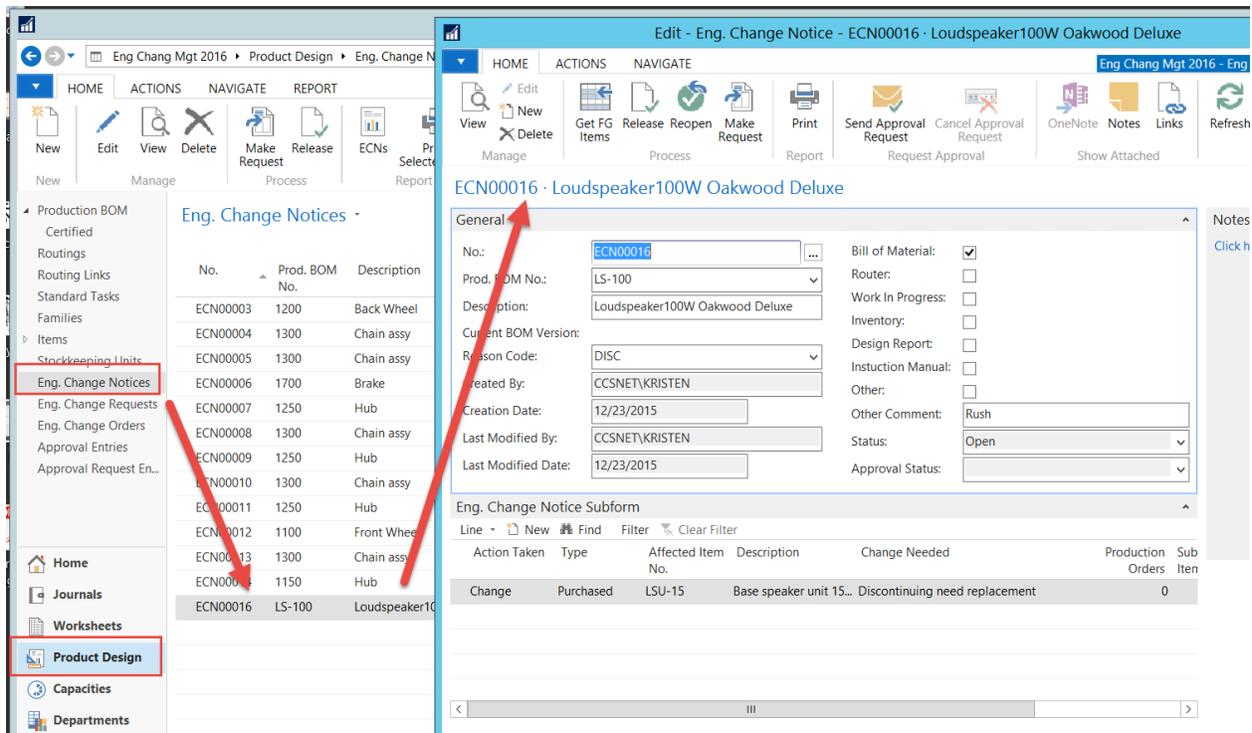


# Workflow Guide for Engineering Change Management

For Microsoft Dynamics NAV

Granule ID: 14004800



Produced and Distributed by:

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# Application Description

## Objectives

**Engineering Change Management brings to Dynamics NAV the ability to:**

1. Notify the departments that a Change is needed.
2. Send a Request for the Change.
3. Execute the Change in the “proposed” BOM. (From BOM Versions)

This is a three step process, but depending on the needs of your organization it can be done in as little as 1 Step, with or without approvals required.

**Step 1: Initiate a Change Notice.** This means that anyone in the organization can “notice” that a change is needed to a Bill of Materials. An initial document is created to notify management that a potential improvement could be made to a BOM.

**Step 2: Change Requests:** You can start here, or move the initial Notice into a Request. Various department heads can be assigned to review the proposed change and approve the change.

**Step 3: Change Order:** Start here, or move the Request to an Order. This authorizes a change to the Bill of Materials. The affected items will all be listed on the ECO and the requested adjustments to the master Bill of Materials can now be made. (Edit the BOM or create a new BOM Version depending on your Microsoft License access.)

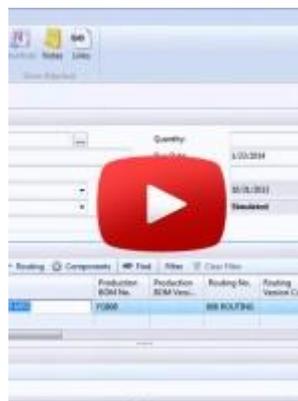
Since “Documenting” your process is so critical for history and future analysis, this Granule keeps complete history of every step. Upon making a Notice into a Request, a copy of the original Notice is sent to Notices History. This will make it very easy to look back and see all the associated Notices, Requests, and Changes that have taken place.

## Key Features

- Written in and developed for Dynamics NAV
- Control your Bill of Material Changes
- Works with base NAV Mfg or “Mfg Plus”
- Specify the reason why a BOM needs to be changed
- Full integration to Document Approval
- History kept on each step of the ECM process
- Integrates with Prod BOM and Versions

## Benefits:

- Organize your Changes in a logical fashion
- Document who approved the changes
- Document the reason for the change in the comments
- Always see the “Status” of each Step.
- Track the Creation, Modification, and Implementation Date
- Easily change the Status of Notices, Requests, and Orders
- Keep complete history of the approval process.



[Login to View ECM Training Video Here:](#)

# ECM Workflow

## Objectives

Actively participating during this chapter helps you:

- Learn how to use this application on a daily basis
- Test the daily workflow for your users.

## Introduction

This chapter will cover the daily operation of this application.

## Operation

This is a three step process, but depending on the needs of your organization it can be done in as little as 1 Step, with or without approvals required.

**Step 1: Initiate a Change Notice.** This means that anyone in the organization can “notice” that a change is needed to a Bill of Materials. An initial document is created to notify management that a potential improvement could be made to a BOM.

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## Step by Step Guide

**Step 1: Initiate a Change Notice.** This means that anyone in the organization can “notice” that a change is needed to a Bill of Materials. An initial document is created to notify management that a potential improvement could be made to a BOM.

The screenshot shows the Microsoft Dynamics NAV interface. The breadcrumb path is: **Departments > Eng. Change Management > Eng. Change > Eng. Change Notices**. The ribbon includes buttons for **New**, **Edit**, **View**, **Delete**, **Comments**, **Release**, **Print Selected ECN**, **Show as List**, **Show as Chart**, **OneNote**, **Notes**, **Links**, **Refresh**, **Clear Filter**, and **Find**. The **New** button is highlighted in red. A red arrow points from the **New** button to the **New - Eng. Change Notice - 4000 - Bicycle** window. In this window, the **Proposed BOM Version** field is highlighted in red.

