

Change Management

Change management is the process by which any required changes to Items are initiated, designed, reviewed, and implemented. In this section, the term *Item* means an item under direct change management control. In the Product Engineering (PE) solution, these Items are Parts, Documents, and CAD Documents.

The PE solution has three built-in processes to manage Item release, modification, and obsolescence:

- **CMII Process** — The Institute of Configuration Management developed the CMII change management process. It is a rigorous definition of how change management should be implemented throughout an organization to achieve better control over operations. You can use the CMII principles immediately out of the box or customize them to match your organization's specific requirements.
- **Simple Change Management** — This is a less rigorous process for organizations that do not require the entire CMII standard. Simple change management involves fewer steps and resources but still controls change in an organization based on a set of standard processes.
- **Express Change Management** — This is a streamlined process with a built-in Impact Matrix utility that quickly shows you how the change will affect other Items dependent on a changed Part or Document.

Aras Innovator can be configured to allow one or more of these processes to run in parallel depending on the complexity of the Parts and Documents involved and the requirements of the organization.

Important

You may be required to enter your password and e-signature to complete some of the CM assignment activities. This ensures that you are indeed the specified user required to perform this operation. The workflow administrator can set this feature on any workflow assignment.

CMII Change Management

The CMII Process uses three different ItemTypes to manage changes:



- The **Problem Report (PR)** is used for logging problems found with an Item. The PR does not force a resolution; it is a tool to track a problem, which may need to be addressed.
- The **Engineering Change Request (ECR)** is used for requesting a change to Items where a problem occurs or will occur if no action is taken. An ECR is usually created after one or more PRs have been filed and verified that a problem does exist. ECRs do not actually affect change on the Item(s).
- The **Engineering Change Notice (ECN)** is an authorization to make changes to an Item based on an approved ECR. It is used to describe modifications (real or proposed) to affected Items and is also used for notifying the appropriate users that the Item is changed. ECNs do affect change on the Item(s). Once an ECN has been approved and completed, a new Item is released, modified, or obsoleted depending on the actions taken.

Problem Report (PR)

A Problem Report (PR) is a report about a problem that has been found. It does not force any resolution or initiate a corrective process. It is a simple notification that a problem with an Item has been discovered.

The reported problem is the subject of further review, verification, and approval/rejection.

Anyone who has access to the Item in question can create a PR. An initiator can be a company employee or customer. For example, at a software company, a PR could be a new issue that has been reported by the helpdesk. At a services company, it could be a complaint call from a customer.

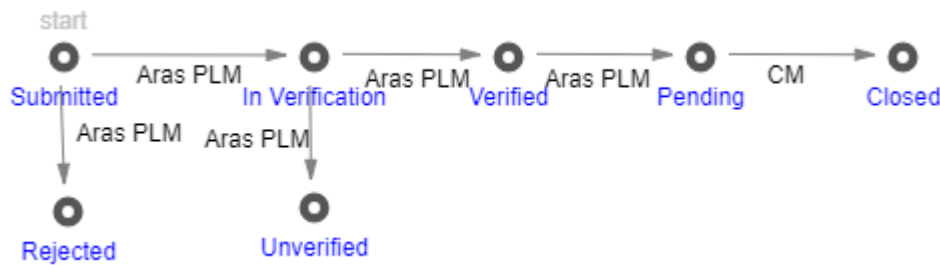
Understanding the PR Process

The PR workflow has the following roles:

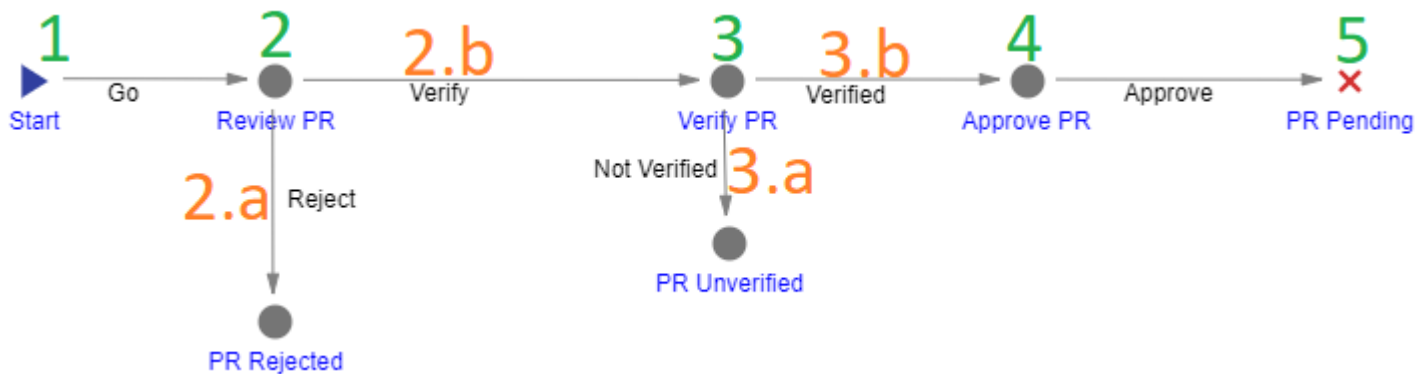
- PR Creator – The user who initially created the PR in the system. This may or may not be the same person as other roles.
- PR Owner (**Assigned Creator**) – An engineer responsible for the research, identification, and verification of the problem. The Owner must verify the problem and provide detailed information about its origin as well as any possible corrective actions.
- Change Specialist I (CSI) – Coordinates PRs and ECRs through the analysis phase preparing for and conducting the Change Review Board meetings.
- The Configuration Management (CM) group.

A PR moves through various states during its life cycle as shown in the following figure.





The PR workflow together with the PR life cycle produces the following scenario:



1. A new PR is **Submitted** by a Creator.
2. A CSI **reviews the PR** to determine whether it should be:
 1. In the **Rejected** state.
 2. In the **In Verification** state. The CSI **identifies a PR Owner** and **sends the PR** to this identity for verification.
3. The PR Owner **verifies the PR** to determine whether it should be:
 1. In the **Unverified** state. In this case, the PR Owner rejects the PR.
 2. In the **Verified** state. Once the PR Owner has verified the PR, it goes to the CSI for approval.
4. The CSI checks the PR form. Once it is ensured that all the necessary information has been entered in the PR, **the CSI approves** the PR, promoting it to **Pending**.
5. A member of the CM group starts a further CMII process according to the PR results and closes the PR.

A CSI has access to and controls all PRs in the system regardless of their creator, activity, or state. For example, several PRs may be pending until they are all incorporated into one ECR. Therefore,

when the final action does take place, the CSI needs to update the Final Action field with this information.

The following table shows the PR lifecycle states and workflow activities in terms of Roles and Permissions.

The PR lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
Submitted	Review PR	World	All employees, CM, Creator	All employees, CM, Creator		CM	Yes	CSI
Rejected	PR Rejected		All employees, CM	CM		CM	No, a final state	
In Verification	Verify PR		All employees, CM, Creator	All employees, CM, Creator		CM	Yes	Owner
Unverified	PR Unverified		All employees, CM	CM		CM	No, a final state	
Verified PR	Approve PR		All employees, CM	CM		CM	Yes	CSI
Pending	PR Pending		All employees, CM, Creator	CM		CM	Yes	CM
Closed			All employees, Creator				No, a final state	

The final PR states (Rejected, Unverified, Closed) are used to classify PRs in the system and in reports.

There are the following PR reports:

- PR Log Report – A list of all the PRs. For details, refer to section PR Log Report.
- PR Report – A printable PR form. For details, refer to section PR Report.



Submitting a PR

A PR is a complex document that is filled in by different roles in the system. A PR creator is not expected to fill in the PR completely. This section defines the types of information that must be included in a newly created PR.

To create and submit a Problem Report:

1. Go to **Contents** → **Change Management** → **PRs**.
2. Click **Create New PR**. The view of a new PR appears. Enter the necessary information.



PR 1



Delete

^ PR

PR Number

Server Assigned

Title

Status

Application Environment

Affected Item

Priority For Tech Review

☐ 1 ☐ 2 ☐ 3 ☐ 4

Sequence Of Events Leading Up To The Problem

Basis

☐ Administrative Hierarchy

☐ Physical Hierarchy

Description Of The Problem

Reported By

Assigned Creator

Problem Verification

Phase Caused

Phase Found

Ramifications If Not Resolved

Severity

☐ 1

☐ 2

☐ 3

☐ 4

Final Action Taken

^ Files

 Files ▾ ☆





- **Title** – The title for the PR. The title should be as descriptive as possible.
- **Application Environment** – The background information about the product and/or any related problems. For example, it could be the version or the server used for a software product, or it could be the temperature and the humidity level for an automotive part.
- **Sequence Of Events Leading Up To The Problem** – The exact steps taken that led to the problem.
- **Description Of The Problem** – A description of the problem. The description should describe the problem as precisely as possible.
- **Affected Item** – The affected item.
- **Basis** –
 - **Physical Hierarchy** – The Item (Part) itself and any Document associated with it. A bug in software would be classified as a physical hierarchy.
 - **Administrative Hierarchy** – Anything related to the process of running the business. An error in an expense report procedure would be classified as an administrative hierarchy.

3. Click **Done** on the **PR** toolbar. The PR is created and submitted for a CSI's decision.

Reviewing a PR

A CSI receives a **Submitted** PR to decide whether to reject or review it. This section defines which pieces of information the CSI must provide when the decision is made to review the PR.

Use the following procedure to review a Problem Report:

1. Open the **PR** view.
2. Click **Edit** on the **PR** toolbar.
3. Specify the priority number in the **Priority For Tech Review** field. The higher the priority, the lower the number selected.
4. Enter the name of the person who reported the problem in the **Reported By** text box. This Identity may not be the same person who created the PR in the system (the Creator).
5. Enter the name of the PR Owner in the **Assigned Creator** text box.
6. Click **Done** on the **PR** toolbar.
7. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.



8. Go to the **Workflow Activity Completion** dialog for the PR.



Workflow Activity Completion

Workflow: PR-100011
Activity: Review PR

Tasks			
Sequence	Required	Description	Complete
1	☐	Check the PR for completeness (Title, Application Environment, Sequenc...	☒
2	☐	Check for duplicate PRs	☒

Vote	
Vote:	Reject Verify Delegate
Delegate to:	
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

9. Mark the tasks you completed in the **Tasks** field.

10. Select **Verify** in the **Vote** list.

11. Click **Complete**.

The PR awaits a decision of the PR Owner.

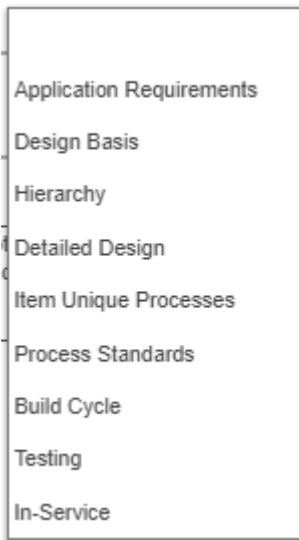
Verifying a PR

A PR Owner receives a PR **In Verification** to decide whether to reject or verify it. This section defines which pieces of information the PR Owner must provide when verifying the PR.

Use the following procedure to verify a Problem Report:



1. Open the **PR** view.
2. Click **Edit** on the **PR** toolbar.
3. Enter the steps that were taken to verify the problem as well as any special conditions or descriptions of the problem in the **Problem Verification** text box.
4. Enter an assessment of what would happen if this problem was not corrected in the **Ramifications If Not Resolved text** box
5. Assess the severity of the issue in the **Severity** box. The higher the severity; the lower the number selected.
6. Specify the product development phase where the problem occurred in the **Phase Caused** list.



7. Select the product development phase where the problem was found in the **Phase Found** list.
8. Click **Done** on the **PR** toolbar.
9. Go to **Contents** → **My Innovator** → **My InBasket** --> **Search My InBasket**.
10. Go to the **Workflow Activity Completion** dialog for the PR.





Workflow Activity Completion

Workflow: PR-100011

Activity: Verify PR

Tasks				
Sequence	Required	Description	Complete	
1	☐	Attempt to verify the problem as described	☒	
2	☐	Complete the Problem Verification, Phase Caused, Phase Found, Ramific...	☒	
3	☐	Vote "Verified" to send the PR for approval or "Not Verified" if unverifiable	☒	

Vote	
Vote:	▼ Verified Not Verified Delegate
Delegate to:	...
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

11. Mark the tasks you completed in the **Tasks** field.

12. Select **Verified** in the **Vote** list.

13. Click **Complete**.

The Approve PR activity starts. The PR awaits a CSI's decision.

Approving a PR

A CSI is responsible for the final approval of all PRs in the system regardless of their creator, activity, or state.

Use the following procedure to approve a Problem Report:

1. Open the **PR** view.



2. Check that all necessary information is present.
3. If it is necessary to correct the PR:
 1. Click **Edit** on the **PR** toolbar.
 2. If any final action takes place, enter information about it in the **Final Action** text box.
 3. Provide any missing information.
 4. Correct wrong information if any exists.
 5. Attach auxiliary files if any exist.
 6. Click **Done** on the **PR** toolbar.
4. Go to the **Workflow Activity Completion** dialog for the PR.



Workflow Activity Completion

Workflow: PR-100009
Activity: Approve PR

Tasks			
Sequence	Required	Description	Complete
1	☐	Check the PR for completeness	☒
2	☐	Vote "Approve" to signify that the PR is complete and verified	☒

Vote:		Delegate to:	
Approve Delegate			
Comments:			

Authentication	
Password:	E-Signature:

Complete

Save Changes

Cancel

5. Select the tasks you completed in the **Tasks** field.
6. Select **Approve** in the **Vote** list.



PR Log Report

You can get quick information about all the PRs submitted to Aras Innovator with the PR Log Report.

PR Log Report x

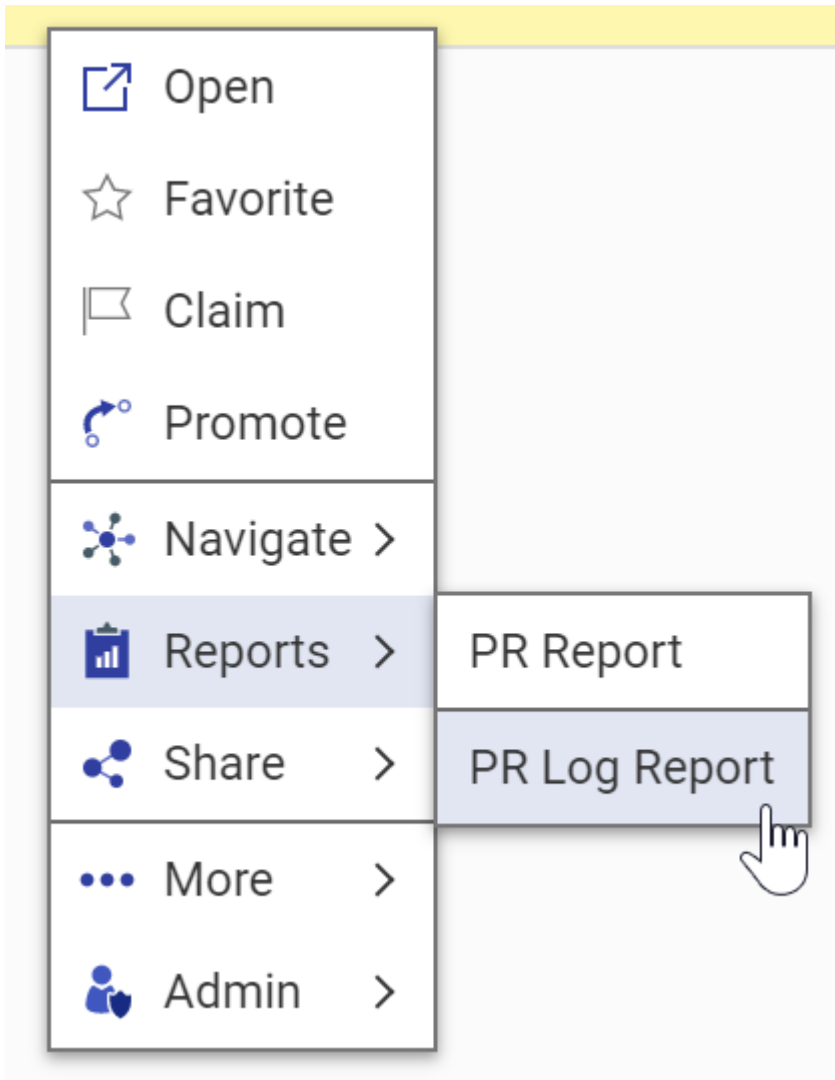
 [Print](#)

PR Log Report								Generated on: 3/19/2019, 7:09:37 PM	
PR Number	Title	Priority	Date Reported	Reported By	Assigned Creator	Status	ECR		
PR-100001	SD Card fit issues		1/19/2018 10:30:00 AM	Diane Prescott		In Verification			
PR-100002	Cable routing within case		11/13/2017 6:40:00 PM	Dan Park		In Verification			
PR-100003	Screw pre-stress can break boards		11/13/2017 6:40:00 PM	Dan Park		In Verification			
PR-100004	Manufacturing issues relating to case tolerance		11/13/2017 6:40:00 PM	Dan Park		In Verification			
PR-100005	Packaging not providing sufficient protection		11/15/2017 11:00:00 AM	Dan Park		Pending			

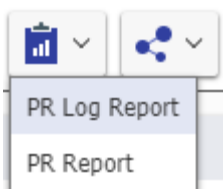
There are several ways to access the PR Log Report:

- Go to **Contents** → **Change Management** → **PRs**, right-click any **PR**, and then click **Reports** → **PR Log Report**.



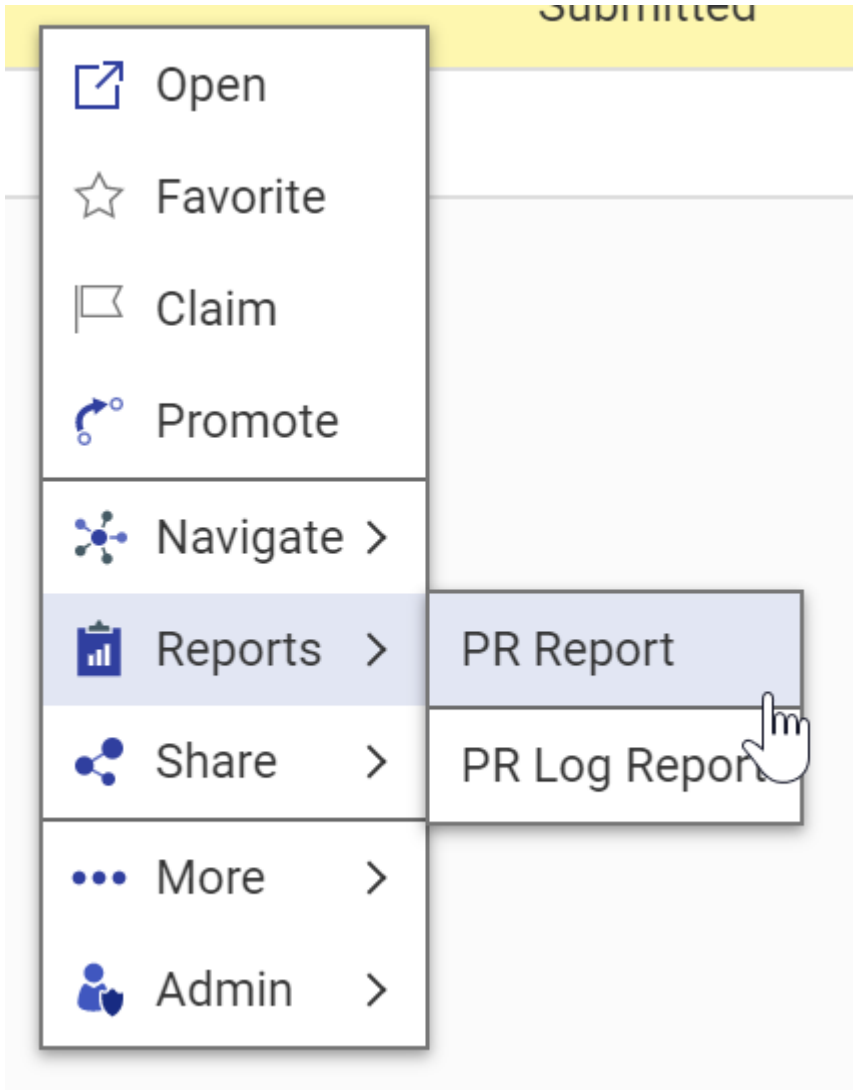


- Open the view of any PR, on the **PR** toolbar, click **Reports**, and then click **PR Log Report**.

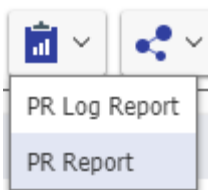


To quit a Report, close its view in Aras Innovator.

At the top left corner of the PR Log Report view, there is a **Print** button, which uses the standard browser print function. Depending on the browser and your specific configuration, various print



- Open the view of a PR. On the **PR** toolbar, click **Reports**, and then click **PR Report**.



To quit a Report, close its view in Aras Innovator.

At the top left corner of the PR Report view, there is a **Print** button, which uses the standard browser print function. Depending on the browser and your specific configuration, various print choices, such

as printing to a printer or saving to PDF, are available.

Engineering Change Request (ECR)

An Engineering Change Request (ECR) is a request initiating a corrective process in response to some PRs or because of a potential problem identified through proactive thinking. An ECR is submitted to request a change to Items where a problem occurs or will occur if no action is taken.

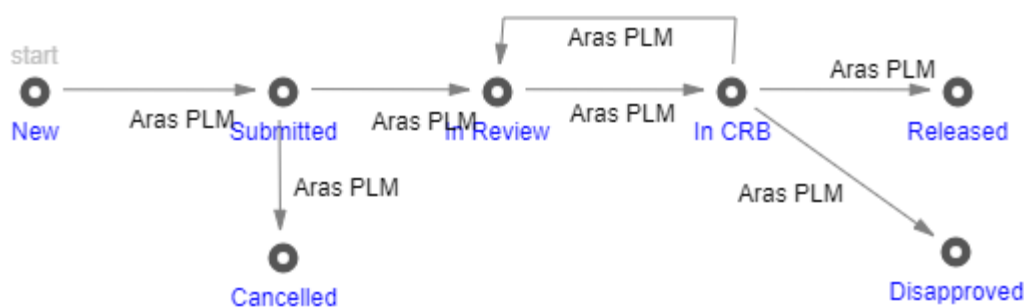
An ECR may be quickly processed in the system using the Fast Track approach when the ECR is submitted to correct a small or local problem that does not have far-reaching consequences.

