



CGRC News

SigmaX / Mega Equalisation Test

Below is the report from Ian Payne of PT Sport Cars / PT Motorsport relating to the equalisation test carried out at Snetterton on Saturday 30 November 2019.

Pete Godfrey of PT Sport Cars / PT Motorsport was in attendance along with Barry White and Andrew Outterside from CGRC.

Ian Payne's report is below: -

Cars Used

Caterham SigmaX (PT hire car)

Caterham Mega Grad with Titan LSD in Ford casing (Kim Rayment's)

Final drive ratios - equal

Gear ratios - equal

Tyres - equal

Dampers - equal

Weights (within 5kg)

Both cars were using a Racelogic lite 2 camera system

NB: The straight-line performance of Kim's car was noted as being down which is evident in VMAX speeds from the data. In addition, the delivery of torque from the SigmaX car was better with the data showing this in the acceleration mid-corner (when back on full power). From my experience, the torque from Kim's car was also affected meaning certain corners were a gear down from the SigmaX car.

Conditions

The morning was very cold and icy so circuit organisers watered the track to rid it of ice! The wet track only dried out towards the end of the day (circa 14:30) but still had wet patches. Conclusions are drawn from the data between 14:30 and 16:00.

Data and Lap Times

Sigmax fastest lap: 2:15.89

Mega fastest lap 2:21.29

Ideal lap times (taken from all fastest sectors as it was a track day): -

Sigmax: 2:14.62

Mega 2:20.68

Whilst this looks like an obvious difference the lack of straight-line performance of Kim's car needs to be considered. Looking at the data for Snetterton 300 from both cars the following corners had equal speed (taken at lowest point):

- Turn 2 (Montreal) – both cars 34mph
- Turn 4 (Agostini) – both cars 37mph
- Turn 5 (Hamilton) – both cars 85mph
- Turn 6 (Oggies) – both cars 67mph
- Turn 8 (Nelson) – both cars 47mph
- Turn 11 (Murrays) – Sigmax 43mph and Mega 41mph

Conclusions

The above information, data and lap times paints a confusing picture until we get the corner speed information. This information shows that the cars behave in a very similar way in the corners. From my own experience, both cars reacted in the same way when getting back on the power mid-corner. Neither car pushed on and throttle application was at the same place in the corner and at the same speed in both cars.

Had the straight-line performance of Kim's car been the same we would see lap times much closer. I think the torque of the Sigmax would give it the edge mid-corner when throttle is applied. That said, my experience of the K series with Supersport cams is that it will pull harder and cleaner to the red line, therefore giving it a slight edge higher up the rev range. Different characteristics with the net result being very similar.

Both videos are available for review along with the VBOX data.

CGRC Proposal for adding Mega Grad specification cars to the Sigmax class for 2020

Given the conclusions of the test the proposal is to admit, into the Sigmax class, the Mega Grad specification car, with or without the option of the Titan limited slip differential (as supplied by Road and Race Transmissions), whilst maintaining the existing minimum weight limits of 605kg for the Sigmax and 600kg for the Mega. This will be subject to the proviso that the weight limit of the Mega may be amended by CGRC at any point in time, if necessary, to achieve optimum equalisation.

If anyone has any comments on the proposal, or requires further information, please contact Andrew Outterside on 07831 451157 or commercial@cgrc.uk