Combining the storied history of World War II American warplanes, from Hellcats to Thunderbolts, with the newest innovative technologies used in NASCAR's Sprint Cup racing series, Mark Percario, owner of Combustion Technologies (CT), has created a niche market from his manufacturing facility remotely located in the cornfields of Pittsylvania County. Having moved from the suburban lights of New Jersey, Percario has proven that Virginia is indeed among the best states for business and has grown his specialty piston- and ring-manufacturing business here into a thriving success ... and he has done so from a high-tech facility in a largely rural area. Situated beside two silos and located obscurely between two large cornfields, the CT facility designs and crafts specialty pistons for high-performance engines like those used in bush planes in Alaska, airboats in Florida, Sprint Cup cars in Daytona, and air races in Reno; and all that speed and technology is delivered with skill and talent from a small building in the Spring Garden community of Chatham, Va.

Percario began his business in 1986 in Florida, and after a short stint in New Jersey, found his permanent Spring Garden home in 1991. CT has prospered here in Southside Virginia; the company has grown and now produces six times more product than when it began operations at the current site. Combustion Technologies employs six workers who each perform multiple tasks in the high-tech piston-production process, and the company is able to produce 50-100 complete pistons each day using its cutting-edge technology. All of the pistons produced by the company are made from a forging process as opposed to casting, which makes them much stronger and both renowned and favored by high-performance engine builders.

Percario's high-tech production facility, in addition to providing products for modern-day engines, is also responsible for helping keep our proud military history in the air. He produces replacement parts for the engines of World War II fighters, bombers and transport planes built 70 years ago that allow them to take to the air and be displayed and shared with Americans all across the country. CT provides the rings and pistons for these vintage radial engines, the same engines that defended
our freedom and brought our WWII atmen home mission after mission. In producing airplane pistons, CT must also meet some stringent standards and is a Federal Aviation Administration (FAA)-approved facility that receives yearly inspections.

For the NASCAR fans out there... here's a little-known fact. Combustion Technologies has a contractual relationship with Hendrick Motorsports, the organization that fields four full-time Chevrolet teams on the Sprint Cup circuit. Percario and his employees manufacture pistons, and some extra horsepower, for Hendrick drivers Kasey Kahne, Jeff Gordon, Jimmie Johnson and Dale Earnhardt, Jr. Percario works with Hendrick Motorsports' engineers to design and craft specific prototype pistons exclusively for their teams; and race fans know the successes enjoyed by Hendrick cars over the past years, including several Sprint Cup championships.

Percario fondly remembers attending his very first race at Martinsville Speedway in October 1999 to support the team with whom he had recently joined forces. “I was in the pits with Randy Dorton, the team's chief engine builder at the time, and it was so exciting because Jeff Gordon won that race,” says Percario. One of his most prized possessions is an autographed piston that Gordon passed along to him from that race. It's a token of appreciation for a job well done!

As testament to CT's quality and dependable service, the company has never advertised the business nor spent time marketing or seeking out new customers. CT's product has quite simply sold itself. Originally, the facility was designed to produce piston rings, but in 1994 Percario began experimenting with pistons and eventually began to manufacture a few. As word of the quality of his pistons began to spread, that segment of his line of products grew and eventually became the company's primary offering. And now the company is focused squarely on its growing share of this highly specialized market. As for the future, Percario states, “We are not looking to expand our facility, only to become more efficient within the space that we already have. The Lycoming industry, which makes piston engines for aircrafts, is always testing experimental products; and we would like to expand more into that market.”

Combustion Technologies launched its online presence just two years ago, allowing customers to order a standard piston via the Internet; however, most of Percario's customers require custom designs and enjoy a more personal relationship with CT. “Most of my customers prefer the old methods of communication, and so do I. Talking to and meeting people face to face is how I have formed so many strong friendships and grown my business. I like being a small company and personally knowing my customers. I have no interest in becoming a large manufacturing facility,” stresses Percario.

He added, “One of the major advantages of being located here is that we are provided electric service by Mecklenburg Electric Cooperative... in 2005 they constructed a three-phase line to the corner of my road; and for the benefit of my company, they extended the line further to include our facility, which increased both the reliability and quality of the power we receive from them and count on to operate Combustion Technologies... they are our cooperative and they are excellent.”

David Lipscomb, vice president of member and energy services, comments, “MEC's highest priority is to meet the needs of our members. Over the long haul, achieving that goal includes forecasting growth and rebuilding old lines. By building a strong relationship with Mark, and learning about his operation, we knew our facilities serving his operation would need to be more robust. When the line feeding Combustion Technologies was slated for rebuild, we had already included their needs in the project and the new line was built accordingly.”

Mecklenburg Electric Cooperative is pleased to serve Combustion Technologies and to include it among the ranks of its member-owners. This low-key, highly successful organization not only does its part to preserve our American warplane heritage, it also sits on the cutting edge of technological advancements in piston manufacturing. So the next time you see an old World War II warplane streaking across the sky, or one of Hendrick Motorsports' cars in victory lane, just remember, both were made possible with pistons produced right down the road by your neighbors at Combustion Technologies, whose outstanding work shows both a reverence for the past and the promise of the future.

Employee Jason Carpenter is running a 6-axis machining center to precisely cut and then deburr a Lycoming piston.