EATON **Truck Components**

Supplier:	**name**	PPAP Level (2 - 5):	**number 2 - 5**
Part Name:	**name**	Part Number:	**number**
Engineering Change Level:	**number**	Reason For Submission:	**New**
Expected PPAP Submission Date:	**date**	Start of Production:	**date or TBD**

	Category	PPAP Submission Items	R Y G	*Eaton* Required	*Supplier* Reported	Comments
1.	Design Records	Eaton print revision		number		
		Applicable Eaton engineering specs		0		
		(type in spec here, add rows as needed)		n		
		Applicable Critical Characteristics		0		Only if CTQ's this part
		(type in CTQ here, add rows as needed)		n		
		Materials or components:				
		(type in mat'l or PN here, add rows as needed)		y		
2.	Engineering Change Documents	Count of ECN in-process vs. ECN covered in this PPAP		n		
		Pending ECN		n		
3.	Customer Engineering Approval	Approved Deviations		n		
		Pending Deviations		n		
		Rejected Deviations		n		
		SREA		n		
		CP reflects applicable engineering change documents		n		
		FMEA reflects applicable engineering change documents		n		
4.	Design FMEA	Supplier DFMEA		n		Only if supplier designed part
		DFMEA revision level		n		
5.	Process Flow Diagrams	Process flow rev level		y		Must have a rev level defined
		Includes incoming material		y		
		Count of inside processes				To be defined by supplier
		Count of outside/sub-contracted processes				To be defined by supplier
		Packaging		y		Include detailed packaging plan w/submission
		QA		y		
		Shipping		y		
6.	Process FMEA	AIAG format		y		
		FMEA rev. level		y		Must have a rev level defined
		Count of Critical characteristics		0		
		Count of inside processes		0		
		Count of outside/sub-contracted processes		0		
		Failure modes equal for all similar processes		y		
		Count w/Severity ranked 9 or 10 w/actions in place.				Severity >8 requires CA
		Top 3 overall RPNs with actions in place		y		
		Severity, occurrence and Detection according to the table of AIAG		y		
		Usage of poka-yokes;		y		Lack of poka-yoke requires explanation
		If it is a resubmission, review revision history		y		Supplier to provide history
		Where applicable, supplier DFMEA and former quality records used to do the PFMEA		n		
		"Potential Failure Modes" listed are specifically for their respective process step		y		
		"Potential Effects of Failure" are specifically for their respective "Failure mode"		y		
		"Potential Causes . . Of Failure" are specifically for their respective "Failure mode"		y		
		"Prevention" controls are valid prevention methods for each respective "Failure Mode"		y		
		"Detection" controls are valid for detection methods for each respective "Failure Mode"		y		
7.	Control Plan	AIAG format being used;		y		
		Count of inside processes		0		
		Count of outside/sub-contracted processes		0		
		All fields filled out (tolerances, specs, linked to standards, etc.);		y		
		SPC used for all CTQ/MKC/KCC/Critical characteristics;		n		
		Robust and real reaction plan to protect Eaton;		y		
		Alignment with the rest of the documents (Flow diagram, FMEA, etc.)		y		
		Controls aligned with the PFMEA;		y		
		Finish dimensional and tolerances matches the drawing;		y		
		Inspection frequencies are appropriate;		y		
		Count of gages				To be defined by supplier
		In accordance with the TSP no.7 and no. 10 (Poka-yokes and OEM Touch points) NOTE: Provide the Supplier with these requirements;		y		
8.	Measurement System Analysis (MSA)	Count of all equipment / measuring devices / testers utilized in identifying acceptability of product, and also for the critical characteristics		0		
		Count of measurements requiring MSA		0		
		Measurement method matches the gages in control plan;		y		
		MSA done using production parts not with using masters;		y		
		Bias, Linearity, Stability and gage R&R		y		

