

## Testing the Limits

### Out-Of-Toner.com: Testing Quality Quantitatively

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Recharger Magazine

Quality means different things to different people. In the remanufacturing arena, quality means achieving or exceeding OEM specifications. Until recently, quality by this standard was difficult to gauge because there were no uniform methods for determining cartridge performance. Fortunately, now there are standardized test methods for the toner cartridge remanufacturing market, and quality can now be measured in a consistent manner.

Since implementing standardized testing, Out-Of-Toner.com has improved the quality of its cartridges, reduced its returned cartridge rate, and proven to customers that its cartridge quality is as good or better than the OEM's.

"We wanted to learn a quantitative process for ensuring the quality of our toner products," said Steve Sherman. "We knew that the Standardized Test Methods Committee (STMC) guide would help us compete on an even playing field with the OEMs, but we didn't know that it would also help us with other areas of our business."

The STMC was formed in 1999 to develop quality standards for remanufactured cartridges. To do this, the committee developed the STMC Guide for evaluating toner printer cartridges, which covers testing methods for yield, image density, background, and package integrity.

When STMC procedures were taught at Expo 2000, Phoenix-based Out-Of-Toner.com's owner Steve Sherman and Production Manager Jasmin Slomic decided to take advantage of the opportunity. The guide now serves as the company's primary testing protocol for its remanufactured cartridges.

#### Black or White

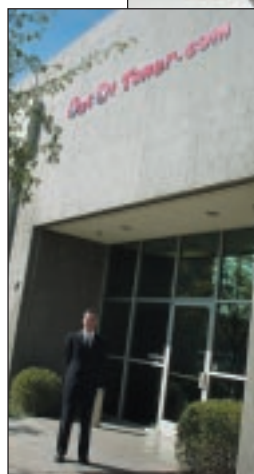
Out-Of-Toner.com's 23 employees supply toner cartridges to retail customers across the United States. By attending the STMC training at Expo 2000, Out-Of-Toner.com received

all of the necessary equipment to perform the STMC tests on samples of the 7,000 cartridges it produces each month. This equipment included a black and white densitometer, a 2kg calibration mass, a balance with 50g traceable class 4 calibration mask, a temperature and humidity gauge, and official copies of the ASTM F 1856, ANSI IT 2.17 1995 and ISTA 1A standards.

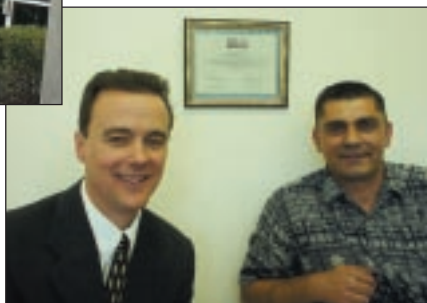
"One of the great attributes of the course was that as soon as we returned home, we had all of the equipment we needed to begin the testing process," said Steve. "We also knew how to calibrate the equipment."

Out-Of-Toner.com has implemented the STMC yield, image density and background tests. The yield test, ASTM F 1856, measures the toner usage rate and averages it over the projected life of the cartridge, and ANSI IT 2.17-1995 measures image density (graphics) and background.

The tests were created to help companies determine the actual cost per page for each cartridge in a consistent and uniform manner. In addition, it allows remanufacturers to make a legitimate comparison to the OEM product. OEMs, including Hewlett-Packard, are placing tremendous emphasis on selling cartridges based on cost-per-page comparisons. The shrewd recharger



**Out-Of-Toner.com has put testing at the forefront. (Above) Jasmin Slomic uses a densitometer. (Below) Steve Sherman and Slomic proudly display their Certificate of Course Completion from the Standardized Test Methods Committee.**



knows that comparisons need to be supported by credible evidence, which STMC provides.

“Now we can accurately determine and prove our yield, and we can sell our cartridges with confidence against the OEMs based on lower cost-per-page figures,” Sherman said. “These tests prove that even though the cartridges are remanufactured and are offered at a better rate, we have not compromised the quality.”