Understanding the ECR Process

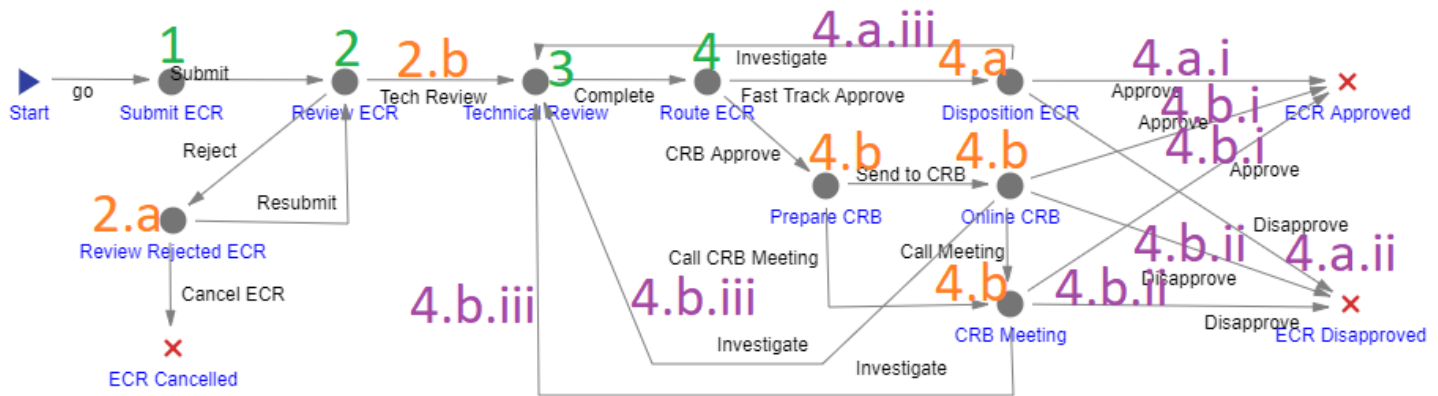
The ECR workflow has the following roles:

- An ECR Creator is a user who initially created the ECR in the system. This may or may not be the same person as other roles.
- An ECR Owner (**Assigned Creator**) is a person responsible for the technical review of the ECR. This person must be able to identify and verify the problem itself and to see the ramifications of both the problem and the solution.
- A Change Specialist I (CSI) coordinates PRs and ECRs through the analysis phase preparing for and conducting the Change Review Board meetings.
- The Change Review Board (CRB).
- The Configuration Management (CM) group.

An ECR moves between various states during its life cycle as shown in the following figure.



The ECR workflow together with the ECR life cycle produces the following scenario:



1. After a new ECR is created, an ECR Creator must declare that the ECR is ready for review voting **Submit the ECR**.
2. The ECR enters the **Review ECR** activity **assigned to the CSI**. The CSI reviews the ECR thoroughly, and decides to either:
 1. **Reject the ECR**. The ECR goes **back to the creator**, who either resubmits or cancels the ECR. In the former case, the creator corrects the ECR according to CSI's comments for rejection.
 2. **Submit the ECR** for the technical review. The CSI assigns an Owner to the ECR.
3. The ECR enters the **Technical Review** activity **assigned to the Owner**. The Owner conducts the technical review and provides data, comments, and recommendations. Once the Owner votes **Complete**, the ECR goes further.
4. The ECR enters the **Route ECR** activity **assigned to the CSI**. The CSI must decide how to route the ECR. Different companies have different criteria for making this decision based on the cost estimates, time, and the nature of the problem itself. The CSI has the authority to vote either:
 1. **Fast Track Approve** for a fast-track ECR. The ECR enters the **Disposition ECR** activity **assigned to the Owner**. The Owner votes either:
 - **ECRApproved** to approve the ECR.
 - **ECRDisapproved** to reject the ECR.
 - **Investigate** to send the ECR back for more investigation.
 2. **CRB Approve** for full CRB involvement. The ECR enters the **Prepare CRB** activity **assigned to the CSI**. The CSI defines the meeting type either through an in-person **CRB Meeting** or through an **Online CRB**. The CSI also prepares all the necessary information to present to the CRB. Regardless of the meeting type, the CRB votes either:
 - **ECRApproved** to approve the ECR.
 - **ECRDisapproved** to reject the ECR.

- **Investigate** to send the ECR back for more investigation.

The following table shows the ECR lifecycle states and workflow activities in terms of Roles and Permissions.

The ECR lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
New		World	All employees, Creator, CM	Creator, CM		CM		Automatic
Submitted	Submit ECR		All employees, Creator, CM	Creator, CM		CM	Yes	Creator
In Review	Review ECR		All employees, CM	CM			Yes	CSI
In Review	Review Rejected ECR		All employees, CM	CM			Yes	Creator
In Review	Technical Review		All employees, CM	CM			Yes	Owner
In Review	Route ECR		All employees, CM	CM			Yes	CSI
Cancelled	ECR Cancelled		All employees				No, a final state	
In CRB			All employees, CM	CM				
In CRB	Disposition ECR		All employees, CM	CM			Yes	Owner
In CRB	Prepare CRB		All employees, CM	CM			Yes	CSI
In CRB	Online CRB		All employees, CM	CM				CRB



In CRB	CRB Meeting		All employees, CM	CM			Yes	CSI
Disapproved	ECR Disapproved		All employees				No, a final state	
Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
Released	ECR Approved		All employees				No, a final state	

The final ECR states (Cancelled, Disapproved, Released) are used to classify ECRs in the system and in reports.

The ECR reports are:

- ECR Log Report is a list of all the ECRs. For details, refer to section ECR Log Report.
- ECR Report is a printable form of an ECR. For details, refer to section ECR Report.

Submitting an ECR

An ECR is a complex document that is filled in by more than one person. An ECR creator is not expected to fill in the ECR completely. This section defines the information an ECR must have to be submitted.

Use the following procedure to create and submit an Engineering Change Request:

1. Go to **Contents** → **Change Management** → **ECRs**.
2. Click **Create New ECR**. The view of a new ECR appears.



ECR 1

Save Done Delete

ECR

ECR Number: Server Assigned Title: Status:

Administrative Hierarchy Corrective Action Requested By Source

Physical Hierarchy Product Improvement

Proposed Solution

Nonrecurring Cost Estimate: Less Than \$200 \$

Recurring Cost Estimate: \$

Fast Track Priority For Tech Review: 1 2 3 4 Assigned Creator:

Tech Review & Recommendation:

Problem Status: Solution:

Priority: 1 2 3 4

Affected Items PRs Files

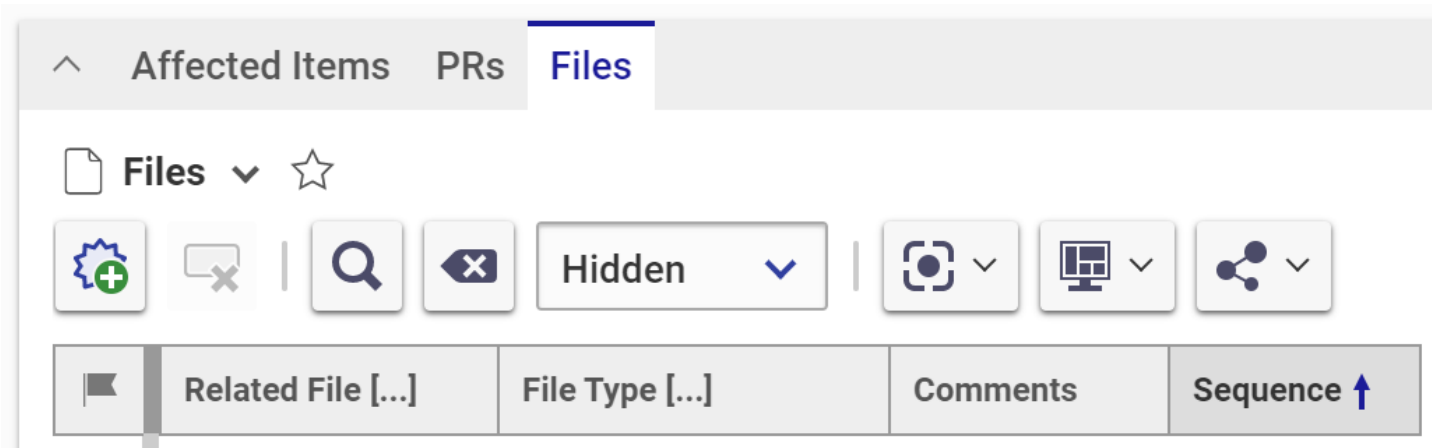
Affected Items

Ty... Action Old Number ... Old Rev... Interchang... New Number ... New Rev... In Build In Service

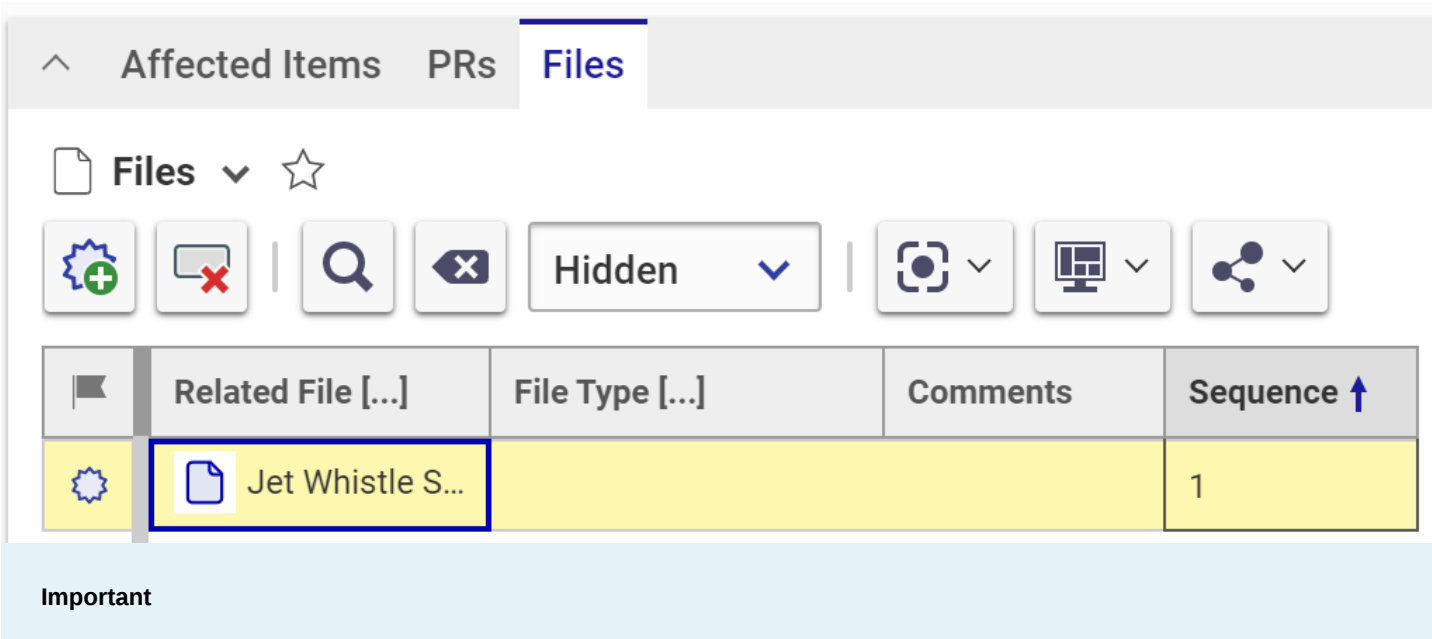
- Enter the **ECR title** in the **Title** text box, making it as descriptive as possible.
- Select the appropriate hierarchy:
 - Physical hierarchy** refers to the Item (Part) itself and any Document associated with it. A bug in software would be classified as a physical hierarchy.
 - Administrative hierarchy** refers to anything related to the process of running the business. An error in an expense report procedure would be classified as an administrative hierarchy.
- Specify the ECR intent:
 - Corrective Action** if the ECR corrects an already occurring problem.
 - Product Improvement** if the ECR prevents a possible problem or improves the product.
- Enter the name of the person who requested the change in the **Requested By** text box.
- Specify the source of the ECR by selecting one of the following from the **Source** list: **Internal**, **Customer**, or **Supplier**.
- Describe the solution proposed by the ECR Creator in the **Proposed Solution** text box.
- Go to the **Affected Items** accordion tab to specify which Items are affected by the ECR.



- 10. If the ECR should request adding Items, use the procedure described in section Adding an Item with an ECR.
- 11. If the ECR should request changing Items, use the procedure described in section Changing an Item with an ECR.
- 12. If the ECR should request deleting Items, use the procedure described in section Deleting an Item with an ECR.
- 13. Go to the **Files** accordion tab to attach all the files concerning this ECR.



- 14. Click **New File** on the Files accordion toolbar. The standard operating system dialog for file browsing and selection appears.
- 15. Search for and select a file. A new row appears in the **Files** grid with the file attached.



Aras Innovator will automatically assign a file type depending on File's extension when you save the ECR.

16. If it is necessary to provide additional information about the File, enter it in the **Comments** cell.
17. Repeat steps 14-16 for other files related to this ECR.
18. Click **Done** on the **ECR** toolbar. The ECR is created. The automatic ECR properties get their values.
19. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
20. Go to the **Workflow Activity Completion** dialog for the ECR.



Workflow Activity Completion

Workflow: ECR-100001
Activity: Submit ECR

Tasks

Sequence	Required	Description	Complete
1	☐	Attach known Affected Items	☒
2	☐	Ensure the ECR is ready for initial review	☒

Vote

Vote:
Delegate to:
Comments:

Authentication

Password: E-Signature:

Complete

Save Changes

Cancel

21. Mark the tasks you completed in the **Tasks** field.
22. Select **Submit** in the **Vote** list.
23. Click **Complete**.

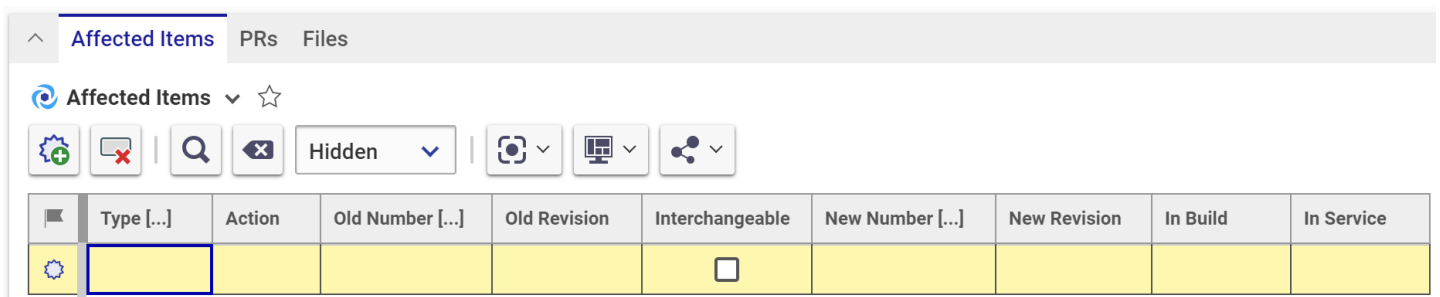


24. The ECR enters the **Review ECR** activity and awaits the decision of the CSI.

Adding an Item with an ECR

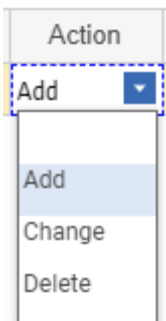
To request add and release of an affected Item with an Engineering Change Request:

1. Open the ECR.
2. Click **Edit** on the ECR toolbar.
3. Go to the Affected Items accordion tab.
4. Click **New Affected Item** on the Affected Items accordion toolbar. A new row appears at the bottom of the Affected Items grid.



Type [...]	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
				☐				

5. Select **Add** in the **Action** cell.



6. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
7. Search for and select the new affected Item. The affected Item populates the **NewNumber** cell.

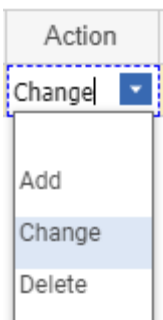
Affected Items PRs Files									
Affected Items ▼ ☆									
⚙️ ❌ 🔍 🔍 Hidden ▼ 🔍 🖨️ 🔗 ▼									
⚙️	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
⚙️		Add			☐	Child A			

- Click **Save** or **Done** on the **ECR**toolbar. The ECR now has an affected Item that needs to be added and released.

Changing an Item with an ECR

To request changing an existing affected item with an Engineering Change Request:

- Open the ECR.
- Click **Edit** on the ECR toolbar.
- Go to the Affected Items accordion tab.
- Click **New Affected Item** on the Affected Items accordion toolbar. A new row appears at the bottom of the Affected Items grid.
- Select **Change** in the **Action** cell.



- Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** dialog box appears.
- Using the standard search procedure, search for and select the affected Item to be changed. The selected Item populates the **OldNumber** cell.

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
		Change	Child B		☐				

8. Select the **Interchangeable** cell check box if the old and new Items are interchangeable e.g., if there is no Fit-Form-Function change. When selected, the same Item number is retained. Otherwise, a new Item number will need to be assigned.
9. If the **Interchangeable** cell is not selected, e.g., the old and new Items are not interchangeable due to a Fit-Form-Function change, select the replacing new Item:
 1. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
 2. Search for and select the new affected Item. The new affected Item populates the **NewNumber** cell.

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	<...	Change	Child B		☐	Child A			

10. Click **Save** two times on the **ECR** toolbar.
11. Select the action to take for the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
12. Select the action to take for the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	<...	Change	Child B	A	☐	Child A	A	Rework	Use Existing

13. Click **Save** or **Done** on the ECRtoolbar. The ECR has an affected Item requested for changing.



Affected Items

PRs

Files

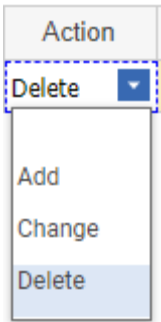
Affected Items

</

Deleting an Item with an ECR

To request superseding of an existing affected Item with an Engineering Change Request:

1. Open the ECR.
2. Click **Edit** on the ECR toolbar.
3. Go to the Affected Items accordion tab.
4. Click **New Affected Item** on the Affected Items accordion toolbar. A new row appears at the bottom of the Affected Items grid.
5. Select **Delete** in the **Action** cell.



6. Click the ellipsis button in the Old Number cell. The **Search dialog – Change Controlled Item** appears.
7. Search for and select the affected Item. The old Affected Item populates the **OldNumber** cell.

🚩	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
⚙️		Delete	Child B		☐				

8. Click **Save** two times on the **ECR** toolbar.



- Select the action to take for the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
- Select the action to take for the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	<...	Delete	Child B	A	☐			Rework	Use Existing

- Click **Save** or **Done** on the ECR toolbar. The ECR has an affected Item assigned for deletion.

^
Affected Items
PRs
Files

Affected Items
v
☆

|

Hidden
v
|

v

v

v

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	<...	Delete	Child B	A	☐			Rework	Use Existing

Removing an Affected Item from an ECR

Use the following procedure:

- Follow steps 1-3 of the Adding an Item within an ECR procedure.
- Click the **Affected Item** and then click **Delete Row** on the **Affected Items** accordion toolbar. The **Affected Item** becomes unavailable.

^
Affected Items
PRs
Files

Affected Items
v
☆

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Hidden
v
|

v

v

v

	T..	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	<...	Delete	Child B	A	☐			Rework	Use Existing

- Click **Save** or **Done** on the **ECR** toolbar. The **Affected Item** disappears from the grid.



Important

The **Affected Item** disappears immediately if the ECR was not saved after it was added.

Reviewing an ECR

A CSI receives a **Submitted** ECR to decide whether to reject it or to submit it for technical review. This section defines the information the CSI must provide when the decision is made to submit the PR.

To review an Engineering Change Request and submit it for technical review:

1. Open the **ECR** view.
2. Click **Edit** on the **ECR** toolbar.
3. Specify the tech review priority number in the **Priority For Tech Review** field. The higher the priority of the tech review, the lower the number selected.
4. Specify the ECR Owner in the **Assigned Creator** text box.
5. Verify that the information entered by a Creator is correct.
6. Verify that the **Affected Items** accordion tab contains all the Items affected by the ECR.
7. Verify that the **Files** accordion tab has all the necessary files attached.
8. If this ECR is based on a PR:
 - Go to the **PRs** accordion tab.

The screenshot shows the 'PRs' tab selected within an accordion menu. The interface includes a toolbar with icons for adding, editing, and deleting items, as well as search and filter options. Below the toolbar is a table with the following columns: PR Number, Title, Status, Reported By, Affected Item, and Sequence. The 'PR Number' column is sorted in ascending order, showing the value '2'.

PR Number	Title	Status	Reported By	Affected Item	Sequence
2					1

- Click **Select Items**. The **Search dialog – PR** appears.
- Search for and select the initiating PR. The selected PR appears as a bottom row in the PRs grid.



13. Select **Tech Review** in the Vote list.
14. Click **Complete**.

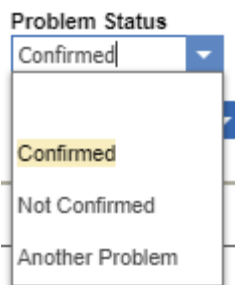
The ECR enters the **TechnicalReview** activity and awaits technical review by the ECR Owner.

Technical Review of an ECR

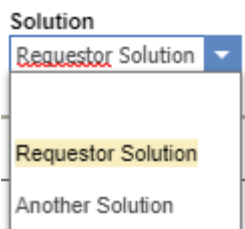
An ECR Owner reviews an ECR and provides data, comments, and recommendations. The Owner does this job according to the company's policies and procedures. This section defines the information an ECR Owner must provide to comply with the CMII process requirements.

Use the following procedure to conduct a technical review of an Engineering Change Request:

1. Open the ECR.
2. Click **Edit** on the ECR toolbar.
3. Verify that the information already entered in the ECR is correct.
4. Select the proper value in the **Problem Status** list: **Confirmed**, **Not Confirmed**, or **Another Problem**.



5. Select the proper value in the **Solution** list: **Requestor Solution** or **Another Solution**.



6. Enter the **Nonrecurring Cost Estimate** value in the accompanying text box. If the estimate is less than \$200, select the check box. This is a one-time cost estimation of the ECR solution implementation.



Nonrecurring Cost Estimate

☒ Less Than \$200

\$ 114.19

7. Enter the recurring cost estimation in the **Recurring Cost Estimate** text box. This is the difference in the unit cost of the Item as a result of the change. Select **Up** or **Down** in the accompanying list to indicate whether the unit cost went up or down as a result of the ECR.

Recurring Cost Estimate

\$ 0.57

Down ▼

8. Enter the key timing factors for the implementation of the ECR in the **Key Implementation Timing Factors** text box.
9. Enter additional information in the **Comments** text box.
10. Click **Done** on the **ECR** toolbar.
11. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
12. Go to the **Workflow Activity Completion** dialog for the ECR.





Workflow Activity Completion

Workflow: ECR-100001

Activity: Technical Review

Tasks				
Sequence	Required	Description	Complete	
1	☐	Assess change impact	☒	
2	☐	Get input from other creators	☒	
3	☐	Make technical recommendations	☒	

Vote	
Vote:	Complete Delegate
Delegate to:	
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

13. Mark the tasks you completed in the **Tasks** field.

14. Select **Complete** in the **Vote** list.

15. Click **Complete**.

The ECR enters the **Route ECR** activity and awaits a decision of the CSI.

