OSHKOSH DEFENSE

YOUR MISSION.
OUR HONOR

COMPONENT FIRST ARTICLE TESTING (CFAT)

08/20/2024

SUPPLIER SYMPOSIUM 2023

CFAT AGENDA

1. What is CFAT?
2. Introduction.
3. Documentation.
4. How to determine CFAT actions.
5. Test Scheduling and documentation submittal.
6. Print note examples.
7. Plan population.
8. Report population.
9. PCN form.
10. Lab qualification documentation.
11. FAQ’s.

WHAT IS CFAT?

- CFAT stands for Component First Article Testing.
- It is an additional quality assurance testing requirement that focuses on performance, durability, and environmental specifications.
- CFAT is found primarily within the FMTV and JLTV contracts.

CFAT INTRODUCTION

FMTV-A2 CFAT, Customer is TACOM

What does FMTV-A2 Stand For?

- **F**amily of **M**edium **T**actical **V**ehicles (2nd Generation)

What does TACOM Stand For?

- **T**ank **A**utomative and Armament **COM**mand

JLTV A0/A1 CFAT, Customer is JPO JLTV

What does JLTV A0/A1 Stand For?

- **J**oint **L**ight **T**actical **V**ehicles (A0/A1 Generation)

What does JPO Stand For?

- Joint Programs Office

CFAT OVERVIEW

Notification of CFAT

Retain CFAT Samples

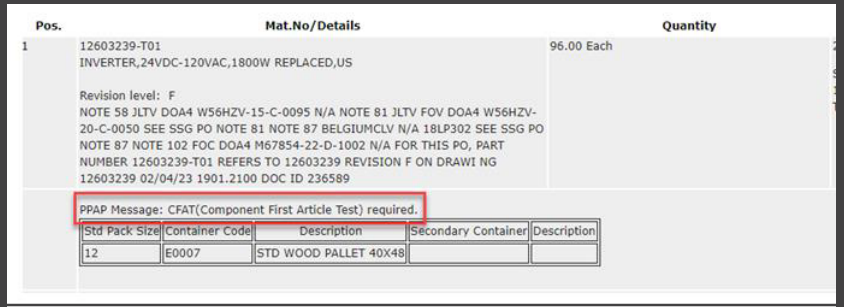
Draft CFAT Plan (FMTV) and submit 30 days prior to test.

Perform test activity

Draft CFAT report and submit no later than 30 days after test.

PPAP must be completed and submitted for OSK to combine with CFAT.

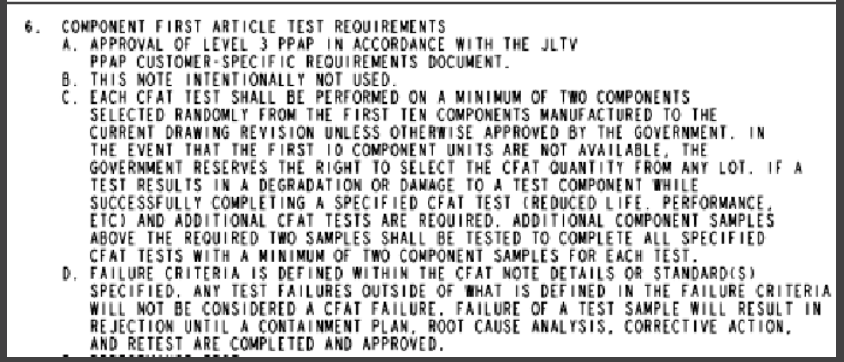
After CFAT and AQE teams review and approve, the documents will be submitted to government for disposition.



Pos.	Mat.No/Details	Quantity
1	12603239-T01 INVERTER,24VDC-120VAC,1800W REPLACED,US Revision level: F NOTE 58 JLTV DOA4 W56HZV-15-C-0095 N/A NOTE 81 JLTV FOV DOA4 W56HZV-20-C-0050 SEE SSG PO NOTE 81 NOTE 87 BELGIUMCLV N/A 18LP302 SEE SSG PO NOTE 87 NOTE 102 FOC DOA4 M67854-22-D-1002 N/A FOR THIS PO, PART NUMBER 12603239-T01 REFERS TO 12603239 REVISION F ON DRAWI NG 12603239 02/04/23 1901.2100 DOC ID 236589	96.00 Each

PPAP Message: CFAT(Component First Article Test) required.

Std Pack Size	Container Code	Description	Secondary Container	Description
12	E0007	STD WOOD PALLET 40X48		



6. COMPONENT FIRST ARTICLE TEST REQUIREMENTS
   A. APPROVAL OF LEVEL 3 PPAP IN ACCORDANCE WITH THE JLTV PPAP CUSTOMER-SPECIFIC REQUIREMENTS DOCUMENT.
   B. THIS NOTE INTENTIONALLY NOT USED.
   C. EACH CFAT TEST SHALL BE PERFORMED ON A MINIMUM OF TWO COMPONENTS SELECTED RANDOMLY FROM THE FIRST TEN COMPONENTS MANUFACTURED TO THE CURRENT DRAWING REVISION UNLESS OTHERWISE APPROVED BY THE GOVERNMENT. IN THE EVENT THAT THE FIRST 10 COMPONENT UNITS ARE NOT AVAILABLE, THE GOVERNMENT RESERVES THE RIGHT TO SELECT THE CFAT QUANTITY FROM ANY LOT. IF A TEST RESULTS IN A DEGRADATION OR DAMAGE TO A TEST COMPONENT WHILE SUCCESSFULLY COMPLETING A SPECIFIED CFAT TEST (REDUCED LIFE, PERFORMANCE, ETC) AND ADDITIONAL CFAT TESTS ARE REQUIRED, ADDITIONAL COMPONENT SAMPLES ABOVE THE REQUIRED TWO SAMPLES SHALL BE TESTED TO COMPLETE ALL SPECIFIED CFAT TESTS WITH A MINIMUM OF TWO COMPONENT SAMPLES FOR EACH TEST.
   D. FAILURE CRITERIA IS DEFINED WITHIN THE CFAT NOTE DETAILS OR STANDARD(S) SPECIFIED. ANY TEST FAILURES OUTSIDE OF WHAT IS DEFINED IN THE FAILURE CRITERIA WILL NOT BE CONSIDERED A CFAT FAILURE. FAILURE OF A TEST SAMPLE WILL RESULT IN REJECTION UNTIL A CONTAINMENT PLAN, ROOT CAUSE ANALYSIS, CORRECTIVE ACTION, AND RETEST ARE COMPLETED AND APPROVED.

CDRL E003 CFAT INTRODUCTION

How do I know if a part requires CFAT?

- Oshkosh Purchase Order
  - Message on PO states CFAT is a requirement, a separate PO may be needed for testing.
- Print note requirements on the drawing.
- CFAT Engineer or Advanced Quality Engineer contact.