The testing also revealed some interesting information to Out-Of-Toner.com. For example, the STMC tests showed that some of the cartridges’s image density was outstanding, but that quality came at a price — the cartridge page yields were lower than expected.

“We are trying to find a happy medium between the yield and image density,” said Steve.

The company has solved this predicament by adding additional toner to certain cartridges. “Since our customers like a darker print, we add some additional toner to our toner cartridges to ensure the cartridge also produces the proper yield,” said Steve.

The company tests the density and yield of its toner cartridges to ensure it is the same as the OEM’s, using a densitometer to measure image density and a record sheet to ascertain the yield. The company has found that using STMC methods virtually eliminates the error and ensures valid results.

“The STMC Guide’s five-block test is really eye opening. You really know what is going on with your cartridge,” said Steve. “You want to be as close to the OEM as possible and the tests tell you what you need to do to improve. There is always a cartridge in your arsenal that you are not completely happy with, or toner from a supplier suddenly gets lighter. Now there is a way to test.”

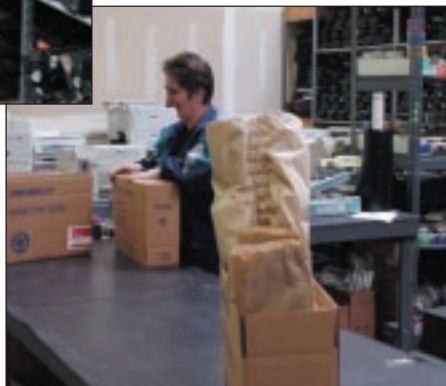
“There is also another benefit of utilizing the STMC testing methods that most people don’t think about — the testing helps keep our vendors honest,” said Steve. “The vendors who supply us toner and supplies typically do not remanufacture, and consequently they also do not test. Every company tells me how great its toner is, but now I can judge this quantitatively,” said Steve.

## Staying on Track

In addition to the standardized testing methods, Out-Of-Toner.com employs a sophisticated component-based



**(Above) Devad Jeteric examines empty cartridges. (Right) Suzan Stomic wraps the cartridge in brown bags for shipping.**



tracking system to improve the quality of its cartridges and decrease its cartridge return rate.

“We are always trying to improve our process,” said Steve. “We do this by tracking everything we do and by looking for trends — good and bad — and then posting the results on a prominently placed white board for everyone to see.”

The company’s technician teams conduct this tracking system in groups of two — one experienced team member in charge as the other novice team member learns from the leader’s example. When the novice shows progress, he or she is eventually promoted to be the leader in a new group of two. This helps the employees stay motivated and feel good about what they do.

“The key to this type of organization is placing the right people together,” said Steve. “The best combination of individuals produces the best results.”

When the cartridge is remanufactured, a representative from each team tracks integral cartridge information, such as whether the components are new or remanufactured,

and if remanufactured, the number of the cycles. The company also records the name of the testing technician and the production date.

## Brown Bagging It

Out-Of-Toner.com uses some non-traditional practices. One such program is the packaging and shipping cartridges in brown paper bags for extra padding. Since implementing this program, the company has diminished its handling problems.

“We are open-minded to new and inventive ways of doing business,” said Steve. If we find that a program works, we do it.”

## Becoming a Dot-Com

After attending a conference on marketing and selling products on the Internet, Steve learned the value of a carefully chosen company name. His peers in the class helped him search website domain names and sift through a number of toner-related appellations. A classmate suggested Out-Of-Toner.com. The name was an instant hit. Incidentally, the person who coined the name has become one of Out-Of-Toner.com’s most loyal customers.

The company does a small percentage of business online, but the dot-com name serves more of a marketing function. The clever name and whimsical logo attract walk-in and drive-by traffic in Littleton, Colo.

“Since we put the sign on the side of the road, we get one new call a day from a person who drove by and was intrigued by the sign,” said Steve.

## Phoenix's Little Bosnia

Six years ago, when the Bosnian nationalists expelled much of the non-Serbian population through "ethnic cleansing" and millions of displaced Bosnians found refuge outside their native country, Jasmin and his family moved from Bosnia to the United States.

