



Realize Inc.'s
snowflake SLA
parts printed on
the ProJet 7000

Realize Inc. Puts ProJet® 7000 Through its Paces

The very first customer job that Todd Reese, president of Noblesville, Indiana-based rapid prototyping service provider Realize Inc., fed his ProJet® 7000 stereolithography (SLA) 3D printer was a 40-piece run of stout bottle toppers with extremely intricate detail. The print tray was completely full. Realize Inc.'s 3D Systems' Applications Engineer had hoped the new machine would be eased into service, but that's not Reese's style.

This particular job was originally scheduled for a Viper SLA System and would have taken three builds at more than 17 hours per build (51 total build hours). Reese was surprised to come in the next morning to find his ProJet 7000 build was complete and that the build had taken only 16 hours. Medium-sized jobs that require ultra-high precision, like this one, explains Reese, are where the ProJet 7000 proves its mettle. Reese is also excited about the ProJet 7000's ability to use its entire 15" x 15" build area in high-resolution mode, compared to a Viper SLA System's 5" x 5" sweet spot.

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Unmatched Precision and Higher Throughput

Reese is a seasoned veteran of the rapid prototyping industry with more than two decades of experience and a focus in SLA technology. In that time, he's run the gamut of SLA 3D printers including legacy 3D Systems equipment, such as the SLA-250, SLA-500, and SLA-5000 and Viper systems, as well as newer generation iPro Systems. In late 2013, Reese was faced with the need to bring in a new piece of equipment, and the ProJet 7000, on paper, had many attributes that set the machine apart from his current fleet, yet it would also fit right in. After getting acclimated to the new machine's differences and working through a few software issues, the machine is paying big dividends in terms of throughput and quality for parts of all types.

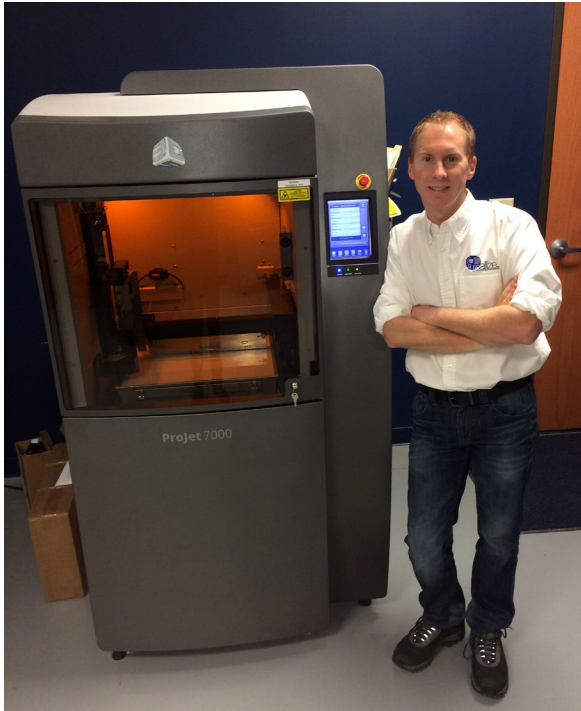
"The quality of the parts being produced by our ProJet 7000 has lived up to my expectations," Reese says. "Right out of the machine, we have found its parts to be superior to parts from other systems we have in-house at this same stage. The sidewall quality is spectacular and the detail is crisp. These are the finest SLA parts that I've seen from a 3D Systems machine."





It's a great combination of accuracy and throughput, the latter being enabled both by the larger high-definition build area but also by the time savings that the ProJet 7000 can deliver on a per-part basis.

Reese simplifies this combination of precision and speed by explaining it in terms of a twin-tip Sharpie® marker. He explains that the great thing about the ProJet 7000 is that it shares the much larger iPro System's ability to draw the outline of the part with a small laser beam, likening it to the fine end of the



marker, to achieve a precision aesthetic shell, while the bulk of the part is filled-in with a much larger laser beam, which he likens to the wide end of the marker. This feature allows for a drastic reduction in build time as compared to previous-generation equipment that employs a single laser beam size. *(Left: Todd Reese with Realize Inc.'s ProJet 7000)*

Fulfilling a Range of Needs

Realize Inc. specializes in SLA for a wide spectrum of clients in in virtually every industry, including consumer products, automotive, medical devices and musical instruments.

Considering the ProJet 7000's accuracy, Realize Inc. uses it "across the board" for everything from freeform sculpture-like models to early concept models to form-and-fit engineering prototypes. The VisiJet® SL Impact material that Reese is running in the machine is robust enough to support

challenging functional assemblies and a host of demanding applications as well.

Going Forward with the ProJet 7000

The ProJet 7000 is built for ease of use and consistent operation, making it a great addition to the manufacturing floor as well as the office. "Although we have the machine housed in our stereolithography lab, I could see it residing in an office environment," he says. "So far, we've found the enhancements made to this machine have resulted in a machine that is easier to keep clean." The ProJet 7000 is much more hands off than previous generation systems and does not necessarily require the user to be an expert in 3D printing, which is a huge benefit to new users. Reese does, however, miss some of the previous generation's tools which allow for more manual control.

Nevertheless, Reese feels the machine will fit quite nicely into his operation. In service since mid-December, this 12th SLA machine is at home. Reese sees thousands of builds in the ProJet 7000's future. "We're not afraid to throw anything at it."

