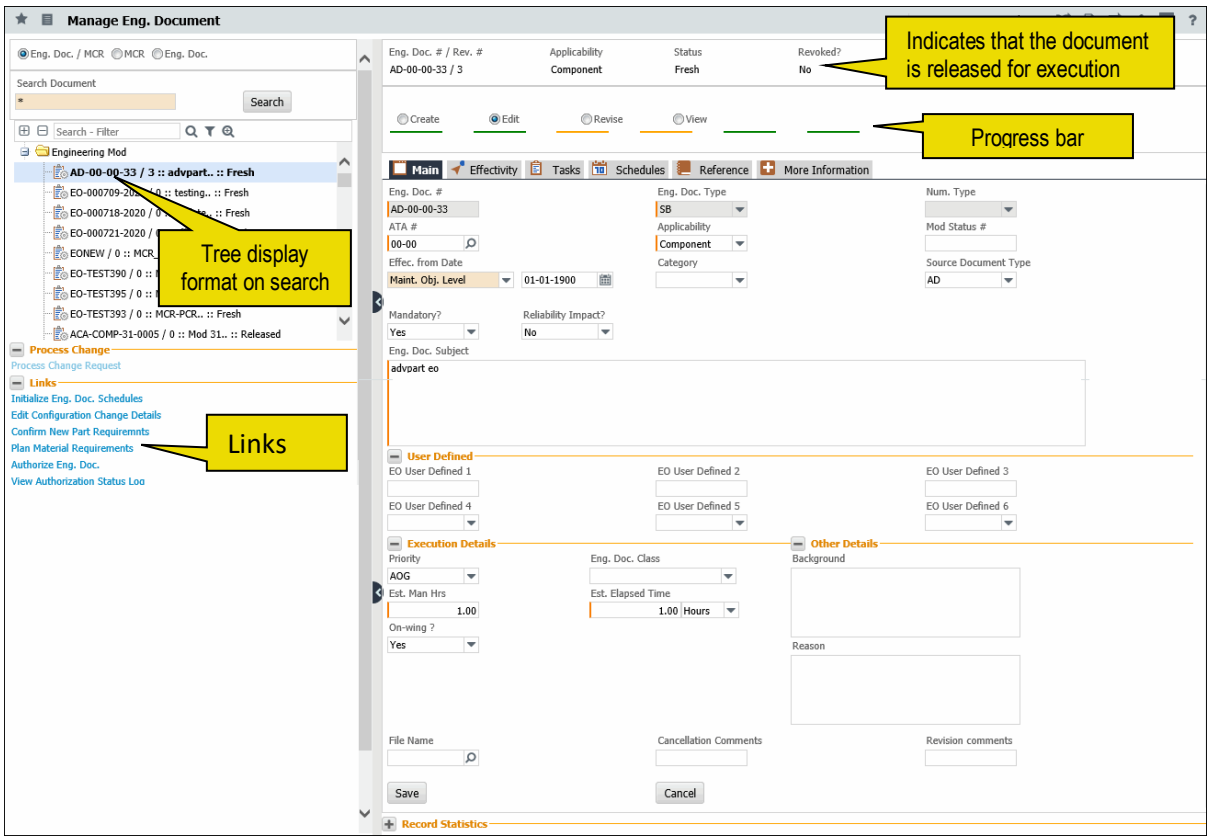


Figure 2.22 Managing Engineering Document

2. Select one of the radio buttons **Eng. Doc. / MCR, MCR or Eng. Doc.** and enter Search Document.

3. Click the **Search** pushbutton to retrieve the Engineering Documents / MCRs, in a tree structure, based on the search criteria specified.

   Note: On search, the system displays the matching MCR and Eng. Doc. records in a tree structure with the folder 'Engineering Mod' as a parent node,. The records are displayed along with the Revision # concatenated with the respective MCR / Eng Doc. Description, in alphabetical order. MCR and Engineering document are identified by different icons.

   a. A 'Clip board with gear' '  *' indicates Engineering document*

   b. A simple clipboard '  *' indicates MCR document.*

   c. If an engineering document has been fully revoked, the node in the tree is displayed as shown below:

      a. Eng. *Doc.* # / Revision # :: Eng. Doc Description :: Eng. Doc. Status :: Revoked

4. Select the 'Create' / 'Edit' / 'Revise' / View radio button in the right pane to create / edit / revise / view the engineering document. These radio buttons are common for all tab pages.

5. A progress bar is displayed to indicate the completeness of data entry. 'Green' color indicates that mandatory data has been entered and 'Orange' color indicates that mandatory data has not been entered.

   1. In the Main tab, you can create an engineering document with or without Maintenance Change Request (MCR) number.

   2. Select the Effectivity tab, to define effectivity details for the selected

Engineering Document.

3. Select the Tasks tab to define tasks for the Engineering Document.
4. Select the Schedules tab to define schedules for an Engineering Document.
5. In the References tab, you can add / modify references for an Engineering Document.
6. Select the More Information tab, to can record additional details of the Engineering Document, like budget information, warranty details etc.

To proceed further

- Select the Process Change Request link to process the change request.
- Select the Initialize Eng. Doc. Schedules link to initialize engineering schedules.
- Select the Edit Configuration Change Details link to enter the configuration change information for the Engineering Document.
- Select the Confirm New Parts Requirements link to specify the new parts that are required for executing the Engineering Document.
- Select the Plan Material Requirements link to specify the parts for which the purchase request must be generated.
- Select the Authorize Engineering Document link to authorize the engineering document.
- Select the Release Engineering Document link to release the engineering document.
- Select the **Edit Notes** link at the bottom of the page to modify the additional notes for the engineering document.
- Select the **Upload Documents** link at the bottom of the page to upload documents.
- Select the **Manage Task Cards** link to manage the task cards created in the third party application.

  Refer to the "Task Card Publisher" Online Help for more details.

  Note: The Manage Task Cards" link is applicable only for Create, Edit and revise modes.
- Select the **Edit Customer List** link to update the details of customers associated with the MCR #/Revision # referenced to the engineering order in the Create / Edit / Revise mode.
- Select the **View Customer List** link to view details of customers associated with the MCR #/Revision # referenced to the engineering order in the View mode.
- Select the **Manage Cust. Specific Restrictions** link to record restrictions for an applicability group at the customer level.

Creating an engineering document

1. Select the **Create** radio button, to create a new document number. On Click of an MCR document from the tree, the **Create** radio button is selected by default, to facilitate engineering document creation.
2. Click the **Save** pushbutton.

3. On creation of engineering document if the primary Maintenance Change Request (MCR) does not have any Process Change Request (PCR) document, system creates a PCR in Confirmed status. On this process, the system modifies the MCR status to "Processed".

Cancelling engineering document

1. Select an **Engineering Document** in the tree.
2. Select the **Main** tab in the **Manage Eng. Document** page.
3. Enter the Cancellation Comments.
4. Click the **Cancel** pushbutton to cancel the engineering document.

   You cannot cancel a released engineering document.

Revising engineering document

1. Set the **Revise** radio button to revise an engineering document, irrespective of the option setting.
2. On selecting an engineering document in "Released" status, corresponding data gets transferred to the right pane, and the 'Revise' radio button is defaulted.
3. Enter the **Revision Comments**.
4. Click the **Save** pushbutton.

Editing engineering document without revising

1. Set the **Edit** radio button, to edit an engineering document.
2. You can edit the released engineering document without revising, based on the options set in the **Common Master** business component.
3. On click of an engineering document in "Fresh" status, corresponding data gets transferred to the right pane and the **Edit** radio button will be defaulted.
4. Click the **Save** pushbutton.

Viewing engineering document

1. Select the **View** radio button.
2. Search in View mode will retrieve engineering documents in all statuses. On click of engineering documents, in "Released", "Revised" or "Cancelled" status, from tree, radio button will be defaulted to "View". In View mode, transactions are not allowed.

Recording main details of engineering document

You can create an engineering document with or without Maintenance Change Request (MCR) number. On creation of engineering document, if the primary MCR does not have any Process Change Request (PCR) document, the system creates a PCR in Confirmed status. The status of the MCR is changed to "Processed".

1. The **Main** tab appears by default in the **Manage Eng. Document** page. *See Figure 2.23.*

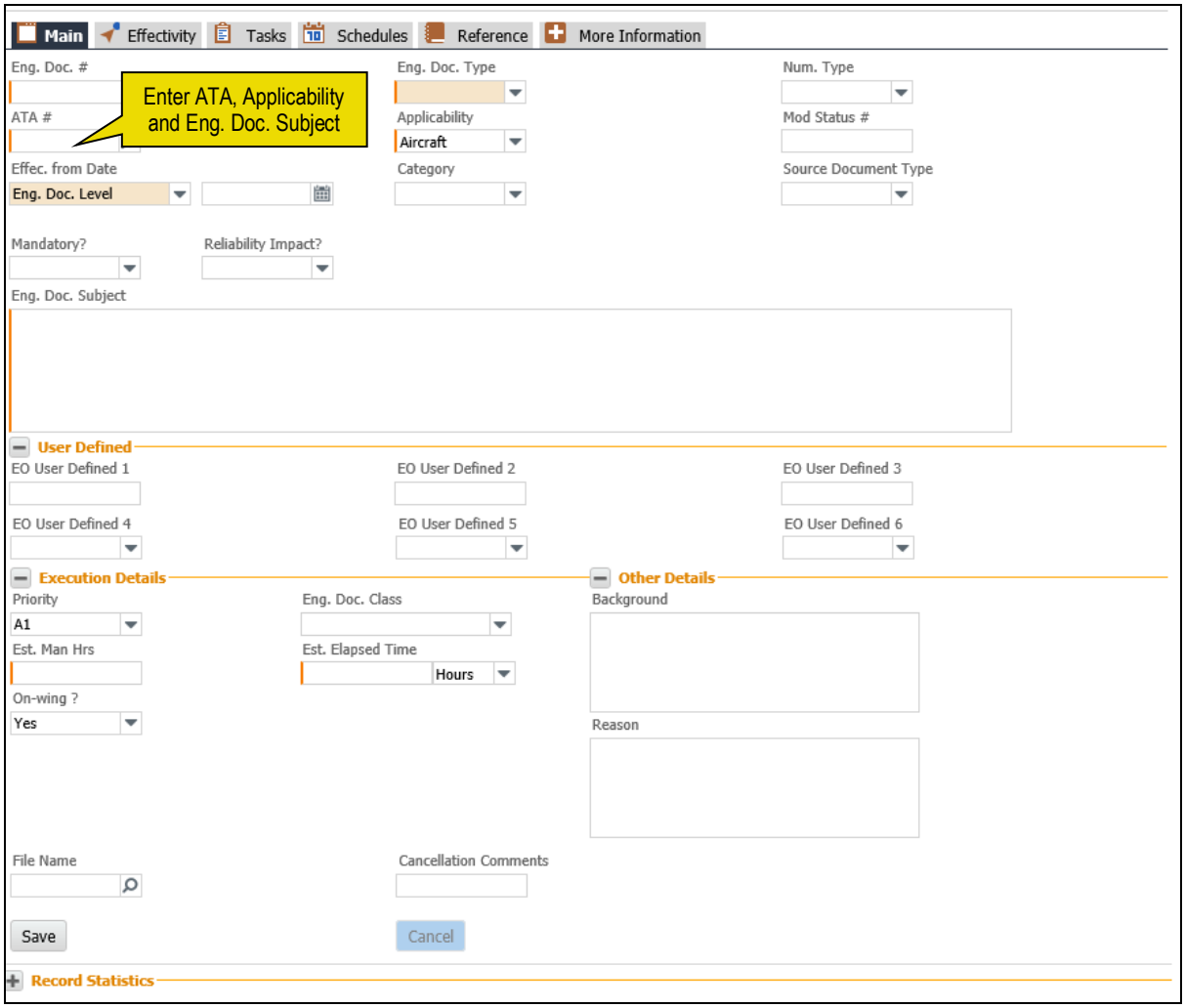


Figure 2.23 Creating / editing / revising Engineering Document

2. Enter the **Eng. Doc. #** and **Eng. Doc. Type.** If a default 'Eng Doc Type' is defined for the for the selected 'Source Doc Type' in the **Common Master** business component, the system considers the Default Eng.Doc Type as the 'Eng.Doc Type' for the Eng. Doc # generated.

3. Enter the **ATA #** on which the engineering document must be executed.

4. Select the **Applicability** of the engineering document as “Aircraft”, “Engine” or a “Component”. You cannot modify the Applicability, if the Effectivity details are available in the **Effectivity** tab.

5. Enter the textual description of the engineering document in the **Eng. Doc. Subject.**

6. Use the **Mandatory?** drop-down list box to indicate whether the engineering change must be effectively executed on the part # - serial # on which the engineering document is applicable.

7. Use the **Reliability Impact?** drop-down list box to specify whether the part # - serial # impacted by the engineering change must be taken into consideration for component reliability analysis.

8. Enter the Execution Details like **Est. Man Hours** estimated for “Skill” type resources to execute the engineering document and the **Est. Elapsed Time**.

9. Click the **Save** pushbutton to create / modify / revise the engineering document details.

- The system generates a unique Direct Engineering Document # with / without any MCR reference.
- On creating the Engineering Document, the system flips the radio button from “Create” to “Edit”. The ‘Main’ part of the progress bar displayed above the tabs, is changed from ‘Orange’ color to ‘Green’ color.
- If a new Eng. Doc. # is created for the selected MCR #, the system copies the following details from the 'MCR # - Rev #' combination to 'Eng. Doc #'.
    - Aircraft / Part / Serial Effectivity details
    - Conditional Effectivity
    - Concurrent requirements.
    - Task details.
    - Configuration change details.
    - Level code / position code details.
    - Resource and the tool requirement details.
    - Kits and the kit composition details
    - Net Change in Weight, Net Change in Moment and the Change in Electrical Load details
    - Reference documents, publications affected and schedule details

10. Enter the **Cancellation Comments** if you wish to cancel the engineering document.
11. Click the **Cancel** pushbutton to cancel the engineering document.

    Note: The status of the Engineering Document is updated as “Cancelled”.

Recording effectivity details

You can define effectivity details for the selected Engineering Document. You can define both Aircraft and Part #- Serial # effectivity by specifying a serial range for the Aircraft Model # or Part #. All aircrafts of specific Model # or all Components of Part # can be defined as effective.

You can also define action of revision at effectivity level, enter previous compliance details and Inactive / Terminate ‘Schedule Status’ of the tasks in in the respective programs.

1. Select the **Effectivity** tab in the **Manage Eng. Document** page. *See Figure 2.24.*

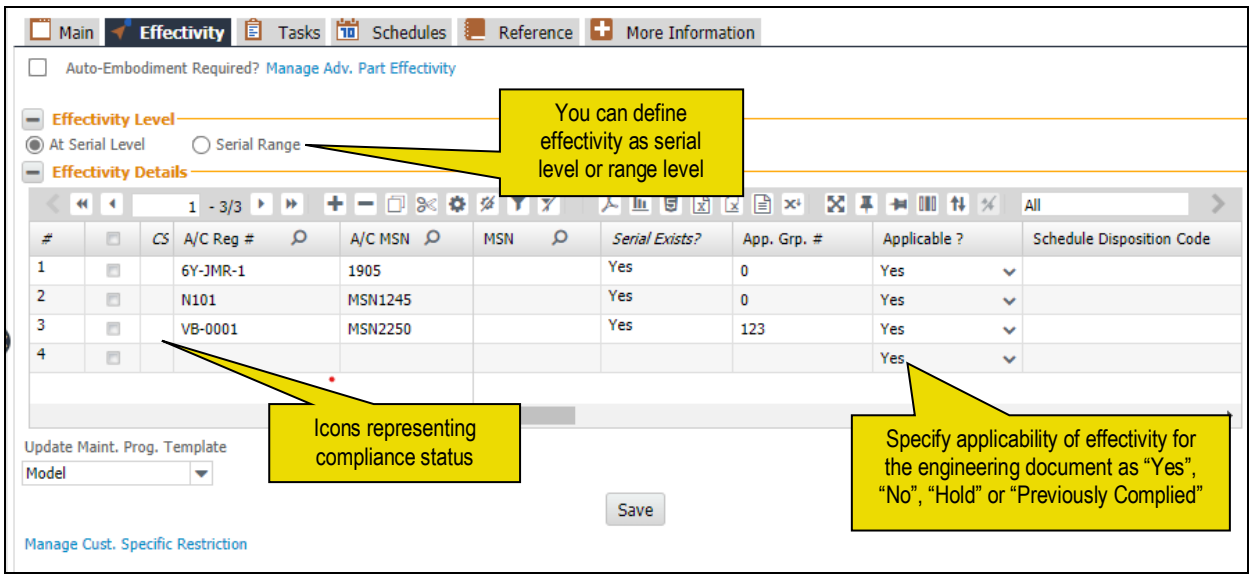


Figure 2.24 Recording effectivity details

Effectivity Details – At Serial Level

Auto-Embodiment

Auto-embodiment refers to the process of upgrading an existing part to a new part as per the stipulations of an engineering order. The engineering order typically specifies the tasks that must be executed on the existing part so as to upgrade the part to the new part.

The system triggers auto-embodiment for all the serial # of the part # that has been included in Advanced Part Effectivity for the MCR associated with the engineering document based on specific criteria (MSN range, Part # range, Mfr. Date Range and Aircraft Model). The engineering order tasks will be updated in the maintenance programs of the associated components with the schedule in the 'Active' status

2. Select the **Auto-Embodiment Required?** checkbox to update details of effective components/aircraft activated post engineering document creation. Select the checkbox to ensure any new activated component/aircraft on which the engineering document must be executed is updated in the document automatically by the system. However, it must be noted that auto-embodiment will be based on the definition set in the "Edit Recommended Part Effectivity" activity or "Edit Advanced Part Effectivity" activity for the MCR associated with the engineering document.