Routing an ECR

A CSI receives an ECR to decide how to route the ECR: either **Fast Track Approve** for a fast-track ECR or **CRB Approve** for full Change Review Board (CRB) involvement. The CSI makes this decision according to the company's policies and procedures. This section defines which pieces of information the CSI must provide to comply with the CMII process requirements when routing the ECR.



To route an Engineering Change Request:

1. Open the ECR.
2. Click **Edit** on the ECR toolbar.
3. Verify that the information already entered in the ECR is correct.
4. Double-check the **Key Implementation Timing Factors** text box to make sure it contains the correct data.
5. Specify the implementation priority number in the **Priority For Tech Review** field. The higher the priority, the lower the number selected.

Priority For Tech Review

☐ 1 ☐ 2 ☐ 3 ☐ 4

6. Click **Done** on the **ECR** toolbar.
7. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
8. Go to the **Workflow Activity Completion** dialog for the ECR.





Workflow Activity Completion

Workflow: ECR-100001

Activity: Route ECR

Tasks

Sequence	Required	Description	Complete
1	☐	Review technical recommendations	☒
2	☐	Prepare Cost Estimate	☒
3	☐	Route the ECR	☒

Vote

Vote:	CRB Approve Fast Track Approve Delegate	Delegate to:	
Comments:			

Authentication

Password:		E-Signature:	
-----------	-------------	--------------	-------------

Complete

Save Changes

Cancel

9. Mark the tasks you completed in the **Tasks** field.

10. Select either **CRB Approve** or **Fast Track Approve** in the **Vote** list depending on your decision.

11. Click **Complete**.

The ECR now awaits the final decision to be either **ECRApproved** or **ECRDisapproved**.

ECR Log Report

You can get quick information about all the ECRs submitted to Aras Innovator with the ECR Log Report.



ECR Log Report x


[Print](#)

ECR Log Report

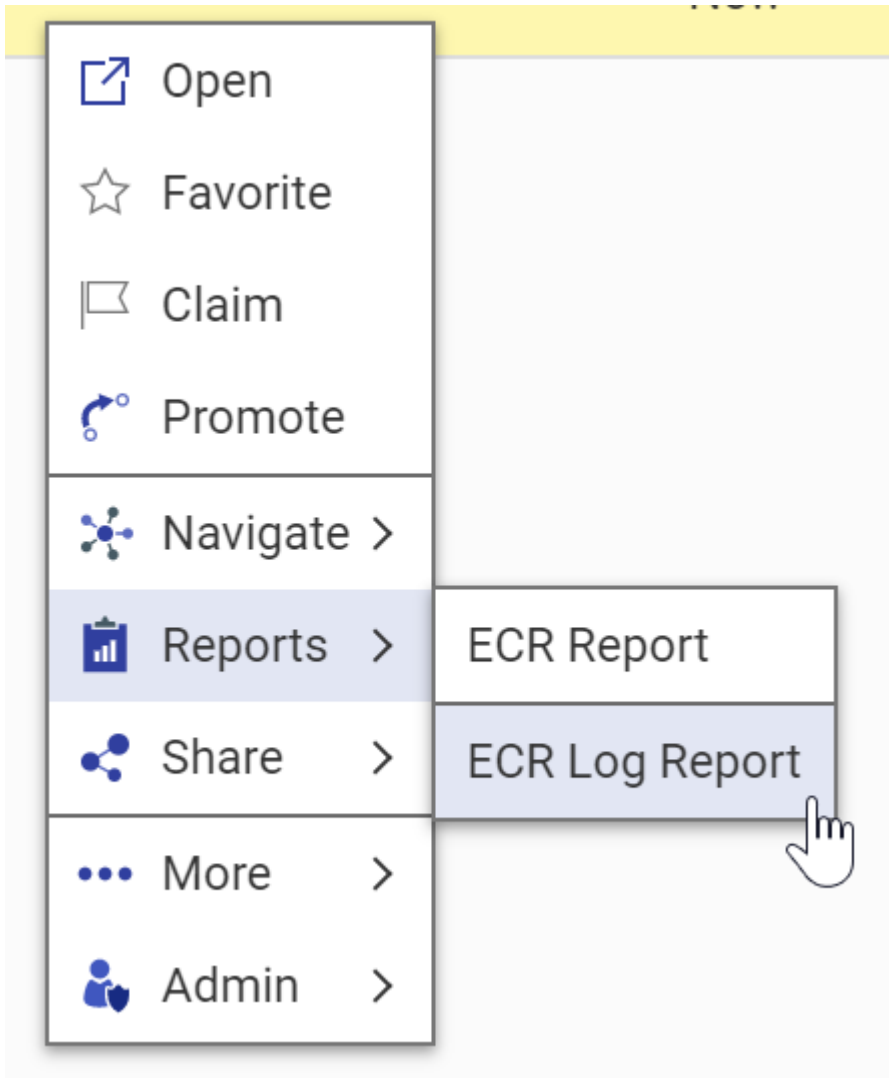
Generated on: 3/22/2019, 3:31:58 PM

ECR Number	Title	Priority	Fast Track	Date Requested	Requested By	Assigned Creator	Status	ECN
ECR-100001	An ECR for Jet Whistle	3	Yes	3/20/2019 1:07:29 PM	Innovator Admin	Innovator Admin	In Review	
ECR-100002	An ECR for Wet Boots		No	3/22/2019 9:18:27 AM			New	

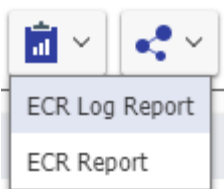
There are several ways to access the ECR Log Report:

- Go to **Contents** → **Change Management** → **ECRs**, right-click any **ECR**, and then click **Reports** → **ECR Log Report**.





- Open the view of any ECR. On the **ECR** toolbar, click **Reports**, and then click **ECR Log Report**.



To quit a Report, close its view in Aras Innovator.

At the top left corner of the ECR Log Report view, there is a **Print** button, which uses the standard browser print function. Depending on the browser and your specific configuration, various print choices, such as printing to a printer or saving to PDF, are available.

ECR Report

You can print or share an ECR using the ECR Report.

ECR Report x

Print

ECR Report

Generated on: 3/22/2019, 3:35:26 PM

ECR NUMBER

ECR-100001

TITLE

An ECR for Jet Whistle

STATUS

In Review

BASIS

☐ Administrative Hierarchy
☒ Physical Hierarchy

TYPE

☐ Product Improvement
☒ Corrective Action

REQUESTED BY

Innovator Admin

SOURCE

Internal

PROPOSED SOLUTION

Turbo Fan

FAST TRACK

Yes

PRIORITY FOR TECH REVIEW

☐ 1
☐ 2
☒ 3
☐ 4

CREATOR

Innovator Admin

PROBLEM STATUS

Confirmed

TECHNICAL REVIEW

SOLUTION

Requestor Solution

NONRECURRING COST

\$

KEY IMPLEMENTATION TIMING FACTORS

RECURRING COST

\$

COMMENTS

IMPLEMENTATION PRIORITY

☒ 1
☐ 2
☐ 3
☐ 4

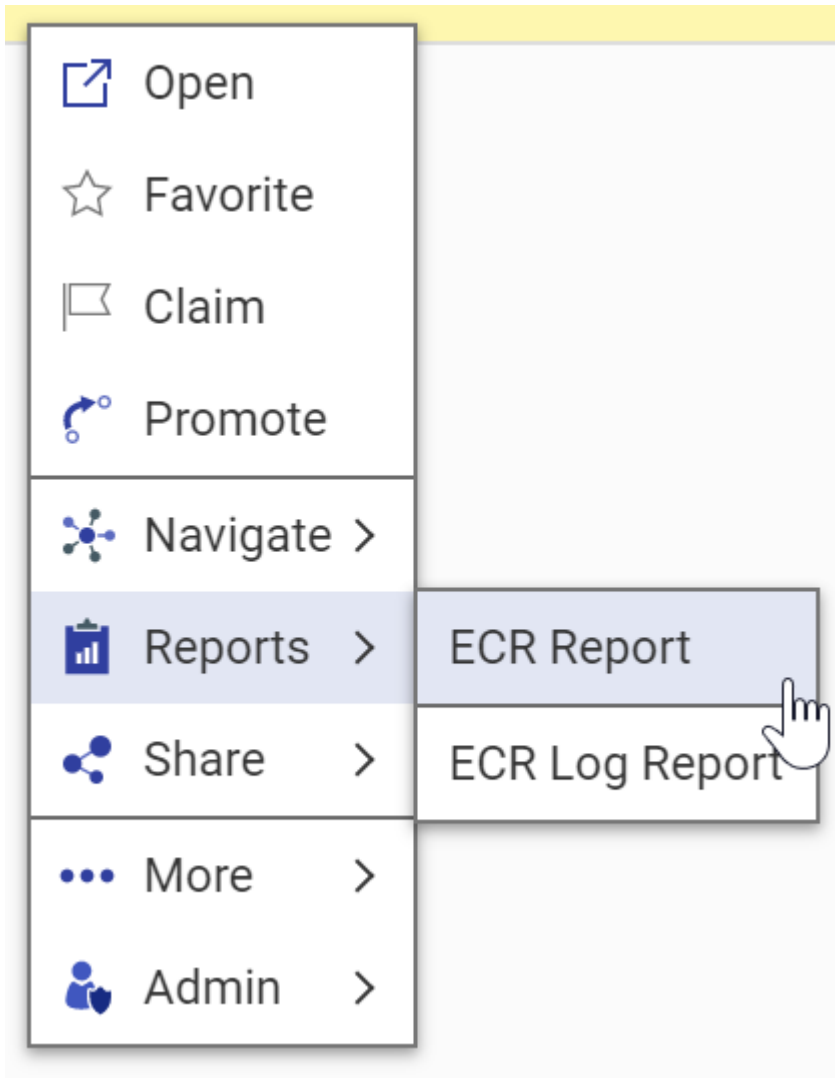
AFFECTED ITEMS

TYPE	NUMBER	REVISION	ACTION
Part	Child Part A Alternate 2	A	Change

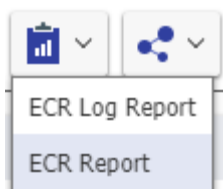
There are several ways to access the ECR Report:

- Go to **Contents** → **Change Management** → **ECRs**, right-click an **ECR** to be reported, and then click **Reports** → **ECR Report**.





- Open the view of an ECR. On the **ECR** toolbar, click **Reports**, and then click **ECR Report**.



To quit a Report, close its view in Aras Innovator.

At the top left corner of the ECR Report view, there is a **Print** button, which uses the standard browser print function. Depending on the browser and your specific configuration, various print

choices, such as printing to a printer or saving to PDF, are available.

Engineering Change Notice (ECN)

An Engineering Change Notice (ECN) is a process for implementing changes within an organization.

There are three types of change Actions for an affected Item in the ECN process:

- **Add** — A new affected Item becomes **Released**.
- **Change** — An affected existing Item is modified. The Item becomes **Superseded**, **Obsolete**, or incremented to a **new revision** level to allow modification.
- **Delete** — An existing affected Item is obsolete. The Item becomes **Superseded** or **Obsolete**.

Understanding the ECN Process

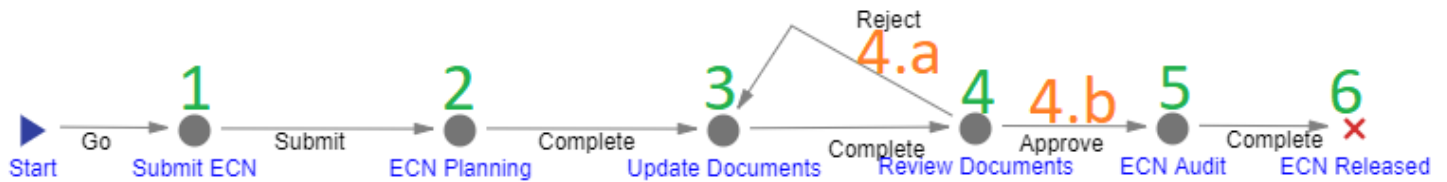
The ECN workflow has the following roles:

- An ECN Creator is the user who initially created the ECN in the system. This may or may not be the same person as other roles.
- An ECN Owner (**Assigned Creator**), is the engineer or technical person responsible for the technical implications of the change and its ramifications.
- A Change Specialist II (CSII) prepares ECNs for implementing approved ECRs as well as the ECN impact information for the change review board to develop a detailed implementation plan.
- A Change Specialist III (CSIII) audits the ECN implementation using ECNs and detailed implementation plans as checklists.
- The Configuration Management (CM) group.

An ECN traverses between various states during its life cycle depicted in the following figure.



The ECN workflow together with the ECN life cycle produces the following scenario:



1. A member of the CM group creates and submits the ECN.
2. The ECN enters the **ECN Planning** activity **assigned to the CSII**. According to the company's rules and policies, the CSII reviews the ECN, assigns an Owner to it, and makes decisions and recommendations about the propagation of the Item change. For example, the CSII can decide whether a part should have a new revision or an entirely new part number. Also, the CSII checks whether a changed part leads to a change of revision or part number of assemblies containing this part. Once the CSII votes **Complete**, the ECN moves further.
3. The ECN enters the **Update Documents** activity **assigned to the Owner**. The Owner is responsible for updating the Item documentation affected by this change, including BOMs, specifications, drawings, and any other documents. The affected Items requiring the change of documentation may include only the items being changed directly but also hierarchies containing these Items. Once the Owner votes **Complete**, the ECN moves further.
4. The ECN enters the **Review Documents** activity **assigned to the CSII**. The CSII decides to either:
 1. **Reject** — The ECN goes back to the **Update Documents** activity.
 2. **Approve** — The ECN goes further.
5. The ECN enters the **ECN Audit** activity **assigned to the CSIII**. Once the CSIII votes **Complete**, the ECR goes further.
6. The ECN becomes **Released**. The life cycle states of the affected Items are automatically updated.

The following table shows the ECN lifecycle states and workflow activities in terms of Roles and Permissions.

The ECN lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
New	Submit ECN	CM	All employees, Creator, Owner CM	Creator, Owner CM	CM	CM	Yes	Creator



In Planning	ECN Planning	All employees, Creator, Creator, Owner CM	Owner CM	CM	CM	Yes	CSII
In Work	Update Documents	All employees				Yes	Owner
In Review	Review Documents	All employees				Yes	CSII
In Review	ECN Audit					Yes	CSIII
Released	Released	All employees				No, a final state	

There is the ECN report, which is a printable form of an ECN. For details, refer to section The ECN Report.

Creating an ECN

Because an ECN can be used to add, change, or delete affected Items, the ECN creation process can be conventionally divided into general and specific procedures. This section defines the general steps a member of the CM group should use for creating an ECN. The specific procedures are outlined in sections Adding an Item with an ECN, Changing Items with an ECN, and Deleting an Item with an ECN.

To create an Engineering Change Notice:

1. Go to **Contents** → **Change Management** → **ECNs**.
2. Click **Create New ECN**. The view of a new ECN appears.



ECN Number	Title	Status
Server Assigned		
Basis	Priority	Assigned Creator
☐ Administrative Hierarchy	☐ 1	
☐ Physical Hierarchy	☐ 2	
	☐ 3	
	☐ 4	
	☐ Customer Approval Required	
Description		
Special Instructions		
	Effectivity Date	

3. Enter the **ECN title** In the **Title** text box, making it as descriptive as possible.
4. Select the appropriate hierarchy for **Basis**:
 - **Administrative hierarchy** refers to anything related to the process of running the business. An error in an expense report procedure would be classified as an administrative hierarchy.
 - **Physical hierarchy** refers to the Item (Part) itself and any Document associated with it. A bug in software would be classified as a physical hierarchy.
5. Specify the change priority number in the **Priority** field. The higher the priority of the change, the lower the number selected.
6. Specify the ECN Owner in the **Assigned Creator** text box.

7. Specify the date on which the ECN goes into effect in the **Effective Date** box. If left blank, it is automatically set to the Item release date.
8. If the change requires customer approval, select the **Customer Approval Required** check box.
9. Describe the change in the **Description** text box.
10. If there are any special instructions for the change, enter them in the **Special Instructions** text box.
11. Go to the **ECRs** accordion tab to attach all the ECRs included in this ECN for tracking and reporting.

ECR Number ↑ 2	Title	Status	Fast Track	Priority	Change Type	Requested By [...]	Source	Release Date ...	Sequence ↑ 1
----------------	-------	--------	------------	----------	-------------	--------------------	--------	------------------	--------------

12. Click **Add ECR** on the ECRs accordion toolbar. The **Search dialog – ECR** appears.
13. Search for and select the ECRs combined or included in this ECN. The selected ECRs appear as new rows at the bottom of the ECRs grid.

ECR Number ↑ 2	Title	Status	Fast Track	Priority	Change Type	Requested By [...]	Source	Release Date ...	Sequence ↑ 1
ECR-100001	ECR1	New	☒		Corrective Action	Innovator Admin	Internal		1
ECR-100002	2	New	☐						2

14. Go to the **Files** accordion tab to attach all the files concerning this ECN.

Related File [...]	File Type [...]	Comments	Sequence ↑	Indexed On [...]
--------------------	-----------------	----------	------------	------------------

- 15. Click **New File** on the Files accordion toolbar. The standard operating system dialog for file browsing and selection appears.
- 16. Search for and select a file. A new row appears in the Files grid with the file attached.

^

Affected Items

ECRs

Files

Files

▼

☆

⚙️

+

💬

✖

🔍

🔍

✖

Hidden

▼

🔍

▼

🖥

▼

🔗

▼

🚩	Related File [...]	File Type [...]	Comments	Sequence ↑	Indexed On [...]
⚙️	📄 Jet Whis...			1	

Important

Aras Innovator will automatically assign a file type depending on File's extension when you save the ECN.

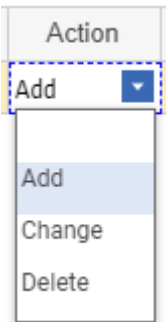
- 17. If it is necessary to provide additional information about the File, enter it in the **Comments** cell.
- 18. Repeat steps 15-17 for other files concerning this ECN.
- 19. If you need to add Items with the ECN, use the procedure described in section *Adding an Item with an ECN*.
- 20. If you need to change Items with the ECN, use the procedure described in section *Changing Items with an ECN*.
- 21. If you need to delete Items with the ECN, use the procedure described in section *Deleting an Item with an ECN*.
- 22. Click **Done** on the **ECN**toolbar. The ECN is created and waits to be submitted as defined in the section *Submitting an ECN*.

To assign a new affected Item to release with an Engineering Change Notice:

1. Open the ECN.
2. Click **Edit** on the **ECN** toolbar.
3. Go to the **Affected Items** accordion tab.
4. Click **Create Item** on the **Affected Items** accordion toolbar. A new row appears at the bottom of the **Affected Items** grid.

Affected Items ECRs Files									
Affected Items									
Affected Items Hidden									
	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service

5. Select **Add** in the **Action** cell.



6. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
7. Search for and select the new affected Item. The affected Item populates the **NewNumber** cell.

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Add				Child B			

8. Click **Save** or **Done** on the **ECN**toolbar. The ECN has an affected Item assigned for adding.

Changing Items with an ECN



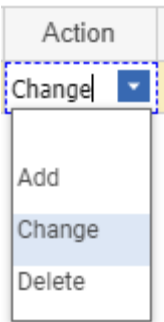
Because an ECN can be used to add, change, or delete affected Items, the ECN creation process can be conventionally divided into general and specific procedures. This section defines the steps a member of the CM group should use for changing affected Items when creating the ECN. Section Creating an ECN outlines the general procedure. The other specific procedures are outlined in sections Adding an Item with an ECN and Deleting an Item with an ECN.

A change for an already Released Item can be either:

- **Interchangeable**, the Released Item is automatically revised during the ECN process to create a new Preliminary Item version to keep changes. When the ECN is released at the end of the ECN process, this new Item version is Released.
- **Non-Interchangeable**, During the ECN process, any necessary changes are made to a new Preliminary Item. When the ECN is released at the of the ECN process, the new Item is Released, and the old affected Item is Superseded.

To assign an existing affected Item to be changed when creating an Engineering Change Notice:

1. Follow steps 1-4 of the Adding an Item within an ECN procedure.
2. Select **Change** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
4. Search for and select the affected Item to be changed. The selected affected Item populates the **OldNumber** cell.

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child A		☐				



5. Select the **Interchangeable** cell check box if the old and new Items are interchangeable, e.g., if there is no Fit-Form-Function change. The new Item version can be replaced or modified without causing any change in functionality to the surrounding Items. When selected, the same Item number will be retained.
6. If the **Interchangeable** cell is not selected, e.g., the old and new Items are not interchangeable due to a Fit-Form-Function change, select the replacement new Item:
 1. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
 2. Using the standard search procedure, search for and select the new affected Item. The new affected Item populates the **NewNumber** cell. This new item must be in the Preliminary state to pass readiness checks during the ECN process.

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<i...	Change	Child A		☐	Child B			

7. Click **Save** two times on the ECN toolbar.
8. Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
9. Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<i...	Change	Child A	A	☐	Child B	A	Rework	Use Existing

10. Click **Save** or **Done** on the **ECN** toolbar. The ECN has an affected Item assigned for changing.

^
Affected Items
ECRs
Files

Affected Items
▼
☆

Hidden
▼
▼
▼
▼

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<i...	Change	Child A	A	☐	Child B	A	Rework	Use Existing

Deleting an Item with an ECN

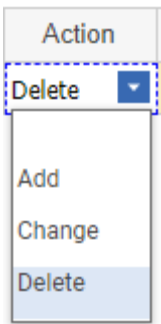


Because an ECN can be used to add, change, or delete affected Items, the ECN creating process can be conventionally divided into general and specific procedures. This section defines the steps a member of the CM group should use for superseding affected Items with the ECN. Section Creating an ECN outlines the general procedure. The other specific procedures are outlined in sections Adding an Item with an ECN and Changing Items with an ECN.

An already Released item gets Superseded at the end of the ECN process when it is released.

Use the following procedure to assign an existing affected Item to be superseded with an Engineering Change Notice:

- 1. Follow steps 1-4 of the Adding an Item within an ECN procedure.
- 2. Select **Delete** in the **Action** cell.



- 3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
- 4. Search for and select the affected Item to be deleted. The selected affected Item populates the **OldNumber** cell.

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<!--	Delete	Child A	A	☐				

- 5. Click **Save** two times on the ECNtoolbar.
- 6. Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
- 7. Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.



	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<i...	Delete	Child A	A	☐			Rework	Use Existing

- Click **Save** or **Done** on the ECNtoolbar. The ECN has an affected Item assigned for superseding.

^ Affected Items ECRs Files

Affected Items ☆

| Hidden ▾ | ▾ ▾ ▾

	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	Child Part A Substitute	A	☐			Rework	Use Existing

Removing an Affected Item from an ECN

Use the following procedure:

- Follow steps 1-3 of the Adding an Item within an ECN procedure.
- Click the **Affected Item** and then click **Delete Row** on the **Affected Items** accordion toolbar. The **Affected Item** becomes unavailable.

