

Actionable Intelligence Report



# Infringing Cartridges Still Pose a Clear and Present Danger to the Consumables Market



THE PRINTER AND SUPPLIES INDUSTRY'S LEADER FOR NEWS AND ANALYSIS

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# Executive Summary

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- The market for cheap, infringing cartridges exploded during the Great Recession, and these so-called “clones” continue to take market share from legitimate consumables.
- Also known as “copycat,” “fake,” “imitation,” or “knockoff” cartridges, clones are copied from the original equipment manufacturer (OEM) designs without regard for intellectual property (IP) and sell at price points far below those of non-infringing supplies.
- Although they may sport tiny price tags, there are many hidden costs and risks associated with infringing cartridges.
- Recently released independent test results indicate that cheap, non-OEM cartridges often cause equipment damage.
- Based on designs and technologies that violate patents, infringing compatibles cannot be refurbished without a remanufacturer risking a lawsuit, so they end up in landfills.
- Knockoffs are frequently marketed with deceptive eco-friendly names, despite the fact that they are arguably the worst cartridges for the environment because they are not recycled or reused.
- Legitimate companies are challenged to get consumers to look past deceptive greenwashed names and artificially low price tags so buyers understand that infringing cartridges are no bargain.
- To boost sales, certain companies marketing clones on Amazon use prohibited practices and tactics such as fake reviews.
- Fake cartridges are often used by crooked telemarketers and other dishonest vendors to run scams such as bait-and-switch schemes that fool consumers who purchase legitimate supplies into buying infringing products.
- Over the past couple of years, we have become aware of several cases in the United States involving thousands of victims that have been bilked out of tens of millions of dollars through deceptive cartridge sales.

- OEMs closely monitor markets for infringing products and have filed scores of patent-infringement lawsuits against some of the third-party supplies industry's largest vendors, including remanufacturers and compatible manufacturers, as well as their channel partners.
- Despite all the lawsuits and other legal actions, shipments of infringing products continue to grow, as does the availability of clones.
- Regardless of where cartridges are purchased, consumers and end users must be vigilant to ensure that they are getting the value proposition for which they paid.

## Introduction

The market for cheap, new-build printer cartridges exploded during the Great Recession as printer users in homes and businesses became desperate to save money. Coinciding with the swelling demand for cheap consumables in the down economy was the rise of e-commerce, which made clones readily available with just the click of a mouse, and for more than a decade clone availability has continued to grow worldwide. Although certain third-party supplies vendors have made investments to improve the quality of their cartridges and to attempt to stay on the right side of patent law and other IP protections, clones continue to take market share from non-infringing cartridges.

Because they are often copied from OEM designs without regard for IP and produced with the lowest-grade components, so-called “clone” cartridges sell at price points that are far below those associated with legitimate consumables. The actual savings delivered by clones, which are also referred to as “copycat,” “fake,” “imitation,” or “knockoff” cartridges, are suspect, however, because of the hidden costs that lurk behind low-quality infringing consumables. In this report, we will detail some of these hidden costs as well as certain risks infringing cartridges represent to the market, end users, and the supplies industry as a whole.

### Clones 101

We divide ink and toner cartridges into three basic categories. So-called *OEM cartridges* are marketed by the same manufacturers that develop the printer hardware. These cartridges deliver the highest-quality performance, for which consumers can pay a premium. *Remanufactured cartridges*, or “remans,” make up the second product category. As the name implies, these products are based on spent OEM cartridges that are collected, refurbished, and then resold. The performance of reman cartridges can vary because it is dependent on the

remanufacturing processes employed in making the products and the quality of components such as the inks and toners. However, because they are based on OEM cores, remanufactured cartridges typically perform well and their price is usually 15 to 25 percent lower than the OEM equivalent.

Our third cartridge category is newly manufactured third-party cartridges, which are commonly called *new-build compatibles*—or simply “new builds”. We sub-segment new builds into two groups.

*Premium new-build compatibles* is a small but rapidly growing subset of new non-OEM cartridges. Typically, premium new-build compatibles perform well and are based largely on third-party designs that do not infringe OEM IP. Offering performance and reliability that are equivalent to those of remans, premium new-build compatibles sell at price points that are well below remanufactured cartridges.

*Clone cartridges* make up our second subset of new builds. Selling at very low price points, these knockoff cartridges continue to attract consumers. As noted above, however, there are a variety of problems associated with these fakes.



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**The relentless growth of clones in markets worldwide has meant big trouble for the legitimate supplies industry.**

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Rather than being based on non-infringing designs like premium new builds, or remanufactured from OEM empties like remans, clones by definition are OEM cartridge knockoffs. Because clones are just copies, clone manufacturers can slash the upfront investment that legitimate cartridge vendors put into research and development. To further lower production costs, copycat cartridges often feature low-grade inks and toners and other components that may harm the machines in which they are used. Imitations also have high failure rates and poor image quality. And the risks go well beyond poor performance and potential hardware damage to include environmental concerns and worries about indoor air quality. Because they sell at low price points, however, customers are willing to gamble that at least some percentage of clones will perform adequately and not cause any lasting harm.

Deception is often used to market knockoffs. For example, new-build imitations are routinely marketed with environmentally responsible-sounding brand names that incorporate such terms as “eco,” “green,”

“recycle,” and so on. In reality, clones are bad for the environment because they fail more often than other cartridges or have reduced page yields. In either case, clones become unusable sooner than any of our other groups of cartridges. To make matters worse, clones cannot be remanufactured because of the inferior materials used to make

them. Moreover, if a remanufacturer does refurbish clones, the remanufacturer risks reprisal from the OEM that had its IP copied.

