

THE REAL JDM

The VARIS MR-S features every panel replaced in carbon fiber. Note: One-off red carbon-Kevlar version shown in photo. Buy it at: www.varisusa.com



THE REAL JDM Automotive Anorexia



The Real JDM is a monthly column written by Ben Schaffer of Bespoke Ventures. Bespoke Ventures operates a number of JDM related businesses including: Bulletproof Automotive, Top Secret III, Ings+1 USA, VARIS USA, HyperRev USA and C's USA. Visit www.bespokeventures.com for more information.

BY BEN SCHAFFER

PEOPLE IN America are angry. They say that in women's magazines there are too many anorexic looking models. They argue that it creates unhealthy role models for girls by promoting a look most women can't naturally achieve. I'm all for anorexia ...in cars that is. And I'm angry because I don't see enough of that in the media. To me an anorexic car is sexy, and the lighter the better. If I could, I would make all magazines feature only lightweight cars until the owners of heavy cars become so self-conscious that they need to put their Shamu-mobile on a diet of strictly carbon fiber, and titanium.

Unlike in life where you can have too much of a good thing, you can never have too much weight reduction with your car. When adding power, you'll eventually reach a point where lap times become slower, when adding suspension and chassis stiffness you'll reach a point ultimately where you need to soften a little to go faster, but when reducing weight the benefits just get better and better. You'll notice that acceleration quickens, brake distances are reduced, cornering agility is increased, road feel is better communicated and even fuel economy is greatly improved.

Whether on the rush hour Tokyo subway or the Tsukuba race circuit, both the people and the



C-West's time attack S2000 is dressed for the occasion, sporting dry carbon bodywork when it goes into battle. Buy it at: www.c-westusa.com

tuner cars of Japan enjoy their advantage as they watch the struggling of overweight Westerners with fat guts and fat cars. Japanese tuners have pioneered the use of carbon fiber and titanium for aftermarket weight reduction and they continue to take it to new levels. Titanium exhausts have reduced as much as 50 lbs. when compared to a stock exhaust on cars like the Honda S2000 where every pound is critical. Replacing body panels offer similar reductions with aftermarket hoods weighing as little as 4.5 lbs. when prepared in dry carbon fiber.

Dry carbon, although similar in finish to regular carbon is produced using a much more expen-

sive method involving a cold carbon fiber weave that's been pre-impregnated with a highly controlled and efficient mix of epoxy resin, which is then applied to a mold and baked in a large oven called an autoclave at high temperature and high pressure. The result is F1 quality carbon that is the lightest and strongest of all carbon fiber production methods.

While Japan has been producing high quality carbon fiber and titanium components for over a decade in the aftermarket, Japan is not the epicenter of lightweight sports cars. Rather, it is Great Britain that dominates the world of lightweight sports cars with limited production super



The HKS dry carbon Evo is the time attack record holder at Tsukuba Circuit. Buy it at: www.hksusa.com

and VARIS offer to the public all of the body panels you'll need to turn your S2000 or MR-S (MR2 Spyder) into a carbon bodied beast. C-West sells an assortment of weight reducing panels for the S2000, most of them available in dry carbon with a honeycomb core for optimal strength. While their door panels alone might set you back \$8,000, using high quality dry carbon parts is essential to dropping every possible pound. The C-West S2000 approaches Lotus Elise territory weighing in at only 2,130 lbs. that's 705 lbs. less than stock!

Although not dry carbon, the slightly heavier wet carbon aero kit for the MR-S produced by VARIS is the most economical way to enter the full carbon club. For \$11,580 the complete carbon widebody kit will replace every panel on the car including the front hood, engine cover and the doors. Best of all, installation is simple because for the MR-S everything is bolt on.

While I've illustrated some of the most extreme examples of weight reduction, there are more affordable methods of reducing weight without spending tens of thousands of dollars on carbon body panels. My favorite cost effective mod is to join an organization that offers unlimited towing and then simply remove your spare tire and jack (just make sure to put it back in for any long trips). Another easy technique is spending five minutes when you go to the race track and removing your passenger seat, that'll save about 40 lbs. on average. Alternatively, upgrading to race buckets will typically drop about 20 lbs. per seat compared to the stock La-Z-Boys. If you install a subwoofer in the trunk, wire it with quick releases and pull the box when it's race time. If you have backseats too small to sit in, pull them out. Weight savings can add up fast and the results are absolutely noticeable with every day driving.

While most of us will not be able to buy an Enzo anytime soon, the technology used to build the Enzo is within reach and can be applied to your sports car one part at a time. A high quality dry carbon hood and titanium exhaust can be identical in construction and quality to those found on \$500,000 supercars. Isn't that the dream in the end, turning your car part by part into a supercar that would rival cars like the Enzo and Zonda? Supercar super stardom starts with a lean and fit machine, so if you want to play in the big leagues you'd better start getting in shape.

Look for next month's The Real JDM as Ben brings more cutting-edge industry insider knowledge from Japan to Modified's pages. **///**

Send your feedback to: TheRealJDM@modified.com



Extensive use of dry carbon and titanium keep weight to a minimum, executed flawlessly on the Powerhouse Amuse Carbon GT-R. *Unavailable for Sale*



Benetec's dry carbon Elise takes the featherweight rocket to another level of lightweight exotica. Buy it at: www.bulletproofautomotive.com

lightweights like the classic Caterham 7 range, the ridiculously fast Radical, and TVR's complete lineup of high horsepower low weight rockets.

So what happens when a British sport car company makes love to Japanese technology? Their child looks something like the Benetec Lotus Elise, perhaps the most beautiful Eurasian of them all. As most of you already know, the Lotus Elise uses a Toyota 2ZZ-GE 190hp engine co-developed by Yamaha. The reason why the Elise is able to use the Toyota Celica engine and run with the supercars of the world, while posting 0-60 times of 4.7 seconds, is not because of its massive horsepower but because of its power to weight ratio. In stock trim, the Elise weighs only 1,984 lbs. with that 190hp. Imagine if you took over 1,000 lbs. out of your car...exactly.

Benetec, a Japanese manufacturer who specializes in dry carbon fiber construction, wasn't satisfied with the Elise's 1,984 lbs. They instead decided to replace every already lightweight aluminum body panel with even lighter dry carbon panels. When asked about reduction in weight, Benetec said that their body panels are 1/4 the

weight of the factory aluminum panels! However, the weight savings don't come cheap, as the complete dry carbon body costs \$40,000. Aside from performance benefits of the weight savings, the completely dry carbon body takes the already exotic Elise and places it in an elite club of supercars utilizing dry carbon bodies, a club that includes the Ferrari Enzo and Pagani Zonda.

Each year Japanese tuners evolve with even more extreme demo cars. About 10 years back it was unique to have a carbon fiber hood. Five years ago it was unique to have a carbon fiber trunk. Today we have a handful of tuner cars in Japan with every panel produced entirely in carbon fiber. These cars are often the very fastest of the thousands of time attack participants. The fastest of all is the HKS Lancer Evolution 8, clad in dry carbon. The HKS carbon Evo posted a 54.739 lap time on Tsukuba circuit in April 2004, a record that still reigns supreme more than a year after it was recorded.

There is good news for those that want to take their Japanese sports car to the level of super exotic by creating a full carbon car. Both C-West