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S.5 Fleet Maintenance Management Study Group Information Report: 2012-1

Addressing the Risk Posed by Counterfeit Parts in Fleet Maintenance Operations

Developed by the Technology & Maintenance Council's (TMC)
Counterfeit Parts Task Force

ABSTRACT

As with many sectors of the U.S. economy, counterfeit parts have found their way into the trucking industry. While the exact cost to the trucking industry is difficult to determine, it is estimated that counterfeiting represents a $12 billion per year problem for the entire automotive industry. Beyond just the monetary costs are the added safety concerns of these counterfeit products. For example, a single counterfeit brake valve can significantly decrease the overall performance of a truck's brake system. Unfortunately, many of these counterfeiters are based outside of North America and sell directly into legitimate distribution channels, placing the distributors and dealers at legal risk and posing a potential safety hazard to fleets.

BACKGROUND

Counterfeit parts pose a serious safety threat and economic liability to the trucking industry. The U.S. Chamber of Commerce (USCC) is one of the biggest advocates for U.S. business in the fight against counterfeit products. Each year, it estimates, the U.S. economy as a whole suffers approximately 750,000 lost jobs and $250 billion in lost sales because of counterfeit or "knock off" parts. Recent estimates put world trade in counterfeits or knockoff items at five to seven percent. While the exact cost to the trucking industry is difficult to determine, it is estimated that counterfeiting represents a $12 billion per year problem for the entire automotive industry.

From a fleet maintenance perspective, the risks of counterfeit parts can be catastrophic. The extent of the problem is widespread, affecting everything from bolts and fasteners to braking and suspension components and basic electrical and lighting systems.

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Counterfeit Defined

When it comes to parts, the words "counterfeit," "knock-off" and "non-compliant" are used interchangeably but they all mean something a little different. The following is how TMC defines each term, based on input received from manufacturers and other industry stakeholders:

- *Counterfeit Products* — An imitation that is made usually with the intent to deceptively represent its content or origins. Any misrepresentation of an OEM component or any act that constitutes an infringement of trademark, copyright, or patent.
- *Non-Compliant Products* — An attempt to deceive the customer on the performance of a product.
- *Knock-off Products* — A copy of a product that does not violate any law, nominally looks the same as original, but may not be tested to the same performance standards or use the same materials as the original.

It's important to understand the differences in these words as they each may affect fleet operations differently. While counterfeit products have become a growing concern as the theft of intellectual property rises, they pose greater risks for fleets in the form of higher maintenance costs, reduced durability and increased safety risks. The prospect of buying replacement parts at cut-rate prices may look especially inviting with rising costs of fuel and components.

Fleets must also look at the real cost of ownership and liability over the lifetime of the parts, but counterfeit parts are only part of the problem. Knock-off or noncompliant parts are actually more common and can lead to the same consequences seen with counterfeit products. Lights, starters, alternators, wiring harnesses, circuit protectors are all targets for substandard manufacturers and could be costing a fleet money and compromising safety.

For example, a single counterfeit brake valve can significantly decrease the overall performance of a truck's brake system. Unfortunately, many of these counterfeiters are based outside of North America and sell directly into legitimate distribution channels, placing the distributors and dealers at legal risk and posing a potential safety hazard to fleets.

WHAT TO DO IF YOU HAVE REASON TO SUSPECT A COUNTERFEIT PART

1. *Determine where you originally sourced the part in question.* As the vast majority of businesses and suppliers are legitimate entities seeking to provide quality goods and services it is usually a good idea to start where you originally sourced the part. These businesses tend to be very concerned with protecting their reputations and brand image and want no part of the illegal activities or penalties associated with distribution of counterfeit goods. This path will likely include notification of the manufacturer of the part you had intended to purchase originally.
2. *Notify local and state officials.* The next step should these efforts not prove productive would be the notification of local and state law enforcement agencies.
3. *Notify federal enforcement officials.* At a federal level, the National Intellectual Property Rights Coordination Center (IPR Coordination Center) works to protect the United States and its people by deterring, interdicting, and investigating threats arising from the movement of illegal goods into and out of the United States. They can be reached at the following:

   Homeland Security Investigations
   National IPR Coordination Center
   2451 Crystal Drive, STOP 5105
   Arlington, VA 20598-5105
   (866) IPR-2060
   e-mail: IPRCenter@dhs.gov
   http://www.iprcenter.gov/

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The IPR Coordination Center serves as the focal point for the collections, analysis, and dissemination of intelligence involving copyright and trademark infringement, signal theft and theft of trade secrets. When reporting a suspected violation to the IPR Coordination Center provide as much detailed information as possible. The information received and analyzed by the IPR Coordination Center will be disseminated for appropriate investigative and tactical use.

