

Plant Tour: A Visit To FK Rod Ends And Fragola Performance Systems – Making Components In The USA The Right Way

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Mar 16, 2015 Brian Lohnes 1320 Spotlight, BangShift 1320 3



Sometimes even the best laid plans take a while to play out and because of Ma Nature's open assault on the New England area this winter, it took way too long for me to make the couple hour drive from the Boston area to the manufacturing facilities of FK Rod Ends and Fragola Performance Systems in Southington, Connecticut to take a tour and see how the highest quality rod ends as well as the highest quality hose ends and fittings in the industry are made. This was actually my second visit to the facility. About a decade ago I had been to both FK and Fragola plants to see how their products were made for a story in Hot Rod magazine but because I can hardly remember what I had for dinner last night, I was in need of a serious refresh and the fact remains that every gearhead on Earth loves manufacturing, machinery, and seeing raw materials converted into finished products in their natural habitat.

The first thing I'll tell you is that the Fragola family is as hands on a group as I think I have ever seen in this industry. From patriarch Frank who founded the companies and as you'll learn a little later is a genius in more ways than one, to his sons and daughters who oversee different aspects of the businesses from manufacturing to financials, to their kids who are now active in the operation as well. Even the employees come in multiple generations with fathers and sons working within the same buildings on the factory floor. Without getting overly dramatic about it, it is evident right off the bat that this is a family owned and operated business because of the level of pride and care that is evident from the second you set foot in the door of the lobby. They have employees who retired and CAME BACK because they missed the work and the environment so much. That's incredible in this day and age.

But the reality is all the feel good stuff in the world doesn't amount to a hill of beans if the product that you are turning out isn't any good. FK has been an industry leader in rod ends for more than three decades and that's because they use the highest quality materials, they have stringent quality control standards, and they keep inventory on the shelf to fill orders RIGHT NOW. While I was at the facility, some big requests came through the ordering system and no one broke a sweat because the stuff was on the shelf and ready to roll. They pride themselves on their ability to react quickly and fulfill a customer's immediate request and their manufacturing operation is established to the point that they can react on the floor quickly if they need to handle a request that they had not anticipated previously.

When we think of rod ends, car guys and truck guys think of suspension systems and other automotive systems but the reality is that you interact with rod ends in virtually every aspect of your life. They are in your house, your car, that elevator you ride to your office each day, your lawn mower, that snow blower that cleared your driveway this winter, etc. More importantly they are used in all kinds of industrial applications, in factories that produce everything from potato chips to military ordinance, and literally whatever else you can dream up. Because of that, there are tens of thousands of variations of how these seemingly "simple" pieces are constructed. From the amount of resistance in the bearing to the thread size and the material used in construction, the yeoman-like rod end is actually a tough little hero in disguise. Below you'll see photos from our visit with captions and we'll show you the inside of the FK facility. It is a cool place that even has some secrets that we can talk about but we couldn't photograph. That's what happens when you deal with innovators. They want to protect themselves from the guys out there who'd rather cheat than outwork you.

The Fragola Performance Systems facility, which is right across the street from FK is another model of manufacturing greatness. It may sound like we're tripping all over ourselves to praise company founder Frank Fragola but the guy really is a genius. The way that the facility is laid out, the manner in which things happen, and the machines used to manufacture the parts were all scienced out by him. When you start to consider all the moving elements of a manufacturing operation, it becomes all that much more mind-boggling to understand Fragola "saw" all of this in his head before the first machine was plunked down on the factory floor.

There are dozens of screw machines that are turning out thousands of pieces per hour, there are tumblers, and our favorite are the thread rolling machines. See, all of the threads in a Fragola product are rolled not cut. As any good gearhead knows that a rolled thread is VASTLY superior to a cut thread and there are a whole sections worth of thread rolling machines where guys drop fittings in raw and they emerge threaded. Frank can often be found in the factory at the thread rolling machines with baskets of fittings, threading one after the next. The fellows at the plant told us that he enjoys doing it as a form of relaxation. That's hardcore and it speaks to the fact that it isn't just a family's name over the door, it is a way of life for these people and that's important.