CFAT DOCUMENTS:

Necessary Information

CFAT Engineering or Advanced Quality Teams will guide you as to what documentation or necessary information will be required.

Help is Available

CFAT Engineering or Advanced Quality Teams are available to ***help*** assist and provide recommendations while you create documents, test plans, reports, etc..

Use Appropriate Templates

Use the appropriate template for the activity: Check FMTV VS. JLTV and Plan VS. Report (FMTV uses E003 forms for plans and reports!) Forms are available on the OSN portal.

Link: https://osn.oshkoshcorp.com/en/supplier-resources/training/supplier-quality-core-tools

Do NOT Leave Blanks

Fill out all information completely— “TBD”s and “N/A”s are permissible if truly applicable, but all parts of the document should have a considered Supplier response present.

HOW TO DETERMINE CFAT ACTIONS:

1. New part, or New Supplier of a Part

- Either instance will ALWAYS require a full CFAT (Plan and Report)

2. Revision Change (ECP/CN)

- Requires additional testing (meaning new plan and report)
- Minor changes (administrative in nature) may be covered by PPAP
- Each change is evaluated on an individual basis and presented to JPO / TACOM

3. Process Change (Reliance Change Management)

- Requires additional testing (meaning new plan and report)
- Example of process changes: Moving to new facility, relocating equipment to a new location within the same shop, automated vs. manual production, new tooling etc.

HOW TO DETERMINE CFAT ACTIONS:

➢ Major Differences Between JLTV and FMTV A2 CFAT

- **QUANTITY**
  - Quantity 2 components are required at a minimum for JLTV CFAT.
  - Quantity 1 component is required for FMTV A2 CFAT.
- **PLAN DOCUMENTATION**
  - Plans are required for FMTV A2, they are not required for JLTV.
  - Communication of test start and end dates (Gannt Chart, MS Project timeline) are required for JLTV.
- **CHANGES / SUSTAINMENT**
  - **JLTV:** Administrative changes that do not affect fit/form/function are conveyed to JPO by a **PCN (P**art **C**hange **N**otification) coupled with the updated PPAP and requires submittal and customer review. This will be explained later in the presentation.
  - **FMTV:** Administrative changes that do not affect fit/form/function are conveyed to TACOM by means of an updated PPAP, no PCN submittal for FMTV.
  - **Changes that do affect fit/form/function will require either a partial or 100% retest.**

TEST SCHEUDLING & SUBMITTING DOCUMENTS:

1. Submitting Documents:

- All documents must be submitted through a secure file transfer site such as **“MOVE IT”. DO NOT EMAIL THE DOCUMENTATION!**
- Working with DT to create a CFAT submittal space within the PPAP module in Reliance.

2. Timing:

- Test plans must be submitted at LEAST 30 calendar days prior to the start of test/inspection
- Test reports must be submitted within 30 calendar days of completion of a CFAT test.

3. Government / DCMA Witness

- Government and/or DCMA may request to witness testing.
- For this reason, it is imperative the test plans MUST be submitted *at least* 30 calendar days prior to the testing.

PRINT NOTES:

Non-Electrical Example

13. COMPONENT FIRST ARTICLE TEST REQUIREMENTS
    A. COMPLETE DIMENSIONAL PART LAYOUT.
    B. COMPLETE NOTE, IDENTIFICATION MARKING, & TITLE BLOCK VERIFICATION.
    C. EACH CFAT TEST SHALL BE PERFORMED ON A MINIMUM OF ONE COMPONENT SELECTED FROM COMPONENTS MANUFACTORED TO THE CURRENT DRAWING REVISION.
    D. FAILURE OF ANY TEST SAMPLE SHALL BE CAUSE FOR REJECTION OF THE ENTIRE REPRESENTATIVE PRODUCTION LOT. ITEMS SHALL NOT BE PRESENTED FOR ACCEPTANCE AFTER A FAILURE UNTIL A CONTAINMENT PLAN, ROOT CAUSE ANALYSIS, CORRECTIVE ACTION, AND RETEST ARE COMPLETED AND APPROVED.
    E. COMPLETE PERFORMANCE VERIFICATION OF NOTED TEST REQUIREMNETS. SEE NOTE NO. 5.

Electrical Example

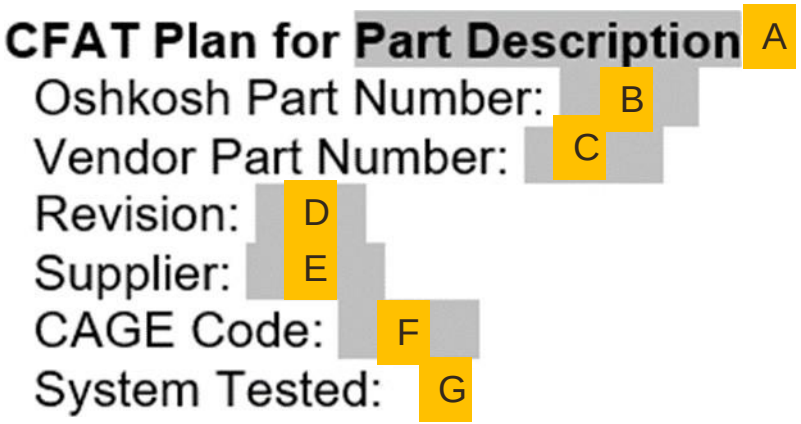
3. SCOPE AND GENERAL REQUIREMENTS FOR MANUFACTURING, COMPONENT FIRST ARTICLE TESTS (CFAT), AND ACCEPTANCE OF ELECTRICAL CABLE ASSEMBLIES SHALL BE IAW DRAWING 12646131.

Non-Electrical / Electrical Examples

- Noes A-D in the first example are always present in the CFAT Requirements note, but this example also has an E, demands another note be verified—**this would be true even without note E. All notes must always be tested and met for a successful CFAT test.**
- Consider the CFAT Requirements note just one of many to look at and verify. All notes on a CFAT-required part are CFAT notes.

FMTV A-2 CFAT PLAN POPULATION

CDRL E003 PLAN COVER:



A. Enter the part description ***exactly*** as listed on the drawing
B. Enter the part number exactly as listed on the drawing
C. Enter your Vendor/Internal Part number, if distinct from the Oshkosh PN
D. Enter the revision level of the part
E. Enter your company name
F. Enter your supplier manufacturing cage code ID (***DO NOT*** insert the Oshkosh, 75Q65 cage code)
   i. Five-digit alphanumeric code
   ii. https://cage.dla.mil/
G. ***This may be left blank***, and (along with some lines of the revisions page) will represent the only blank in a proper plan document—driven by Oshkosh contract, not supplier available info

CDRL E003 PLAN REVISION PAGE:

This is the only part on the revisions page you need to worry about – simply replace “Supplier Document Producers” with the names of people directly working on the document, and their employing company name(s).