The National Intellectual Property Rights Coordination Center (IPR Center) is the U.S. government's clearing house for investigations into counterfeiting and piracy—crimes that threaten public health, public safety and fair competition. As modern technology has reduced the cost of producing and distributing counterfeit and pirated goods, the criminals have expanded from traditional luxury hard goods into software, pharmaceuticals, electronics, household appliances and other products.

The IPR Center was created to promote the sharing of information, resources and personnel between the U.S. government agencies responsible for combating counterfeiting, piracy and related IPR crime. Located in a state-of-the-art facility in Arlington, Va., the IPR Center represents a significant enhancement of the government's investigative capability to combat IPR crime.

Led by U.S. Immigration and Customs Enforcement (ICE), the IPR Center is a task force comprised of the major U.S. agencies responsible for enforcing laws related to IPR crimes and customs trade fraud, including:

- Defense Criminal Investigative Service
- Federal Bureau of Investigation
- Food and Drug Administration, Office of Criminal Investigations
- Government of Mexico
- Naval Criminal Investigative Service
- U.S. Customs and Border Protection
- U.S. General Services Administration Office of the Inspector General.
- U.S. Patent and Trademark Office
- U.S. Postal Inspection Service.

In addition, the IPR Center works closely with the Department of Justice Cyber Crime and Intellectual Property Section.

Contained within The National Intellectual Property Rights Coordination Center website is an electronic form that may be used to report a violation. The form can be used by the general public, industry, trade associations, law enforcement, and Government agencies to report IPR violations. If you encounter any problems while trying to submit the form please contact the IPR Coordination Center Hotline at (866) 477-2060. To go directly to the complaint form visit: *http://www.ice.gov/partners/cornerstone/ipr/IPRForm.htm.* The form will ask for the following information to initiate an investigation. Although all fields are optional, completing the fields marked with an "*" will greatly enhance their ability to effectively process your complaint:

I. Complaint Information:

- Date of Complaint
- First/Last Name*
- Company Name*
- Work Street Address, City, State, Zip Code, Country*
- Work Phone*
- Work E-mail
- Work Street Address, City, State, Zip Code, Country*
- What is your trademark name? Describe your product.*
- Is the trademark registered with the U.S. Patent and Trademark Office, U.S. Department of Commerce?* If yes, please provide the registration number/trademark number.*
- Is the trademark recorded with U.S. Customs and Border Protection (CBP)? If yes, please provide the recordation number. To record a trademark with CBP,

please fax the CBP, IPR Branch at (202) 307-2127.*

II. Violator Information:

- Who are you filing this complaint against? Business/Company? Individual? Both?
- Information about Business/Company
  - Business/Company Name*
  - Street Address*
  - City/State/Zip Code/Country*
  - Work Phone
  - E-mail
  - Website URL*
  - Handle (IRC/ICQ)
  - Server
  - IP Address
  - Website/FTP

- Are you involved in any litigation/claims against this business/company?

- Information about the Individual
  - First/Middle/Last Name*
  - Date of Birth
  - Gender*
  - Street Address*
  - City/State/Zip Code/Country*
  - Work Phone
  - E-mail
  - Website URL*
  - Handle (IRC/ICQ)
  - Server
  - IP Address
  - Website/FTP

- Are you involved in any litigation/claims against this individual?

III. Violation:

- What is the type of infringement: Copyright? Trademark?
- What is the suspected infringing merchandise / commodity?*
- Why do you suspect the merchandise / commodity is counterfeit?*
- Do you have a sample of the infringing item?(Capture the suspected infringing item and it's packaging if possible)
- What is the country of origin of the suspected infringing merchandise?
- From what city, state, and/or country is the suspected infringing merchandise being distributed? Who is distributing the suspected infringing merchandise?
- Provide the names/addresses of the importers involved.*
- Provide the names/addresses the foreign manufacturers.*
- Does the infringing merchandise present potential health and safety issues (e.g.: exploding parts, fire hazards, counterfeit medications or aircraft parts)?
- Have you previously referred this information to any law enforcement or government agency? If so:
  - Agency Contacted:
  - Individual Spoken With:
  - Contact Phone:
  - Contact E-mail:
  - Date of Contact:
  - Report Number (If Issued):

The following suggestions were offered by panelists during a TMC technical session on counterfeit parts:

- Select products from trusted suppliers.
- Get test data from your suppliers — good ones will have it available immediately.
- Most products should identify the supplier on the component, not just on the packaging. If the parts are not labeled, this should tip you off to ask for data.
- If the new parts are more than 35 percent lower cost than what you are buying, this should tip you off that you should investigate.
- For safety products, ask for critical certification reports with real data on report.
- If it sounds too good to be true, it probably is.