   The system triggers auto-embodiment for all the serial # of the part # that has been included in Advanced Part Effectivity for the MCR associated with the engineering document based on specific criteria (MSN range, Part # range, Mfr. Date Range and Aircraft Model). The engineering order tasks will be updated in the maintenance programs of the associated components with the schedule in the 'Active' status.

3. Select the **Manage Adv. Part Effectivity** link to update advanced part effectivity for the engineering document.

4. Select the **At Serial Level** radio button, to define effectivity for each Aircraft Reg # / Part # - Serial #.

5. In the serial level **Effectvity Details** multiline that appears, enter the **AC Reg #, A/C MSN, Part #, Serial #, MSN** and the **App. Grp.#** indicating the applicability

group of the engineering document.

6. Use the **Applicable?** drop-down list to specify the applicability of effectivity for the engineering document as "Yes", "No", "Hold" or "Previously Complied".
7. Use the **Schedule Disposition Code** drop-down list box to select the schedule disposition code applicable for the part # - serial # impacted by the engineering change.
8. Use the **Restricted?** drop-down list box to indicate whether the part # -serial # is restricted to certain transactions. The drop-down list box displays:
   - Yes - Generic, if the part has been restricted from usage as stipulated by SB or AD
   - Yes - Cust. Specific, if the part has been restricted from usage as stipulated by SB or AD for specific customer
   - No, if the usage of the part is not restricted in operations
9. Use the **Restriction Code** drop-down list box to select the restricted code that must be mapped to the part # -serial # impacted by the engineering order, if you have selected Yes - Generic in the "Restricted?" field.
10. Use the **Reference Date Basis** drop-down list box to select reference date for the effective date.
11. Enter **Effec. From Date** to specify the date from which the restriction on the part # - serial # becomes effective.
12. Select the **Action on Rev. Effec. ?** as 'Re-Comply', 'Carryover Compliance', 'Revoke' and 'Terminate', to specify the option for copying the effectivity details of the engineering document from the previous revision to the new revision number.
13. Enter the Prev. Comp. Doc. # and the Prev. Comp. Date #.
    1. The system displays the Compliance Status of effectivity of the Aircraft Reg # in the multiline.

    -  - Indicates that the tasks associated to the applicability group are complied.
    -  - Indicates that the tasks associated to the applicability group are yet to be complied against the effectivity and engineering document.
    -  - Indicates that the tasks associated to the applicability group are compiled and are recurring.
    -  - Indicates that the tasks associated to the applicability group are partially complied against the effectivity and engineering document.
    -  - Indicates that 'Applicable?' is set as "Previously Complied"
    -  - Indicates that effectivity defined is not applicable for the engineering document. i.e. Applicable? is set as "No".
    -  - Indicates that 'Applicable?' is set as "Hold" for the effectivity.
14. Use the **Update Maint. Prog. Template** drop-down list box provided below the multiline and select 'Model' or 'Part' to specify whether the Model Program or Part Program has to be updated.

Effectivity Details – Serial Range

15. Select the **Serial Range** radio button, to define effectivity by specifying a serial range for Aircraft Model # or Part #. All aircrafts of specific Model # or all Components of Part # can be defined as effective.
16. In the serial range **Effectvity Details** multiline that appears, enter the **Aircraft Model #.**
17. Check the **Include All Srl.** box to retrieve all the serial of the Part # or the Model #.
18. Enter the **A/C MSN – From, A/C MSN – To, MSN – From and MSN - To.**
19. Use the **Applicable?** drop-down list to specify the applicability of effectivity for the engineering document as "Yes", "No", "Hold" or "Previously Complied".
20. Use the **Schedule Disposition Code** drop-down list box to select the disposition code to be associated to the part # -serial # impacted by the engineering order.
21. Use the **Restricted?** drop-down list box to indicate whether the part # -serial # is restricted to certain transactions. The drop-down list box displays No and Yes.
22. Use the **Restriction Code** drop-down list box to select the restricted code that must be mapped to the part # -serial # impacted by the engineering order.
23. Use the **Reference Date Basis** drop-down list box to select reference date for the effective date. The system lists the values - Induction Date, Operational Date and Manufactured Date
24. Enter the date from which the restriction on the part # - serial # becomes effective in the **Effec. From Date** field.
25. Use the **Action on Rev. Effec.?** drop-down list box to specify the option for copying the effectivity details of the engineering document from the previous revision to the new revision number.
26. Enter **Prev. Comp. Doc. #** and **Prev. Comp. Date #**.
27. Click the **Displays Serial Details** pushbutton to display the effectivity details in a separate multiline below the 'Serial Range' multiline, based on the Eng. Doc. Applicability.
28. Click the **Save** pushbutton to update the effectivity details.
29. Select the **Manage Cust. Specific Restrictions** link to record restrictions for an applicability group at the customer level.

Recording task details

This tab facilitates defining task details for an engineering document. You can define "As-Required", "Perpetual", Schedule-Tracked and Non-Tracked tasks in a single engineering document. You can also inactivate previous revision of Improvised task on release of the engineering document.

1. Select the **Tasks** tab in the **Manage Eng. Document** page. *See Figure 2.25.*

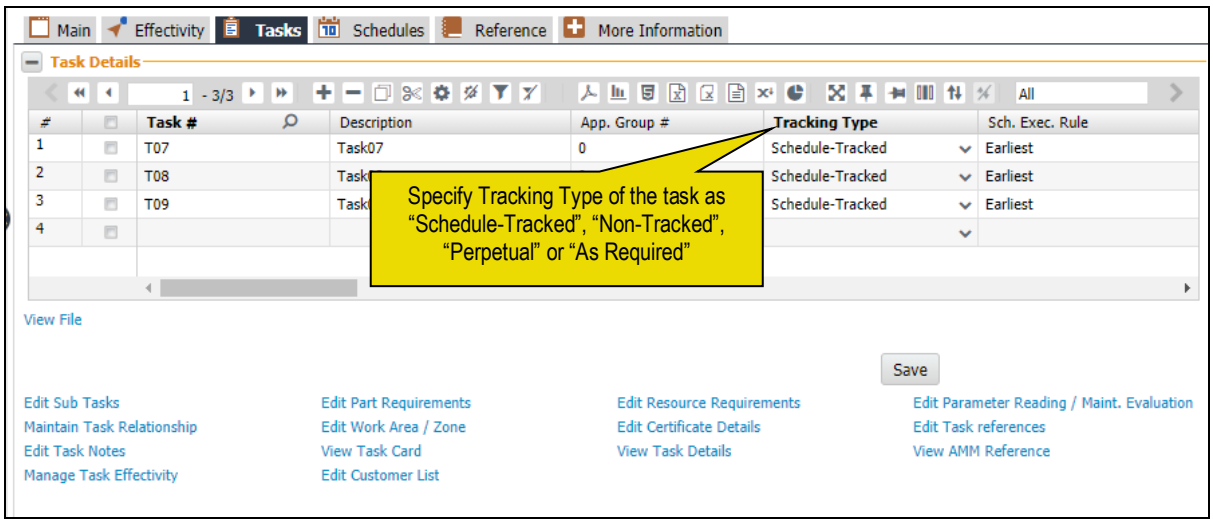


Figure 2.25 Recording task details

2. On selecting **Tasks** tab, if the Engineering Document selected is in 'Fresh' or 'Released' Status, the 'Create' radio button is disabled. If the selected Eng. Doc. # in the header is in 'Released' status, you cannot add / modify tasks in the 'Edit' mode.
3. Enter the **Task #** defined for the Engineering Document - Revision # combination.
4. Specify the **Tracking Type** of the task as "Schedule-Tracked", "Non-Tracked", "Perpetual" or "As Required".
5. Enter **Maint. Operator #** associated with the task as defined in the **Maintenance Task** business component..
6. Use the **Initiate / Reset By** drop-down list and select "Self-Compliance" or "Related Task Compliance to indicate the manner in which the Next Schedule Date (NSD) of the task is computed.
7. Select the **Operation Type** of the maintenance activity as 'Flight Ops', 'Repair Station' or 'Make'.
8. Enter the **Revision Comments**.
9. Click the **Save** pushbutton to update the task details for the engineering document.

To proceed further

- Select the Edit Sub Tasks link to enter the sub-task information for the task.
- Select the Edit Part Requirements link to specify the parts that are required for executing the task.
- Select the Edit Resource Requirements link to specify the resources that are required for executing the task.
- Select the **Edit Parameter Reading / Maint. Evaluation** link to specify the maintenance conditional parameter requirements of a task and to define conditional evaluation of tasks.
- Select the **Maintain Task Relationship** link to maintain task relationship.
- Select the **Work Area / Zone** link to specify the work area and the zone where the task

has to be executed.

- Select the **Edit Certificate Details** link to enter the certificate details for the task.
- Select the **Edit Task references** link to enter the reference details for the task.
- Select the **Edit Task Notes** link to specify general information pertaining to the task.
- Select the **Manage Task Effectivity** link to update effectivity details for the task based on the engineering document.
- Select the **Edit Customer List** link to specify customers impacted by the engineering document.

Recording schedule information

You can define schedules for an engineering document either at applicability / task level or document level. Next Schedule Date / Next Schedule Value (NSD / NSV) computation is done based on 'Effec. from Date' of the engineering document. You can also set the 'Update Basis' for engineering document task in this tab.

1. Select the **Schedules** tab in the **Manage Eng. Document** page. *See Figure 2.26.*

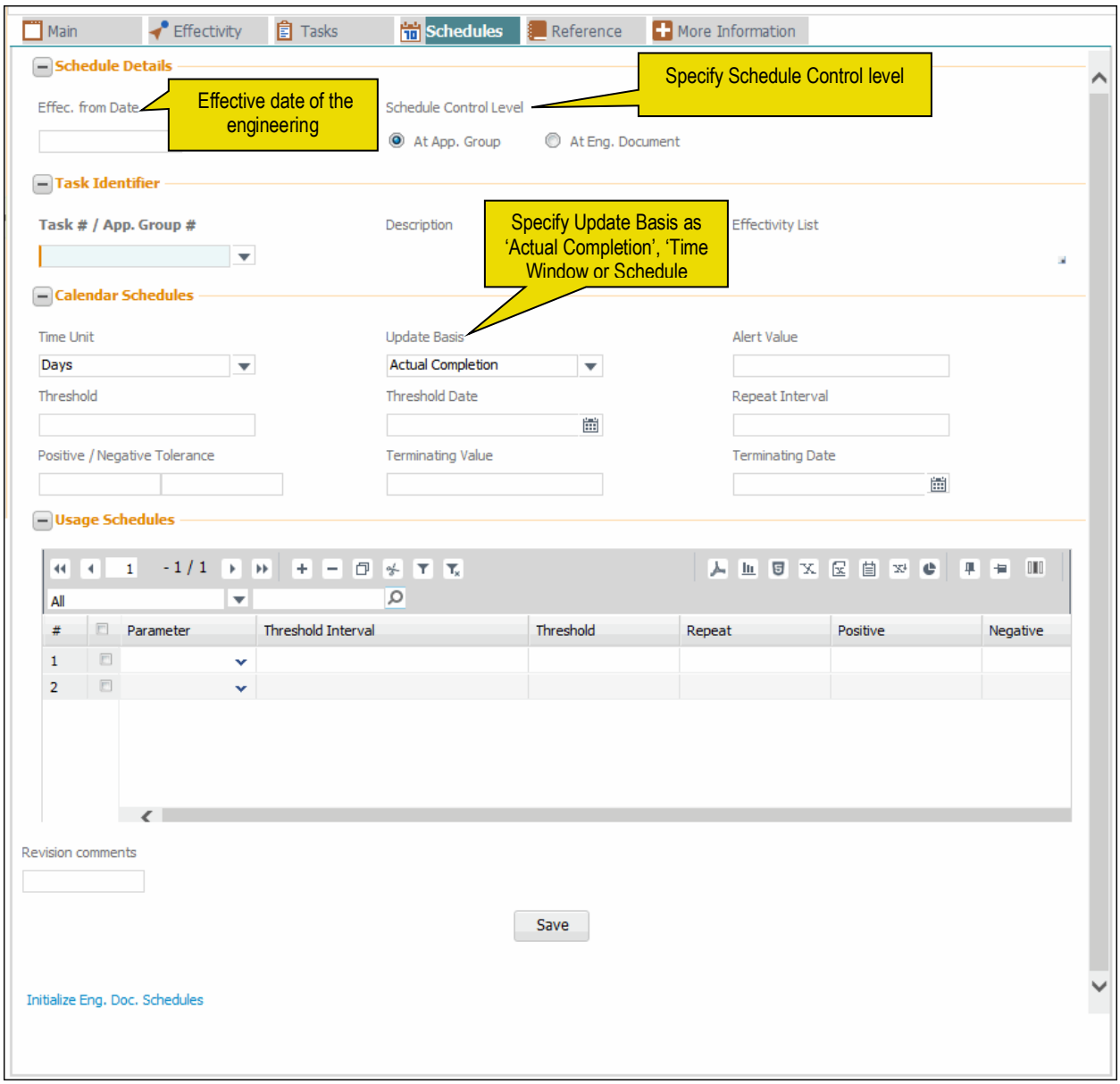


Figure 2.26 Recording Schedule details

2. Enter the **Effec. from Date** of the engineering document.
3. In the Select **Schedule Control Level** field, select the **At App. Group** radio button to define the schedule details at applicability / task level, or the **At Eng. Document** radio button to define schedule details at engineering document level.
4. Enter the **Task # / App. Group #** of the engineering document.
5. Specify the **Calendar Schedules** and **Usage Schedules**.
6. Click the **Save** pushbutton to update the schedules details for the engineering document.

To proceed further

- Select the **Initialize Eng. Doc. Schedules** link to initialize engineering document schedules

Recording reference details

This tab allows you to define references for the engineering document. You can define an Aircraft applicable Maintenance Change Request (MCR) as reference for a Component / Engine applicable Engineering Documents and vice-versa. You can add / modify References based on the option 'Mandate Revision on Addition of Reference?' set for Engineering Document Type in the "Common Master" business component.

1. Select the **Reference** tab in the **Manage Eng. Document** page. *See Figure 2.27.*

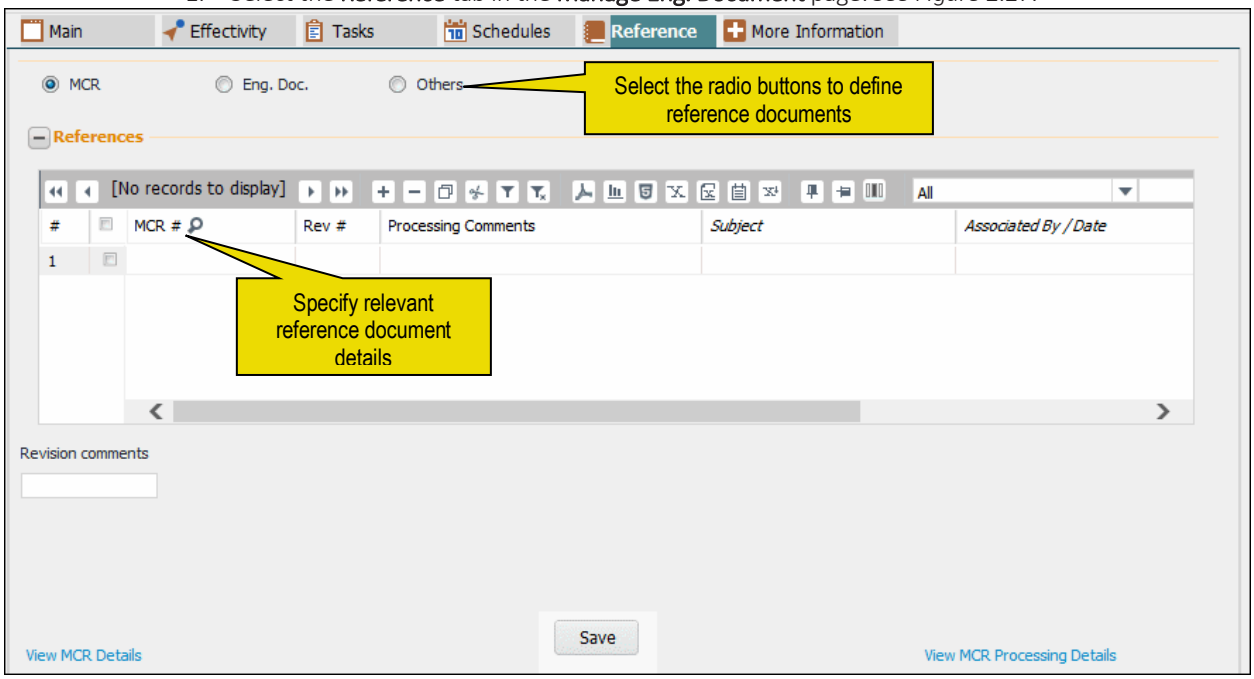


Figure 2.27 Recording reference details

2. Select radio button **MCR**, **Eng. Doc.** or **Others** to define MCR / Engineering document as references.

   In the References multiline,

3. Enter the **MCR #**, **Eng. Doc. #** or **Ref. Doc. #** and the associated details that appear selectively based on the selection of radio buttons.
4. Enter the **Revision Comments**, if any.
5. Click the **Save** pushbutton to record the MCR reference details.

Recording additional details

You can record additional details of the engineering document, like budget information (Part cost, resource cost, etc.), warranty details and record the change in weight, moment and the electrical load after executing the engineering document. You can also indicate whether,

- test flight is required for the aircraft, after the engineering changes are carried out.
- follow-up action is required after executing the engineering document.
- purchase request must be generated for the parts required for executing the engineering document.