Distribution

TACOM	Mark Melchior – Chief Quality Assurance
TACOM	Sean Yacoub – Product Quality Manager
AQE - Oshkosh Defense	Vanessa Lambert-Kaminski – Oshkosh Defense

Approval & Authorization

Prepared by:	Supplier Name	Date:	01/01/2023
Approved by:	Oshkosh Defense CFAT Team	Date:	01/01/2023
Authorized for issue by:	Andrew Martin	Date:	01/01/2023

Record of Revisions

Date	Version Number	Description of Revision
07/09/2019	0.1	Plan Template, compliant with Government specifications
	0.2	Submitted to Government
	0.3	Updated Personnel

CDRL E003 PLAN INTRODUCTION:

1.0 Introduction

Consists of an overview of the reasons this test is required as well as the objectives of the test plan, including milestones and personnel participation.

Introduction should provide an overview of the Test Plan document itself—list the sections of the document, essentially.

Ex – "This test plan outlines the testing proposed by [Supplier Name] to meet CFAT requirements. General testing procedure and the details of each test will be outlined through a Flow Diagram, Equipment List, and Master Test List – other sections will provide the intended Schedule, Participants, and Locations to be used, along with details of safety and any special testing. A copy of the Print will be attached."

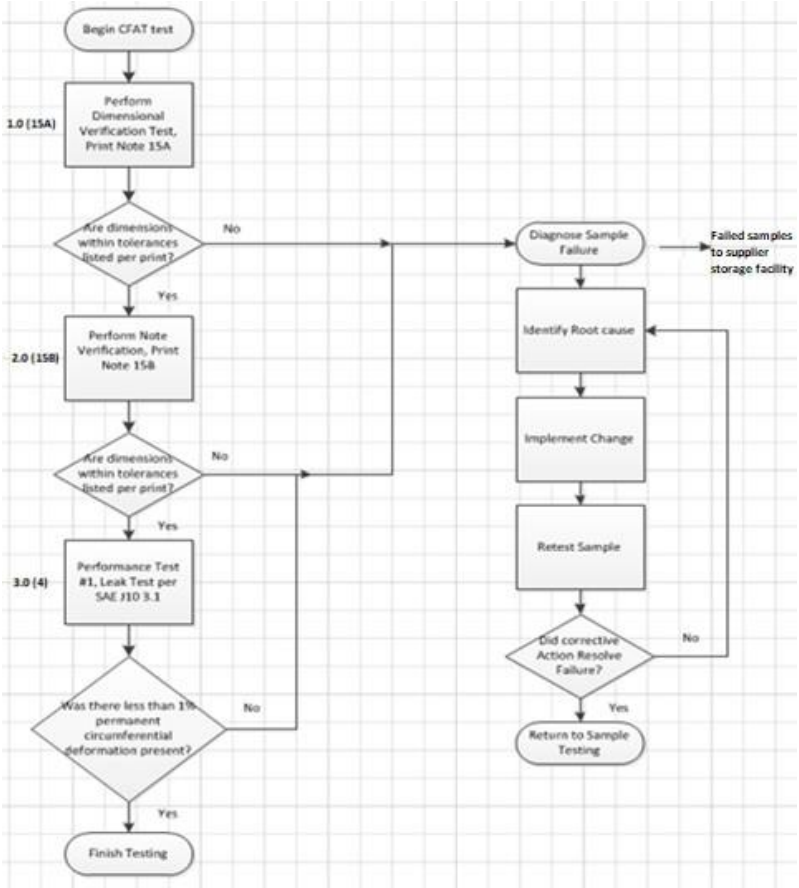
CDRL E003 PLAN FLOW DIAGRAM:

2.0 **Flow Diagram** – Attached on Page #. Should reflect a functional description of testing in block diagram format comprised of functions needed to form the total test program, covering all verifiable print notes as well as post-testing report generation. Blocks should be numbered sequentially. They should also have associated print note numbers in parentheticals. For instance, if print note 2 provided the first testable print note, 1.0 (2) would be next to said test's block. Responses to failure should be present in the PFD. Should show steps to rectify said failure, and address handling of failed samples. All tests should be individually portrayed and in appropriate sequence to match order in which they will be performed. Ordering and numbering should match Master Test List.

Flow Diagram—diagram attached at the end of the document, section title and page citation at the front of the document.

i. Flow diagram represents the test process (not manufacturing)
ii. Must be in block format, with a clear sequence—order of tests must be clear, and all tests should be independently listed
iii. Responses to failure should be present in the PFD. Should show steps to rectify said failure, and address handling of failed samples.
iv. Blocks should be numbered sequentially. They should also have associated print note numbers in parentheticals. For instance, if print note 2 provided the first testable print note, 1.0 (2) would be next to said test's block.
v. Should align with the implied testing procedure in Master Test List

FLOW DIAGRAM EXAMPLE:



CDRL E003 PLAN, SCHEDULE & MILESTONES:

3.0 Schedule and Milestones

Outlines the schedule for every individual CFAT test to be conducted, as well as for subsequent Report generation. Schedule should detail start date and time, end date and time, and time consumed for each test, and for report generation. Precise dates are required—it is understood that these dates may be subject to change. Additionally, this section should provide a plan for addressing any deviations from schedule.

- States when testing will be performed
  - Define expected start date, expected time commitment, and expected end date
  - Should offer such definitions for all intended tests, as well as for a final milestone of report generation
- Clarifies whether testing is on schedule
- Provides a plan to address deviations in schedule.

SCHEDULE & MILESTONES, EXAMPLE:

Example

Company/Representative(s) proposes that CFAT testing begin at xx:xx am/pm on xx/xx/xxxx.

A *Specific Test will begin at xx:xx am/pm on xx/xx/xxxx. Specific Test is expected to take xx hours and be completed at xx:xx am/pm on xx/xx/xxxx.*

A *Specific Test will begin at xx:xx am/pm on xx/xx/xxxx. Specific Test is expected to take xx hours and be completed at xx:xx am/pm on xx/xx/xxxx.*

B *Report Generation will begin at xx:xx am/pm on xx/xx/xxxx. Specific Test is expected to take xx hours and be completed at xx:xx am/pm on xx/xx/xxxx.*

C *If Oshkosh Defense representative(s) and/or the Government Inspector is unable to attend this time/date, a subsequent mutually agreed upon date will be determined.*

A. Break down the schedule into specific milestones, list by test. Start/end dates and times must be incorporated for each test. List the duration time for each test, meaning the amount of time the test will actually take, not set-up times. (Note: the time should be concurrent with the durations listed in the master test list).
B. Additionally, as a final milestone, just as defined, have “Report Generation.”
C. This statement is a perfect example of how to write a “reschedule” statement.