I am the son of small business owner and I understand and appreciate what it means to have your name on something. Often times we see a dedicated first generation followed by a not so dedicated second generation, and then by the time the third generation of a family is at the helm of the business, all the passion is gone. I am here to personally tell you that is 100% not the case at FK and Fragola Performance Systems. The sons, daughters, and now grandkids of the founder are working hard each day and creating their own legacy. If you couldn't tell, I was impressed.

NOW ONTO THE PHOTOS!



So here's a look at one corner of the manufacturing floor at FK Rod ends. One of the things we mentioned above is the fact that Frank Fragola developed many of the machines used to build their product himself and they're better than the stuff anyone else has. That being said, they also want to keep that technology in house so we didn't blast photos of them. This is a BIG place.



Essentially what's happening at this part of the program is that the rod ends are being finished with the bearings and races being installed into the machined housing. That lady in the blue sweatshirt was cranking them out!



The only way you can be assured of true quality control in manufacturing is by making everything yourself and that is exactly what they do at FK. From start to finish it is all done at their Connecticut facility.



These are components awaiting their turn to be installed. One of the things that blew us away was a look at the “reject” barrels at the loading dock. There were a couple of 30 gallon steel drums sitting there and we were told that they were basically for parts that had been rejected and would be scrapped. We asked how often they were filled and needed to be emptied. Maybe once every six months was the answer. These guys makes thousands and thousands of parts a day and once every six months they have enough rejects to fill a couple of little metal barrels. #quality



These pieces are known as lollipops and they are what a rod end starts life as. Technically the rod end starts life as a long piece of steel in a screw machine but you get where we’re going with this. The flats are machined into the bulbed end and they really start to take shape.



These come in a massive array of sizes as you'd imagine.



Here are some of the lollipops after the flats had been machined. Any idea what these big guys would be used for?



If you guessed monster trucks you'd be right! All of these will be finished and they are destined to a hard life of abuse under trucks like Grave Digger and others.



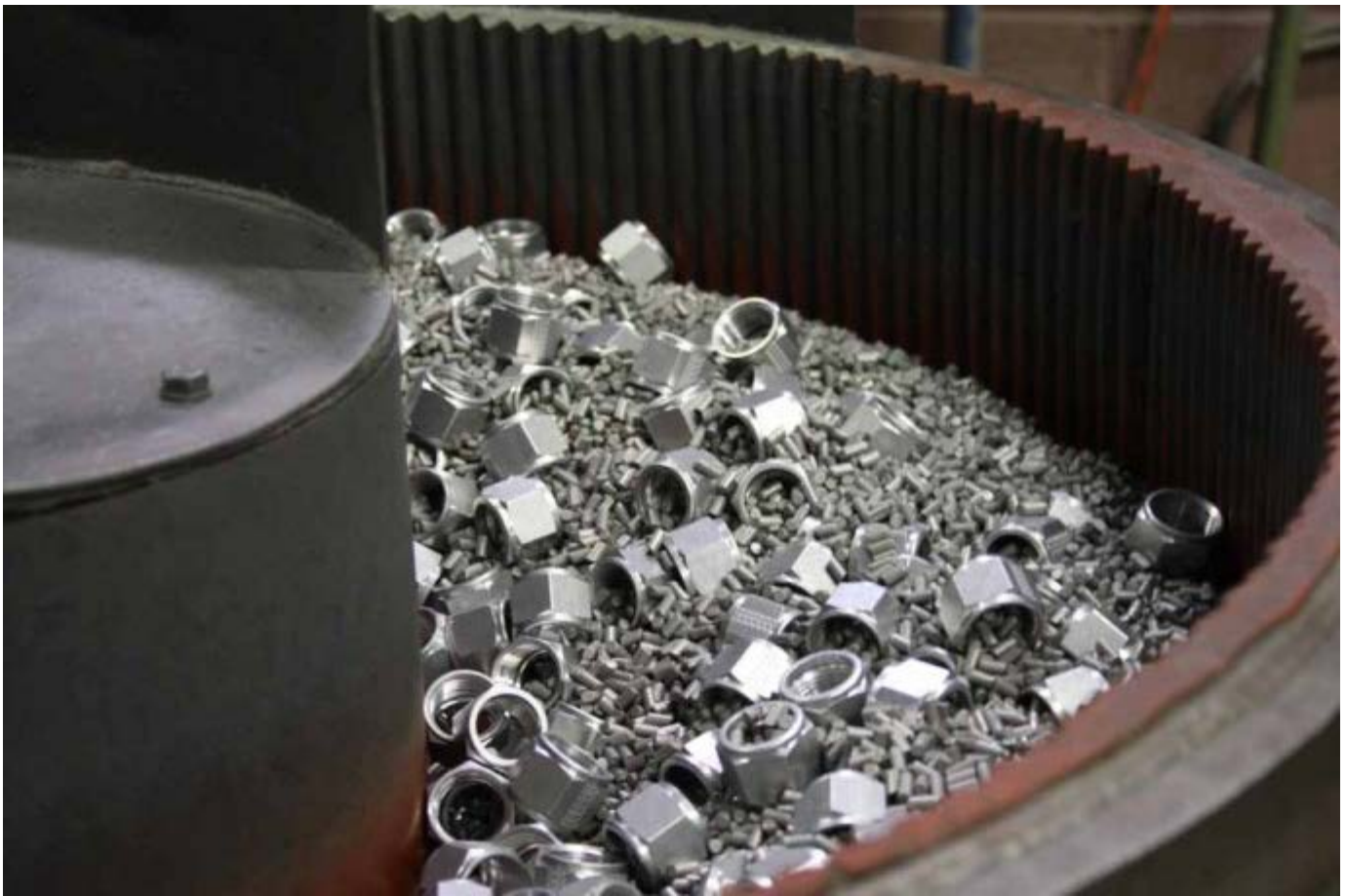
These are all semi-finished pieces that can be pulled off the shelf and used to help complete large orders or other customer requests. FK and Fragola Performance Systems pride themselves on quick order fulfillment times.