No.	Multi BO...	Prod. BOM No.	Des...
ECN00001	<input type="checkbox"/>	1300	Chai...
ECN00002	<input type="checkbox"/>	1000	Bicy...
4000	<input type="checkbox"/>		

**4000 - Bicycle**

**General**

No.: 4000  
 Multi BOM Mode:   
 Description: Bicycle  
 Reason Code: TECH  
 Created By: CCSNET/RICK  
 Creation Date: 5/1/2016

Last Modified By:   
 Last Modified Date:   
 Header Comment: Better Tubes  
 Status: Open  
 Approval Status:   
 Show more fields

**Single-BOM Change Worksheet**

Prod. BOM No.: 1000  
 Description: Bicycle  
 Proposed BOM Version:   
 Eng. Change Notice Subform

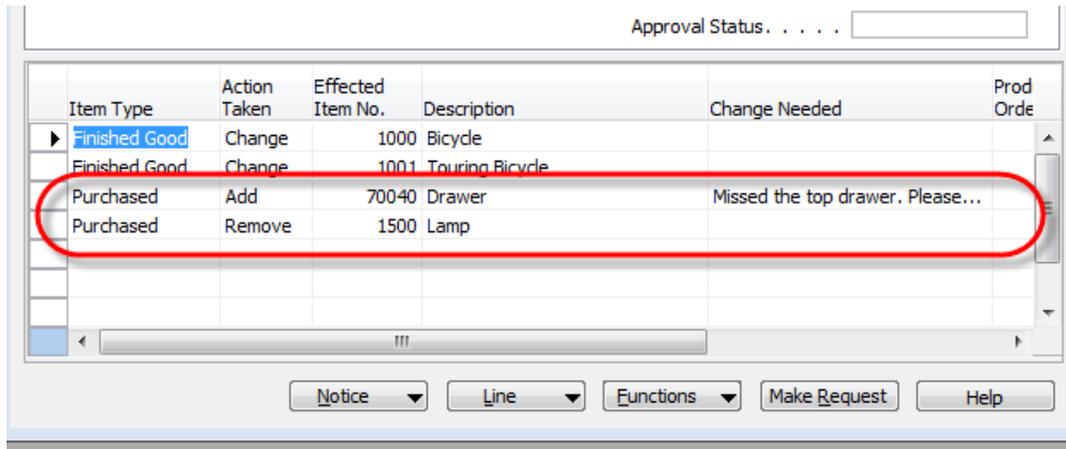
The above “Notice” is related to Production BOM #1000. The same BOM may be used on multiple Finished Goods. Use the built in function to “find” all affected BOMs.

Eng. Change Notice Subform

Line	Action Taken	Type	Affected Item No.	Description	Change Needed	Production Orders	Sub Item
	Change	Purchased	1310	Chain	Need new vendor out of stock	0	0
	Change	Finished Good	1300	Chain Assy		0	0

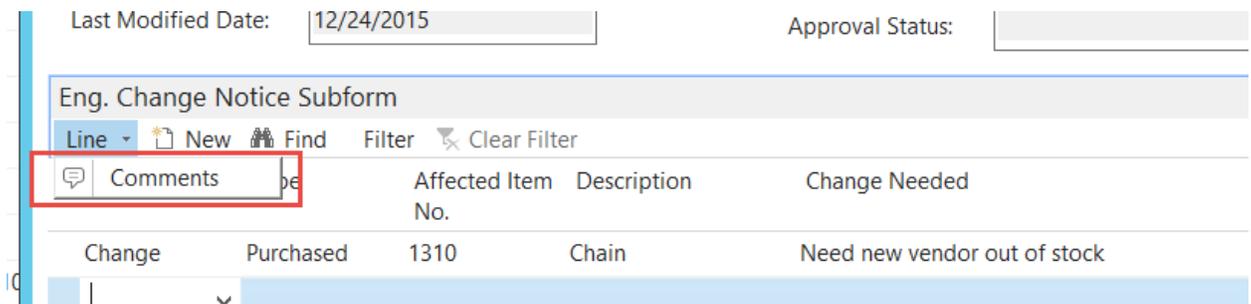
In the above example, only 1 FG used this BOM.

Now the “Notice” is well on its way. Add Lines for the Component Items that are affected.

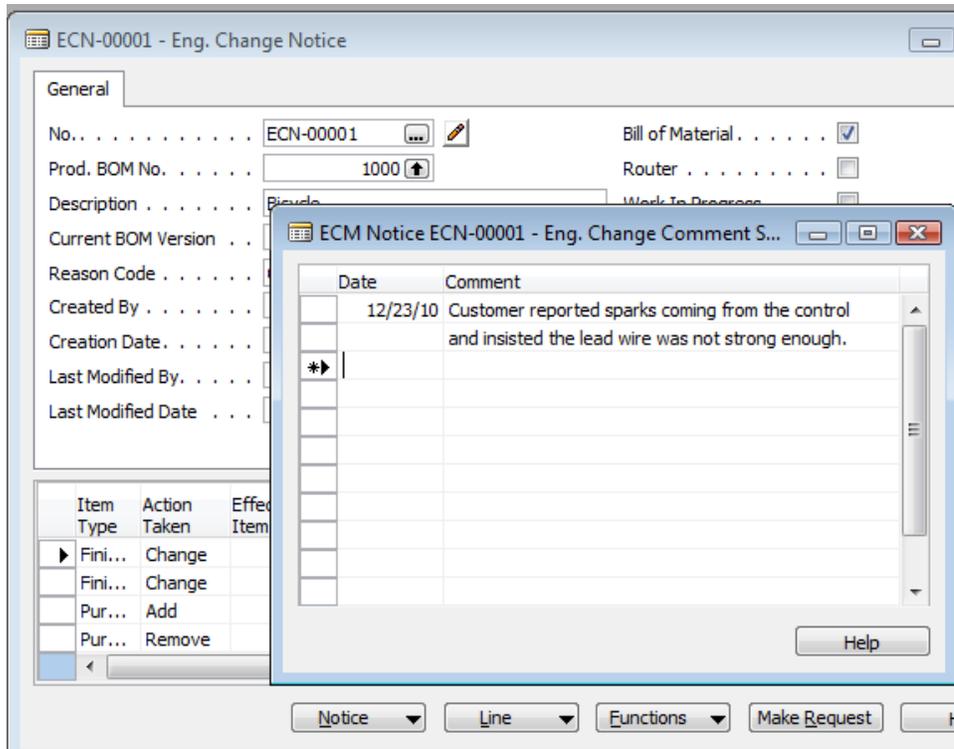


You are basically making recommendation as to “Add”, “Remove”, or “Change” items on the current BOM Version. (IE: Version #11)