1. Select the **More Information** tab in the **Manage Eng. Document** page. *See Figure 2.28.*

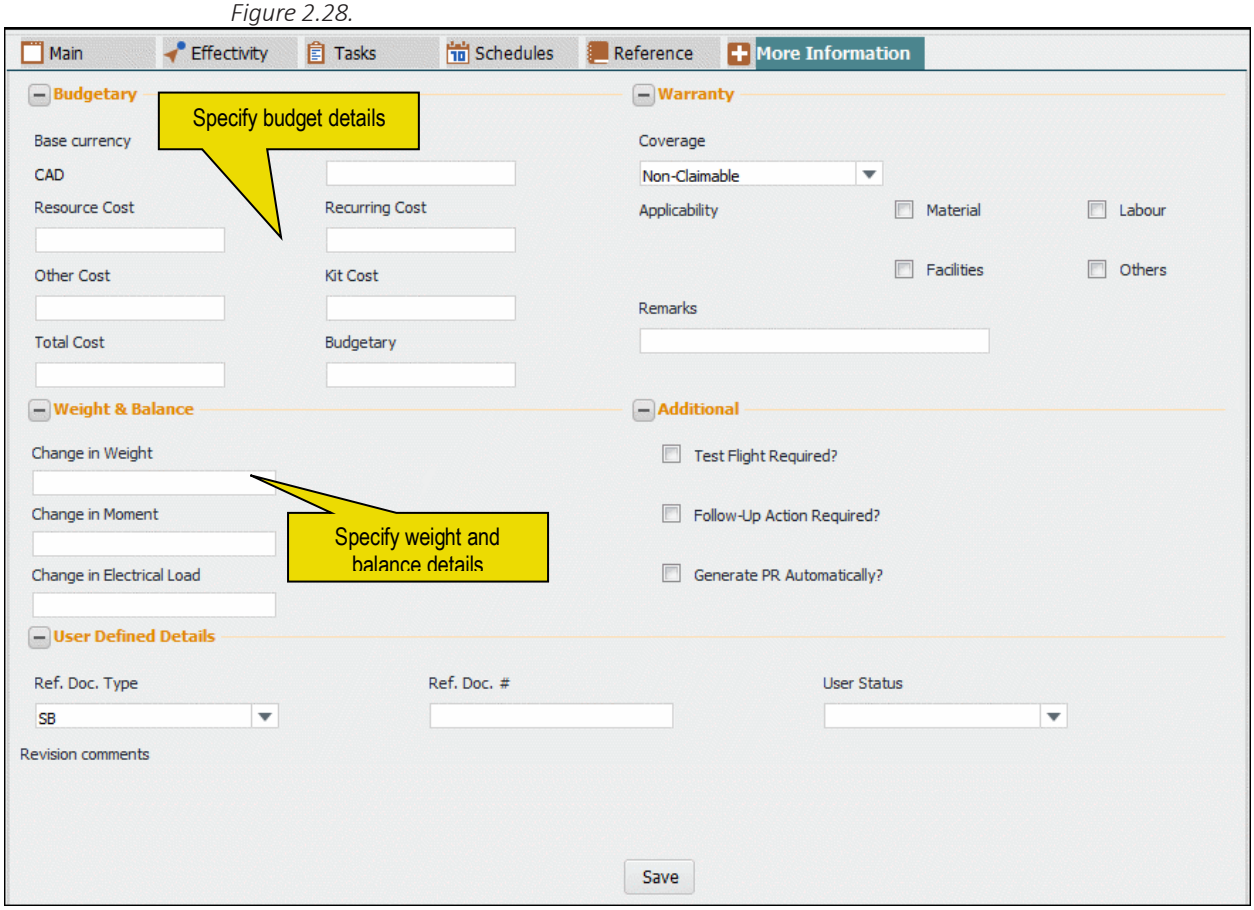


Figure 2.28 Recording additional details

2. On selecting this tab, 'Create' and 'Revise' radio buttons are disabled, if the Eng. Doc. # in the header is in "Fresh" status. Only the 'Create' radio button is disabled, if the Eng. Doc. # in the header is in "Released" status.

3. Enter the **Budgetary details, Warranty details, Weight & Balance details, User Defined Details** and **Additional details** like requirement of test flight / follow-up action / automatic PR generation etc.

4. Enter the **Revision Comments**, if any.

5. Click the **Save** pushbutton to record the additional details for the engineering document.

   Note: If the Eng. Doc. # in the header is in "Released" status, you can modify the Eng. Doc. # by selecting 'Edit' mode, only if the attribute 'Engineering Document Revision Policy' is set as "As per Configuration revision parameter" in the "Common Master" business component. On modification, the system will mandate you to revise the Eng. Doc., if the attribute 'Mandate Revision on Modification of More Information' is set as "Yes" in the Common Master.

2.2.2 Recording configuration change details

You can record the configuration change information such as change of the part number, change in the interchangeability rules for a particular position code in the aircraft or component, addition of a new position code etc.

1. Select the **Edit Configuration Change Details** link in the **Manage Eng. Document** page. The **Edit Configuration Change Information** page appears. *See Figure*

2.29.

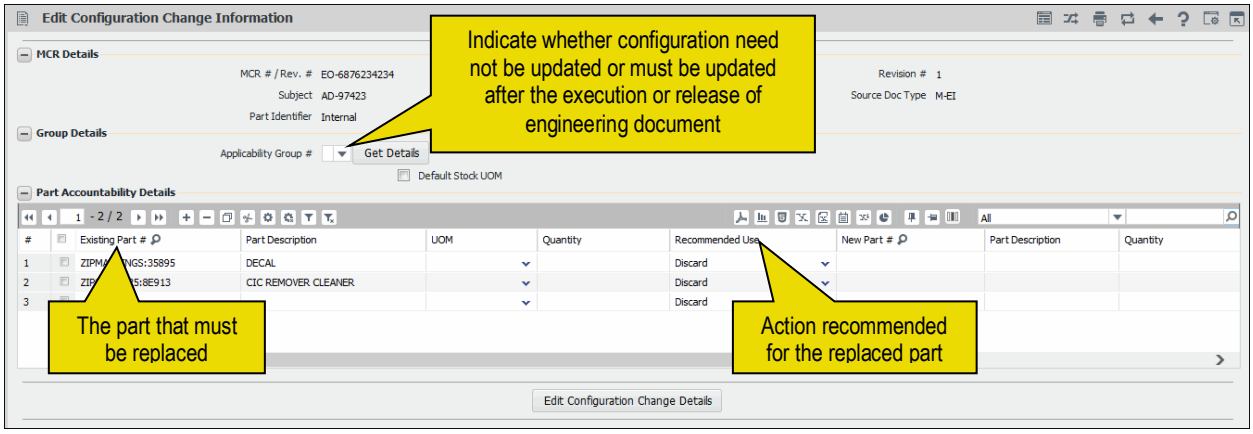


Figure 2.29 Recording configuration change information

2. Set the **Update Model / Part Configuration** drop-down list box to indicate whether the model or part configuration needs to be updated after the execution or release of Engineering Document.
3. Enter the **Existing Part #** that must be replaced.
4. Enter the **New Part #** that will replace the existing part, its **Description** and the **Quantity**.
5. Define the **Interchangeability** rule for the Part number by selecting "One Way" or "Two Way". This indicates whether the part numbers are interchangeable in the same position code or not.
6. Click **Edit Config. Details** pushbutton.

To provide further information,

- Select the **Edit Model Config. Change Details** link to specify configuration change information pertaining to aircraft model.
- Select the **Edit Aircraft Config. Change Details** link to specify configuration change information pertaining to aircraft.
- Select the **Edit Part Config. Change Details** link to specify configuration change information pertaining to part.
- Select the **Edit Component Config. Change Details** link to specify configuration change information pertaining to component.

Defining sub tasks for engineering document

You can define sub tasks that must be carried out for engineering document execution.

1. Select the **Edit Sub Tasks** link in the **Tasks** tab of the **Manage Eng. Document** page. The **Edit Sub Tasks** page appears. *See Figure 2.30.*

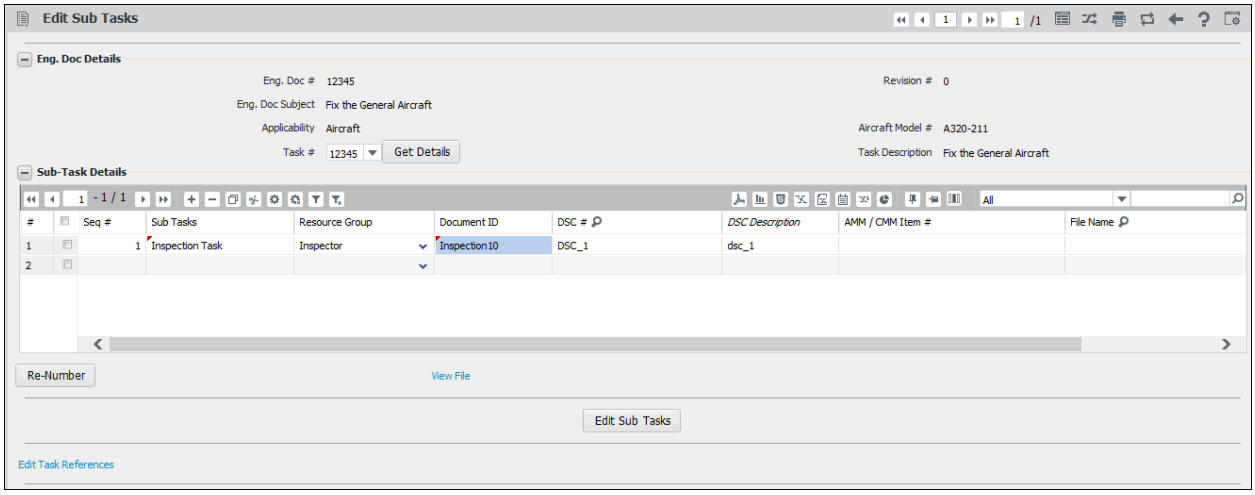


Figure 2.30 Entering sub task details for engineering document

2. Specify the sub task details in the multiline.
3. Click **Edit Sub Tasks** pushbutton.

   Note: The system ensures that the "Task Type" is selected for the new work unit, if the Task Classifier Is set as 'New',

To provide further information,

- Select the **Edit Task References** link to define the task reference details.

Estimating part requirements for Engineering Document - task

1. Select the **Edit Parts Requirements** link in the **Tasks** tab of the **Manage Eng. Document** page. The **Edit Part Requirements** page appears. *See Figure 2.31.*
2. Enter the part number in **Part #** field that is required for task execution and the quantity of parts in the **Est. Qty.** field.
3. Select the frequency in which a part is required to perform a task, in the **Need Frequency** drop-down list box

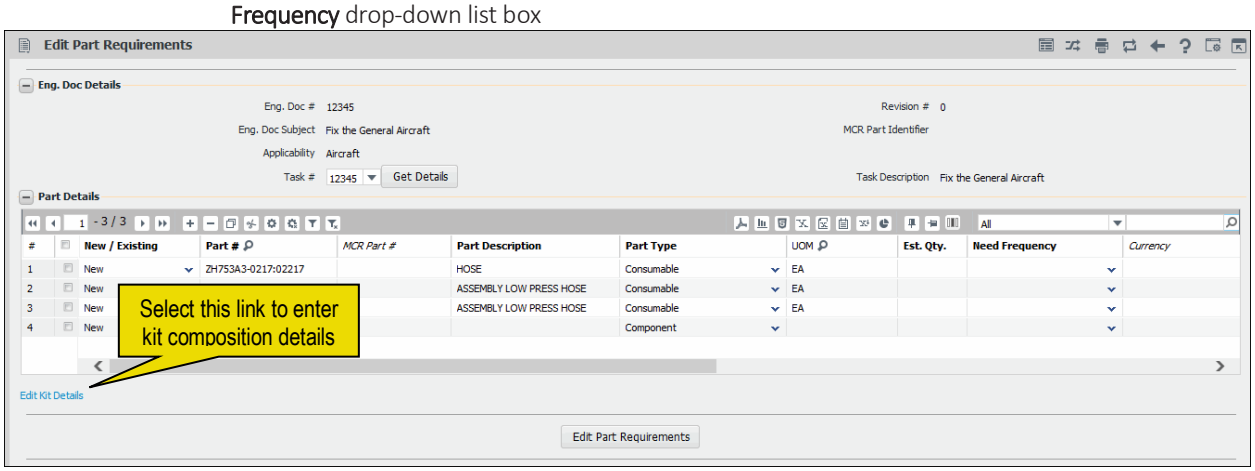


Figure 2.31 Entering part requirement details for Engineering Document-task

4. Click the **Edit Part Requirements** pushbutton.
5. Select the **Part #** in the multiline, if the part is of type "Kit".
6. Enter **Part #** and the **Est. Qty.** in the multiline.
7. Click the **Edit Part Requirements** pushbutton.

Estimating resource requirements for Engineering Document-task

1. Select the **Edit Resource Requirements** link in the **Tasks** tab of the **Manage Eng. Document** page. The **Edit Resource Requirements** page appears. *See Figure 2.32*.

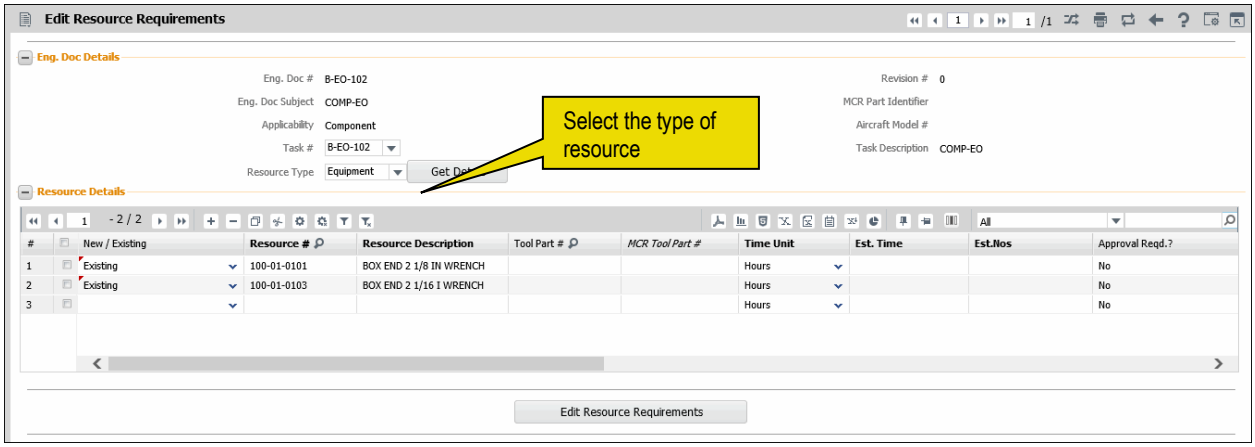


Figure 2.32 Entering resource requirement details for Engineering Document-task

2. Enter the **Resource # and Description** that is required for task execution.
3. Enter the **Est. Time** for the resource requirement.
4. Click the **Edit Resource Requirements** pushbutton.

Planning material requirements

You can raise the purchase request for the parts that are needed for engineering document execution.

> *Note: You can raise the purchase request for the parts only if the **Generate PR Automatically** check box is checked in the "Create Engineering Document" page. The purchase request will be generated based on the numbering type as set in the "Set Options" activity of the "Purchase Requisition" business component.*

1. Select the **Plan Material Requirements** link in the **Manage Eng. Document** page. The **Plan Material Requirement** page appears. *See Figure 2.33*.
2. Enter the **Part #** and the parts that needs to be procured in the **Part Details multiline.**

> *Note: If the "Fractions Allowed" field is set as "No" in the "UOM" business component, the system ensures that the value entered in the "Qty. Required" field is not a decimal value.*
>
> *If the "Fractions Allowed" field is set as "Yes" in the "UOM" business component, the system allows both decimal and non-decimal values to be entered in the "Qty. Required" field.*

3. Click **Edit Plan** pushbutton.

> *Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.*
>
> *The purchase request is processed based on the **Process Purchase Request in** option selected in the **Set Options** activity. Refer to the Engineering Document Online Help for more details.*

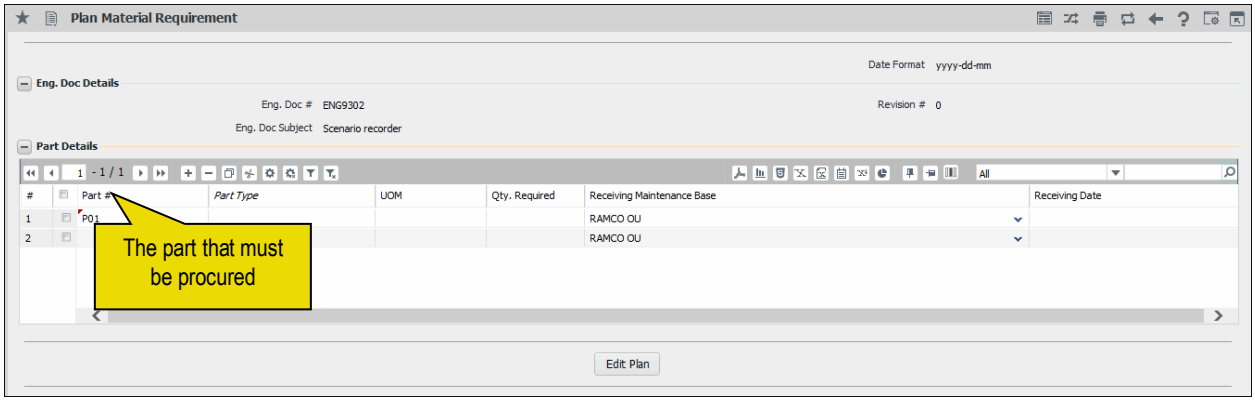


Figure 2.33 Planning material requirements for engineering document

Recommending new part creation

You can recommend for the creation of parts that are needed for engineering document execution, which are not available in the warehouse.

1. Select the **Confirm New Parts Requirements** link in the **Manage Eng. Document** page. The **Confirm New Part Requirements** page appears. *See Figure 2.34*.
2. Enter the Suggested Part # and its Part Description.

