Counterfeit Automotive Replacement Parts Entering the DOD Procurement System

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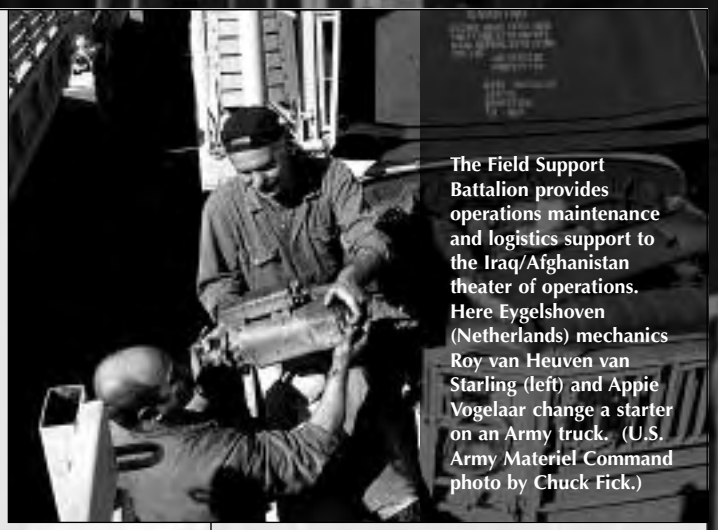
The federal government has the duty to protect the public and its employees from known risks that would result in harm. We see examples of this every day in border protection, transportation safety, purity standards in our foods and pharmaceuticals, building construction codes and thousands of other everyday procedures and products that are taken for granted in our unique and great country. Unfortunately, failures do occur, but not often, and they are publicized nationwide, both because the event is rare and because it may show a need for government remedial attention to solutions. But the government cannot foresee and react quickly enough to halt all risks.

In a recent article for *Light & Medium Truck* magazine, Heavy Duty Manufacturing Association Vice President Tim Krous stated, "The difference between genuine and non-genuine parts often lies in the material and testing used to manufacture the product … Knock-off parts … are made with substandard material that doesn't meet the design and specifications of the original manufacturer." Think about the implications this holds for the Army's hundreds of thousands of motor vehicles, engines, generators and specialized equipment. The procurement of parts and spares entering the logistics and maintenance system amounts to hundreds of millions each year. Therefore, vigilance is critical. (U.S. Air Force photo by TSGT James D. Mossman.)

A fast-growing crisis in dangerous counterfeit and bogus automotive parts is flooding the United States and they are being unknowingly purchased by the federal government, DOD and its agencies. The flood of counterfeit and knock-off products has become dangerously pervasive in areas ranging from aircraft and automotive engines to nuclear reactors and pharmaceuticals. Only educated consumers, both private and public, can stem the flow.

What Are Counterfeit Products?

The United States Code (USC) Title 18, Section 2320, defines counterfeit goods as "a spurious marked item that is used in connection with trafficking in goods or services; that is identical with, or substantially indistinguishable from, a mark registered for those goods or services on the principal register in the United States Patent and Trademark Office and in use; and the use of which is likely to cause confusion, to cause mistake or to deceive."



The Field Support Battalion provides operations maintenance and logistics support to the Iraq/Afghanistan theater of operations. Here Eygelshoven (Netherlands) mechanics Roy van Heuven van Starling (left) and Appie Vogelaar change a starter on an Army truck. (U.S. Army Materiel Command photo by Chuck Fick.)

How Are Counterfeit Products Different From Knock-Offs?

Knock-off parts are more insidious than counterfeit parts because they appear to be the "real McCoy" produced by the original manufacturer, though they are actually inferior in design and reliability. They are fakes, but their close appearance to an original trademarked part dupes the customer into thinking it is the trademarked item. Appearance is the key to defining knock-offs. Knock-off packaging is almost identical to patented/trademarked manufacturer's design, usually with the trademark missing. The stock number or item number will be the same as the original equipment manufacturer's (OEM) number, further confusing the purchaser. The distinct trademark packaging color scheme will be duplicated, but the OEM trademark icon is missing. The bogus item may not be considered counterfeit under *USC Title 18* because it is not being represented as a trademark owner's item.

