

Guest lecture

Bloodhound LSR project

Lecture

The project has only just started and already the car is the world's third fastest car. It's hard to believe that a car that weighs 7 tonnes can travel over 600mph and mainly consists of carbon fibre and aluminium. The car is already faster than the speed of sound. The goal of the bloodhound project is to hold the land speed record and reach 1000mph.

The runs took place on the Hakskeenpan which is a dry lake bed located in the Kalahari Desert, South Africa. the runway was 16km long and 500m wide. On run 34 the aim was to reach 600mph however reached 628mph due to throttle bounce, therefore an increase in spring loading for future running. The run took 50 seconds to reach 628mph from a standing start. The car experienced vibration through the suspension at around 500mph most likely due to surface texture. The car would drive across the run way due to the crosswind however, the driver Andy Green handled it very well. The steering is limited to 2 degrees of angle. The chute opened at 590mph causing the car to decelerate carefully and applied the brakes on at 250mph. After the run there was over 90% of correlation between the CFD model. The driver name was Andy green and is a former RAF pilot.

The aerodynamic of the car is a key feature of its speed. The aerodynamics does not come into effect until 200mph. The first model of the bloodhound manage to travel astonishing 800mph in just 0.8 seconds. There are two main reasons the 1000mph is such a struggle, aerodynamics as the car creates 10 tonnes of lift at 1000mph when the car only weighs 7 tonnes. Also space there isn't anywhere on earth where a car has long enough straight to allow it to accelerate up 1000mph and decelerate to 1000mph. However the team is looking into fitting a rocket and hopefully reach their new goal of 800mph