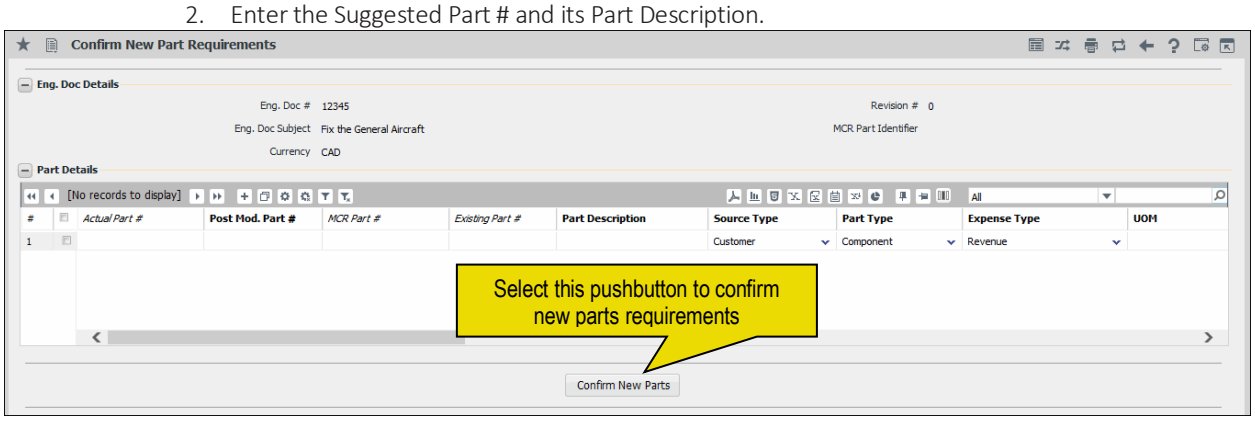


Figure 2.34 Confirming part requirements

3. Specify the Suggested Part #, Source Type, Part Type, Expense Type, and UOM,
4. Click **Confirm New Parts** pushbutton.

   Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.

2.2.3 Updating Engineering Document effectivity

This activity allows you to:

- Update the applicable engineering documents on induction of aircraft or component
- Update the compliance status of each MOD on induction of aircraft or component
- Update the reasons for Non-Execution of certain engineering documents while inducting aircraft or component

1. Select the **Update Eng. Doc. Effectivity** under **Engineering Document** business component. The **Update Eng. Doc. Effectivity** page appears. *See Figure 2.35.*

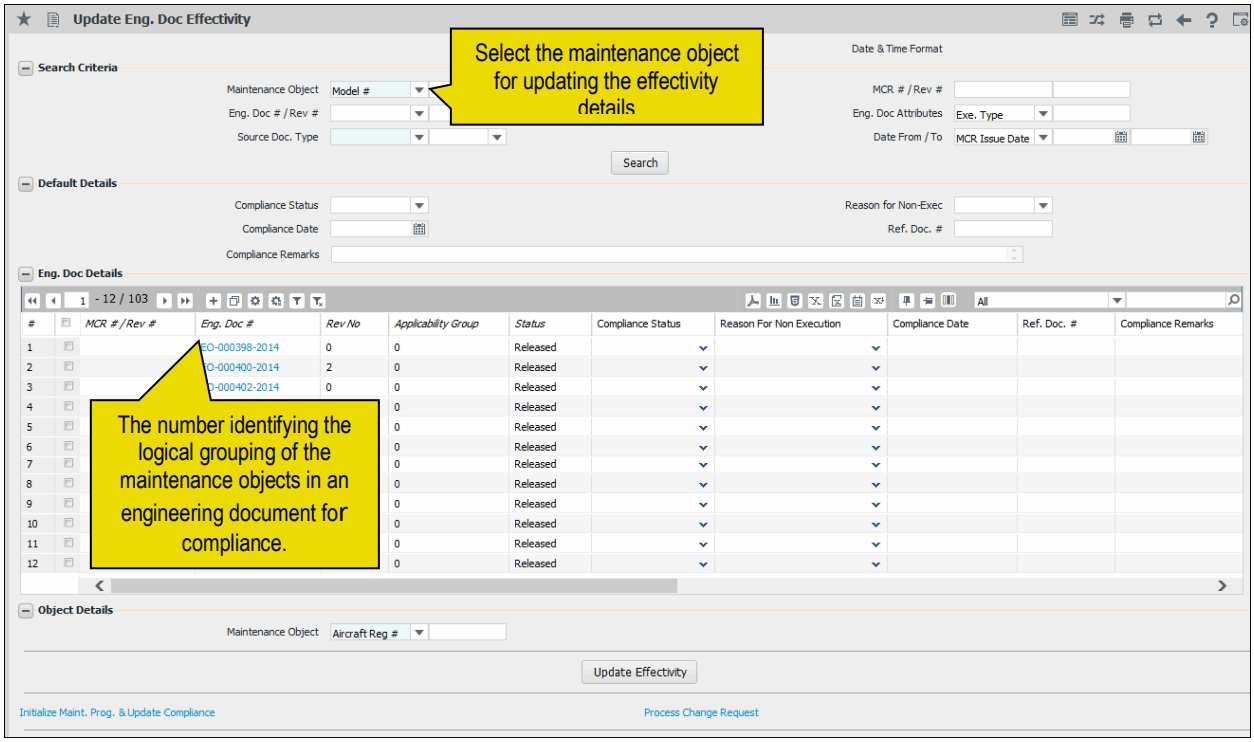


Figure 2.35 Updating engineering document effectivity

2. Provide **Search Criteria** and click **Search** pushbutton to search for the engineering document. Click the hyperlinked **Eng. Doc #** in the multiline.

   In the **Default Details** group box:

3. Enter the Compliance Status, Compliance Status, Reason for Non-Exec, Ref. Doc. # and Compliance Remarks.

   In the Eng Document Details group box:

4. Select the Compliance Status, Reason for Non-Execution, Compliance Date, and Ref. Doc #.

   - *Note: The values specified in the **Default Details** group box will be defaulted against the corresponding columns in the **Eng Document Details** multiline for the selected rows that are left blank.*
   - *If values are specified both in the **Default Details** group box and the corresponding columns in the **Eng Document Details** multiline, the system considers only those values specified by the user in the **Eng Document Details** multiline.*

   In the **Object Details** group box:

5. Select the **Maintenance Object** for updating the effectivity details. In the box provided alongside, enter the value corresponding to the maintenance object selected for which you want to update effectivity details.

   To provide further details,

   - Select the **Initialize Maint. Prog. & Update Compliance** to update the maintenance schedules or record compliance details.
   - Select the **Process Change Request** to process all the Maintenance Change Requests that are in “Confirmed” status.
   - Select the **View Eng. Doc. Task Details** to view the tasks authorized as part of the engineering document.

6. Click the **Update Effectivity** pushbutton to update the effectivity details for applicable engineering document for a maintenance object.

2.3 SPECIFYING APPROVAL REQUIREMENTS FOR ENGINEERING DOCUMENT

You can indicate multiple approval requirements for an engineering document with sequence of approvals. You can create an authorization committee with different levels, through which the engineering document will be routed for authorization.

1. Select **Create Authorization Committee** under **Engineering Document** business component. The **Create Authorization Committee** page appears. *See Figure 2.36.*
2. Provide a unique number for the Authorization Committee in the **Authorization Committee #** field.
3. Enter the level number in the **Level #** field.
4. Enter **ATA #** in the **ATA Details** multiline.
5. Click **Create Authorization Level** pushbutton.

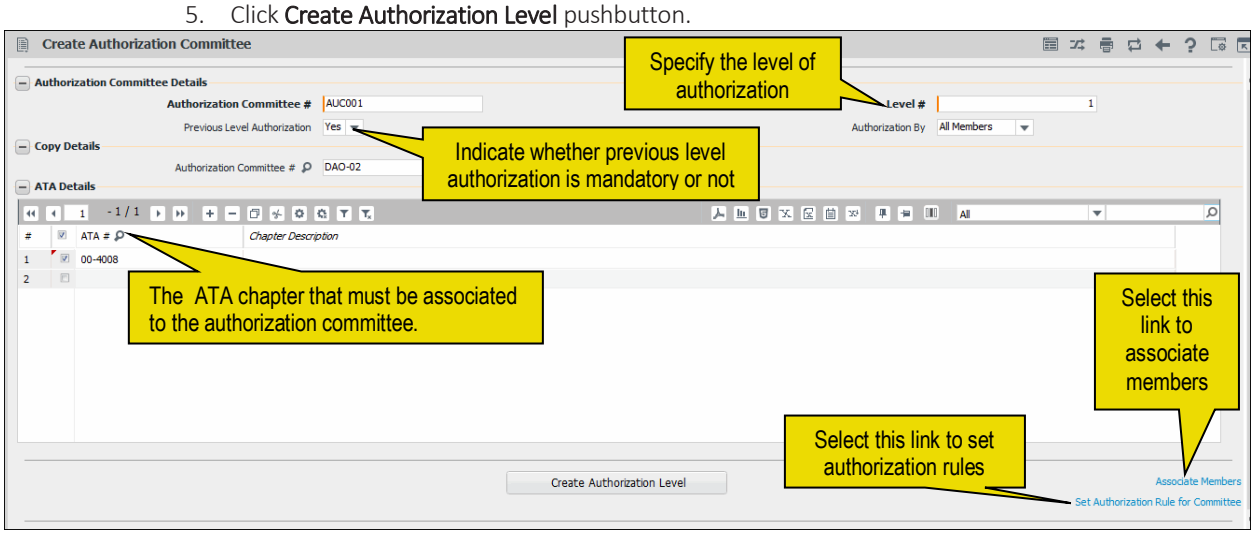


Figure 2.36 Creating an authorization committee

To provide further details,

- Select the **Associate Members** link to associate members to the authorization committee.
- Select the **Set Authorization Rule for Committee** link to define authorization rules for the authorization committee.

2.3.1 Identifying authorization committee members

1. Select the **Associate Members** link in the **Create Authorization Committee** page. The **Associate members to Authorization Committee** page appears. *See Figure 2.37.*

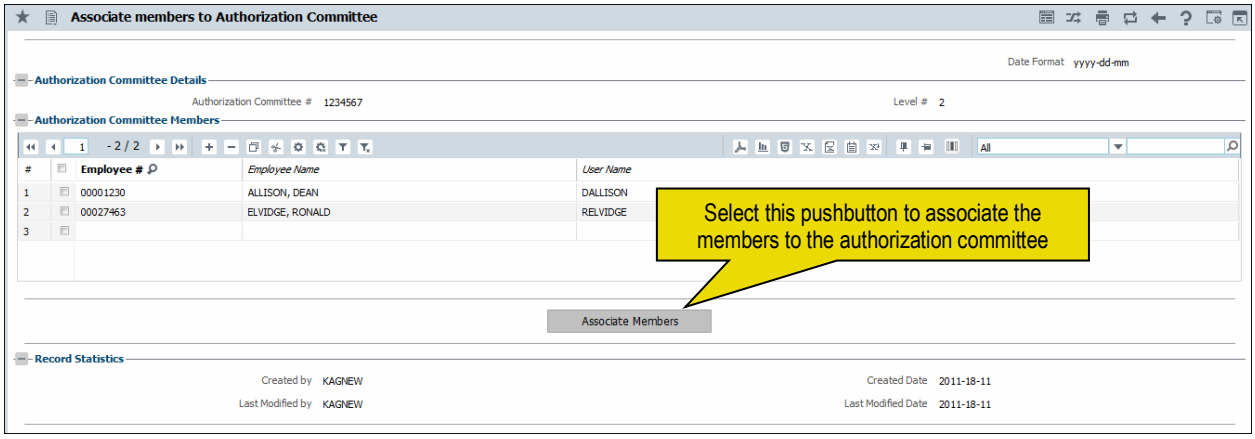


Figure 2.37 Associating members to authorization committee

2. Enter the **Employee Code** of the person whom you wish to associate to the committee.

3. Click **Associate Members** pushbutton.

2.3.2 Defining authorization rules for committee

1. Select the **Set Authorization Rule for Committee** link in the **Create Authorization Committee** page. *See Figure 2.38.*

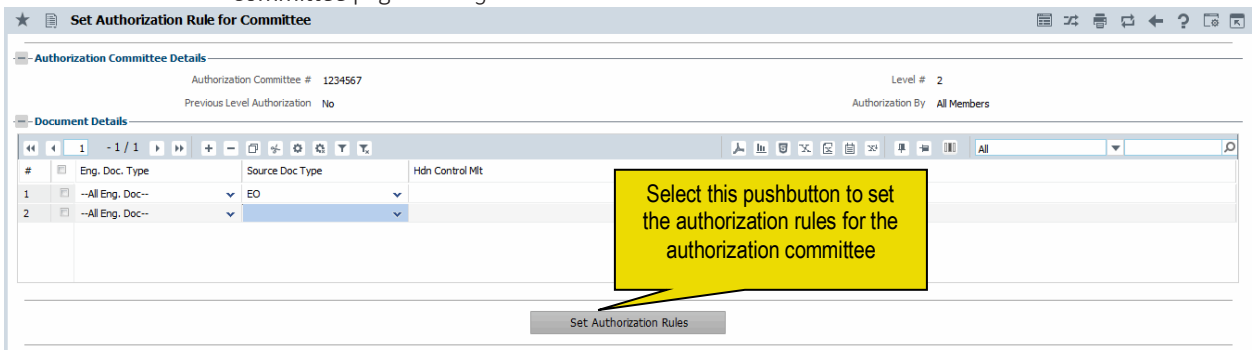


Figure 2.38 Setting authorization rules for committee

2. Use the **Change Document Type** and **Source Document Type** drop-down list boxes to identify the change document and source document type combination that can be approved by the authorization committee.

3. Click **Set Authorization Rules** pushbutton.

2.4 SETTING AUTHORIZATION RULES

You can set the authorization rules for multiple authorization committees at a time. Setting authorization rule involves specifying the change document type and the source document type combination for the authorization committee. The authorization committee is entitled to authorize all the change document and source document type combination thus defined.

1. Select **Set Authorization Rules** under **Engineering Document** business component The **Select Authorization Rules** page appears. *See Figure 2.39*.

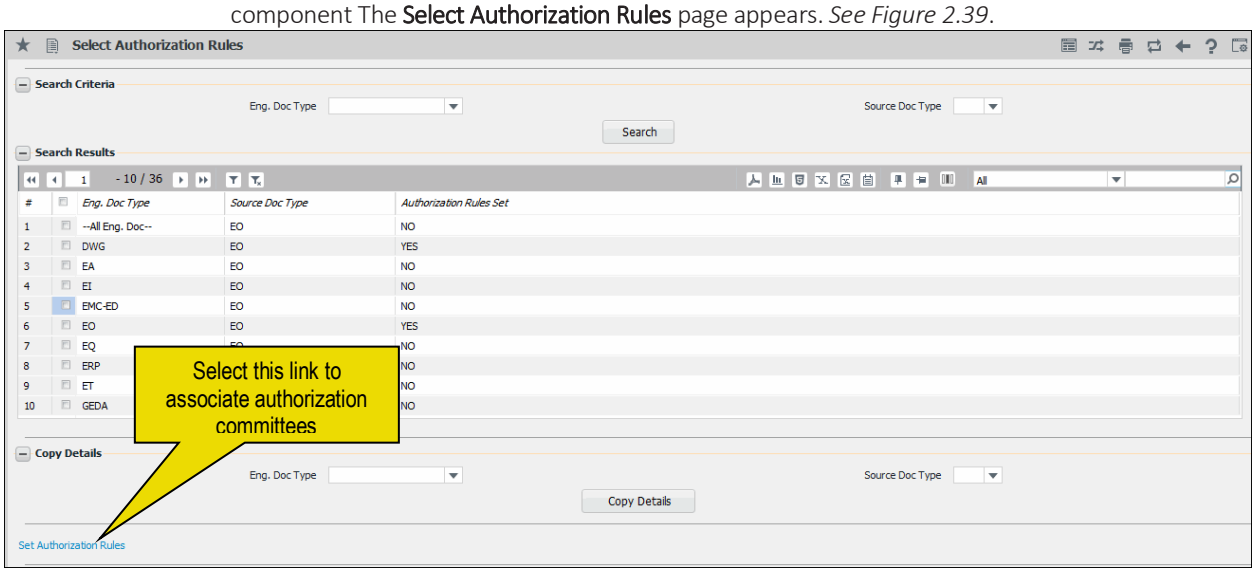


Figure 2.39 Selecting authorization rules

2. Provide filter criteria to search for the authorization rules.
3. If you wish to copy the authorization rules, enter the fields in the **Copy Details** group box and click **Copy Details** pushbutton.
4. Select **Set Authorization Rules** link to associate multiple authorization committees. The **Set Authorization Rules** page appears. *See Figure 2.40*.

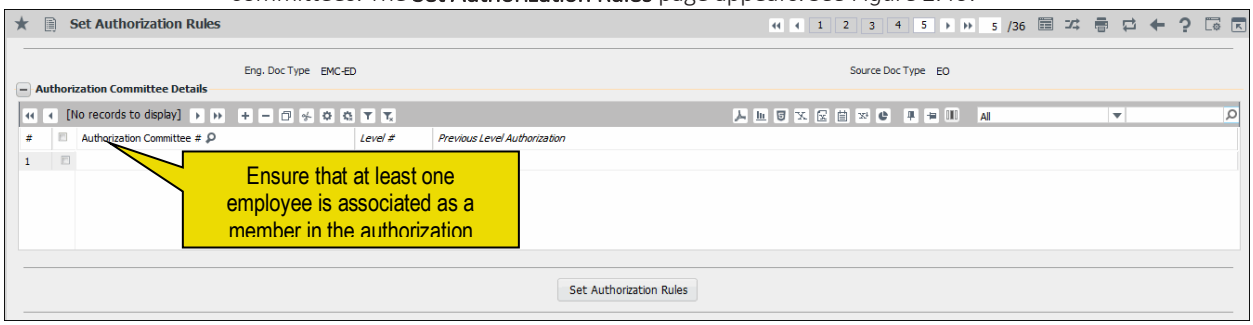


Figure 2.40 Setting authorization rule for multiple authorization committee

5. Enter **Authorization Committee #** in the multiline, to associate it to the authorization rule.
6. Click **Set Authorization Rules** pushbutton.

