Counterfeit Parts Prevention
Introduction / Objectives

Counterfeiting is an age-old issue, but 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. If there are any instructions in this guide that conflict with your Purchase Order (PO), your specific LMC PO takes precedence.
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 must be of a quality sufficient to protect our soldiers, our friends, our cities and ourselves without failure on a moments notice, anytime, anywhere.

Don’t allow the counterfeit part you let get into the system be the one 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 an unapproved manufacturer represented as though they were manufactured by the approved source

Counterfeit items often have the appearance of being genuine but are later revealed that they were not:

- Manufactured by the original component or material manufacturer

- Built to the same quality standards or tested as rigorously as a genuine item

Many types of counterfeits are very 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.

- *Stacks of Scrapped Circuit Boards
- **Components Being Removed From Boards
- *Components Being Washed In River
- *Market Place for Components
- *Components Being Sorted
- * Bags of Various Components

While this slide shows a flow for an electronic component, bear in mind that anything can be counterfeited. Counterfeiting is a complex criminal enterprise.

* China photos courtesy of Tom Sharpe & SMT Corporation  
** Photo courtesy of Basal Action Network
Strategies to Eliminate Counterfeit
Avoidance - Detection – Mitigation - Disposition
... and Communication

What are the best ways for communication of Incidents and information?
Avoidance

Most cost effective step in the process
Avoidance

Government and Industry investigations have shown that the **risks of receiving counterfeit parts varies based on the supplier entity** providing the parts. The risk ladder shown here is a useful frame of reference for understanding the counterfeit risk hierarchy from a procurement or sourcing point of view.

Procuring directly from the Original Component or Equipment manufacturer (OCM/OEM) results in lowest risk of counterfeit.

OCM Authorized Distributors are the next lowest risk. OCM Authorized distributors have documented agreements with a manufacturer to sell their items.

- Authorized distributor status should be verified with the manufacturer.

Lockheed Martin purchase orders typically **require that suppliers use OCMs or their authorized sources** for products that will ultimately be delivered to Lockheed Martin

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**Counterfeit Avoidance Requirements** are contained in Lockheed Martin’s Purchase Order Terms and Conditions as well as Quality Requirements. Refer to your specific PO for review of your requirements.
Avoidance Strategies

Key Counterfeit Avoidance Strategies include the following:

- **Procurement Processes**
  - Require the exclusive utilization of OCMs/OEMs or their authorized distributors
  - Procuring through independent distributors and brokers results in a higher risk of obtaining a counterfeit item.
  - LM purchase order requirements typically require notification and LM written approval in order to incorporate product procured through non-OCM approved/non-OCM franchised sources into Lockheed Martin 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 delivered to LM
  - LM purchase order requirements typically require that our suppliers provide OCM/OEM traceability documentation when requested which could include
    - OCM/Authorized supplier certificates of conformance
    - OCM/Authorized supplier shipping and receiving documents
    - OCM/Authorized supplier packing slips

- **Supply Chain Management**
  - Flowdown counterfeit avoidance strategies, including requirement to use OCM/OEM authorized sources, throughout supply chain
  - 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 in house, and also to suppliers
Detection

Making sure counterfeits are stopped at the ‘front door’

How do we ensure detection of counterfeit items in our products?
This chart shows that more time, effort, and expenditure on validating parts increases the level of confidence that the part is authentic.
DETECTION: Suspect “Warning Flags”

Listed below are a few examples of some counterfeit “warning flags” that can indicate to your sourcing, receiving, inspection, and test groups that there could be a counterfeit issue with a part or material.

The bottom line: the more flags you see, the more suspicion you should have that a part or material may not be authentic. If things don’t look right, Investigate!

Review the warning flags shown here.

- Item coming from source other than the 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

Additional inspection recommendations that can identify red flags can be found in SAE standards AS5553 or AS6174
Mitigation
Minimizing damage to our programs & reputation

How do we mitigate issues with the item?
Mitigation Strategies: When solid traceability to the OCM cannot be established.