CDRL E003 PLAN: LOCATION & CONTACT INFORMATION

4.0 Location & Participants

Include company name, address, and contact info for all testing locations.
List all participants; divide these lists by category.

Contractor Participants
Contractor POC / Title / Role in CFAT / Employer (list multiple if needed)

Oshkosh Corporation Participants
Oshkosh POC / Title / Role in CFAT / Employer (list multiple if needed)

Government Participants
Government POC / Title / Role in CFAT / Employer (list multiple if needed)

- This section serves to list the details of any supplier locations used in testing, as well as any participants from supplier, Oshkosh, and/or Government.
- Government and Oshkosh participants should have representative space in the CFAT Plan even prior to formal declaration of specific representatives.
- NOTE: ANY GOVERNMENT LOCATIONS USED FOR TESTING BELONG INSTEAD TO SECTION 9.0, GOVERNMENT TEST FACILITIES.

CDRL E003 PLAN: MASTER TEST LIST

5.0 **Master Test List** – Attached on Page #

The Master Test List should outline ALL print notes, including the print note Verbatim in the Note Requirement column. Test Description/Approach should be detailed and step by step, providing a complete overview of test execution—if such detail makes it unreasonable to fit inside the Master Test List, individual test protocols should instead be attached in appendices and referenced in the Master Test List instead.

- Table attached at the end of the document, section title and page citation at the front of the document.
- The Master Test List represents all CFAT print notes on the drawing and the test approach/criteria used to show conformance during the test process.

CDRL E003 PLAN: MASTER TEST LIST- TESTABLE NOTES

MASTER TEST LIST – TESTABLE NOTES										
Sequential Test # + (Print Note #)	Note Requirement (Print Note, Verbatim)	Functional Category	Applicable Specifications and/ or Baseline	Parameters	Success / Failure Criteria	Duration of each Test	# of Times each Test Performed	Test Description / Approach (LARGE ENTRIES TO APPENDIX)	Instrumentation Used to Record Data	Data Analysis / Validation Procedure
(ex.)	*Hose must withstand pressures up to 700 PSI for 15 minutes per SAE J10 3.1 and not deform more than 1% in circumference*	*Performance*	*SAE J10 3.1*	*700 PSI for 15 minutes*	*Less than 1% permanent circumferential deformation*	*15 minutes*	*1x*	*Hose will be pressure tested utilizing Widget Industries high pressure tester. Measurements will be taken immediately prior and after test*	*Pressure Gage, Calipers, Stopwatch*	*Appropriate pressure and time will be monitored. Beginning and ending measurements will be taken*
A	B	C	D	E	F	G	H	I	J	K

A. List the sequential number of each test to be performed, in the order they are performed.
B. Copy the print note from the drawing, VERBATIM. Should be exact.
C. List the test classification category the CFAT requirement pertains to. I.e. cold temperature test = environmental
D. List applicable specification(s). i.e. MIL-STD-130, SAE J10 3.1, etc.
E. List parameters per the specification, i.e. 700 PSI, +/- .50mm, 4000 RPM
F. List success/ failure criteria, i.e. verify voltage is within +/-.2V
G. List the duration of the test, i.e 15 minutes, 200 hours, 10 weeks
H. List the number of times each test is performed, x1, x20 etc.
I. Describe the steps used to validate the note, i.e. Leak testing shall be performed, pressure readings will be taken before, during and after testing. THOROUGH, STEP BY STEP. FOR ANY COMPLEX PROCEDURE, WHERE STEP BY STEP PROCESS WILL BE OF SOME LENGTH, PUSH PROCEDURE TO AN APPENDIX AND REFERENCE HERE.
J. Note the measuring device or instrumentation used to record the data, i.e. Caliper, Faro Arm etc.
K. List the data analysis or validation procedure, i.e. Monitored performance leak test with measurements taken at different intervals during the test that show conformance to note X.

CDRL E003 PLAN: MASTER TEST LIST- NON-TESTABLE NOTES

MASTER TEST LIST – NON-TESTABLE NOTES FOR VERIFICATION AND ACKNOWLEDGEMENT	
(Print Note #)	Note Requirement (Print Note, Verbatim)
(ex.)	*APPLICABLE STANDARDS / SPECIFICATIONS: A. ASME Y14.100-2017 B. ASME Y14.5-2009*
A	B

A. List the print note number of the print note to be represented, in parentheses.
B. Copy the print note from the drawing, VERBATIM. Should be exact.
   - For notes that are not directly tested, but require verification by certification, write an explanation for how they are address/covered under this print note reproduction in bolded text. See example line below.

4	FINISH PROTECTIVE FINISH IAW 12420325 METHOD 10, BLACK. ***NOTE: Certification to be provided by painter in test report.***

CDRL E003 PLAN: SECURITY & SAFETY

6.0 Security and Safety

List security measures or guidelines to be observed. If none are required, instead put N/A – Not Required.

- Explain any security/safety measures or guidelines that must be observed in the testing.
- *Ex – "Safety Glasses must be worn in test space. Ear protection must be worn in test space. Footwear must be close toed."*
- If no specific observations are needed here, do not leave this space blank: insert "N/A" or "Not Applicable."

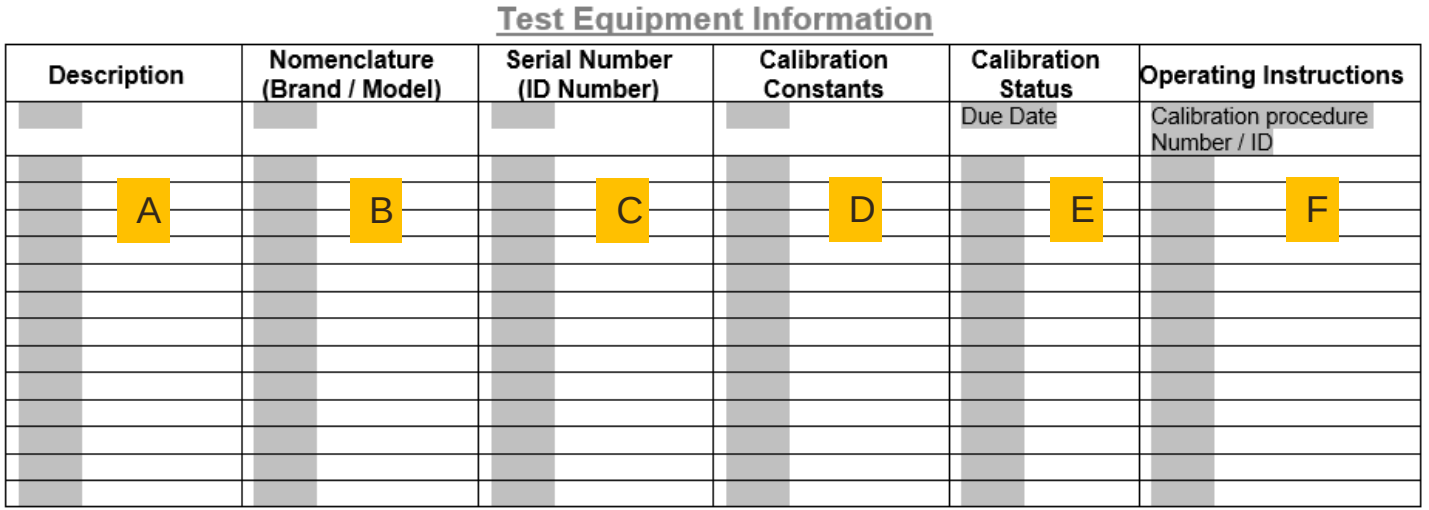
CDRL E003 PLAN: SPECIAL TESTS

7.0 Special tests

If required, a list of special tests to be conducted, and any needed details or documents necessary for their execution. If none are required, instead put N/A – Not Required.