The deceit is not limited to bogus environmental claims. As we discuss later, deceptive merchants online and in brick-and-mortar establishments often employ fake infringing cartridges to bilk consumers out of millions of dollars each year. For decades, telemarketers known as “toner phoners” have used imitation cartridges in bait-and-switch schemes to trick consumers into purchasing infringing products. Fake cartridges are often at the center of various other scams run by unscrupulous hucksters looking to make a buck. Clones are also used by counterfeiters around the world to defraud cartridge buyers out of billions each year.

**Damaging to Business**

The relentless growth of clones in markets worldwide has meant big trouble for the legitimate supplies industry. It costs a lot to manufacture reliable, high-quality cartridges that do not violate patents and other IP protections. OEMs invest billions of research and development





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dollars annually to bring to market new ink and toner cartridges for their machines. Remanufacturers also pay hefty sums for the inventory of empty cores that they must maintain, and the expense grows if the final products are refurbished with high-quality inks, toners, and other components. Similarly, technically savvy third-party cartridge manufacturers face steep costs developing IP workarounds and using these designs to manufacture premium non-infringing compatible cartridges.

On the other hand, bringing copycat cartridges to market is cheap. Typically produced in regions where IP protections are not vigorously enforced, infringing cartridges do not require the large budgets required for OEM, third-party compatibles, and remanufactured cartridges. In order to keep prices dirt-cheap, fakes are made from inferior raw materials and components in factories where workers are usually poorly paid and must endure abysmal conditions. Of course, the resulting products usually perform poorly. Despite the poor quality, clones are sold at artificially low price points that undercut the price of non-infringing consumables regardless of whether they are produced by an OEM, remanufacturer, or another third party.

Although remans successfully competed with clones for years, infringing cartridges have hit remanufacturers particularly hard during the past decade. In the 1990s and early 2000s, the availability of clones was restricted mainly to emerging markets and the quality of the cartridges was poor, especially that of knockoff toner cartridges. During these early years of the remanufacturing industry, remanufacturers learned to improve the quality of their cartridges while lowering prices. Over time, big-box retailers and other key channels in mature markets began selling remanufactured supplies. While there were some lawsuits, consumers grew increasingly confident in the availability and quality of remanufactured ink and toner cartridges, and these products became the low-cost third-party alternative to higher-priced OEM consumables.

Market conditions have changed dramatically during the past decade, and remanufacturers have lost considerable market share to clones. The shift began during the recession, when increasingly price-sensitive end users in homes and businesses alike searched for ways to cut costs wherever they could. Shipments of infringing imitations grew as more and more consumers transitioned away from remans, and even when mature economies improved the popularity of clones did not abate. Many remanufacturers have been shuttered since the recession and the industry has consolidated in mature markets. Despite lowering production costs and gaining other efficiencies through scale, even the largest remanufacturers have demonstrated signs of strain. Over the past five years, reports of falling reman revenue have persisted and some of the industry's best-known names have been driven out of business. Even more changes in the remanufacturing industry are expected.

Of course, remanufacturers are not the only companies being adversely impacted by clones. Many channel organizations are also hurting. Over the past 10 years, the vast majority of consumables vendors that have been sued for IP violations in the United States and abroad

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**Recently published results released by a couple of independent test labs found that cheap non-OEM cartridges often cause significant damage to hardware.**

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have been wholesalers, distributors, resellers, and other channel organizations that sell third-party supplies. In most countries, companies that sell infringing products are just as liable for IP violations as the manufacturers, so many in the channels are exposed to risk if they traffic in clones. We know of many in the channel that have been forced to close their doors because they were sued for violating IP. OEMs have also reported declining total year-over-year revenue due largely to falling consumables sales as they lose market share to third-party supplies, which are primarily clones.

**Unhappy Customers**

Customers who purchase infringing compatibles are also adversely affected. Sporting price tags that are only a fraction of those found on legitimate cartridges, imitation cartridges are certainly inexpensive, but what do these cartridges really cost customers? Recently published results released by a couple of independent test labs found that cheap non-OEM cartridges often cause significant damage to hardware. These test results are in line with research that we did into various inexpensive new-build compatibles sold on the Internet. Looking at reviews on Amazon, we found that it is not at all uncommon for clones to leak frequently, print poorly, or not work at all. As a result, consumers have to use many more cheap cartridges than they would if they had purchased legitimate supplies. Moreover, hardware can be damaged or completely ruined.

According to [findings](#) from SpencerLab Digital Color Laboratory, non-OEM ink cartridges can cause big problems for end users. In 2018, SpencerLab performed testing commissioned by HP that involved almost 1,500 cartridges used in 46 printers and generated 1.9 million pages. The cartridges included original HP 64XL, 62XL, 63XL, 564XL, 950XL, 951XL, 970XL, and 971XL cartridges, and their performance was compared to that of remanufactured cartridges sourced from various retailers and cartridges refilled in certain retail stores or with refill kits.

SpencerLab reported that 31 percent of the printers used in its tests were damaged by non-OEM inks, while the OEM ink cartridges did not cause any printer damage. SpencerLab also said that certain non-OEM ink brands caused “catastrophic damage” that could not be resolved by cleaning cycles and would require the customer to replace the printer. Specifically, the inks ruined the print heads. The SpencerLab report also indicated that, in addition to not causing any damage to the test printers, the OEM cartridges delivered significantly higher page yields. On average, the



Print-head damage caused by non-HP ink  
(SpencerLab Digital Color Laboratory)



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**Ninety-five percent of technicians polled in an Escalent survey reported that printers using non-OEM toner cartridges required more cleaning, repairs, and replacements than those using genuine OEM toner cartridges.**

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study found that HP ink cartridges deliver 111 percent more pages than the non-OEM cartridges tested.

