Classifications and comparison of automobiles and motorcycles

Technology

INTRODUCTION TO THE AUTOMOBILE

Motorcycles are one of the most common means of transport. A design ensuring maximum efficiency and safety is of utmost importance. Side stands which are used to park motorcycles by supporting the entire weight of the vehicle must be properly designed. Conventional stands, having by spring mechanism, are manually operated which often leads to accidents if the rider forgets to release the side stand. A side stand often fixed to chain stays or to a chain and seat by either welding or using bolts flips out to one side to which the bike then leans against. It is usually used for short period of parking. Another type of motorcycle stand is a center stand. Fixed to the chain stays or to the rear dropouts, these types of stands withstands maximum weight of motorcycles and are ideal for long term parking preventing the weight to act on wheels.

GENERAL CLASSIFICATION OF AUTOMOBILES

Nearly all of the automobiles found of roads can be classified into the following three categories:

1. The single-unit vehicle or load carriers,
2. The articulated vehicles,
3. The heavy tractor vehicles.

THE SINGLE_UNIT VEHICLES OR LOAD CARRIERS

These vehicles, having four wheels have two-axle design which the front axle steering the vehicle while the rear axle driving it. With continuous research, the axles and driving systems are continuously evolving.

THE ARTICULTED VEHILCES

Having a permanent or a semi permanent pivot joint in its construction an articulated vehicle allows sharp turns. The pivot joint or the coupling mechanism can be automatic or manual with lever being provided within the drivers reach. Often the wheels are also retractable which can be automatically raised or lowered.

THE HEAVY-TRACTOR VEHICLES

These are used to move heavy loads. The tractor unit provides the power for either towing or trailering load. These vehicles are represented using digital figures such as 4×2, 4×4, 6×4 where the first digit represent the total number of wheels while the other represent the number of driving wheels. The live axles, providing driving power, and the dead axle, provides load supports, can vary depending upon the vehicle usage and load requirement.

CAR VS MOTORCYCLECHEAPER TO RUN

Motorcycles are more efficient than cars. Averaging more in term of miles per liter, motorcycles saves fuel cost and are beneficial for countries which import oil to cater rising oil demand.

EASIER TO MAINTAIN

The accessible location and fewer parts of motorcycles as compared to car make it easier to maintain them. Also being less technically complex any layman can maintain the motorcycle instead of relying on professional mechanic.

EASIER TO PARK

The parking space required for a motorcycle is considerably less than a car. In fact around three motorcycles cans be easily accommodated in the same space as one car.

HARDER TO TOW

In times of any mishap, towing a car is easier as compared to the bike which usually requires winching onto a trailer and then carting off. Car on the other hand can be easily towed and transported.

CAN STOP ANYWHERE

Motorcycles provide the flexibility of stopping anywhere without causing any traffic jam unlike cars which leads to traffic blockage especially on narrow roads. This comes in handy when the passenger stops to navigate, purchase something or just pulls over to admire the surroundings.

FLEXIBLE IN TRAFFIC

Motorcycles can easily circumnavigate its way around any route as it requires less space to commute. The cars once stuck in traffic have to wait till proper flow of traffic is restored. Example of flexibility in the favor of motorcycles is that even the police department relies on motorcycles to ensure quick pursuit of vehicles.

LESS BORING

Car is manufactured to provide maximum comfort which usually bores the driver by preventing him to experience the surrounding atmosphere. By experiencing wind, sunshine or rain, the rider is subjected to maximum trill.

LOOKS COOL

Motorcycles riders have an image of being look upon as being cool. However, there is a trade of between the car and motorcycles. Motorcycles tends to expose the rider to environment which often leads to untidy looks.

REASONS WHY MOTORSYSLES ARE BETTER THAN CARS

Just like other means of transport, motorcycles also have certain advantages which are summarized below:

1. Less parking space is required leading to more motorcycles parked at the same space compared to the cars,
2. Efficiency of motorcycles in term of fuel is greater than cars leading to reduction in operational cost,
3. Certain models of motorcycles can even outperform cars in term of speed,
4. Maintenance of motorcycles is easier as compared to cars and requires less expertise,
5. Motorcycles are cheaper than cars,
6. Motorcycle riding can make journey exciting for both the driver and passenger,
7. First hand interaction with nature is experienced while riding motorcycles,
8. It plays a vital role in developing coordination between hand and feet and enhancing the balance.
9. There has never been a recall for unintended motorcycle acceleration.

SOURCE OF ACCIDENTS IN MOTORCYCLEBICYCLE HELMET

Majority of accidents involve impact on riders head. To prevent such injuries, helmet are designed. There are two main components of helmet. First in the hard outer protective shell and the second one is the soft inner lining. Besides preventing skull fracture, helmets also prevent the head from moving violently which may prove even fatal. FRONT DISC BRAKESApplication of front disc brakes results in accidents due to a sudden stop which leads to slippage as the center of gravity of bike changes. These accidents can often lead to multi organ injuries which are often more severe.

MOTORCYCLE LANE SPLITTING

Lane splitting is when a motorcycle drives between two lanes of either stationary or moving cars. Lane splitting usually results in accidents because: 1. Limited space to drive, 2. Close proximity of vehicles, 3. Lack of anticipation from the driver of cars. However lane splitting is not always restricted and is resulted from the action of both the motorcycle driver and the car driver.

CARS MAKING LEFT-HAND TURNS

Due to a sudden left hand turns by a car, accidents as a result of collision accounts for abot 42% of all motorcycle accident. These accidents happens when: 1. Motorcyclist passes through an intersection, 2. Motorcyclist pass the car, 3. Motorcyclist attempting to overtake the car. These accidents, common in cars as well, provides to be more hazardrous in case of motorcycles.

WHEEL DEFECTS

Faulty assembly, improper sizes, inferior quality material and poor workmanship all results in motorcycle accidents.

TIRE DEFECTS

Certain type of defects also results in accidents. These include tread separation, tire sidewall failure and tire bead failure. These failures especially tread separation arises when metallurgical failures occur such as lack of adherence of steel with rubber or degradation of brass over time.

SIDE STANDS

Essential for the parking, side stands often poses problems leading to accidents when the rider forgets to release the stand before riding the motorcycle. The side stands if not lifted results in lost control especially on turns when the side stand comes in contact with road. This interference causes the motorcycle to commove resulting in lost control. Unlike other causes of accident, forgetting to lift the side stand does not have any proper protection available.