

Class Activity - Load Splits

There are three car set-ups detailed in the Rowley Load Split Calculator

CAR A would typically be a single seater with a central driving position and so easy to balance wheel loads side to side. It therefore has laterally symmetric wheel loading with a rearward weight distribution as the CG is on the longitudinal axis and behind the lateral centre line and a static Wedge (FR + RL)/Total of 50%.

CAR B would typically be a car with the driver position offset to the right- something like the Locost for example. It therefore has laterally asymmetric wheel loading with a rearward weight distribution as the CG is to the right of the longitudinal axis and behind the lateral centre line and has a static Wedge of 50%

CAR C could be the same as Car B but the wheel loads could have been adjusted on the spring pans to change the static Wedge. It therefore has laterally asymmetric wheel loading with a rearward weight distribution as the CG is to the right of the longitudinal axis and behind the lateral centre line but this time it has a static Wedge of 48.7%.

The grip of an axle is dependent on the load difference between the two wheels, (ie the load split), and the coefficient of friction for a tyre is non-linear and so falls as load increases. Suggest how each car would behave when turning Left and turning Right in terms of overall grip and balance highlighting the relevant values from the calculator that support your prediction.