The **Appendix** of this Information Report provides an example of a typical counterfeit part advisory that a manufacturer might issue to its customers and the industry at large.

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APPENDIX
EXAMPLE OF COUNTERFEIT PART ADVISORY

ISSUE DATE: **July 23, 2008**

TOPIC: **Counterfeit of GT Development 3-Inch Locking Fuel Cap 8121**

SUMMARY OF PRODUCT DIFFERENCES

The counterfeit product has basically the same appearance as the genuine GT product with the following exceptions:

- The inside of both caps contain a cast-in part number 249- but the GT product will have additional numbers stamped into that surface (date code and assembly number).
- The GT keys have a key code on a tag attached to the keys, the knockoff parts have no tag

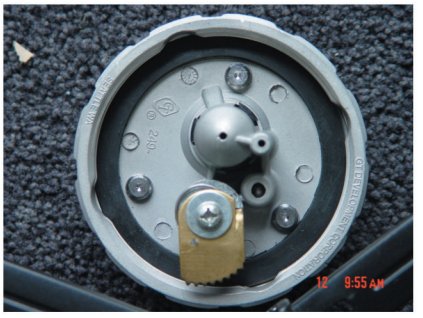
Functional issues with the counterfeit product:

- They leak from the vent and lock with no pressure applied.
- The keys are very difficult to insert and remove from the key hole.
- The CERO plugs melt at 650°F (indicative of Pb), the requirement is 255°F.
- It does not appear the caps would survive a tank drop test. GT conducts a cap only drop test to simulate the full fuel tank drop test and the parts did not pass.

PHOTO IDENTIFICATION

Genuine GT Development 8121 Fuel Cap

Counterfeit of GT Development 8121 Fuel Cap



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DETAILED COMPARISON OF PRODUCT DIFFERENCES

The following is a synopsis of differences found. The counterfeit component does not meet the requirements of FMVSS 49CFR393.67 in several areas as noted below:

GT Development 8121	Counterfeit Part
Casting	
Rougher surface finish	Smoother more satin surface finish
Flash around outside radius'	Flash in windows of vent
	CMP mark in a different location
GT logo has thicker lines	Logo more defined
Less flash around ejection sites	Smaller ejection pins — more flash
Assembly	
Part # stamped	No part number
Cerro plug heat staked more (flatter, fills under disk)	Cerro plugs used as rivet nuts for rivets (no seal)
Rivets have flat head	Rivets have a rounded head
Chain stay screw is 5/16" self tapping fine thread	Chain stay screw is a sheet metal screw
Lubricated	VERY LITTLE lube
O-ring seals orifice plate to cap	No o-ring around vent orifice plate (11183)
Filter used over orifice plate	No filter
Pressure relief spring is 0.014 wire with force of .32 lbf at working length	Pressure relief spring is 0.012 wire with force of .155 lbf at working length
Lock spring is silver	Lock spring is brownish color (different mat'l?)
Key codes and key tag	No key code or tag
Key pulls out in locked position only	Key pulls out in any position
	Keys difficult to insert
Drop From 9"	
Minor leakage from lock	Severe leaks from vent and lock.
Passed drop and lock leakage decreased	Failed drop, cap broke off 1-3/4" outer ring to rivet and casting cracked around inside ID of gasket surface.
	All rivets drove into cover disk breaking melt plugs away from inside surface of cap.
	Cover disk loose after drop.
	Keys exceptionally difficult to insert after drop.
	(3) more dropped from 8.00, 8.50,8.75, no cracks.
	(1) more dropped from 9", crack around inside of gasket
	NOTE: Leakage was unable to be taken due to excessive leakage from vent prevented filling the neck tube. All the water drained prior to re-lifting the fixture.
Thermal Melt	
255°F (Melting temperature of Cerro)	650°F (Melting temperature of lead (Pb))
Fuel Compatibility (48 hrs)	
<1.75% after 48 hrs @ 160°F	Gasket grew 11.25% after 48 hrs @ ambient temp
FMVSS 49CFR393.67 Sections that the imitation will not meet: (d)(2)(ii) Leakage of less than one ounce by weight of fuel per minute at any tank attitude when turned through an angle of 150° in any direction about any axis from its normal position .	
FMVSS 49CFR393.67 Sections that the imitation will most likely not meet: (d)(1)(ii) When the tank is subjected to an enveloping flame, the venting system must activate before the internal pressure in the tank exceeds 50 psig, and the internal pressure must not thereafter exceed the pressure at which the system activated by more than 5 psi despite any further increase in the temperature of the fuel. (e)(1)(ii) When the tank is dropped from a height of 10 feet onto an unyielding surface so that it lands squarely on its fill-pipe.	

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