Engineering Change Management



Using Business Process Automation to Streamline and Automate the Engineering Change Process





Agenda for Today

- 1. Common Problems with Engineering Change Processing
- 2. How ECM for XA can Improve your Business Performance
- 3. Business Process Automation: A New Way to Work

 a. Streamlining and Automating Processes
 b. Integrating People, Tasks, Data, and Systems
 c. Getting the <u>RIGHT</u> information to the <u>RIGHT</u> users at the <u>RIGHT</u> time
- 4. A Detailed Look at the EC Management System for XA
- 5. Summary

Common Problems with EC's

- Spreadsheets and standalone databases are all "silos" of information that are not process driven
- Silo" solutions store data, but <u>cannot be measured</u> or audited for effectiveness. (e.g., How long is an EC in process? Where is it in the process?)
- Cost impact of a Change isn't readily available
- IMPACT on other areas is unknown (MO's, PO's Inventory, ...)
- Changes can get lost or "slip through the cracks" as forgotten
- Changes are not defined completely or forms have missing and/or inaccurate information (can't mandate required information)
- Changes are not processed in a consistent manner
- Related documentation is often missing or not easily retrievable (files, drawings, e-mail messages)
- There is no history of who did what and when
- There is no visibility to the tasks and status of everything related to an EC

- Manage all EC's from ONE system
- Improve, automate, and streamline the EC process
- Manage all EC's in a secure & reliable solution
- Leverage XA data to ensure accuracy and completeness
- Use web-based forms with required field validation
- Measure & record Change impact on each affected part
- Filter EC's to suit various site / department / user preferences
- Process ALL EC's through a flexible yet consistent, auditable workflow process
- Track EC's from inception to implementation with expedited checklist controls
- Store all related documentation together with the EC

Streamline processes, Reduce COST, and Increase EFFECTIVENESS

Business Process Automation - A NEW WAY TO WORK -

Link People, Processes, Data, and Documents.

"Flow" the <u>RIGHT</u> information to the <u>RIGHT</u> people at the **RIGHT** time—from one EC portal.

- Workflows/Rules
- File Support
- Automated Approvals
- Triggers and Notifications
 Performance Statistics
- Backup Reassignments



- Web Based
- Infor XA Integration
- E-Mail Correspondence
- Audit Trails/History

Typical EC Business Process (You need MORE than just data. It's a PROCESS.)



Getting Started...

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EC Query Search Tool

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- Users define their own 'reports'
- Selectable fieldnames from the forms
- Export search results to Excel for analysis



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_					P95-20120-NH080 -			AL, DWg # 72662-1K8A-A010 [1]	~Taligate/Slide Door		
	Affected Parts	Reference	Bills-of-N	aterials	P95-26120-YR400 - I	R/C ASSY L SLIDE D		L, Dwg # 72662-TK8A-A010 [1]	~Tailgate/Slide Door		
Row	Item Nu	mber	Rev.	Description	P95-26130-NH686 - P95-26130-NH767 -	R/C ASSY R SLIDE [R/C ASSY R SLIDE [DOOR POWE	R, Dwg # 72622-TK8A-A110 [1] · R, Dwg # 72622-TK8A-A110 [1] ·	~Tailgate/Slide Door ~Tailgate/Slide Door	harge to ustomer	
1.	₽ P95-26	310-9S		BASE PLATE S	P95-26130-YR400 - I	R/C ASSY R SLIDE D		R, Dwg # 72622-TK8A-A110 [1] ~	Tailgate/Slide Door	Charge	Û
2.	⊕ P95-26	310-8S		BASE PLATE S	P95-26140-NH767 -	R/C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ^	Tailgate/Slide Door	Charge	Û
3.	⊕ P95-26	310-TAP		BASE PLATE S	P95-26140-YR400 - I UB ASSY R	R/C ASSY L SLIDE D SUSPEND-FRANKF(R, Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door \$0.00	Charge	Û

n	ecrinti		le Tra	cking Chockliste	Action Itoms Ei	ilos E Mail	Montinge	Status			
	scripu				Action terms Fi	iles E-Mail	meetings	Sidius			
De:	sign Cha	ange, Customer Drive	en, Custom	er Requirement	t=Quote & Approval						
🔻 A	sembli	ies									
	foctod	Assamblias									
	ne first	faux characters to Oco	reb by Ass	anablu as Dagasir	ation		Тур	e ahead Item			
	penist	Customer Ass	ambly Num	ohor	Duon Ac	sembly Number		Sumber or			
Row	Old	Guatomer Aaa	New	ibei	Old	New		Assembly Description		Charge to Customer	
	7266	2 TK9A A110			D05 26140 NU767		Desc	ription search	D	Charge	
1.	/200	52-1K6A-A110			F95-20140-INH707		LI	VE from XA		Charge	
2.	7262	22-TK8A-A010			P95-26110-NH686			R/C ASSY R SLIDE DOOR MANU	JAL	Charge	ti,
3.					p95-261					Charge	
Rows		<u>^</u>			P95-26110-NH686 - R/	CASSY R SLIDE D	OOR MANU	AL, Dwg # 72622-TK8A-A010 [1]	~Tailgate/Slide Door	·	
	. 🖌	•			P95-26110-NH767 - R/	IC ASSY R SLIDE D	OOR MANU	AL, Dwg # 72622-TK8A-A010 [1] -	~Tailgate/Slide Door		
					P95-26110-YR400 - R/	C ASSY R SLIDE D	OOR MANU/	AL, Dwg # 72622-TK8A-A010 [1] ~	-Tailgate/Slide Door		
▼ At	fected	Items			P95-26120-NH686 - R	/C ASSY L SLIDE D	OOR MANU	AL, Dwg # 72662-TK8A-A010 [1] -	~Tailgate/Slide Door		
	Affecte	d Parts Referen	ce Bills-of-N	Materials	P95-26120-NH767 - R	/C ASSY L SLIDE D	OOR MANU	AL, Dwg # 72662-TK8A-A010 [1] -	~Tailgate/Slide Door		
O T	ne first	few characters to Sea	arch by Item	or Description	P95-26120-YR400 - R/	C ASSY L SLIDE D	OOR MANUA	L, Dwg # 72662-TK8A-A010 [1] ~	Tailgate/Slide Door		
					P95-26130-NH686 - R	/C ASSY R SLIDE D	DOOR POWE	R, Dwg # 72622-TK8A-A110 [1] ~	Tailgate/Slide Door	harge to	
Row		Item Number	Rev.	Description	P95-26130-NH767 - R	/C ASSY R SLIDE D	DOOR POWE	R, Dwg # 72622-TK8A-A110 [1] ~	Tailgate/Slide Door	ustomer	
1.	Đ	P95-26310-9S		BASE PLATE S	BI P95-26130-YR400 - R/	C ASSY R SLIDE D	OOR POWE	R, Dwg # 72622-TK8A-A110 [1] ~	Tailgate/Slide Door	Charge	ti.
					P95-26140-NH686 - R	/C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door		
2.	Ð	P95-26310-8S		BASE PLATE S	81 P95-26140-NH767 - R	/C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door	Charge	Ů.
					P95-26140-YR400 - R/	C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ~1	Tailgate/Slide Door		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
3.	۲	P95-26310-TAP		BASE PLATE S	SUB ASSY R	SPEND-FRANKF(×	\$0.00	Charge	Ū.

