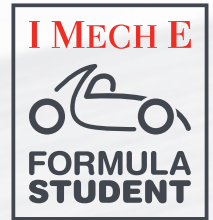


FORMULA STUDENT

Institution of Mechanical Engineers



Congratulations to Politecnico di Torino

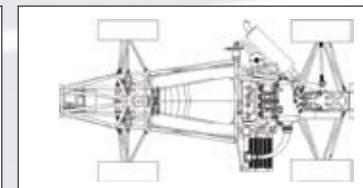
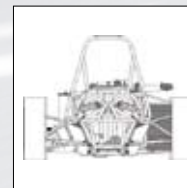
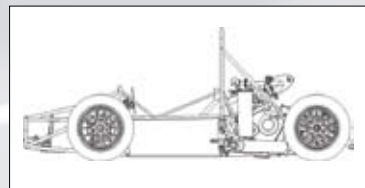
FOR PARTICIPATING IN FORMULA STUDENT 2008

4 seasons, 4 cars, 4 strengths: Stiffness... Simulation... Setup... Suppleness.

Second place at Formula SAE Italy demonstrated that the SC07 was very competitive, so we started from that success and followed by stiffening and lightening it to create our best frame and reach the highest appearance of a steel tube structure.

The key element of our '08 chassis is the structural cockpit made from carbon fibre. It gives a massive contribution to stiffness with very little weight added and it includes all the attachments of cockpit accessories. The engine and drive train of the SC08 has also been upgraded: we introduced the oil dry sump, the continuous variable intake system and the gear and shifter controls to the steering wheel.

Thanks to all these improvements and a refined project we managed to reduce weight, improve stiffness and give the car impressive handling. As big car manufacturers do, we put a lot of effort into simulation to guarantee the best suspension setup, reducing the time dedicated to track tests. At the same time the team evolved and a new Marketing Division joined existing divisions (frame, engine, drive train, electronics, unsprung masses, non metallic composites) and works on organisation, sponsor administration, finance and static events.



Length/width/height/wheelbase
2795mm/1366mm/1005mm/1650mm

Track (front/rear)
1200mm/1190mm

Weight including 68kg driver (front/rear)
121kg/147kg (full wet car weight of 220kg)

Suspension (front/rear)
Unequal length A – Arms. Push rod actuated Cane – creek DB1 spring/damper units

Tyres (front/rear)
20.5x6/20.5x7 Hoosier R25B

Wheels (front/rear)
Magnesium alloy 13" x 6" – 29 mm offset/13" x 7" – 41.7mm, 4mm thick – self designed

Brakes (front/rear)
BREMBO, 218 mm OD, 158mm ID, mild steel thickness 4 mm, wheel mounted

Frame type
Steel tube space frame with glued carbon fibre floor panels, Chrome moly steel – cold drawn seamless

Engine
2005 HONDA CBR600RR

Bore/stroke/cylinders/cc
67.0 x 42.5 mm/4 cylinder/599 cc

Fuel
98 octane petrol (IP98 plus)

Fuel system
Student designed/built sequential phased PFI system using Magneti Marelli Motorsport Electronics

Max power/max torque
11,50rpm/7,500rpm

Transmission/differential/final drive
Chain 19.9mm x 1206.5mm (76 mails, mail pitch = 15.875mm)/Helical gears limited slip differential (Quaife)/ final drive ratio = 56/14 = 4.000