

For use by heinrich@pearfactor.co.za only. Distribution prohibited.



Clockwise from left: Because it's so light, the Strati's steering is unassisted; the fenders are printed separately so that a fender bender won't require reprinting the entire vehicle; the wheels are large-diameter but super-narrow to accommodate high-pressure, low-rolling-resistance tyres.



the car down, and print a new one. Of course, the Strati parked in Knoxville doesn't even have seat belts, but it's proof of concept.

The prototype I drove is the third that Local has printed and took about 40 hours. The company is currently looking for an electric-powertrain supplier, so for now the Strati has a beefy golf-cart motor as a stand-in. The rear-wheel-drive Strati is envisaged as a city car, but Rogers isn't blind to the performance possibilities. "If you put a motor with 150 or 200 horsepower in here, it would be a lot of fun," he says.

It's a lot of fun already. The rear suspension rides on an aluminium subframe, and with no distinction between body and chassis, the car feels inordinately solid, substantial. There's some dunking from the stand-in motor, but the car itself is silent. Put a Mitsubishi i-MiEV motor back there and this thing would be a riot.

The last car I tested with a one-piece carbon tub was a McLaren 650S that cost more than R3,5 million. This Strati, lacklustre motor notwithstanding, could cost about R70 000. No, it's not a McLaren. But to the family of five that crams aboard a motorcycle to get around - Rogers recently witnessed exactly that on a trip to India - it might as well be.

Developing countries would love this technology for cheap transportation, but so might the rich guy who wants a thousand-horsepower car of his own design, printed in a production run of one. Or the carmaker that wants to churn out a complete car in ten hours rather than 24, using a fraction of the components. Modern cars are complicated, but the union of 3D printing and electric propulsion - where the motor has just one moving part - points to a future in which that's no longer a given.

We currently take it for granted that cars are complicated and expensive. When you're driving the Strati, it's easy to imagine a day when we take it for granted that they're not.

exposed parts of the BMW i3's matte carbon tub. "We milled the sides to show how that would look," Rogers says. "Some of the other parts are just how they came out of the printer, so you can see that. But we can make it look however we want. You could put a vinyl wrap on it and the car would still be completely recyclable."

The Strati is printed from carbon-fibre-reinforced plastic, a versatile, strong, and relatively cheap material that could enable some new approaches to safety. Thanks to

the nature of 3D printing, where the car is built in layers squirted from the nozzles of a massive printer, you can embed energy-absorbing crash structures or superstrong seat-belt mounts that are anchored deep in the body. You could bond springy bumpers to cushion pedestrian impacts (right now Local is experimenting with a printable elastic polyurethane material called NinjaFlex). And if you managed to catastrophically damage the tub, you could unbolt the motor and suspension, melt

IN PRAISE OF

THE BORROWED ENGINE

Starring the 2005 Morgan Aero 8.



I recently drove a 2005 Morgan Aero 8, a car that combines traditional Morgan funkiness (components made out of wood, unsymmetrical aluminium bodywork) and a BMW V8. And, I've got to say, what an outstanding combination: the visceral reactions of a handmade British roadster paired to big, reliable V8 power booming out of side pipes just below the door.

This kind of thing - car companies borrowing one another's engines -

used to happen all the time. The previous-generation Range Rover used V8s from BMW and Ford, and the Saturn Vue once ran a Honda V6, for reasons that were never entirely clear. These cross-pollinations resulted in some strange but fun alchemy. Factory-sanctioned motor swaps aren't as popular these days, but there are a few worthy freaks out there. Run a Scion FR-S through the gears and it'll sound like a Subaru. Because under the hood, that's what it is.