EATON **Truck Components**

Supplier:	**name**	PPAP Level (2 - 5):	**number 2 - 5**
Part Name:	**name**	Part Number:	**number**
Engineering Change Level:	**number**	Reason For Submission:	**New**
Expected PPAP Submission Date:	**date**	Start of Production:	**date or TBD**

	Category	PPAP Submission Items	R Y G	*Eaton* Required	*Supplier* Reported	Comments
		Count of devices w/R&R below 30%; >30% requires Reaction plan		0		
9.	Dimensional Results	Count of dimensions/features checked on current print.				
		Count of critical characteristics on current print.		0		
		All features within spec?		y		
		Count of pieces in full layout		2		
		Parts per cycle (no or cavities, molds, etc) vs. parts inspected				
		Ballooned print matches dimensional report		y		
10.	Material, Performance Test Results (100% Conformance to all Material and Performance Testing requirements per EATON Eng Spec)	Materials Testing is required		n		
		Functional testing (PV) is required		n		
		Report is submitted by certified laboratory		n		
		Inspection reports complete		n		
		Performance report data (per Eaton PS)		n		
		Written notification by Eaton Engineering Representative if Material / Test report is not required		n		
11.	Initial Process Studies	Count of pieces processed in pilot run		30		
		Count of pieces per cycle				
		Count of pieces in capability studies (30-pcs standard)		0		
		Count of CTQ's on current print.		0		
		X-R bar chart / range bar chart at least per each characteristic (Stability and normality included on the IPS)		n		
		Statistical method was Eaton approved		n		
		Count of features >=1.67 Cpk		n		
12.	Qualified Laboratory Documentation	All laboratories are ISO/IEC 17025 certified		n		
		Certifications are current		n		
13.	Appearance Approval Report (AAR)	Count of features on AAR		0		
		Complies with customer standards		n		
		Report approved		n		
14.	Sample Product (submitted w/PPAP)	Count of pcs submitted		30		
		Packaging is appropriate for this part		y		
		Parts are properly identified as PPAP samples		y		
		Each sample identified and correlates to dimensional report		y		
		Parts were processed in the permanent mfg. process		y		
15.	Master Sample (retained at Supplier location)	Sample is required per APQP		n		Determined during APQP process
		Master Sample is properly identified including mfg date, dimensional report, cavity, mold, etc.		y		
		Storage location is suitable to maintain integrity of sample		y		
16.	Checking Aids	Validation process is defined and schedule established		y		
		Validation records are maintained		y		
		Master is visually color-coded as PASS (Green) or FAIL (Red)		y		
		Reaction plan is published and followed, training is documented		y		
17.	Records of Compliance With Customer Specific Requirements	Evidence of IMDS submission/acceptance		y		
		Packaging instructions or proposal		y		
		List of Eaton-owned property: equipment/tooling/patterns		y		
		Preventative Maintenance Plan (Only key equipment);		y		
		Assembly trials required		y		Primarily required for machining, casting products
		CTQ/MKC/KCC/Critical characteristic list and indices		y		
		PPAP required to be submitted in English		y		
		Other established by Eaton during the Project		y		
18.	Part Submission Warrant (PSW)	AIAG format is followed		y		
		Part number revision level matches the drawing		number		
		All fields filled out (tolerances, specs, linked to standards, etc.);		y		
		"Submission results" section agrees with disposition		y		
		If "Submission results" = "NO", is explanation included?		y		

Approval of PPAP Plan

Supplier Representative Name Title Date

Customer Representative Name Title Date

Add special notes here. Description of Level 4 requirements.

Eaton PPAP Preparation Checklist

Purpose:

The purpose of this workbook is to provide a tool for the supplier to compare the content of their PPAP to the expectations of Eaton for the part.

Scope:

List the technical documents related to the part; engineering drawings, specs, etc.

Communicate the general Eaton expectations for the PPAP completion.
This document does not supersede any engineering document or specfication, nor does it take precedence over the WISPER system.