- If you have a special or unusual test, insert all information regarding the test here.
- These are tests ***not dictated by print notes***—as such, this section should only be relevant in the case of unusual testing demands from customer.
- If you do not have any special tests, please insert ‘Not Applicable’ in this space, or place N/A. Do not leave blanks in the plan form!

CDRL E003 PLAN: TEST AND SUPPORT EQUIPMENT



Test Equipment Information

Description	Nomenclature (Brand / Model)	Serial Number (ID Number)	Calibration Constants	Calibration Status	Operating Instructions
				Due Date	Calibration procedure Number / ID
A	B	C	D	E	F

A. Provide a description of the instrumentation used, i.e. Calipers, height gauge etc.
B. Nomenclature: I.e. Mitutoyo/350D make model, Starrett/model
C. List the serial number or internal tracking ID, i.e. 544872, C-17-NL etc..
D. Calibration constants: Gage blocks, Master thread gauge, etc..
E. Calibration status: List the date in which calibration for the instrumentation is due.
F. List any special operating instructions that are applicable.

CDRL E003 PLAN: GOVERNMENT TEST FACILITIES

9.0 Government test facilities

Outline any government test facilities that will be needed for testing. If none are needing, instead put N/A - Not Required.

Filled out exactly like section 4.0, if used.

If no government test facility is to be used, put an N/A.

CDRL E003 PLAN: DRAWING

10.0 **Oshkosh Drawing** – Attached on Page #. Place a copy of the OSHKOSH part drawing here; this is to ensure print notes and part details are available inside the document. DO NOT INCLUDE A COPY OF THE SUPPLIER PART DRAWING IN THE CFAT PLAN.

- Images of the Oshkosh Drawing should be attached to the end of the plan. This provides additional details on the part to any reader and allows confirmation of print notes and other part details.
- DO NOT INCLUDE a copy of the supplier drawing.

CDRL E003 PLAN: FINAL CHECKS

- The footer of the document should be left per the template dates. “Version No:” does not need to be updated to your document specifically.

- Make sure your page numbers remain consistent, with cover page labeled “Page 1” and iterating consistently from there.

CDRL E003 PLAN: FINAL CHECKS

- Check that all details drawn from the part drawing are accurate to the drawing—print notes exactly copied, matching numbers, and all tests accounted for.

- Check to ensure no sections or table entries are left blank: have “N/A” for anything not applicable to your testing, or “TBD” for anything that remains unknown.

CDRL E003 PLAN: RECAP & MISC. NOTES

- Upload test plan and supporting documentation to Move It– do not send through e-mail. Send an email to your CFAT Engineer / AQE informing them to download and review.
- Provide at least 30 days from your first draft submission to start of testing (or document review). 45-60 is advised if this is your first plan, to allow for the possibility of back and forth with Oshkosh before gov. submission.
- Make sure to use the most current revision of the print(s) when developing the test plan.
- The CFAT Engineer will forward the notification from TACOM (Tank-Automotive and Armament Command) when the CFAT plan is dispositioned indicating if GSI (Government Source Inspection) /DCMA (Defense Contract Management Agency) witness is required.
- If GSI / DCMA is required, you will need samples available for inspection and testing.
- The test schedule may need to shift based on the QAR's (Quality Assurance Representative) and/or OSK's availability.

OSHKOSH DEFENSE

YOUR MISSION. OUR HONOR

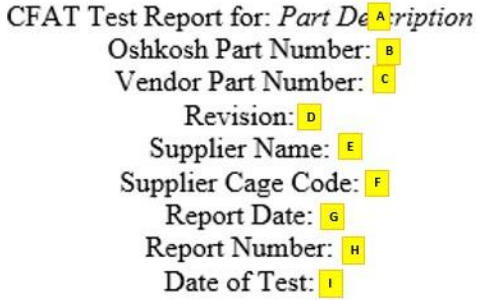
10 MINUTE BREAK

JLTV / FMTV A-2 CFAT REPORT POPULATION

JLTV / FMTV CFAT REPORT TIMING AND SUBMISSION REQUIREMENTS

- **Submitting Documents:**
  - All documents are submitted through “**MOVE IT”. DO NOT EMAIL THE FILES!** Upload them to MoveIT, and then use email to inform other parties the file is on MoveIT.
- **Timing:**
  - Test reports must be submitted within 30 days of completion of a CFAT test.

CDRL E003 REPORT: COVER



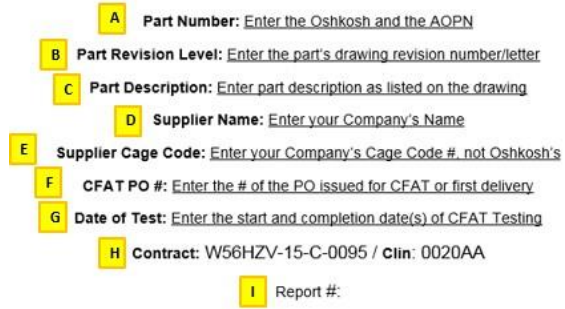
A. Enter the part description as listed on the drawing
B. Enter the Oshkosh part number exactly as listed on the drawing
C. Enter any internal/supplier part number used, if a distinct internal number from the Oshkosh PN exists.
D. Enter the revision level of the part.
E. Enter your company name
F. Enter your supplier manufacturing cage code ID. If any third-party test facilities were utilized, please include these as well
   I. Five digit alphanumeric code
   II. https://cage.dla.mil/
G. Enter the date of Report submission
H. Report numbers will be supplied to you by your CFAT coordinator
I. Include the start and end dates on which testing occurred