2.5 AUTHORING MODIFICATION PLAN

You can create a Modification Plan that contains the engineering document execution dates for all the affected aircrafts.

1. Select **Initialize Eng. Doc. Schedules** under Engineering Document business component.
2. Provide filter criteria to search for the **engineering document**
3. Select the **Engineering Document #** in the multiline.

To define modification plan for engineering document execution on aircraft,

- Select the **Initialize Eng. Doc. Schedules** link to modify the schedule details for the aircraft or components of the aircraft
- Select the Prepare Component Modification Plan link.

2.5.1 Initializing engineering document schedule details

1. Select the Initialize Eng. Doc. Schedules link in the **Select Engineering Document** page. The **Initialize Eng. Doc. Schedules** page appears. *See Figure 2.41.*

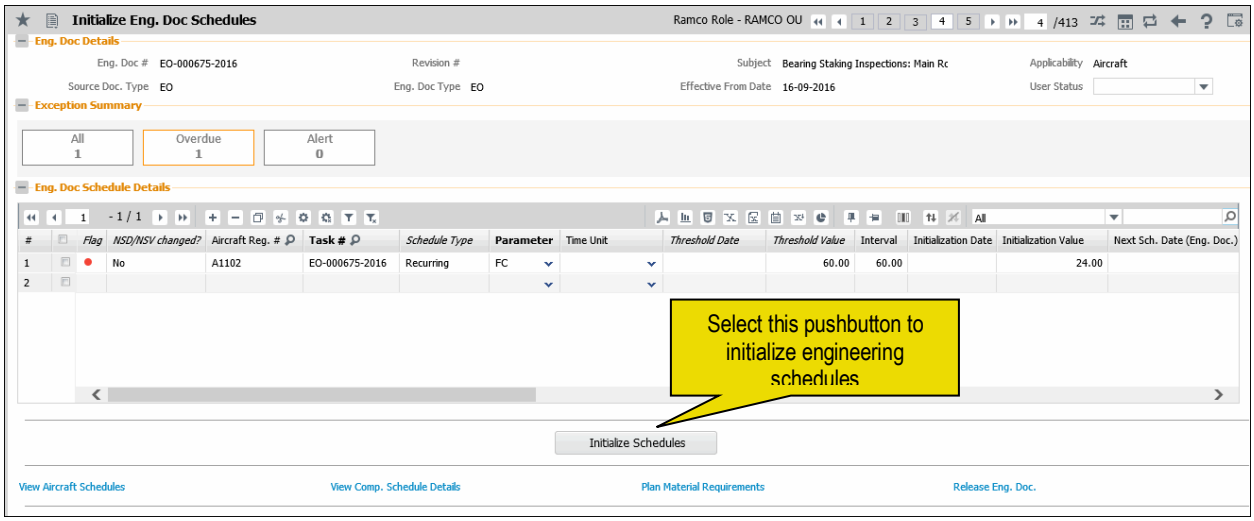


Figure 2.41 Initializing engineering document schedule details

The following filter cards in the **Exception Summary** group box show the breakup of schedules as elaborated in the below table.

All	Shows the total count of schedules in the engineering document. On click of the filter card, the "Eng. Document Schedule Details" multiline retrieves all the schedules for the aircraft / part/ component for which 'Applicable?' is set as 'Yes' in the Effectivity tab of the engineering document.
Overdue	Shows the count of schedules in the engineering document that have become overdue. On click of the filter card, the "Eng. Document Schedule Details" multiline retrieves all the schedules for the aircraft / part/ component for which 'Applicable?' is set as 'Yes' in the Effectivity tab of the engineering document for which NSD/NSV has already been reached.

Alert	Shows the count of schedules that have crossed the alert value/date in the engineering document. On click of the filter card, the "Eng. Document Schedule Details" multiline retrieves all the schedules for the aircraft / part/ component for which 'Applicable?' is set as 'Yes' in the Effectivity tab of the engineering document for which NSD/NSV has already crossed Alert Date/Alert Value.

2. Specify the engineering document schedule details.
3. Click the **Initialize Schedules** pushbutton.

To view schedule details,

- Select **View Aircraft Schedule** link to view component schedule details.
- Select **View Comp. Schedule Details** link to plan material requirements for aircraft / component
- Select **Plan Requirements** link.

2.6 RELEASING AN ENGINEERING DOCUMENT

You can release an engineering document for execution after necessary approvals.

Given below are the processes that follow engineering document creation:

i) Authorization of engineering document

ii) Release of engineering document.

2.6.1 Authorizing engineering document

1. Select **Authorize Engineering Document** under **Engineering Document** business component. The **Authorize Engineering Document** page appears. *See Figure 2.42.*

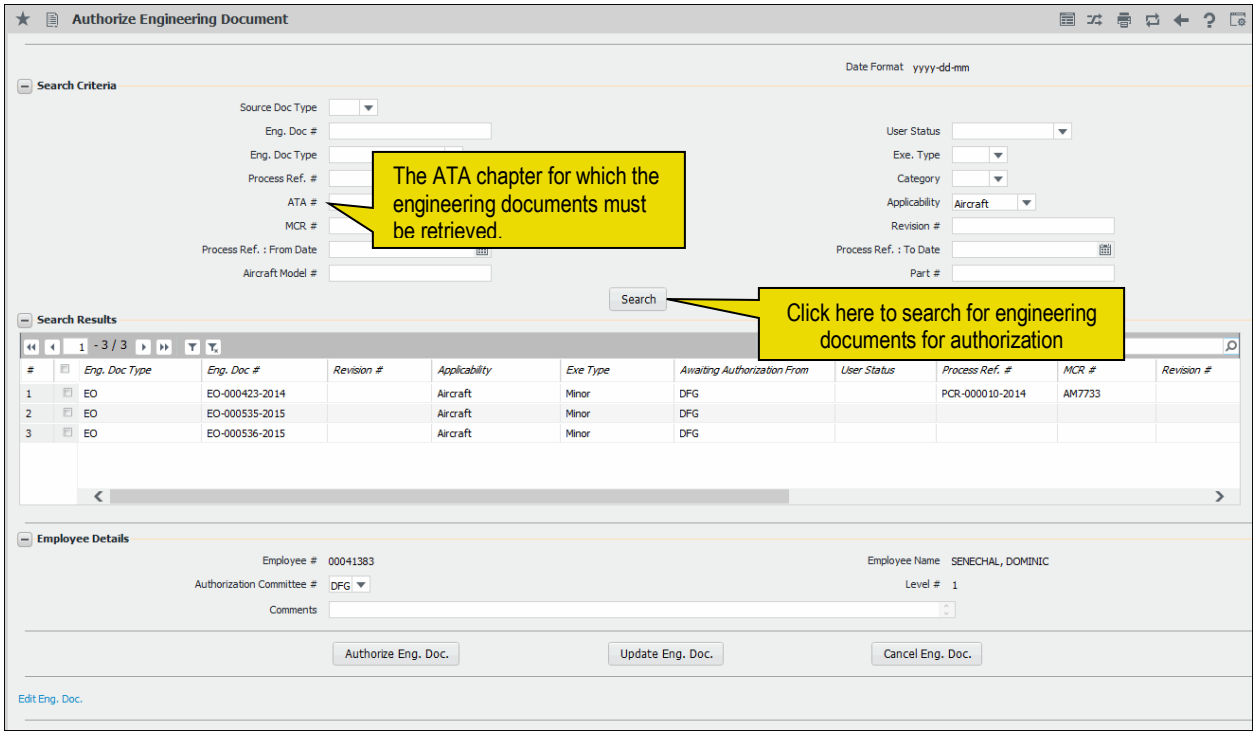


Figure 2.42 Authorizing an engineering document

2. Provide filter criteria to search for engineering documents to be authorized.
3. Select the engineering documents of type **Eng. Doc #** in the multiline.
4. Select the **Authorization Committee #** if the login user belongs to more than one authorization committee.
5. Click **Authorize Eng Doc** pushbutton to authorize engineering document.

   Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.

6. Click **Update Eng Doc** pushbutton to update the engineering document.

   To cancel engineering document,

7. Enter the **Cancellation Comments** field.
8. Click **Cancel Eng Doc** pushbutton.

To provide further details,

- Select the **Manage Task Cards** link at the bottom of the page, to manage the task cards created in the third party application.

  Refer to the "Task Card Publisher" Online Help for more details.

2.6.2 Releasing an engineering document for execution

For releasing the engineering document,

1. Select **Release Engineering Document** under **Engineering Document** business component. The **Release Engineering Document** page appears. *See Figure 2.43.*
2. Provide filter criteria to search for engineering documents to be released.
   - *Note: The system will not retrieve preloaded engineering documents.*
3. Select the **Eng Doc #** in the multiline. To select all the engineering documents listed in the multiline check **Select All** box.
4. Enter Release / Cancellation comments field.
5. Click **Release Eng Doc** pushbutton to release the engineering document. The engineering document attains "Released" status. The task, configuration, suggested part number and schedule details entered for the engineering document are updated in the respective pages. The component maintenance program is also updated accordingly.
   - *Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.*
   - *You cannot release Engineering Documents that are applicable to the aircraft with record status "Frozen".*
   - *The Engineering documents will be released only if all the associated task cards are in activated status.*

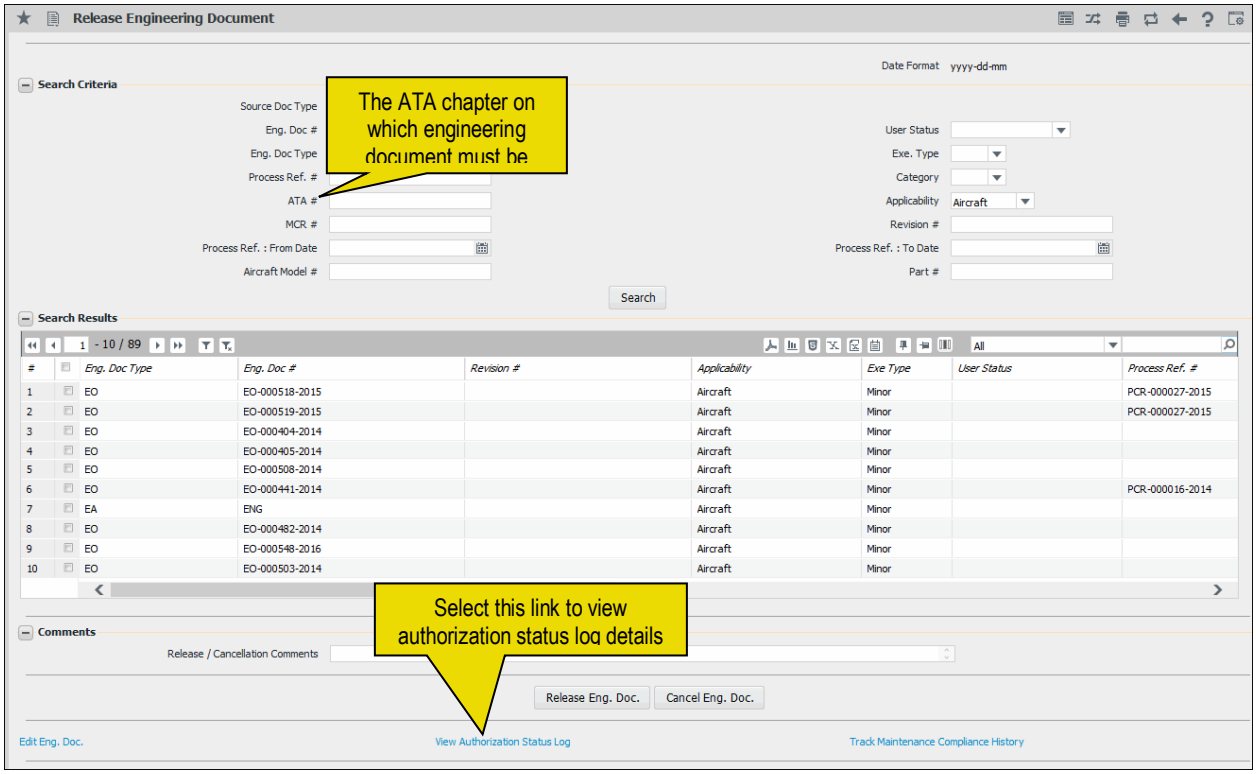


Figure 2.43 Releasing an engineering document

6. Click **Cancel Eng Doc** pushbutton to cancel the engineering document.

   Note: You cannot cancel engineering documents that are applicable to the aircraft with record status "Frozen".

   To provide further details,

- Select the **Edit Eng. Doc** link to modify the engineering document.
- Select the **View Authorization Status Log** link view the comments given by the members of the authorization committee on approving the engineering document.
- Select the **Track Maintenance Compliance History** to view the details of completion of the task(s) for a maintenance object (aircraft or component)

2.7 Managing engineering impact on customer contracts

The users can generate an Impact Assessment document for an MCR or any other reference document. This document will provide the impact assessment details of the engineering change that will ensue on a part / component.

The impact assessment of engineering documents on parts / components / aircraft involves various levels of approvals before the engineering change can be finally executed on specific maintenance object. You can track / monitor the passage of the various stages of approval with regard to these documents.

A Search facility is available for the users to retrieve precise documents based on user-specific criteria.

2.7.1 Searching / selecting / generating impact assessment documents

1. Select the **Manage Eng. Impact for Customer Contracts** link under the **Engineering Document** business component. The **Select Documents for Processing** page appears. *See Figure 2.44.*

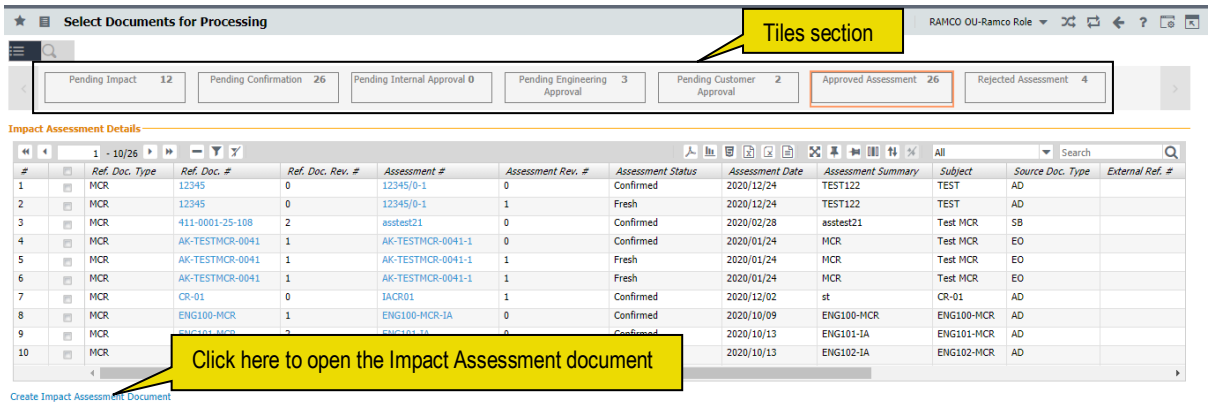


Figure 2.44 Releasing an engineering document

Tiles section

2. On click of the List icon, you can see the following tiles:

- **Pending Impact**: This tile displays the count of MCR in the "Confirmed" status for which no Impact Assessment documents has been created even though the “Impact Assessment?” has been set as ‘Required’.
- **Pending Confirmation**: This tile displays the count of the Impact Assessment documents in the ‘Fresh’ status.
- **Pending Internal Approvals**: This tile displays the count of the Impact Assessment documents with "Internal Approval Status" as “Pending Approval”.
- **Pending Engineering Approvals**: This tile displays the count of the Impact Assessment documents with "Eng. Approval Status" as “Pending Approval”.
- **Pending Customer Quote Approvals**: This tile displays the count of the Impact Assessment documents with "Cust. Quote Approval Status" as “Pending Approval”.

- **Approved Assessments**: This tile displays the count of the Impact Assessment documents in the Approved status.
- **Rejected Assessments**: This tile displays the count of the Impact Assessment documents in the Rejected status.

3. Click on the required tile to display the documents in the **Impact Assessment Details** multiline.

Search section

1. Click the  icon. *See Figure 2.45.*

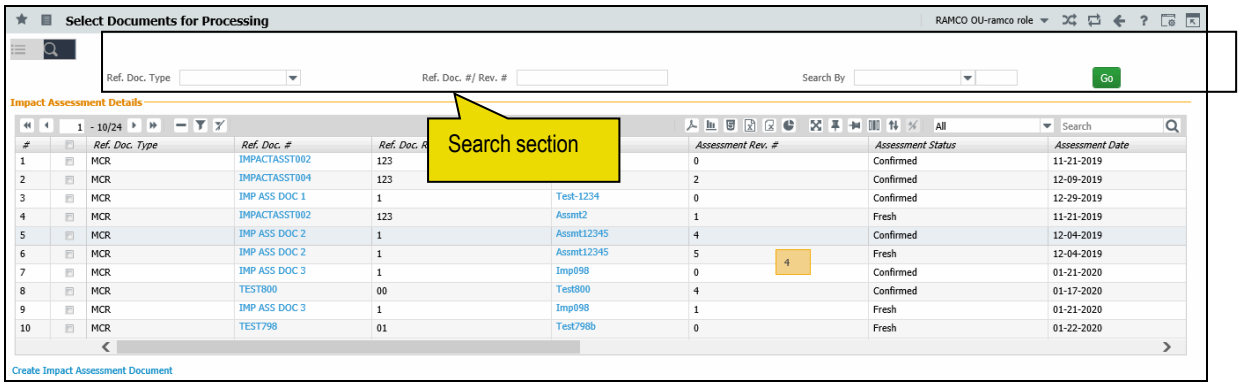


Figure 2.45 Releasing an engineering document

2. Specify search criteria to retrieve MCR
3. Click the **Go** pushbutton to display the documents that match the specified criteria in the **Impact Assessment Details** multiline.
4. Select the **Create Impact Assessment Document** link to generate the **Impact Assessment** document for the MCR.