If extenuating circumstances dictate the use of a supplier that is not part of the OCM authorized supply chain, your Lockheed Martin procurement representative must be notified with the details in accordance with your purchase order requirements.

- Standard LM PO terms and conditions include requirements for notification and written approval to utilize a non-authorized source.
  - This notification must occur before the procurement with the Independent Distributor or Broker takes place.
    - LM will review contract to determine reporting requirements to the end customer
    - LM will review criticality information and may require specific authenticity or detection testing be completed in order to aide with proving 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 approached.
  - Cross checking Independent Suppliers and part numbers against the GIDEP and/or ERAI can be beneficial in the evaluation of risk that given part or supplier may be introducing a high risk for counterfeit.

TEST IF YOU CANNOT TRACE!
Counterfeit Item Mitigation: Actions if a Counterfeit Item Suspected

If you suspect that a counterfeit item may have infiltrated your supply chain, the following items must be addressed immediately as initial steps in effort to minimize or bound the impact.

- **Quarantine affected parts**
  - Locate any 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 Lockheed Martin procurement representative in accordance with your purchase order requirements.

- **Gather all traceability or chain of custody information, or authenticity testing records associated with the suspect part**
  - This may include
    - Purchase order
    - Certificates of Conformance
    - Test Data
    - Inspection or DPA reports
    - Other information relevant to detection
  - Review information to assist with bounding the issue

- **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**
  - If required, a plan for Rework/Replacement/Repair of fielded product will be determined in conjunction with the LM program team, LM legal, and Customer input.
Disposition & Communication

Decide on proper actions & resolution, Reduce the risk for others

What is the proper disposition of these items?

What are the best ways for communication of incidents, information and solutions?
Counterfeiting invariably involves fraud (often from an upstream supplier that can be several tiers removed), therefore, coordination with appropriate officials must take place prior to making any disposition of parts.

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

- Maintaining counterfeit parts or materials in quarantine, clearly identified as non-conforming/counterfeit product pending a review by your organization’s management and legal representation.

- Counterfeit parts should not be returned 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. If an investigation is initiated, parts may be required as evidence.

In cases where product may have been delivered to LM, and returned for rework or replacement, suspect components must not be disposed of until such time as it is determined that legal authorities will not require the parts for an investigation.

**Do not throw parts away until it is clear they aren’t needed for investigation.**
Lockheed Martin requires suppliers to provide notification if it is suspected that a counterfeit item has been delivered to us. This notification must be directed to your LM Procurement Representative.

**Communication: Timely & Effective Reporting**

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

- **Internal organizations:**
  - Program
  - Legal
  - Business Operations

- **Customers**
- **Criminal investigators**
- **Government reporting (e.g., GIDEP)**
- **Industry programs (e.g., ERAI)**

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

Visit www.GIDEP.org for information on joining GIDEP

Reference AS5553 Appendix G for additional information and guidelines for reporting.
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.
• The counterfeiting of electronic parts and materials is 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 needed parts or materials can not be acquired from low risk sources in order 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 so much for your continued efforts to ensure counterfeit components do not infiltrate our supply chains.

Conclusion
APPENDIX
Reference Info for Counterfeit Parts

- **Lockheed Martin Webinar**
  - Counterfeit Parts Prevention

- **Lockheed Martin Terms & Conditions: (Corp Docs)**

- **Department of Commerce**
  - Defense Industrial Base Assessment Counterfeit

- **IDEA-1004-C “Electronic Components Inspection Manual”**
  - Independent Distributors of Electronics Association
    [http://www.idofea.org](http://www.idofea.org)
  - DOE G 414.1-3 “Suspect / Counterfeit Items Guide”

- **Suspect / Counterfeit Items Awareness Training**

- **Coalition Against Counterfeiting and Piracy (CACP) type toolkit**

- **AS5553 - Counterfeit Electronic Parts**
  [http://www.sae.org/technical/standards/AS5553](http://www.sae.org/technical/standards/AS5553)

- **AS6081 - Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors**
  [http://standards.sae.org/as6081/](http://standards.sae.org/as6081/)
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.