Looking through Amazon reviews, one finds that the problem goes beyond cartridges for HP inkjet machines. Online reviewers of E-Z Ink compatibles for Canon printers said these non-OEM cartridges damaged their devices. One of the more popular non-OEM ink cartridge SKUs being sold on Amazon when we checked was a package of 15 new E-Z Ink tanks compatible with Canon's PGI-250XL high-yield black tank and the CLI-251XL high-yield cyan, magenta, yellow, and black tanks ([ASIN B073BMRPCP](#)). While the majority of reviewers were pleased with the products, about 15 reviewers reported that the E-Z Ink tanks contained inks that fouled the print heads in their printers. In some [cases](#), the heads could be salvaged, such as in the review titled "[Broke my printer head](#)," in which the user claimed the heads were ruined by the inks. Reviews of IKONG HP 932XL compatibles ([ASIN B01ANAZRX6](#)), MyToner remanufactured Epson 252 tanks ([ASIN B07GR8RXMQ](#)), and Office World Brother LC203 compatibles ([ASIN B01HOB3RFW](#)) also indicated that non-OEM products ruined the buyers' machines.

Research results from toner-based printing devices indicate similarly poor performance. Market Strategies International, now known as Escalent, released findings from its HP-commissioned study in January 2019. Escalent conducted 20-minute phone interviews with 220 HP ServiceOne Partner printer technicians in North America. The study [results](#) indicate that nearly all of the printer technicians involved in the program said non-OEM toner cartridges may shorten the life of a printer, and 95 percent of technicians reported that printers using non-OEM toner cartridges required more cleaning, repairs, and replacements than those using genuine OEM toner cartridges. Escalent concluded, "Not surprisingly, most technicians recommend using original HP toner cartridges over non-HP cartridges for use in HP LaserJet printers."

Our research on Amazon also found that consumers have had problems with cheap non-OEM toner cartridges. When we checked, one of the top-selling third-party toner SKUs on Amazon was a two-pack of Linkyo compatible Brother TN-660 cartridges ([ASIN B00S0BENC2](#)). While most of the reviews for the Linkyo compatibles were positive, 16 percent ranked the product with three stars or lower. Of the 114 reviews that gave the product a one-star rating, most complained that the Linkyo compatible did not work at all or the print quality was unaccept-



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**One [Amazon] reviewer said that after using a cartridge for a month it began to leak, “creating a mess inside the printer” and degrading the print quality.**

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able. Many also complained that the cartridge seemed to be damaging their printers by leaking. In a couple of cases, the reviewers said the Linkyo compatible completely ruined their machines. We sampled reviews from another TN-660 compatible cartridge vendor, E-Z Ink, which also markets a TN-660 two-pack ([ASIN B00NY6QUP6](#)). While none of the buyers who reviewed the product indicated that the E-Z Ink compatible ruined their devices, many said the cartridge leaked or delivered poor print quality. For example, one reviewer said that after using the cartridge for a month it began to leak, “creating a mess inside the printer” and degrading the print quality.



### **Fewer Pages, More Waste**

In addition to the buyers saying they suffered equipment damage, we found plenty of unhappy Amazon clone buyers complaining about page yields. Many said that their cartridges stopped working after printing only a couple hundred pages, including those who had purchased E-Z Ink, Green Toner Supply, and other brands. A couple of reviewers complained that they paid a premium for an Arcon-branded four-pack of high-yield HP CF500X, CF501X, CF502X, and CF503X compatible cartridges but received four lower-yield “A” SKUs instead. The same was reported by a buyer who purchased a 7Magic four-pack of the same SKUs. In all these cases, the customers paid more on a per-page basis than they bargained for, and the clones that they purchased produced much more waste than cartridges produced by legitimate manufacturers and remanufacturers.

We also looked at reviews for a twin-pack of Linkyo Brother TN-760 compatibles, which was one of the most popular third-party SKUs in Amazon’s “Laser Printer, Toner, and

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**Each year, more and more clones find their way into landfills, and it doesn't appear that this will change anytime soon.**

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Drum” category when we checked. Over 80 percent of those who purchased the product gave it either a four- or five-star rating; however, nearly 20 percent rated it with either one or two stars. Many people complained that the chip caused incompatibility issues, and these buyers were never able to print a single page. In addition, various buyers said the cartridge either performed poorly or printed only a limited number of pages, well below the rated yield.

With the help of a tool that estimates unit sales of products on Amazon and some import data, we estimate that Linkyo will sell approximately 50,000 of its Brother TN-760 compatible twin-packs on the online marketplace this year—or around 100,000 individual cartridges. If 20 percent of these fail to deliver, that's 20,000 cartridges that will be sent to the landfill prematurely. And that's only one SKU in one year from one channel (albeit perhaps the world's largest for these SKUs).

#### **End Up in Landfills**

Unfortunately, there is little that can be done with clones once they stop working. Because these cartridges are based on designs and technologies that often violate IP, infringing compatibles cannot be refurbished without a remanufacturer risking a lawsuit. Even if the cartridges were to be remanufactured, their performance would be even worse than it was during their first use. Today, most reman customers demand flawless performance, so we doubt remanufacturers would touch the core of a copycat cartridge. As a result, each year more and more clones find their way into landfills, and it doesn't appear that this will change anytime soon.