Perhaps less beefy than their monster truck counterparts, these zinc coated rod ends will be used in applications where their free movement may keep a factory running, your lawn mower working, or who knows what other function.



There's nothing cooler than seeing stuff get manufactured, especially when it involved precision machining.



We then went across the street to Fragola Performance Systems and took a guided tour of that facility as well. Here some aluminum nuts are being tumbled after coming out of one of the dozens of screw machines that were working around the corner.



These machines represent the beating heart of the company and they are amazingly versatile for what they do. Pieces of steel or aluminum bar stock are fed in one end and out the other end comes everything from nuts to bearing races.



The ones with the doors open are essentially saying “feed me!”



We stood for a while and watched the little mandrel bender work its magic on these bad boys and just admired how pretty and clean they were. Mandrel bending means no pinching, no loss of flow, and no performance issues. It isn't the cheapest way to do it but it is the best. A hallmark of the company.



When we tell you that Fragola Performance Systems turns out an incredible volume of parts we're not kidding. This is but one small pallet in one little corner of the building. Nary a drop in the bucket.



Here's a fitting about to be dropped into a thread rolling machine. The guys who have been doing this for years are lightning fast at it and while one hand is dropping the other has another fitting to chase this one into the machine. The rolled threads are stronger than cut threads by a ton.



