



Inspiration

The Official Newsletter of Team Inspiration

The latest open day was held on a sunny 17th July, and was attended by more than 60 club members and sponsors.

Because of the number of attendees and soaring temperatures in the media room, the presentations were split into two sessions. This gave Club Members an opportunity to relax in the gardens and have photographs taken with two steam cars.



The chairman of Team Inspiration, Bill Rich, welcomed the members and sponsors before the Chief Designer, Glynne Bowsher, gave a presentation on the design and progress to date.

After the presentations, all were able to enjoy a splendid buffet lunch in the dining room and on the lawn, while team members circulated answering the many questions posed by the guests.

The customary raffle was held after lunch and Tom Hassan won the chance to drive a Chieftain tank - and crush a BMW in the process!

After lunch, tickets could be bought for tank rides, a tour of the farm on a tractor, drive off road buggies and ride in the steam cars. Unfortunately Tom Hassan had an accident, breaking his arm.

During the activities groups of club members, sponsors and guests were escorted down to the workshops to see the recent developments in the build. After a guided tour by Frank Swanston, the visitors were treated to a surprise.

They were gathered into a group near a nozzle jutting from the wall of the test cell, and given ear defenders. After a minute or so, water started to spurt from the steam nozzle, rapidly changing to a wisp of steam.



The hiss became louder and louder, until the shriek of high temperature steam could be heard, even with the ear defenders on.



Finally, as Tom had been unable to drive the tank, an on the spot draw was held to find a replacement driver. The lucky winner, Steve Prentice, was marched off to the Chieftain tank and shown how to drive it. After a bit of careful positioning, Steve gunned the throttle and climbed the tank over the top of the BMW, pausing on the roof for maximum damage. He seemed quite pleased with the result.



Also, a big thank you to everyone who has asked about the health of Tom Hassan, the club member who had an accident in the Off Road Buggy. Tom is fine, although his upper arm is broken; he is now recovering at home.

Build Progress

Since the last open day, progress has been rapid as suppliers and sponsors have started to deliver parts.

The bulkheads and firewall have now been fabricated and mounted into the chassis. As can be seen from the photo, the front bulkhead has circular cut-outs to accommodate the front of the water tanks, while the side extensions of the firewall accept the rear mounts for the tanks.



The driver's firewall comprises two thick layers of aluminised mineral fibre insulation sandwiched between two sheets of aluminium, with strengthening ribs. This will protect the driver from heat from the boilers, as well as protection in the case of fire. The finished assembly is not only substantial, but the welding is also work of art.



Safety is of paramount importance, and in addition to the protection provided by the strong chassis, the driver will be enclosed by a substantial safety cell. In essence the safety cell is a separate cage mounted within the chassis, and contains the drivers seat, safety harness mountings etc.

The following photo shows the safety cell under construction. In addition to the two roll hoops over the seat area, there will be additional hoops over the knee and foot area. The whole unit is designed to allow the safety cell, complete with seat and occupant, to be removed from the chassis as a single unit if necessary.

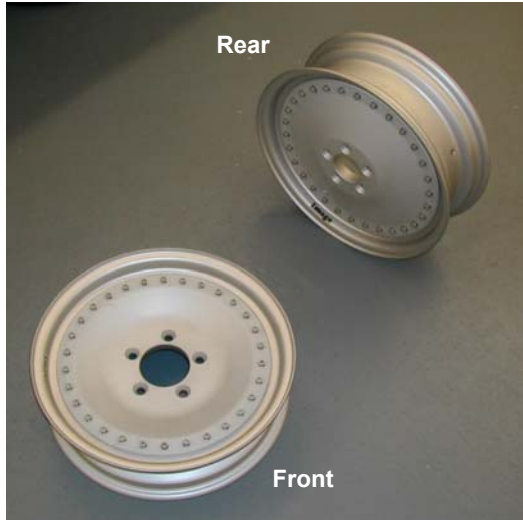


With the chassis structure near completion, and the recent delivery of some of the suspension components, fabrication of the suspension mounting brackets has commenced. The quality of the machined parts has to be seen to be believed. The following photos show one of the wishbones, and a front wheel swivel.



