

## **GwynneSpeed Rallying's Super1600 Rally Car Debut**

Andy Gwynne, company proprietor of GwynneSpeed Rallying is delighted to announce that his newly designed and developed Group B10 Citroen Saxo 1600cc 16V Rally Car is nearing completion.

The car is a culmination of over 2 years of development. The car started as a bare, standard Citroen Saxo road car shell and has been designed and modified to accommodate the most modern technology currently available in rallying. Many of the crucial components of the car such as the suspension, engine/gearbox mounts, steering components and body panels have been designed and hand made by Andy Gwynne in order to maximise their efficiency and durability.

Andy Gwynne has worked closely with John Beattie and Mike Phelps of Race Engine Design Ltd. based in Much Wenlock, Shropshire to develop the Saxo's unique engine. Andy had an ex-works Peugeot 106 Maxi kit car engine which John has re-built to incorporate all of the most current technology. Race Engine Design used their expertise and specialist engine dyno facilities to design a special engine management system in order to increase the efficiency of the 1600cc engine. The engine produces just over 200bhp at the moment and the Evolution II engine is already in the development stages!

The gearbox has been designed to suit the Saxo's requirements. Steve Walby of SWR Motorsport based in Harlow is the UK distributor of Sadev gearboxes. Sadev, a French transmission specialist company, currently supply the gearboxes for many of the French Rally Teams including the Citroen Super1600 Works Team. Andy, Steve and the engineers in France worked together to decide on the unique settings of the ST75-14 which is a 6-speed sequential gearbox fitted with a flat change facility. This enables clutch-less gear changes to take just 6 milliseconds. The gearbox and engine are managed in harmony to enable the driver to change gear without using the clutch or lifting off the accelerator in order to minimise power loss.

All of the fabrication on the car has been designed from scratch by Andy Gwynne and Rory Frost from Frost Engineering based in Staverton, Gloucestershire. They have designed and manufactured all of the brackets and mountings for the engine and gearbox, rear beam, pedal box and power steering column as well as designing and building the bottom arms from a material which is twice as strong as steel but half the weight, T45.

The Saxo will be used on both gravel and tarmac National rallies. Originally, Andy was going to use Kevlar body panels in order to reduce the body shell weight. However, after some research he decided that the Kevlar panels would quickly become damaged and potentially destroyed when rallying on gravel and so he decided to hand build the panels out of tin. The wings have had to be increased in width by 120mm in order to accommodate the wide track of the Saxo running gear. This has also been applied to the rear wheel arches. The weight of the bonnet has been reduced by 50%.

When the car is used on tarmac, it will run 17" wheels in order to allow large enough brake discs and water cooled, 4 pot brake calipers to be accommodated. In the early stages of the car's development, it was planned to use 4 stud hubs as the works Citroen Saxo kit cars did. However after some research, Andy decided to reduce the risk of shearing wheel bolts off under braking by using 5 stud hubs. This has also enabled him to use larger, stronger driveshafts as driveshaft breakage has always been a problem with Andy's previous, high-powered front wheel drive cars.

This car will be competing on the MSA National Tarmac Championship which includes rounds in Scotland, Ireland and the Isle of Man. It will be also be used on selected National gravel rallies.

CITROEN SAXO SUPER1600 RALLY CAR DEVELOPMENT PARTNERS:

Race Engine Design Ltd – [www.raceenginedesign.biz](http://www.raceenginedesign.biz)

Sadev Gearboxes (UK distributor) – [www.swrmotorsport.com](http://www.swrmotorsport.com)

Frost Engineering (Staverton, GLOS) – [www.frost-engineering.co.uk](http://www.frost-engineering.co.uk)

GwynneSpeed Rallying – [www.gwynnespeed.co.uk](http://www.gwynnespeed.co.uk)

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