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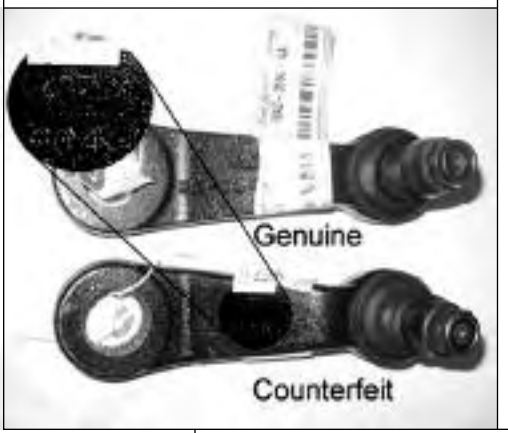
Andrea Fischer's article in the July edition of *Light & Medium Truck* magazine quoted Tim Kraus, Heavy Duty Manufacturers Association Vice President (VP) as saying, "Knock-off parts, on the other hand, simply mimic many of the characteristics of a genuine part, including the model number, and may be sold legally as long as the part does not have patent protection ... some parts are made with the intent to look like genuine parts. ... The difference between genuine and non-genuine parts often lies in the material and testing used to manufacture the product. ... There is a definite difference between legitimate after-market replacement parts where form, fit and function is the same as the original equipment, and knock-off parts ... typically come from less than reputable manufacturers [and] are made with substandard material that doesn't meet the design and specification requirements of the original equipment manufacturer."

The article also quoted Neal Zipser, Marketing and Communications VP for the Motor & Equipment Manufacturers Association (MEMA): "A substandard part could be as inferior in quality as a counterfeit part, but not be considered illegal because it is sold as a generic replacement product. ... The most common type of non-genuine or counterfeit part entering the U.S. is not a new or innovative product, but rather a commonly used, easily duplicated one. Counterfeiters look for the most popular 20 to 25 part numbers out there — usually products that are late in the production cycle and have been in the market for 20 or 30 years."

Why Should We Be Concerned?

Any counterfeit/bogus item is potentially dangerous to consumers and users. Counterfeit or knock-off items include prescription drugs; industrial

and household electrical safety equipment; military and commercial aircraft parts; concrete used in major construction projects; steel wire rope cable; electronic components used in weapons and computer systems; and fabrication steel used in commercial and military projects. The automotive list is endless and includes all types of automotive maintenance and high-volume parts, including steering and brake components. Automotive oil and gasoline filters, windshields, antifreeze, camshafts, rocker arms, transmission fluids, bearings, belts, distributor caps, valves, alternators and starters, air conditioner condensers, shock absorbers and struts, oxygen sensors, spark plugs and tires top the list. Bolts and other high-strength fasteners without the tensile strength required to fasten critical parts, as well as nonstandard automotive electrical connectors and wiring that can cause vehicles fires, are a major concern. Astoundingly, entire automobiles have been copied in China and sold as genuine equipment.



How Does This Affect the Federal Government?

The federal government has the greatest interest in bogus products because of public health, welfare and safety considerations. Considering the enormous variety of items, and huge quantities of products procured by U.S. agencies, all public employees should be aware of the threat that bogus parts pose. The need for superior products to perform critical duties, maintain public safety and ensure the best value for taxpayers demands education and vigilance by anyone entrusted with the responsibility for purchasing equipment, parts and supplies. The monetary cost of bogus, nonconforming items to the government is constantly rising. In 1989, DOD's Inspector General (IG) estimated that an Air Force logistics center paid more than $100 million [in two years] for substandard spare parts.

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A NASA IG Office press release, dated Jan. 28, 2003, reported that "On Jan. 16, 2003, the U.S. Attorney's Office, Los Angeles, CA, filed a 7-count superseding indictment against RAM Enterprises Inc., of Valencia, CA. The indictment alleges that [three U.S. citizens] manufactured counterfeit connectors and altered products to appear as though they were made by qualified vendors. These connectors were sold to companies who then distributed them to NASA, DOD and commercial corporations."