2.7.2 Managing engineering impact on customer contracts

1. Select the data hyperlink in the **Assessment #** column in the multiline of the **Select Documents for Processing** page. The **Manage Engineering Impact for Customer Contracts** page appears. *See Figure 2.46.*

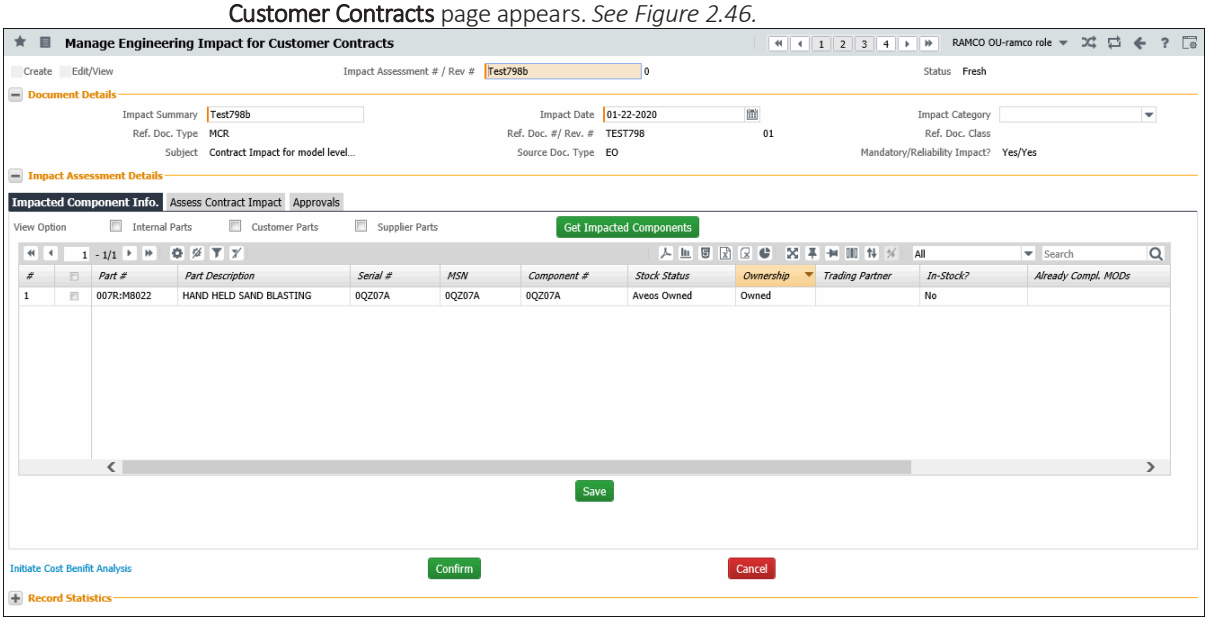


Figure 2.46 Managing engineering impact on customer contracts

2. Select the **Create** radio button to create new impact assessment document.
3. Specify **Impact Summary**, **Impact Date** and **Impact Category** for the impact assessment document.
4. Select the **Impacted Component Info.** tab to record details of the component affected by the engineering change.
5. Select the **Assess Contract Impact** tab to evaluate the impact of the engineering change on the customer contracts.
6. Select the **Approvals** tab to view the approvals received by the impact assessment document.
7. Select the **Confirm** pushbutton to authorize the details.
8. Select the **Cancel** pushbutton to annul the impact assessment document.

To proceed

- Select the **Initiate Cost Benefit Analysis** link to perform cost benefit analysis of the selected impact assessment.

Recording Impacted Component Info. tab

1. Select the **Impacted Component Info.** tab (This is also the default tab). *See Figure 2.47.*

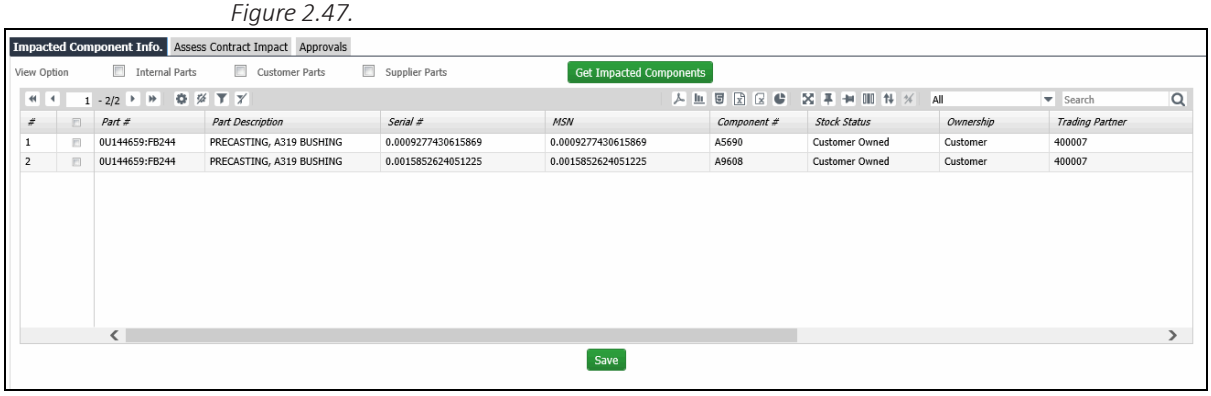


Figure 2.47 Information on impacted components

2. To set viewing preference, select any or all of the following view options.
   - Select the **Internal Parts** check box to display details of impacted components owned by the organization (Ownership – Internal)
   - Select the **Customer Parts** check box to display details of impacted components owned by the customers (Ownership – Customer).
   - Select the **Supplier Parts** check box to display details of impacted components owned by the customers (Ownership – Supplier).
3. In the multiline, enter Component # impacted by the engineering change.
4. Use the **Stock Status** drop-down list box to select the stock status of the component impacted by the engineering change.
5. Use the **Ownership** drop-down list box to select the ownership of the component impacted by the engineering change.
6. Enter **Trading Partner #** for the component impacted by the engineering

change.

7. Use the **In-Stock?** drop-down list box to indicate whether the impacted component is available for issue in the designated warehouse.
8. Enter **Already Completed MOD#** to indicate the MOD already executed against the impacted component till date.
9. Enter **Mfg. Date** of the impacted component
10. Enter **Repair Date** to indicate the date of generation of the repair order against the impacted component.
11. Enter **Repair Agency** to which the impacted component will be routed for external repair / maintenance.
12. Enter **A/C Model #** of the aircraft from which the component was removed by the component removal task.
13. Select the **Save** pushbutton to record the details.

Recording Assess Contract Impact tab

1. Select the **Assess Contract Impact** tab. *See Figure 2.48.*

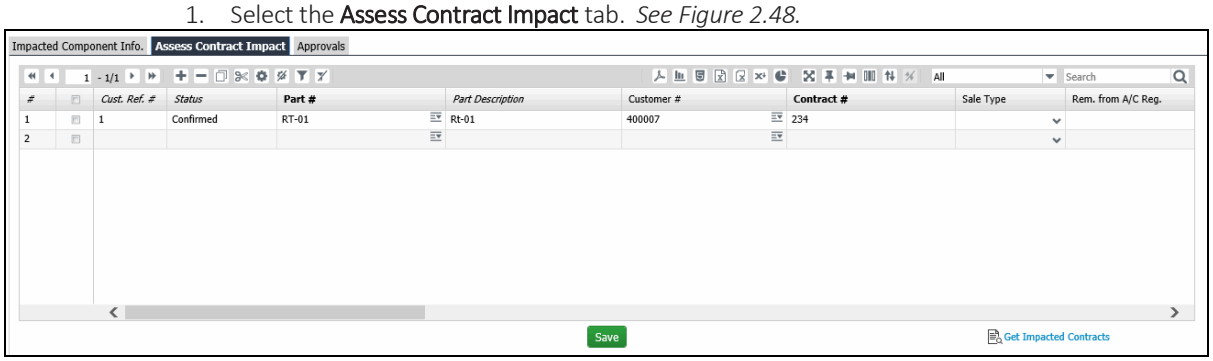


Figure 2.48 Assessing impact on contracts

2. In the multiline, enter **Cust. Ref. #** for the contract impacted by the engineering change.
3. Enter **Status** of the impact assessment document, such as Fresh, Confirmed or Cancelled.
4. Enter **Part #** and **Part Description** of the part impacted by the engineering change
5. Enter **Customer #** that owns the part impacted by the engineering change.
6. Enter **Contract #** with the customer that covers the component.
7. Select **Sale Type** of the part in the contract.
8. Enter **Rem. from A/C Reg. #** to indicate the aircraft from which the component must be removed as stipulated by the contract
9. Enter **Rem. from A/C Model #** to indicate the aircraft model from which the component must be removed as stipulated by the contract
10. Enter **Contracted No. of A/C, Contracted A/C, Impacted A/C** and **Part Effectivity Ref.** for the customer with reference to the Part - Customer Contract - Sale Type combination.
11. **Enter Sys. QPA, Sys. Imp. Qty. and Proposed Qty** as stipulated by the contract.
12. Use the **Schedule. Disposition Code** drop-down list box to select the scheduled disposition for the component upon removal.

13. Indicate whether **Internal Approval Req., Eng. Approval Req. and Cust. Quote Req.** is required for the impact assessment document.
14. Select the **Save** pushbutton to save the details.
15. Select the **Get Impacted Contracts** link to search for contracts affected by the MCR.

    Note: The status of the impact assessment document becomes 'Fresh'.

Recording Approvals tab

1. Select the **Approvals** tab. *See Figure 2.49.*

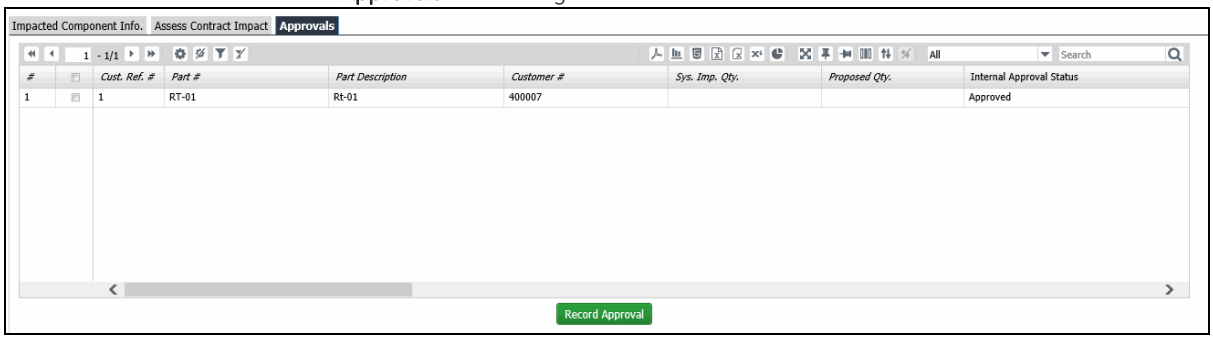


Figure 2.49 Approval information

2. In the multiline, enter **Cust. Ref. #** for the impact assessment document.
3. Enter **Part #** and **Part Description** of the part impacted by the engineering change.
4. Enter **Customer #** that owns the part.
5. Enter **Sys. QPA, Sys. Imp. Qty.** and **Proposed Qty.**
6. Enter **Internal Approval Status, Internal Approval Date** and **Internal Approval Comments** for the impact assessment document.
7. Enter **Engg. Approval Status, Engg. Approval Date** and **Engg. Approval Comments** for the impact assessment document.
8. Enter **Cust. Quote Approval Status**, **Cust. Quote Approval Date** and **Cust. Quote Approval Comments** for the impact assessment document.
9. Enter **Approved Qty** to indicate the quantity of the part approved for the engineering change.
10. Select the **Record Approval** pushbutton to save the approval details.

2.7.3 Tracking MOD Compliance for customer contracts

1. Select the **Track MOD Compliance for Customer Contracts** link under the **Engineering Document** business component. The **Track MOD Compliance for Customer Contracts** page appears. *See Figure 2.50.*

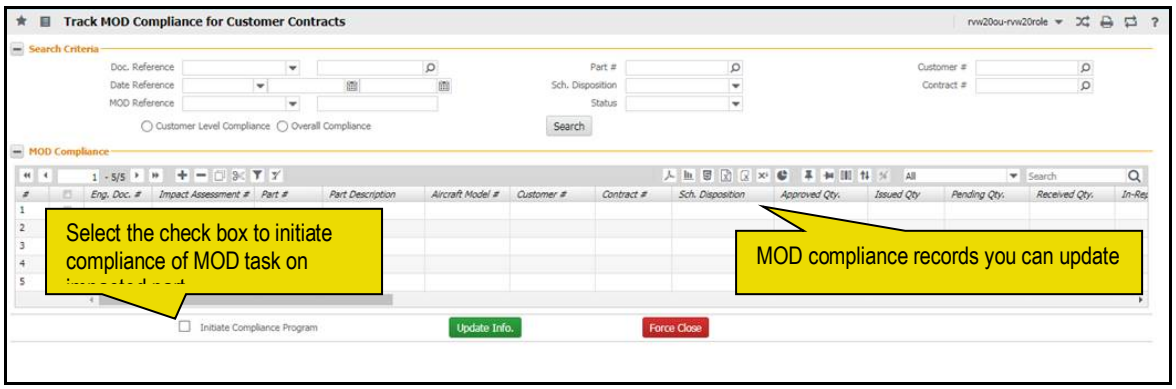


Figure 2.50 Tracking MOD compliance for customer parts

2. Specify any/all filters in the **Search Criteria** group box to retrieve the MOD/engineering task compliance records for the parts from customer contracts.

3. Click the **Search** pushbutton to retrieve the MOD compliance records from the Impact Assessment/engineering documents.

4. Update **MOD Governance Period, Qty. Agreed per month, Eng. Task** and **Eng. MOD Info.** in the **MOD Compliance** multiline.

5. Select the compliance records in the multiline that you want to save and then click the **Update Info.** pushbutton.

6. Select the compliance records in the multiline that you want to force close and then click the **Force Close** pushbutton.

3 ENGINEERING SUPPORT MANAGEMENT

The Engineering Department or the Engineering Cell is in charge of providing technical support to the Maintenance execution centers. During the execution of work orders or trouble shooting non-routines, these maintenance centers might seek technical clarifications or resolutions.

Engineering Service Request business component enables you to raise requests for clarifications on the maintenance object (aircraft or components).

Engineering Advice Note business component enables you to respond to the support request, based on which the maintenance activity is executed.

3.1 REGISTERING A SERVICE REQUEST FOR ENGINEERING SUPPORT

You can raise an Engineering Service Request (ESR) to seek resolutions for any technical problem such as snags reported by the pilot based on flight log, problems encountered while executing maintenance work orders or ambiguous maintenance procedures.

3.1.1 Creating an engineering service request

1. Select **Create Engineering Service Request** under Engineering Service Request business component. The Create Engg. Service Request page appears. *See Figure 3.1.*

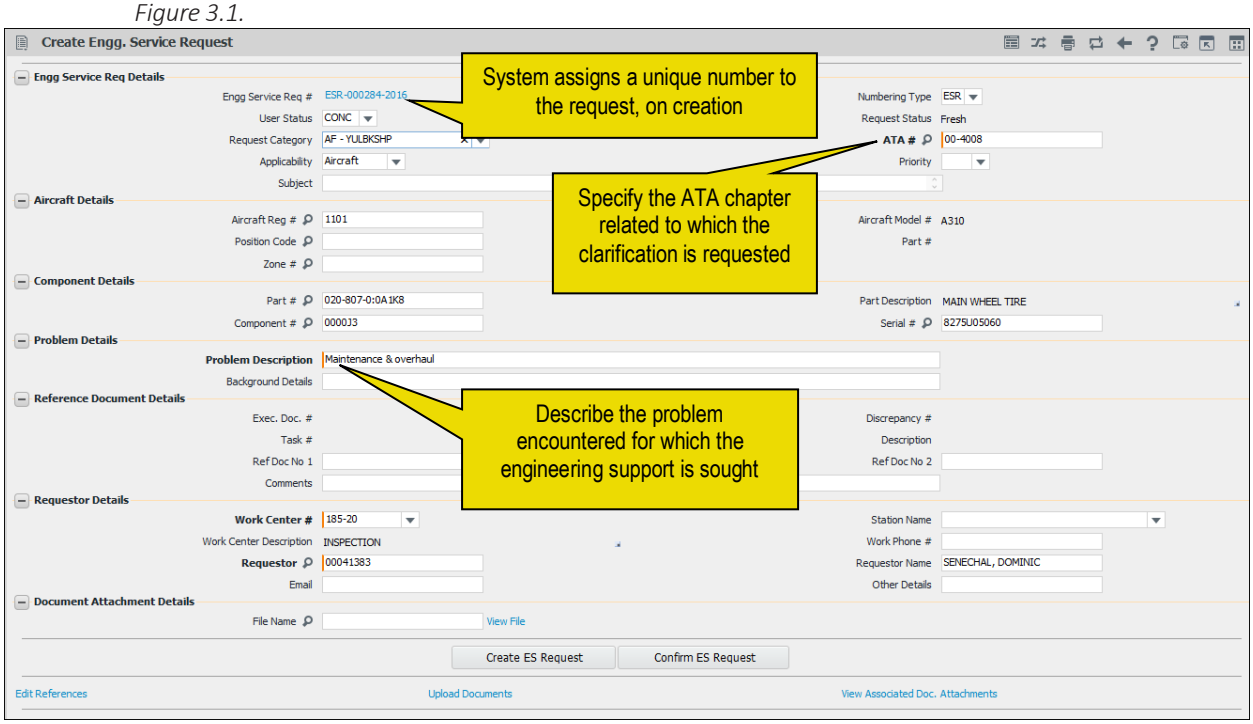


Figure 3.51 Creating an engineering service request

In the Engg Service Req Details group box

2. Enter the **ATA #** number.
3. Use the **Applicability** drop-down list box to indicate whether the ESR is raised for an "Aircraft", "Engine" or "Component". Based on the option selected in this field, enter either Aircraft or Component details.
4. Enter the details in the **Aircraft Details** and **Component Details** group box.