FMTV Report Cover

- **Includes Vendor Part Number**

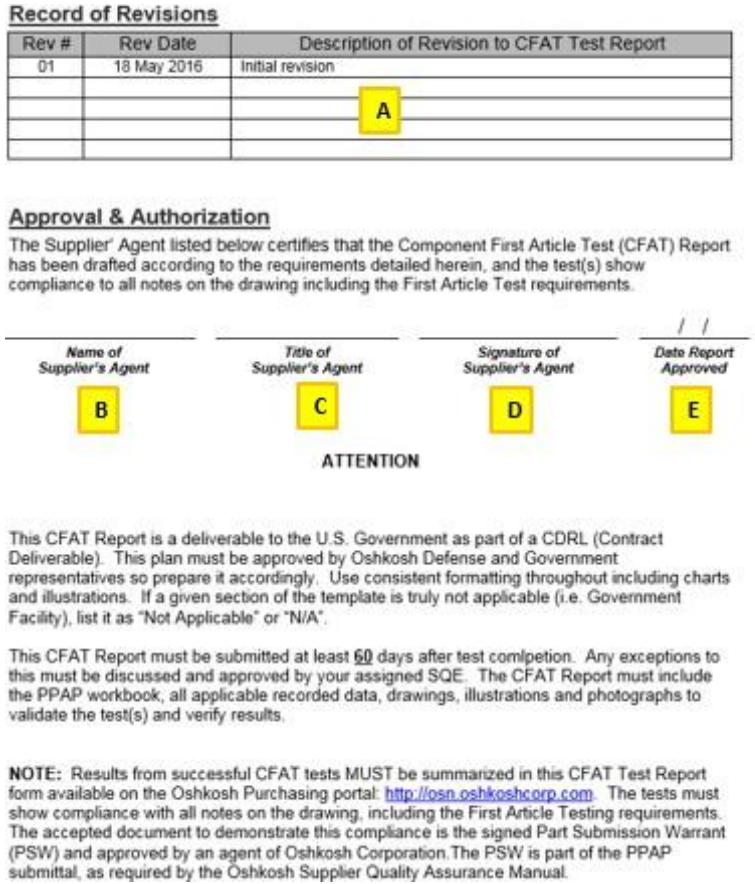
JLTV Report Cover

- **Includes Contract Number**
- **Includes CFAT PO Number**



A. Enter the part number exactly as listed on the drawing
B. Enter the revision level of the part.
C. Enter the part description as listed on the drawing
D. Enter your company name
E. Enter your supplier manufacturing cage code ID. If any third-party test facilities were utilized, please include these as well
   i. Five digit alphanumeric code
   ii. https://cage.dla.mil/
F. Enter the PO number that was issued with CFAT testing language
G. Include the start and end dates on which testing occurred
H. Contract and Clin numbers should remain as they are on the template
I. Report numbers will be supplied to you by your CFAT coordinator

CDRL E003 REPORT: RECORD OF REVISIONS



Record of Revisions

Rev #	Rev Date	Description of Revision to CFAT Test Report
01	18 May 2016	Initial revision

A

Approval & Authorization

The Supplier' Agent listed below certifies that the Component First Article Test (CFAT) Report has been drafted according to the requirements detailed herein, and the test(s) show compliance to all notes on the drawing including the First Article Test requirements.

Name of Supplier's Agent	*Title of Supplier's Agent*	*Signature of Supplier's Agent*	*Date Report Approved*
B	C	D	E

ATTENTION

This CFAT Report is a deliverable to the U.S. Government as part of a CDRL (Contract Deliverable). This plan must be approved by Oshkosh Defense and Government representatives so prepare it accordingly. Use consistent formatting throughout including charts and illustrations. If a given section of the template is truly not applicable (i.e. Government Facility), list it as "Not Applicable" or "N/A".

This CFAT Report must be submitted at least 60 days after test comlpetion. Any exceptions to this must be discussed and approved by your assigned SQE. The CFAT Report must include the PPAP workbook, all applicable recorded data, drawings, illustrations and photographs to validate the test(s) and verify results.

NOTE: Results from successful CFAT tests MUST be summarized in this CFAT Test Report form available on the Oshkosh Purchasing portal: http://osn.oshkoshcorp.com. The tests must show compliance with all notes on the drawing, including the First Article Testing requirements. The accepted document to demonstrate this compliance is the signed Part Submission Warrant (PSW) and approved by an agent of Oshkosh Corporation.The PSW is part of the PPAP submittal, as required by the Oshkosh Supplier Quality Assurance Manual.

A. Insert the revision level (first 01), date, and initial revision for the first submission. If revisions or corrections need to be made, state the next revision (02, 03, etc…), date, and list revisions since the last submission.
B. Type the name of the supplier's representative for CFAT activities.
C. Insert the representative's title.
D. Signature of the supplier's representative is required.
E. Insert the date the report is approved by the supplier.

CDRL E003 REPORT: TABLE OF CONTENTS

Table of Contents

Once the rest of the report is complete, please return to this page and ensure that the section titles and pages align with the rest of the report. Page, identifying number, and title of each illustration (figures, tables, photos, charts, drawings, etc.) should be present in the Table of Contents.

CDRL E003 REPORT: INTRODUCTION

1.0 Introduction

A

1.1 Test / Inspection objective(s).

This report outlines how XYZ Industries met print requirements for drawing 12345678 revision -.

B

1.2 Item(s) tested/inspected.

a. Nomenclature: Widget
b. National Stock Number: 1234567891234
c. Part number: 12345678
d. Type of item: PRODUCTION
e. Serial or lot number: Not applicable for this part
f. Applicable engineering changes: Rev -
g. Production item specification: NOT APPLICABLE
h. Date of manufacture: August 7, 2018

C

1.3 Test/Inspection Requirements

Identify the test/inspection requirements correlated to contractual requirements including the following:

a. Required test/inspection parameters
b. Performance requirements, acceptance or compliance limits, and environmental criteria

This section should use your supplier-submitted plan as a source.

A. Enter in your company name, PN as it is listed on the drawing, and revision level of the drawing.

B. 1.2 Instructions:

a) Enter the part description as entered on the drawing.
b) Enter the National Stock Number of the part. If this is unknown, it has likely not been assigned, in which case this line can be filled out as N/A.
c) Enter the PN and Revision Level as listed on the drawing.
d) Include type of items tested.
e) Enter the heat lot and/or serial numbers of the test samples here.
f) Please list any approved ECPs associated with the PN here.
g) The drawing can be referred back to here.
h) Enter the Date(s) of manufacture for the test samples.

C. When drafting an FMTV report this section should draw from your CFAT Test Plan to provide testing parameters, pass/failure points, etc., as listed. If drafting a JLTV report, state an overview of the test requirements.

CDRL E003 REPORT: SUMMARY

2.0 Summary

A — A brief discussion of the significant test/inspection results, observations, conclusions, and recommendations:
Note how testing resolved—what notes were affirmed simply, what testing had noteworthy results with significant implications, general conclusions and recommendations to be drawn from testing results. Summarize testing results in general and in the specific where specific elements are noteworthy.

