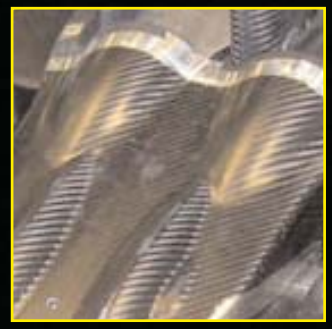
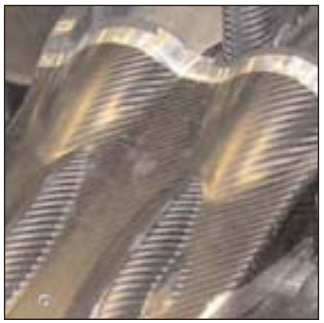
Lola B05/40 LMP2
New Generation Sportscar
Product Information



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Lola B05/40 Concept

Design Approach

Intensive work is proceeding on the Lola B05/40, natural successor to the B01/60 and B2K/40 designs – both still winning in 2004. The B05/40 is being produced in response to the latest LMP1/LMP2 regulations, and is designed to embody the best attributes of the two current models in a package which is both state-of-the-art and customer-friendly. The B05/40 will be available for delivery in time to allow ample time for preparation and testing prior to the 2005 Sebring 12 Hours, opening round of the American Le Mans Series.

The first phase of aerodynamic testing in Lola's on-site wind tunnel has produced promising results. In response to customer wishes, a wider range of downforce adjustments have been designed in to allow set-ups suited to the tighter circuits used in the LMES and ALMS series. The second phase of wind tunnel work is concentrating on rear wing design, with several CFD-developed concepts being evaluated.

Initially configured for the AER 2-litre 4-cylinder turbo or normally-aspirated Judd V8 engines used by most current Lola owners, the car will be adapted to other powerplants as required by customers. The B05/40 will use existing Lola transmission and power steering units, both of race-proven performance and reliability.

A Value Solution

Current Lola B01/60 owners will be able to leverage their investment by updating to LMP2 'hybrid' specification valid through 2006 with a new bodywork package. The B05/40 itself will be engineered from the start for upgrading to full LMP1 specification with the addition of suitable engine and ballast, allowing Lola LMP2 entrants to graduate to the senior category at greatly reduced cost.

A Legacy of Success

- Lola designs have led the way in privateer international sportscar categories since 1950s
- Current SR2 and LMP675 models have continued Lola's winning tradition:

- 2001 FIA Sportscar SR2 Champion
- 2000/2001/2002 Grand Am SR2 Champion
- 2002/2003 ALMS LMP675 Champion
- First-ever overall LMP675 race win 2003
- Overall win at 2004 Mosport ALMS race
- 2000 Le Mans LMP675 class winner
- 2001/2003 Daytona SR2 class winner
- 2002/2003 Sebring LMP675 class winner
- 2004 Le Mans LMP2 class winner

Race-winning Lola SR2 and LMP675 customer teams

Archangel Racing
Dyson Racing
Essex Racing
Intersport Racing
Knighthawk Racing
Marshall Cooke Racing
Multimatic Motorsports
PorscheHaus Racing
Rand Racing
Schumacher/Snow Racing
Sports Racing Team Sweden

Summary of LMP1/LMP2 Regulations

Item		LMP1	LMP2
Dimensions	Weight	900 kg maximum	750 kg maximum
	Length	4650 mm maximum	
	Width	2000 mm maximum	
	Overhang	Front 1000 mm maximum/Rear 750 mm maximum	
Engine size	Atmo	6000 cc maximum	3400 cc/8 cylinders maximum
	Turbo	4000 cc maximum	2000 cc/6 cylinders maximum
	Diesel	5500 cc maximum/turbo	–
	LMGT	–	4000 cc maximum/non-turbo
Throttle		Fly-by-wire permitted	Mechanical only
Gearbox	Gears	Maximum 6 forward plus reverse	
	Shift	Semi-automatic permitted	Manual only
Bodywork	Nose	Central 1000 mm of width ahead of front axle > 50 mm higher than flat floor	
	Sidepods	Intakes and exits up to 150 mm deep permitted below wheel centreline only	
	Cockpit	Open or closed permitted with symmetrical rollover hoop	
	Underbody	Central 1000 mm of width flat between axles, 7° chamfer to sides	
	Plank	355 mm wide x 20 mm thick between axles	
	Diffuser	Specified plan profile starting 1000 mm forward of rear axle	
	Rear wing	150 mm x 300 mm cross-section/two elements maximum	
Tyres		16" wide x 28.5" diameter maximum	14" wide x 28" diameter maximum
Brakes	Discs	380 mm maximum/carbon	356 mm maximum/carbon
	Calipers	6 pistons maximum	

