AMERICAN-BUILT SUPERCAR MAKES ITS DEBUT

Rapier Automotive wants its new supercar to capture the essence of its namesake—the thin, light, fast and well-balanced thrusting implements of swordplay. Based in Boston, the company has been preparing its mid-engine supercar for five years and is now taking orders. Billed as "the most exclusive hand-built supercar on the planet," the Rapier Superlight Coupe, SL-C for short, offers a wide range of engineering specifications, power-plant options, exterior colors, interior finishes and other fully customizable options.

The car utilizes an all-aluminum, tig welded monocoque chassis/spaceframe hybrid structure and is finished with high-quality composite body panels. The finished package is intended to evoke a Le Mans racecar.

The Superlight offers three Chevrolet V8 engine choices, any of which can be installed beneath the clamshell hood behind the passenger compartment: the base 6.2-liter 480-hp LS376, the 7.0-liter 505-hp LS7, or the 6.2-liter supercharged 638-hp LS9. The monstrous power created by each of these engines is transmitted to the rear wheels through a six-speed Ricardo manual transmission. With a curb weight of only 2,375 lbs.—nearly 1,000 pounds less than the Corvette ZR1—acceleration is quick. With the 505-hp LS7, zero-to-60 mph takes 3.2 seconds, the quarter mile will pass in 10.6 seconds and the top speed is a staggering 222 mph. To bring the car to a stop (or slow it back to legal speeds), the SL-C uses 13-inch rotors in the front and 11.8-inch rotors in the back, all of which are grabbed by six-piston calipers.

The majority of each Rapier Superlight is hand-built around the physical dimensions of its buyer. Floor level, headroom clearance, steering and pedal position, even the seat size... the entire car is built to the owner's unique specifications. Many components start as a bare block of aluminum and spend their first 50-60 hours coming to life on a CNC machine. The suspension is by Indy-style pushrod-actuated coil-over shock units; the rears are arranged longitudinally.

Besides the fourteen exterior colors and hand-stitched leather and optional carbon fiber inserts for the interior, the Rapier offers multiple sound system interfaces and wheel options in chrome, gloss, satin black or painted to match the rest of the car. A DigiDash display puts all pertinent information in the driver's direct line of sight and keeps track of vital statistics and analytics, allowing the owner to do everything from optimizing the engine tuning to simply keeping track of his or her lap times.

Rapier has incorporated carefully-sourced components from around the globe to finish off the Superlight: a complete Aeromotive Fuel System, QA1 Aluminum Double Adjustable Shocks, CCW Wheels and Alpine, Pioneer, & Beltronics entertainment electronics.

A test drive can be arranged out of Boston with one of two shows cars, Chassis Number One and Chassis Number Two. If after the test drive a buyer wishes to place a 50 percent deposit toward the purchase of an SL-C—prices start at $179,000—Rapier will pay for the Boston trip. Rapier Automotive offers a competitive payment plan that will allow its customers to have the car completely paid off by the time the car is ready for delivery, approximately nine months later. ■

A NEW MCLAREN COMPANY BUILDS A NEW CAR

McLaren has its roots in Formula One racing, but has also built supercars—or "hypercars"—for public consumption, most notably the McLaren F1, a $1,000,000-plus 3-seat coupe with the driver in the middle, designed by Gordon Murray and put into production in 1992. Much has transpired since then, both in F1 racing and in the McLaren companies (both motorsports and manufacturing). Long story short, McLaren Automotive is a new company, spun off the rest, and they've been busy. Up first: the new MP4-12C. That doesn't roll off the tongue like "F1," but the good news is it'll sell for about $230,000.

Only 100 F1s were ever built, and of those 64 reportedly are street cars, with the rest in professional racing. The company says the MP4-12C will launch an entire new range of premium high-performance sports cars, with a new manufacturing facility and a dedicated global retail and service network.

The rear-wheel-drive MP4-12C will be powered by a mid-mounted bespoke McLaren M838T 3.8-litre V8 twin-turbo engine and will have a revolutionary "Carbon MonoCell" carbon fibre chassis. The car features F1-inspired brake steer, which brakes the inside rear wheel during fast cornering to reduce understeer, and a seven-speed Seamless Shift dual-clutch gearbox (SSG) with Pre-Cog technology: half-pull the paddle shifter to get the transmission ready for an instantaneous upshift once the paddle is fully pulled.

McLaren pioneered a carbon composite monocoque, or chassis, bringing it from the aerospace industry to Formula 1 in the 1981 McLaren MP4/1. Its impact in racing was absolute, and McLaren's carbon technology was even recycled back into aerospace. Aerospace engineers were astounded with the MP4/1's crash performance in the 1981 Italian Grand Prix when John Watson's car ran off-road and was sliced in two. The carbon monocoque structure remained intact, even as the engine and transmission were torn off, and Watson walked away unscathed from a 140 mph impact. Britain's Civil Aviation Authority technical officers subsequently studied data from the incident.

The M838T engine is light and compact, just 3.8 litres. Cylinder block and heads are made from aluminum alloy, while the entire intake manifold and cam covers are constructed of high-performance lightweight plastics. This is a low-weight alternative to the larger capacity engines that power all other cars in the MP4-12C's market segment.

Power and driveable torque are the requirements in motorsport but for road use there is a requirement for greater flexibility with less focus on absolute output. Yet, in the 12C, the M838T still aims to marry a huge output for this size of engine—over 440 lb-ft—spread over a wide rev range. The wide, flat torque curve is achieved courtesy of twin turbochargers, a form of forced induction that reigned in Formula 1 between 1983 and 1988. It is notable that in three of these years McLaren won the Formula 1 Constructors' Championship.

The MP4-12C is set to launch in 2011 and is aimed at Ferrari and Lamborghini. McLaren is also reportedly developing a new hypercar, the p12 project, to sell at around $930,000, expected in 2011 or 2012. ■