   Note: The Part # field will be displayed in this group box only if the parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" of the "Logistics Common Master" business component is set as "0". Both the Mfr. Part # and Mfr. # will be displayed in this group box only if: the parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" activity of the "Logistics Common Master" business component is set as "1".
5. Enter the **Problem Description** in the **Problem Details** group box.
6. Enter the details in the **Reference Document Details** group box.

In the **Requestor Details** group box:

7. Use the **Work Center #** drop-down list box to specify the work center number in which the maintenance is being done.
8. Use the **Station Name** drop-down list box to specify the station in which the maintenance activity is being done.
9. Select the user ID of the person who has requested the clarification in the **Requestor** field.
   - *Note: The user identification number as created in the "Create Employee File" activity of the "Employee Information" business component*
10. Enter the file name containing the document reference details in the **Document Attachment Details** group box.
11. Click the **Create ES Request** pushbutton to create the request. The system generates a unique ESR number and displays the "Request Status" as "Fresh".
12. Click the **Confirm ES Request** pushbutton to confirm the request. The system changes the "Request Status" to "Confirmed". Once confirmed, the request cannot be edited or cancelled.
    - *Note: This action is workflow-enabled. Notification messages can be sent and you can configure further processing of this document in the "Workflow Management" business component.*

To enter reference document details for engineering service request,

- Select Edit References link.
- To upload documents,
- Select the **Upload Documents** link.

3.2 CANCELING A SERVICE REQUEST

You can cancel service requests, which are in "Fresh" status.

1. Select **Edit Engineering Service Request** under Engineering Service Request business component.
2. Enter the **ESR #** directly or enter search criteria, to retrieve service requests that are already created.
3. Select the service request to be cancelled, in the multiline.
4. Click the **Cancel** pushbutton.

3.3 PROCESSING SERVICE REQUEST FOR ENGINEERING SUPPORT

1. Select **Process Engineering Service Request** under Engineering Advice Note business component. The Select Engg. Service Request page appears. *See Figure 3.2.*

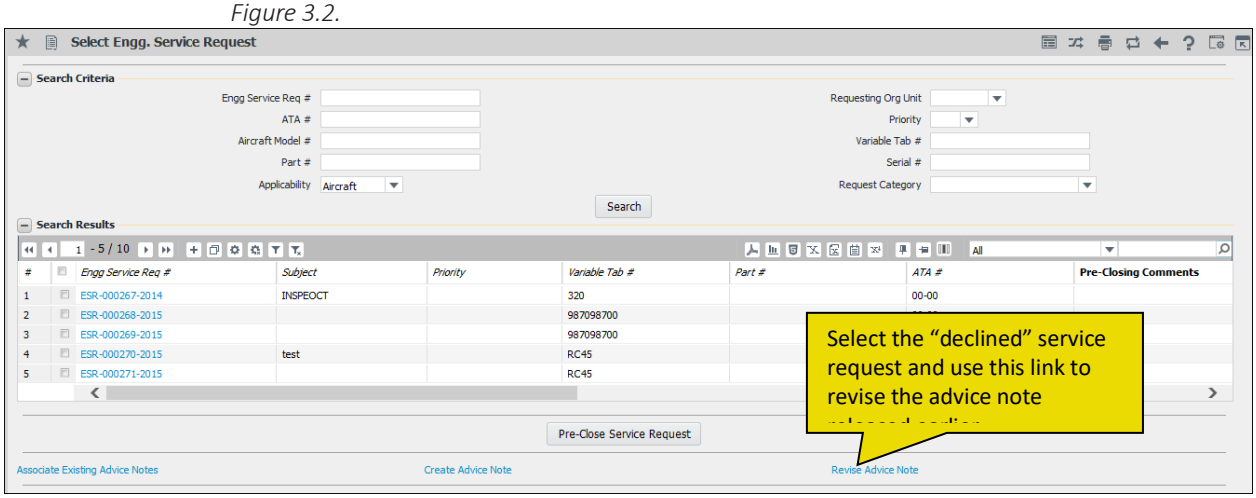


Figure 3.52 Processing an engineering service request

You can respond to a service request in one of the following ways:

- By creating a new advice note.
- By providing information without any advice note, i.e. pre-closing the service request.
- By referring to an existing advice note.
- By revising an existing advice note owing to the response declined by the team that raised the service request.
- By creating a new advice note owing to the response declined by the team that raised the service request.

3.4 CREATING A NEW ADVICE NOTE

1. Select **Process Engineering Service Request** under **Engineering Advice Note** business component.
2. Click the **Search** pushbutton to search for service requests that are in "Confirmed" status.
3. Click the hyperlinked **ESR #** in the multiline, to view its details.
4. Select the service request for which you wish to create the advice note.
5. Select the **Create Advice Note** link, to launch the **Create Advice Note** page. *See Figure 3.3.*

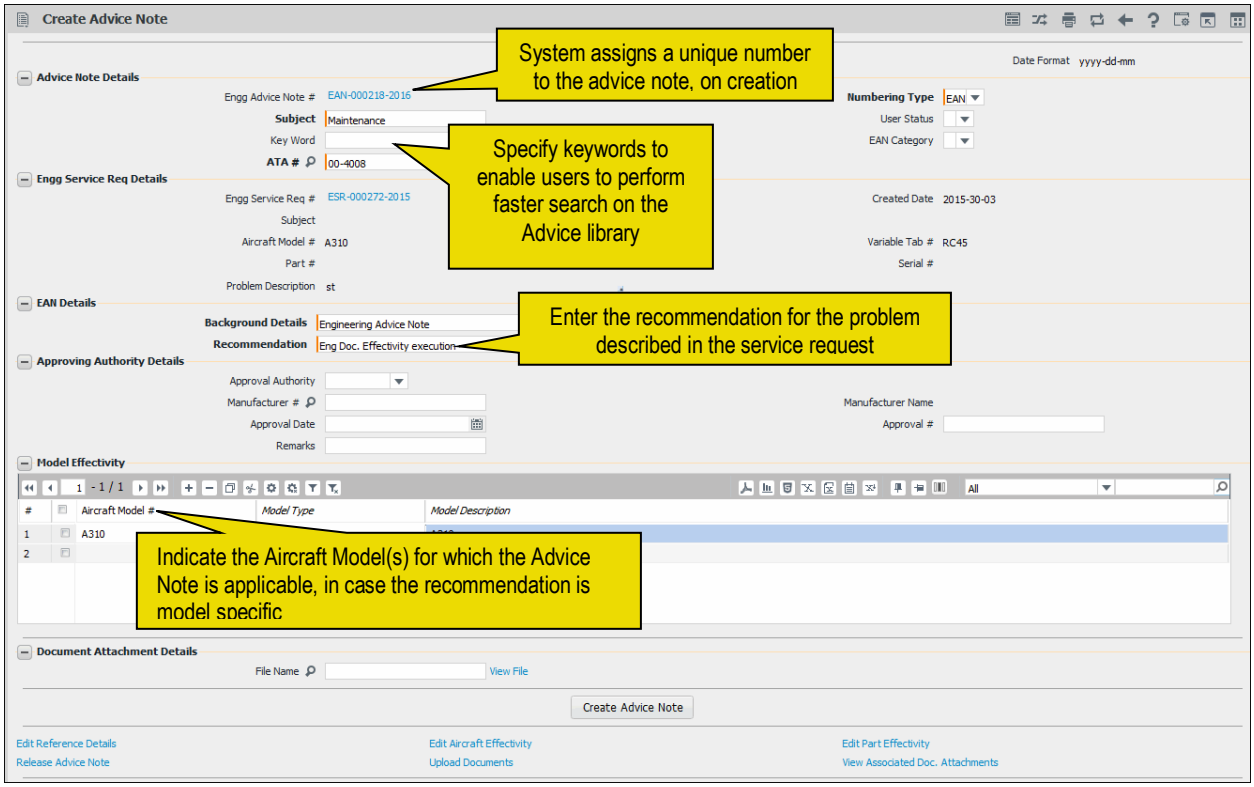


Figure 3.53 Creating an engineering advice note

In the Advice Note Details group box:

6. Enter the subject of the EAN in the **Subject** field.
7. Select the ATA chapter number on which the EAN is created in the **ATA #** field.
8. Use the **Numbering Type** drop-down list box to specify the numbering type for the login organization unit and the "EAN" transaction type

The system displays details in the Engg **Service Req Details** group box.

- *Note: The Part # field will be displayed in this group box only if:*
- *The parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" of the "Logistics Common Master" business component is set as "0".*
- *Both the Mfr. Part # and Mfr. # will be displayed in this group box only if:*
- *The parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" activity of the "Logistics Common Master" business component is set as "1"*

In the **EAN Details** group box:

9. Enter the **Background Details** and the **Recommendation** for the problem reported.
10. Enter the details in the **Approving Authority Details** group box.
11. Enter details in the **Model Effectivity** multiline.
12. Click the **Create Advice Note** pushbutton to process the selected request. The system generates a unique EAN number.
    - *Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.*

To provide further details,

- Select the **Edit Reference Details** link to record reference document details.
- Select the **Edit Aircraft Effectivity** link to specify aircraft effectivity details.
- Select the **Edit Part Effectivity** link to specify part effectivity details.
- Select the **Upload Documents** link to upload documents.
- Select the **View Associated Doc. Attachments** to view information regarding the associated document attachments.

Recording reference information

You can state the reference documents which the requesting team can make use of.

1. Select the **Edit Reference Details** link in the **Create Advice Note** page.
2. Select the applicable document category from the **"Reference Doc Type"** drop-down list box and enter other details such as **Document ID**, **Remarks** and **File Name**.
3. Click the **Edit References** pushbutton.

Applying aircraft model restrictions

You can specify the aircraft for which the recommendation is applicable.

1. Select the **Edit Aircraft Effectivity** link in the **Create Advice Note** page.
2. Enter the Variable Tab #, Aircraft Reg #, Nose # and the Manufacturer Serial # fields, in the multiline.
3. Click the **Edit Effectivity** pushbutton.

Applying component part number restrictions

You can specify the parts for which the recommendation is applicable.

- *Note: The Part # field will be displayed in this group box only if:*
- *The parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" of the "Logistics Common Master" business component is set as "0".*
- *Both the Mfr. Part # and Mfr. # will be displayed in this group box only if:*
- *The parameter "Enable Manufacturer Part # control in transaction" in the "Set Inventory Process Parameters" activity of the "Logistics Common Master" business component is set as "1".*

1. Select the **Edit Part Effectivity** link in the **Create Advice Note** page.
2. Enter the Part # of the component or engine in the multiline.
3. Enter the **Mfr. Part #** assigned to the part by the manufacturer and the **Mrf. #** identifying the manufacturer of the part on which the maintenance is being done.
4. Click the **Edit Effectivity** pushbutton.
5. To specify Serial Number Effectivity details, select the **Edit Serial # Effectivity** link.

3.5 Referencing an existing advice note

1. Select **Process Engineering Service Request** under Engineering Advice Note business component.
2. Provide filter criteria to search for service requests which are pending processing. Select the service request to be processed, in the multiline.
3. Select the **Associate Existing Advice Notes** link.
4. In the **Associate Existing Advice Notes** page, click the **Search** pushbutton to retrieve the records from the existing advice note library.
5. Select the advice note, which you wish to associate, and click the **Associate Advice Note** pushbutton.

   Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.

For releasing the response,

6. Select **Release Response** under **Engineering Advice Note** business component.
7. Select **Referred Advice Note** in the **Response Type** drop-down list box.
8. To release the advice note, follow the steps described under the section "Releasing or canceling an engineering advice note".

3.6 Pre-Closing a service request

You can pre-close an engineering service request, without formulating any recommendations.

1. Select **Process Engineering Service Request** under Engineering Advice Note business component.
2. Select the service request to be pre-closed.
3. Enter reasons for pre-closing the service request, in the **Pre-Closing Comments** field in the multiline.
4. Click the **Pre-Close Service Request** pushbutton.

   Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.

For releasing the response,

5. Select **Release Response** under **Engineering Advice Note** business component.
6. Select "Pre-Closed Request" in the **Response Type** drop-down list box.
7. To release the response, follow the steps described under the section "Releasing or canceling an engineering advice note".

3.7 Releasing or canceling an engineering advice note

You can release a new advice note, reference an available advice note or pre-close the request, in response to a support request.

1. Select **Release Response** under **Engineering Advice Note** business component. The **Release Response** page appears. *See Figure 3.4.*

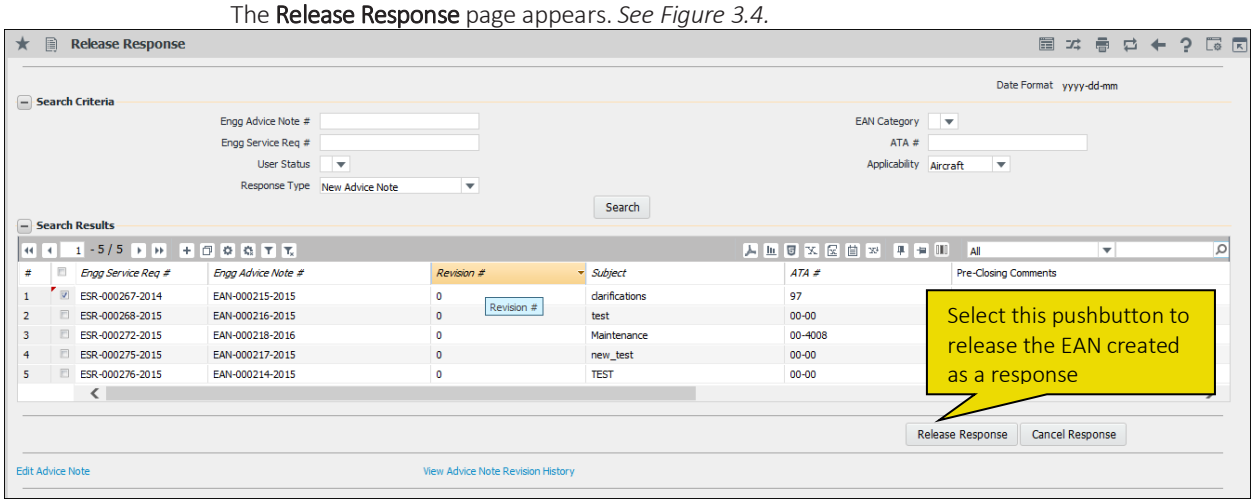


Figure 3.54 Releasing an engineering advice note

2. Select appropriate response type as "New Advice Note", "Referred Advice Note" or "Pre-Closed Request" in **Response Type** drop-down list box.
3. Click the **Search** pushbutton.
4. Select the advice note, in the multiline.
5. If you wish to modify the advice note details, select **Edit Advice Note** link.
6. To view the revision history, select **View Advice Note Revision History** link.
7. Click the **Release Response** pushbutton to release the EAN.

   Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.

8. To cancel the advice note, click the **Cancel Response** pushbutton.

   Note: This action is workflow-enabled. Notification messages can be sent as per the settings you have defined in the "Workflow Management" business component.

To provide further details,

- Select the **Edit Advice Note** link to modify the advice note.
- Select the **View Advice Note Revision History** link to view the revision history of an engineering advice note

3.8 Acknowledging the response

You can inquire the status of the service request and view the response released by the Engineering cell. The requestor can view the recommendations, only when the advice note is released. The recommendation can either be 'Accepted' or 'Declined'.

1. Select **Inquire Engineering Service Request Status** under Engineering Service Request business component. The Select Engg. Service Request page appears. *See Figure 3.5.*

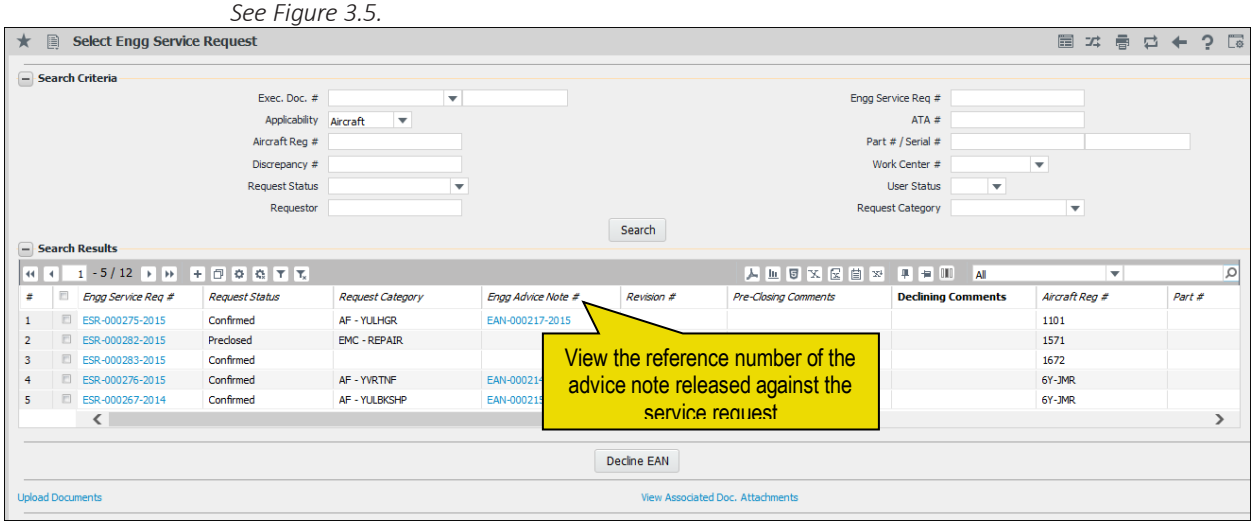


Figure 3.55 Acknowledging an engineering advice note

2. Enter the reasons for non-acceptance of the released advice note, if the recommendations are not satisfactory in the **Declining Comments** field.