- Connects directly to XA
- Uses a common user ID, no XA license required
- Supports both PDM and EPDM file structures
- Optional full bill-of-material retrieval

D	esc	ription Dept Approva	als Tra	cking Checklists	Action Items Fi	iles E-Mail	Meetings	Status			
► De	sign	Change, Customer Drive	en, Custom	er Requirement	t=Quote & Approval						
- 4	550	mblies									
A	ffec	ted Assemblies					Tvr	e ahead Item			
Q , T	ype	first few characters to Sea	arch by Ass	embly or Descrip	otion		- J I				
-		Customer Ass	embly Num	iber	As	sembly Number		Number or		Charge to	
Rov	V O	ia	New		Old	New	Desc	cription search		Customer	
1.	7	72662-TK8A-A110			P95-26140-NH767		TT	RICASSY L SLIDE DOOR POW	R	Charge 📃	T.
2.	7	72622-TK8A-A010			P95-26110-NH686			R/C ASSY R SLIDE DOOR MANU	JAL	Charge	Û
3.					p95-261					Charge	1
Row	s: 🌔	0			P95-26110-NH686 - R/	IC ASSY R SLIDE D	DOOR MANU	IAL, Dwg # 72622-TK8A-A010 [1]	-Tailgate/Slide Door		
		•			P95-26110-NH767 - R/	IC ASSY R SLIDE D	DOOR MANU	IAL, Dwg # 72622-TK8A-A010 [1]	-Tailgate/Slide Door		
	ffoo	tod Itoma			P95-26110-YR400 - R/	C ASSY R SLIDE D	OOR MANU	AL, Dwg # 72622-TK8A-A010 [1] ~	Tailgate/Slide Door		
• 4	nec	teu items			P95-26120-NH686 - R/	/C ASSY L SLIDE D	OOR MANU	AL, Dwg # 72662-TK8A-A010 [1] -	-Tailgate/Slide Door		
	Affe	ected Parts Referen	ice Bills-of-I	Materials	P95-26120-NH767 - R/	/C ASSY L SLIDE D	OOR MANU	AL, Dwg # 72662-TK8A-A010 [1] -	Tailgate/Slide Door		
Q, T	ypet	first few characters to Sea	arch by item	or Description	P95-26120-YR400 - R/	CASSY E SLIDE D		AL, DWG # 72662-1K8A-A010 [1] ~	Tailgate/Slide Door		
Dev		ltere Number	Day	Description	P95-20130-NH080 - R/			ER, DWg # 72622-1K8A-A110 [1] ~	Tailgate/Slide Door	harge to	
Rov		item Number	Rev.	Description	P95-26130-VP400 - P			ER, Dwg # 72622-TK8A-A110 [1]~	Tailgate/Slide Door	ustomer	~h
1.				BASE PLATE S	P95-26140-NH686 - R	CASSY L SLIDE D		R Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door	Charge	
2.	Т			BASE PLATE S	61 P95-26140-NH767 - R/	/C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door	Charge	ti,
			11		P95-26140-YR400 - R/	C ASSY L SLIDE D	OOR POWE	R, Dwg # 72662-TK8A-A110 [1] ~	Tailgate/Slide Door		
3.				BASE PLATE S	SUB ASSY R	SPEND-FRANKF(\$0.00	Charge	Û

- Connects directly to XA
- Uses a common user ID, no XA license required
- Supports both PDM and EPDM file structures
- Optional full bill-of-material retrieval

Retrieve BOM's Directly from XA

Description	Dept Approvals	Tracking Checklists	Action Items	Files	E-Mail	Meetings	Status						
Process Change	je, Internal, Custome	er Requirement=Approva											
Assemblies													
 Affected Items 	s								Mult	tiple Search			
Affected Parl	Reference Bi	lls-of-Materials						_		Options			
XA Assem	bly Number Se	arch			_			-					
Search By:	Part Numb	oer 💿 Descriptio	n 🔘 Drawi	ing Num	iber 🤇	Custome	r Numbe	er					
Q Type fir	st few characte	rs to Search	Mark Sector S	Selectior	n								
AD7-11	110-1L												
Get Bill	-of-Material	Click an Iten	n in the Bill-o	f-Materi	al to Ad	ld To / Rem	ove Fron	n Affecte	ed Parts	-			
											Previous 1	Next	
Assembly	Lev Par	t Number		Rev Qty	Descri	iption			Supplier	r	Class	Туре	