Design and Specification

Dimensions

- Overall and bodywork dimensions within new LMP2 rules
- Target weight of regulation minimum of 750 kilogrammes for complete car

Chassis/Safety

- All-new advanced carbon composite monocoque chassis
- Chassis constructed using Lola's proven one-piece production methodology
- Chassis to be certified to all revised FIA structural and crash standards for LMP1/LMP2
- Adjustable pedal assembly and steering wheel/column for driver safety and comfort

Suspension

- Upper and lower steel-fabricated wishbones, pushrods, and rockers front and rear
- Front and rear uprights fabricated from aircraft-specification steel and TIG-welded
- Three-way adjustable Ohlins T44 damper/coil spring units all round
- Quick-change anti-roll bars front and rear
- Ride height, camber, and toe settings adjustable for each wheel
- Suspension set-ups to be developed using Lola in-house seven-post test rig

Steering

- Rack and pinion steering with power steering system available as extra-cost option

Tyres/Wheels

- Tyres 285/650 x 18" diameter front and 325/650 x 18" diameter rear
- Wheels 11" wide x 18" diameter front and 13" wide x 18" diameter rear
- Self-locking wheel hubs to facilitate pit stop tyre changes

Brake System

- Carbon discs and pads with four-piston aluminium calipers all round
- Ventilated 355 mm diameter carbon discs front and rear

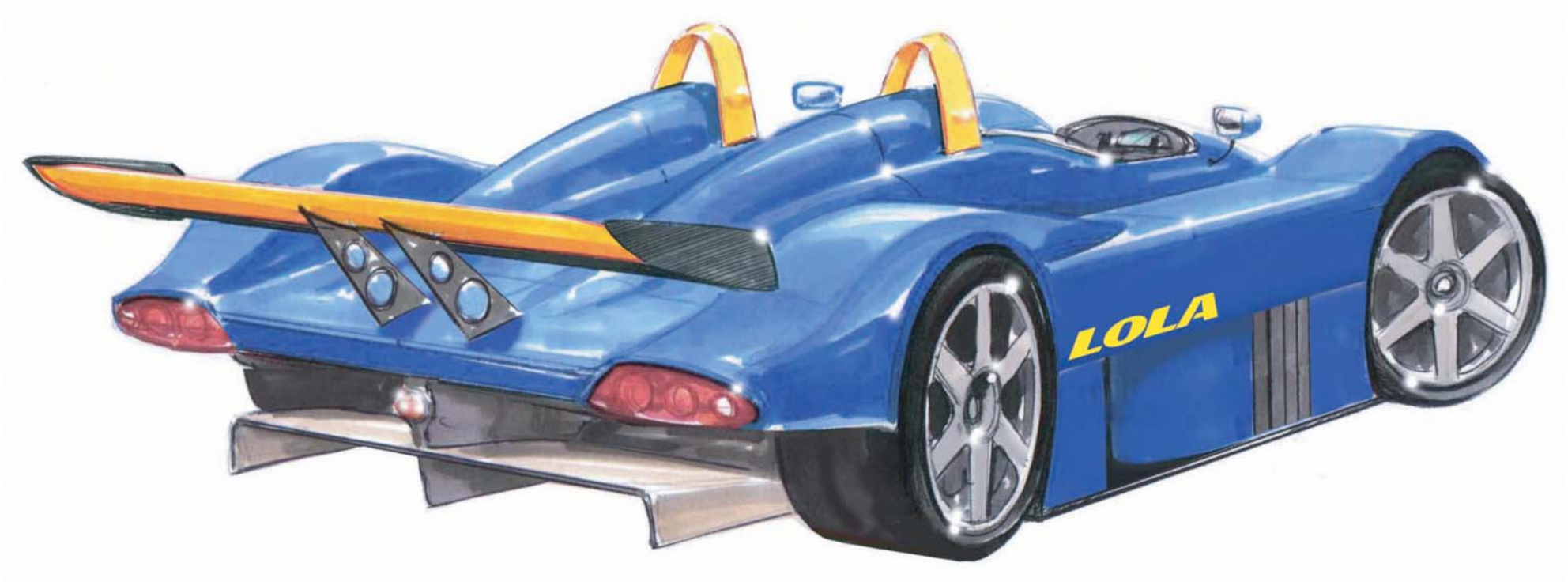
Bodywork

- All-new bodywork to meet revised LMP2 aerodynamic regulations introduced for 2004
- All body panels of pre-preg carbon fibre construction
- Advanced carbon composite construction for underbody and rear wing

