



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 23AUT101 – ELEMENTS OF AUTOMOTIVE SYSTEM

I YEAR /II SEMESTER

Unit 1- VEHICLE STRUCTURE

Topic : Chassis



Chassis



- Chassis is a French term and was initially denote the frame or main structure of a vehicle.
- A vehicle with out body is called Chassis. The components of the vehicle like Power plant, Transmission System, Axles, Wheels and Tires, Suspension, Controlling Systems like Braking, Steering etc., and also electrical system parts are mounted on the Chassis frame. It is the main mounting for all the components including the body. So it is also called as Carrying Unit.

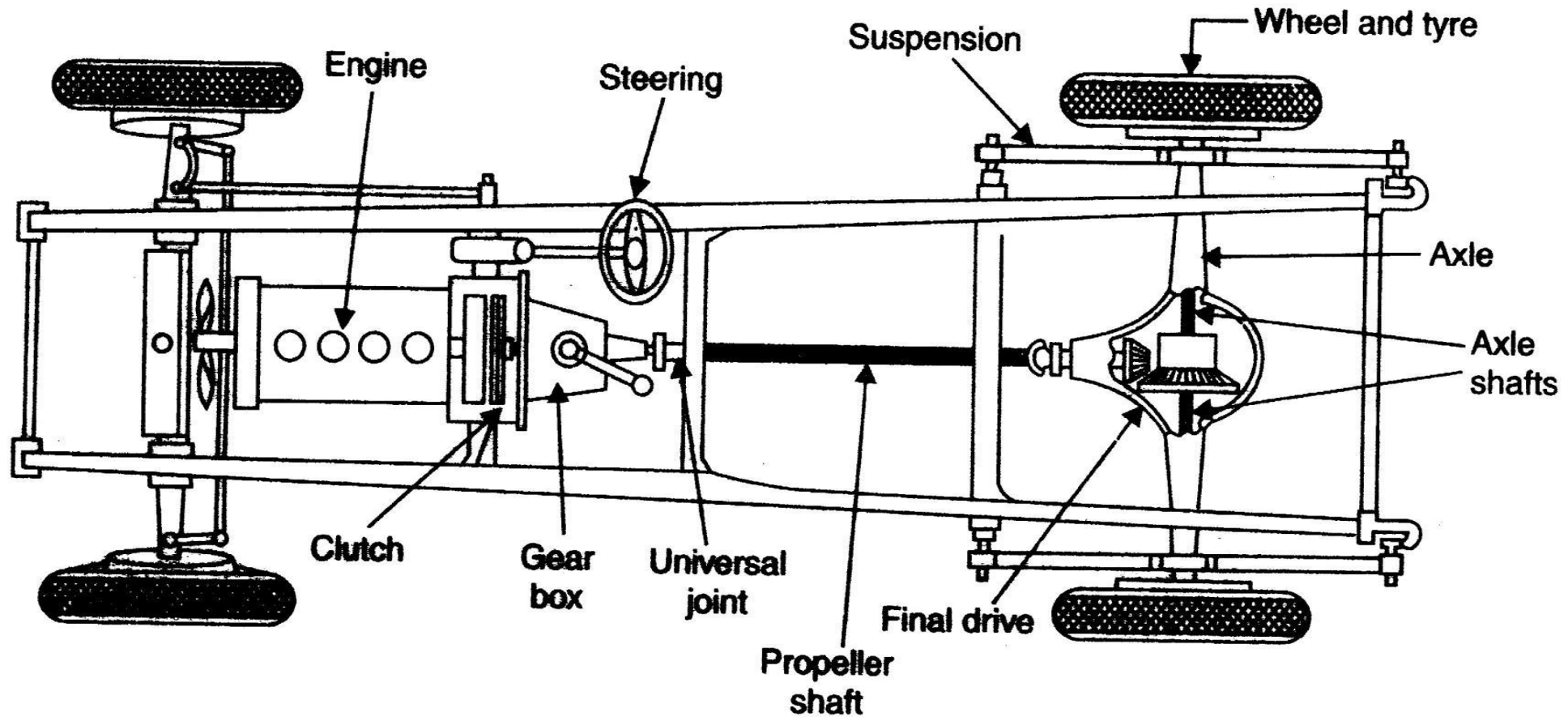




Function



- Support the weight of the vehicle (except the unsprung mass) and everything inside it including passengers and cargo.
- Provide the frame for the suspension, engine and drivetrain to be mounted. It must be strong to hold these components in place during various driving conditions.
- Handles or resists any torsional stress (such as bending or twisting of the body) that the vehicle may be subjected to as it drives.
- It allows the vehicle to pull objects as these heavy objects must be directly or indirectly attached to the chassis.





