



## **GRC Technical Note - 02/12/09**

As owners of the GulfSport Radical Cup we have been asked to look at the difference in performance between the 2009 SR3 RS and the previous model SR3s which run in Class C.

We sought input from Powertec Engineering, the engine builder and we have examined lap time performance of the cars over the last two years.

As you may know, the SR3's engine has been based on Suzuki's Hyabusa 1298cc motorcycle engine since the car's inception in 2003. That engine has been through seven revisions since 1999, but in 2008 was replaced by a second generation 1340cc engine (K8).

This engine is used in the 1300 SR3 in standard form and according to Powertec provides an increase in power of 20bhp at the wheels compared to the previous 1300 SR3. We do not have any of these cars in the GulfSport Radical Cup.

The engine is modified by Powertec for the 1500 SR3 RS which runs in Class C.

Powertec told us that in early development of the second generation motor for the 1500 SR3 they saw a big increase in performance and so decided that this was unacceptable. The resulting engine is 8/10 bhp more than the previous engine with 5/8ft lbs more torque.

We also found at the last GRC event when we weighed most of the cars at the end of the race, that the 2009 cars were significantly heavier than the earlier model cars. For example, a 2009 SR3 RS was 633kg (without driver) whereas an earlier model SR3 weighed in at 546kg (without driver) so even allowing for some differences in fuel load, it is apparent that the extra power is having to drive significantly more weight.

Looking at comparative lap times, we found that the outright lap record on the Dubai International circuit (a typical power circuit) has yet to be broken from when it was set in 2008 by Team 777 Racing's Salmon Al Khalifa. He set a time of 1:38.65 in a 2007 SR3. Other GRC competitors set times in the 1:39s at other points in the season last year which are comparable to times being set this season by the new cars.

It is apparent that the 2009 cars have a modest power increase, improved aero and are heavier. However, that performance increase appears to be largely offset by the additional weight of the new chassis and bodywork.