

Counterfeit Materials Prevention

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Introduction

Counterfeiting is growing in exponential proportions with respect to the types of:

- Products being counterfeited
- Industries affected
- Potential consequences caused by counterfeits

If this threat is not adequately addressed, counterfeit items have the potential to seriously compromise the safety and operational effectiveness of our products.

The objective of this training is to raise awareness of:

- The risks and impacts of counterfeit parts infiltrating the supply chain.
- Best practices to eliminate or mitigate those risks
- Lockheed Martin counterfeit prevention requirements for suppliers

**Note: This training is provided as guidance and information.
LMC Purchase Order (PO) requirements take precedence over instructions in this guide.**

Impact of Counterfeit Parts

Counterfeit parts can cause:

- **Personal injury**
- **Mission failure**
- **Reduced reliability** and product recall
- Potential loss of contracts
- Shutdown of manufacturing lines
- Negative cost and schedule impacts
- Penalties for companies and individuals
- Damage to our corporate image

Our defense systems quality must protect our soldiers, friends, cities and ourselves without failure on a moments notice, anytime, anywhere.



Don't allow counterfeit parts to cause mission failure.

What is Counterfeit?

Lockheed Martin contracts utilize the term “Counterfeit Work”

- “Work” consists of the lowest level of separately identifiable items delivered to LM.
- **“Counterfeit Work”** means Work that is or contains items **misrepresented** as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved Work that has reached a design life limit or has been damaged beyond possible repair, but is altered and misrepresented as acceptable
- Examples of Counterfeit Work include, but are not limited to, used components represented as new, parts from unapproved manufacturers represented as manufactured by the approved source

Counterfeit items often have the appearance of being genuine:

- Manufactured by the original component or material manufacturer
- Built to the same quality standards or tested as rigorously as genuine item

Many types of counterfeits are difficult to detect visually and can be made such that they “seem” to be functional and pass early levels of testing.



Sources of Counterfeit Parts

Counterfeit parts can come from many different sources.

This flow illustrates how counterfeit parts can be sourced and eventually sold.

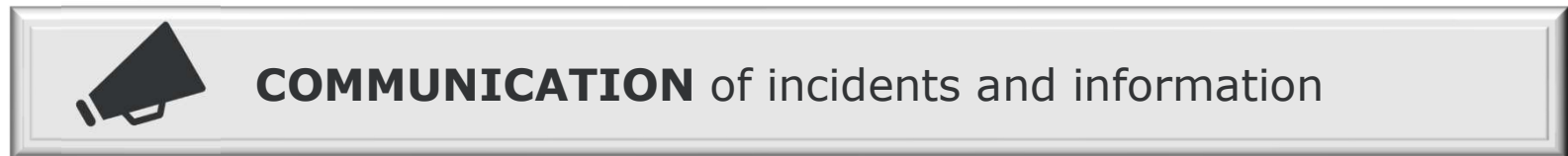
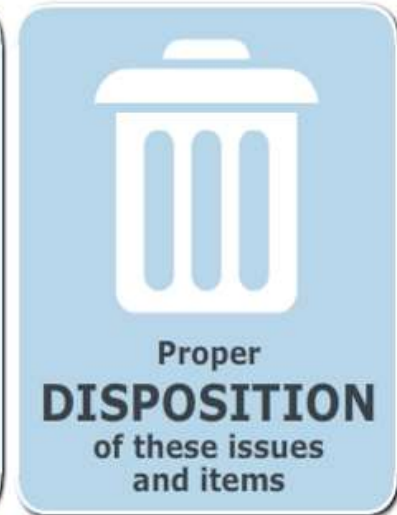
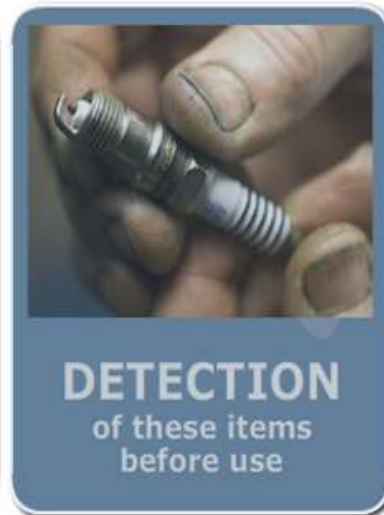


This slide shows a flow for an electronic component, however anything can be counterfeited. Counterfeiting is a complex criminal enterprise.