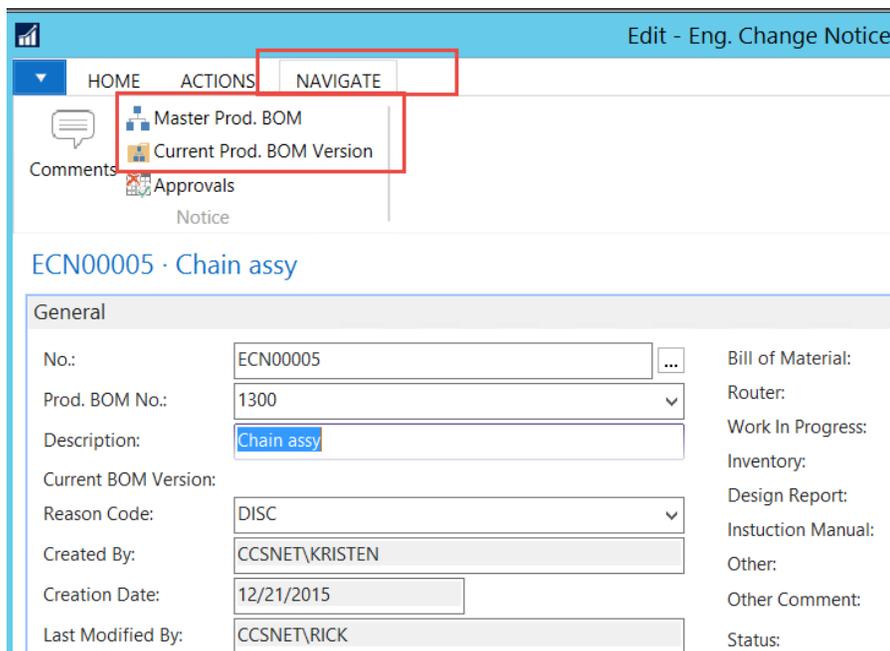
ECM fully supports “Line Comments” to give you lots of room to document the reason or what you have noticed on the target BOM.



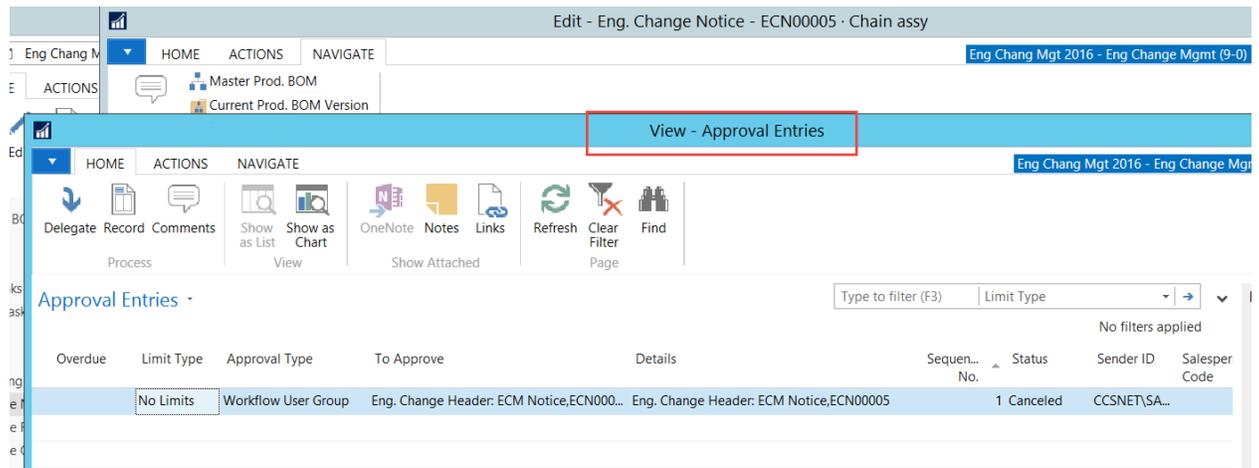
Comments are also available on the Document Header.



You can gain quick access to the Master BOM and BOM Version from “Notice”.



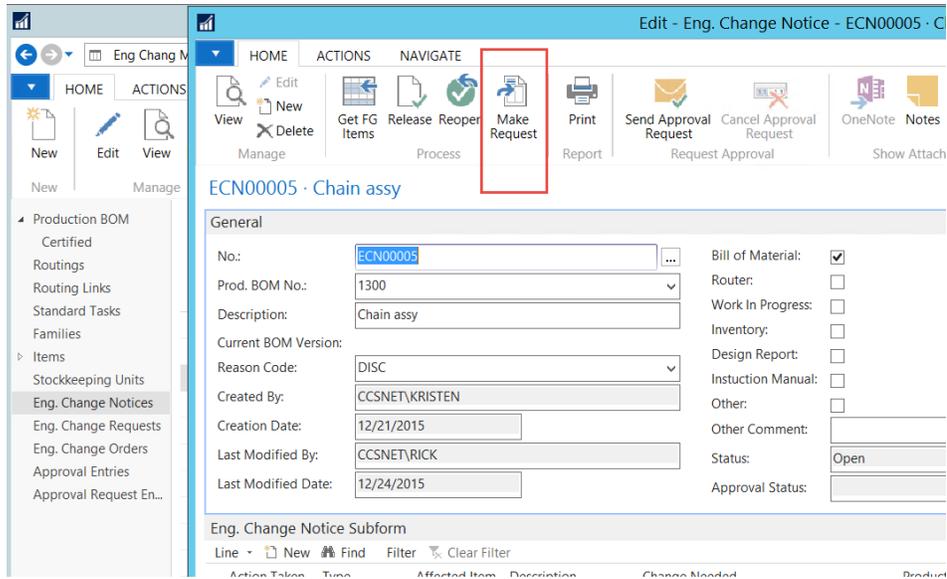
The standard NAV Document Approval system is used for approvals of Notices, Requests, and Change Orders. (See ECM Approval Workflow)



The Document Approval can be skipped, if you do not want to activate the approval workflow, just “Release” the document.

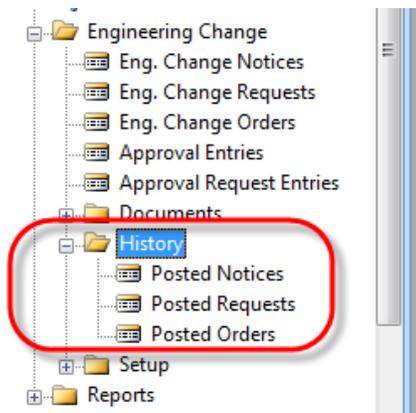
**Step 2: Make “Notice” into “Request”.** This means that the Notice has been deemed worthy of requesting a change. So, its importance has been increased to “Request”. Potentially different approvers need to be assigned before it can become a Change Order.

To change the status of a Notice to a “Request”, use the “Make Request” button.

