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**United States International Trade Commission**  
**Investigation No. 332-525**  
**Remanufactured Goods: An Overview of the U.S. and Global Industries,**  
**Markets and Trade**  
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Toner and ink jet cartridges have a useful life after their first use. Printer cartridges are remanufactured when worn or exhausted parts are restored or replaced; and the final product performs like the original new one. The International Imaging Technology Council is a § 501 (c) (6) trade organization that represents the 2500 North American companies in the industry that make their living remanufacturing imaging supplies, sometimes referred to as the aftermarket imaging supplies industry. The twelve-year-old, nonprofit association represents its members' common business objectives, particularly the right to conduct business freely and fairly.

According to the uniform definition employed by the U.S. government and many states (including New York, Connecticut, Texas, Massachusetts, California and others) a remanufactured printer cartridge is a cartridge that has been restored to its original performance standards and function and is thereby diverted from the solid waste stream, retaining, to the extent practicable, components that have been through at least one life cycle and replacing consumable or normal wear components. A remanufactured cartridge cannot be one with a new plastic casing.

Toner and ink jet cartridge remanufacturing began in the mid 1980s shortly after mainstream laser printers were introduced to the public. Entrepreneurs discovered that the all-in-one cartridges in these printers could be replenished with toner and reused.

Early "refilled" cartridges were of limited and varying quality. However, as the industry matured, so did its technical resources. Cartridge remanufacturing now produces high-quality products that are sold alongside new ones in stores like Office Depot, Office Max and in catalogs and shops around the world. It also grew in market share and size. At its peak, the U.S. industry had 6000 companies and had garnered one-third of the cartridge business and accounted for as much as \$8 billion in sales.



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Remanufacturers, and the products they sell, are good for three key reasons:

- The products are good for the environment. Reuse is the highest form of recycling. By reusing and refurbishing a toner cartridge, the remanufacturer is withholding approximately 2.5 pounds of industrial plastic from landfills. Moreover, he is conserving oil, as several quarts would go into the production of a new cartridge.
- The businesses are chiefly local and labor-intensive, and therefore good for the local economy. Most of these businesses are small local businesses, such as the 663 Cartridge World franchises, which employ on average three people. Many local companies employ many more. And these jobs cannot be outsourced or replaced with machines. Cartridges must be remanufactured on a product-by-product basis by people.
- Remanufactured products are good for consumers by providing a lower-price alternative to new cartridges. Because of the intellectual property rights of the manufacturers, they are the only ones allowed to produce new cartridges legally. Without remanufactured cartridges, the manufacturers would have no competition.

Original Equipment Manufacturers (OEMs), like Hewlett-Packard, Canon and Lexmark, make a great deal of revenue from the sale of their new supplies. And often sell the printers at little or no profit in order to capture the more lucrative supplies business. Therefore, for years the competition between the OEMs and the aftermarket has been fierce.

As mentioned in the third bullet above, the OEMs have amassed thousands of patents on these cartridges. The remanufacturers do not violate these patents because they are repairing a spent item, the patent rights for which were exhausted on the sale of that item.

The right to repair an item with a remaining useful life is well settled, Aro Manufacturing Co. v. Convertible Top Replacement Co., 365 U.S. 890 (1961). That right has been extended to printer cartridges in cases like Repeat-O-Type Stencil v. Hewlett-Packard Co., 123 F.3d 1445 (1997). And recently, the exhaustion of patent rights on first sale was deemed absolute in the 2008 U.S. Supreme Court case of Quanta Computer v. LG Electronics.

#### I. The Size and Scope of the Cartridge Remanufacturing Industry

The U.S. cartridge remanufacturing industry is made up of 2000 companies, which employ 33,650 people and defer 37,000 tons of waste kept from landfills per year. Most of this is industrial grade plastic that doesn't even begin to degrade for centuries.



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Lyra Research, a firm that has been tracking the imaging supplies industry worldwide since 1991, provided the following numbers:

Worldwide monochrome toner cartridge revenue totaled \$24 billion in 2008, and has declined to \$23 billion in 2012. The global aftermarket share of that revenue is 24 percent. The North American monochrome toner cartridge revenue was \$7 billion in 2008 and has declined to \$6 billion in 2012. The North American aftermarket share is also 24 percent.