Retrieve BOM's Directly from XA

cess Chan	nge, Internal,	Customer Requirement=Approval						
semblies								
fected Iten	ms					Multiple Search		
Affected Pa	arts Refe	erence Bills-of-Materials				Options		
Assen	nbly Num	her Search						
Abben Du		tNumber © Description		har Oustamarl	Number			
ICD By	y: 🔍 Par	t Number O Description	Orawing Num	ber O Customer i	Number			
Type fi	first fow cl	haracters to Search						
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D7-1 1	1110-1L	_						
Get Bi	ill-of-Ma	terial Click an Item i	in the Bill-of-Materia	al to Add To / Remov	ve From Affected F	Parts		
Get Bi	ill-of-Ma	Click an Item i	in the Bill-of-Materia	al to Add To / Remov	ve From Affected F	Parts		
Get Bi	ill-of-Ma	terial Click an Item i	in the Bill-of-Materia	al to Add To / Remov	ve From Affected F	Parts	Previous 1 2 1	Next
Get Bil	ill-of-Ma	Click an Item i	in the Bill-of-Materia Rev Qty	al to Add To / Remov	ve From Affected F	Parts click to	Previous 1 2 Class	Next Type
Get Bil	Lev	Click an Item i Part Number	in the Bill-of-Materia Rev Qty	al to Add To / Remov	ve From Affected F Simply select an	Parts click to d Add to	Previous 1 2 1 Class	Next Type
Get Bil ssembly AD7-11	Lev 1110-1L	Part Number AD7-11110-1L	in the Bill-of-Materia Rev Qty 1	al to Add To / Remov	re From Affected F Simply select an	Parts click to d Add to Parts List	Previous 1 2 1 Class	Next Type
Get Bil ssembly ∋ AD7-11	Lev 1110-1L 0 1	AD7-11110-1L 2 . 5212-11335-61	in the Bill-of-Materia Rev Qty	al to Add To / Remov	re From Affected F Simply select an Affected 1	Parts	Previous 1 2 Class 900P	Next Type 4
Get Bil ssembly AD7-11	Lev 1110-1L 0 1	AD7-11110-1L . 5212-11335-61 . 5878-11354-6U	in the Bill-of-Materia Rev Qty	Description WASHER SCREW	ve From Affected F Simply select an Affected 1	Parts Click to d Add to Parts List MITSUI KINZOKU ACT CORPOR TAAMERICA CORPORATION	Previous 1 2 Class 900P 410P	Next Type 4 4
Get Bil ssembly AD7-11	Lev 1110-1L 0 1 1	AD7-11110-1L • . 5212-11335-6i • . 5878-11354-6U • . A01-11318-9N	in the Bill-of-Materia	Description WASHER SCREW X RING	ve From Affected F Simply select an Affected 1	Parts Click to d Add to Parts List TLAMERICA CORPOR TRIANGLE RUBBER COMPANY	Previous 1 2 1 Class 900P 410P 420P	Next Type 4 4
Get Bil ssembly AD7-11	Lev 1110-1L 0 1 1 1	AD7-11110-1L . 5212-11335-6I . 5878-11354-6U . A01-11318-9N . A70-33311-9G	in the Bill-of-Materia	Description WASHER SCREW X RING SWITCH CASE R	re From Affected F Simply select an Affected I	Parts Click to d Add to Parts List MITSULKINZOKU ACT CORPOR T.A.AMERICA CORPORATION TRIANGLE RUBBER COMPANY INJECTION MOLDING	Previous 1 2 1 Class 900P 410P 420P 720M	Next Type 4 4 4 2
Get Bil ssembly AD7-11	Lev 1110-1L 0 1 1 1 1	AD7-11110-1L . 5212-11335-6I . 5878-11354-6U . A01-11318-9N . A70-33311-9G . A70-33313-9G	in the Bill-of-Materia Rev Qty 1 2 1 1 1 1	Description WASHER SCREW X RING SWITCH CASE R SWITCH COVER R	re From Affected F Simply select an Affected 1	Parts Click to d Add to Parts List MITSUL KINZOKU ACT CORPOR T.A.AMERICA CORPORATION TRIANGLE RUBBER COMPANY INJECTION MOLDING INJECTION MOLDING	Previous 1 2 1 Class 900P 410P 420P 720M 720M	Next Type 4 4 4 2 2
Get Bil ssembly AD7-11	Lev 1110-1L 0 1 1 1 1 1	Click an Item i Part Number AD7-11110-1L 5212-11335-6I 5878-11354-6U A01-11318-9N A01-11318-9N A70-33311-9G A70-33313-9G A70-33315-9G	in the Bill-of-Materia Rev Qty 1 2 1 1 1 1 1	Description WASHER SCREW X RING SWITCH CASE R SWITCH COVER R CAM SWITCH R	re From Affected F Simply select an Affected 1	Parts Click to d Add to Parts List MITSUI KINZOKU ACT CORPOR T.AAMERICA CORPORATION TRIANGLE RUBBER COMPANY INJECTION MOLDING INJECTION MOLDING INJECTION MOLDING	Previous 1 2 1 Class 900P 410P 420P 720M 720M 720M	Next Type 4 4 4 2 2 2
Get Bil	Lev 1110-1L 0 1 1 1 1 1 1 1	AD7-11110-1L . 5212-11335-6I . 5278-11354-6U . A01-11318-9N . A70-33311-9G . A70-33315-9G . A70-33317-9G	in the Bill-of-Materia	Description WASHER SCREW X RING SWITCH CASE R SWITCH COVER R CAM SWITCH R LEVER SWITCH	re From Affected F Simply select an Affected 1	Parts Click to d Add to Parts List MITSUL KINZOKU ACT CORPOR T.A.AMERICA CORPORATION TRIANGLE RUBBER COMPANY INJECTION MOLDING INJECTION MOLDING INJECTION MOLDING INJECTION MOLDING INJECTION MOLDING	Previous 1 2 1 Class 900P 410P 420P 720M 720M 720M 720M	Next Type 4 4 2 2 2 2 2

- Instantly retrieve the full indented bill-of-material
- Use item relationships to identify ALL items affected
- One click selection to add to the EC
- Stores the "current state" (item revision levels) of the BOM components for reference

Submit the Change

Current Status: 10		nge						EN	GINEERIN		
	[ECInitiator] - As	signed to Robert Pozsgai						Sav	e & Continue	I Back	🚹 Help
Description Dep	ot Approvals	Tracking Checklists Action	Items Files E-M	ail Meetings	Status						
Type of Change:	◆ © Design	Process Supplier			EC Number:	New EC					
Source of Change:	 Custome 	r Driven									
ethod of Changeover:	+ O Immediat	te Running Update/Cor	rection		Created By: F	Robert Pozs	gai				
Style of Changeover:	 Individual 	Simultaneous		My Departr	ment Manager: 🔶	Seth Micha	els				
OM Undate Required:	• • • • • • • • • • •	N-			Date Created:	Type first few Sep 14 2	characters of 018	f name to search			
Material Change	e: O Yee	No		Du	Due for Approval: Sep 21, 2018						
Customer Requiremen	t Ouote & /					000 21, 2	.010				
Customer EC Numbe		opproval C Approval C Noti	only entitle	Changeover Da	ate Commitment:			1 1939			
						Change H	listory				
Drief Description				_							
Brief Description:	 P50-552-B S SPRING (\$.0 	SPRING RATCHET - CHANGE TH 050 EACH) TO <u>ROTHMAN</u> SPRIN	E SUPPLIER FROM ARCO G (\$.017 EACH)	2							
Reason for Change	e: Cost Saving	js 💌		Customer	Plants Impacted:	Batavia, Cha	arleston				
ull Scope of the Change	e: CHANGE TH	E SUPPLIER TO REDUCE COS	г	Progra	ams Impacted: 🔶 🤉	Customer:		 Progra 	m: 💌		
						Add to L	ist				
enefits of the Change:	ANNUAL CO	ST SAVINGS \$11,430									
											Ŧ
Affected Parts	Reference Bills	s-of-Materials									Ţ
Affected Parts Type first few character	Reference Bills ers to Search by	s-of-Materials Item or Description		:	Recommende	ed		Charge to			Ŧ
Affected Parts Type first few character tow Item Numi	Reference Bills ers to Search by ber R	s-of-Materials Item or Description	Supplier	 Design Level	Recommende Effectivity Date	ed	Cost	Charge to Customer			T
Affected Parts Type first few character Now Item Numi 1. (2) AC13-998	Reference Bills ers to Search by ber Ri 0	e-of-Materials Item or Description ev Description SWITCH PLATE ASSY	Supplier	 Design Level	Recommende Effectivity Date	ed	Cost \$0.00	Charge to Customer	ů.		~
Affected Parts , Type first few character tow Item Numi 1. AC13-998 2. AC13-997	Reference Bills ers to Search by ber Ri 0 0	e-of-Materials Item or Description ev. Description SWITCH PLATE ASSY SWITCH PLATE ASSY	Supplier	Design Level	Recommende Effectivity Date	ed	Cost \$0.00 \$0.00	Charge to Customer Charge	69		T
Affected Parts Type first few character Now Item Numi 1. 3 AC13-998 2. 9 AC13-997 3. 9	Reference Bills ers to Search by ber R 0 0	-of-Materials Item or Description ev Description SWITCH PLATE ASSY SWITCH PLATE ASSY	Supplier	 Design Level	Recommende Effectivity Date		Cost \$0.00 \$0.00	Charge to Customer Charge	17. 17. 17.		v

Validate Required fields

- Send Courtesy notifications
- Send Workflow e-mail to next assignee



Sample EC Workflow Definition



- Serial or Parallel processing
- Automated notifications
- Conditional routing
- Dynamic user assignments
- Backup definitions
- Overdue reminders

Sample EC Workflow Definition



User Assignments



File	Message	Help Q Tell m	what you want to do	<u>الا</u>								
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Requ Desc	iestor: ription:	Ben McDonald Window Regulat	or Motor Yoke Plating/N	/later	rial Change							l
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User Assignments