In yet another case, the U.S. District Court in Florida sentenced a man in 2004 to two and a half years in federal prison, three years of supervised probation and $54,932.20 repayment to DOD for a scam selling bogus critical-to-flight F-16, F-14, airborne warning and control, and Army helicopter parts. These items were manufactured from substandard materials and had false labels indicating that the sources were government-approved manufacturers. The parts, including critical oil seals, did not meet required specifications and jeopardized the lives of all aircrews and their aircraft once they were installed. The *South Florida Business Journal's* investigative article reported, "Notwithstanding the Defense Department's directive, [the defendant] made arrangements with a nonapproved manufacturer to produce counterfeit replications of the seals in a plant in Taiwan. The counterfeit seals, which the government said contained markings identifying them as the approved Chicago Rawhide-manufactured item, were made from substandard nitrile rubber. This material has marginal stress tolerance capabilities and questionable ability to withstand exposure to intense heat and hydraulic fluids normally associated with military aviation use."

A congressional report titled *Nuclear Safety and Health: Counterfeit Substandard Products are a Government-wide Concern* stated, "Nonconforming products, such as fasteners, pipe fittings, electrical equipment and valves, have been installed in nuclear power plants, naval submarines, commercial and military aircraft, and the space shuttle. Such products include those that are fraudulently produced (counterfeit) and/or substandard because they do not conform in quality to design or other specifications. Nonconforming products can fail and result in death or

injury to the public and workers, increase government program costs significantly and waste tax dollars."

The report went on to describe a plane crash in September 1989 involving a Convair 580 turboprop. The death of everyone aboard was attributed to the use of counterfeit bolts that lacked the necessary strength to withstand normal flight conditions. The bolts had the correct grade and manufacturer markings but were substandard, despite having the "correct" documentation of manufacture. From 1973 to 1996, the Federal Aviation Administration attributed 174 crashes or accidents to unapproved parts installation.

These examples help document how widespread counterfeit and nonstandard parts have become. There have been reports of substandard foreign parts entering the Army procurement system with complaints made to management to stop additional purchases. Since the Army has hundreds of thousands of motor vehicles plus other engine drive units, generators, pumps and other specialized equipment, the procurement of parts and spares amounts to hundreds of millions of individual components entering the logistics and maintenance system each year, elevating the potential that unsafe bogus parts are being purchased and installed on military vehicles or aircraft. Additionally, with the Soldiers' use of the unit's International Merchant Purchase Authorization Card to purchase automotive-type repair parts, this can contribute to unsafe and nonconforming parts being purchased and installed on Army vehicles. Everything from bearings and grease seals, brake and steering components, windshield replacement glass to hardware, bolts and lifting chains, along with thousands of other items can potentially put our Soldiers and civilian workforce at serious risk.

With the federal government's large fleets of vehicles, including the Army's logistical needs for Reset/Recap vehicles returning from Iraq and Afghanistan, bogus auto parts are a major concern. In the June 2006 issue of *Light & Medium Truck* magazine, Andrea Fischer's "Imitation Parts Pose Safety Risk" article states, "Sales of counterfeit and knock-off parts for use on heavy-duty trucks are posing safety risks to fleets, with the largest problem being brake components." Aftermarket executives said parts that do not meet braking system specifications compromise truck safety because they can cause increased wear to other components, and lead to premature part failure and increased stopping distance. "Any variance in any one component in the whole system can affect the entire braking system and can lead to serious safety problems," said Dave Schultz, Marketing Manager of the Valve Division of Bendix Commercial Vehicle Systems, an Elyria, OH, brake manufacturer. "According to internal testing, [using] a look-alike part [in braking systems] can increase stopping distance 15 to 30 percent," he explained.

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When Bendix compared one of its brake valves with a knock-off valve, the knock-off's wall was 56 percent thinner, making it more susceptible to cracking or even to rupturing completely, the company said. Look-alike parts such as valves, brake drums and shoes, O-rings, pistons, seals and bolts can contribute to a range of problems. "There are different standards for each component, so if you use a genuine part, you can be sure it is within those standards. If you are using a non-genuine part, who knows?" Schultz remarked.

Who Is Producing Bogus Goods?

In a recent *Detroit News* article, it was reported that 80 percent of bogus auto parts are produced in China. Neal Zipser, MEMA VP, explained that "China is by far the biggest problem in the United States when it comes to counterfeit parts. When people buy a fake Rolex™ or Gucci® handbag, they know they aren't getting the real thing. But when people buy oil filters or brake pads, they don't want to take a chance on buying a knock-off." The *Detroit News* reported that "General Motors [GM] Corp. has seized more than $250 million in counterfeit auto parts in the past two decades, shutting down hundreds of counterfeiting operations."