Evolve Recycling, a division of Clover Imaging Group (CIG), the world's largest cartridge remanufacturer, has released data indicating that each year more than 300 million ink and



toner cartridges weighing about 150 million pounds make their way to landfills in the United States. That number is growing, unfortunately, because of clones. Tricia Judge, executive director of the International Imaging Technology Council, a trade group that represents the remanufacturing industry along with its suppliers and channel partners, explains that many of the cartridges increasingly ending up in landfills were once remanufactured. According to Ms. Judge, the problem for the industry she represents is compounded because the core supply that remanufacturers rely on is much smaller and tainted by clones. She estimates that fake infringing cartridges have taken more than 50

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percent of the remanufacturing industry's total market share, and that number is growing. According to Evolve Recycling, it can take between 450 and 1,000 years for cartridges to decompose, which means the ill effects of clones will plague humankind for centuries.

Unlike clone makers, other constituents in the digital imaging industry recognize the need to make sure their products are environmentally responsible, especially cartridges, which, as consumables, have a limited lifespan. Hardware manufacturers have developed myriad programs to ensure they effectively manage each lifecycle phase of the equipment and consumables they produce. Many third-party supplies vendors, including remanufacturers, have established efficient processes to collect, qualify, and refurbish exhausted cartridges and long-life consumables like fuser units responsibly.

Although many firms now recycle whenever possible, consumables do generate waste. Today, most OEMs and legitimate third-party supplies vendors work with partners to ensure the safe disposal of all waste materials from their products. OEMs have learned how to recycle the spent plastics and metals used in their machines and consumables to minimize the environmental impact of what's left behind at the end of the products' life. Likewise, many firms in the third-party consumables industry have established reclamation programs that have prevented hundreds of millions of ink and toner cartridges from being dumped in the world's landfills. A growing number of vendors that market compatibles have also indicated that they are making products out of higher-quality materials so they can be used more than once to ensure that third-party cartridges can also be more sustainable.

### **Not as Green as They Say**

Because they are not recycled or reused, infringing compatibles are arguably the worst cartridges for the environment. It is hard for the buying public to make that distinction, however, because clones are often marketed with deceptive eco-friendly names. Across the Internet, it's easy to find examples of cheap, third-party compatibles sold under earth-friendly brands that incorporate words like "eco," "green," "recycle," "sustainable," and so on. Consumers should not be fooled, however. It is always easy to spot the clone—just look at the price tag. No matter how environmentally responsible a product's brand name may sound, if it's dirt cheap, it's probably a clone, which calls into question its green credentials.

Consider the following example: The South El Monte, CA-based firm Greencycle Tech,





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**Getting consumers to look past the greenwashed names and artificially low price tags and understand that clones are no bargain is a challenge.**

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Inc. markets a broad line of ink and toner cartridges on the Internet under the Greencycle Tech brand. While “Greencycle Tech” sounds very environmentally friendly (and the firm does offer some remans), most Greencycle Tech products are cheap, new-build compatibles. On the Newegg website and on Amazon, we found multipacks of Brother and HP new-build compatible cartridges with price tags that would put the cost of the individual cartridges far below the price of an equivalent remanufactured cartridge. When we checked, a 10-pack of Greencycle-branded HP 78A compatibles sold for \$71.99 on Newegg, giving the individual cartridges a unit price of about \$7.20 each. On Amazon, a 10-pack of the same cartridges was even less expensive, at \$64.85, or about \$6.50 apiece. For the sake of comparison, one Office Depot-branded 78A reman on the office superstore’s site sold for \$74.99, or more than 10 times the price of the Greencycle product in the 10-pack.

In recent, separate actions, Brother and Canon have indicated that some of the Greencycle-branded cartridges sold online are infringing. In a complaint filed jointly by Brother Industries, Ltd., Brother International Corporation (U.S.A.), and Brother Industries (U.S.A.), Inc. (collectively Brother) in August 2019 with the U.S. International Trade Commission (ITC), Greencycle Tech was named as one of 32 companies accused of marketing infringing toner cartridges. Although Canon did not file a complaint against the firm, in October 2019 the OEM announced that it had a number of LaserJet compatibles removed from the Quicktoner storefront on Amazon. Quicktoner sells a range of products, but all of its printer supplies come from Greencycle.



Getting consumers to look past the greenwashed names and artificially low price tags and understand that clones are no bargain is a challenge faced by all legitimate companies that market supplies. But the potential payoff is huge. One of the most overlooked opportunities for eco-friendly practices results from the purchase and disposal of legitimate printer ink and toner cartridges. While clone buyers may think they’re saving money, someone, someday will pay dearly for all the spent clones that they are currently pouring into landfills around the world.

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### **Deception on Amazon**

Using fake eco-friendly marketing tactics isn't the only deceptive practice that clone vendors employ to hoodwink consumers. Disreputable vendors have developed a range of tricks to fool people into purchasing knockoffs. Many of these deceptive tactics are used on consumers who purchase ultra-cheap cartridges through Amazon, which is a major channel for cheap, infringing ink and toner cartridges.

Various so-called black-hat practices are employed on Amazon to boost sales of clones and many other products. Many schemes involve generating, collecting, and posting fake reviews. For online shoppers, reviews are one of the biggest influencers when making purchasing decisions. According to a [2018 report](#) released by eMarketer, a survey of nearly 2 million panelists found that over 95 percent of respondents said they had read a review before making a purchase. On the Amazon platform, good reviews also allow merchants to rank higher in search results, which generates more sales.

One trick that we have found to be common among clone makers is known as “brushing,” which allows vendors to retain reviews collected for older products. As BuzzFeed explained in a post, brushing “allows a seller to inherit a positive star rating and high ranking for a product without ever selling anything.” Unscrupulous merchants remove—or “brush”—information from an existing product page and replace the old information with a completely new product profile. While the product and the description are new, brushing allows the seller to retain the original Amazon Standard Identification Number (ASIN) and all the reviews given to the older product.