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Description

	File Message Help Q Tell me what you want to do Image: Second seco	Move Move
	New EC # EC03198 for Chrysler created on 7/07/202 Ben McDonald To © Robert F	123 9:37:19 AM by Ben McDonald \bigcirc Reply \bigotimes Reply All \rightarrow Forward \cdots Thu 6/20/2024 4:07 PM
	Document link information: Database: Engineering Change Management Document: Engineering Change # EC03198 Workflow Status: Feasibility Review Please review this document requiring your attention. Requestor: Ben McDonald Description: Window Regulator Motor Yoke Plating/Mat Access the document by using the link below. Review the docum Click Reject to return the document to the author.	iterial Change ment and click Approve if you want the document to be processed.
EC03198 for Ch Current Status: 20 [DeptMgr	Thank you, http://mxti.beechwood.com/prod/ecm_bwi.nsf/o/35J26LK3136K3 rysler – Assigned to Robert I	35L67J65L5K858VH&action=openDocument ENCINEERINC CHANCE Save & Continue Back Hel
escription Dept Approvals	Tracking Checklists Action Items Files E-Mail Meetings Statu	

Departmental Checkpoints

- Che	eck Points				
Che	eck Points				
Row	Department	Responsible		Affected	
1.	Engineering - Assembly	Chris			Answered by Chris \
2.	Environmental/Regulatory/Facilities	Gary I		OY ON	
3.	Fabrication - Tooling and Gages	Jasor		OY ON	
4.	Marketing and Sales	Brian		OY ON	
5.	Production - Assembly	Trisha		OY ON	
6.	Production Control	Tony I		OY ON	
7.	Purchasing	Brent		OY ON	
8.	Quality Assurance	Lucas		OY ON	
9.	Research and Development	Andre n	an	OY ON	
10.		Joyce		OY ON	

- Feasibility review from all potential affected Departments
- Configurable checkpoint questions for each Department
- Required Cost impact and Comment if Affected = Yes

Departmental Checkpoints

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Check Points

Row		Departme	ent	Responsible	Affected			
1.	Ð	Engineeri	ng - Assembly	Chris	●Y ON	Answered by Chris \	on Mon, Jan 20, 2020 at 6:40	AM
		Row	Consideration		Impacted	Cost	Lead Time from Event	Comments
		1.1	Will new fixtures or equipment be requ	ired?	OY ⊚N ONF		Step 55; Management Approval of this EC	
		1.2	Will Fixtures or Equipment need to be	modified?	OY ⊚N ONF		Step 55; Management approval of this EC	
		1.3	Does the change require technology w	/hich is new to v	OY ⊚N ONF		Step 55; Management Approval of this EC	
		1.4	Will Process Flow or PFMEA be affected	● Y ○ N ○ NF	0	2 weeks Step 55; Management Approval of EC	Update PFMEA to reflect addition of grease	
		1.5	Will Capability Analysis / Validation of p	OY ⊚N ONF		Equipment or Fixture change availability / completion		
		1.6	Will this affect an APQP or New Model	project?	OY ⊚N ONF		Step 55: Mgmt approval of EC.	
		1.7	Will this change affect 'mistake or error product feature?	r proofing' for a process feature or a	Y ON ONF		Step 55; Mgmt approval of EC	
		1.8	Will Grease Specifications &/or Applica	ations need to be changed?	● Y ○ N ○ NF	0	3 weeks Step 55; Mgmt approval of this EC	New grease spec will need to be written
		1.9	Should a Rivet Analysis be performed	after change?	OY ⊚N ONF		Step 55; Management approval of EC	
		1.10	Will Test Pieces be required?		OY ⊚N ONF		Availability of changed samples or changed process	
		1.11	Is Customer owned fixtures or equipm Marketing and Accounting need to be notified	ed.		Step 55; Management approval of this EC		
2.	⊕E	nvironmen	tal/Regulatory/Facilities	OY ON				
3.	⊕F	Fabrication - Tooling and Gages Jasor			OY ON			
4.	Marketing and Sales			OY ON				
5.	Production - Assembly Trish: Y			OY ON				
6.	Production Control			OYON				

Departmental Approvals

EC-T-03323

	~	. .							
Des	criptior	Dept Approvals	Tracking	Checklists	Action Items	Files	E-Mail	Meetings	Status
partr	ment N	lanager Approvals							
ow	Ans	Department		Include	Reviewer		1	mplementer	
1.		Corporate Planning / C	osting		Philip		[Suann	
2.		Maintenance - Fabricat	tion		Jason		[Jason	
3.		Marketing and Sales			Susan		[Susan	
ŀ.		Production - Assembly	/		Brent		٦	Frisha Z	Corporation
ō.		Production - Fabricatio	on		Jason		[Jason	
).		Production Control			Tony N			leff Sm	
.		Purchasing			Micha		[Brent	
3.	۲	Quality Assurance			Doug			Lucas	
).	۲	Quality Evaluation			Andy I		[Andy I	V Corporatior
0.		Research and Develop	ment		Andre			Andrey	
1		Supplier Quality Accur	ance		Andy			2	

Parallel approval from all potential affected Departments

-	ffecte	d Parts Reference	Bills-of-	Materials						
Q, Typ	e first	few characters to Searc	h by Iten	n or Description						
Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	Ð	AC13-9980		SWITCH PLATE ASSY			۵	\$0.00	Charge	Û
2.	Đ	AC13-9970		SWITCH PLATE ASSY			*	\$0.00	Charge	ũ.
3.	Đ						۵	\$0.00	Charge	ti).
Rows	0	0								

Aff	ected	Parts Reference	e Bills-of-	Materials						
🔍 Type	first f	ew characters to Sear	rch by Item	n or Description						
Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	•	AC13-9980		SWITCH PLATE ASSY				\$0.00	Charge	Û.
2.	_	AC13-9970		SWITCH PLATE ASSY			•	\$0.00	Charge	Û
3.								\$0.00	Charge	Û
Round		7	_							
Aff	ected	Parts Reference	e Bills-of-	Materials						
Q Type	first f	ew characters to Sea	rch by Item	n or Description						
Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	Θ	AC13-9980		SWITCH PLATE ASSY	Triangle	с		\$35,600.00	Charge	Û.
		New Item	New Rev	New Description	New Supp	lier New Des Level	Changeover		XA Options	
								Refresh	WU OH	00 MRP RTG
		PLANNING 🔩								
		Additional cost	per part	for seal. Actually cycle tir	ne savings – n	no savings per system rate		22,500	🔩 Tooling Co	st
		Overall cost inc	rease du	ie to piece price.				13,100	🔩 Engineerin	g / Testing Cost
		PRODUCTION CONT	rrol 🔩			Departme	ntal			
		No cost for com	ponents					0	🔩 Estimated	Obsolescence Cost
						Contribut	ions		Actual Obsolesc	ence Cost
								0	🔩 Premium C	Cost
		INVENTORY								
		Whse Location	Quantity	Unit Cost Total Cost	Batch / Lot	Goods Received Note	Disposition			
		T1 CL01	4,187	13.24 55,435.88	05263795	20161109049	Rework ~			
		T1 CL01	4,187	13.24 55,435.88	05263796	20161109049	-Select- v			
			_							