^ Affected Items ECRs Files

Affected Items ☆

| Hidden ▾ | ▾ ▾ ▾

	Ty...	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	<i...	Delete	Child A	A	☐			Rework	Use Existing

- Click **Save** or **Done** on the ECN toolbar. The **Affected Item** disappears from the grid.

Important

The **Affected Item** disappears immediately if the ECN was not saved after it was added.

Submitting an ECN

Use the following procedure:



1. Go to **Contents** → **My Innovator** --> **My InBasket** → **Search My InBasket**.
2. Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the ECN.



Workflow Activity Completion

Workflow: ECN-100003
Activity: Submit ECN

Tasks				
Sequence	Required	Description	Complete	
1	☐	Check the ECN form for completeness	☒	
2	☐	Ensure all Affected Items are attached	☒	
3	☐	Submit the ECN for implementation planning	☒	

Vote	
Vote: Submit Delegate	Delegate to: ...
Comments:	

Authentication	
Password: 	E-Signature:

Complete

Save Changes

Cancel

3. Mark the tasks you completed in the **Tasks** field.
 4. Select **Submit** in the **Vote** list.
 5. Click **Complete**.
- The ECR enters the **ECN Planning** activity assigned to the CSII.

ECN Planning

For the **ECN Planning** activity, a CSII makes sure that the planning is accurate and complete by providing all necessary Affected Items information, such as:



- There are new part numbers for the non-interchangeable parts changes.
- The ECN has all other affected items in the hierarchy.
- Affected Items up the hierarchy tree from the actual Item are changed.
- Affected Documents of the parent assemblies (such as BOMs) are changed.

Since each company has its own rules for new part numbers or new revision generation, the CSII is responsible for the accuracy of this information.

The ECN Report

You can print or share an ECN using the ECN Report.

ECN Report x

Print

ECN Report

Generated on: 3/25/2019, 7:47:55 PM

ECN NUMBER

ECN-100003

TITLE

Changing the Jet Whistle

STATUS

In Planning

BASIS

☐ Administrative Hierarchy
☒ Physical Hierarchy

PRIORITY

☒ 1
☐ 2
☐ 3
☐ 4

CREATOR

Innovator Admin

CUSTOMER APPROVAL

Not Required

RELEASE DATE

EFFECTIVITY DATE

4/19/2019 12:00:00 AM

DESCRIPTION

Changing the Jet Whistle

SPECIAL INSTRUCTIONS

Changing the Jet Whistle

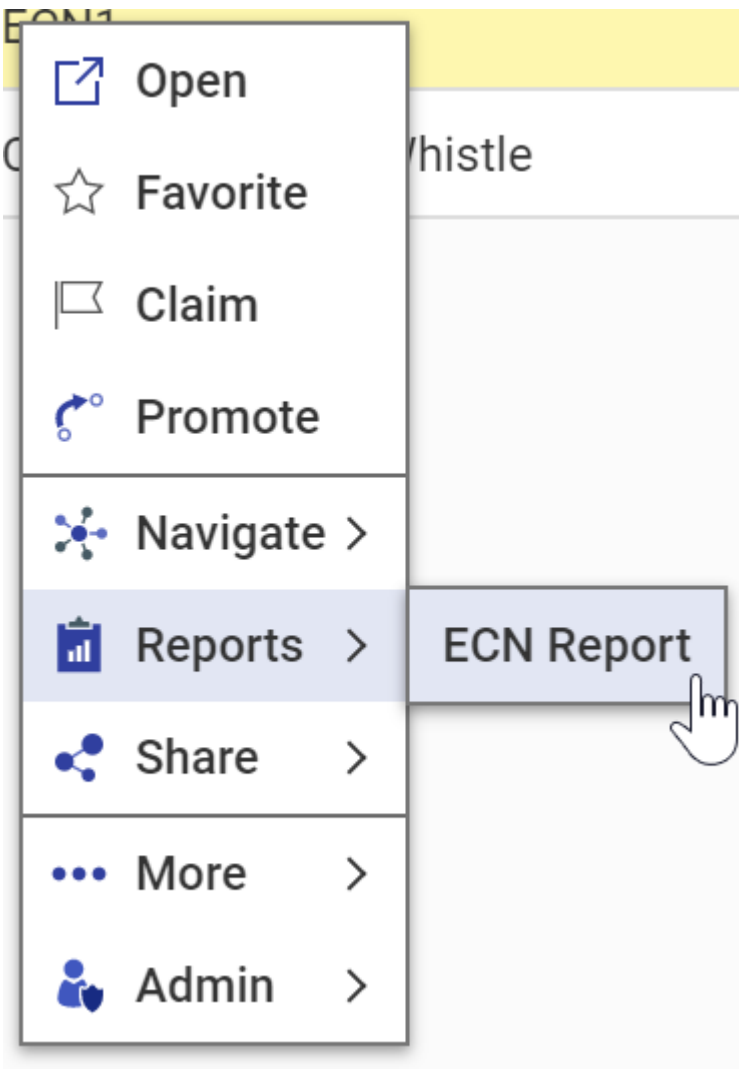
AFFECTED ITEMS

TYPE	SUPERSEDED		ACTION	SUPERSEDING		IN WORK	IN SERVICE
	NUMBER	REVISION		NUMBER	REVISION		
Part	Child Part A Substitute	A	Delete			Rework	Use Existing

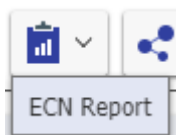
There are several ways to access the ECN Report:

Go to **Contents** → **Change Management** → **ECNs** → **Search ECNs**, right-click an **ECN** to be reported, and then click **ECN Report**.





- Open the view of an ECN to be reported. On the **ECN** toolbar, click **Reports**, and then click **ECN Report**.



To quit a Report, close its view in Aras Innovator.

At the top left corner of the ECN Report view, there is a **Print** button, which uses the standard browser print function. Depending on the browser and your specific configuration, various print choices, such as printing to a printer or saving to PDF, are available.

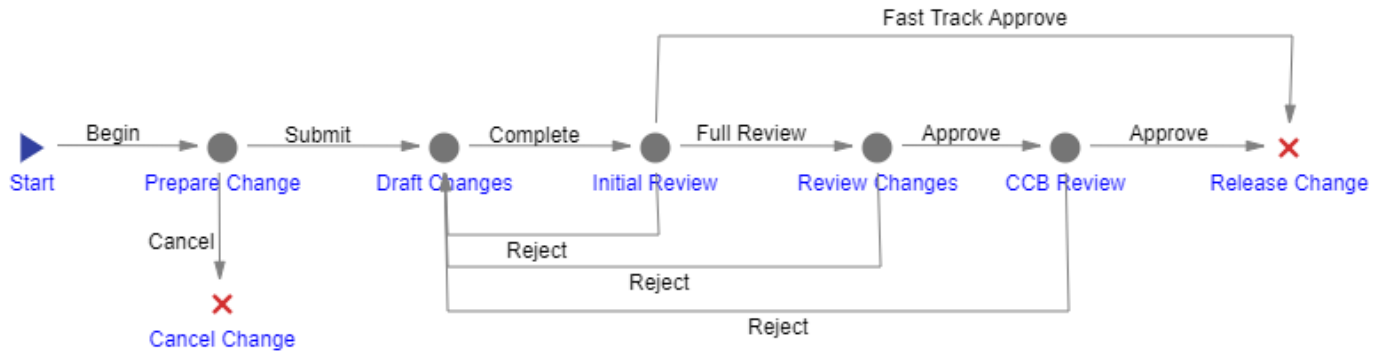
Simplified Change Management

The Simplified change process uses two different kinds of items to manage changes:

- The **SimpleEngineering Change Order (ECO)** is a simplified approach for releasing, modifying, or deleting Items. This process is useful when the full CMII process is not required to add or modify an Item.
- The **Manufacturing Change Order (MCO)** allows for modification of a released Part to add a Manufactured Part to the Part's AML. The AML contains a list of Manufactured Parts created by approved Manufacturers and sold by approved Vendors. By using the MCO, the alteration of an AML on a released Part does not require the full CMII process.

Both Items are processed according to the same Simplified Change Management workflow depicted in the following figure.





Name

Simple Change

Label

Description

Workflow for Simple ECOs and MCOs

Process Owner

CM

Activities Process Variables

	Name ▲	Priority	Message	Expected Dura...	Escalate To [...]	Role [...]
	Start	2	Workflow Start	0		
	Draft Changes		Please implement the change		CM	
	Review Changes		Please review the changes		CM	
	CCB Review		Please perform a CCB Review		CM	
	Initial Review		Please perform an initial review of the change		CM	
	Prepare Change		Prepare the change for submission		CM	
	Cancel Change		Change Cancelled			
	Release Change	1	Change Released	0		

Simple Engineering Change Order (ECO)

A Simple Engineering Change Order (ECO) is a simplified process of implementing changes within an organization.

There are three types of change Actions for an affected Item in the Simple ECO process:

- **Add** — A new affected Item becomes **Released**.
- **Change** — An affected existing Item is modified. The Item becomes **Superseded**, **Obsolete**, or incremented to a new revision level to allow modification.
- **Delete** — An existing affected Item is obsolete. The Item becomes **Superseded** or **Obsolete**.

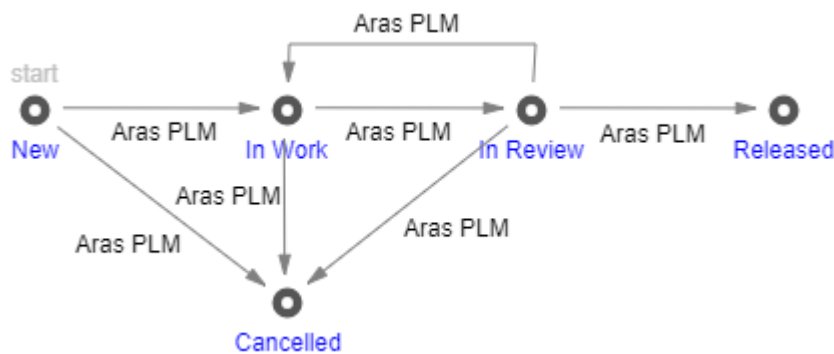


Understanding the Simple ECO Process

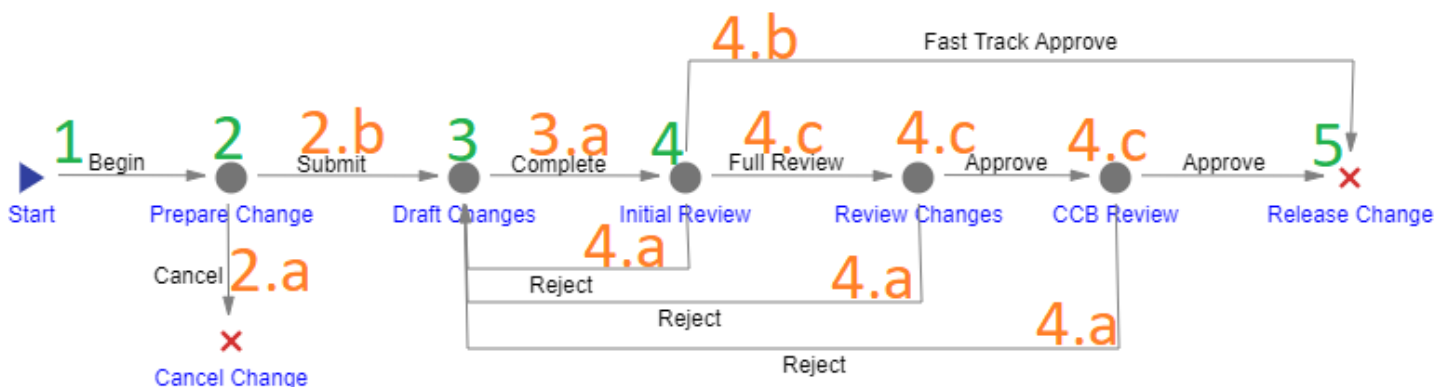
The Simple ECO workflow has the following roles:

- A Simple ECO Creator (**Originator**), which is a user who initially created the Simple ECO in the system. This may or may not be the same person as other roles.
- A Simple ECO Owner (**Assigned Creator**), which is an engineer or technical person responsible for technical implications and ramifications of the change to each affected Item.
- A Change Specialist I (CSI) coordinates and prepares Simple ECOs through the workflow.
- Change Analyst (CA).
- The Configuration Management (CM) group.
- The Change Control Board (CCB), which is responsible for review and final approval of an MCO.

A Simple ECO traverses between various states during its life cycle as depicted in the following figure.



The Simple Change Management workflow and Simple ECO life cycle together produce the following scenario:



1. An Aras Innovator user initiates a Simple ECO: creates and saves the Simple ECO. When the Creator saves the Simple ECO, it enters the **In Work** state, and a workflow is automatically started to assign tasks and track the changes to the Simple ECO.
2. The Simple ECO enters the **Prepare Change** activity **assigned to the CSI**. According to the company's rules and policies, the CSI reviews the Simple ECO, assigns an Owner to each Affected Item in the Simple ECO, and makes decisions and recommendations about the propagation of these Item changes. For example, the CSI can decide whether a part should have a new revision or an entirely new part number. Also, the CSI checks whether a changed part leads to a change of revision or part number of assemblies containing this part.
 1. The CSI can **Cancel** the Simple ECO.
 2. Once the CSI votes **Submit**, the Simple ECO goes further.
3. The Simple ECO enters the **Draft Changes** activity **assigned to each Owner**. The Owner is responsible for updating the Item documentation affected by this change, like BOMs, specifications, drawings, any other documents. The affected Items requiring the change of documentation may be not only the items being changed directly but also hierarchies containing these Items.
 1. Once all the Owners vote **Complete**, the Simple ECO goes further.
4. The Simple ECO enters the **Initial Review** activity **assigned to the CA**. The CA reviews the changes and decides either to:
 1. **Reject** — The Simple ECO goes back to the **Draft Changes** activity. The Owners can modify and resubmit the Simple ECO for the **Initial Review** activity.
 2. **Fast Track Approve** — The Simple ECO is **Approved** and **Released**.
 3. **Full Review** — The Simple ECO enters the **Review Changes** activity **assigned to other team members**. The Simple ECO goes under in-depth formal/informal reviews. Once these reviews are completed, The Simple ECO enters the **CCB Review** activity. Once the CCB audit is completed, the Simple ECO is **Approved** and **Released**. The Simple ECO may also be rejected (4.a) at these activities.
5. Once the Simple ECO is **Released**, the life cycle states of the affected Items are updated.

The following table shows the Simple ECO lifecycle and workflow in terms of Roles and Permissions.

The Simple ECO lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
------------------	-------------------	---------	-----	--------	--------	---------------	-----------------	--------------------



New	Prepare Change	World	Aras PLM, CM, Creator, Manager, Owner, World	Aras PLM, CM, Creator, Manager, Owner	Aras PLM, CM, Creator, Manager, Owner	Aras PLM, CM, Creator, Manager	Yes	CSI
In Work	Draft Changes		Aras PLM, CM, Manager, Owner, World	Aras PLM, CM, Manager, Owner	Aras PLM, CM	Aras PLM, CM	Yes	Each Owner (Assigned Creator) of all Affected Items
In Review	Initial Review, Review Changes, CCB Review		Aras PLM, World	Aras PLM	Aras PLM	Aras PLM	Yes	CA
Released	Released Change		Aras PLM, World	Aras PLM		Aras PLM	No	
Cancelled	Cancelled Change		Aras PLM, World	Aras PLM		Aras PLM	Yes	

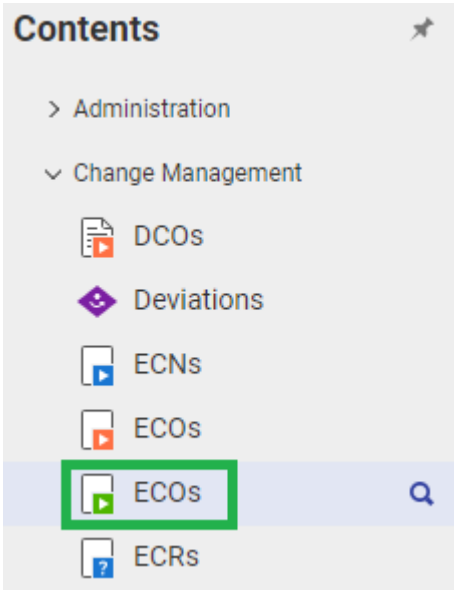
Creating a Simple ECO

Because a Simple ECO can be used to add, change, or delete affected Items, the Simple ECO creation process can be conventionally divided into general and specific procedures. This section defines the general steps you should use for creating a Simple ECO. The specific procedures are outlined in sections Adding an Item within a Simple ECO, Changing an Item within a Simple ECO, and Deleting an Item within a Simple ECO.

To create a Simple Engineering Change Order:

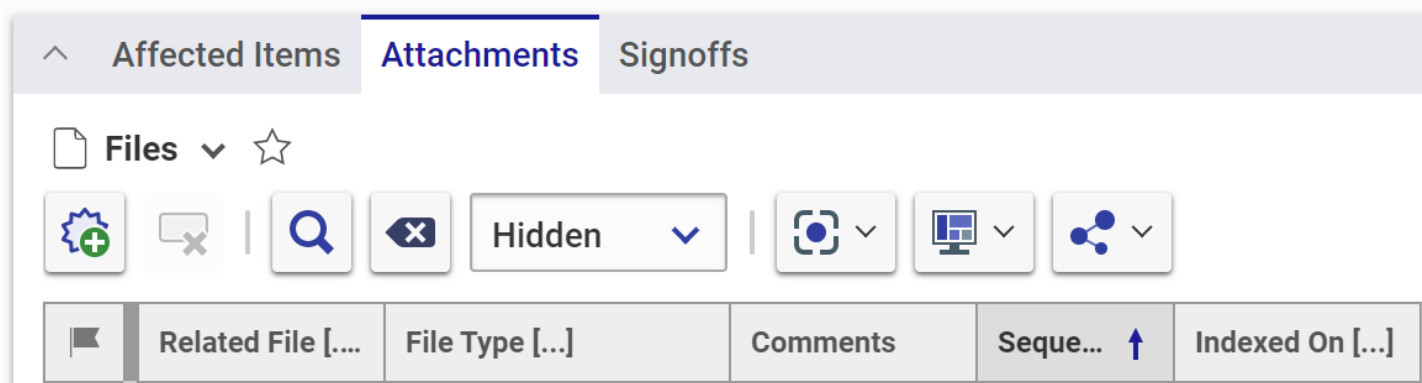
1. Go to **Contents** → **Change Management** → **ECOs** (one with the green icon).



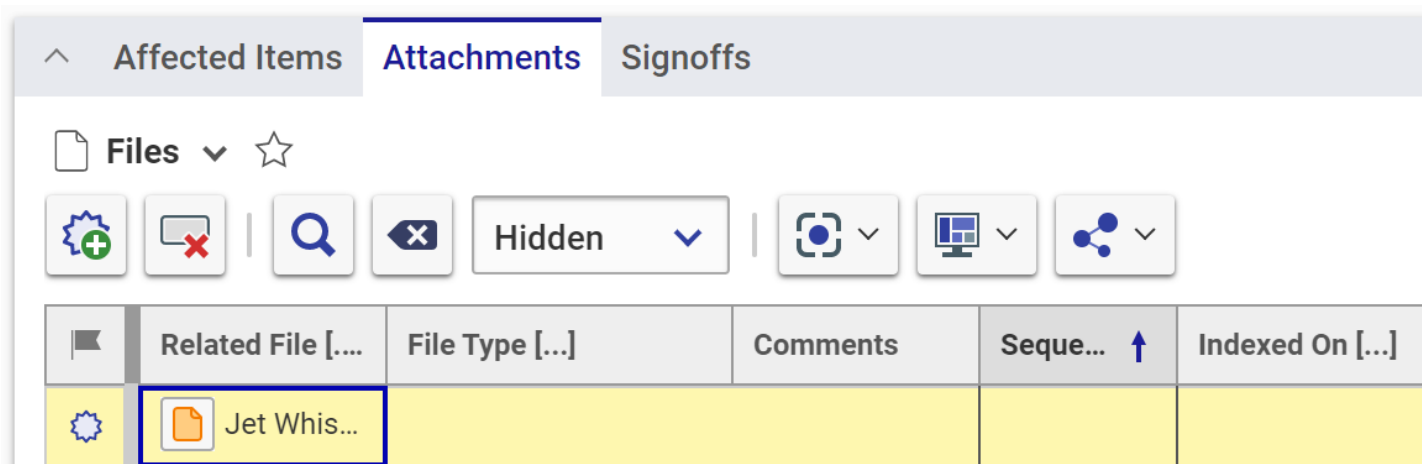


2. Click **Create New ECO**. The view of a new Simple ECO appears.





10. Click **New File** on the Attachments accordion toolbar. The standard operating system dialog for file browsing and selection appears.
11. Search for and select a file. A new row appears in the **Files** grid with the file attached.



Important

Aras Innovator will automatically assign a file type depending on File's extension when you save the ECN.

12. If it is necessary to provide additional information about the File, enter it in the **Comments** cell.
13. Repeat steps 10-12 for other files associated with this Simple ECO.
14. If you need to add Items with the Simple ECO, use the procedure described in section Adding an Item within a Simple ECO.
15. If you need to change Items with the Simple ECO, use the procedure described in section Changing an Item within a Simple ECO.
16. If you need to delete Items with the Simple ECO, use the procedure described in section Deleting an Item within a Simple ECO.

17. Click **Done** on the **Simple ECO** toolbar. The Simple ECO is created and awaits to be submitted as defined in the section Submitting a Simple ECO.

 **ECO-100001**  

 Save

 Done

 Discard













ECO

ECO Number

ECO-100001

Status

New

Change Category

Phase In

Change Description

Adding Supercharger

Reason For Change

Need super power

Originator

Innovator Admin

Change Analyst

Change Specialist I

Date Originated

7/19/2021 2:26:32 PM

Release Date

Affected Items

Attachments

Signoffs

Files

    Hidden    

	Related File [...]	File Type [...]	Comments	Seque... 
	 Jet Whis...	ASCII Text		128

Adding an Item within a Simple ECO



Because a Simple ECO can be used to add, change, or delete affected Items, the Simple ECO creating process can be conventionally divided into general and specific procedures. This section defines the steps you should use for adding affected Items when creating a Simple ECO. Section [Creating a Simple ECO](#) outlines the general procedure. The other specific procedures are outlined in sections [Changing an Item within a Simple ECO](#) and [Deleting an Item within a Simple ECO](#).

A new Item has the **Preliminary** State. A Simple ECO promotes the Item to the **Released** State at the end of the Simple ECO process when it is released.

To assign a new affected Item for adding when creating a Simple Engineering Change Order:

1. Open the Simple ECO.
2. Click **Edit** on the Simple ECO toolbar.
3. Go to the **Affected Items** accordion tab.
4. Click **New Affected Item** on the **Affected Items** accordion toolbar. A new row appears at the bottom of the **Affected Items** grid.