Instructions:

Refer to the data in column E for the Eaton expected result for each PPAP item.
Note that if this cell is BLANK, Eaton has not specified a response. The supplier should enter an appropriate response.
Record the result from the Supplier PPAP in the adjacent column F. *Note that some cells are 'protected' so that entries are prevented.*
If the two columns agree, then the adjacent cell in column D will be colored **GREEN**. No further action is required by the Supplier.
If the two columns DO NOT agree, then the adjacent cell in column D will be colored **RED**. In this case, the Supplier must take corrective action such that the PPAP result agrees with the Eaton expected result.
If the Supplier submits the PPAP with any items in disagreement, the future corrective action must be noted in the "Comments" column of this form and, if required, documented in an 8D included with the PPAP submission.
Eaton only: Enable protection on "part" tab prior to distribution.

18-Point PPAP Plan Approval and Waiver

PPAP Submission Level: 1 2 3 4 5

Customer / Supplier: **EATON Truck** / **Supplier's name**	
Part Name: **Part name**	Part Number: **Part number**
Engineering Change Level: **ECN level**	Reason For Submission: **Reason for submission**
Expected PPAP Submission Date: **Date**	Start of Production: **Date**

PPAP Submission Items

1.	Design Records	a) Current Level Blueprint b) EATON Engineering Specs (Applicable pages only) c) Other relevant specs (Applicable pages only) **What to look for:** a) Documents and specs available and at the latest levels; b) Itemized list of documents and rev levels
2.	Engineering Change Documents	Any outstanding EC's included on part not included in Current Level Print **What to look for:** a) Engineering changes available and listed; b) Pending changes that may affect submission
3.	Customer Engineering Approval	Deviation Requests-Approved **What to look for:** a) Copies of approved deviations; b) Copies of submitted deviations awaiting approval; c) Copies of the approval of SREA (Supplier Request for Engineering Approval); d) Alignment with the rest of the documents (CP, FMEA, etc.)
4.	Design FMEA	Include (for DFMEA Supplier only) **What to look for:** a) At the latest level
5.	Process Flow Diagrams	Include **What to look for:** a) At the latest level; b) Alignment with the rest of the documents (CP, FMEA, etc.); c) Include out side processes (Subcontracted also); d) All operations included (from incoming to shipping); e) Dunnage, rework areas, inspection areas, storage, etc. included
6.	Process FMEA	Include **What to look for:** a) Actions with responsible and dates; b) If Severity ranked 9 or 10 with actions in place and top 3 overall RPNs; d) Severity, occurrence and Detection according to the table of AIAG

18-Point PPAP Plan Approval and Waiver

PPAP Submission Level: 1 2 3 4 5

		e) Alignment with the rest of the documents (CP, Flow diagram, etc.); f) AIAG format being used; g) Usage of poka-yokes; h) If it is a resubmission look for the revisions it has been had during the time; i) Usage of supplier DFMEA and former quality records to do the PFMEA j) Failure modes equal for all similar processes k) All Critical characteristics identified; l) All operations included (from incoming to shipping)
7.	Control Plan	Include (From Incoming to shipping) **What to look for:** a) With SPC for all CTQ/MKC/KCC/Critical characteristics; b) Robust and real reaction plan to protect Eaton; c) All fields filled out (tolerances, specs, linked to standards, etc.); d) In accordance with the TSP no.7 and no. 10 (Poka-yokes and OEM Touch points) NOTE: Provide to the Supplier with these requirements; e) Full gages description; f) Finish dimensional and tolerances matches the drawing; g) AIAG format being used; h) Inspection frequencies are appropriate; i) Controls aligned with the PFMEA; j) Alignment with the rest of the documents (Flow diagram, FMEA, etc.) l) All operations included (from incoming to shipping);
8.	Measurement System Analysis (MSA)	Include MSA's for all equipment / measuring devices / testers utilized in identifying acceptability of product, and also for the critical characteristics; Max. 30% **What to look for:** a) At least R&R for testers, and gages/equipment to measure critical characteristics; b) Reaction plan for R&R between 20% & 30%; c) MSA done using production parts not with using masters; d) Measurement method matches the gages in control plan; e) Bias, Linearity, Stability and gage R&R
9.	Dimensional Results	100% Layout to Current Level Print Marked bold the CTQ/MKC/KCC on dimensional report **What to look for:** a) Include all characteristics in the print; b) All characteristics within spec; c) Ballooned print and it matches with the no. assigned on the dimensional report; d) Eaton dimensional report (Not needed for PPAP book, but nice to have); e) Balloon the notes too (all of them); f) Amount of pieces used for the 100% dimensional report in accordance with the agreement on the APQP Process; g) Expect dimensional report by each cavity / mold; h) Report the measurements in the same scale as the drawing
10.	Material, Performance Test Results	100% Conformance to all Material and Performance Testing requirements per EATON Eng Spec **What to look for:** aa) Documentation of the heat treat source (if applicable)

