

THE CAR BUILT TO GO FASTER THAN A BULLET

By Neville Barlow

Even before I was old enough to go to school, I was aware of World Land Speed record breaking cars. In 1947 John Cobb in his Railton Mobil Special was the first man to exceed 400 miles per hour. He was one of the last few men who used an internal combustion engine driving the rear wheels.

Land Speed records have now become the province of Jet and Rocket cars. The current record stands at 763.035 mph, achieved in 1997 by Andy Green driving Thrust SSC. Bloodhound SSC (Super Sonic Car) hopes to achieve 1,000 mph.

The following article I wrote for the September 2015 edition of our magazine. The one and only video ever put on the web site can be seen in 'older' technical items entitled Bloodhound SSC.

Jaguar UK has recently sent out a Media information sheet and released photos of an F Type Coupe and 2 XJR's.

These vehicles have been custom made by Jaguar Landover's Special Vehicle Operations Division and are wrapped in a bespoke livery incorporating Bloodhound SSC colours.

The 3 vehicles have been prepared as Rapid Response Vehicles with firefighting, safety and medical equipment on board. They have been built to support a consortium of British engineers who are building a rocket powered vehicle to attack the World Land Speed Record. It is hoped that this vehicle will exceed 1000 mph.



Railton Mobil Special



On a sled like chassis will be a Rolls Royce EJ100 jet engine usually found in the Eurofighter Typhoon fighter plane. This will take the car to 300 mph after which a bespoke hybrid

rocket designed by Nammo will boost the car to 1000 mph (1609 kph). A third engine, a Jaguar 5 litre V8, as used in the F Type Jaguar, will power the huge fuel pump needed to keep the rocket motor burning.

The task of driving Bloodhound will fall to Andy Green, a RAF pilot, who drove the Thrust SSC rocket car in 1997 to 763 mph (1228 kph), thereby breaking the sound barrier. Bloodhound should accelerate from 0 – 1000 mph in 42 seconds.

Andy will experience a force of 2.5 g's (2 ½ times his body weight) and blood will flood to his head.

To slow down he will deploy airbrakes at 800mph and disc brakes at 250 mph.

As he decelerates, forces of 8g's will drain blood to his feet with a rush, enough to risk a black out. Conditioning will involve much practice in stunt aircraft.



At such high speeds normal tyres would melt and they have been replaced by aluminium. Bloodhound will have four 36" wheels that will rotate at up to 10,200 rpm and will be forged from solid aluminium to resist the 50,000g centrifugal force. Bloodhound is 12.9 metres long, 2.5 metres wide and 3.0 metres high. Its kerb weight is 6,422 kgs.

Runway testing will begin shortly at Newquay airport in Cornwall where a 3000-metre runway will allow shake down runs of up to 2000mpt (320 kph). Bloodhound will then be taken to the Hakskeen Pan in the Meir area of the Northern Cape of South Africa where a natural salt flat, said to be long enough at 12 miles (19 kms) and 2 miles (3.2ks) wide, has been cleared. Here it will attempt to break 800 mph late in 2015 and return in 2016 to try to exceed 1000 mph.



If you are impressed by this science project you can have your name put on the fin of the car for £15 and they will email you a certificate to prove your vested interest in Bloodhound.

Jaguar, last year ran an XJR over the Hakskeen Pan to test its suitability at speeds of up to 250 kph. Recent testing involved running an All-Wheel Drive Jaguar F Type R V8 head on at 300 kph towards a speeding jet plane flying at only 50 feet above the dry lake bed. It was to test to see how Bloodhounds radio equipment would perform at high speed. The car and plane carried radio equipment rushing towards each other at a combined speed of 700 mph. Every step of the way is being shared on all media outlets as the builders wish to share this engineering adventure with a global audience. They say they have a love of science, technology, engineering and mathematics and wish to show how amazing and fun they can be.

Now in 2019.

News of this venture became very sparse into 2016 and then nothing.

In early 2018 it was announced that the Bloodhound SSC effort had run into financial difficulties and was now abandoned. The car was now either to be dismantled or displayed in some museum. What a real shame I thought.



However, in July 2019 it was announced that the British Land Speed record project had been rescued from receivership early this year by engineering millionaire Ian Warhurst. A series of high-speed tests were to begin in

October 2019 as a dress rehearsal for the real thing in late 2020.

The car's new livery—a red fin with a white body—is to allow other investors to join the project. Warhurst said he has been overwhelmed by the passion and enthusiasm the public has shown for the project and it would have been a tragedy to see it go to waste. The car now labelled Bloodhound LSR (Land Speed Record) arrived safely at the Hakskeen Pan on 18th October 2019 and began a 5-week programme of test runs.

These tests were completed on November 16th 2019. They involved a very carefully programmed series of 17 test runs, increasing the speeds from 100mph to the final run of 628mph or 1000kph. The car is littered with 192 sensors, both inside and out and on their last test run paint work 3 metres back from the front wheels was stripped away by the sheer speed of the vehicle. Other test included alienating the braking parachutes, understanding the effect of side winds of only 10kph made steering almost impossible. Air brakes were checked and adjusted and the engineers were kept busy for many hours making sure as much as possible the car was safe at all the speeds that were attempted. Andy Green says the stability and confidence I have in the car is testament to years of world class engineering.



The car is now back in England.

The intention is to now replace the jet engine with the proposed Nammo rocket engine which should propel the vehicle to its intended 1000mph. Ian Warhurst, who saved the project, said “hitting the milestone speed of over 600mph was a high point. We now move on to identifying new sponsors and investment needed to bring Bloodhound back to the Hakskeen Pan next year”.

Can you believe in a video on you tube you can see a mock-up of this futuristic car catching and passing a bullet out of rifle! At 1000mph it takes 3.6 seconds to cover a mile and 1 second to cover 4 football fields placed end to end.

I look forward to seeing this amazing machine in ‘flight’ next year.

Neville