^
Affected Items
Attachments
Signoffs

⚙️ Affected Items
☆

⚙️
🗨️
|
🔍
🔒
Hidden
▾
|
📐
▾
🖥️
▾
🔗
▾

🚩	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
⚙️					□				

5. Select **Add** in the **Action** cell.

Action
Add 
Add
Change
Delete

- Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
- Search for and select the new affected Item. The affected Item populates the **NewNumber** cell.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Add			☐	Child A			

- Click **Save** or **Done** on the Simple ECO toolbar. The Simple ECO has an affected Item assigned for adding.

Affected Items
Attachments
Signoffs

Affected Items

Hidden

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Add			☐	Child A	A		

Changing an Item within a Simple ECO

Because a Simple ECO can be used to add, change, or delete affected Items, the Simple ECO creating process can be conventionally divided into general and specific procedures. This section defines the steps you should use for changing affected Items when creating a Simple ECO. Section Creating a Simple ECO outlines the general procedure. The other specific procedures are outlined in sections Adding an Item within a Simple ECO and Deleting an Item within a Simple ECO.

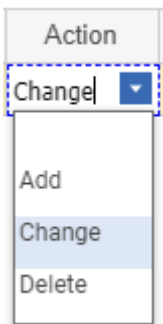
A change for an already Released Item can be either:

- Interchangeable**, the Released Item is automatically revised during the ECN process to create a new Preliminary Item version to make changes. When the ECN is released at the end of the ECN process, this new Item version is Released.
- Non-Interchangeable**, During the ECN process, any necessary changes are made to a new Preliminary Item. When the ECN is released at the of the ECN process, the new Item is Released, and the old affected Item is Superseded.

To assign an existing affected Item to be changed when creating a Simple Engineering Change Order:



1. Follow steps 1-4 of the Adding an Item within a Simple ECO procedure.
2. Select **Change** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
4. Using the standard search procedure, search for and select the affected Item to be changed. The selected affected Item populates the **OldNumber** cell.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child A		☐				

5. Select the **Interchangeable** cell check box if the old and new Items are interchangeable, e.g., if there is no Fit-Form-Function change. The new Item version can be replaced or modified without causing any change in functionality to the surrounding Items. When selected, the same Item number will be retained.
6. If the **Interchangeable** cell is not selected, e.g., the old and new Items are not interchangeable due to a Fit-Form-Function change, select the replacing new Item:
7. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
8. Using the standard search procedure, search for and select the new affected Item. The new affected Item populates the **NewNumber** cell. This new item must be in the Preliminary state to pass readiness checks during the Simple ECO process.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child A		☐	Child B			

9. Click **Save** two times on the **SimpleECO** toolbar.



10. Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
11. Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child A	A	☐	Child B	A	Rework	Use Existing

12. Click **Save** or **Done** on the Simple ECO toolbar. The Simple ECO has an affected Item assigned for changing.

Affected Items
Attachments
Signoffs

Affected Items

Hidden

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child A	A	☐	Child B	A	Rework	Use Existing

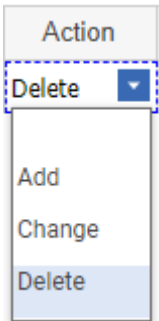
Deleting an Item within a Simple ECO

Because a Simple ECO can be used to add, change, or delete affected Items, the Simple ECO creating process can be conventionally divided into general and specific procedures. This section defines the steps you should use for deleting affected Items when creating a Simple ECO. Section Creating a Simple ECO outlines the general procedure. The other specific procedures are outlined in sections Adding an Item within a Simple ECO and Changing an Item within a Simple ECO.

An already Released item gets Superseded at the end of the Simple ECO process when it is released.

Use the following procedure to assign an existing affected Item to be superseded with a Simple Engineering Change Order:

1. Follow steps 1-4 of the Adding an Item within a Simple ECO procedure.
2. Select **Delete** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
4. Using the standard search procedure, search for and select the affected Item to be deleted. The selected affected Item populates the **OldNumber** cell.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	Child A	A	☐				

5. Click **Save** two times on the **SimpleECO** toolbar.
6. Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
7. Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	Child A	A	☐			Rework	Use Existing

8. Click **Save** or **Done** on the Simple ECO toolbar. The Simple ECO has an affected Item assigned for deleting.

^
Affected Items
Attachments
Signoffs

Affected Items
 ▼
☆

Hidden ▼

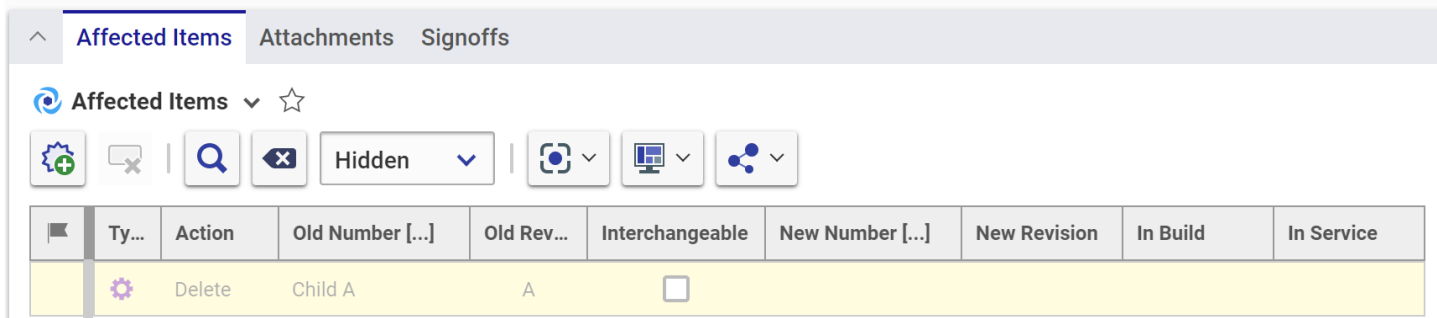
	Ty...	Action	Old Number [...]	Old Rev...	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	Child A	A	☐				



Removing an Affected Item from a Simple ECO

Use the following procedure:

1. Follow steps 1-3 of Adding an Item within a Simple ECO procedure.
2. Click the **Affected Item** and then click **Delete Row** on the **Affected Items** accordion toolbar.
The **Affected Item** becomes unavailable.



3. Click **Save** or **Done** on the Simple ECO toolbar. The **Affected Item** disappears from the grid.

Important

The **Affected Item** disappears immediately if the Simple ECO was not saved after it was added.

Submitting a Simple ECO

Use the following procedure:

1. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
2. Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the Simple ECO.





Workflow Activity Completion

Workflow: ECO-100001

Activity: Prepare Change

Tasks				
Sequence	Required	Description	Complete	
1	☐	Fill out the change form and assign affected items	☒	
2	☐	Attach any supporting documentation on the Attachments tab	☒	
3	☐	Vote Submit to initiate the change or Cancel to reject the Change	☒	

Vote	
Vote:	Submit Cancel Delegate
Delegate to:	...
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

3. Mark the tasks you completed in the **Tasks** field.
4. Select **Submit** in the **Vote** list.
5. Click **Complete**.
6. The Simple ECO enters the **Draft Changes** activity assigned to the Assigned Creator.

Processing a Simple ECO

Once a Simple ECO is submitted, each Affected Item goes to its Assigned Creator for the **Draft Changes** activity. The Assigned Creator checks and may provide the following information:

- There are new part numbers for the noninterchangeable parts changes.
- The ECN has all other affected items in the hierarchy.
- Affected Items up the hierarchy tree from the actual Item are changed.



- Affected Documents of the parent assemblies (such as BOMs) are changed.
- Etc.

Since each company has its own rules for new part numbers or new revision generation, the Assigned Creator is responsible for entering this information manually.

The only automatic update that Aras Innovator does for the Simplified CM process is a new revision for the interchangeable Items changes. This automatic update takes place once the Simple ECO is released.

Simple Manufacturing Change Order (MCO)

The Simple Manufacturing Change Order (MCO) is a simplified process used for changing an Approved Manufacturer List (AML) for a released Part. The AML modification does not require the full CMII process because this change does not change the Part itself. The MCO process is suitable for this type of modification.

The MCO process provides a specialized user interface to enable editing the AML without the ability to edit Part properties or relationships.

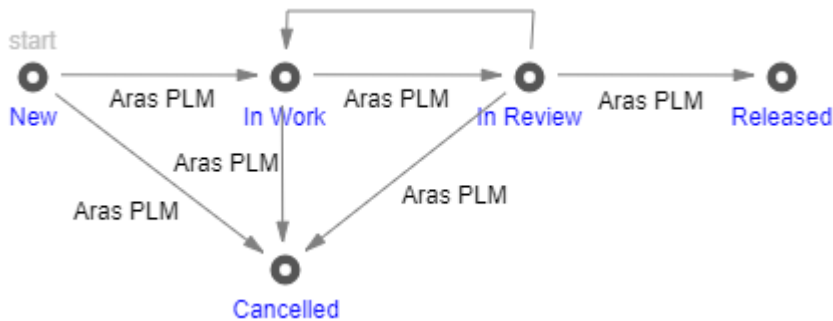
Understanding the MCO Process

The MCO workflow has the following roles:

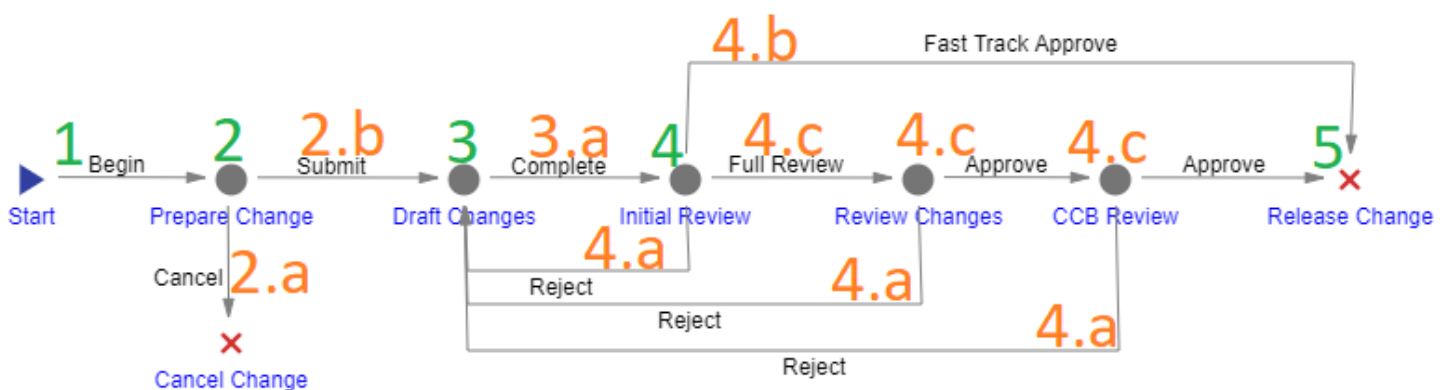
- An MCO Creator (**Originator**), is the user who initially created the MCO in the system. This may or may not be the same person as other roles.
- An MCO Owner (**Assigned Creator**), is the person responsible for the AML change.
- A Change Specialist I (CSI) coordinates and prepares MCOs through the workflow.
- Change Analyst (CA).
- The Configuration Management (CM) group.
- The Change Control Board (CCB), is responsible for review and final approval of an MCO.

An MCO moves between various states during its life cycle as shown in the following figure.





The Simple Change Management workflow and MCO life cycle produce together the following scenario:



1. An Aras Innovator user creates and saves the MCO. The creator should assign the Affected Parts to the MCO. When the Creator saves the MCO, it enters the **In Work** state, and a workflow is automatically started to assign tasks and track the changes to the MCO.
2. The MCO enters the **Prepare Change** activity **assigned to the CSI**. According to the company's rules and policies, the CSI reviews the MCO and decides whether to:
 1. **Cancel** the MCO. It cannot be restored in the future.
 2. **Submit** the MCO. It goes further.
3. The MCO enters the **Draft Changes** activity **assigned to anOwner**. The Owner is responsible for updating the AML using the AML editor.
 1. Once the Owner votes **Complete**, the ECR goes further.
4. The MCO enters the **Initial Review** activity **assigned to the CA**. The CA reviews the AML changes and decides either to:
 1. **Reject** — The MCO goes back to the **Draft Changes** activity. The Owner can modify and resubmit the MCO for the **Initial Review** activity.
 2. **Fast Track Approve** — The MCO is **Approved** and **Released**.

3. **Full Review** — The MCO enters the **Review Changes** activity **assigned to other team members**. The MCO goes under in-depth formal/informal reviews. Once these reviews are completed, The MCO enters the **CCB Review** activity. Once the CCB audit is completed, the MCO is **Released**. The MCO may also be **Rejected** (4.a) at these activities.

5. Once the MCO is released, the affected Part is updated.

The following table shows the Simple ECO lifecycle states and workflow activities in terms of Roles and Permissions.

The MCO lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update responsible
New	Prepare Change	World	Aras PLM, CM, Creator, Manager, Owner, World	Aras PLM, CM, Creator, Manager, Owner	Aras PLM, CM, Creator, Manager, Owner	Aras PLM, CM, Creator, Manager	Yes	CSI
In Work	Draft Changes		Aras PLM, CM, Manager, Owner, World	Aras PLM, CM, Manager, Owner	Aras PLM, CM	Aras PLM, CM	Yes	Owner
In Review	Initial Review, Review Changes, CCB Review		Aras PLM, World	Aras PLM	Aras PLM	Aras PLM	Yes	CA
Released	Released Change		Aras PLM, World	Aras PLM		Aras PLM	No	
Cancelled	Cancelled Change		Aras PLM, World	Aras PLM		Aras PLM	Yes	

Creating an MCO

To create a Manufacturing Change Order:



1. Go to **Contents** → **Change Management** → **MCOs**.
2. Click **Create New MCO**. The view of a new MCO appears.

MCO 1

Save

Done

Delete

^

MCO

MCO Number

Status

Change Category

Server Assigned

Phase In ▾

Change Description

Reason For Change

Originator

Innovator Admin ...

Change Analyst

Change Specialist I ...

Date Originated

Release Date

^

Affected Parts

Attachments

Signoffs

⚙️

Parts ▾

☆

+

×

🔍

✕

Hidden ▾

📷 ▾

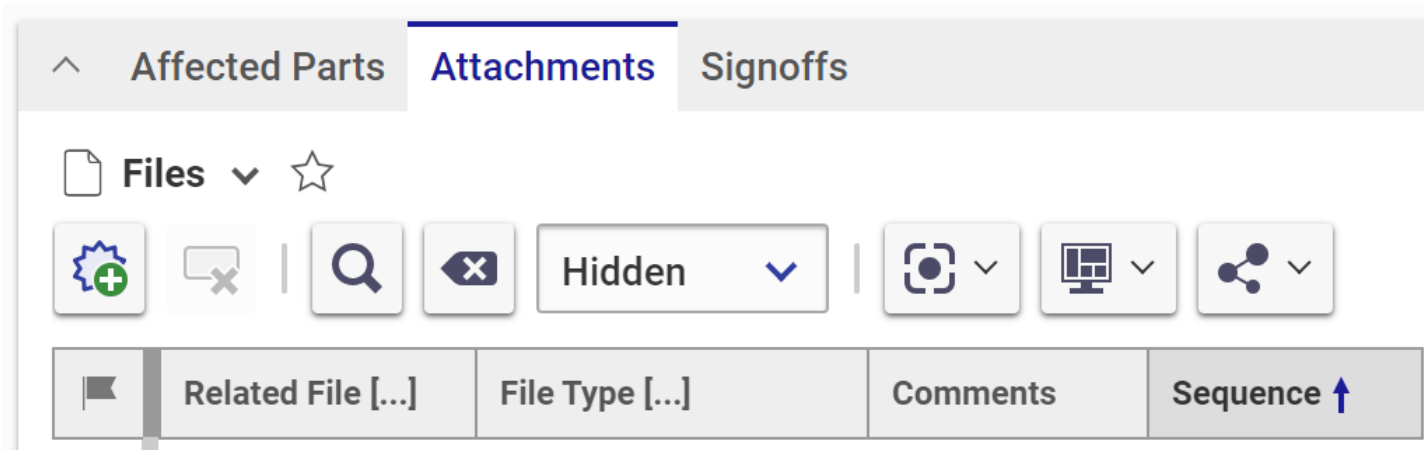
🖨 ▾

🔗 ▾

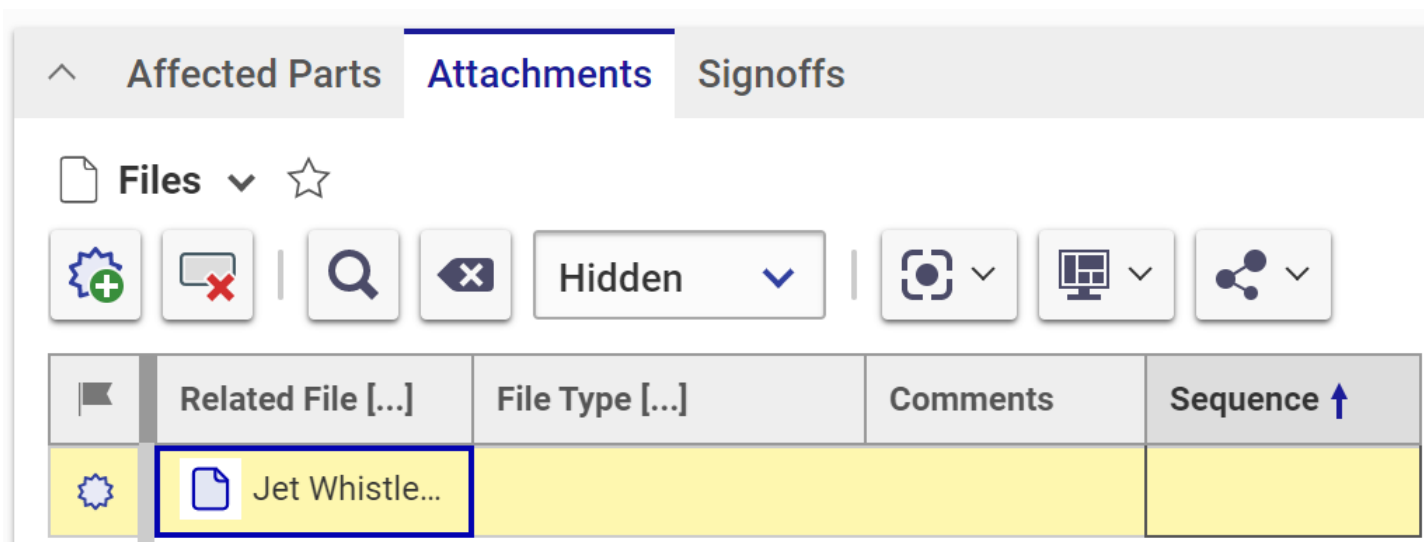
Part Number ↑	Revi...	Name	Type	State	Unit	Chan...
---------------	---------	------	------	-------	------	---------

3. Keep the default **Phase In** value in the **Change Category** list.
4. Describe the change in the **ChangeDescription** text box.
5. Describe the reason for the change in the **Reason ForChange** text box.
6. Keep the **default** value in the **Originator** box. This is the MCO Creator.
7. Keep the default **Change Specialist I** value in the **Change Analyst** box. This is a person or group assigned to act as a CA in the MCO workflow process.
8. Keep the **DateOriginated** box blank. This box is automatically filled with the date on which the MCO is saved.
9. Go to the **Attachments** accordion tab to attach all the files concerning this MCO.





10. Click **New File** on the Attachments accordion toolbar. The standard operating system dialog for file browsing and selection appears.
11. Search for and select a file. A new row appears in the **Files** grid with the file attached.



Important

Aras Innovator will automatically assign a file type depending on File's extension when you save the ECN.

12. If it is necessary to provide additional information about the File, enter it in the **Comments** cell.
13. Repeat steps 10-12 for other files concerning this MCO.
14. Go to the **Affected Parts** accordion tab to assign Parts with AMLs this MCO should change.

^ Affected Parts Attachments Signoffs

⚙️ Parts ▾ ☆

Hidden ▾

Part Number ↑	Revision	Name	Type	State	Unit	Changes
---------------	----------	------	------	-------	------	---------

- Click **Add Parts** on the Affected Parts accordion toolbar. The **Search dialog – Part** appears.
- Search and select Parts with AMLs this MCO should change. The selected Parts appear under **Affected Parts**.

^ Affected Parts Attachments Signoffs

⚙️ Parts ▾ ☆

Hidden ▾

Part Number ↑	Revision	Name	Type	State	Unit	Changes
MP3065C	A	Powerswitch	Component	Preliminary	EA	☐

- Click **Done** on the MCO toolbar. The MCO is created and waits to be submitted as defined in the section Submitting an MCO.

Submitting an MCO

To submit a Manufacturing Change Order:

- Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
- Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the MCO.





Workflow Activity Completion

Workflow: MCO-100001
Activity: Prepare Change

Tasks				
Sequence	Required	Description	Complete	
1	☐	Fill out the change form and assign affected items	☒	
2	☐	Attach any supporting documentation on the Attachments tab	☒	
3	☐	Vote Submit to initiate the change or Cancel to reject the Change	☒	

Vote	
Vote:	Submit Cancel Delegate
Delegate to:	...
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

3. Mark the tasks you completed in the **Tasks** field.

4. Select **Submit** in the **Vote** list.

5. Click **Complete**.

The MCO enters the **Draft Changes** activity assigned to the Owner.