Af	fected	Parts Reference	e Bills-of-	Materials						
🔍 Туре	first fe	ew characters to Sea	rch by Item	n or Description						
Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	•	AC13-9980		SWITCH PLATE ASSY			i 🗎 🍫	\$0.00	Charge	Ũ
2.	_	AC13-9970		SWITCH PLATE ASSY				\$0.00	Charge	Û.
3.							•	\$0.00	Charge	ů.
Ro		>	_							
	\checkmark	Porte Defense								
	firetfi	w characters to Sea	ch by Item							
Row	: 11511	Item Number	Rev	Description	Supplier	Design Level	Recommended	Cost	Charge to	
1		AC13-9980	1.07.		Triangle	c		\$35,600,00	Charge	<u></u>
	-	NewItem	Now Po	New Description	Now Suppliar	New Dec Level	Changeover			
		New Rem	New Rev	. New Description	New Supplier	INEW DES Level	Changeover			
								Refresh	WU OH	00 MRP RTG
		PLANNING 🍕								
		Additional cost	per part	for seal. Actually cycle tin	ne savings – no s	avings per system rate	e.	22,500	🔩 Tooling Co	st
		Overall cost inc	rease du	ie to piece price.				13,100	🗞 Engineerin	g / Testing Cost
		PRODUCTION CON	rrol 🔩			Denartme	ntal			
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		Whse Location	Quantity	Unit Cost Total Cost	Batch / Lot G	oods Received Note	Disposition		invento	pry
		T1 CL01	4,187	13.24 55,435.88	05263795 2	0161109049	Rework ~		Disposit	tion
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A	ffected	Parts Refere	nce Bills-of-	-Materials						
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Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	\bigcirc	AC13-9980		SWITCH PLATE ASSY) 📄 🍫	\$0.00	Charge	Û
2.	_	AC13-9970		SWITCH PLATE ASSY				\$0.00	Charge	ů.
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A	ffected	Parts Refere	ence Bills-of-	-Materials		On	e click acces	s to		
Q , Тур	oe first f	ew characters to Se	earch by Iten	n or Description		T	IVE XA Dat			
Row		Item Number	Rev.	Description	Supplier	Design Level	Recommended Effectivity Date	Cost	Charge to Customer	
1.	Θ	AC13-9980		SWITCH PLATE ASSY	Triangle	с		\$35,600.00	Charge	Ö .
		New Item	New Rev	v. New Description	New Supplie	r New Des Level	Changeover)	(A Options	
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		Additional cos	st per part	for seal. Actually cycle	time savings – no	savings per system rate.		22,500	🐧 Tooling Cos	st
		Overall cost in	ncrease du	ue to piece price.			/	13,100	🔈 Engineering	g / Testing Cost
		PRODUCTION CO	NTROL 🕎	,		Denartmen				
		No cost for co	omponents	3		Contributi	ons	0	Estimated (Obsolescence Cost
								0	remium C	ost
		INVENTORY							/ T	
		Whse Locati	on Quantity	y Unit Cost Total Co	st Batch / Lot	Goods Received Note	Disposition		invento	pry
		T1 CL01	4,187	7 13.24 55,435.8	38 05263795	20161109049	Rework ~		Disposit	ion
		T1 CL01	4,18	7 13.24 55,435.8	38 05263796 3	20161109049	-Select- v			

On-Hand Balances

Whse	Location	Quantity	Batch / Lot	Goods Received Note
T1	CL01	4,187	05263795	20161109049
T1	CL01	4,187	05263796	20161109049
T1	CL01	3,756	05271834	20161129031
T1	CL01	3,756	05271835	20161129031

CL01 CL01		Quantity Bat 4,187 052 4,187 052	Interpretation Goods Received No 263795 20161109049 263796 20161109049	ote				0		
CL01		3,756 052	271834 20161129031					U	pen	Order
 CL01	Ord Date	PO Number	Vendor	Buyer	Whse	Status	Order Qty UOM	Due Date	Qty Rec	
	Nov 8, 2016	P032153	AMERICAN PLASTIC MOLDING	Tony Smith	1	10	5 EA	Nov 18, 2016	0	
	Nov 16, 2016	P032278	AMERICAN PLASTIC MOLDING	Tony Smith	1	10	5 EA	Nov 19, 2016	0	
								_		

٢1		CL01		4,187	05263795	20161109049						
Т1		CL01		4,187	05263796	20161109049					\cap	
T1		CL01		3,756	05271834	20161129031					\mathbf{O}	pen Uraer
T1		CL01	Ord Date	PO Numb	oer Ve	ndor	Buyer	Whse	Status	Order Qty UOM	Due Date	Qty Rec
			Nov 8, 2016	P032153	AM MO	ERICAN PLASTIC	Tony Smith	1	10	5 EA	Nov 18, 2016	0
			Nov 16, 2016	P032278	AM MO	ERICAN PLASTIC	Tony Smith	1	10	5 EA	Nov 19, 2016	0
/	h	ore-	IJSA	d								
v	Level	Item	000	G	Rev D	escription		Supplier	Quantity	Effective From		
	1	G3562000			RB	FRM ASSY RH AR TET	H2WGN		1.000 EA		*	
	2	. RBBW10	0VH		HR	3 SW RB BASE W/AR V	н		1.000 EA			
	2	. RBBW10	LW0		HR	3 SW RB BASE W/AR W	LV		1.000 EA		=	
	2	. RBHW10)2VH		HR	3 SW RB HIGH G W/AR	VH		1.000 EA			
	2	. RBHW10)2WJ		HR	3 SW RB HIGH G W/AR	WJ		1.000 EA			
3	2	. RBTW10	4VH		HR	3 SW RB LEATHER W/	AR VH		1.000 EA			
	2	. RBTW10	4WJ		HR	3 SW RB LEATHER W/	AR WJ		1.000 EA			
3	1	G3562000S	RV		RB	FRM ASSY RH AR TET	H2WGN		1.000 EA			
	1	G3562100			RB	FRM ASSY RH TETH2	WGN		1.000 EA			
	2	. RBBW10)1VH		HR	3 SW RB BASE W/O AR	₹ VH		1.000 EA			
0		. RBBW10)1WJ		HR	3 SW RB BASE W/O AR	t WJ		1.000 EA			
, 0 1	2						AD V/U		1 000 EA			

