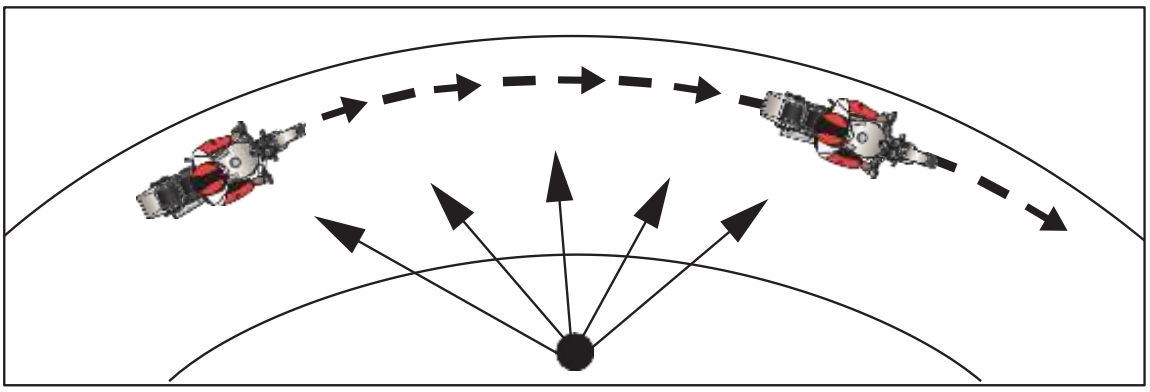
CENTRIFUGAL FORCE

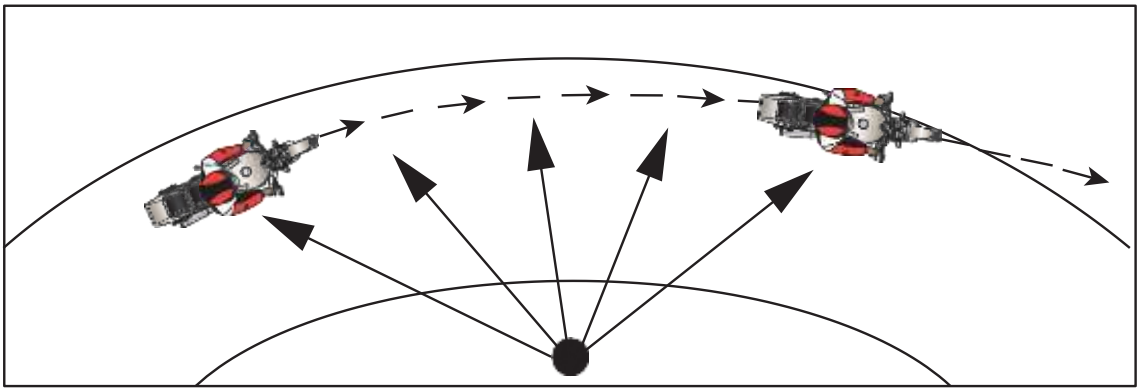
30. When negotiating a curve or corner, an outward pulling (pushing) force will be generated and unless the tyres retain sufficient grip (friction) on the road, the rider will be unable to maintain his selected course. The force acting on a cornering vehicle is known as the Centrifugal Force. The centrifugal force affects all vehicles.

Centrifugal force increases with the speed of the motorcycle and the sharpness of the curve. If it becomes greater than the resistance of the frictional grip between the tyres and the road, the motorcycle will slide off the road.

So, always reduce to a safe speed and shift to a lower gear when rounding a curve, particularly on a sharp curve. Lower speed will reduce the centrifugal force while a lower gear will provide a better grip on the road.



AT LOW SPEED, Friction Counters Centrifugal Force



AT HIGH SPEED, Centrifugal Force Overcomes Friction

CENTRE OF GRAVITY

31. The centre of gravity of a motorcycle is the centre point of the entire weight of the vehicle. The stability of it depends largely on the distance between the centre of gravity and the ground.

The lower the centre of gravity, the more stable the vehicle will be. However, additional weights raise the centre or gravity. So be careful when rounding a curve or corner when a vehicle is loaded.

Should a vehicle with a load (high centre or gravity) be ridden into a bend at high speed, or be required to make an emergency stop, one of the following will take place:

a. If the friction between the tyres and the road is lost due to excessive speed, skidding will result;
b. If the speed is high enough and the fiction is not lost, the vehicle will turn over.