Drafting Changes within an MCO

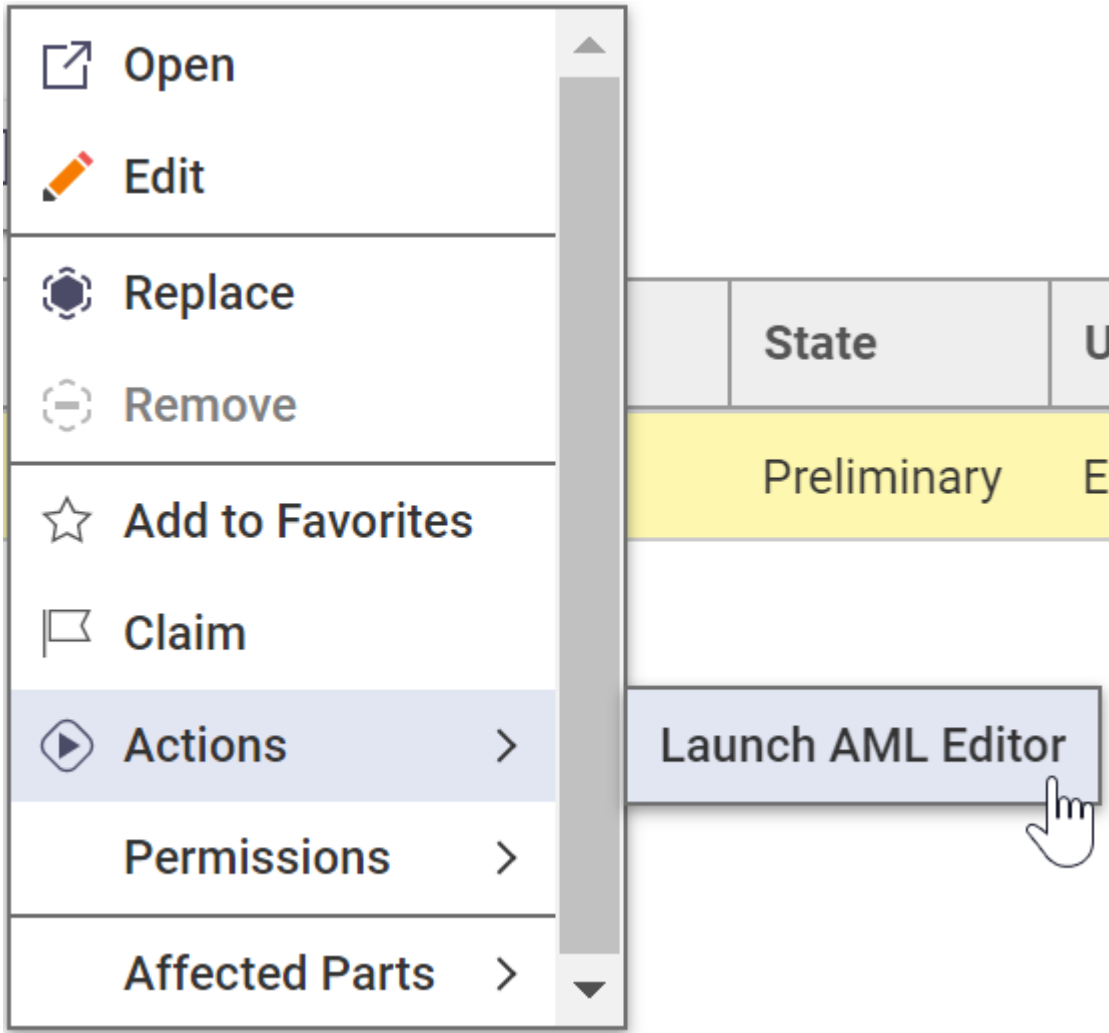
Use the following procedure:

1. Open the **MCO** view.

2. Go to the **Affected Parts** accordion tab.

3. Right-click a **Part** in the **Affected Parts** grid and select **Actions->Launch AML Editor**.





The AML Editor appears with the AML of the given Part in a separate dialog box.

AML Editor for Part MP3065C



Part Number
MP3065C

State
Preliminary

Save Changes

Cancel

Manufacturer Parts

| Hidden |

	Seq... 1	AML Status	Part Number 2	Name	Manufacturer [...]	State	
--	-----------	------------	----------------	------	--------------------	-------	--

Ready

4. Edit the AML as described in section 7.7 Approved Manufacturer List (AML).
5. Click **Save Changes**. The AML Editor disappears. The given Affected Part gets the **Manual Change** State.

Affected Parts Attachments Signoffs

Parts

| Hidden |

	Part Number	Revision	Name	Type	State	Unit	Changes
	MP3065C	A	Powerswitch	Component	Manual Change	EA	☐

6. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
7. Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the MCO.





Workflow Activity Completion

Workflow: MCO-100001

Activity: Draft Changes

Tasks

Sequence	Required	Description	Complete
1	☐	Review the change form for details of the changes to be made	☒
2	☐	Update your affected items to reflect the desired change	☒
3	☐	Vote Complete to indicate that your work is done	☒

Vote

Vote:	Complete Delegate Refuse	Delegate to:	...
Comments:			

Authentication

Password:		E-Signature:	
-----------	------------------	--------------	-------------

Complete

Save Changes

Cancel

8. Mark the tasks you completed in the **Tasks** field.

9. Select **Complete** in the **Vote** list.

10. Click **Complete**.

The MCO enters the **Initial Review** activity assigned to the CA.

Initial Reviewing of an MCO

Use the following procedure:

1. Review all changes to the Affected Parts.
2. Ensure each Affected Part assigned to the MCO contains the same information as in the MCO.
3. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.



4. Go to the **Workflow Activity Completion** dialog for the MCO.



Workflow Activity Completion

Workflow: MCO-100001
Activity: Initial Review

Tasks				
Sequence	Required	Description	Complete	
1	☐	Review all changes to the affected items	☒	
4	☐	For a detailed review, vote Full Review	☒	
2	☐	If the changes do not match the requirements, vote Reject to have...	☐	

Vote	
Vote:	Fast Track Approve ▾ Fast Track Approve Reject Full Review Delegate
Delegate to:	
Comments:	

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

5. Mark the tasks you completed in the **Tasks** field.
6. Select **the option** appropriate for your decision in the **Vote** list: **Fast Track Approve**, **Reject**, **Full Review**, or **Delegate**.
7. Click **Complete**.

The MCO enters the activity according to your decision.

Express Change Management

Express Change Management (CM) complements the CMII and Simple CM as a streamlined approach for Change Management. It is ideal for organizations that may not require all the rigorous



steps of the CMII. An Express CM process can work in parallel with CMII and Simple CM processes.

The Express CM provides two types of items to manage changes:

- The **Express Engineering Change Order (ECO)** is a streamlined authorization and execution of actual Part modification. You can use it for adding, changing, deleting, releasing, and revising Parts and BOMs. The Express ECO uses the Impact Matrix that enables you to visualize and review in a quick way how the modification of a Part will affect other Items in a hierarchy.
- The **Express Document Change Order (DCO)** is a process specifically defined for managing the modification of Documents and CAD Documents.

A Team is a defined logical group of users in Aras Innovator. For the Express ECO and DCO, the PE solution comes out-of-the-box with one default **Product** Team, which has the following roles:

- Team
- Team Manager
- Team Member
- Team Guest

Engagement of each role depends on the Express Change item.

Express Engineering Change Order (ECO)

An Express Engineering Change Order (ECO) is a quick process of implementing Part and Part BOM relationship changes using the Impact Matrix.

Understanding the Express ECO Process

The **Product** Team roles are engaged in the Express ECO workflow as follows:

- **Team Manager** is assigned to the **Planning** activity and responsible for the Impact Analysis of Affected Parts and setting an effective date.
- **Team Member** is assigned to the **Plan Review** and **Draft Changes** activities for reviewing Impact Matrix and making changes to the Affected Parts and BOMs.

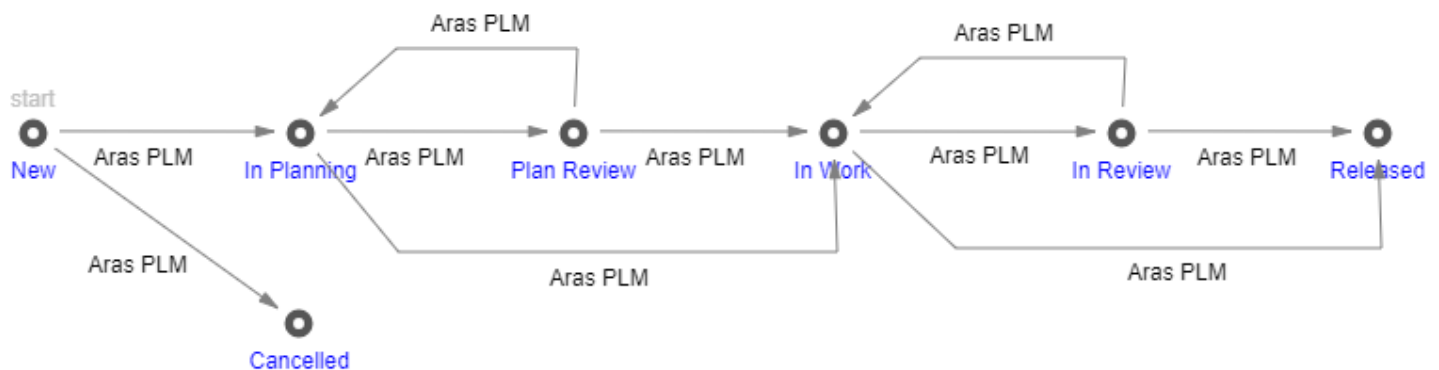
In addition to the **Product** Team, the Express ECO workflow has the following roles:

- An Express ECO Creator is a user who initially created and submitted the Express ECO in the system. This may or may not be the same person as other roles.

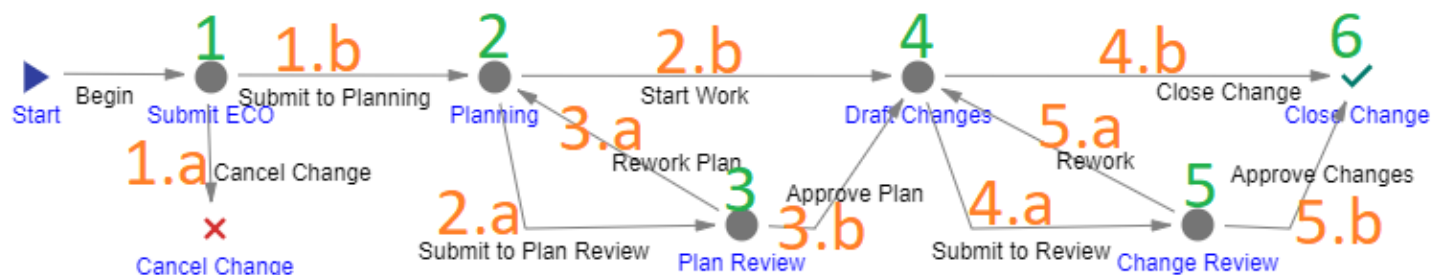


- An Express ECO **Change Coordinator** (Owner) is a person responsible for managing the ECO from start to finish.
- The Configuration Management (CM) group.
- The Change Control Board (CCB) is responsible for review and final approval of an Express ECO.

An Express ECO also traverses between various states during its life cycle depicted in the following figure.



The Express ECO workflow together with the Express ECO life cycle produces the following scenario:



1. An Aras Innovator user initiates an Express ECO process by creating a new Express ECO. The Creator must review the Express ECO to either:
 1. **Submit** it. A workflow is automatically started to assign tasks and track the changes to the Express ECO.
 2. **Cancel** it. The Express ECO cannot be restored in the future.
2. The Express ECO enters the **Planning** activity assigned to the **Team Manager**. The Team Manager performs an impact analysis and ensures that each Affected Part has an Action set in

the Impact Matrix. The Express ECO cannot go to the next activity if its Impact Matrix has any Part with the **Item Action** cell blank or **Review**. The Team Manager votes either:

1. **Submit to Plan Review** if the Express ECO needs a further detailed review by a Team Member. The Express ECO goes to the **Plan Review** activity.
2. **Start Work** if the Express ECO is ready for work. The Express ECO goes to the **Draft Changes** activity.
3. The Express ECO enters the **Plan Review** activity assigned to the **Team Member**. This Team Member must review the Express ECO to vote either:
 1. **Rework Plan** if the Express ECO needs its plan reworked by the Team Manager. The Express ECO goes back to the **Planning** activity.
 2. **Approve Plan** if the Express ECO is ready for work. The Express ECO goes to the **Draft Changes** activity.
4. The Express ECO enters the **Draft Changes** activity assigned to the **Team Member**. This Team Member makes changes to the new revisions of Parts and BOMs according to the Express ECO, and, when completed, votes either:
 1. **Submit to Review** if the Express ECO requires the final review by the CCB. The Express ECO goes to the **ChangeReview** activity.
 2. **Close Change** if the Express ECO process is completed and does not require the final review by the CCB. The Express ECO is **Released**.
5. The Express ECO enters the **ChangeReview** activity **assigned to the CCB**. All the CCB members must conduct the final review of the Express ECO and vote the same decision of either:
 1. **Rework** if the Express ECO needs any further reworking. The Express ECO goes back to the **Draft Changes** activity.
 2. **Approve Changes** if the Express ECO process is completed and does not require any further reworking. The Express is ECO **Released**.
6. Once the Express ECO enters the **Close Change** activity, it becomes **Released**. Each Part is automatically updated according to the specified Action.

The following table shows the Express ECO lifecycle states and workflow activities in terms of Roles and Permissions.

The Express ECO lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update response
------------------	-------------------	---------	-----	--------	--------	---------------	-----------------	-----------------



New	Start, Submit ECO	World	Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, Creator	Administrators, Owner, Creator	Administrators Yes	Creator
Cancelled	Cancel Change		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Administrators		Administrators No, a final state	
In Planning	Planning		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators Yes	Team Manag
Plan Review	Plan Review		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators Yes	Team Membe
In Work	Draft Changes		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators Yes	Team Membe
In Review	Change Review		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators Yes	CCB

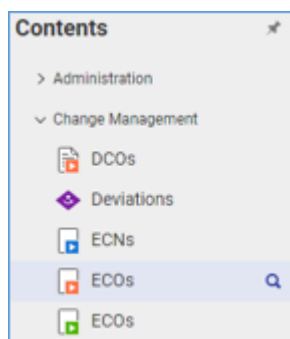


Released	Closed Change	Team Manager, Team Member, Administrators, Administrators Owner, All Employees, Creator	Administrators	No, a final state
----------	---------------	--	----------------	----------------------

Creating an Express ECO

Use the following procedure:

1. Go to **Contents** → **Change Management** → **ECOs** (one with the orange icon).



2. Click **Create New ECO**. The view of a new Express ECO appears.

ECO 1

Save

Done

Delete

ECO

Number

Server Assigned

Title

Change Reason

Change Description

Change Coordinator

Innovator Admin

...

Team

Product Team

...

Priority

☐ 1 - High
 ☐ 2 - Normal
 ☐ 3 - Low

Release Date

Effective Date

Impact Matrix

Attachments

EDRs

SignOffs

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-

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Item Number	Name	Revision	State	Sequence

3. Enter the Express ECO title in the **Title** text box.
4. Describe the reason for the change in the **ChangeReason** text box.
5. Describe the change in the **ChangeDescription** text box.
6. Specify change priority using the **Priority** radio button: **1 – High**, **2 – Normal**, or **3 – Low**.
7. If it is necessary to set an Express ECO Owner other than you:
 1. Click the **ellipses** button In the **Change Coordinator** box. The **Search dialog – Identity** appears.
 2. Using the standard search procedure, search for and select a Team. The selected Team replaces the default identity.
8. If it is necessary to set a Team other than the default:
 1. Click the **ellipses** button In the **Team** box. The **Search dialog – Team** appears.

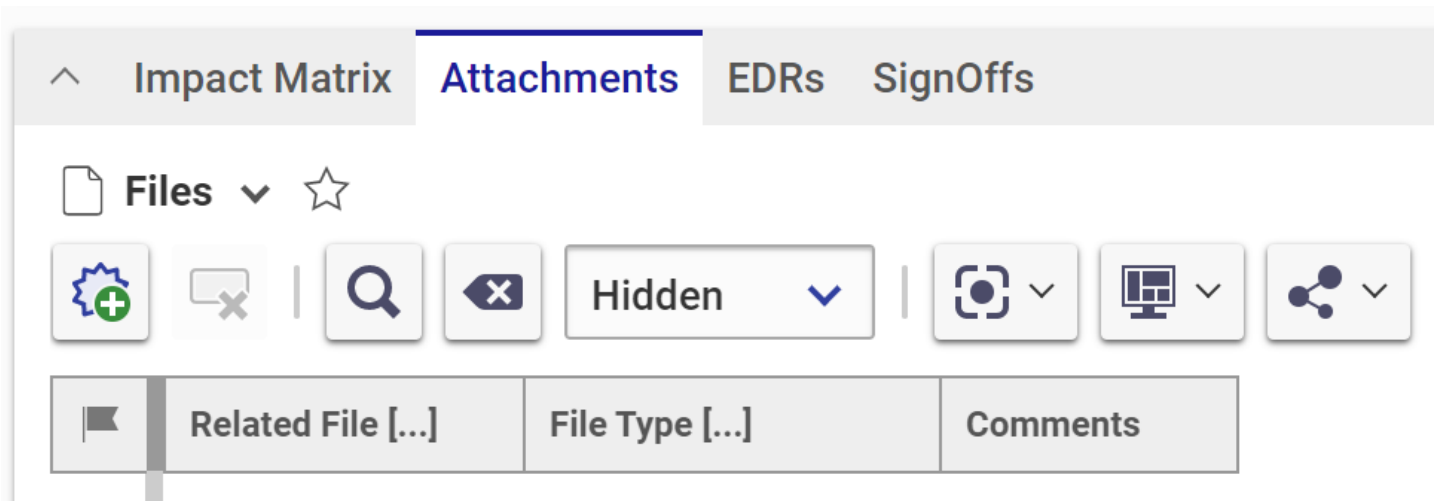


2. Using the standard search procedure, search for and select a Team. The selected Team replaces the default identity.
9. Keep the **ReleaseDate** box blank. This box is automatically filled with the date on which the Express ECO is approved and closed.
10. Specify the date change becomes effective in the **EffectiveDate** box. It is automatically set to the released date if left blank.

Important

The effective date is often when items are put into use based on decisions in the organization.

11. Go to the **Attachments** accordion tab to attach all the files concerning this Express ECO.



12. Click **Create Item** on the **Attachments** accordion toolbar. The standard operating system dialog for file browsing and selection appears.
13. Search for and select a file. A new row appears in the **Files** grid with the file attached.



^
Impact Matrix
Attachments
EDRs
SignOffs

Files
☆

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Hidden

|

	Related File [...]	File Type [...]	Comments
	Jet Whistle S...		

Important
Aras Innovator will automatically provide a file type to the **File Type** cell depending on the File's extension when you save the Express ECO.

- If it is necessary to provide additional information about the File, enter it in the **Comments** cell.
- Attach to the Express ECO Affected Parts, using the procedure described in the sectionManaging the Impact Matrix.
- Click **Done** on the Express ECO toolbar. The Express ECO is created and waits to be either submitted or cancelled as defined in the section Voting on an Express ECO.



ECO-00001001

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Edit

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ECO

Number	Title		
ECO-00001001	Jet Whistle Turbo Thrust Enhancement		
Change Reason		Change Description	
The Jet Whistle should be heard on Mars.		Adding more power to Turbo Thrust	
Change Coordinator	Team	Priority	New
Innovator Admin	Product Team	☐ 1 - High ☐ 2 - Normal ☐ 3 - Low	
Release Date	Effective Date		

Voting on an Express ECO

To vote on an Express ECO:

1. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
2. Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the Express ECO.





Workflow Activity Completion

Workflow: ECO-00001019

Activity: Submit ECO

Tasks			
Sequence	Required	Description	Complete
1	☐	Identify all affected items and specify change actions	☒
2	☐	Submit the ECO to implementation planning	☒

Vote	
Vote:	Submit to Planning Cancel Change Delegate
Comments:	Delegate to: ...

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

3. Mark the completed tasks in the **Tasks** field.
4. Select the option per your decision in the **Vote** list.
5. Click **Complete**.

The Express ECO enters the next activity as defined in the Express ECO workflow.

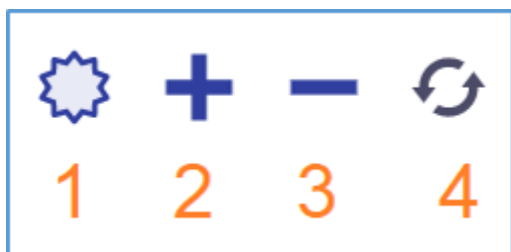
Managing the Impact Matrix

The Impact Matrix is a tool for Express Change Management of Parts in Express ECOs. For your review, it can also visualize how the modification of an Affected Part will Impact other Items in a hierarchy.



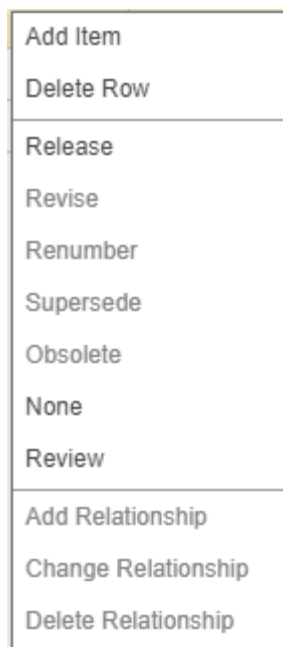
You can manage the change in a quick way using the **Impact Matrix** accordion toolbar and context menu.

The **Impact Matrix** accordion toolbar displays the following buttons:



1. **Add Item** launches the Search dialog – Change Controlled Item to add Affected Parts to the Impact Matrix.
2. **Expand All** unfolds all the assembly trees.
3. **Collapse All** folds back all the assembly trees.
4. **Refresh** shows the latest updates.

The Impact Matrix context menu features:



- Actions for a Part:

- **Add Item** launches the **Search dialog – Change Controlled Item** to add Affected Parts to the Impact Matrix.
- **Delete Row** removes the Part from the Impact Matrix.
- **Release** performs the initial release of a Part, promoting the Part from the **Preliminary** state to the **Released** state.
- **Revise** creates a new revision of an existing released Part. The Part will be superseded by a new revision of the Part.
- **Renumber** replaces an existing Part with its copy. The existing Part is copied as a new Part, which is assigned a new Part number, and released.
- **Supersede** provides a new part number for the original part. The original Part is superseded.
- **Obsolete** promotes an existing released or superseded Part to the **Obsolete** state.
- **Review** puts the Part under **Review**. Action needs to be selected on the Part before the ECO can be processed. The ECO cannot be completed if any Part is under **Review**.
- **None** states that the Part is explicitly not affected or impacted by the change. No action will be taken on the Part. Under certain circumstances, this action may not be allowed if an Affected Item requires this Part to be modified.
- Actions for a BOM relationship of a previously released Part (each selected action will appear in the **Relationship Action** column of the Impact matrix once the ECO is processed):
 - **Add Relationship** adds another released Part to the BOM of the given released Part.
 - **Modify Relationship** modifies the existing BOM of the given released Part. You can specify a new quantity and adjust the sequence number of the BOM.
 - **Delete Relationship** removes the existing BOM from the given affected released Part.

The following procedure explains the main Impact Matrix management features:

1. Open the **Express ECO**.
2. Click **Edit** on the **Express ECO** toolbar.
3. Go to the **Impact Matrix** accordion tab.
4. Click **Add Item** on the Impact Matrix accordion toolbar. The **Search dialog – Change Controlled Item** appears.



- Search for and select an Affected Part. The selected Affected Part and Parts Impacted by this Part appear in the Impact Matrix tree.

Impact Matrix							
Attachments EDRs SignOffs							
							
Item Number	Name	Revision	State	Sequence	Quantity	Unit	
 Parent Part	Parent Part	A	Preliminary			EA	

- Click **Expand All** on the **Impact Matrix** toolbar. You can see what Parts in assemblies are Impacted when the given Part is changed. The given Part is always violet-highlighted. The given Part's Parents are above the Part. The given Part's Children are below the Part.