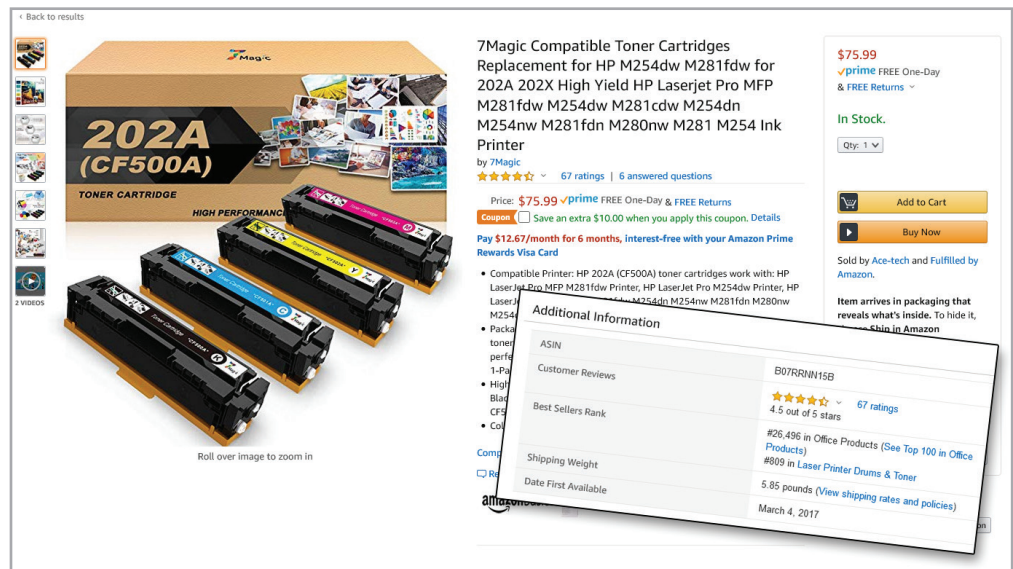
The *Wall Street Journal* (WSJ) refers to the practice as “co-opting.” In a [lengthy piece](#) on black-hat scams used to boost sales on Amazon, the WSJ reported that merchants will “co-opt an old listing with positive reviews and changed [the] product’s image and description to fool Amazon’s algorithms.” The report explains that benefits accrue for the product as it accumulates more ratings and reviews, all but assuring that it will always be ranked higher in Amazon’s search algorithm. Of course, all this puts legitimate competitors that offer brand-new products at a distinct competitive disadvantage because they have no reviews and none of the star ratings Amazon buyers are seeking.

### **Clone Brushing**

We found multiple ASINs for what appeared to be cloned cartridges that showed signs of brushing. A listing for a four-pack of 7Magic-branded HP 202A compatible CMYK toner cartridges ([ASIN B07RRNN15B](#)) contained various conflicts that make it a particularly good example. According to the listing, which we cannot say for certain has been manipulated, the product had been selling since March 4, 2017 (*see picture on following page*). This introduction date made us suspicious. How is it possible that the 7Magic product was available approximately six months before HP released the HP 202A and 202X in September 2017? Certain product pictures in the review section for the ASIN also indicated that something was amiss. Pictures of the 7Magic-branded HP 202A compatibles were mixed in with images of



Brother consumables. These pictures got our attention because they were posted by the buyers and could not have been manipulated by the seller. Initially, when we found the 7Magic ASIN for the HP compatibles, it contained comparisons to Brother TN-660 compatibles. Those comparisons have since been removed.



Reviews for the 7Magic-branded HP 202A compatibles listed under [ASIN B07RRNN15B](#) gave further indications that the ASIN had been brushed. Rather than offering insights into the HP compatibles, some reviewers mentioned consumables for Brother devices. For example, one review was supposedly written in July 2017, or about three months before the HP cartridges were released, and said, “The product works great in my Brother HL-2340DW laser printer.” Likewise, in a review from December 2017, the reviewer praised the performance of a “two-pack of toners” for a Brother machine. Another review that was posted in February 2018 included photos of a Brother toner cartridge. The reviewer said, “My Brother laser printer is practically bulletproof...Its only downside is the cost of the toner. My quandary: Spend \$54 on one Brother-branded toner cartridge, or buy this two-pack for \$15. Heck, at \$7.50 each, I could buy seven of these for the price of one Brother cartridge with a little change left over. What’s the catch?” An interesting question given the actual product being sold under this ASIN is a four-pack of HP 202A compatibles, not Brother cartridges.