*Photos courtesy of Tom Sharpe & SMT Corporation
** Photo courtesy of Basal Action Network

Strategies to Eliminate Counterfeit

**Avoidance – Detection – Mitigation – Disposition
And Communication**



Avoidance

Most cost effective step in the process



Avoidance

Government & Industry investigations show that **risks of receiving counterfeit parts vary based on the supplier entity** providing the parts. The risk ladder is a frame of reference for understanding the counterfeit risk hierarchy.

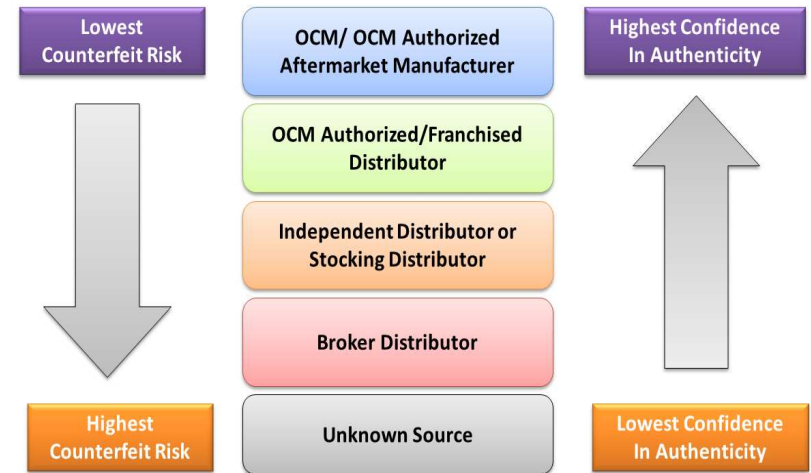
Procuring directly from the Original Component or Equipment manufacturer (OCM/OEM) is the lowest risk.

OCM Authorized Distributors are the next lowest risk. OCM Authorized distributors have documented sales agreements with manufacturers.

✓ Verify Authorized distributor status with the manufacturer.

LM POs require suppliers to use OCMs or their authorized sources for products that will be delivered to Lockheed Martin.

Counterfeit Risk and Confidence in Authenticity



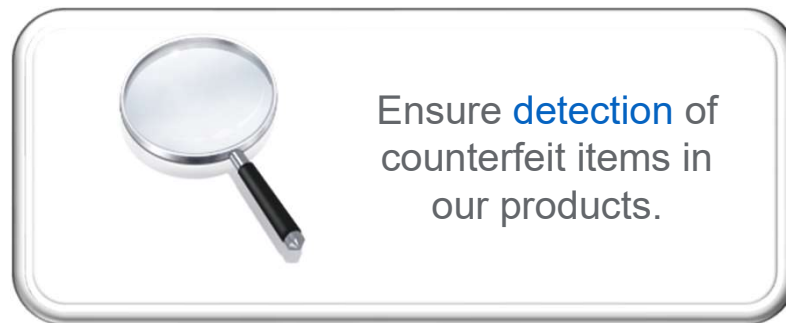
Counterfeit Avoidance Requirements are in LM PO Terms and Conditions and Quality Requirements. Refer to your PO for review of your requirements.