Impact Matrix							
Attachments EDRs SignOffs							
							
Item Number	Name	Revision	State	Sequence	Quantity	Unit	Item Action
  Parent Part	Parent Part	A	Preliminary			EA	
  Child Part B	Child Part B	D	Preliminary	2	1	EA	Review
 Child Part B.1	Child Part B.1	A	Preliminary	1	1	EA	
 Child Part B.2	Child Part B.2	A	Preliminary	2	1	EA	

- Right-click the **given Part** and then click **Delete Row**. The given Part and its children disappear from the Impact Matrix.

Child Part B	Child Part B
 Child	Child Part B.1
 Child	Child Part B.2

Add Item
Delete Row

- Click **Save** or **Done** on the **Express ECO** toolbar to save the changes in the Express ECO.

Reviewing an Express ECO

When reviewing an Express ECO, you must analyze each Affected and Impacted Part to set Action to it. An Express ECO cannot go any further if any Affected or Impacted Part has no Action set. Some Actions may invalidate the Express ECO.

The following procedure explains the process of reviewing and setting Actions:

- Open the **Express ECO**.



2. Click **Edit** on the Express ECO toolbar.
3. Go to the **Impact Matrix** accordion tab.
4. Check whether each Part has an Action.
5. Check set Actions for validity.
6. Right-click a **Part** and then click the proper **Action**. For Actions details, refer to Managing the Impact Matrix.
7. Click **Save** or **Done** on the **Express ECO** toolbar to save the changes in the Express ECO.

Viewing and Processing an Express ECO Signoff Activities

From the Express ECO view, you can review the current and previous Activities assigned for an Express ECO. You can also vote within an Activity if you have rights.

Use the following procedure:

1. Open the **Express ECO** view.
2. Go to the **SignOffs** accordion tab.

^
Impact Matrix
Attachments
EDRs
SignOffs

Workflow History Report

Item: ECO-00001019
Started By: Innovator Admin

Express ECO Workflow
Started On: 3/29/2019 10:09:37 AM

Current Status is: Active
Completed On:

Activity	State	Assigned To	Completed By	How Voted	When	Comments
Submit ECO	Closed	Innovator Admin	Innovator Admin	Submit to Planning	3/31/2019 3:45:32 PM	
Planning	Closed	Team Manager	Innovator Admin	Start Work	3/31/2019 4:11:25 PM	
Draft Changes	Closed	Team Manager	Innovator Admin	Submit to Review	3/31/2019 4:23:35 PM	
Change Review	Active	Change Control Board				
Change Review	Active	Innovator Admin		VOTE NOW		
Change Review	Active	CM	Innovator Admin	Approve Changes	3/31/2019 4:32:13 PM	

3. Click the **VOTE NOW** link. The **Workflow Activity Completion** dialog for the Express ECO Activity appears.
4. Use steps 3-5 of the Voting on an Express ECO procedure.

Checking an Express ECO for Completeness



At any point in an Express ECO process, you can use the **Completeness Check Results** dialog to ensure that the Express ECO has all the required information provided and that each Part has an Action assigned. Using this dialog early avoids resolving errors later during the workflow process when the cause may be more difficult to determine.

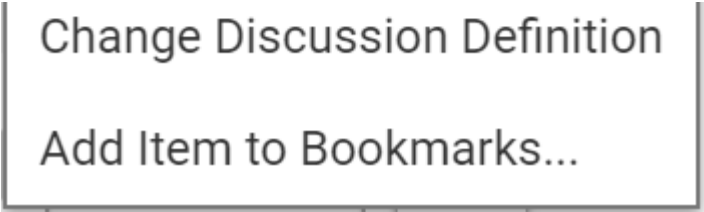
There are several ways to access the **Completeness Check Results** dialog for an Express ECO:

Go to **Contents** → **Change Management** → **ECOs**, right-click the **Express ECO** to be checked, and then click **Check for Completeness**.

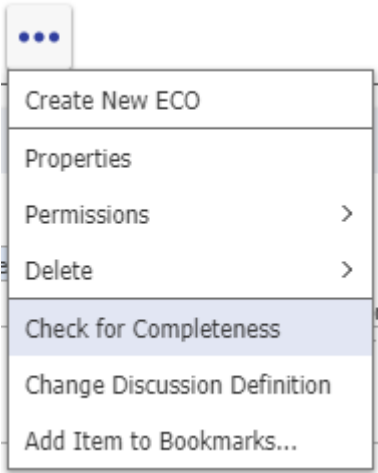


Open
Add to Favorites
Claim
Promote
Properties
Save As
Delete All Versions
Structure Browser
Where Used
Reset Item Access
Reset Life Cycle State
Set Default Life Cycle
Add to Package Definition
Check for Completeness



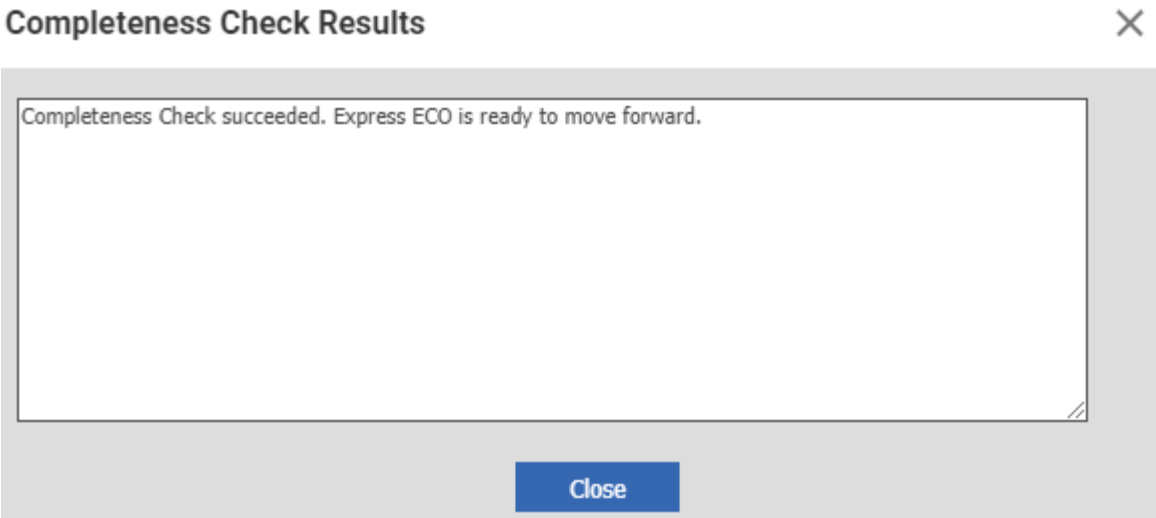


Open the view of an Express ECO to be checked, on the **Express ECO** toolbar, click **More**, and then click **Check for Completeness**.



When accessed, the **Completeness Check Results** dialog shows you checking results:

- If an Express ECO is ready to process, there is the message: “Completeness Check succeeded. Express ECO is ready to move forward.”



- If an Express ECO is not ready to process, there are issues preventing the Express ECO from completeness and their sources. Make sure to correct each issue.

Completeness Check Results



All EDR must be in Pending Closure State. EDR-00001003 is in In Work State.

Close

Viewing and Revising Parts Released within an Express ECO

Once the Express ECO workflow is completed, you can search for the released Parts and check that they all are **Released**.

When a released Part must be changed to resolve a problem or provide improvement, an Express ECO is created to apply the change, revise the Part, and review the impact of other Affected Parts in an assembly.

The following procedure explains the Part revising process:

1. Open the **Express ECO**.
2. Click **Edit** on the Express ECO toolbar.
3. Go to the **Impact Matrix** accordion tab.
4. Click **Add Item** on the **Impact Matrix** accordion toolbar. The **Search dialog – Change Controlled Item** appears.
5. Search for and select an Affected Part(s). The selected Affected Part appears in the Impact Matrix tree.



Impact Matrix Attachments EDRs SignOffs									
Item Number ▾	Name	Revision	State	Sequence	Quantity	Unit	Item Action	EDR Grouping	N
MP2936	Acrylic Cover	A	Released			EA			
MP2951	Cover	A	Released	15	1	EA	Review		

6. Right-click each **Part** and click **Review** to see what Parts in assemblies are Impacted when the Part clicked is changed.

Item Number ▾	Name	Revision	State	Sequence	Quantity	Unit	Item Action	I
MP0103	MakerBot Replicator wi...	A	Preliminary			EA		
MP2936	Acrylic Cover	A	Released	50	1	EA	Review	
MP2955	Front Window Panel	B	Released	10	1	EA	Review	
MP2951	Cover	A	Released	15	1	EA	Review	
MP2948	Cover Hardware	A	Released	5	1	EA	Review	
MP2948	Cover Hardware	A	Preliminary	10				
MP2295	M3 Square Nut	A	Released	10	15	EA		
MP0370	M3x16 Socket Cap Bolt	A	Released	5	15	EA		
MP2936	Acrylic Cover	A	Preliminary	10				
MP0102	Cover Option for Maker...	A	Preliminary			EA		
MP2936	Acrylic Cover	A	Released	5	1	EA	Review	
MP2955	Front Window Panel	B	Released	10	1	EA	Review	
MP2951	Cover	A	Released	15	1	EA	Review	
MP2948	Cover Hardware	A	Released	5	1	EA	Review	
MP2936	Acrylic Cover	A	Preliminary	10				

7. Right-click each Affected and Impacted **Part** and then click **Revise**.



Item Number ▼	Name	Revision	State	Sequence	Quantity	Unit	Item Action
MP0103	MakerBot Replicator wi...	A	Preliminary			EA	
MP2936	Acrylic Cover	A	Released	50	1	EA	Revise
MP2955	Front Window Panel	B	Released	10	1	EA	Revise
MP2951	Cover	A	Released	15	1	EA	Revise
MP2948	Cover Hardware	A	Released	5	1	EA	Revise
MP2948	Cover Hardware	A	Preliminary	10			
MP2295	M3 Square Nut	A	Released	10	15	EA	
MP0370	M3x16 Socket Cap Bolt	A	Released	5	15	EA	
MP2936	Acrylic Cover	A	Preliminary	10			
MP0102	Cover Option for Maker...	A	Preliminary			EA	
MP2936	Acrylic Cover	A	Released	5	1	EA	Revise
MP2955	Front Window Panel	B	Released	10	1	EA	Revise
MP2951	Cover	A	Released	15	1	EA	Revise
MP2948	Cover Hardware	A	Released	5	1	EA	Revise
MP2936	Acrylic Cover	A	Preliminary	10			

8. Click **Done** on the Express ECO toolbar. The Express ECO is ready for revising Parts.

Processing Parts within an Express ECO

This section describes the revision of released Parts as an example of processing Parts within an Express ECO.

To process Parts, follow the Express ECO workflow as explained in section Understanding the Express ECO Process and notice how the state of Parts is changing:

1. **Submit the Express ECO.** The **Changes** check mark is automatically set on each Affected Part to indicate that it is under a change process.

MP2936

Edit

Part

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP2948	A	Cover Hardware	Assembly	1	Released	EA		☒
	10	MP2955	B	Front Window ...	Component	1	Released	EA		☒
	15	MP2951	A	Cover	Assembly	1	Released	EA		☒

2. **Planning.** After submission, the Affected Parts are set to the **In Change** state and are not allowed to be edited, note the **red claiming flag**.

MP2936

Edit

Part

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP2948	A	Cover Hardware	Assembly	1	In Change	EA		☒
	10	MP2955	B	Front Window ...	Component	1	In Change	EA		☒
	15	MP2951	A	Cover	Assembly	1	In Change	EA		☒

3. **Change Review.** During the review process, the Affected Parts are promoted to the **In Review** state and a new major revision. No edits are allowed on the original revision.



MP2936

Edit

Part

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

Hidden

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP2948	B	Cover Hardware	Assembly	1	In Review	EA		☒
	10	MP2955	C	Front Window ...	Component	1	In Review	EA		☒
	15	MP2951	B	Cover	Assembly	1	In Review	EA		☒

4. Close Change. The Express ECO is Released.

Number: ECO-00001019 Title: Jet Whistle Turbo Thrust Enhancement

Change Reason: The Jet Whistle should be heard on Mars.

Change Description: Adding more power to Turbo Thrust

Released

Priority: ☐ 1 - High ☐ 2 - Normal ☐ 3 - Low

Change Coordinator: [Innovator Admin](#) Team: [Product Team](#)

Release Date: 3/31/2019 Effective Date:

Impact Matrix Attachments EDRs SignOffs

	Item Number	Name	Revision	State	Sequence	Quantity	Unit	Item Action	EDR Grouping	New Num...	State	Revision
	MP2936	Acrylic Cover	A	Superseded			EA	Revise		MP2936	Released	B
	MP2936	Acrylic Cover	A	Preliminary	10							
	MP2948	Cover Hard...	A	Superseded	5	1	EA	Revise		MP2948	Released	B
	MP0370-01	M3x16 Sock...	A	Released	5	15	EA					

5. The newly revised Parts are Released at the new major Revision.

MP2936

Edit

Part

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

Hidden

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP2948	B	Cover Hardware	Assembly	1	Released	EA		☐
	10	MP2955	C	Front Window ...	Component	1	Released	EA		☐
	15	MP2951	B	Cover	Assembly	1	Released	EA		☐

You can use **Redline View** for displaying the current Part changes in a Parent BOM.

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

Hidden

Redline View

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP2948	B A	Cover Hardware	Assembly	1	Released Superseded	EA		☐
	10	MP2955	C B	Front Window ...	Component	1	Released Superseded	EA		☐
	15	MP2951	B A	Cover	Assembly	1	Released Superseded	EA		☐

Modifying Part BOM Relationships within an Express ECO

Using specialized Relationship Actions on the Impact Matrix, which are discussed in section Managing the Impact Matrix, you can add, change, and remove Parts from an BOM, as well as modify information on the BOM Entry itself (e.g., Quantity and Sequence Number).

To modify a BOM, follow the Express ECO workflow as explained in section Understanding the Express ECO Process and notice how the BOM is changing:

1. Create an Express ECO with a Relationship Action.



Impact Matrix Attachments EDRs SignOffs

⚙️ + - ↺

Item Number	Name	Revision	State	Sequence	Quantity	Unit	Item Action	EDR Grouping
MP2936	Acrylic Cover	B	Released			EA		
MP2948	Cover Hardware	B	Released	5	1	EA	Review	
MP0370-004	M3x16 Socket Cap ...	A	Released	5	15	EA		
MP2295	M3 Square Nut	A	Released	10	15	EA		
MP2948	Cover Hardware	A	Preliminary	10				

- Add Item
- Delete Row
- Release
- Revise
- Renumber
- Supersede
- Obsolete
- None
- Review
- Add Relationship
- Change Relationship
- Delete Relationship

2. Select BOM in the **Select Relationship Type** dialog.

Select Relationship Type

✓

Relationship Type:

BOM

Document

CAD

3. When adding or replacing a Part, select a new Part in the **Search Dialog – Part**. The Affected Parent should have **Revise** action set as its BOM change will create a new Revision. Notice the changes in the Impact Matrix.

Impact Matrix Attachments EDRs SignOffs

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Item Number	Name	Revision	State	Sequence	Quantity	Unit	Item Action	EDR Grouping	New Number	State	Revision	Relationship Action	Sequence	Quantity	New Relationship
MP2936	Acrylic Cover	B	Released			EA									
MP2948	Cover Hardware	B	Released	5	1	EA	Revise								
MP0370-004	M3x16 Socket Cap Bolt	A	Released	5	15	EA									
MP2295	M3 Square Nut	A	Released	10	15	EA									
MP2948	Cover Hardware	A	Preliminary	10											
												Attach			MP2690

4. Complete the Express ECO creation. Check the BOM under changes. Note the **red claiming flag**.



 Edit
 






[BOM](#) [BOM Structure](#) [Alternates](#) [AML](#) [Documents](#) [CAD Documents](#) [Goals](#) [Changes](#)











	Sequence ▲	Part Number ▲	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP0370-004	A	M3x16 Socket Cap Bolt	Component	15	Released	EA		☐
	10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐

5. Submit the Express ECO.

MP2948

Edit

Part

Part Number

MP2948

Revision

B

State

Released

Assigned Creator

Name

Cover Hardware

Designated User

Type

Assembly

Unit

EA

Make / Buy

Make

Cost (Calculated)

1.4250

Effective Date

3/31/2019 4:35:16 PM

Long Description

☒ Changes Pending

BOM

BOM Structure

Alternates

AML

Documents

CAD Documents

Goals

Changes

Parts

Hidden

	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP0370-004	A	M3x16 Socket ...	Component	15	Released	EA		☐
	10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐

6. **Planning.** After submission, the Affected Parts are set to the **In Change** state and not allowed to be edited.



MP2948



Part

Part Number: MP2948 Revision: B State: In Change Assigned Creator: Ex

Name: Cover Hardware Designated User:

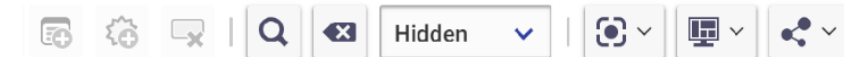
Type: Assembly Unit: EA Make / Buy: Make Cost (Calculated): 1.4250 Effective Date: 3/31/2019 4:35:16 PM

Long Description:

☒ Changes Pending

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts



	Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
	5	MP0370-004	A	M3x16 Socket ...	Component	15	Released	EA		☐
	10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐

Impact Matrix Attachments EDRs SignOffs

Item Number	Name	Revisi...	State	S...	Quantity	Unit	Item Action	E...	New Number	State	Revisi...	Relationship Action	Sequ...	Quantity	New Relationship
MP2948	Cover Hardware	B	In Change			EA	Revise		MP2948	Preliminary	C				
MP0370-004	M3x16 Socket...	A	Released	5	15	EA									
MP2295	M3 Square Nut	A	Released	10	15	EA									
MP2948	Cover Hardware	A	Preliminary	10											
												Attach			MP2690

- Change Review.** During the review process, the Affected Parts are promoted to the **In Review** state and a new major revision, which has the new BOM with changes. No edits are allowed on the original revision.



MP2948
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Edit |
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^ **Part**

Part Number

Revision

Name

Type

Long Description

State

Assigned Creator

Designated User

Effective Date

Unit: EA
Make / Buy: Make
Cost (Calculated): 1.4450

☒ Changes Pending

^ **BOM** | BOM Structure | Alternates | AML | Documents | CAD Documents | Goals | Changes

⚙️ **Parts** | ☆

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 📊 |
 🔗

Sequence ▲	Part Number ▲	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
5	MP0370-004	A	M3x16 Socket ...	Component	15	Released	EA		☐
10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐
138	MP2690	A	Washer 0.355 ...	Component	1	Released	EA		☐

^ **Impact Matrix** | Attachments | EDRs | SignOffs

⚙️ + - ↺

Item Number	Name	Revision	State	S...	Quantity	Unit	Item Action	ED...	New Number	State	Revision	Relationship Action	S...	Quantity	New Relationship
MP2948	Cover Hardware	B	In Change			EA	Revise		MP2948	In Review	C				
MP0370-004	M3x16 Socket ...	A	Released	5	15	EA									
MP2295	M3 Square Nut	A	Released	10	15	EA									
MP2948	Cover Hardware	A	Preliminary	10											
												Attach			MP2690

ECO

Number

ECO-00001020

Title

SD Card fit issues

Change Reason

Change Description

Released

Priority

☐ 1 - High
☐ 2 - Normal
☐ 3 - Low

Change Coordinator

Innovator Admin

Team

Product Team

Release Date

4/1/2019

Effective Date

Impact Matrix

Attachments

EDRs

SignOffs

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-

Item Number	Name	Revision	State	S...	Q...	Unit	Item Action	ED...	New Number	State	Revision	Relationship Action	S...	Quantity	New Relationship
MP2948	Cover Hardwa...	B	Superseded			EA	Revise		MP2948	Released	C				
MP0370-004	M3x16 Socket...	A	Released	5	15	EA									
MP2295	M3 Square Nut	A	Released	10	15	EA									
MP2948	Cover Hardwa...	A	Preliminary	10											
☐												Attach			MP2690

9. The newly revised Parts are **Released** at the new major Revision.



Part

Part Number: MP2948 Revision: C State: Released Assigned Creator: Ex

Name: Cover Hardware Designated User:

Type: Assembly Unit: EA Make / Buy: Make Cost (Calculated): 1.4450 Effective Date: 4/1/2019 6:50:31 AM

Long Description:

☐ Changes Pending

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

Hidden

Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
5	MP0370-004	A	M3x16 Socket ...	Component	15	Released	EA		☐
10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐
138	MP2690	A	Washer 0.355 ...	Component	1	Released	EA		☐

You can use **Redline View** for displaying the current Part changes in a Parent BOM.

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

Hidden

Redline View

Sequence	Part Number	Revision	Name	Type	Quantity	State	Unit	Reference Designator	Changes
5	MP0370-004	A	M3x16 Socket ...	Component	15	Released	EA		☐
10	MP2295	A	M3 Square Nut	Component	15	Released	EA		☐
138	MP2690	A	Washer 0.355 ...	Component	1	Released	EA		☐

Express Document Change Order (DCO)

An Express Document Change Order (DCO) is a quick process for implementing Document and CAD Document changes. You can quickly release a new Document, change, revise, or obsolete an



existing Document.

In this section, the term Document means an item of both Document and CAD Document ItemTypes.

Understanding the Express DCO Process

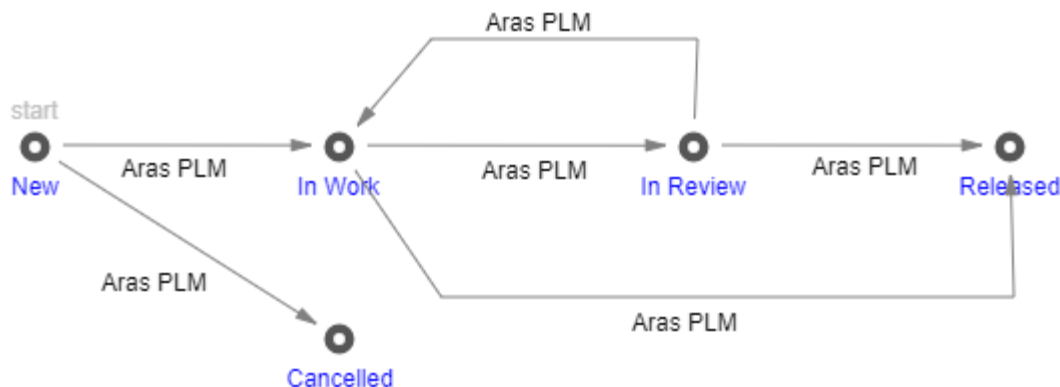
The **Product** Team roles are engaged in the DCO workflow as the following:

- **Team Manager** is assigned to the **Planning** and **Initial Review** activities for reviewing Affected Documents and routing DCOs.
- **Team Member** is assigned to the **Draft Changes** for making changes to the Affected Documents.