B — Proposed corrective actions and schedules for failures or problems encountered:
Offer propositions for corrective actions or reschedules as needed to work around failures/problems encountered—if none were encountered, put "None needed."

C — Identification of deviations, departures, or limitations encountered, referenced to the contract requirements:
Offers identification of any deviations, departures, or limitations encountered in testing with reference to the contract requirements—if none were encountered, put "None encountered."

D — Tables, graphs, illustrations, or charts as appropriate to simplify the summary data:
See Appendix A for Test Result Matrix

A. Provide a summary of the tests performed along with the results.
B. Provide a description of any failures which occurred along with the associated corrective actions.
C. Describe any deviations from the CFAT plan (FMTV). This may include any issues with test equipment or any minor deviations from the schedule.
D. Include a summary table of performance data results taken.

CDRL E003 REPORT: REFERENCE DOCUMENTS

3.0 Reference Documents

A	Prior test inspection reports on the same item: N/A – no previous testing on this item
B	Test /inspection plans and procedure documents: Reference CDRL E003 – [Your Plan Document's associated PN and date of submission]
C	Prior certifications of compliance: N/A – No previous CFAT on this item
D	Contractor's file designation where test/ inspection records are maintained: Files stored electrontically on an internal company server, for extent of contract
E	Input parameters used / Applicable Specifications: See Test Result Matrix (Appendix A) for a list of specifications

A. This field only applies if prior CFAT testing has been conducted on the same part.
B. For FMTV, use the part number and reference the date the E003 TACOM approval notification was sent. For JLTV, place N/A.
C. Any prior CFAT certifications for the PN would be referenced here. If there are none, this section should be completed as N/A.
D. Designate how and where CFAT records are being held.
E. List all standards used in CFAT testing as referenced in the drawing.

CDRL E003 REPORT: TEST EQUIPMENT IDENTIFICATION

4.1 Test equipment identification. See Appendix D.

APPENDIX D Test Equipment Information

Description	Nomenclature (Brand / Model)	Serial Number (ID Number)	Calibration Constants	Calibration procedures	Operating Instructions

Instrumentation

See Below

Indicate the type and recording devices that will be used and the number and types of parameters to be recorded

Data reduction and analysis

See Below

Describe data to be recorded and the data reduction and analysis techniques that will be used to interpret the data

Include a list of equipment used in testing. For FMTV reporting, the table from the CFAT plan can be used as reference, though if different equipment was used, any equipment not used from the plan should be removed from the list and replaced with the equipment used in CFAT.

CDRL E003 REPORT: TEST/INSPECTION FACILITY INSTALLATION AND SET-UP

1.2 Test/inspection facility installation and set-up

a. Location or orientation of the item:
i.e. See Test Set Up, Appendix B

b. Location, orientation, or settings of test equipment and instrumentation:
i.e. See Test Set Up, Appendix B

c. Location, orientation, or settings of sensors and probes:
i.e. See Test Set Up, Appendix B

d. Location or orientation of interconnections, cables, and hoop-ups:
i.e. See Test Set Up, Appendix B

e. Electrical power, pneumatic, fluidic, and hydraulic requirements:
i.e. See Test Set Up, Appendix B

(Drawings, illustrations, and photographs may be included in appendices for clarification.)

Describe the equipment set-ups of the testing performed in CFAT. Pictures and/or illustrations of the test set-up may be included in an appendix, though accompanying verbiage describing the photos should be included.

CDRL E003 REPORT: TEST / INSPECTION PROCEDURES

1.3 Test/inspection procedures

A Item selection and inspection that verified suitability for test/inspection:
Selected at random from the first production lot.

B Summarized sequence of testing/inspection steps, including a description of how the item was operated during the test/inspection, and any control conditions imposed:
Give a listing of how Print Notes were met, describing all means of handling the part tested and control conditions used. Draw from the plan document.

A. Describe the selection of the test samples.

B. Provide a summary of the testing that took place, which should include the sequence and a brief description of the test procedures.

CDRL E003 REPORT: TEST / INSPECTION RESULTS AND ANALYSIS

1.4 Test/inspection results and analysis

4.4.1 Recorded Data
The actual recorded data, ie: log book, entries, oscillographs, instrument readings, plotter graphs is provided in Appendix A.

4.4.2 Test/inspection results

A See Appendix A for Test Result Matrix.

B Discussion of these results as to how they compare to any prior test/inspections:
N/A, no previous CFAT tests for this part.

C Calculation examples:
List examples of all types of calculations performed in the course of testing, one example per type of calculation at minimum. N/A if none required.

D Discussion of anomalies, deviations, discrepancies, or failures, including their impact, causes, and proposed corrective actions. The discussion shall address discrepancies between design requirements and the tested/inspected Configuration:
[List things as above.]

A. Reference the section under which the data is provided in the report.
B. This field only applies if prior CFAT testing was conducted on this part.
C. Include any calculations that were used in the report.
D. Similar to section 2.0 C. in the Summary section, describe any anomalies or failures that occurred during testing.

CDRL E003 REPORT: CONCLUSIONS

4.5 Conclusions

a. The test inspection procedures were effective in measuring item performance.
b. The item(s) met all required test/inspection objectives.
c. There is no need for repeat, additional, or alternative tests inspections.
d. There is no need for item redesign or further development.
e. There is no need for improved test/inspection procedures, techniques, or facilities.
f. The test/inspection requirements are adequate and complete.

Provide a brief statement addressing the success of the test, whether additional testing is required, etc., and then fulfill the section as formatted above.

CDRL E003 REPORT: RECOMMENDATIONS

4.6 Recommendations

a. Acceptability of the item(s) tested/inspected: PASS
b. Additional testing/inspection is not required.
c. Redesign is not required.
d. Problem resolution is not required.
e. Test/inspection procedure or facility improvements are not required.
f. Disposition of items tested/inspected:
   Shipped as PPAP samples
g. Documentation changes are not required.
h. Testing/ inspection improvements are not required.

Provide a brief statement addressing the success of the test, whether additional testing is required, etc, and then fulfill the section as formatted above.

CFAT Samples are to be retained through approval of the E003 by the TACOM/JPO JLTV. Your CFAT Engineer will advise on how to properly disposition your samples.

CDRL E003 REPORT: AUTHENTICATIONS

5.0 Authentication

5.1 Authentication of test/inspection results.
The test/inspection was performed in accordance with applicable test/inspection plans and procedures, and the results are true and accurate.
(The authentication shall include the signature of the contractor personnel that performed the test(s) /inspection(s).)

Signature Print Name

Title Date

5.2 Authentication of prior validation.
Those requirements not tested/inspected or measured that were previously validated were performed in accordance with applicable test/inspection plans and procedures, and the results are true and accurate.
(The authentication shall include the signature of a contractor representative authorized to make such authentication)

N/A for this CFAT
Signature Print Name

Title Date

5.3 Authentication of acceptability.
The item(s) tested/inspected PASSED item acceptability requirements.
(This authentication shall include the signature of a contractor representative authorized to make such authentication.)