Avoidance Strategies

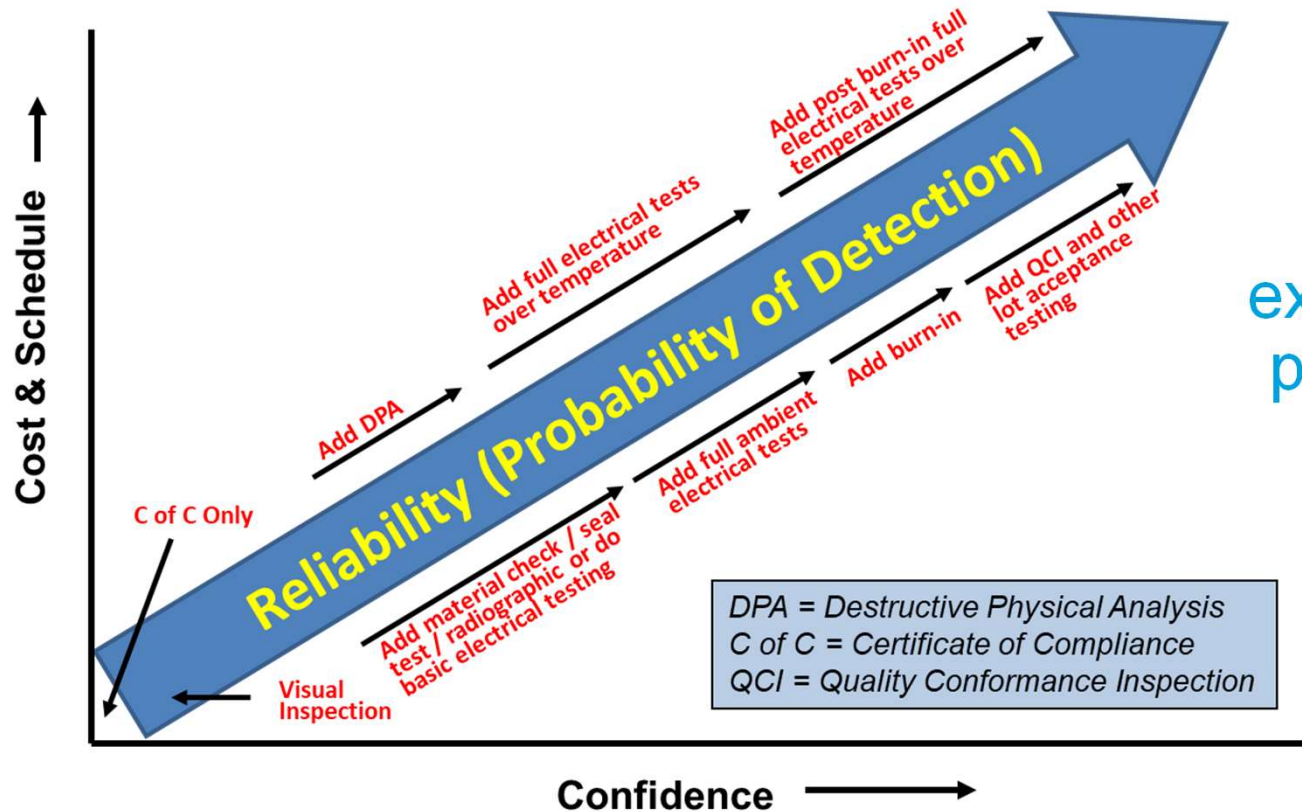
- ✓ **Procurement Processes** - Require exclusive utilization of OCMs/OEMs or their authorized distributors
 - Independent distributors and brokers result in a higher risk of obtaining a counterfeit item.
 - LM PO requirements require notification and LM written approval to incorporate non-OCM approved/non-OCM franchised sources into LM products.
- ✓ **Chain of Custody** - Require a documented, unbroken chain of custody from the original source of manufacture for all components provided to LM either directly or indirectly as parts included in assemblies
 - LM PO requirements require OCM/OEM traceability documentation when requested which include OCM/Authorized suppliers:
 - Certificates of conformance – Shipping and Receiving Documents – Packing Slips
- ✓ **Supply Chain Management** – Flow-down counterfeit avoidance strategies through supply chain, including requirement to use OCM/OEM authorized sources. Formally assess sources of supply for compliance
- ✓ **Obsolescence Management and Parts Management Processes** - Anticipate obsolescence issues in time to initiate actions such as redesign or lifetime buys
- ✓ **Counterfeit Awareness Training** - Provide training internally, and to suppliers

Detection

Making sure counterfeit material are stopped at the 'front door'.