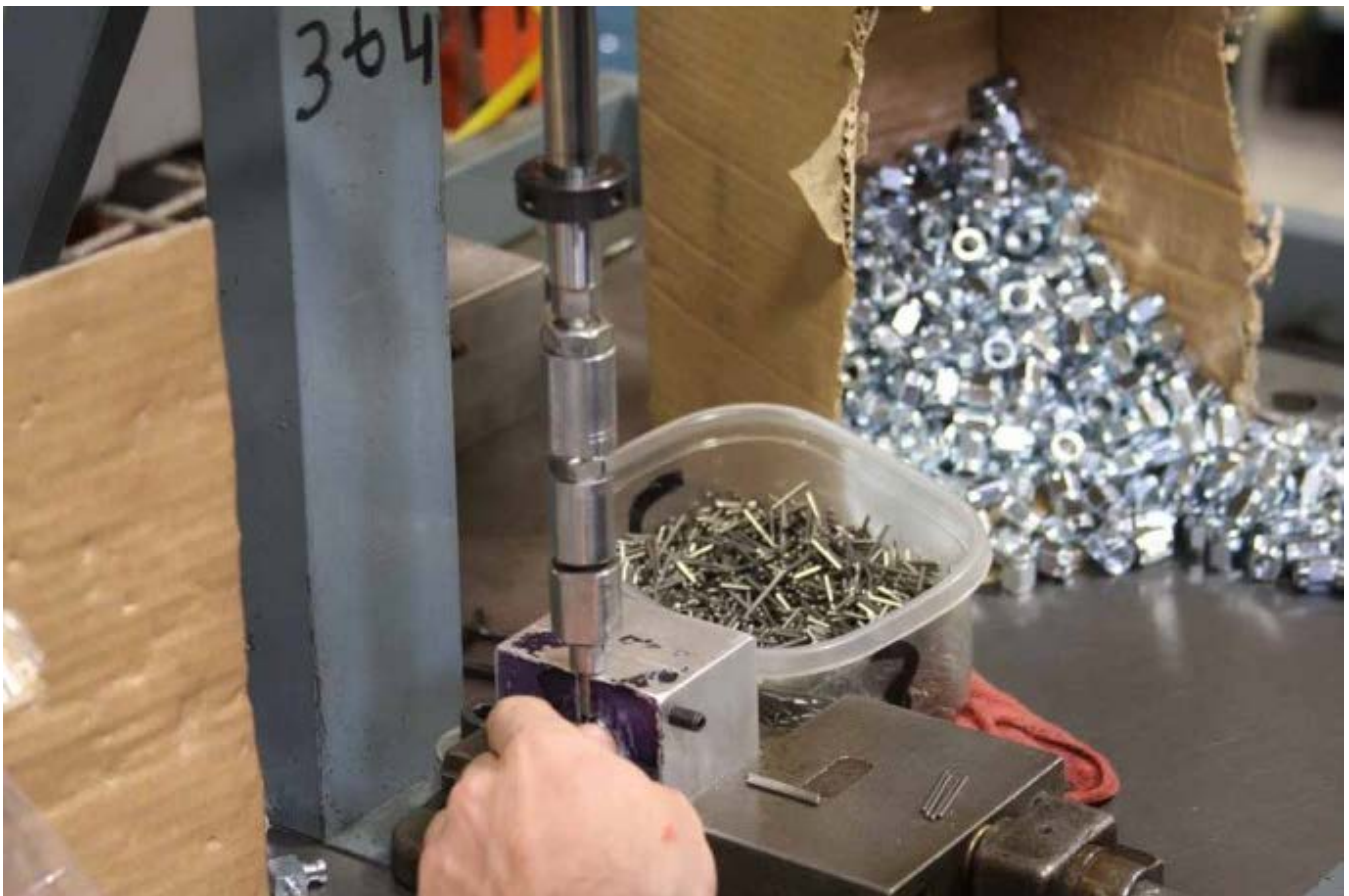
Fresh out of the thread rollers, this fitting is nearly ready to be put into inventory and shipped wherever customer demand says that it must go. Hours before this was just another piece of bar stock on the materials rack. Pretty awesome.



The fittings and hose end side of the business is different from rod ends for many different reasons but the one thing that bonds them together is the need to be very accurate and consistent with the product that you are producing. Because the company works at such high volumes, small mistakes can amplify. They keep very tight quality controls to make sure that consistency maintained. For example, imagine if the taper on these guys was off by $\frac{1}{64}$ th of an inch (a mile by machining standards but we're using it as an example)? There would be fitment problems, maybe leak problems, and the issue would be present in the thousands of pieces in this container. Nightmare scenario, right? It simply does not happen here.



The company's pre-assembled hoses are a big seller and here we see a work station where some hoses are being assembled. There is a lot of hand work in this process and it really is interesting to watch. This guy was moving like lightning.



At this work station the pins were being inserted into the Fragola manufactured nuts with a pneumatic ram. You can see the pile of nuts in the background, a couple of pins on the station and the fixture that aligns everything as well.



From PTFE hose to nuts, fittings, hose ends, and everything else in between, it's all on the shelf and ready to roll at Fragola Performance Systems.



One more photo just in case you thought we were kidding.



Lastly and perhaps one of the most telling signs of how this company operates. If you are a local racer and you need custom hoses made you can literally drive over to Fragola Performance Systems and let them know what you need, what ends you need, etc and they'll make them for you there. There are very few operations of this size that still have the wherewithal to provide that level of local, personal service to their customers but it is the mindset that is present through the company and it is what's made FK and Fragola Performance Systems the industry powerhouses that they are today.