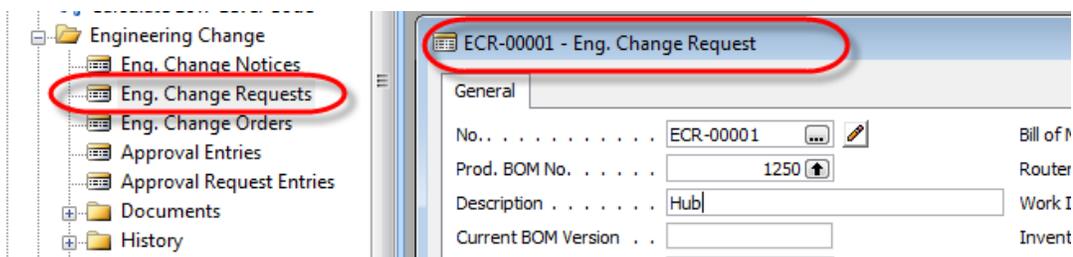


Upon “Make Request”:

1. Copy of original is placed in History.

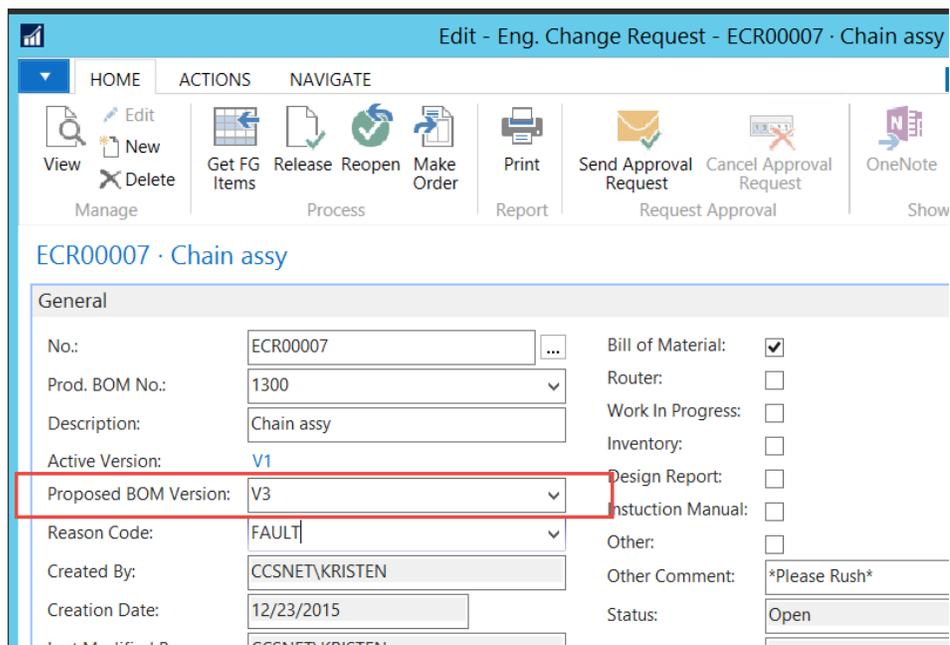


2. "Engineering Change Request" is created.



### The Proposed BOM Version – Very Important.

**This step is the key to the whole ECM process.** The Engineers have designed and are "proposing" a new Version (IE: Version 2). It has not been certified yet, it is just "New". The Engineers are seeking approval to this Version that has been added (manually) in the Production BOM Management section.



Note: The Proposed BOM Version has NOT been approved or certified until the "Approvers" say it is ok to make this the new active version.

**Step 3: Make "Request" into "Engineering Change Order".** This means that the Request has passed all approvers and now final approval needs to be given. It is now time to create a "proposed" BOM Version for this Change Order. (This process may have been done in Step #2 already)

The ECO references the "Proposed" new Version of the BOM. The proposed Version is left "Under Development" or "New" until the ECO is approved and "Posted". Upon "Posting", the proposed new version is automatically changed to "Certified" and now becomes the "Active Version".

**Now "Proposed Ver" becomes "Certified"**

ECO00006 · Chain assy

General

No.: ECO00006 Effective Date: 2/1/2016

Prod. BOM No.: 1300 Bill of Material:

Description: Chain assy Router:

Active Version: V1 Work In Progress:

Proposed BOM Version: V3 Inventory:

Reason Code: FAULT Design Report:

Created By: CCSNET\KRISTEN Instu Manual:

Creation Date: 12/23/2015 Other:

Last Modified By: CCSNET\SAM Other Comment: Rush Please

Last Modified Date: 12/23/2015 Approval Status:

When to implement: Effective Date Status: Open

Eng. Change Order Subform

Line	Action Taken	Type	Affected Item No.	Description	Change Needed	Producti Ord
	Change	Purchased	1310	Chain	Replace defective chain	

**Note:** All features are available at all levels: Approval or No Approval, Header Comments, Line Comments, History, Printing the document, etc.

Print Preview

---

Eng. Change Order

1 of 1 | 100%
Find | Next



CRONUS USA, Inc.  
7122 South Ashford Street  
Westminster  
Atlanta, 31772

**Engineering Change Order**

*Rush Please*

**Production BOM No.**  
**Description**  
**Current BOM Version**

**No .**    **ECO00006**

Page: 1  
**1300**  
**Chain assy**  
**V1**

Date Created	Created By:	Reason for Change	Status
12/23/2015	CCSNETKRISTEN	FAULT	Open

Item Type	Action Taken	Effected Item No. Substitutue Item No.	Description Substitute Description	Change Needed
Purchased	Change	1310	Chain	Replace defective chain

Web Site:
Phone: 0666-666-6666
Fax: 0666-666-6660

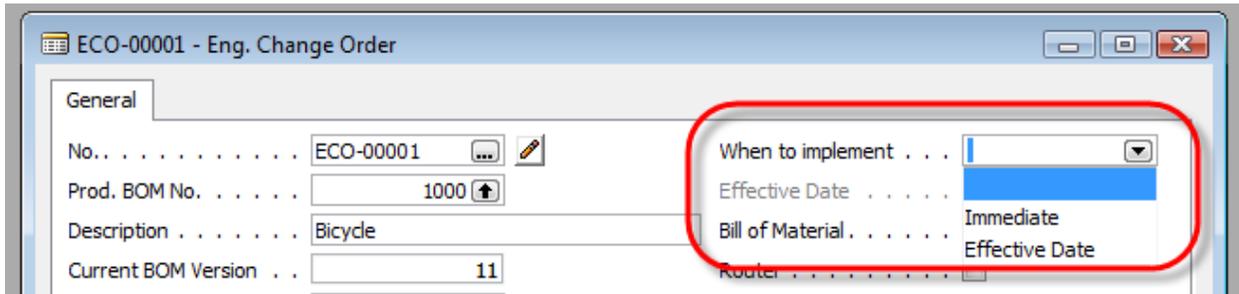
**Impact of Change:**

	Yes	No
Bill of Material	Yes	No
Router	No	No
Work in Progress	No	No
Inventory	No	No
Design Report	No	No
Instruction Manual	No	No
Other	No	No

