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Who Says Jay Leno Isn't Cutting Edge?

When it comes to making parts for his cars, the 'Tonight Show' host is a pioneer

By JOHN KOTEN

Almost everyone knows [Jay Leno](#), the comedian, host of NBC's "Tonight Show" and avid classic-car and motorcycle collector. Far fewer know Jay Leno, the advanced manufacturer.

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a battery of more-traditional metal machining equipment, the tools allow Mr. Leno and a small crew of garage workers to fabricate just about any auto part that has been produced in the past 100 years.

No More Scavenging

"The days of going to a junkyard and trying to find an auto part that says Packard or Franklin on it are over," Mr. Leno says. "We can make almost anything we need right here in the shop ourselves."



Paul Drinkwater/NBC

'ANYTHING WE NEED' | Jay Leno's 21st-century manufacturing equipment allows him to make whatever parts are required to keep his car

Mr. Leno houses his more than 200 cars and motorcycles in a cluster of solar-powered warehouselike buildings outside of Los Angeles that span 110,000 square feet. In one of the structures is an expansive shop equipped with an impressive array of 21st-century machines, including a Stratasys industrial-grade 3-D printer, a NextEngine scanner, a Fadal computer-controlled mill and a (very pricey) KMT Hammerhead water jet cutter that can slice through steel. Along with

Wearing black sneakers and his denim shop clothes, Mr. Leno picks up a mold he used to cast a V-8 engine part. The part had worn out from years of use. (Mr. Leno's collection includes vehicles that date as far back as a 1906 Stanley Steamer, and all are in driving condition.)

"We took the worn piece and copied it with a scanner that can measure about 50,000 points per second," he says. "That created a digital file or image of the part, which we can modify in the computer if there are imperfections or defects in the part being scanned. Then you feed that data into the 3-D printer, and, presto, you

collection rolling.

have a mold that will allow you to cast a brand new part."

He adds: "The new tools have really changed the game. We can be pretty much self-sufficient here."

Indeed, the most significant thing about Mr. Leno's garage (and the reason a reporter went to visit) has less to do with what it says about the entertainer who owns it and much more to do with the state of manufacturing technology and where its future may lie. For a modest investment by virtually any industrial measure, Mr. Leno has been able to extricate himself in a meaningful way from the globe's vast network of producers, distributors and sellers. As he puts it, "It's true, we've sort of gone off the grid."

Born of Necessity

Mr. Leno didn't set out to become a manufacturing anarchist. Making parts from scratch is often the only way he can obtain what he needs to keep his collection in top condition. But as the shop's expertise has advanced, Mr. Leno has moved beyond just making parts. At different places in his shop, whole cars sit in various states of construction and reconstruction. There is an Austin Healey stripped down to its bare frame, and a 1910 White Steamer that Mr. Leno and his crew have been building literally from the ground up. "We're manufacturing almost the entire car right here," he says, including all of the sheet metal. "We even cast our own engine blocks."

Two things he doesn't make: tires and electronic components. The shop does do its own sewing and upholstery, though.

Mr. Leno adds that not all of his advanced equipment has worked out. The two wind turbines that soar above his facility, and are supposed to help generate electricity, "were a total bust," he says. "They're really just crap and a complete waste of money because the wind in LA is either too strong or nonexistent."

Because he does what he does mostly as a hobby, Mr. Leno doesn't have to worry about trying to make things that he can sell for a competitive price on a global market—something of obvious concern to commercial producers. Some parts can take many hours, even days, to get just right. He says it took the shop 33 hours, for instance, to make an aluminum feed-water heater used in a White Steamer.

Then again, it isn't uneconomical, either. Some of the cars in Mr. Leno's collection are worth upward of \$700,000 each, and finding rare components from outside sources can be extremely costly, when they exist at all. "I don't know a thing about stocks and bonds," Mr. Leno says. "But most of the cars in my collection are now worth a lot more than I paid for them. The prices for some have gotten stratospheric."

Edison's Dream

The TV host agrees that the new tools will increasingly empower other individuals and entrepreneurial ventures to make increasingly sophisticated things themselves. "Manufacturing started out with craftsmen making stuff in small cottage industries," he says. "In many ways I think we're going to go back to that cottage-industry model.

"You know, Edison had a dream that every household would generate its own electricity. And Ford wanted people to be able to distill their own fuel. In the end, maybe those dreams won't look all

that far-fetched."

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