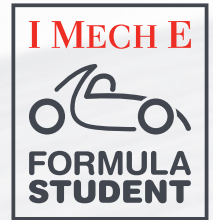


FORMULA STUDENT

Institution of Mechanical Engineers



Congratulations to Oxford Brookes University

FOR PARTICIPATING IN FORMULA STUDENT 2008

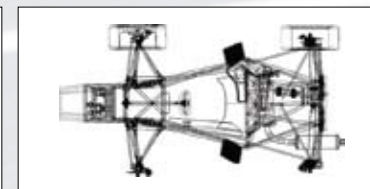
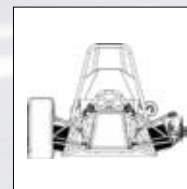
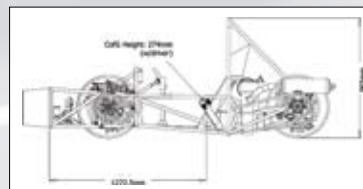
The Oxford Brookes Racing (OBR) ISIS 08 is an entirely different concept from previous cars, with a steel-carbon hybrid chassis and single cylinder engine making it the lightest car ever built by OBR.

Extensive tyre development has been carried out with full back-to-back track testing of four compounds from three leading manufacturers. A FLIR infrared thermal-imaging camera was used to analyse over 40,000 individual temperature points on the tyre. After data review and driver feedback, the Goodyear was chosen for its consistent performance and predictable turn-in.

The bodywork has been designed using the cutting-edge image and shape workbench surface modeling tools within CATIA V5 and is constructed from 3ply pre preg carbon fibre. The electronics system features a student-designed CAN-bus system, increasing the number of sensor inputs while reducing wire mass.

OBR's own in-house lap simulation facility has been used to set an optimal weight distribution based on fundamental factors such as tyre performance. As such a unique prop shaft arrangement has been employed to transmit drive between the gearbox and spool differential allowing the engine to be mounted longitudinally.

The cockpit area has the driver in a reclined position lowering the centre of gravity from previous years.



Length/width/height/wheelbase
2649mm/1384mm/965mm/1530mm

Track (front/rear)
1190mm/1150mm

Weight including 68kg driver (front/rear)
111kg/130kg (full wet weight of 173kg)

Suspension (front/rear)
Double unequal length A-Arm. Push rod actuated spring and damper

Tyres (front/rear)
20.0x7-R13 D2691 Goodyear Eagle

Wheels (front/rear)
3 pc Al Rim 7" x 13" -31mm offset/-2mm offset

Brakes (front/rear)
Floating, Grey Cast Iron, Hub mounted, 220mm outer dia, 190mm inner dia. Drilled

Frame type
Tubular steel space frame with bonded stressed carbon panels, Mild Steel round tubing 5/8" (15.8mm) to 1 1/8" (28.6mm) dia

Engine
KTM EXC-R 530 Single Cylinder

Bore/stroke/cylinders/cc
95.0 x 72.0 mm/1 cylinder/510.4 cc

Fuel
99 octane petrol

Fuel system
Magneti Marelli

Max power/max torque
8,500rpm/7,200rpm

Transmission/differential/final drive
Propshaft, 5 degree side offset./ Polaris Sportsman 500 ATV Rear Spool Differential/10:31:00