**Rush Please**

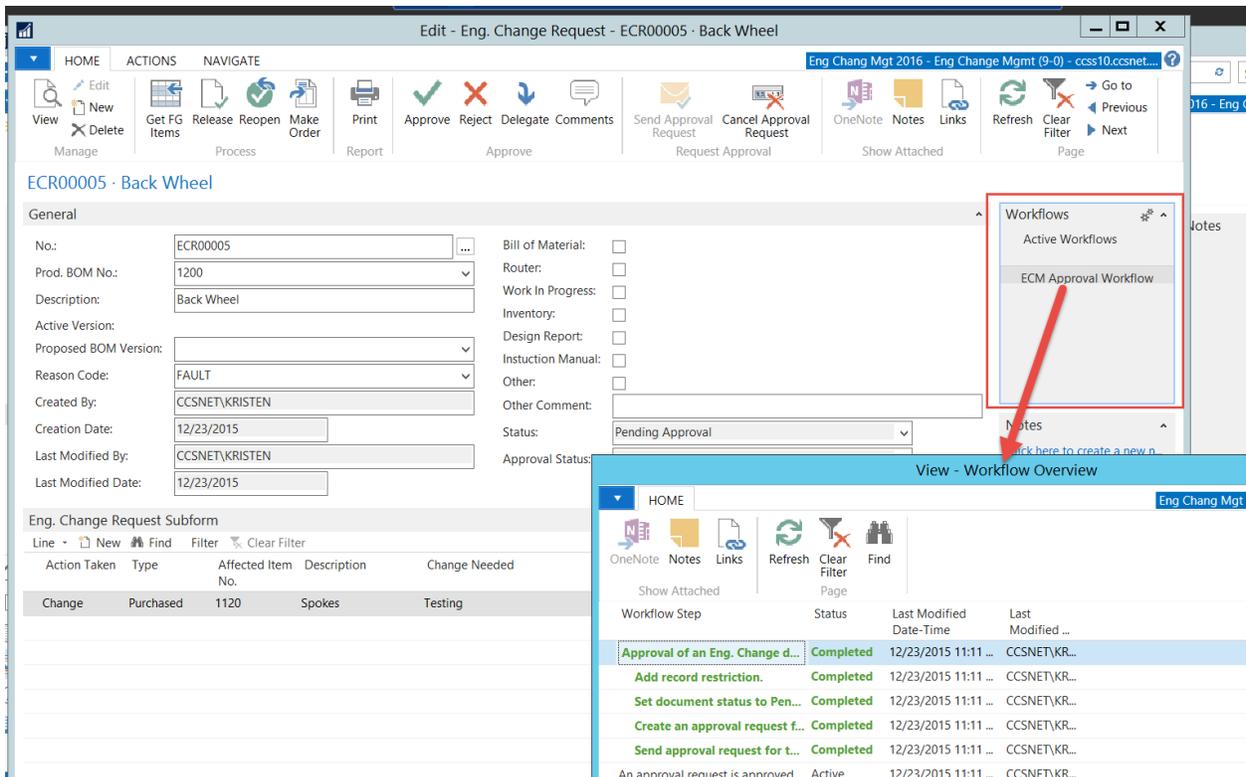
## Final Comments:

1. The ECO can have a delayed implementation. You assign the time to implement the change on the header of the ECO.



2. The NAV 2016+ Version now uses the new “Workflow Feature” for Document Approval.

We recommend you contact your NAV Consultant for assistance on this new feature. (Yes, we can help too.)



## ECM Approval Workflow

### 1. Set Up Approval Users Dept>Admn>Aplctn Setup>Workflow>Approval User Setup

User ID	Salespers./... Code	Approver ID	Sales Amoun...	Unli... Sale...	Purchase Amoun...	Unli... Purc...	Request Amoun...	Unli... Req...	Substitute	E-Mail
CCSNET\CAROLYN				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		carolyn@costcontrolsoftware.com
CCSNET\KRISTEN		CCSNET\RICK		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		kristen@costcontrolsoftware.com
CCSNET\RICK		CCSNET\SAM		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		rick.baxter@costcontrolsoftware.com
CCSNET\SAM				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		sam@costcontrolsoftware.com
CCSNET\DOUG				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		doug@costcontrolsoftware.com

### 2. Set up Workflow Users Dept>Admn>Aplctn Setup>Workflow> Workflow User Groups

- Sequence No. 1 / 1 – Both receive approval at same time
- Sequence No. 1 / 2 – Rick receives first after he approves, Sam receives

User Name	Sequence No.
CCSNET\RICK	1
CCSNET\SAM	2

### 3. Start Job Queue

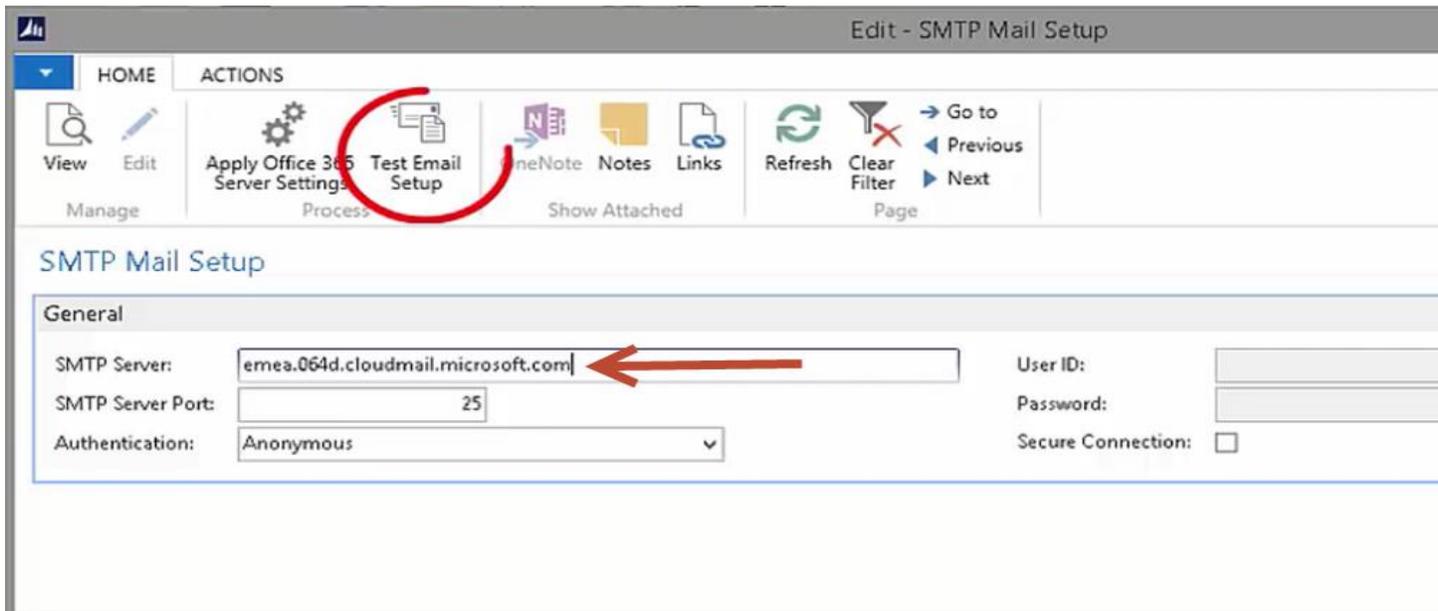
Dept>Admn>Aplctn Setup>Job Queue> Job Queues

(Either by pressing 'Start Job Queue' or by checking 'Start Automatically' From NAS)