Probability of Detection



More time, effort, and expenditure on validating parts increases the level of confidence in authenticity.

Detection: Suspect “Warning Flags”

“Warning flags” alert sourcing, receiving, inspection, and test groups to potential counterfeit materials.

The more flags you see, the more suspicion you should have. If things don’t look right, Investigate!

- 🚩 Source other than OCM or authorized sources
- 🚩 From suspect locations (e.g., China)
- 🚩 Price too low/significantly different from history
- 🚩 Scarce items are suddenly available
- 🚩 Chain of ownership unverifiable
- 🚩 No certificate of conformance
- 🚩 Obsolete item
- 🚩 Unknown supplier
- 🚩 Non-homogeneous lot
- 🚩 Prohibited materials present
- 🚩 Item marking issues:
 - 🚩 Does not match similar items
 - 🚩 Alterations/resurfacing
 - 🚩 Incomplete
 - 🚩 Wrong size/location/methods
 - 🚩 Quality difference
 - 🚩 Lot number/date code issue
- 🚩 Package/construction issues
 - 🚩 Size/shape/color/finish/materials
 - 🚩 Evidence of rework/repair/refinishing/resurfacing
 - 🚩 Poor quality

Reference SAE standards AS5553 or AS6174 for additional inspection recommendations.

Mitigation

Minimizing damage to our programs and reputation



Mitigation Strategies: No Traceability to the OCM

If extenuating circumstances dictate the use of a supplier that is not part of the OCM authorized supply chain, approval from the LM procurement representative is required by the purchase order.

- Standard LM PO terms and conditions include requirements for notification and written approval to utilize a non-authorized source.
 - Notification must occur before the procurement with the Independent Distributor or Broker.
 - LM will review the contract to determine reporting requirements to the end customer
 - LM will review critical information and may require specific authenticity or detection testing prove authenticity.
- Ensure processes are in place to quarantine parts that require testing and verification until they are verified as authentic - treat them as suspect until evidence proves otherwise.
- Mitigation Strategies and Authenticity testing should be developed using a risk-based approach.
 - Checking Independent Suppliers and part numbers against GIDEP and/or ERAI can aid the evaluation that a given part or supplier may be a high risk for counterfeit.

TEST IF YOU CANNOT TRACE!

Suspect Counterfeit Mitigation Actions

- ✓ **Quarantine affected parts**
 - Locate parts in stock and on assemblies, ensure they are quarantined and clearly marked as nonconforming
 - Identify any suspect items that may have left your facility
- ✓ **Notify your LM procurement representative** in accordance with your PO requirements.
- ✓ **Gather all records** including traceability, chain of custody, and authenticity test information associated with the suspect part. Review information to assist with bounding the issue. This may include:
Purchase order --- Certificates of Conformance --- Test Data --- Inspection/DPA reports
- ✓ **Verify the item is or is not counterfeit**
 - Conduct additional testing in an effort to confirm if the item is counterfeit
 - Engage the manufacturer of the part for assistance to the extent possible
- ✓ **Remediation /Corrective Action**
 - Rework/Replacement/Repair of fielded product will be determined in conjunction with the LM program team, LM legal, and Customer input.

If you suspect that a counterfeit item infiltrated your supply chain, these items must be addressed immediately to minimize or bound the impact.

Disposition

Decide on proper actions and resolution



Ensure proper
Disposition of
counterfeit materials

Disposition: Protecting the supply chain and ourselves

Counterfeiting involves fraud (often from a supplier that is several tiers removed), therefore, coordination with appropriate officials must take place *prior* to disposition of parts.

If the suspect items are contained within your facility, best practices dictate:

- Store counterfeit parts or materials in quarantine, clearly identified as non-conforming/counterfeit product pending a review by your organization's management and legal representation.
- Do not return Counterfeit to the supplier in such a way that they could be reintroduced into the supply chain to be sold again to another victim.
- Legal authorities may be contacted to initiate an investigation into the counterfeiting activity. Parts may be required as evidence.