Wh]	I-Hand		iai	ces							
440	ise L	Location	Quant	ity Batch / Lo	ot Goods Received Note	•						
T1	С	CL01	4,1	87 0526379	5 20161109049							
T1	С	CL01	4,1	87 0526379	6 20161109049					\sim		-l
T1	С	CL01	3,7	56 0527183	4 20161129031						pen Ur	ders
<u>T1</u>	С	CL01 Ord Date	PON	umber \	/endor	Buyer	Whse	Status	Order Qty UOM	Due Date	Qty Rec	
		Nov 8, 201	16 P032	153 A	MERICAN PLASTIC	Tony Smith	1	10	5 EA	Nov 18, 2016	0	
		Nov 16, 20)16 P032	278 A	MERICAN PLASTIC	Tony Smith	1	10	5 EA	Nov 19, 2016	0	_
W	he	ere-Us	ed							-		_
	Level	Item		Rev	Description		Supplier	Quantity	Effective From			
1	1	G3562000			RB FRM ASSY RH AR TETH	12WGN		1.000 EA		A		
2	2	. RBBW100VH			HR3 SW RB BASE W/AR VH	1		1.000 EA				
3	2	. RBBW100WJ			HR3 SW RB BASE W/AR W	J		1.000 EA		=		
4	2	. RBHW102VH			HR3 SW RB HIGH G W/AR	VH		1.000 EA				
5	2	. RBHW102WJ			HR3 SW RB HIGH G W/AR	LW		1.000 EA				
6	2	. RBTW104VH			HR3 SW RB LEATHER W/A	R VH		1.000 EA				
7	2	. RBTW104WJ		1	HR3 SW RB LEATHER W/A	R WJ		1.000 EA				
1												
7 8	1	G3562000SRV		-	RB FRM ASSY RH AR TETH	12WGN		1.000 EA				
7 8 9	1 1	G3562000SRV G3562100		I	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V	12WGN VGN		1.000 EA 1.000 EA				
7 8 9 10	1 1 2	G3562000SRV G3562100 . RBBW101VH			RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR	I2WGN VGN VH		1.000 EA 1.000 EA 1.000 EA			IRP De	mand
7 8 9 10 11	1 1 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ		1	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR	12WGN VGN VH		1.000 EA 1.000 EA 1.000 EA			IRP De	mand
7 8 9 10 11 12	1 1 2 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ . RBHW103VH	Whse	Order	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR Vendor / (I2WGN VGN VH Customer / De	escription	1.000 EA 1.000 EA 1.000 EA Status Pla	n Date	Suppl	IRP De	Manc OH Balance
7 8 9 10 11 12	1 1 2 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ . RBHW103VH	Whse RF1	Order M020120	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR Vendor / (I2WGN VGN VH Customer / De	escription	1.000 EA 1.000 EA 1.000 EA Status Pla Nov	n Date 7, 2018	Suppl 200	IRP De	Mano OH Balance 2540
7 8 9 10 11 12	1 1 2 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ . RBHW103VH	Whse RF1 RF1	Order M020120 M021890	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR Vendor / (I2WGN VGN VH Customer / De	escription	1.000 EA 1.000 EA 1.000 EA Status Pla Nov	n Date 77, 2018 22, 2019	Suppl 2000	IRP De	Mance 0H Balance 2540 2640
7 8 9 10 11 12	1 1 2 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ . RBHW103VH	Whse RF1 RF1 RF1	Order M020120 M021890 M021990	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR Vendor / (izwgn vgn vH Customer / De	escription	1.000 EA 1.000 EA 1.000 EA Status Pla Nov Mar Mar	n Date 7, 2018 22, 2019 22, 2019	Suppl 2000 100 100	IRP De	Mance 0H Balance 2540 2640 2740
7 8 9 10 11 12	1 1 2 2	G3562000SRV G3562100 . RBBW101VH . RBBW101WJ . RBHW103VH	Whse RF1 RF1 RF1 RF1	Order M020120 M021890 M021990 M022080	RB FRM ASSY RH AR TETH RB FRM ASSY RH TETH2 V HR3 SW RB BASE W/O AR Vendor / (izwgn vgn VH Customer / De	escription	1.000 EA 1.000 EA 1.000 EA Status Pla Nov Mar Mar	n Date 7, 2018 22, 2019 22, 2019 22, 2019	Suppl 2000 100 100 100	Demand	Мапс он Вајалсе 2540 2640 2740 2840

(Dr	ו-H	and	Ba	lan	ces							
Wh T4	se L			Quant	ty Batch / L	ot Goods Received Not	te						
T1	0	2L01		4,1	37 052637	20161109049					0		
T1	C	CL01		3,7	6 052718	34 20161129031) nen	rders
T1	c	CL01	Ord Date				Dunner	10/h = -	Chatria	0-1 0+- 1101	Due Dete		
		-	Ord Date Oct 6, 2018	PO N 8 P032	153	AMERICAN PLASTIC	Tony Smith	vvnse 1	Status 10	5 EA	Nov 17, 2018	Qty Rec 0	
			Oct 6, 2018	B P032	278		Tony Smith	1	10	5 EA	Nov 17, 2018	0	
۸/	h	aro.		he		MOLDING					_		_
vv			030	50	Deut	Description		Cumpling	0	atity Effective From			
1	Level 1	G3562000			Rev	RB FRM ASSY RH AR TET	H2WGN	Supplier	Qua 1.000	EA			
2	2	. RBBW1	00VH			HR3 SW RB BASE W/AR V	Ή		1.000	EA			
3	2	. RBBW1	00WJ			HR3 SW RB BASE W/AR V	LV		1.000	EA	=		
4	2	. RBHW1	02VH			HR3 SW RB HIGH G W/AR	NH NH		1.000	EA			
5	2	. RBHW1	02WJ			HR3 SW RB HIGH G W/AR	t WJ		1.000	EA			
6	2	. RBTW1	04VH			HR3 SW RB LEATHER W/	AR VH		1.000	EA			
7	2	. RBTW1	04WJ			HR3 SW RB LEATHER W/	AR WJ		1.000	EA			
8	1	G3562000	SRV			RB FRM ASSY RH AR TET	H2WGN		1.000	EA			
9	1	G3562100				RB FRM ASSY RH TETH2	WGN		1.000	EA	N.		mond
10	2	. RBBW1	01VH			HR3 SW RB BASE W/O AF	R VH		1.000	EA			manu
11	2	. RBBW1	01WJ										
12	2	. RBHW1	03VH	Whse	Order	Vendor /	Customer / De	scription	Status	Plan Date	Supp	ly Demand	OH Balance
				RF1	M020120)			!	Nov 7, 2018	200	00	2540 2540
				RF1	M021890)			Г	/lar 22, 2019	10	0	2640
				RF1	M021990)			r	/lar 22, 2019	10	00	2740
				RF1	M022080)			N	lar 22, 2019	10	00	2840
		RO	utin	9									
		Oper	Fac	Descri	ption		► TBC			Labor	Setup	Mach	
		1000	9000	Inspec	Compon	ents	Р			50.00	0.00	0.00	
		1400	8000	Assem	bly		Р			30.00	0.00	0.00	
		1800	9000	Final In	spection		Р			30.00	0.00	0.00	