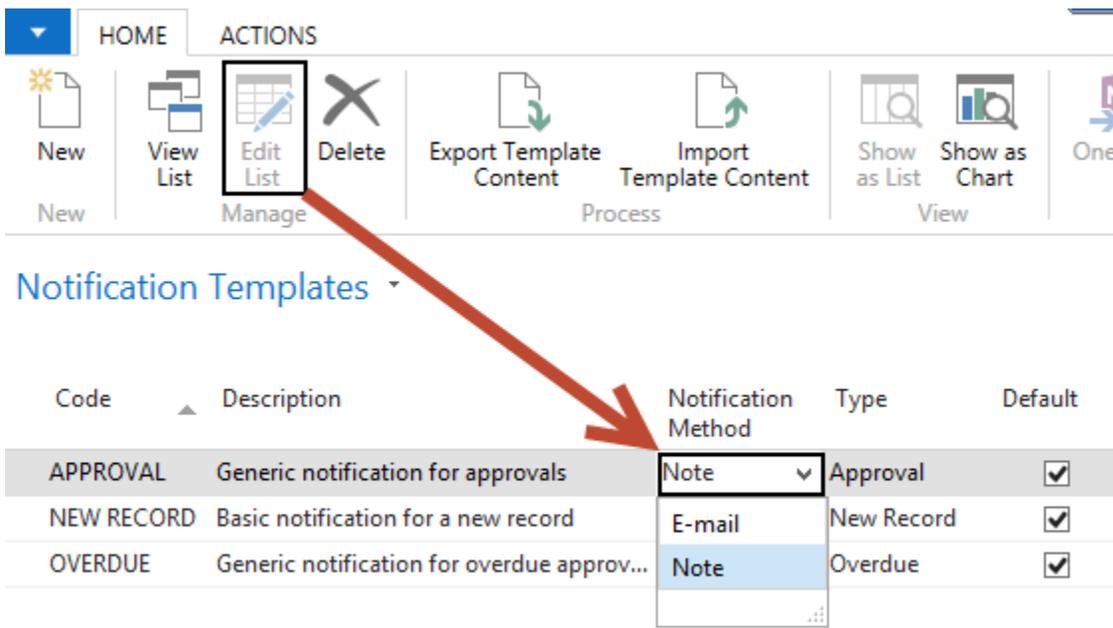
The screenshot shows a web interface for managing job queues. At the top, there is a navigation bar with 'HOME' and 'ACTIONS' tabs. Under 'ACTIONS', there are several icons: 'View', 'Edit', 'New', 'Delete', 'Start Job Queue' (highlighted with a red box), 'Stop Job Queue', 'OneNote', 'Notes', 'Links', 'Refresh', 'Clear Filter', 'Go to', 'Previous', and 'Next'. Below the navigation bar, there is a 'DEFAULT' section with a 'General' tab. The 'General' section contains several fields: 'Code' (DEFAULT), 'Description' (Default Job Queue), 'Job Queue Category Filter' (empty), 'Started' (checked, with a red arrow pointing to it), and 'Last Heartbeat' (12/15/2015 4:35 PM). To the right of these fields, there are several read-only fields: 'Server Instance ID' (2018), 'Session ID' (5), 'Running as User ID' (CCSNET\KRISTEN), 'Running on Server Computer' (ccss10.ccsnet.local), and 'Running on Server Instance' (dynamicsnav90). Below the 'General' section, there is a 'NAS Settings' section with two fields: 'Start Automatically From NAS' (unchecked) and 'Start on This NAS Instance' (empty).

### 4. Set Up SMTP E-Mail [Optional]

Dept>Admn>IT Admn>Services>SMTP Mail Setup



5. **Set Up Notification Method** Admn>Aplctn Setup>Notifications>Notification Templates



6. **Set up Notification Schedule** Admn>Aplctn Setup>Notifications>Notification Setup

HOME		ACTIONS							
New	View List	Edit List	Delete	Notification Schedule	Show as List	Show as Chart	OneNote	Not	Show Att
Notification Type	Notification Template Code	Non-Aggregated Notifications	Schedule						
New Record	NEW RECORD	<input checked="" type="checkbox"/>	Instantly						
Approval	APPROVAL	<input checked="" type="checkbox"/>	Instantly						
Overdue	OVERDUE	<input checked="" type="checkbox"/>	Daily						

## Approval

Recurrence Pattern

Recurrence:

- Instantly
- Daily
- Weekly
- Monthly

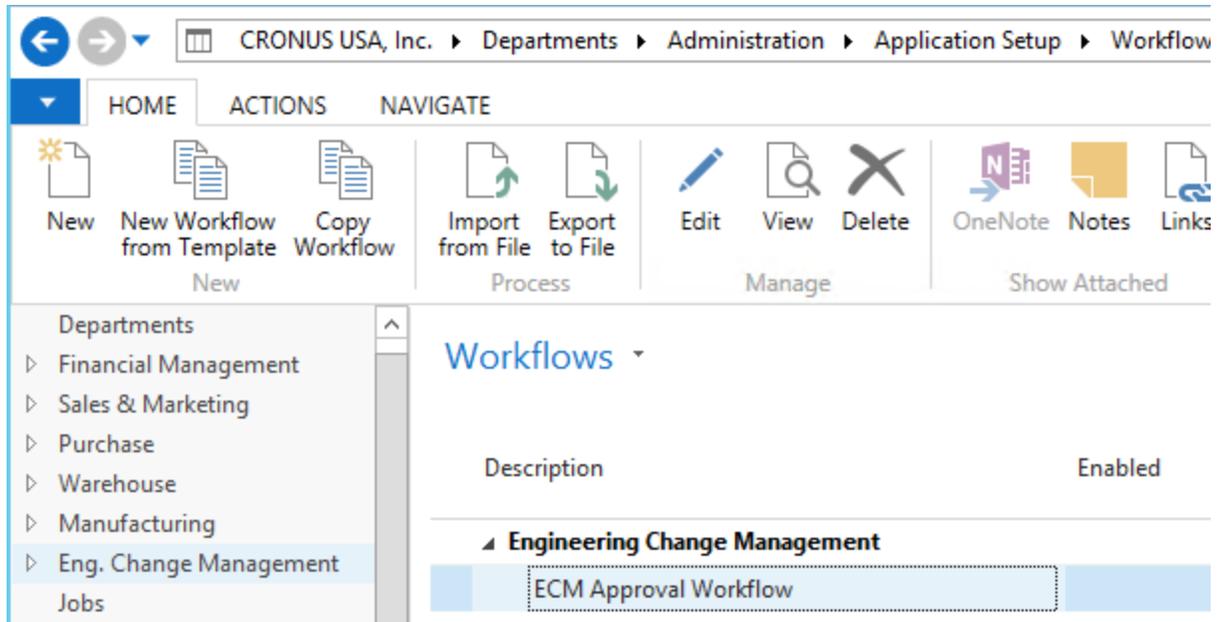
## 7. Import ECM Approval Workflow File

Administration > Application Setup > Workflow > Workflows > Import From File

The screenshot shows the 'Workflows' section of the software. The ribbon includes 'Import from File', 'Export to File', 'Edit', 'View', 'Delete', 'OneNote', 'Notes', 'Links', 'Refresh', 'Clear Filter Page', and 'Find'. The 'Import from File' button is highlighted with a red arrow. Below the ribbon, a file explorer window is open to 'This PC > Documents', showing a table of files:

Name	Date modified	Type	Size
Outlook Files	12/16/2015 9:45 AM	File folder	
ECM Workflow Import	12/24/2015 10:50 ...	XML File	13 KB