Artist impressions of Lola B05/40

Electronics/Electrical

- Motec ADL integrated instrument panel and data logging system
- Motec system fully upgradable to suit customer requirements, e.g. steering wheel display
- Military-spec chassis wiring loom with FIA-regulation emergency power cut-off switch
- All electrics mounted directly to monocoque for reliability, access, and crash protection
- Dual headlamps and indicators mounted in nose plus dual red brake lights at rear
- 12-volt high-power battery for engine starts plus jump battery/recharger plug



Engine Installation

- Standard configurations for AER turbo or normally-aspirated Judd V8 engine
- Alternative installation packages available to match customer's choice of engine
- Interface with chassis electrical system to suit selected engine type
- All installation packages will include following components supplied by Lola:

Engine mounting subframes	On-board starter motor
Dry sump oil system	Airbox including restrictor and filter
Transmission bellhousing	Exhaust system

Fuel System

- Maximum fuel cell capacity of 90 litres
- Regulation capacity achieved by use of fuel-displacement materials as necessary

Cooling System

- Twin water radiators for engine with separate oil cooler
- Charged-air intercooler supplied for turbocharged engine installations

Transmission

- Lola 6-speed sequential gearbox based on proven Champ Car and LMP675 designs
- Semi-automatic shift (permitted for LMP1 only) available at additional cost
- Lightweight cast alloy casing with bellhousing adaptor to match selected engine
- Integrated oil cooling system

Conditions

- Engine, engine wiring loom, ECU, alternator, and tyres not supplied
- Specification may be varied to suit changes in regulations or other requirements

Case Study **Putting Customers First**

Lola's commitment to outstanding engineering support of customers is exemplified by its relationship with Dyson Racing, one of North America's most successful privateer sportscar teams. Lola worked closely with Dyson in 2003 to realise the full potential of the team's Lola B01/60 in a double assault targeting the ALMS LMP 675 class title and outright race wins. The focus was on an intensive wind tunnel programme with the emphasis on cost-effectiveness.

Dyson's goal was to produce a high-downforce aero package to suit the many tight circuits on the ALMS calendar. Lola's aerodynamic team converted a series of conceptual designs into a finished set of bodywork components in just five weeks. This success in delivering quality work quickly was based not only on Lola's usual commitment to meeting the demands of the racing world but also ready access to the company's on-site, 50%-scale, state-of-the-art wind tunnel. A new 45% model was built to evaluate parts drawn on Lola's CATIA CAD system, pre-tested on its dedicated CFD workstations, and produced in the fully-equipped model shop adjacent to the tunnel. The complete package was developed using just 50 hours of wind tunnel time.

From the introduction of the new aerodynamic package in June to the end of the 2003 season, Dyson Racing mounted the only consistent challenge to the previously all-conquering Audi R8 LMP900 cars. The team claimed three pole positions, two front row sweeps, victory at Sears Point in July – the first overall LMP675 race win in ALMS history – and a string of other podium finishes on its way to the LMP675 class title. The team's objectives were achieved in style, and at far less cost than a comparable track testing programme. With the car now reclassifed as an LMP1 and further developments from the Lola wind tunnel, the Dyson Lolas have continued to provide the Audis' main opposition in 2004, winning the most recent round at Mosport.

Contact Information

Lola Cars International Ltd
Lola House, Glebe Road, St Peter's Road
Huntingdon, Cambridgeshire PE29 7DS
United Kingdom

Telephone 44 + (0)1480 451301
Facsimile 44 + (0)1480 456722
Email rmanwaring@lolacars.com
njordan@lolacars.com

Team owner Jon Field is flanked by co-drivers Larry Connor and Duncan Dayton after claiming second place overall and LMP675 honours at the 2003 Petit Le Mans.

Drivers James Weaver, team leader Rob Dyson, Butch Leitzinger, Chris Dyson, and Andy Wallace celebrate Dyson Racing's 1-2 sweep of the LMP675 category at Miami in 2003.