Approvals

Team Feasibility Review



Management Review & Approval



EC Implementation

Change	e special cha	racterist	tics note	to ellimi	nate GD&T for I			ENGINEERI	NG CHANGE
Current S Assigned to L S	Status: 90 [Imple Andrew	ment]				lit this Document 🕀 Bottom	< Back	📮 Printable Format	鮼 Get URL 🛛 🌔 Helj
Description	Dept Approvals	Tracking	Checklists	Action Item:	s Files E-Mail Meetings	Status			
						Departmental			Previous 1 Next
Open	On Time	Due	Late	Status	Department	Responsibility		Assigned	Completed
				0	Advanced Product (Quality) Planning	/ Per		Aug 7, 2018	Aug 8, 2018
				0	Asset Management Accounting	Val		Aug 7, 2018	Aug 20, 2018
				0	Corporate Planning / Costing	Su		Aug 7, 2018	Aug 7, 2018
				0	Engineering - Assembly	Ch		Aug 7, 2018	Sep 10, 2018
				0	Environmental/Regulatory/Facilities	Ga		Aug 7, 2018	Aug 8, 2018
				0	Information Systems	Wil		Aug 7, 2018	Aug 13, 2018
				0	Maintenance - Fabrication	Jas		Aug 7, 2018	Aug 20, 2018
	4				Marketing and Sales	Da		Aug 7, 2018	
				0	Production - Assembly	Tris		Aug 7, 2018	Aug 15, 2018
				0	Production - Fabrication	Jas		Aug 7, 2018	Aug 20, 2018
	9				Production Control	Jef		Aug 7, 2018	
j	6	1			Purchasing	Mic		Aug 7, 2018	
,					Quality Assurance	Kin		Aug 7, 2018	
	2				Quality Documentation and Control	And		Aug 7, 2018	
	6				Quality Evaluation	And		Aug 7, 2018	
	8				Research and Development	And		Aug 7, 2018	
				0	Safety and Ergonomics	Joy		Aug 7, 2018	Aug 14, 2018
				0	Supplier Quality Assurance	Do		Aug 7, 2018	Aug 7, 2018

EC Implementation

O	special cha	acteristics	note	to el	iminate GD&T for I			e	ENGINEERI	NG CHANGE
Assigned to L S	Andrew – –	nentj				Edit this Docume	ent 🕀 Bol	tom < Back 🗧	Printable Format	🕵 Get URL 🌔 Help
Description	Dept Approvals	Tracking Chec	klists	Actio	n Items Files E-Mail Mee	etings Status				
						Departr	nental			
pen	On Time	Due	Late	S	tatus Department	Respons	sibility.ee		Assigned	Previous 1 Next Completed
					Advanced Product (Quality) Plan	ning	Pe		Aug 7, 2018	Aug 8, 2018
					Asset Management Accounting		Val		Aug 7, 2018	Aug 20, 2018
				(Ocorporate Planning / Costing		Su		Aug 7, 2018	Aug 7, 2018
				(Engineering - Assembly		Ch		Aug 7, 2018	Sep 10, 2018
				(Environmental/Regulatory/Facili	ties	Ga		Aug 7, 2018	Aug 8, 2018
				(Information Systems		Wil		Aug 7, 2018	Aug 13, 2018
			1	(Maintenance - Fabrication		Jas		Aug 7, 2018	Aug 20, 2018
	4				Marketing and Sales		Da		Aug 7, 2018	
۲	9	1		·	Responsible: Michael Commitment:	Maintain	able			Back to EC-C-C
	<u> </u>	1	Seq	Status	Verification Question	Questio	ns	Expected Completion	Complete	Comments / Documentatio
	2		1	6	Is the supplier chosen? Is the supplier ch	nange notice 💿 y 💿	n 🔍 n/a 🔩	Aug 28, 2018 🛛 💼 🗞	, Aug 24, 2018 🕅	\$ _{\$}
	6				Issued?					∉ Add a File
	8		2		Is there a packaging change required?	© Y @	N 🔘 N/A 🔩	Aug 28, 2018 🛛 📷 🔩		�
							Ť			∉ Add a File
			3	6	Is the piece cost finalized and agreed ?	Θ Υ ©	N 🔘 N/A 🗞	Aug 28, 2018 🛛 📷 🔩	Aug 24, 2018 🕅	\$
							~			
			4		Has the PPAP been ordered?	● Y ○	n © n/a 🍫	Aug 28, 2018 🛛 🕅 🍫	, Aug 30, 2018	Answer
-										
			5	<u></u>	Has the cost targets been met for the des	sign change? 💿 Y 🔘	N 🔘 N/A 🎭	Aug 21, 2018 🛛 🗑 🍫	, Aug 24, 2018 📋	Validations
			5	<u> </u>	Has the cost targets been met for the des	sign change? 💿 Y 💿	n 🔘 n/a 🏤	Aug 21, 2018 🛛 📓 🍫	, Aug 24, 2018 👔	Validations Add a File

EC Implementation



Production Control Checklist

EC-T-03323 - Remove nylon coating from auxiliary lever Responsible: Jeff Smith Changeover Date Commitment:

Seq	Status	Verification Question	Answer	Expected Completion	Complete	Comments / Documentation
1	~	Has an effectivity date been established?			Mar 1, 2022 💼 🍬	begin 4/01
						<i>⊗</i> Add a File
2	0	Is the production schedule adjusted for the change?	○ Y	Mar 24, 2022 📑 🍬		
			Maintainahla			
3	0	What is the bank required for this change?	Questions			
4	0	Is the inventory location established?	○ Y ○ N ◎ N/A 🔩	i 🗘	× 1	
					Supports	<mark>∥Ad</mark> d a File
5	0	Is Packaging approved for this design change?		i 🗘	Required	see tom in shipping
					Attachment	<mark>∉Ad</mark> d a File
6	0	Have old parts been exhausted?	OY ON/A 🍫	i 🗘	i 🗘	
				Answer		∉Add a File
7	0	Has the old level parts been removed and contained?	○ y ○ n ○ n/a 🔩	Validation	.	
8	0	Has PC put together an obsolescence report?	○ y ○ n ○ n/a 🍫	۵ 🍫		

Keeps assignees accountable with automated reminders

Keeps everyone else informed and "on the same page"



Back to EC-T-03323

Action Items

New Action It Current Status: [In	em for EC-H-03304 liator]	Track by	🚹 Help
Description Rel	ated Files Status	Department or Plant	
Type: Subject: ♦	Internal External For INTERNAL use ONLY ADVISE CYCLE TIME AND MANNING EFFECTS	Department Advanced Product (Quality) Planning 💌	
Assign To: 🔶	Tom Mittan	Notify Others? Ves No Let others know about this Issue	
Severity:	Type first few characters of name search 1 0 2 0 3 4 5 (Default Severity) = Must be fixed prior to PSVAutomatically	Date Due:	
Action Item Description:	ADVISE CYCLE TIME AND MANNING EFFECTS, CURRENT ROUTING OPERA YOUR ATTACHMENT NOTES 1 OPERATOR AT 90 PPH PLEASE ADVISE MANNING CHANGES, CYCLE TIME CHANGES, I NEED TO D	Date Complete: TORS AT 90PPH ETERMINE THE COST SAVINGS. IS THIS THE BOTTLENECK OPERATION?	1
Root Cause:			.11
Comments:	ave Comment		
			_

Action Items



- Replaces spreadsheet "Open Issues" lists
- Supports "discussion" routing
- Managed with reminders by the workflow engine

File Attachments / Hyperlinks

🎽 New File Regist	ration for Change # EC-H-03304				🚺 Hel	р
File Description		Secur				
	MP - Multiple Programs	Sccur		te Created:	Sep 17, 2018	
Document Relationship:	EC-H-03304			Created By:	Robert Pozsgai	
Description:	Change design and new tool manufacture so Gromme can be stopped.	t rework				
File Attachment: 🔶	Browse 18-52412_XA Panel A-Pillar Cover Upper Day Cab L-R.>		F	ile Security:	Enable Disable All users have access to this file	
File HyperLink:	A file path in this field will supercede the attachment		Authorized	to Edit. 🤦	Allow others to edit and resave this file	
File Description: 🔶		Allow (Others			
File Categories: 🔶	Engineering Manufacturing Purchasing Quality R&D	to E	. <mark>dit</mark> №	tify Others?	Yes No Let others know this file is available	
-						