"We had to leave one life and begin another," said Jasmin.

That new life began with employment at Out-Of-Toner.com. Jasmin is in charge of production and his wife Suzan manages the laser testing area, overseeing the post-test print-outs for every cartridge remanufactured.

"We are so happy with our new lives in the United States," said Jasmin. "We lost everything in Bosnia, but now we feel like we have reemerged on the other side."

Just as Steve has provided a place for Jasmin and his family at Out-Of-Toner.com, Jasmin also opens up his home to Steve.

"We are like brothers. When Steve comes into town, he stays at my house," said Jasmin.

Out-Of-Toner.com has also provided a refuge for many others from Bosnia. Many members of the production staff are also Bosnian natives. With Out-Of-Toner.com, they feel they have a future.

## Something Fichey about His Beginnings

In 1990, when Steve was working as a sales representative for a girlfriend's mom, selling microfiche supplies, he saw an opportunity to sell the products at a lower price.

At the time, he was living in a small house with three friends. He began what is now Out-Of-Toner.com in a tiny section of a six- by six-foot utility room.

Now Steve has expanded his shoebox operation to offices in Seattle, Phoenix, Denver, and Fort Myers, Fla. and the main production facility is located in Phoenix. Steve has streamlined this facility with Just-in-Time inventory to reduce his stock and maximize his 6,600-square-foot of



**Out-Of-Toner.com has complemented its toner cartridges with recycled ink jet products.**

remanufacturing space. The well-organized facility includes separate rooms for cleaning and testing and utilizes a Torit machine for keeping the facility clean. Its efficiency enables the production team to produce 7,000 cartridges a month.

## Expanding Into New Markets

Although he is conservative with his physical space, Steve is always looking for new ways to expand his business. A couple of years ago, Steve made a strategic decision to keep his remanufacturing facility in Phoenix, but open a new sales office in Denver.

"In Phoenix there is a lot of competition — everyone is trying to beat everyone," said Steve. "After I opened my office in Colorado, my company tripled in size, and in Denver I rarely have to lower my price."

Besides expanding into new geographic areas, Out-Of-Toner.com is also looking to expand into new markets. In the servicing and repair area, the company is an HP authorized dealer and works with many independent service agents. Steve would like to do more of this kind of business and develop more of these types of relationships.

Just recently, Steve found that there is a niche market for ink jet recycling in Phoenix and he can price these cartridges very competitively. Using its Fludix cleaning machine for refilling, the company turns around cartridges in 24 hours.

To make this new operation profitable, the company does not recycle all of the ink cartridges available. Instead, the company cherry picks the cartridges with the most favorable outcomes.

"We test the quality of our ink jet cartridges by comparing test prints against OEM prints," said Steve. "We've found that once we get a good print we are usually fine. Since we can't replace anything, if there is a problem, we first force more air through the cartridge. Then if that does not solve the problem, we try some different cleaning methods. The trick in ink jet recycling is cleaning."

"This business keeps you humble," said Steve. "When you think you've figured it all out — someone calls and tells you that they have a defective cartridge or the OEM comes out with a new cartridge. There are always challenges, but that is what makes the industry interesting."

## Future Looks Bright

One thing that Steve is certain about is that Out-of-Toner.com will not go the way of the other dot-coms that fizzled this year.

"I am optimistic about the future because our growth opportunities are endless," said Steve. "I know that color is our future, but I'm also aware that there are a lot of issues associated with color." The wide format color market is particularly promising. But, Steve recognizes that, especially in Phoenix's sunny climate, the aftermarket must address problems such as color shifting with high-tech solutions. "If you are creating an ad for a siding company — the grass needs to look green — not like it needs to be watered," said Steve.

For Steve, being aware of the market also means being aware of needing to move his home base back to Phoenix. This means he will have to move his wife and three kids from Colorado.

"I am lucky that my wife is so supportive," said Steve. "She is a real team player." □

*For more information, contact Out-of-Toner.com at 602-870-4000 or fax 602-870-1318.*