After importing, Workflow appears under Engineering Change Management category



## 8. Verify that ECM Setup created the ECM Header line in the **Workflow Table Relations**

Departments>Administration>Application Setup>Workflow>Workflow – Table Relations

CRONUS Test > Departments > Administration > Application Setup > Workflow >

Search (Ctrl+F3)

HOME

Workflow - Table Relations

CRONUS Test - Eng Change Mgmt (9-0) - ccss10.ccsnet.local

Type to filter (F3) | Table ID

No filters applied

Table ID	Table Caption	Field ID	Field Caption	Related Table ID	Related Table Caption	Related Field ID	Related Field Caption
16	Customer	0		454	Approval Entry	22	Record ID to Approve
23	Vendor	0		454	Approval Entry	22	Record ID to Approve
27	Item	0		454	Approval Entry	22	Record ID to Approve
36	Sales Header	0		454	Approval Entry	22	Record ID to Approve
38	Purchase Header	0		454	Approval Entry	22	Record ID to Approve
38	Purchase Header	3	No.	122	Purch. Inv. Header	111	Pre-Assigned No.
38	Purchase Header	165	Incoming Document Entry No.	130	Incoming Document	1	Entry No.
81	Gen. Journal Line	0		454	Approval Entry	22	Record ID to Approve
122	Purch. Inv. Header	3	No.	81	Gen. Journal Line	36	Applies-to Doc. No.
130	Incoming Document	1	Entry No.	38	Purchase Header	165	Incoming Document Entry No.
130	Incoming Document	1	Entry No.	454	Approval Entry	3	Document No.
232	Gen. Journal Batch	0		454	Approval Entry	22	Record ID to Approve
454	Approval Entry	3	Document No.	130	Incoming Document	1	Entry No.
14004781	Eng. Change Header	0		454	Approval Entry	22	Record ID to Approve

## 9. Verify Approver Type under Response Options

Dept>Admn>Aplctn Setup>Workflow>Workflows>ECM Approval Workflow

**1. Highlight line 1**

**2. Press Hot Key**

When Event	On Condition	Then Response
Approval of an Eng. Change docu...	Document Type: ECM Notice ECM Request ECM Order, S...	(+) Add record restriction.
An approval request is approved.	Pending Approvals: 0	(+) Remove record restriction.
An approval request is approved.	Pending Approvals: >0	Send approval request for the record and create a notification.
An approval request is rejected.	<Always>	(+) Reject the approval request for the record and create a notification.
An approval request for an Eng. C...	Document Type: ECM Notice, Status: Pending Approval	(+) Cancel the approval request for the record and create a notification.
An approval request is delegated.	<Always>	Send approval request for the record and create a notification.

-Highlight Line 1 of the Workflow Steps (See 1. Above)

-Press the Hot key to drill into the Response lines (See 2. Above)

-Highlight the "Create an approval request..." line (See 3. Below)

**3. Highlight the "Create an approval request..." line**

Response

- Add record restriction.
- Set document status to Pending Approval.
- Create an approval request for the record using approver type Workflow User Group and workflow user group code ECMWORKFLOWUSERS.**
- Send approval request for the record and create a notification.

At the bottom left of the highlighted response page select approver type & group

Options for the Selected Response

Show Confirmation Message:

Due Date Formula:

Delegate After: Never

Approver Type: Workflow User Group

Workflow User Group Code: ECMWORKFLOWUSERS

[Open Approval User Setup](#)

**4. Select Approval Group**

[\*\*You will want to select the Workflow User Group created earlier in the third setup step\*\*]

(Approver Type can be a single “Approver” or a Workflow User Group)

Approver Type:

Workflow User Group Code:

[Open Approval User Setup](#)

Workflow User G  
 Salesperson/Pur  
 Approver  
 Workflow User C

10. **Confirm** that ‘**Workflow Event/Response Combinations**’ are correct

Departments>Administration>Application Setup>Workflows

### Workflow Event/Response Combinations

Supported Responses	Rem... reco...	Apply the ...	App... the ...	Crea... a pa...	Post the ...	Rec... the i...	Send the i...	Can... the ...	Check if th...	Check if th...	Crea... and ...	Crea... an a...
An approval request for an Eng. Change document is canceled.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approval of an Eng. Change document is requested.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

11. **Enable workflow**

Dept>Admn>Aplctn Setup>Workflows

Code:

Description:

Category:

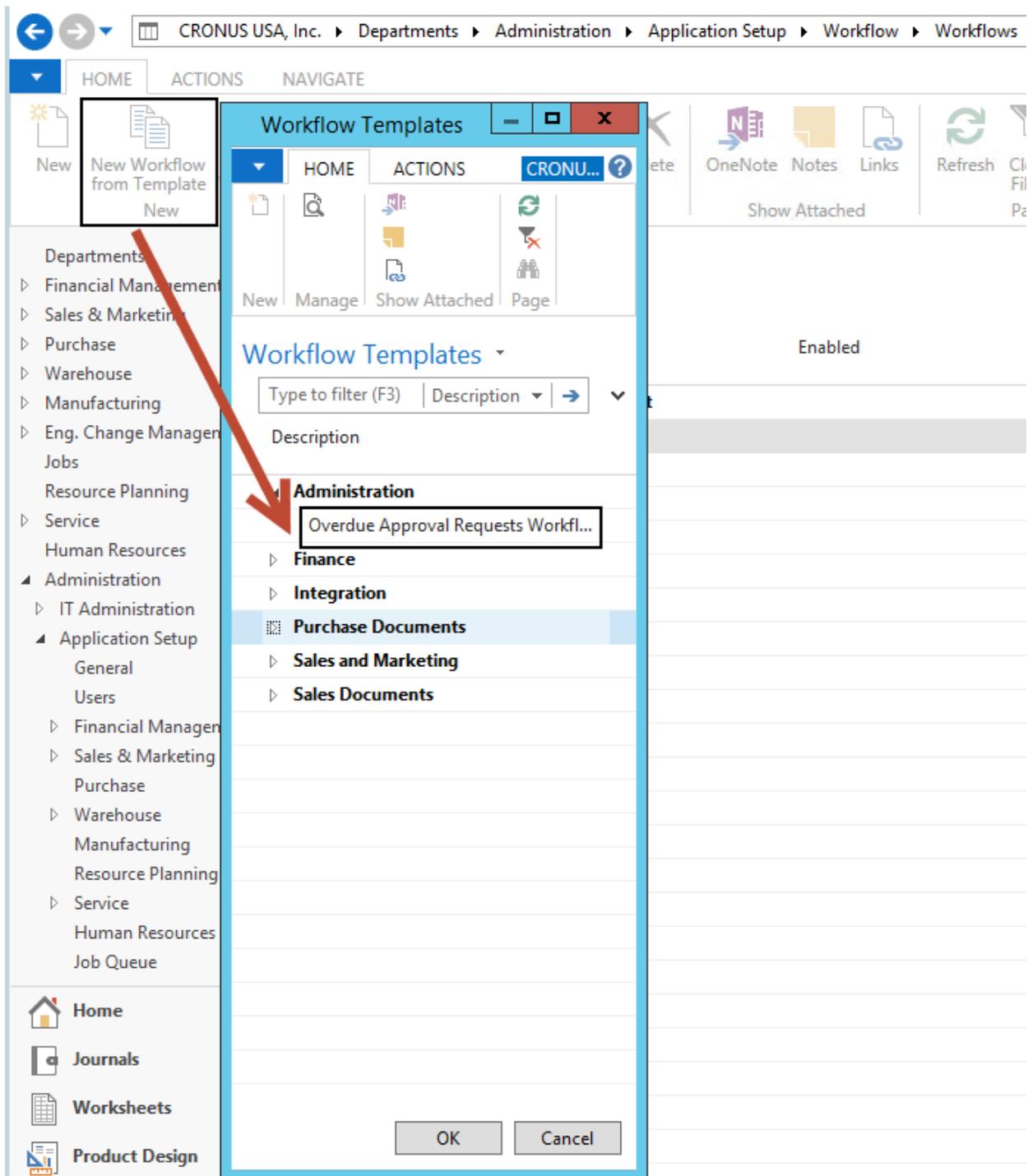
Enabled:

**Check to Enable**

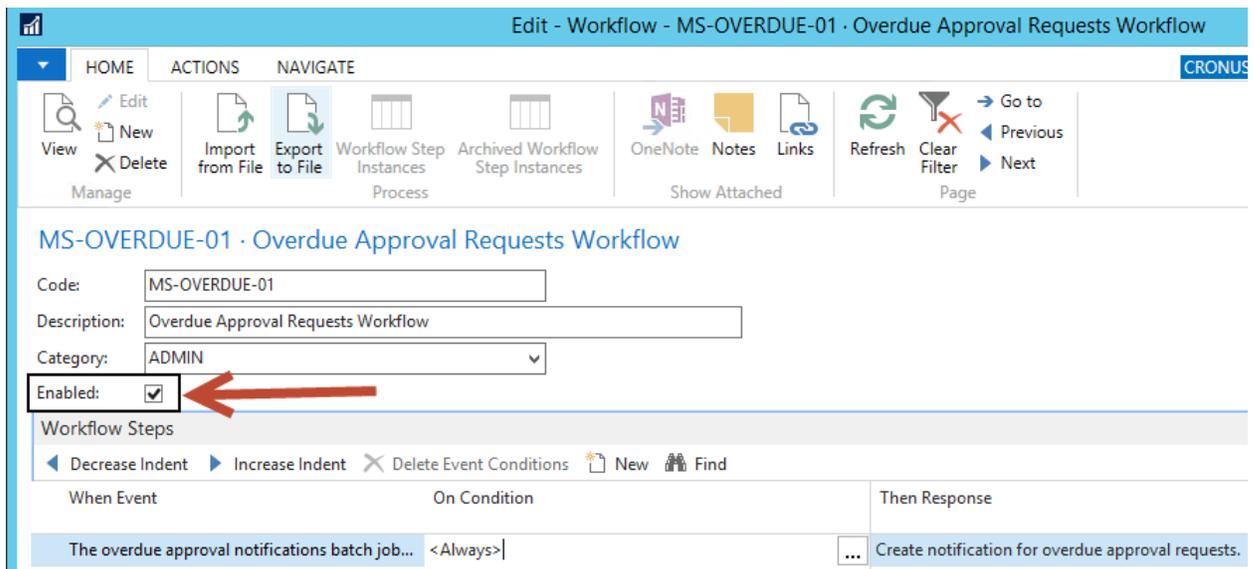
When Event	On Condition	Then Response
<input type="text" value="If an Eng. Change document is requested."/>	Document Type: ECM Notice ECM Request ECM ...	(+) Add record restriction.
An approval request is approved.	Pending Approvals: 0	(+) Remove record restriction.
An approval request is approved.	Pending Approvals: >0	Send approval request for the record and
An approval request is rejected.	<Always>	(+) Reject the approval request for the rec
An approval request for an Eng. Change ...	Document Type: ECM Notice, Status: Pending Ap...	(+) Cancel the approval request for the rec
An approval request is delegated.	<Always>	Send approval request for the record and

## 12. Add "Overdue Approval Requests Workflow" from Workflow templates

Press "New Workflow from Template">Administration>Overdue Approval Requests...



### 13. Enable "Overdue Approval Requests Workflow"



## Just Added (5/1/2016) – Multi-BOM Mode!

### ECM for Dynamics NAV 2016 and above

#### Two Different Modes:

##### 1. Single Production BOM Changes

- Create Proposed Production Version (Master)
- Submit for Approval. (Optional)
- Carry out Change

##### 2. Multiple Production BOM Changes

- Actions: Add Items, Change Items (Swap existing), Delete Items
- Create Change Worksheet
- Submit for Approval (optional)
- Carry out Changes

This new feature lets you “Add”, “Change”, “Remove” components across Multiple BOM Masters.

You simply select Multi BOM Lines, Fill out the first desired change, then Create ECM Preview Lines.

If you want to do more, you can select a different action, and then use Create again to generate more ECM preview Lines.

Once you are ready to create the new Versions or change existing versions, you just select “Make Request”. (Approval Process is optional too.)

The screenshot displays the 'New - Eng. Change Notice - 4001 - Multiple BOM Management Sample' window. The 'HOME' ribbon is active, with the 'Create ECM Lines' button highlighted. The 'General' section shows the change notice details, including 'No.: 4001', 'Multi BOM Mode: [checked]', and 'Description: Multiple BOM Management Sample'. The 'Multi-BOM Change Worksheet' section is expanded, showing 'Action: Change', 'Affected Item No.: 1160', and 'Current Description: Tire'. The 'Substitute Item No.' is set to 1170, and the 'Substitute Description' is 'Tube'. The 'Applies to all ECM Lines' section has 'Create New BOM Version' and 'Recertify BOM' checked. At the bottom, the 'Eng. Change Notice Subform' table lists affected items:

Line	Sele...	Action	Type	Prod. BOM No.	BOM Description	Affected Item No.	Description	Old Qty.	New Qty
	<input checked="" type="checkbox"/>	Change	Purchased	1100	Front Wheel	1160	Tire	1	
	<input checked="" type="checkbox"/>	Change	Purchased	1200	Back Wheel	1160	Tire	1	

## Support

Congratulations on your purchase of Engineering Change Management! We couldn't be more thrilled for you. Soon, you will be on your way to enjoying and utilizing the features and functionality of this product.

On behalf of NAV Software, NAV Solution Centers and NAV Service Providers, we thank you for your business. Most importantly, Cost Control Software sincerely appreciates your trust in our products.

Should you have any questions or comments regarding our product, we encourage you to contact your local NAV Solution Center (NSC). Please also contact your NSC if you are considering modifications or seeking new software functionality.

Cost Control Software provides many add-on products that may be just the solution you were looking for. Your NSC can provide you with our complete list of add-ons. You may also check out our website to see available add-on products as well.

### **Produced and Distributed by:**

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We love customer feedback! Good or Bad, we want to know what you think of this Granule and how you use it in your Business Model. If you would be willing to show us, we would love to see your successes. Just call us for a Show and Tell.