File Attachments / Hyperlinks

📸 New File Regist	ration for Change # EC-H-03304	🚹 Help
File Description	Secure Access	
	MP - Multiple Programs Date Created: Sep 17, 2018	
Document Relationship:	EC-H-03304 Created By: Robert Pozsgai	
Description:	Change design and new tool manufacture so Grommet rework can be stopped.	
File Attachment: 🔶	Browse 18-52412_XA Panel A-Pillar Cover Upper Day Cab L-R.> File Security: © Enable © Disable All users have access to this file	
File HyperLink:	A file path in this field will supercede the attachment	
File Description: 🔶	Allow Others	
File Categories: 🔶	Engineering Manufacturing Purchasing Quality R&D	
	racking Checklists Action Items Files E-Mail Meetings Status	,

- Store files with the EC for reference
- Embed as an attachment or link to a network file

E-Mail Correspondence

						Discard	d 🔄 Pop	Out
	\triangleright	From 🗸	suanne.evans@bwi.com					
Send		То	webecm@bwi.com					
		Cc			Application Address			
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E-Mail Correspondence



No printing / scanning / attaching / copying / pasting !!!

EC Status Tracking

Descrip Current St	tion Dept Approv	Action Item As of 08/29/2018 at 09:42:44	s Files E-Mail Meetin	ngs Status	Automatic progress logging	5
Seq	Section	Description	Completed	User	Time P	erformance %
10	[ECInitiator]	New EC	04/26/18 02:57 PM	Tyler	4.66 Hours	0.22%
15	[ECRestart]	Rejected EC to be Restarted				
20	[DeptMgr]	Approve / Reject	04/26/18 03:28 PM	Doug	31 Minutes	0.02%
40	[CheckPoints]	Assess Impact of Change	05/08/18 12:50 PM	Jason	189.36 Hours	8.98%
50	[Planning]	Assess Cost & Timing Impact	05/11/18 01:47 PM	Tyler	45.09 Hours	2.14%
55	[QRMReview]	Review EC's in QRM Meeting	05/15/18 08:28 AM	Doug	42.68 Hours	2.03%
60	[Approval]	Review & Approve				
70	[Marketing]	Present to Customer	06/04/18 05:56 PM	Chris	345.46 Hours	16.39%
80	[Customer]	Awaiting Customer Disposition	06/05/18 01:08 PM	Suani	19.21 Hours	0.91%
90	[Implement]	Implement the Change	06/05/18 01:13 PM	John	4.6 Minutes	0%
100	[ShipVerif]	Implement the Change	06/11/18 06:46 AM	Susai	89.56 Hours	4.25%
> 110	[Complete]	EC Complete				
998	[Rejected]	EC Rejected by the Customer				
999	[Cancelled]	EC Cancelled				
				Total Time:	87.81 Days	

EC Status Tracking

eq	Section	Description	Completed	User	Time	Performance	%
0	[ECInitiator]	New EC	04/26/18 02:57 PM	Tyler,	4.66 Hours		0.22%
5	[ECRestart]	Rejected EC to be Restarted					
0	[DeptMgr]	Approve / Reject	04/26/18 03:28 PM	Doug	31 Minutes	I	0.02%
40	[CheckPoints]	Assess Impact of Change	05/08/18 12:50 PM	Jason	189.36 Hours		8.98%
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100	[ShipVerif]	Implement the Change	06/11/18 06:46 AM	Susar	89.56 Hours		4.25%
110	[Complete]	EC Complete			C	omploto	
998	[Rejected]	EC Rejected by the Customer				ompiete	
999	[Cancelled]	EC Cancelled			tra	acability	
				Total Time:	87.81 Days	audit trail	
		Created by Tyler. on Apr 26 Section [EC]nitiator]: Submit EC by 3	5, 2018 at 10:18:00 AM	+ 14-57-26		uuuit ti uii	
		 Section [DeptMgr]: Notification for Ag 	pprove / Reject sent to Doug	04/26/2018 at 1	14:57:26		
Section [DeptMgr]: Approved EC by Doug 04/26/2018 at 15:28:26							
			-				

- Easily trace each EC through the process
- Evaluate performance for Continuous Improvement
- Full audit trail captured in the Review Log

Summary: How ECM for XA Can Improve YOUR Business Performance

Manage all EC's from ONE system Improve, automate, and streamline the EC process Manage all EC's in a secure & reliable solution Leverage XA data to ensure accuracy and completeness Use web-based forms with required field validation Measure & record Change impact on each affected part Filter EC's to suit various site / department / user preferences Process ALL EC's through a flexible yet consistent, auditable workflow process Track EC's from inception to implementation with expedited checklist controls Store all related documentation together with the EC

Streamline processes, Reduce COST, and Increase EFFECTIVENESS

Common Problems with EC's

- Spreadsheets and standalone databases are all "silos" of information that are not process driven
- "Silo" solutions store data, but <u>cannot be measured</u> or audited for effectiveness
 - Cost impact of a Change isn't readily available
- IMPACT on other areas is unknown (MO's, PO's Inventory, …)
- Changes can get lost or "slip through the cracks" as forgotten
- J
- Changes are not defined completely or forms have missing and/or inaccurate information
- Changes are not processed in a consistent manner
- Related documentation is often missing or not easily retrievable (files, drawings, e-mail messages)
- There is no history of who did what and when

There is no visibility to the tasks and status of everything related to an EC

Engineering Change Management



Using Business Process Automation to Streamline and Automate the Engineering Change Process





ECM Installation Requirements

- User Interface is a Web Browser
- Accessible in Infor System i Workspace
- HCL Collaboration Express
- Windows Server any supported version

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ECM Licensing and Implementation

- Base application includes 10 registered users and a standard 'best practices' workflow for impacted areas:
 - ⇒ Engineers
 - ⇒ Purchasing / Buyers
 - ⇒ Planners
 - ⇒ Quality Managers
 - ⇒ Finance / Accounting

Estimated Costs

ECM 10 user license - \$2,300/month Implementation - 20 days (\$32,000 + travel) includes ECN process review, setup, modeling, training, and go live

ECM for XA Implementation Process (Base)

1. Identify Your Requirements (3 days)

- ⇒ Define your primary solution objectives
- ⇒ Review and confirm change form requirements
- ⇒ Define processes and security
- ⇒ Set up standard workflows, alerts and notifications
- Define any additional system needs



- 2. Install and Configure the Application (5 days)
 - Set up the server, security, workflow rules, etc. with 'best practices' flow
 - Configure and/or import lookup data

3. Prototype and Prove-Out (5 days)

- Walk through the application with several representative users
- Confirm e-mail notifications and form routing

4. Train and Go Live (7 days)

- > Train all affected users with sample changes
- Launch the application



Schedule a 1 hour review of ECM Determine scope and effort

Ben McCormick

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704-301-8418

Mike Taylor Mike.taylor@cistech.net

Thank you for the opportunity to earn your business!