### Arcon’s Changing ASIN

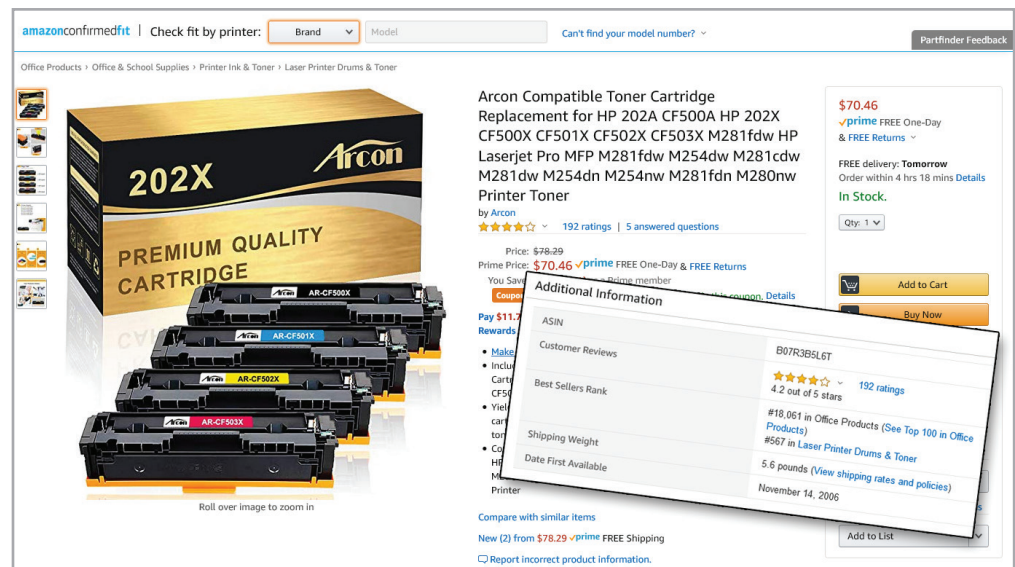
The 7Magic-branded listing was only one of dozens of ASINs we saw for new-build cartridges that looked as if they contained product information that may have been brushed or co-opted. And not all of suspicious ASINs we spotted were listings for small, obscure brands. Listings for some of the most popular cartridge brands on Amazon showed evidence of being

**Listings for some of the most popular cartridge brands on Amazon showed evidence of being brushed.**

brushed. Arcon is a leading brand on the Amazon marketplace that represents a range of compatible toner cartridges for machines from various vendors. We estimate that Arcon makes between \$4 million and \$5 million in sales on Amazon each year. We found a product listing that appeared to be brushed for a four-cartridge Arcon-branded bundle of compatible HP 202X cartridges sold under [ASIN B07R3B5L6T](#).

Like the 7Magic ASIN, we cannot be certain that the Arcon listing has been manipulated, but we noticed some activity that sure looks fishy. Although the listing for [ASIN B07R3B5L6T](#) is for a bundle of CMYK HP 202X compatibles, when we first discovered it, the Product Information box indicated that the listing was for a single black cartridge, which made us suspect it may have been brushed. After we identified it as suspicious, we routinely monitored the ASIN along with a number of others and in our subsequent visits to [ASIN B07R-3B5L6T](#) we discovered the text in the Product Information box had been updated to reflect that the product included four cartridges (CMYK). Other issues remained, however.

Another reference in the [ASIN B07R3B5L6T](#) listing that made us suspect it may have been brushed was the availability date. Originally, the Product Information box within the ASIN noted that the Arcon SKU had been on the market since February 2009, which is not possible. If this date were true, it would mean that the Arcon bundle was available about eight and a half years before HP released its 202X cartridges. Curiously, after the cartridge information had been corrected to indicate the product included four cartridges, we discovered that the availability date had also changed. The date the cartridge was first available, according to the edited listing, was November 2006, which is almost a decade before HP launched the cartridges.



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**Not all firms that use deceptive practices to sell clones reside online.**

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In addition to the above issues, we initially found other indications that [ASIN B07R3B5L6T](#) had been brushed, including repeated references to compatible Dell monochrome SKUs rather than HP 202X cartridges featured in the ASIN. We suspect the ASIN originally was for the Dell monochrome compatibles but was later co-opted for the newer HP color compatible bundle. Initially, [ASIN B07R3B5L6T](#) had a review titled “Junk. Doesn’t fit DELL E515DW,” which featured a picture of what appeared to be a monochrome OEM Dell cartridge and a completely different size compatible cartridge. We found a couple of other reviews that were much more upbeat. In a review titled “Fit Dell E310DW printer,” one reviewer said, “Toner cartridge works great so far and no mess.” Another reviewer said, “This product was exactly as advertised. It fit my Dell printer (E310dw) without any hassle.” All this would be great if customers were purchasing a monochrome cartridge for the Dell machine, but this ASIN is for a set of CMYK compatible cartridges used in HP Color LaserJets.

After monitoring [ASIN B07R3B5L6T](#) for several months, we were surprised to see that the reviews noted above for the Dell products had been removed. The last time we checked, there was no mention of Dell hardware or supplies. This was surprising because we believed that product reviews on Amazon could not be altered or removed. Nevertheless, all of the reviews posted to [ASIN B07R3B5L6T](#) on our latest visits referenced the appropriate HP machines and supplies. We should point out, however, that of the nearly 200 reviews featured on the ASIN, 20 percent awarded the Arcon compatibles three or fewer stars. Several complained that the color was not accurate and a couple said that the toner leaked.

**Brick-and-Mortar Crooks**

Not all firms that use deceptive practices to sell clones reside online. Crooked telemarketers and other dishonest vendors often use clones in various scams such as bait-and-switch schemes that fool consumers looking to purchase legitimate supplies into buying infringing products instead. Counterfeiters around the world use fake packaging to embellish low-quality imitation cartridges, which are sold for top dollar to unwitting consumers looking for OEM products.

Since the days of light-lens analog copiers, crooks have been running “toner phoner” scams, which often involve charging business users for higher-quality products but delivering junk. Unfortunately, the practice continues. Jim Meron, the operator of two office-supplies distributors, WOW Imaging Products and Time Enterprises, was accused



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**Since the days of light-lens analog copiers, crooks have been running “toner phoner” scams, which often involve charging business users for higher-quality products but delivering junk.**

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of bilking U.S. federal agencies out of as much as \$3.5 million between May 2011 and June 2017. The firms sold low-priced OEM cartridges on two U.S. government procurement platforms, GSA Advantage and DOD EMail, which are operated by the U.S. General Services Administration and the Department of Defense, respectively. When filling orders, Mr. Meron delivered cheap non-OEM cartridges and pocketed the difference.