Classification of Chassis



According to Control

- Conventional Chassis
Engine is fitted in front of the driver cabin
- Semi Forward Chassis
Half portion of the engine in the drive cabin Ex: Standard,
Pick-ups
- Full Forward Chassis
Full engine is mounted in the driver cabin



Conventional Vehicle



Semi Forward Vehicle



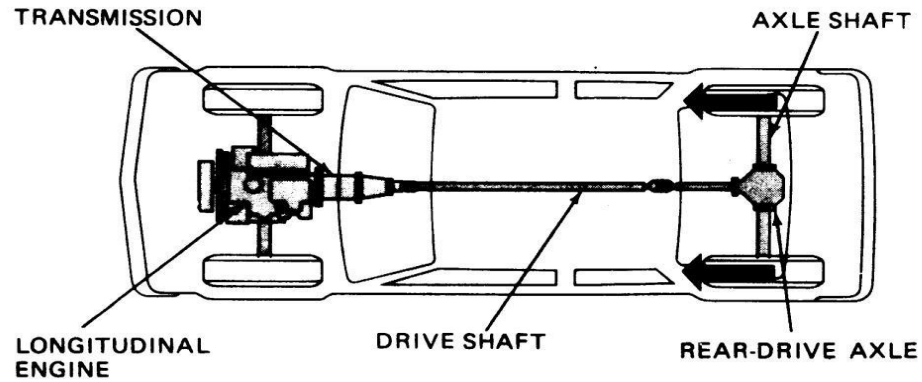
Full Forward Vehicle



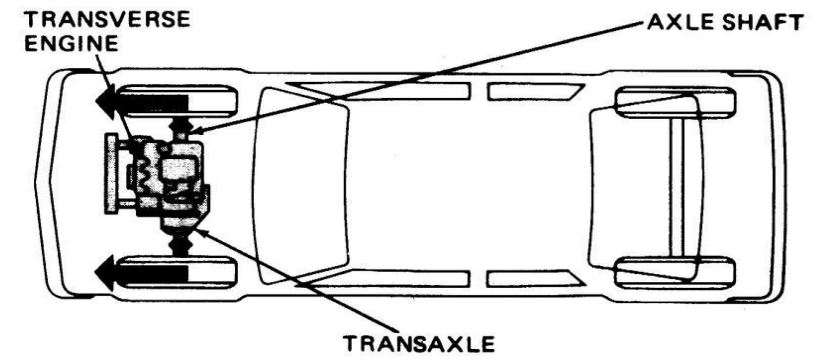
According to Fitting of Engine



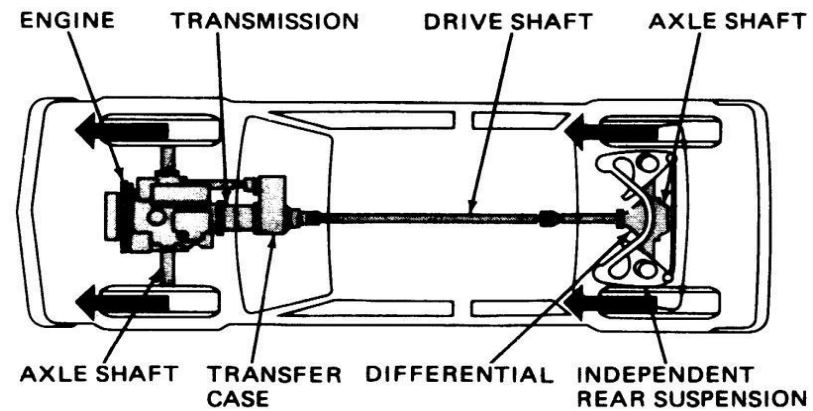
- Engine at Front
- Engine at Front but Cross wise
- Engine fitted at the centre of the chassis
- Engine fitted at the back



(A) REAR-WHEEL DRIVE



(B) FRONT-WHEEL DRIVE



(C) ALL-WHEEL/FOUR-WHEEL DRIVE