Worldwide ink jet cartridge revenue totaled \$31 billion in 2008, and has declined to \$29 billion in 2012. The global aftermarket share of that revenue is 19 percent. The North American ink jet cartridge revenue was \$10 billion in 2008 and has remained flat in 2012. The North American aftermarket share is 14 percent.

Worldwide color toner cartridge revenue totaled \$19 billion in 2008, and has declined to \$26 billion in 2012. The global aftermarket share of that revenue is 6 percent. The North American color toner cartridge revenue was \$7 billion in 2008 and has increased to \$9 billion in 2012. The North American aftermarket share is also 6 percent.

## II. Factors Affecting Sales, and Trade in U.S. Cartridge Remanufacturing

The cartridge remanufacturing industry has declined overall from the late 1990s to 2012. Revenues have dropped from \$8 billion to roughly \$3.5 billion. The number of companies has dropped dramatically from 6000 to 2500. Factors affecting sales are core shortages that are in large measure created by the OEMs due to aggressive core destruction programs that they tout as “recycling” efforts.

Some of the industry’s decline stems from the weak economy. Fewer people employed means fewer pages printed and fewer printers purchased and placed in the market. Historically, the remanufacturing industry has thrived during economic downturns because of the economic benefits of the products, however this is not the case recently.

Another serious threat comes from Asia. Chinese produce new cartridges that most-likely violate intellectual property and compete unfairly. As the demand for these printer cartridges has grown, so has the supply of illegal products. Counterfeit cartridges, poorly refilled cartridges bearing labels identical to the OEM ones and packaged in identical OEM boxes, began appearing around the world.

Not long after, other types of cartridges began to appear in the U.S., chiefly out of China. They included “new, compatible” cartridges that are brand new cartridges that look identical to the OEM versions, but are not sold as new OEM.

Also appearing were brand new cartridges that were sold as “remanufactured.” These cartridges most likely violate the OEMs’ intellectual property rights. Epson, Hewlett-Packard and recently Canon have all taken some action against the more blatant



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producers, importers and sellers of these products. These actions are welcomed by the aftermarket, but also have created an impediment to imports and exports.

In the case of Jazz Photo v. Fuji Film, the Supreme Court addressed several issues, including whether patents rights are exhausted on first sale, and it found they were. (This is further supported by the unanimous decision in the recent case of LG Chemical v. Quanta Computers.) The Court also stated that patent rights are not extinguished when the item is first sold outside the United States.

So far, at least one OEM has used this finding to control the flow of its cores coming in from overseas. Add to that the aggressive OEM collection programs I mentioned before, and cores have become a scarce resource. Remanufacturers can't import cores without the threat of retaliation, and there is an insufficient supply domestically. Therefore remanufacturers export less, because the cores are so precious.

Cores are the lifeblood of the industry. As previously stated, cores therefore have great value. If a core has a value of \$13.00, but a newly-molded compatible core can be bought for \$3, the remanufacturer cannot compete.

Even worse, these cores look identical to legitimate cores. Therefore a remanufacturer runs the risk of unknowingly buying a core that violates intellectual property rights and subsequently selling it after remanufacture. He is therefore a potential target of a lawsuit by an OEM.

Also at risk are the companies that have provided the drums, gears and rollers to remanufacturers. These companies help the remanufacturers refurbish or replace critical components.

The Int'l ITC and its members respect the legitimate intellectual property rights of the OEMs. The Int'l ITC also has legitimate members that remanufacture in China, so not all Chinese producers are committing these violations.

The Asian "new compatible" or "new remanufactured" cartridges are coming on the market at prices that are far less than what the remanufacturers would spend to rebuild one. These products are often inferior to legitimate remanufactured cartridges and are therefore giving "remanufactured" branded products a bad reputation.

Cartridge remanufacturers want to compete fairly. However, the constant threat of illegal imports and OEM litigation has taken its toll. U.S. cartridge remanufacturers used to account for half of the world's remanufactured cartridge production. Now it accounts for one-third. And most companies would welcome the opportunity to export more of their products if resources, particularly cores, were available.



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I hereby certify that the information contained in this brief is accurate and complete to the best of my knowledge.

Respectfully submitted,



Patricia Judge  
Executive Director