3.8.1 Accepting the advice note

1. Select the advice note and view the recommendations.

   Note: The advice note is considered as accepted, if the response is not declined.

3.8.2 Declining the advice note

You can seek further clarifications if the response is inadequate to resolve the problem on hand.

1. Select the advice note in the multiline and enter the comments in the **Declining Comments** field.
2. Click the **Decline EAN** pushbutton.

   The status of the advice note changes to "Response Declined".

3.9 Processing a declined response

You can either revise or re-create a fresh advice note based on the declined response details.

3.10 Revising the advice note

1. Select **Process Engineering Service Request** under Engineering Advice Note business component.
2. Select the service request for which you wish to revise the advice note, in the multiline.
3. Select the **Revise Advice Note** link.
4. Modify the existing advice note details.
5. Click the **Revise EAN** pushbutton.

   Note: This action is workflow-enabled. You can configure further processing of this document in the "Workflow Management" business component.

   The revision number is incremented for the original advice note and a new advice note is created.

   Note: An advice note can be revised only if it is referenced by a single service request.
6. Release the advice note as described under the "Releasing or Canceling an engineering advice note" section.

3.11 Creating a new advice note

To create a new advice note for the declined response advice note, follow the steps described under the section "Creating a new advice note".

4 ENGINEERING CHANGE ORDER MANAGEMENT

The Engineering Change Order process helps to regulate and track the revisions in the process plans, product structures and drawings involved in the manufacture of parts.

The technical team must create, confirm and approve an engineering change order with an in-depth narration on the proposed changes in the specific product structure, process plan or drawing prior to the actual revision of the product structure, process plan or drawing. The changes envisaged in the engineering change order are then incorporated in the active product structure, process plan or drawing to derive the next revision of the document.

4.1 MANAGING ENGINEERING CHANGE ORDER

1. Select the **Manage Engineering Change Order** link under Engineering Change Managements from the left pane. The "Manage Engineering Change Order" page appears. See Figure 4.1.

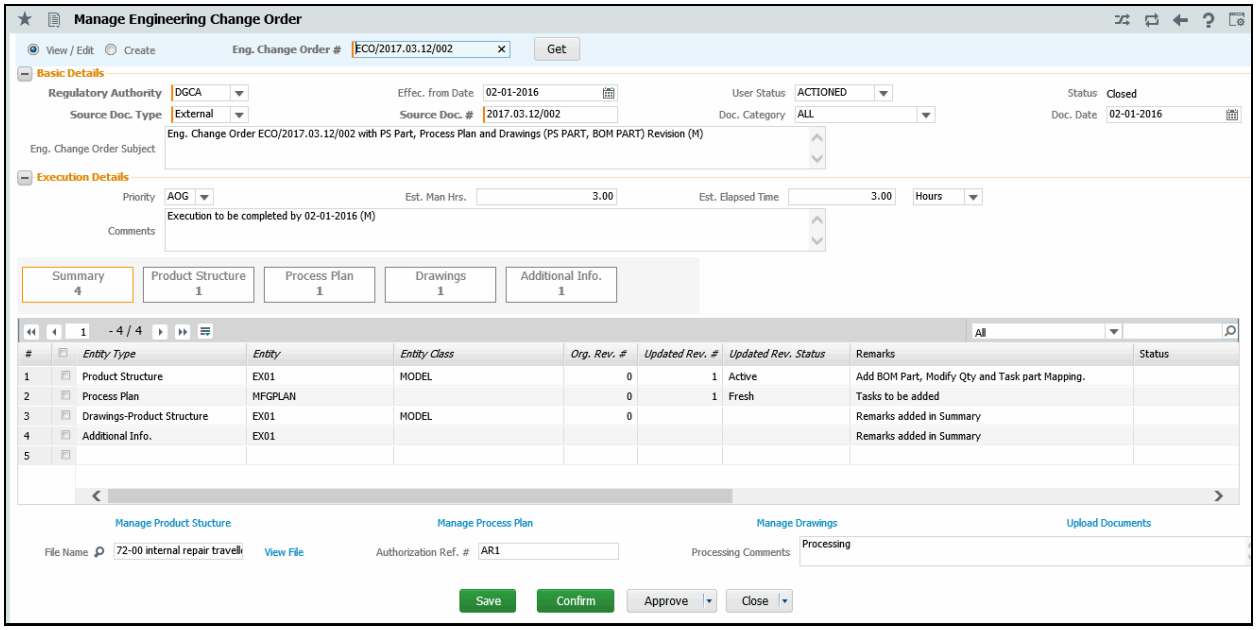


Figure 4.1: Managing Engineering Change Order

2. Select the **Create** radio button to indicate you wish to create an Engineering Change Order document.
3. Enter the following for the document that you intend to create.
4. Enter E**ng. Change Order #** to uniquely identify the document.
5. In the **Basic Details** group box, use the Regulatory Authority drop-down list box to select the regulatory authority that has mandated the change for which you intend to create the Engineering Change Order document.
6. Enter **Effec. From Date** for the document.
7. Use the **User Status** drop-down list box to select the user-defined status of the document.
8. Use the **Source Doc. Type** drop-down list box to identify the type of the source document that initiated the creation of the Engineering Change Order document.
9. Enter Source Doc. #.
10. Use the **Doc. Category** drop-down list box to select the user-defined category to which the document belongs.
11. Enter the date of creation of the Engineering Change Order document in the **Doc. Date** field.
12. Narrate the purpose of the Engineering Change Order document in the **Engineering Change Order Subject** field.
13. In the **Execution Details** group box, use the Priority drop-down list box to select

the priority for execution of the document.

14. Enter **Est. Man Hours** and **Est. Elapsed Time** for the execution of the engineering change order.

Key information upfront

At the onset of the page, the following critical breakup of the changes proposed in the Engineering Change Order document is displayed across the page in tiles:

- **Summary**: The count of changes against the entities: Product Structure, Process Plan, Drawings- Product Structure, Drawings- Part, Drawings- Task and Additional Info.
- **Product Structure**: The count of changes against the entity 'Product Structure'.
- **Process Plan**: The count of changes against the entity 'Process Plan'.
- **Drawings**: The count of changes against the entities: 'Drawings- Product Structure', 'Drawings- Part' and 'Drawings- Task'.
- **Additional Info.**: The count of changes against the entity Additional Info.

4.1.1 Recording product structure details

Note: The Product Structure tile will be the default tile as you have opted to create an engineering change order.

1. Click the **Product Structure** tile. *See Figure 4.2.*

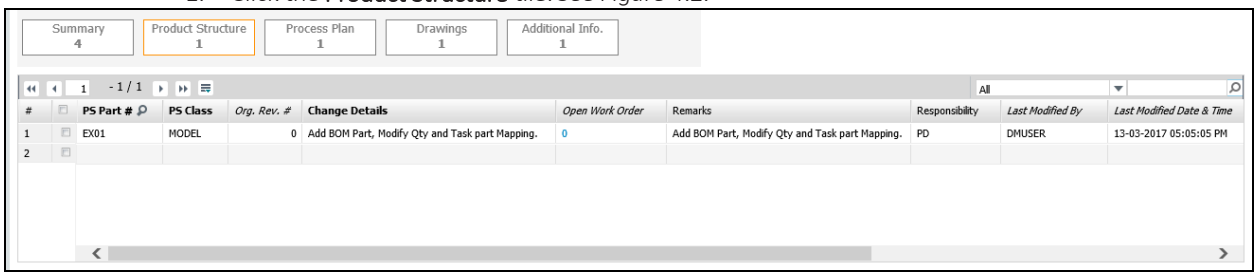


Figure 4.2: Recording product structure details

2. In the multiline, enter **PS Part #, PS Class, Change Details, Responsibility** and **File Name** associated with the proposed changes in the product structure.
3. Click the **Save** pushbutton to save recorded details.

Recording process plan details

1. Click the **Process Plan** tile. *See Figure 4.3.*

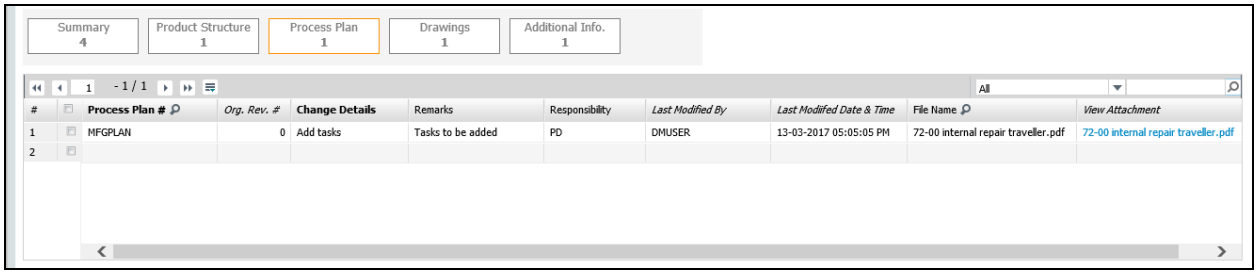


Figure 4.3: Recording process plan details

2. In the multiline, enter **Process Plan #**, **Change Details**, **Responsibility** and **File**

Name associated with the proposed changes in the engineering change order.

3. Click the **Save** pushbutton to save recorded details.

4.1.2 Recording drawing details

1. Click the **Drawings** button. *See Figure 4.4*.

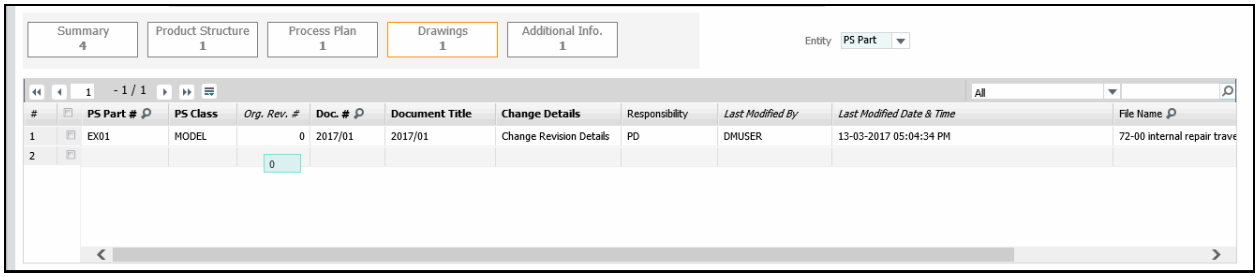


Figure 4.4: Recording drawing details

2. Use the **Entity** drop-down list box to select the entity for which you want to record changes in the drawing.
3. In the multiline, enter **PS Part #** and **PS Class** combination for which the drawing must be revised based on the proposed changes in the engineering change order.
4. Enter **Task #** for which drawing must be revised based on the proposed changes in the engineering change order.

   Note: This field is available only if you have selected 'Task' in the Entity drop-down list box.

5. Enter **Part #** that is the BoM part for which drawing must be revised based on the change details proposed in the engineering change order.

   Note: This field is available only if you have selected 'Part' in the Entity drop-down list box.

6. Enter **Doc. #** that contains the drawing to which the changes proposed in the order are applicable and **Document Title**.
7. Narrate **Change Details** that must be incorporated in the drawing.
8. Enter the code and name of the employee who is responsible for the implementation of the changes/updates in the drawing in the **Responsibility** field.
9. Enter **File Name** you wish to attach to the entity.
10. Click the **Save** pushbutton to save recorded details.

Recording additional information

1. Click the **Additional Info.** button. *See Figure 4.5.*

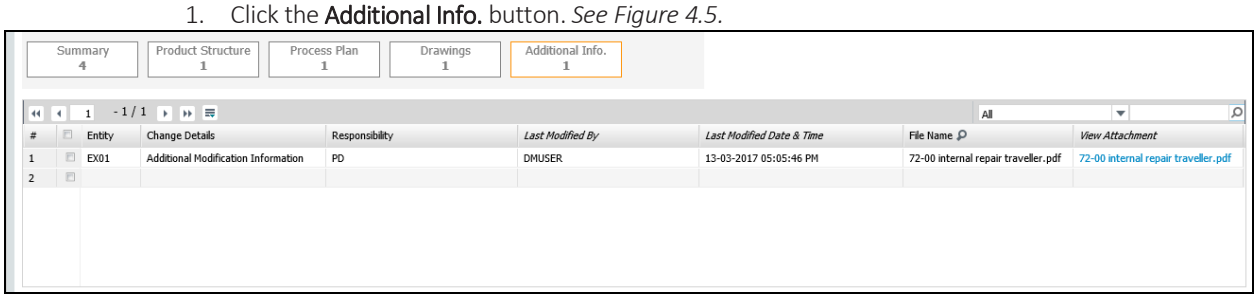


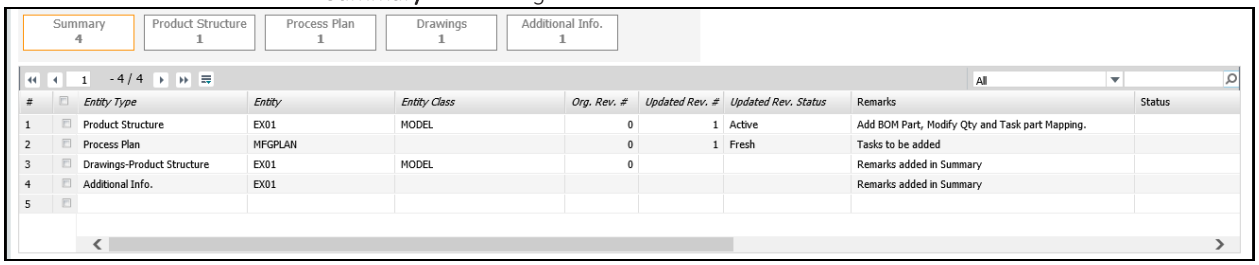
Figure 4.5: Recording additional details

2. In the multiline, enter **Entity** for which you want to record additional information.
3. Enter **Change Details** to elaborate on the changes/updates to be effected in the entity.
4. Enter the code and name of the employee responsible for the implementation of the change in the entity in the **Responsibility** field.
5. Enter **File Name** you wish to attach to the entity.
6. Click the **Save** pushbutton to save recorded details

Recording general details of Engineering Change Order

Note: The Summary tile will be the default tile if you have opted to edit or view an engineering change order.

1. Click the **Summary** tile. *See Figure 4.6.*



#	Entity Type	Entity	Entity Class	Org. Rev. #	Updated Rev. #	Updated Rev. Status	Remarks	Status
1	Product Structure	EX01	MODEL	0	1	Active	Add BOM Part, Modify Qty and Task part Mapping.	
2	Process Plan	MFGPLAN		0	1	Fresh	Tasks to be added	
3	Drawings-Product Structure	EX01	MODEL	0			Remarks added in Summary	
4	Additional Info.	EX01					Remarks added in Summary	
5								

Figure 4.6: Recording additional details

2. Use the **Status** drop-down list box to indicate the status of the changes being implemented on the entity: Pending, In- Progress, Completed and Short Closed.
3. Enter the employee who recorded the changes proposed to be executed on the entity in the **Updated By** field.
4. Enter **Update Date & Time** for the changes recorded in the engineering change order.
5. Under the multiline, enter **File Name** that you wish to attach to the engineering change order.

Saving and Confirming Engineering Change Order

6. Click the **Save** pushbutton to create engineering change order and save the proposed changes.

   The status of the Engineering Change Order document becomes 'Fresh'.

7. Click the **Confirm** pushbutton.

   The status of the Engineering Change Order document becomes 'Confirmed'.

Approving and Returning Engineering Change Order

From the Approve button drop-down list box,

8. Select **Approve** to begin the implementation of the changes proposed by the document.

The status of the Engineering Change Order document becomes 'Approved'.

Note: You can approve a document only if it exists in the 'Confirmed' status. Further, you are allowed to change only the line status of the

entities in the Summary multiline, if the status of the engineering change order is 'Approved'.

9. Select **Return** to return the document to the login user who has created it for further changes.

The status of the Engineering Change Order document becomes 'Returned'.

> *Note: You can return a document only if it exists in 'Confirmed' status.*

Closing and Canceling Engineering Change Order

From the Close button drop-down list box,

10. Select **Close**, if the changes in the affected entities have been successfully carried out in the product structure, process plan and/or drawing.

The status of the Engineering Change Order document becomes 'Closed'.

> *Note: You can close a document only if the line status of all the entities is 'Completed' or 'Short Closed'.*

11. Select **Cancel**, if the document is no longer valid.

The status of the Engineering Change Order document becomes 'Cancelled'.

> *Note: You can cancel a document only if it exists in the 'Fresh' status.*

12. Select **Short Close**, if you no longer want to process the document.

The status of the Engineering Change Order document becomes 'Short Closed'.

> *Note: You can short close a document only if it exists in the 'Approved' status.*

Modifying /viewing Engineering Change Order

1. Select the **View/Edit** radio button, if you wish to view or modify the Engineering Change Order document.
2. Specify **Eng. Change Order #** that you wish to update or view.
3. Click the **Get** pushbutton to retrieve and display the document details in the page.
4. To change the details of the document, follow the procedures explained for creating an engineering change. However, the Summary tile will be the default tile, if you have opted to edit or view an engineering change order.

To proceed further

- Select the **Manage Process Plan** link to incorporate the changes proposed in the Engineering Change Order document.
- Select the **Manage Product Structure** link to incorporate the changes proposed in the Engineering Change Order document.
- Select the **Manage Drawings** link to incorporate the changes proposed in the Engineering Change Order document.
- Select the **Upload Documents** link to attach documents associated with the engineering change order

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