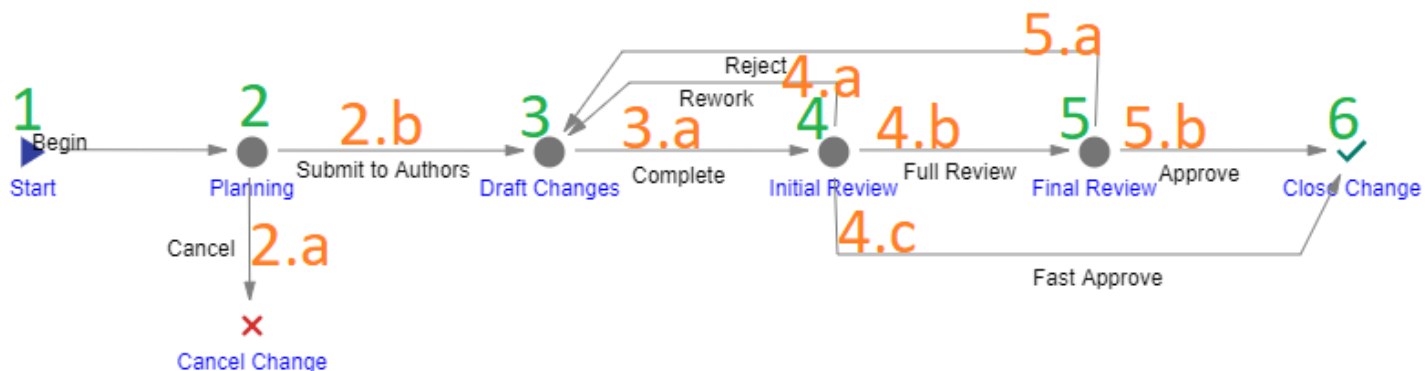
In addition to the **Product** Team, the Express ECO workflow has the following roles:

- A DCO Creator, is a user who initially created and submitted the DCO in the system. This may or may not be the same person as other roles.
- A DCO **Change Coordinator** (Owner), is a person responsible for managing the DCO from start to finish.
- The Configuration Management (CM) group.
- The Change Control Board (CCB), is responsible for review and final approval of an MCO.

A DCO traverses between various states during its life cycle depicted in the following figure.



The DCO workflow together with the DCO life cycle produces the following scenario:



1. **Start.** An Aras Innovator user initiates a DCO process by creating a new DCO. Once the DCO is saved, a workflow is automatically started to assign tasks and track the changes to it.
2. The Express ECO enters the **Planning** activity **assigned to the Team Manager**. The Team Manager reviews the DCO to vote either:
 1. **Submit to Authors.** The DCO is ready for work and goes to the **Draft Changes** activity.
 2. **Cancel.** The DCO is cancelled and cannot be restored in the future.
3. The DCO enters the **Draft Changes** activity assigned to **Team Members**. These Team Members make changes to the new revisions of Documents according to the DCO, and, when completed, vote:
 1. **Complete** to propagate the DCO to the **Initial Review** activity.
4. The DCO enters the **Initial Review** activity assigned to the **Team Manager**. The Team Manager reviews the DCO and Affected Documents in details to vote either:
 1. **Full Review** if the DCO requires the final review by the CCB. The DCO goes to the **FinalReview** activity.
 2. **Fast Approve** if the DCO is ready for release. The DCO goes to the **Close Change** activity.
 3. **Rework** if the DCO or Affected Documents need any further reworking by the Team Manager. The DCO goes back to the **Draft Changes** activity.
5. The Express ECO enters the **FinalReview** activity assigned to the **CCB**. All the CCB members must conduct the final review of the DCO and vote the same decision of either:
 1. **Approve** if the DCO process is completed and does not require any further reworking. The DCO goes to the **Close Change** activity.
 2. **Reject** if the DCO needs any further reworking. The DCO goes back to the **Draft Changes** activity.
6. Once the DCO enters the **Close Change** activity, it becomes **Released**. Each Document is automatically released and versioned accordingly.

The following table shows the DCO lifecycle and workflow in terms of Roles and Permissions.

The Express DCO lifecycle and workflow activities with corresponding Roles and Permissions

Life Cycle State	Workflow Activity	Can Add	Get	Update	Delete	Change access	Can be promoted	Update response
New	Start, Planning	World	Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, Creator	Administrators, Owner, Creator	Administrators	Yes	Creator
Cancelled	Cancel Change		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Administrators		Administrators	No, a final state	
In Work	Draft Changes		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators	Yes	Team Member
In Review	Initial Review, Final Review		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Team Manager, Team Member, Administrators, Owner, All Employees	Administrators	Administrators	Yes	CCB
Released	Closed Change		Team Manager, Team Member, Administrators, Owner, All Employees, Creator	Administrators		Administrators	No, a final state	



Creating a DCO

Because a DCO can be used to release, change, revise, or obsolete Affected Documents, the DCO creating process can be conventionally divided into general and specific procedures. This section defines the general steps you should use for creating a DCO. The specific procedures are outlined in sections Releasing a Document within a DCO, Replacing a Document within a DCO, Revising Documents within a DCO, and Obsoleting a Document within a DCO.

To create a DCO:

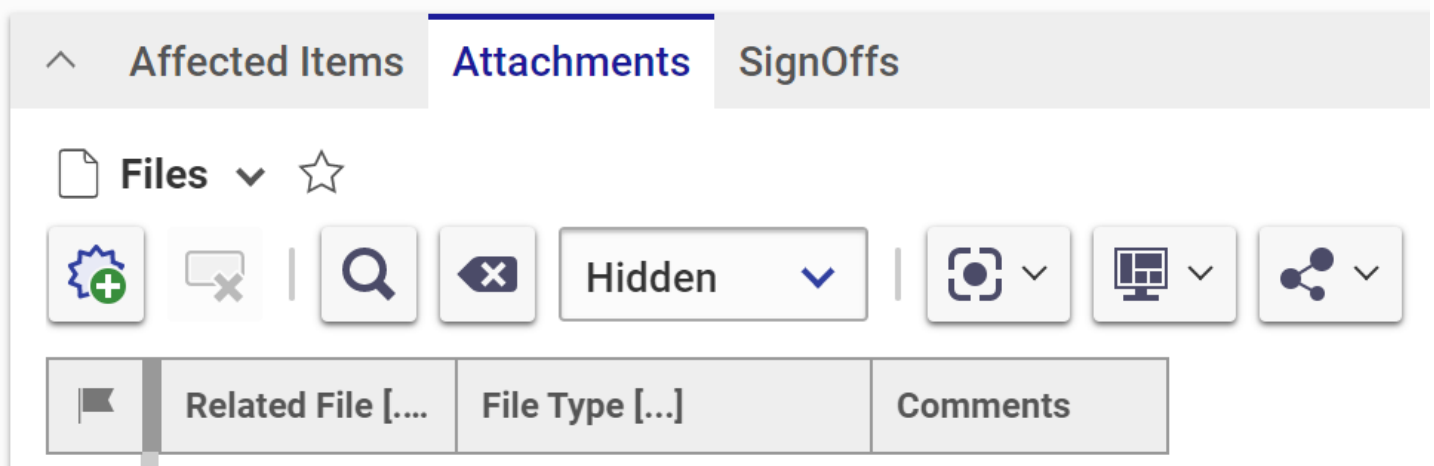
1. Go to **Contents** → **Change Management** → **DCOs**.
2. Click **Create New DCO**. The view of a new DCO appears.

The screenshot shows the 'DCO 1' creation interface. At the top, there are three buttons: 'Save' (with a download icon), 'Done' (with a checkmark icon), and 'Delete'. Below these is a tab bar with 'DCO' selected. The form contains several fields: 'Number' (with a dropdown showing 'Server Assigned'), 'Title' (a yellow text box), 'Change Reason' (a large text area), 'Priority' (radio buttons for '1 - High', '2 - Normal', and '3 - Low'), 'Change Coordinator' (a dropdown showing 'Innovator Admin'), 'Team' (a dropdown showing 'Product Team'), and 'Release Date' (a date picker). There is also a 'Change Description' field and a dashed box for a signature. At the bottom, there is a tab bar with 'Affected Items', 'Attachments', and 'SignOffs'. The 'Affected Items' tab is active, showing a list of affected items with columns: Type [...], Action, Old Number [...], Old Revision, Interchangeable, New Number [...], New Revision, In Build, and In Service. Above the list are various icons for adding, deleting, searching, and other actions.

3. Enter the DCO title in the **Title** text box.
4. Describe the reason for the change in the **ChangeReason** text box.
5. If it is necessary to set the Change Coordinator other than you:



1. Click the **ellipses** button In the **Change Coordinator** box. The **Search dialog – Identity** appears.
2. Search for and select an Identity.
6. If it is necessary to set a Team other than the default:
 1. Click the **ellipses** button In the **Team** box. The **Search dialog – Team** appears.
 2. Using the standard search procedure, search for and select a Team. The selected Team replaces the default identity.
7. Describe the change in the **ChangeDescription** text box.
8. Specify change priority using the **Priority** radio button: **1 – High**, **2 – Normal**, or **3 – Low**.
9. Keep the **ReleaseDate** box blank. This box is automatically filled with the date on which the Express ECO is approved and closed.
10. If the DCO should release Documents, use the procedure described in the section Releasing a Document within a DCO.
11. If the DCO should change Documents, use the procedure described in the section Replacing a Document within a DCO.
12. If the DCO should revise Documents, use the procedure described in the section Revising Documents within a DCO.
13. If the DCO should obsolete Documents, use the procedure described in the section Obsoleting a Document within a DCO.
14. Go to the **Attachments** accordion tab to attach all the files concerning this DCO.



15. Click **Create Item** on the **Attachments** accordion toolbar. The standard operating system dialog for file browsing and selection appears.
16. Search for and select a file. A new row appears in the **Files** grid with the file attached.

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Affected Items

Attachments

SignOffs

Files

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Important

Aras Innovator will automatically provide a file type to the **File Type** cell depending on the File's extension when you save the DCO.

17. If it is necessary to provide additional information on the File, enter it in the **Comments** cell.
18. Click **Done** on the **DCO** toolbar. The DCO is created and awaits to be either submitted or cancelled as defined in the section Voting on a DCO.

DCO-00001001
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Edit
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🌐
⋮

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DCO

Number	Title
DCO-00001001	Jet Whistle Turbo Thrust Enhancement

Change Reason

The Jet Whistle should be heard on Mars.

Priority

☐ 1 - High
 ☐ 2 - Normal
 ☐ 3 - Low

Change Coordinator

Innovator Admin

Team

Product Team

Change Description

Adding more power to Turbo Thrust

New

Release Date

Releasing a Document within a DCO

Because a DCO can be used to release, change, or obsolete Affected Documents, the DCO creating process can be conventionally divided into general and specific procedures. This section defines the steps for releasing affected Documents with a DCO.

To assign an affected Document in the **Preliminary** state for release:

1. Open the **DCO**.
2. Click **Edit** on the DCO toolbar.
3. Go to the **Affected Items** accordion tab.
4. Click **Create Item** on the **Affected Items** accordion toolbar. A new row appears at the bottom of the **Affected Items** grid.



^ Affected Items Attachments SignOffs

Affected Items ☆

Hidden ▾
 ▾
 ▾
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▢	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service

5. Select **Add** in the **Action** cell.

Action

Add ▾

Add

Change

Delete

6. Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
7. Search for and select the new affected Document. The affected Document populates the **NewNumber** cell.

^ Affected Items Attachments SignOffs

Affected Items ☆

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▢	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
						CPAD-0101			

8. Click **Save** or **Done** on the **DCO** toolbar. The DCO has an Affected Document in the **Preliminary** state assigned for release.

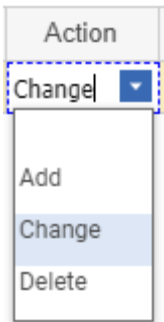
Affected Items Attachments SignOffs									
Affected Items									
Hidden									
	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
	Add				☐	CPAD-0101	A		

Replacing a Document within a DCO

The DCO **Change** Action for a Document does not modify the contents of the Document or attached files; it informs users that the old, **Superseded**, Document should no longer be used, and a new document is available.

Use the following procedure to assign an existing affected Document to be changed:

1. Follow steps 1-4 of the Adding a Document within a DCO procedure.
2. Select **Change** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
4. Search for and select the affected Document to be changed. The selected Document populates the **OldNumber** cell.

	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child Part A Substitute		☐				

5. Leave the **Interchangeable** cell check box blank.



- Click the **ellipsis** button in the **NewNumber** cell. The **Search dialog – Change Controlled Item** appears.
- Search for and select the new Affected Document. The new affected Document populates the **NewNumber** cell.

	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Change	Child Part A Substitute		☐	Child Part A Substitute 2			

- Click **Save** two times on the **DCO** toolbar.
- Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
- Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

^
Affected Items
Attachments
SignOffs


Affected Items
☆





Hidden
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▼

	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
			CPAD-0103	A	☐	CPAD-0101	A	Rework	Use Existing

- Click **Save** or **Done** on the **DCO** toolbar. The DCO has an Affected Document assigned for changing.

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Affected Items
Attachments
SignOffs


Affected Items
☆





Hidden
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	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
			CPAD-0103	A	☐	CPAD-0101	A	Rework	Use Existing

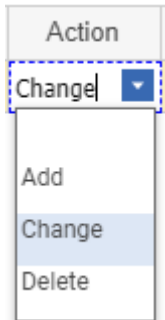
Revising Documents within a DCO

A released Document cannot be changed. A DCO can be issued to increment the revision to the next level and reset the lifecycle back to the preliminary state, allowing modifications. This controls who and when can make edits to a new revision of a Document.



Use the following procedure to assign an existing affected Document to be revised:

1. Follow steps 1-4 of the Adding a Document within a DCO procedure.
2. Select **Change** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.
4. Search for and select the affected Document to be revised and updated. The selected Document populates the **Old Number** cell.

A screenshot of the 'Affected Items' section in a software application. At the top, there are tabs for 'Affected Items', 'Attachments', and 'SignOffs'. Below the tabs is a toolbar with various icons: a gear, a red X, a magnifying glass, a document with an X, a 'Hidden' dropdown, a camera icon, a monitor icon, and a share icon. Below the toolbar is a table with the following columns: Type, Action, Old Number [...], Old Revision, Interchangeable, New Number [...], New Revision, In Build, and In Service. The first row of data shows 'Change' in the Action column and 'MP0138' in the Old Number column. The Interchangeable column has a checkbox that is currently unchecked.

Affected Items								
Affected Items								
Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
	Change	MP0138		☐				

5. Select the **Interchangeable** cell check box.
6. Click **Save** two times on the **DCO** toolbar.
7. Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
8. Select the action to take on the Items that are currently in service in the **In Service** field: **Use Existing**, **Rework**, or **Scrap**.



Affected Items Attachments SignOffs									
Affected Items ☆ [Icons: Gear, Red X, Magnifying Glass, X, Hidden dropdown, Camera, Monitor, Share]									
Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service	
	Change	MP0138	A	☒			Rework	Use Existing	

9. Click **Save** or **Done** on the **DCO** toolbar. The DCO has an Affected Document assigned for revising.

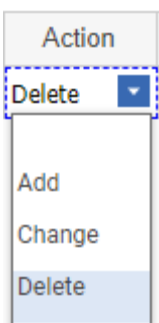
Affected Items Attachments SignOffs									
Affected Items ☆ [Icons: Gear, Red X, Magnifying Glass, X, Hidden dropdown, Camera, Monitor, Share]									
Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service	
	Change	MP0138	A	☒			Rework	Use Existing	

Obsoleting a Document within a DCO

The DCO **Delete** Action for a Document does not delete the Document or its attached files; it informs users that this Document is **Obsolete** and should no longer be used.

Use the following procedure to assign an existing Affected Document to be:

1. Follow steps 1-4 of the Adding a Document within a DCO procedure.
2. Select **Delete** in the **Action** cell.



3. Click the **ellipsis** button in the **Old Number** cell. The **Search dialog – Change Controlled Item** appears.



- Search for and select the affected Document to be deleted. The selected affected Document populates the **Old Number** cell.

Affected Items Attachments SignOffs									
Affected Items ☆									
    Hidden ▾  ▾  ▾  ▾									
	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	CPAD-0102		☐				

- Click **Save** two times on the **DCO** toolbar.
- Select the action to take on the Items that are being built in the **In Build** cell: **Use Existing**, **Rework**, or **Scrap**.
- Select the action to take on the Items that are currently in service in the **In Service** cell: **Use Existing**, **Rework**, or **Scrap**.

Affected Items Attachments SignOffs									
Affected Items ☆									
    Hidden ▾  ▾  ▾  ▾									
	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	CPAD-0102		☐			Rework	Use Existing

- Click **Save** or **Done** on the **DCO** toolbar. The DCO has an affected Document assigned for deleting.

Affected Items Attachments SignOffs									
Affected Items ☆									
    Hidden ▾  ▾  ▾  ▾									
	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Delete	CPAD-0102	A	☐			Rework	Use Existing

Removing a Document from a DCO

To remove a Document from a DCO so that it is not processed:



1. Follow steps 1-3 of the Adding a Document within a DCO procedure.
2. Click the **Document** and then click **Delete Row** on the **Affected Items** accordion toolbar. The **Document** becomes unavailable.

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Affected Items
Attachments
SignOffs

Affected Items
☆

Hidden

	Type	Action	Old Number [...]	Old Revision	Interchangeable	New Number [...]	New Revision	In Build	In Service
		Add			☐	CPAD-0101	A		

3. Click **Save** or **Done** on the DCO toolbar. The **Document** disappears from the grid.

Important

The **Document** disappears immediately if the DCO was not saved after it was added.

Voting on a DCO

Use the following procedure:

1. Go to **Contents** → **My Innovator** → **My InBasket** → **Search My InBasket**.
2. Double-click on the Workflow Task to open the **Workflow Activity Completion** dialog for the DCO.





Workflow Activity Completion

Workflow: DCO-00001006

Activity: Planning

Tasks				
Sequence	Required	Description	Complete	
1	☐	Fill out the change form and assign the affected document	☒	
2	☐	Perform impact analysis and include any other affected docume...	☒	
3	☐	Define change actions	☒	

Vote	
Vote:	Submit to Authors Cancel Delegate Refuse
Comments:	Delegate to:

Authentication	
Password:	
E-Signature:	

Complete

Save Changes

Cancel

3. Mark the tasks you completed in the **Tasks** field.
4. Select the option per your decision in the **Vote** list.
5. Click **Complete**.

The DCO enters the **next** activity as defined in the DCO workflow.

Viewing and Processing DCO Signoff Activities

From the DCO view, you can review the current and previous Activities assigned for the DCO. You can also vote within an Activity if you have rights.

Use the following procedure:



1. Open the DCO.
2. Go to the **Sign Offs** accordion tab.

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Affected Items
Attachments
SignOffs




Workflow History Report

Item: DCO-00001005
Express DCO Workflow
Current Status is: Closed

Started By: Innovator Admin
Started On: 7/19/2021 4:04:02 PM
Completed On: 7/19/2021 4:13:07 PM

Activity	State	Assigned To	Completed By	How Voted	When	Comments
Planning	Closed	Innovator Admin	Innovator Admin	Submit to Authors	7/19/2021 4:04:41 PM	
Draft Changes	Closed	Innovator Admin	Innovator Admin	Complete	7/19/2021 4:05:01 PM	
Initial Review	Closed	Innovator Admin	Innovator Admin	VOTE NOW		

3. Click the **VOTE NOW** link. The **Workflow Activity Completion** dialog for the DCO Activity appears.
4. Use steps 3-5 of the **Voting on a DCO** procedure.

Processing Documents within a DCO

This section describes revising a released Document as an example of processing Documents within an Express ECO.

To process Documents, follow the Express DCO workflow as explained in section Understanding the Express DCO Process and notice how the state of Documents is changing:

1. **Submit the DCO** to the **Draft Changes** activity. The old Document version is in the **In Change** state and has **Changes Pending** check mark set automatically to indicate that this Document is under a change process.



 **MP0138**  

 Edit













CAD Document

Document Number	Revision	State	Assigned Creator
MP0138	B	In Change	

Name	Designated User
Type K Thermocouple	

Type	Authoring Tool	Version	From Template
Part	SolidWorks	sw2014	

Description

☒ Changes Pending

☐ Standard

☐ Template

Part
[See tab](#)

Native File

 [MP0138.SLDPRT](#)

Viewable File

 [MP0138.pdf](#)

The DCO has a link to the original and new major revisions of the Document.



^ DCO

Number

DCO-00001005

Title

Revising documents

Change Reason

Change Coordinator

Innovator Admin

Team

Product Team

Change Description

Revising documents

Priority

☐ 1 - High

☐ 2 - Normal

☐ 3 - Low

Release Date

In Review

^ Affected Items Attachments SignOffs

Affected Items

Hidden

	Ty...	Action	Old Number [...]	Old Rev...	Interchang...	New Number ...	New Rev...	In Build	In Service
		Change	MP0138	A	☒	MP0138	B		

The new major revision of the Document is in the **Preliminary** state and has **Changes Pending** check mark set automatically to indicate that this Document is under a change process.

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CAD Document

Document Number
MP0138
Revision
B
State
In Review

Assigned Creator

Name
Type K Thermocouple

Designated User

Type
Part
Authoring Tool
SolidWorks
Version
sw2014

From Template

Description

☒ Changes Pending
☐ Standard
☐ Template

Part

Native File
 [MP0138.SLDPRT](#)

Viewable File
 [MP0138.pdf](#)

- The **Initial Review** activity. The Affected Document is set to the **In Review** state and is not allowed to be edited.

^
CAD Document

Document Number
MP0138
Revision
B
State
In Review

Assigned Creator

Name
Type K Thermocouple

Designated User

Type
Part
Authoring Tool
SolidWorks
Version
sw2014

From Template

Description

☒ Changes Pending
☐ Standard
☐ Template

Part

Native File
 [MP0138.SLDPRT](#)

Viewable File
 [MP0138.pdf](#)



3. The **FinalReview** activity. The Affected Document is still in the **In Review** state and is not allowed to be edited.
4. **Close Change**. The DCO is **Released**.

DCO-00001005
☆
🚩

Edit
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⋮

^
DCO

Number
DCO-00001005

Title
Revising documents

Change Reason

Priority
☐ 1 - High
☐ 2 - Normal
☐ 3 - Low

Change Coordinator
[Innovator Admin](#)

Team
[Product Team](#)

Release Date
7/19/2021

Change Description
Revising documents

Released

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Affected Items
Attachments
SignOffs
⚙️
✖
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🔍
Hidden
🔍
🖨
🔗

5. The newly revised Document is **Released** at the new major Revision.



 **MP0138**  

 **Edit**













^ **CAD Document**

Document Number	Revision	State
MP0138	B	Released

Name

Type K Thermocouple

Type	Authoring Tool	Version
Part	SolidWorks	sw2014

Description

Assigned Creator

Designated User

From Template

- ☐ Changes Pending
- ☐ Standard
- ☐ Template

Part



Native File

 [MP0138.SLDPRT](#)

Viewable File

 [MP0138.pdf](#)