Last September, Dubai, United Arab Emirates, destroyed 500,000 counterfeit GM spark plugs that had been manufactured in China. As many as 20 percent of spare parts in the Middle East are counterfeit. A study in India suggested that 37 percent of aftermarket parts in India were counterfeit. "We've put quite a few resources behind fighting the problem globally," GM spokesman Tom Henderson explained. "We work aggressively with law enforcement and stop counterfeiters where we find them."

As bogus parts flood the U.S. market, American auto parts manufacturers scramble to regain lost sales. In a 2005 report, a MEMA spokesperson stated that China's auto parts exports reached $8.9 billion, an increase of 22.8 percent from 2004. The figure accounts for 82 percent of China's total volume of automobile products.

Recently, President George W. Bush signed the *Stop Counterfeiting in Manufactured Goods Act*, the chief sponsor of whom is U.S. Rep. Joe Knollenberg, Bloomfield Township, MI. The bill stiffened penalties for violating trademark laws by requiring the destruction of equipment, tooling and other materials used to make counterfeit goods, and makes it illegal to traffic in counterfeit trademarks such as labels, patches and medallions. Previously, the law only forbade trafficking in trademarks when the labels are physically attached to goods. Likewise, U.S. Rep. Mike Rogers from Michigan's 8th Congressional District has made the issue a priority, and displays pictures of counterfeit oil filters and spark plug wire sets on his congressional Web site.

What Are the Costs?

The amount of dangerous bogus automotive parts purchased by DOD and the Army is unknown. Statistical data is not available because bogus parts slip into the system unknowingly, so they cannot be tracked until discovered because of a safety issue or poor performance. However, the U.S. Department of Commerce estimates that bogus products resulted in a $200 billion to $250 billion loss to American business. With $3 billion worth of bogus auto parts being sold in the United States alone, and $12 billion worldwide, it is estimated that 210,000 more American auto workers could be employed if it were not for bogus parts production overseas.

The *Stop Counterfeiting in Manufactured Goods Act* requires the destruction of all equipment used to produce counterfeit goods. (U.S. Army photo.)

In a comprehensive report titled "A Deadly Faith in Fakes: Trademark Theft and Global Trade in Counterfeit Automotive Components," Dr. Majid Yar, School of Social Policy, Sociology and Social Research, University of Kent at Canterbury, England, contends that in France, the Peugeot-Citrogen group estimated that 50 percent of the spare and replacement parts purchased for its automobiles are counterfeit, amounting to lost revenues in excess of 13 billion francs per annum. In the Gulf States, the counterfeit car parts industry is estimated to be worth some $150 million to $200 million annually. Claims estimating the scale of the trade are supported by customs reports and bogus product seizures. In 2000, Chinese authorities, following complaints from foreign automobile manufacturers, undertook a series of raids on 248 markets, resulting in confiscation of 30,000 counterfeit auto parts bearing brand names such as Toyota®, Nissan® and Mercedes Benz®, with an estimated value of $1.4 million. "In 2003, U.S. parts manufacturer Federal-Mogul collaborated with Chinese authorities in investigating the manufacture of counterfeit Champion™ brand spark plugs, resulting in the seizure of more than 600,000 parts, along with counterfeit packaging," Yar explained.

Have Any Injuries Been Caused by Bogus Products?

With approximately one billion motor vehicles currently in use worldwide, and another half billion predicted before 2050, many documented vehicle accidents have been caused by counterfeit parts. While bogus spark plugs and other engine parts have merely caused aggravating failures and breakdowns, poorly constructed brake and suspension parts have resulted in many vehicular deaths.

"According to the World Health Organization [WHO], an estimated 1.2 million people are killed annually in road crashes, and up to 50 million are injured," Yar cited in his study. However, assessing the proportion of these fatalities and injuries that are a consequence of counterfeit components is a difficult task. Why? There is no established practice of forensic and technical examination of vehicles involved in serious accidents, through which the role of counterfeit components could be established. This stands in contrast to air accident investigations and nuclear power plant safety incidents, where civil aviation and nuclear regulatory authorities are required to investigate all serious incidents.