In October 2018, the United States Attorney’s Office for the Eastern District of California brought eight counts of wire fraud and mail fraud against Mr. Meron. Upon pleading guilty to wire fraud, he was ordered to repay more than \$1.72 million. Facing nearly 20 years in prison for his scam, Mr. Meron was sentenced to 33 months in June 2019.

Mr. Meron is only one toner phoner to be caught running a scam selling fake cartridges at inflated prices. In 2016, the U.S. Attorney’s Office for the Central District of California issued a 30-count indictment alleging that 23 defendants participated in a “telemarketing scheme” to sell toner products for printers and copiers at “grossly inflated prices” to businesses, charities (such as Easter Seals Disability Services and the United Way), schools, churches, city governments, and other entities in the United States and Canada. The complaint alleged that the defendants bilked about \$126 million out of more than 50,000 unwitting consumers.

The indictment came after a four-year investigation conducted by the FBI and U.S. Secret Service along with the Huntington Beach, CA, Police Department and the Orange County District Attorney’s Office. At the center of the case was G.N.M. Financial Service, which did business as IDC SERVCO and Mytel International. The companies were owned and operated by Gilbert N. Michaels of West Los Angeles, who, along with the other defendants, was accused of orchestrating a conspiracy to defraud involving fake cartridges.



After a seven-week trial at the end of 2019, Mr. Michales and six others named in the original indictment were found guilty of conspiracy to commit mail fraud. In addition, Mr. Michaels was found guilty of mail fraud and money laundering, while four others involved in the scheme were found guilty of mail fraud. Fourteen defendants charged in the case pleaded guilty to federal criminal charges before the trial, while the fate of two defendants named in the 2016 indictment is unknown. At the time of this writing, the seven convicted in 2019 by the federal court were awaiting sentencing and faced up to 20 years in prison.

Counterfeiting OEM products is a multi-billion-dollar criminal enterprise that is conducted around the world. We routinely read about seizures of counterfeit cartridges involving many of the leading brands, including Canon, Epson, HP, Samsung, and others. Some OEMs, including HP, have taken an active role in assisting the authorities in carrying out raids in Africa, Asia, Europe, and



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other regions. Trade organizations such as the Imaging Supplies Coalition (ISC) in the United States and Imaging Consumables Coalition of Europe, Middle East, and Africa (ICCE) have been established to keep a watchful eye on their respective markets. ICCE estimates that each year approximately €1.6 billion—or roughly \$1.75 billion—worth of bogus imaging supplies are sold worldwide. Because it's so lucrative, peddling counterfeit supplies attracts drug cartels, terrorist organizations, and other nefarious groups.

Thanks to the constant vigilance of the digital imaging supplies industry and law enforcement, counterfeiting consumables in the United States is rare these days—but it does happen. Epson is currently pursuing legal actions against various companies and individuals in courts in California and Nevada. The accused are alleged to have manufactured millions of dollars' worth of counterfeit



Counterfeit Epson cartridges

Epson ink tanks. The cases stem from raids conducted in 2016 by U.S. Marshals—with the assistance of Epson—on a counterfeiting ring that resulted in the seizure of tens of thousands of what were believed to be counterfeit Epson inkjet cartridges and the equipment and materials needed to make thousands more. The cases, which are remarkably complex, have progressed slowly but should be concluded this year. Defendants in the matter pending in Nevada face a \$12 million default judgment, while the case in California is in its initial phases.

**Clones Cost Billions**

While the intent of individuals and companies involved in cloning ink and toner cartridges may not be as sinister as those of the counterfeiters, the infringing products that clone-makers bring to market are a real and present danger to any legitimate supplies business. Non-OEM supplies vendors court price-sensitive customers, so they compete almost exclusively on price. Legitimate third-party supplies, however, simply can't compete with the artificially low price tag that clones carry. Clones exert a constant, downward pressure on prices, and the resulting margin compression has forced many remanufacturers and manufacturers that produce non-infringing compatibles out of business. The same is true for many of their suppliers and channel partners. At this point in time, all companies in the digital imaging supplies market have felt the adverse impact of clones, regardless of where the firms sit in the industry's value chain.

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**Clones have had a material impact on printer and copier manufacturers and cost OEMs billions of dollars in lost consumables revenue each year.**

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Of course, clones have had a material impact on printer and copier manufacturers and cost OEMs billions of dollars in lost consumables revenue each year. These firms rely on the profits from supplies sales to recoup some of the profit that's lost on hardware, which often provides razor-thin margins. OEMs typically invest some portion of the profits earned from their supplies sales to fund R&D resulting in future generations of printer hardware. Although OEMs and groups like the ICCE and ISC have labored hard to rid global markets of infringing third-party consumables, the results have been uneven. Brand-protection experts readily acknowledge that battling infringing cartridges is like squeezing a balloon. When force is applied to one region, the clones migrate to another, so while they may move around, infringing ink and toner cartridges never go away.



Hardware manufacturers do all they can to protect their consumables business. During the past decade, OEMs have filed scores of patent-infringement lawsuits in the United States against some of the third-party supplies industry's largest vendors, including remanufacturers, compatible manufacturers, and their channel partners. In addition to the suits, firms have filed similar complaints with the U.S. ITC and requested that the commission investigate the widespread infringement of a range of patents. When warranted, the ITC has issued orders to



restrict the importation of infringing products from U.S. markets. Hardware vendors have grown increasingly active in European courts in countries such as Germany, France, the Netherlands, Poland, the United Kingdom, and others. OEMs have also filed suits in various countries with emerging markets, such as Brazil, China, Russia, and more. In addition, a number of firms such as Canon, Epson, and HP have worked with Amazon to remove

infringing cartridges from the platform around the world, including in Germany, Italy, Spain, the United Kingdom, and the United States.