Signature Print Name

Title Date

This section will simply serve to provide a means of authentication to the test results, any pre-validated results, and that the above resulted in an acceptable pass for the parts, presuming testing was passed.

CDRL E003 REPORT: APPENDIX A, TEST RESULT MATRIX

Appendix A – Test Result Matrix

Sequential Test # + (Print Note #)	Print Note	Results (Pass/Fail)	Results (Data/Variables)	Pass Criteria (Data/Variables)	Corrective Actions (N/A if None Necessary)
A	B	C	D	E	F

A. As per in the master test list of the plan, number each test by its sequential test number, with its associated print note in parentheticals.
B. Print Note, VERBATIM from print
C. Results of the test: Either “Pass” or “Fail.”
D. Results of the test: Data and Measurements derived from testing. May be put into a devoted Appendix if testing produced an extensive dataset.
E. The “aim” data for the test—what Results (Data/Variables) had to be inside for a pass.
F. Corrective Actions – in the case of a failure or testing issue, how it will be corrected for retest.

CDRL E003 REPORT: APPENDIX B, TEST SET UP

Appendix B – Test Set Up

Sequential Test # + (Print Note #)	Location and Orientation of the Part	Location, Orientation, and Settings of Test Equipment and Instruments	Location, Orientation, and Settings of Sensors and Probes	Location and Orientation of Interconnections, Cables, and Hoop-Ups	Electrical Power, Pnuematic, Fluidic, and Hydraulic Requirements
A	B	C	D	E	F

For the five core columns (B-F), pictures may be desired to supplement written descriptions in the appendix.

A. As per in the master test list of the plan, number each test by its sequential test number, with its associated print note in parentheses.
B. Describe the location and orientation of the part, for the given test.
C. Describe the location, orientation, and settings of test equipment and instrumentation for the given test.
D. Describe the location, orientation, and settings of sensors and probes for the given test.
E. Describe the location and orientation of the interconnections, cables, and hoop-ups for the given test.
F. Describe the electrical, pneumatic, fluidic, and hydraulic requirements for the given test.

CDRL E003 REPORT: APPENDIX C, CFAT CONFIRMATION (FMTV ONLY)

Appendix C - CFAT Confirmation Form

Oshkosh FMTV CFAT Test Confirmation

Supplier Name:	Part Number:
Location:	Revision level:
Cage Code:	Date of Review:
Attendees:	
Print Notes Reviewed:	
Non Print Note Items Reviewed:	
Check applicable box and sign*	☐ All Items Reviewed: Pass ☐ All items reviewed: Non conformance identified (See below for detail)
*DCMA should sign and stamp this form	
Identified non conformance:	

*This form must be included as an appendix with the CFAT report.

This section will provide a place for Oshkosh to confirm the test's validity and approval by Oshkosh defense, to supplement the Authentications page.

If DCMA/TACOM witness testing, have them sign this portion of the form.

CDRL E003 REPORT: APPENDIX D, TEST EQUIPMENT

APPENDIX D Test Equipment Information

Description	Nomenclature (Brand / Model)	Serial Number (ID Number)	Calibration Constants	Calibration procedures	Operating Instructions

FMTV: A copy of the test equipment table in the CFAT Plan. If any corrections or deviations in equipment occurred since its submission, update the instrumentation utilized.

JLTV: Provide the full list of CFAT equipment utilized during testing.

CDRL E003 REPORT: APPENDIX E, SUPPORTING DOCUMENTATION

Appendix E - Supporting Documentation

This section of the appendix should serve to hold any necessary supporting documents—photographs, drawings, elements too detailed for the primary report, reference documentation not provided earlier, etc.

CDRL E003 REPORT: JLTV PART CHANGE NOTICE (PCN)

PN / Revision :

Supplier:

Description of Change :

Fit, Form, Function Change? Yes/No

Estimated Cut-in

Current CFAT Status

TEST REPORT DATE:
Rev:
Status:

Current PPAP Status

PPAP Status:
Status Date:
Rev:

Work with your CFAT Engineering and AQE team to populate the PCN

CDRL E003 REPORT: JLTV PART CHANGE NOTICE (PCN)

Oshkosh Proposed Action(s)

☐ PPAP approval

☐ Limited CFAT – Requirements impacted by this change

☐ Add PCN to PPAP documents

Additional Comments (if required):

Support Documentation Attached

☐ RCM (Change Request)

☐ ECP: Description, if needed: _____

☐ RFD: Description, if needed: _____

☐ Other: Description, if needed: _____

CDRL E003 REPORT: LAB QUALIFICATION DOCUMENTATION

- **Documentation necessary for testing performed at a lab accredited to A2LA / ISO 17025:**
  - Test results submitted in the normal laboratory report format.
  - The laboratory's accreditation standard, including the lab's accreditation number and/or the name of the organization which provided the accreditation.
  - List of standards used for testing.
  - Date(s) on which testing took place.
  - The name of the laboratory that performed the test.
- **Documentation necessary for testing performed at a facility *not* accredited to A2LA / ISO 17025:**
  - The name of the laboratory that performed the test.
  - Work instructions for each test conducted.
  - Training records / certifications of personnel who performed the testing.
  - List of all test equipment used to perform testing.
  - Calibration records of all test equipment used.
  - The date on which the testing took place

CDRL FAQ'S:

- **Who pays for CFAT testing?**
  - Suppliers need to coordinate this with their buyer / commodity manager. If funding is needed for testing, create a cost plan to submit to the commodity manager for cost negotiations.

- **What if testing has been previously done on this part? Can this data be used for CFAT validation?**
  - This is reviewed on independent basis by your CFAT Engineer or AQE. If changes have occurred that affect fit/form/function/process or if break in production has been experienced (+12 months), a new CFAT will likely need to be performed.

- **What if I have an RCM pending on a part? Will I have to re-CFAT?**
  - That depends. An RCM change notice will usually require a new PPAP. You may need to re-CFAT if the change requested affects fit/form/function/process or performance.

- **What if Oshkosh is purchasing the part from me, but the component is supplied and inspected at a tier two facility? Where should testing take place?**
  - That is the supplier's discretion to where testing will take place. Ensure test locations are documented on the plan/report and the facility has the appropriate accreditation and certification to perform testing per the Defense Addendum.

- **Where do I find the CFAT forms I need to populate?**
  - CFAT forms are located on the Oshkosh Supplier Network (OSN) under SQ Core Tools
  - Link: https://osn.oshkoshcorp.com/en/supplier-resources/training/supplier-quality-core-tools

OSHKOSH DEFENSE

YOUR MISSION. OUR HONOR

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QUESTIONS?