Unfortunately, the number of accidents and injuries with respect to automobiles remains largely unknown. However, one former motor industry insider reports that automobile manufacturers, on the basis of their own intelligence and investigation, attribute some 3 percent of fatal accidents to defective components. If this figure is accurate, then following the WHO statistics, defective components are responsible for 36,000 deaths and 1.5 million injuries every year in the United States alone.

Other studies have documented that organized crime and terrorist groups are being financed through the illicit sales of counterfeit items. The U.S. Customs Service has issued press releases addressing these concerns. In a *U.S. Customs Today* magazine article,

Kathleen Millar stated, "Today, in a post-9/11 environment, agencies like Customs and Interpol understand that the international underworld is a breeding ground for terrorism... Behind the army of hijackers, suicide bombers and terrorist gunmen stands an even greater number of 'company men' — criminal entrepreneurs and financiers in suits who understand the best way to bankroll Armageddon is through the capitalist system. They run what look like legitimate businesses, travel to 'business meetings' in Frankfurt, Amsterdam and New York, and pay fictional 'employees' with money that feeds and houses terrorist cells. They invest, pay taxes, give to charity and fly like trapeze artists between one international venture and another. The endgame, however, is not to buy a bigger house or send the kids to an Ivy League school — it's to blow up a building, to hijack a jet, to unleash a plague and to kill thousands of innocent civilians."

Visually identifying a bogus item can be difficult. Counterfeiters efficiently and effectively reproduce the appearance of items to mask important differences from authentic products. Check the packaging. If it appears to be inferior or doesn't have the correct colors, or the manufacturer's icon or logo is absent, pass on the purchase.

How Can We Avoid Purchasing Bogus Products?

The *Federal Acquisition Regulation's Part 9, Contractor Qualifications*, specifically addresses all aspects of purchasing goods from contractors. *Part 9* includes prospective contractor standards and procedures, preaward surveys, qualification requirements, first article testing, debarment, suspension and ineligibility. Interestingly, *Part 9.407-2(a)(5), "Causes for Suspension*," states: "Intentionally affixing a label bearing a 'Made in America' inscription (or any inscription having the same meaning) to a product sold in or shipped to the United States or its outlying areas, when the product was not made in the United States" is a recognized serious violation warranting sanctions against the violators.

Visually identifying a bogus item can be difficult. Counterfeiters efficiently and effectively reproduce the appearance of items to mask important differences from authentic products. Check the packaging. If it appears to be inferior or doesn't have the correct colors, or the manufacturer's icon or logo is absent, pass on the purchase. Heft the weight of the item. If you know the item should weigh more, go with your instincts. Diligence is required in recognizing artificially low prices. If the item is highly reduced and found in venues such as a flea market or discount store, the item may well be counterfeit. The best protection is to purchase items from known businesses and authorized dealers in the products desired. Ask the vendor where the products were purchased and require proof of origin. Find out if the vendor belongs to reputable trade organizations.

What Else Can I Do?

Don't just rely on recent legislation. While it's a positive first step, the government must continue to be proactive in efforts to eliminate the problem. Purchasing agents can conscientiously check vendors' credentials and only work with reputable companies and suppliers. Mechanics should exercise vigilance when installing parts. Examine them closely. Look for any variations in size or texture from accustomed parts. When installing a part, make sure it fits the way it is intended. Tolerances on counterfeit parts may not be as accurate as on genuine parts. All purchases at significant discounts should be red flagged. The adage, "If it sounds too good to be true, it probably is," should be heeded with regard to bogus parts. If you suspect a part is counterfeit, contact the manufacturer and make the company aware of your concerns. Manufacturers have a vested interest in the flow of bogus products and will appreciate your efforts on their behalf.

The impact of counterfeit and knock-off items affects America in countless forms. In the area of automotive parts alone, there is lost employment opportunities for approximately 210,000 workers and $3 billion in lost sales to legitimate manufacturers. Less obvious losses include intellectual property in the reverse engineering of patented and protected items and the loss of confidence in American automotive manufacturers when counterfeit parts do not perform as designed. From government agents to individual consumers, taking responsibility for informed vigilance is critical.

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