DO NOT throw parts away until it is clear they are not needed for investigation

If LM returned product for rework or replacement, suspect components must not be disposed of until it is determined that legal authorities will not require the parts investigation.

Communication

Reduce the risk for others



Communication of
incidents,
information, and
solutions

Communication: Timely & Effective Reporting

Lockheed Martin **requires suppliers to provide notification** if it is suspected that Counterfeit items have been delivered to us. Direct notifications to your LM Procurement Representative.

Ensure that reporting of counterfeit issues is timely and effective. Organizations that may require communication include:

- Internal organizations:
 - Program -- Legal -- Business Operations
- Customers
 - Criminal investigators -- Government reporting (e.g., GIDEP)* --
 - Industry programs (e.g., ERAI)

Reference AS5553 Appendix G for additional reporting guidelines.

*LM strongly encourages all eligible suppliers to join GIDEP for reporting and monitoring of counterfeit and other nonconformance alerts. Visit www.GIDEP.org



DoD and LM Combating Counterfeit: Potential consequences and liabilities

Section 818 of the 2012 Defense Authorization Act mandates requirements concerning the detection and mitigation of counterfeit parts. The DOD is required by law to:

- Make costs of counterfeit rework and corrective actions unallowable
- Require that counterfeit risk be managed throughout the supply chain
- Implement criminal penalties and possible debarment for intentional failure to exercise adequate counterfeit prevention methods.

Lockheed Martin Purchase Order terms and conditions detail liability requirements for cases where our suppliers allow counterfeit items to infiltrate LM products. These terms may require suppliers:

- Replace counterfeit items at their expense
- Cover LM's costs related to the removal, replacement, retesting, and installation of replacement items.

Counterfeit Risk must be managed throughout the supply chain.

Conclusion

- Counterfeit materials are a serious threat and can compromise the integrity of the important products we provide.
- The use of Original Component or Equipment manufacturers and their authorized sources results in the least risk for counterfeit items infiltrating our products.
- If parts or materials can not be acquired from low risk sources to fulfill your Lockheed Martin purchase order, you must notify your procurement representative and parts must be authenticated in accordance with the terms and conditions of your contract.
- If you suspect counterfeit items may have been supplied to LM, you must notify your LM procurement representative immediately.
- Counterfeit risk must be controlled throughout the entire supply chain.
- Thank you for your continued efforts to ensure counterfeit components do not infiltrate our supply chains.



Links

Lockheed Martin Frequently Asked Questions: Counterfeit: <https://www.lockheedmartin.com/en-us/suppliers/faqs/counterfeits.html>

Lockheed Martin Terms & Conditions: (Corp Docs): <http://www.lockheedmartin.com/us/suppliers/tandc.html>

IDEA-1004-C “Electronic Components Inspection Manual” - Independent Distributors of Electronics Association: <http://www.idofea.org>

DOE G 414.1-3 “Suspect / Counterfeit Items Guide”: [https://www.directives.doe.gov/directives-documents/400-series/0414.1-EGuide-3/@@images/fileSuspect / Counterfeit Items Awareness Training](https://www.directives.doe.gov/directives-documents/400-series/0414.1-EGuide-3/@@images/fileSuspect%20Counterfeit%20Items%20Awareness%20Training)

AS5553 - Counterfeit Electronic Parts: <http://www.sae.org/technical/standards/AS5553>

AS6081 - Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors Counterfeit Electronic Parts; Avoidance Protocol, Distributors: <http://standards.sae.org/as6081/>

GIDEP

Participation in the Government Industry Data Exchange Program (GIDEP) is an important risk prevention step

Suppliers with counterfeit risks, suspect or confirmed counterfeits should enter that part incident into GIDEP

Purpose is to share risks with DoD and industry to ensure appropriate risk mitigation measures are being taken

For additional guidance, go to the GIDEP members website (<http://www.gidep.org>). Non-participants may contact the GIDEP Help Desk (951-898-3207) for guidance.

DoD provides tools to
reduce industry
risks/costs

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