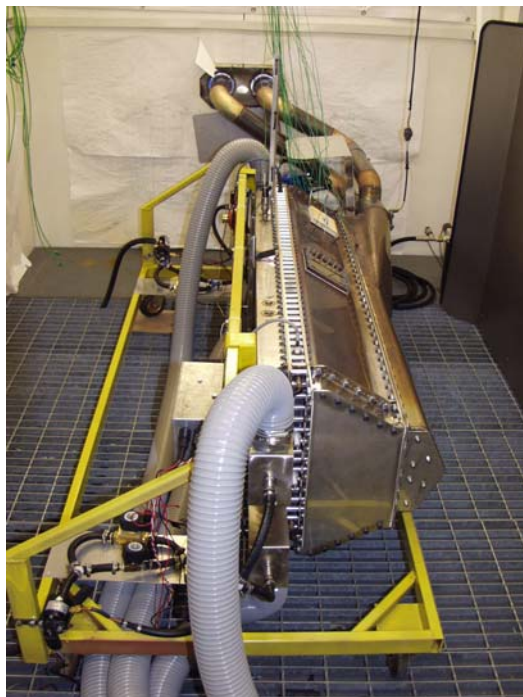
The custom combined spring and damper units have been manufactured by Eibach UK and Bilstein, while Glebe Engineering are in the process of manufacturing the steering rack.

The split rim wheels required for Inspiration have been custom manufactured by Image Wheels. Due to the position of suspension and braking components, the wheel offset is very different for the front and rear, with convex wheels at the rear and concave wheels at the front.



With the recent acquisition of a pump for water delivery (bottles of pressurised nitrogen will be used on Inspiration) it has been possible to start to test the steam generation capabilities of the boilers.

A boiler has been installed in the test cell with an outlet nozzle projecting through the wall. Temperature and pressure sensors mounted all over the boiler system provide real time data to a computer, which then provides a graphical representation of the steam condition as it passes through the boiler tubes.



When fired up, steam literally screams out of the nozzle, as recent visitors have found out. Currently a program is underway to investigate the flow of hot gas over the boiler tubes to ensure that maximum efficiency is achieved, and to prove the control and monitoring systems.



The first set of turbine wheels have had to be rejected due to voids in the material. These did not show up when the wheels were subject to ndt testing, and were only discovered while the turbine blades were being 'electro-chemically' machined onto them by Doncasters Amtech. The turbine wheels are now being remanufactured.



**Stage 1
Turbine Wheel**

**Stage 2
Turbine Wheel**



Final drive from the turbine to the rear wheels is to be via a differential axle. A Ford differential housing is being used. Two sets of crown wheel and pinions, with different, ratios are being manufactured by Brineton.

All LPG tanks have now been 'proof tested' and the system for mounting them at the extreme rear of the chassis is being designed. After several unsuccessful attempts at making the lightweight 14 litre high pressure (300bar) Nitrogen tanks, the latest version has survived pressure test of up to 850bar.

Build Progress Cont'd

With the bulkheads and firewall in place on the chassis, Brian Ball can continue to roll the complex rear aluminium panels. Specialists in restoration of vintage racing cars, VintageCars.com have been engaged to provide assistance.

Mike Horne is progressing rapidly with the composite mouldings for the front of Inspiration, and has recently produced moulds from the bucks. The photo shows a set of moulds for the "driver's" section of the bodywork (from underneath Inspiration, with the firewall at the bottom of the photo).



Sponsor News

The Project Team would like to thank all their sponsors for the invaluable support and technical help given.

The British Steam Car Challenge is very pleased to welcome **TFC PLC** as a sponsor of the project. TFC is one of Europe's leading suppliers of technical fasteners.

Salisbury based corporate wear company, **Images at Work** have been confirmed as the official sponsor of team clothing and corporate wear.

As mentioned in the Build progress, **Bilstein** and **Eibach** are working together as partners to produce the special spring and damper units required for Inspiration.

A new addition to our list of sponsors is **Copier Solutions**, an independent, Sharpe accredited dealership, and member of the nationwide Sharp Supplier Network.

Glynne Bowsher, Lynne Angel and Frank Swanston recently gave a presentation at the annual UK sales conference of one of our major sponsors **Spirax-Sarco**. The UK Managing Director, Tony Urbani, has reproduced 6,000 copies of project brochure for his sales force to distribute to clients. After the presentation, members of the sales team spent the evening discussing the project in detail, talking late into the night.

A full list of sponsors and their web sites can be found by following the SPONSORS link on the front page of our web site.

Club Talk

Discount Entry for the National Motor Museum at Beaulieu

Club Members and up to three guests can gain entry to the National Motor Museum at the group rate on production of their membership card

Offer valid until 31st March 2006. Not valid for 10/11th September (Autojumble) or 29th October (Fireworks Fair).

Merchandise Sale

To make way for new stock, some lines of merchandise have been reduced in price, see the web site for details.

Nose Cone Fund

After the last open day, the Nose cone Fund now stands at **£2,425**, nearly half way to the £5000 needed to pay for INSPIRATION's composite nose cone.

Team Inspiration Club Office

PO Box 293
Lymington
Hampshire
SO41 5XQ

Contact: Lynne Angel
Email: team.inspiration@steamcar.co.uk

Tel: 0845 0700844 Fax: 0845 0701177