We expect that more hardware vendors will begin actively protecting their respective consumables businesses. Despite the fact that legions of third-party supplies vendors offered their own compatible versions of Brother's toner cartridges online, for years the OEM did not file any complaints with the authorities. As noted earlier, all that changed in the summer of 2019, when Brother filed a complaint with the U.S. ITC against 32 companies. As more third-party consumables become available on Amazon and other websites, we expect to see action from firms such as Ricoh and Xerox, which have not been active in the courts lately.



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Increasingly, we have seen third-party supplies vendors initiate their own legal actions regarding patent infringement. This has been especially true in China, where some of the largest non-OEM supplies manufacturers reside. There has been a trend in the industry for compatible makers to bring to market non-infringing toner and ink cartridges based on their own IP. As a result, large third-party consumables manufacturers have found smaller companies violating their patents. At the beginning of 2019, Ninestar, the world's largest third-party supplies manufacturer, announced that it would "step up efforts to protect its own intellectual property rights" after prevailing in a patent-infringement lawsuit it filed against Zhuhai Zhengyin Electronic Technology Co. (Zhengyin) in the Guangzhou Intellectual Property Court. In the past, the company successfully pursued cases against several firms, including its rival compatible inkjet cartridge maker Zhongshan Yuzhe Electronic Co. We expect the courts in China will see more cases filed by Ninestar and other large Chinese compatible makers.

### **Infringing Products Don't Relent**

Despite all the lawsuits, shipments of infringing products continue to grow, as does the availability of clones. The damage is reflected in the financial filings of various OEMs. Epson, whose Printing Solutions business unit accounts for two-thirds of the company's revenue, saw revenue from inkjet consumables fall more than 5 percent in 2018. During the



first three months of 2019, Canon reported a 12 percent drop in year-over-year revenue largely due to growing "non-genuine consumables" sales in Europe. Similarly, HP reported its percentage of supplies revenue in Europe, the Middle East, and Africa (EMEA) was "down in the mid-teens" during its third quarter of fiscal 2019.

Because OEMs are public companies, it's easy to get a read on how clones are impacting their supplies business, but it can be tougher to gauge the impact on smaller firms. Nevertheless, there can be no doubt that years of increased sales of infringing cartridges has decimated the remanufacturing industry. During the past 10 years, some of the industry's leading companies have been forced out of business. We estimate that since 2005 the number of remanufacturers has plunged from 4,000 in North America to fewer than 300, and the situation is similar in Europe. Reports from most of the remaining remanufacturers say that sales are falling almost every year and the future looks bleak. In addition, most of the companies that once supplied the industry, such as

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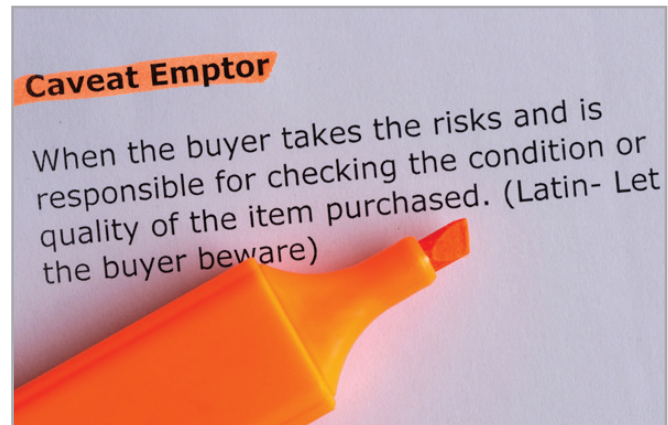
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bulk toner distributors and cartridge component vendors, are long gone—either through acquisition or because they just went out of business.

Remanufacturers and their suppliers are not the only ones that have been severely damaged by clones. Over the past 10 years, the vast majority of companies that OEMs have dragged into court in the United States and abroad have been wholesalers, distributors, resellers, and other channel organizations that sell third-party supplies. In most countries, companies that sell infringing products are liable for IP violation just like the manufacturers. We know of many in the channel that have been forced to close their doors because they were sued for selling clones. The recent OEM financial results noted above indicate that the lawsuits are far from over, which should put any company seeking to avoid OEM lawyers on guard. Selling clones in today's market remains risky business.

As was made clear in many of the Amazon reviews we quoted earlier, clones continue to harm consumers and end users, too. There's a lot of junk in today's supplies market, and cheap consumables have ruined more than one machine.

Regardless of whether cartridges are purchased online or procured directly from a manufacturer, consumers and end users must be vigilant to ensure that they are getting the value proposition for which they paid. Now more than ever, wise consumers must adhere to the dictum that if it sounds too good to be true, it probably is.



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## About Actionable Intelligence

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Actionable Intelligence is the leading source for news, analysis, and research on the digital printer and MFP industry and the original and third-party consumables business. Actionable Intelligence provides clients with customized research and consulting, as well as up-to-date news and strategic analysis on Action-Intell.com, the industry's leading destination site visited by tens of thousands of printer and supplies executives worldwide. Global printer OEMs, third-party supplies vendors, distributors, resellers, and a diverse mix of other companies rely on Actionable Intelligence to deliver timely and accurate information about the trends shaping the printer hardware and supplies markets. To learn more about Actionable Intelligence, visit [www.action-intell.com](http://www.action-intell.com).