18-Point PPAP Plan Approval and Waiver

PPAP Submission Level: 1 2 3 4 5

		a) Submitted by a certified laboratory; b) Certifications test report; c) Metallurgical and composition reports (If applicable); d) Eaton results (Not needed for PPAP book, but nice to have); e) Performance report data (per Eaton PS); f) Written notification by Eaton Engineering Representative if Material / Test report is not required;
11.	Initial Process Studies	Include IPS's showing compliance to Capability >/= 1.67 **What to look for:** a) At least for CTQ/MKC/KCC/Critical characteristics; b) At least 30 pieces used on the analysis per: cavity/mold/work fixture/etc.; c) X-R bar chart / range bar chart at least per each characteristic (Stability and normality included on the IPS); d) Statistical method should be Eaton approved; e) By individual characteristic
12.	Qualified Laboratory Documentation	Include documentation showing Qualified Lab Certification for all dimensional / performance testing **What to look for:** a) Certifications not expired; b) All different suppliers certifications; c) Supplier or external supplier has to be ISO/IEC 17025 certified
13.	Appearance Approval Report (AAR)	If applicable (shift knobs plastic body, medallions, etc.) **What to look for:** a) According to the customer standards; b) Report approved
14.	Sample Product	Up to 30 pieces (Upon Eaton Request) **What to look for:** a) Appropriate packaging; b) Pieces run at the permanent manufacturing line; c) Properly identified as PPAP samples; d) Sample should be number to correlate the dimensional report
15.	Master Sample	Retain at **Supplier location** **What to look for:** a) During APQP: Eaton establish if required or not and the timing of retention; b) Well identified including mfg date, dimensional report, cavity, mold, etc. c) To be kept in a safety place; d) Available upon Eaton request
16.	Checking Aids	Include supporting documentation for any product-unique checking aids (Prints, EC Level, ID, etc) **What to look for:** a) What masters are used to ensure the gage is being given confident results, ID on each, controlled, maintained, etc.; b) Frequency of mastering those gages
17.	Records of Compliance With Customer Specific Requirements	Evidence of IMDS submission/acceptance

18-Point PPAP Plan Approval and Waiver

PPAP Submission Level: 1 2 3 4 5

		Include: a) Packaging instructions, b) Eaton equipment/tooling property master list, c) Preventative Maintenance Plan, d) For machining and casting products assembly trials required; **What to look for:** a) IMDS documents; b) Packaging instructions; c) Eaton property equipment/tooling/patterns master list; d) Preventative Maintenance Plan (Only key equipment); e) For machining and casting products assembly trials required; f) For CTQ/MKC/KCC/Critical characteristic list and indices; g) All PPAPs required to be submitted in English; h) Other established by Eaton during the Project
18.	Part Submission Warrant (PSW)	Include **What to look for:** a) With all fields properly filled; b) Comments field properly filled and comprehensible; c) Revision level matches the drawing (has to be at minimum the ECN no.); d) Usage of the format AIAG latest edition

Supplier Approval of PPAP Plan _____ Title _____ Date _____

Customer Approval of PPAP Plan _____ Title _____ Date _____