



Open-wheeled Racing and Racing-Sports cars

"PASSION FOR SPEED" (DASO 1229 N. Mason & M. Hales Carlton 2010) provides descriptions and performance tests for 24 cars owned by Nick Mason and driven by Mark Hales. To put the examples comprising open-wheeled racing and sports-racing cars in perspective the author provides here a simple analysis for this 10 car sample, the data being given below.

VMAX = Maximum Speed

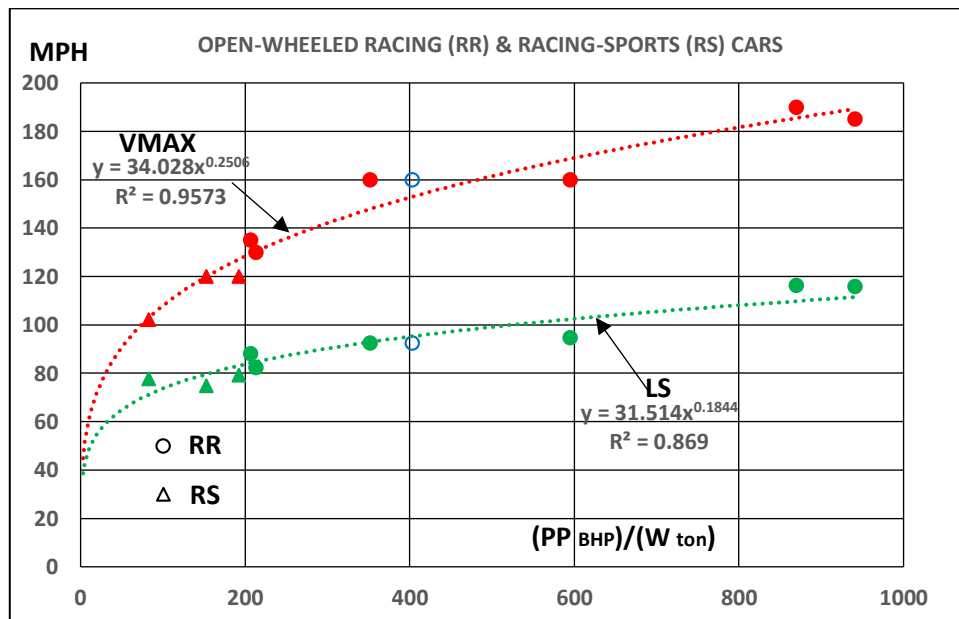
LS = Lap Speed round Silverstone's pre-2010 South Circuit (2 miles lap assumed)

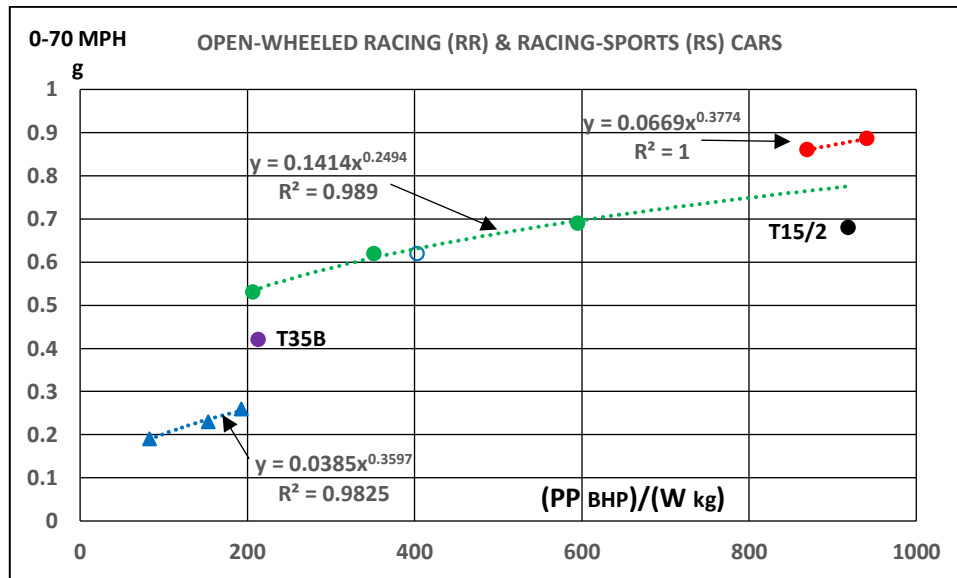
Year	Make	Model	PP- RR	PP- BHP	W* - kg	PP/W BHP/Ton	VMAX- MPH	LS- MPH	g
1927	Bugatti	35B	RR	160	762	213.3	130	82.4	0.42
1931	Alfa Romeo	8C/2300	RS	155	1027	153.3	120	74.6	0.23
1935	Aston Martin	Ulster	RS	85	1040	83	102	77.6	0.19
1936	ERA	B	RR	150	738	206.5	135	88	0.53
1949	Frazer nash	L M Replica T15	RS	140	738	192.7	120	79.1	0.26
1953	BRM	Mk2	RR	575	636	918.8			0.68
1957	Maserati	250F	RR	218**	630	351.6	160	92.5	0.62
1961	Lotus	18	RR	250	427	594.9	160	94.6	0.69
1978	Ferrari	312T3	RR	510	596	869.4	190	116.3	0.86
1983	Tyrrell	11	RR	500	540	940.8	185	115.8	0.886

VMAX, LS, and 0-70 MPH are shown versus PP/W on the charts below (0-70 on P.2).

*As in DASO 1229, presumed empty without allowing for driver or test equipment.

**Not known if this is a bench-test power on the car owned – it seems low. Blue circles on the charts show the effect if the power was 250 BHP.





These charts have to be considered as *pictures*, just to put the cars in perspective, because each line includes some *known* but *un-quantifiable* variables: _

- VMAX for RS cars includes the losses of silencers and the drag of mudguards and lights;
- LS over the 57 years of manufacture from 1927 to 1983 includes the time-based changes in materials and construction for brakes; for materials, construction and pressure for tyres; for different suspension systems; plus the use of aero systems post-1967 to increase downforce. Notes on these effects have been given in "Progress over 64 years of Grand Prix racing".
- For the acceleration chart the sort of tyres fitted is of *major* importance and, apart from the section dimensions, nothing is recorded about materials, construction, or tyre pressures. It appears from the test results that the Racing-Sports (RS) cars have different tyres from the pure racing cars. Being rear-wheel-drive and allowing for some weight transfer to the rear, any acceleration over 0.7 g must mean a tyre co-efficient of friction above 1. This will be true of the two top points, which may also have some slight beneficial aero downforce at speeds above 60 MPH.

The wide range of the Nick Mason RR and RS cars driven by Mark Hales is shown by illustrations on P.3.



myautoworld.com

Bugatti T35B driven by William Grover-Williams to win the 1st Monaco Grand Prix in 1929.



oldracingcars.com

Tyrrell 011 as driven by Michele Alboreto to win the Detroit Grand Prix in 1983, powered by the Cosworth DFY engine.

The author trusts that there will be no objections to the use of this data in a not-for-profit site intended to assist study.